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As filed with the Securities and Exchange Commission on March 31, 2006.

Registration No. 333-

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

PTC THERAPEUTICS, INC.
(Exact Name of Registrant as Specified in Its Charter)

Delaware	**2834**	**04-3416587**
(State or Other Jurisdiction of Incorporation or Organization)	*(Primary Standard Industrial Classification Code No.)*	*(I.R.S. Employer Identification Number)*

100 Corporate Court
South Plainfield, New Jersey 07080-2449
(908) 222-7000
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Stuart W. Peltz, Ph.D.
President and Chief Executive Officer
PTC Therapeutics, Inc.
100 Corporate Court
South Plainfield, New Jersey 07080-2449
(908) 222-7000
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

David E. Redlick **Stuart R. Nayman** **Wilmer Cutler Pickering Hale and Dorr LLP** **399 Park Avenue** **New York, New York 10022** **(212) 230-8800**	**Mark E. Boulding** **Senior Vice President and General Counsel** **PTC Therapeutics, Inc.** **100 Corporate Court** **South Plainfield, New Jersey 07080-2449** **(908) 222-7000**	**Patrick O'Brien** **Ropes & Gray LLP** **One International Place** **Boston, Massachusetts 02110** **(617) 951-7000**

Approximate date of commencement of proposed sale to the public: As soon as practicable after this Registration Statement is declared effective.

If any of the securities being registered on this form are offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, as amended (the "Securities Act") please check the following box. o

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o _____

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o _____

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o _____

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Proposed Maximum Aggregate Offering Price(1)	Amount of Registration Fee(2)
Common Stock, $0.001 par value per share	$86,250,000.00	$9,228.75

(1) Estimated solely for the purpose of computing the registration fee pursuant to Rule 457(o) under the Securities Act of 1933, as amended.

(2) Calculated pursuant to Rule 457(o) based on an estimate of the proposed maximum aggregate offering price.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to Section 8(a), may determine.

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The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and we are not soliciting offers to buy these securities in any state where the offer or sale is not permitted.

PROSPECTUS (Subject to Completion)
Issued March 31, 2006

Shares

COMMON STOCK

PTC Therapeutics, Inc. is offering shares of its common stock. This is our initial public offering, and no public market currently exists for our shares. We anticipate that the initial public offering price will be between $ and $ per share.

We have applied to have our common stock approved for quotation on The Nasdaq National Market under the symbol "PTCT."

Investing in our common stock involves risks. See "Risk Factors" beginning on page 6.

PRICE $ A SHARE

	Price to Public	Underwriting Discounts and Commissions	Proceeds to PTC
Per Share	$	$	$
Total	$	$	$

We have granted the underwriters the right to purchase up to an additional shares of common stock to cover over-allotments.

The Securities and Exchange Commission and state securities regulators have not approved or disapproved these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

Morgan Stanley & Co. Incorporated expects to deliver the shares to purchasers on , 2006.

MORGAN STANLEY *JPMORGAN*

PACIFIC GROWTH EQUITIES, LLC

, 2006

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You should rely only on the information contained in this prospectus. We have not authorized anyone to provide you with information different from that contained in this prospectus. We are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or of any sale of our common stock. In this prospectus, unless otherwise stated or the context otherwise requires, references to "PTC Therapeutics," "we," "us," "our" and similar references refer to PTC Therapeutics, Inc.

Until , 2006, 25 days after the commencement of this offering, all dealers that buy, sell or trade shares of our common stock, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to the dealers' obligation to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

For investors outside the United States: Neither we nor any of the underwriters have done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. You are required to inform yourselves about and to observe any restrictions relating to this offering and the distribution of this prospectus.

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus. This summary may not contain all of the information that is important to you. Before investing in our common stock, you should read this prospectus carefully in its entirety, especially the risks of investing in our common stock that we discuss in the "Risk Factors" section of this prospectus and our financial statements and the related notes beginning on page F-1.

PTC Therapeutics, Inc.

Our Company

We are a biopharmaceutical company focused on the discovery, development and commercialization of orally administered, proprietary small-molecule drugs that target post-transcriptional control processes. Our lead product development programs are PTC124 for genetic disorders and PTC299 for oncology. We are currently conducting Phase 2 clinical trials of PTC124 for the treatment of cystic fibrosis and Duchenne muscular dystrophy patients with a specific type of genetic mutation. We recently performed an interim analysis of data from 15 patients who have completed our ongoing cystic fibrosis trials and observed statistically significant results. For PTC299, we expect to commence a Phase 1a clinical trial in healthy volunteers in April 2006. We plan to develop our compounds both on ou own and through selective collaboration arrangements with leading pharmaceutical and biotechnology companies. We hold worldwide commercialization rights to PTC124 and PTC299 and recently entered into a collaboration with Schering-Plough Corporation for the development and commercialization of preclinical compounds that we have identified for the potential treatment of hepatitis C.

Post-transcriptional control processes regulate the rate and timing of protein production and are of central importance to proper cellular function. The small-molecule compounds that we are developing are designed to alter post-transcriptional processes and modulate the utilization of messenger RNA, or mRNA, a key intermediate in protein production. We have assembled proprietary technologies and extensive knowledge of post-transcriptional control processes that we apply in our drug discovery and development activities. We believe that systematically targeting these processes represents a new and unexploited approach to drug discovery and development, which has several potential key advantages. These include the potential to use orally available small-molecule drugs to address previously intractable drug targets and to up or down regulate the level of production of a protein of interest. In addition, this approach has the potential to treat a broad range o diseases. Our current pipeline of clinical and preclinical product candidates addresses multiple indications, including genetic disorders, oncology and infectious diseases.

Our Lead Programs

Our three most advanced product development programs are:

- ***PTC124 for genetic disorders.*** We are developing PTC124 for the treatment of patients with genetic disorders that arise as a result of a type of genetic mutation known as a nonsense mutation. Our initial target indications for PTC124 are cystic fibrosis and Duchenne muscular dystrophy in cases in whicl a nonsense mutation is the cause of the disease. We are currently conducting two Phase 2 clinical trials of PTC124 in patients with cystic fibrosis and on Phase 2 clinical trial of PTC124 in patients with Duchenne muscular dystrophy. We have performed an interim analysis of data from 15 patients who have completed their participation in our cystic fibrosis trials. In this analysis, we observed statistically significant results which suggest that PTC124 may have pharmacological activity that addresses the underlying cause of cystic fibrosis in these patients. We believe that this is the first time such activity has been observed in a clinical trial of an oral therapy for cystic fibrosis. We believe that PTC124 is potentially applicable to a broad range of other genetic disorders in which a nonsense mutation is the cause of the disease. We expect to complete our ongoing Phase 2 clinical trials of PTC124 fo both cystic fibrosis and Duchenne muscular dystrophy in the second half of 2006.

- ***PTC299 for oncology.*** We are developing PTC299 initially for the treatment of cancer. In preclinical studies, PTC299 directly and potently inhibited the production of vascular endothelial growth factor, or VEGF. VEGF is a protein that plays a central role in tumor growth through the process of new blood vessel formation referred to as angiogenesis. Because PTC299 blocks the production of VEGF, its activity is different from that of currently available anti-VEGF agents, which typically act by blocking the action of VEGF that has already been produced. In April 2006, we expect to commence a Phase 1a clinical trial of PTC299 in healthy volunteers in Belgium. If this Phase 1a clinical trial is successful, we plan to initiate a Phase 1b clinical trial of PTC299 in cancer patients in late 2006. PTC299 and related compounds are also potentially applicable to other diseases in which regulating VEGF levels plays a key role, such as age-related macular degeneration.
- ***Hepatitis C development program.*** We have identified a number of small-molecule compounds that, in preclinical tests, inhibited hepatitis C viral protein synthesis and the production of the virus. These compounds target a specific site on the viral mRNA known as an internal ribosomal entry site, or IRES, which is critical to the replication of the hepatitis C virus. We believe that our approach may be complementary to existing therapies and other compounds currently in development for the treatment of hepatitis C.

We are also conducting discovery programs focused on developing new treatments for multiple therapeutic areas, including bacterial infections, anemia and musculoskeletal conditions.

Interim Data from our Phase 2 Cystic Fibrosis Clinical Trials

We are currently conducting two Phase 2 clinical trials of PTC124 in patients with cystic fibrosis caused by nonsense mutations. We expect to enroll at least 18 evaluable patients in each trial. The primary endpoint in both trials is the change in study participants' chloride conductance in respiratory cells as measured by transepithelial potential difference, or TEPD. TEPD is a common and accepted measure to diagnose and evaluate patients with cystic fibrosis. Cystic fibrosis patients have an abnormal TEPD chloride conductance. We assess the endpoint in three ways: (1) mean change in TEPD chloride conductance; (2) the percentage of patients that achieve a defined improvement in TEPD chloride conductance, referred to as a chloride conductance response; and (3) the percentage of patients with improvement in TEPD chloride conductance into the generally accepted normal range. Participants in the trials take PTC124 in two sequential dosing cycles. The first is a lower-dose cycle and the second is a higher-dose cycle. We assess changes in participants' TEPD chloride conductance from the beginning to the end of each dosing cycle.

In March 2006, we conducted an interim analysis of the data from a total of 15 patients who have completed their participation in either of our two trials. In these 15 patients, at both dose levels, we observed statistically significant results in all three ways in which we assessed the endpoint, including mean improvement in TEPD chloride conductance, percentage of patients with a chloride conductance response and percentage of patients with a chloride conductance value improvement into the normal range. We also observed statistically significant improvements in other endpoints, including lung function and weight. While these interim results do not necessarily predict favorable outcomes from our ongoing Phase 2 clinical trials or any future trial, we believe that these results support our continued development of PTC124 in cystic fibrosis, Duchenne muscular dystrophy and other genetic disorders caused by nonsense mutations.

Our Collaborations

In March 2006, we entered into a collaboration with Schering-Plough for the development and commercialization of compounds in our hepatitis C program. Pursuant to the collaboration, we and Schering-Plough will conduct a joint research program, and Schering-Plough will be responsible for worldwide development and commercialization efforts for any product candidates that are developed. Schering-Plough has made an upfront payment to us of $12.0 million and has agreed to provide funding for our research activities. In addition, we are eligible to receive more than $200 million in payments if specified development, regulatory and sales milestones are achieved. We are also entitled to royalties on sales of products developed pursuant to the collaboration, with the royalty percentage based on specified thresholds of worldwide net

product sales. In addition to our collaboration with Schering-Plough, we have entered into a research collaboration with Bausch & Lomb to identify and potentially license to Bausch & Lomb compounds with anti-angiogenic activity for specified ophthalmic diseases.

Our Proprietary Technologies

We employ several proprietary technologies in our research and development activities. Our principal technology is Gene Expression Modulation by Small Molecules, or GEMS, which we use to identify compounds that increase or decrease protein levels by altering post-transcriptional control processes. GEMS is a screening procedure that is based on our understanding of specific elements of mRNA that are critical for post-transcriptional control. Through the use of GEMS and other proprietary technologies, we have identified compounds that have exhibited desired pharmaceutical activity and side effect profiles in preclinical studies. We believe that these results validate our ability to identify compounds that affect protein levels through post-transcriptional control processes and our ability to optimize these compounds as potential product candidates for their specified indications.

Our Strategy

Our goal is to become a leading pharmaceutical company focused on developing and commercializing small-molecule therapeutics that target post-transcriptional control processes and address unmet medical needs. The key elements of our strategy are to rapidly advance our lead programs; apply our integrated approach to continue to discover and develop small molecules that alter post-transcriptional control processes; build a specialized sales and marketing infrastructure; and selectively establish strategic alliances with leading pharmaceutical and biotechnology companies.

Risks Associated with Our Business

Our business is subject to a number of risks of which you should be aware before making an investment decision. These risks are discussed more fully in the "Risk Factors" section of this prospectus immediately following this prospectus summary. We have a limited operating history and have not yet commercialized any products. We have incurred substantial operating losses in each year since inception. Our net loss was $22.9 million for the year ended December 31, 2005. As of December 31, 2005, we had a deficit accumulated during the development stage of $92.1 million. We expect to incur significant and increasing net losses for at least the next several years. It is uncertain whether any of our product candidates under development will become effective treatments. All of our product candidates are undergoing clinical trials or are in earlier stages of development, and failure is common and can occur at any stage of development. None of our drug candidates has received regulatory approval for commercialization, and we do not expect that any drugs resulting from our or our collaborators' research and development efforts will be commercially available for a number of years, if at all. We may never receive any product sales revenues or achieve profitability.

Our Corporate Information

We were incorporated under the laws of the State of Delaware in March 1998. Our principal executive offices are located at 100 Corporate Court, South Plainfield, New Jersey 07080-2449, and our telephone number is (908) 222-7000. Our website address is *www.ptcbio.com*. The information contained on, or that can be accessed through, our website is not a part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

THE OFFERING

Common stock we are offering	shares
Common stock to be outstanding after this offering	shares
Over-allotment option	shares
Use of Proceeds	We estimate that the net proceeds from this offering will be approximately $ million, or approximately $ million if the underwriters exercise their over-allotment option in full, assuming an initial public offering price of $ per share, after deducting estimated underwriting discounts and commissions and offering expenses payable by us. We expect to use most of the net proceeds from this offering to fund clinical trials, preclinical testing and other research and development activities and the balance for working capital and other general corporate purposes. See "Use of Proceeds."
Risk Factors	You should read the "Risk Factors" section of this prospectus for a discussion of the factors to consider carefully before deciding to purchase any shares of our common stock.
Proposed Nasdaq National Market symbol	PTCT

The number of shares of our common stock to be outstanding immediately after this offering is based on 11,889 shares of common stock outstanding as of March 15, 2006 and an additional 13,504,722 shares of common stock issuable upon the automatic conversion of all outstanding shares of our preferred stock upon the closing of this offering. The number of shares of common stock to be outstanding after this offering excludes:

- 2,340,715 shares of common stock issuable upon the exercise of stock options outstanding as of March 15, 2006 at a weighted average exercise price of $2.40 per share;
- 277,151 shares of common stock issuable upon the exercise of warrants outstanding as of March 15, 2006 at a weighted average exercise price of $17.86 per share;
- an aggregate of shares of common stock reserved for future issuance under our 2006 equity incentive plan as of the closing of this offering; and
- an aggregate of shares of common stock reserved for future issuance under our 2006 employee stock purchase plan as of the closing of this offering.

Unless otherwise noted, all information in this prospectus assumes:

- no exercise of the outstanding options or warrants described above;
- no exercise by the underwriters of their option to purchase up to shares of common stock to cover over-allotments; and
- the automatic conversion of all outstanding shares of our preferred stock into an aggregate of 13,504,722 shares of common stock upon the closing of this offering.

SUMMARY FINANCIAL DATA

The following is a summary of our financial information. You should read this information together with our financial statements and the related notes appearing at the end of this prospectus and the "Management's Discussion and Analysis of Financial Condition and Results of Operations" section of this prospectus.

The pro forma as adjusted balance sheet data set forth below gives effect to the automatic conversion of all outstanding shares of our preferred stock into an aggregate of 13,504,722 shares of common stock upon the closing of this offering and to our issuance and sale of shares of common stock in this offering at an assumed initial public offering price of $ per share, which is the midpoint of the price range listed on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and offering expenses payable by us.

Please see note 2 to our financial statements appearing at the end of this prospectus for an explanation of the method used to calculate the net loss per share, the pro forma net loss per share and the number of shares used in the computation of per share amounts.

	Year Ended December 31,			Period from March 31, 1998 (Inception) to December 31, 2005
	2003	2004	2005	
	(in thousands, except share and per share data)			
Statements of Operations Data:				
Revenues	$ 756	$ 1,606	$ 4,967	$ 7,669
Operating expenses:				
Research and development	17,695	20,070	21,123	76,970
General and administrative	4,693	6,023	7,944	27,231
Total operating expenses	22,388	26,093	29,067	104,201
Loss from operations	(21,632)	(24,487)	(24,100)	(96,532)
Interest income	317	579	854	3,998
Interest expense	(358)	(184)	(141)	(1,007)
Loss before tax benefit	(21,673)	(24,092)	(23,387)	(93,541)
Tax benefit	235	451	479	1,397
Loss applicable to common stockholders	$ (21,438)	$ (23,641)	$ (22,908)	$ (92,144)
Basic and diluted loss per share applicable to common stockholders	$ (315,259)	$ (347,670)	$ (9,925)	
Shares used to compute basic and diluted loss per share applicable to common stockholders	68	68	2,308	
Pro forma basic and diluted net loss per common share (unaudited)			$ (2.11)	
Shares used to compute pro forma basic and diluted net loss per common share (unaudited)			10,831,634	

	As of December 31, 2005	
	Actual	Pro Forma As Adjusted (unaudited)
	(in thousands)	
Balance Sheet Data:		
Cash and cash equivalents and short-term investments	$ 37,840	
Working capital	34,331	
Total assets	43,974	
Long-term debt, net of current portion	804	
Deficit accumulated during the development stage	(92,144)	
Total stockholders' equity	38,401	

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described below together with all of the other information included in this prospectus, including the financial statements and related notes appearing at the end of this prospectus, before deciding to invest in our common stock. If any of the following risks actually occur, they may materially harm our business, prospects, financial condition and results of operations. In this event, the market price of our common stock could decline and you could lose part or all of your investment.

Risks Related to Our Financial Position and Need for Additional Capital

We have incurred significant losses since our inception. We expect to incur losses for the foreseeable future and may never achieve or maintain profitability.

Since inception, we have incurred significant operating losses. Our net loss was $22.9 million for the year ended December 31, 2005. As of December 31, 2005, we had a deficit accumulated during the development stage of $92.1 million. To date, we have financed our operations primarily through private placements of our preferred stock and, to a lesser extent, through a variety of governmental grant programs and through financial support from advocacy groups and foundations in the disease areas addressed by our product candidates. We have devoted substantially all of our efforts to research and development, including clinical trials. We have not completed development of any drugs. We expect to continue to incur significant and increasing operating losses for at least the next several years. We anticipate that our expenses will increase substantially as we:

- continue our ongoing Phase 2 clinical trials of PTC124 for the treatment of cystic fibrosis and Duchenne muscular dystrophy caused by nonsense mutations and conduct potential later stage clinical trials of PTC124 if our Phase 2 trials are successful;
- initiate and pursue clinical trials of PTC299 for the treatment of cancer;
- continue the research and development of our other product candidates;
- seek to discover and develop additional product candidates;
- seek regulatory approvals for our product candidates that successfully complete clinical trials;
- establish a sales and marketing infrastructure to commercialize products for which we may obtain regulatory approval; and
- add operational, financial and management information systems and personnel, including personnel to support our product development efforts and our obligations as a public company.

To become and remain profitable, we must succeed in developing and commercializing drugs with significant market potential. This will require us to be successful in a range of challenging activities, including discovering product candidates, successfully completing preclinical testing and clinical trials of our product candidates, obtaining regulatory approval for these product candidates and manufacturing, marketing and selling those products for which we may obtain regulatory approval. We are only in the preliminary stages of these activities. We may never succeed in these activities and may never generate revenues that are significant or large enough to achieve profitability. Even if we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to become and remain profitable would depress the market price of our common stock and could impair our ability to raise capital, expand our business, diversify our product offerings or continue our operations. A decline in the market price of our common stock would also cause you to lose all or a part of your investment.

We will need substantial additional funding and may be unable to raise capital when needed, which would force us to delay, reduce or eliminate our product development programs or commercialization efforts.

We expect our research and development expenses to increase in connection with our ongoing activities, particularly as we continue our Phase 2 clinical trials of PTC124 for the treatment of cystic fibrosis and Duchenne muscular dystrophy caused by nonsense mutations, commence additional clinical trials of PTC124 if our ongoing Phase 2 clinical trials are successful, commence Phase 1 clinical trials of PTC299 for the treatment of cancer and continue the research activities in our hepatitis C virus program in collaboration with Schering-Plough. In addition, subject to obtaining regulatory approval of any of our product candidates, we expect to incur significant commercialization expenses for product sales, marketing, securing commercial quantities of product from our manufacturers and distribution. We will need substantial additional funding and may be unable to raise capital when needed or on attractive terms, which would force us to delay, reduce or eliminate our research and development programs or commercialization efforts.

We believe that the net proceeds from this offering, together with our existing cash and cash equivalents, short-term investments and research funding that we expect to receive under our collaborations, will be sufficient to enable us to fund our operating expenses and capital expenditure requirements until . Our future capital requirements will depend on many factors, including:

- the progress and results of our clinical trials of PTC124 and PTC299;
- the success of our hepatitis C virus collaboration with Schering-Plough;
- the scope, progress, results and costs of preclinical development, laboratory testing and clinical trials for our other product candidates;
- the costs, timing and outcome of regulatory review of our product candidates;
- the number and development requirements of other product candidates that we pursue;
- the costs of commercialization activities, including product marketing, sales and distribution;
- the costs of preparing, filing and prosecuting patent applications and maintaining, enforcing and defending intellectual property-related claims;
- the extent to which we acquire or invest in businesses, products and technologies; and
- our ability to establish and maintain collaborations.

Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through public or private equity offerings and debt financings, corporate collaboration and licensing arrangements and grants from patient advocacy groups, foundations and government agencies. If we raise additional funds by issuing equity securities, our stockholders will experience dilution. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. Any debt financing or additional equity that we raise may contain terms, such as liquidation and other preferences that are not favorable to us or our stockholders. If we raise additional funds through collaboration and licensing arrangements with third parties, it may be necessary to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or to grant licenses on terms that may not be favorable to us.

Our short operating history may make it difficult for you to evaluate the success of our business to date and to assess our future viability.

We are a development-stage company. We commenced active operations in 2000. Our operations to date have been limited to organizing and staffing our company, acquiring, developing and securing our technology and undertaking preclinical studies and limited clinical trials of our most advanced product candidates. We have not yet demonstrated our ability to successfully complete large-scale, pivotal clinical trials, obtain

regulatory approvals, manufacture a commercial scale product, or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful product commercialization. Consequently, any predictions you make about our future success or viability may not be as accurate as they could be if we had a longer operating history.

In addition, as a new business, we may encounter unforeseen expenses, difficulties, complications, delays and other known and unknown factors. We will need to transition from a company with a research focus to a company capable of supporting commercial activities. We may not be successful in such a transition.

Risks Related to the Development and Commercialization of Our Product Candidates

We depend heavily on the success of our most advanced product candidates, particularly PTC124 and PTC299. All of our product candidates are still in preclinical and clinical development. Clinical trials of our product candidates may not be successful. If we are unable to commercialize PTC124 or PTC299, or experience significant delays in doing so, our business will be materially harmed.

We have invested a significant portion of our efforts and financial resources in the development of our most advanced product candidates, PTC124 for the treatment of genetic disorders and PTC299 for the treatment of cancer. Our ability to generate product revenues, which we do not expect will occur for at least the next several years, if ever, will depend heavily on the successful development and commercialization of these product candidates. The success of our product candidates will depend on several factors, including the following:

- successful completion of clinical trials;
- successful completion of additional preclinical studies;
- receipt of marketing approvals from the United States Food and Drug Administration, or FDA, and similar regulatory authorities outside the United States;
- establishing commercial manufacturing arrangements with third-party manufacturers;
- launching commercial sales of the product, whether alone or in collaboration with others;
- acceptance of the product by patients, the medical community and third-party payors;
- competition from other therapies; and
- a continued acceptable safety profile of the product following approval.

Positive interim results from a clinical trial do not ensure that the trial will be successful and success in early stage clinical trials does not ensure success in later stage clinical trials.

Our efforts to commercialize all of our product candidates are at an early stage. We are currently conducting Phase 2 clinical trials of PTC124 for the treatment of cystic fibrosis and Duchenne muscular dystrophy caused by nonsense mutations. We expect to complete these Phase 2 clinical trials in 2006. In April 2006, we expect to commence a Phase 1a clinical trial of PTC299 in healthy volunteers in Belgium. If this Phase 1a clinical trial is successful, we plan to initiate a Phase 1b clinical trial of PTC299 in late 2006 in patients with advanced solid tumors whose disease has progressed during therapy or for whom there is no effective therapy available. Success in preclinical testing and early clinical trials does not ensure that later clinical trials will be successful, and interim results of a clinical trial do not necessarily predict final results. For example, the interim results to date in our Phase 2 clinical trials of PTC124 for the treatment of cystic fibrosis caused by nonsense mutations are based on data from only 15 patients and include patients from both trials. Data from additional patients enrolled in these trials may be less favorable than the data observed to date. We cannot assure you that either trial will ultimately be successful. In addition, the results from these 15 patients have only become available recently. New information regarding the safety and efficacy of PTC124 may arise from our continuing analysis of the data that may be less favorable than the data observed to date. In these

Phase 2 trials, patients take PTC124 for two-week periods. PTC124 may not be found to be effective or safe when taken for longer periods.

In addition, the primary endpoints in our Phase 2 clinical trials of PTC124 are based on pharmacodynamic markers of changes in the disease state. For example, in our Phase 2 cystic fibrosis trials, we are using chloride conductance as measured by TEPD as a pharmacodynamic marker of changes in a cystic fibrosis patient's disease state. We anticipate that the primary endpoints in later stage clinical trials of PTC124 will be different than the endpoints in our Phase 2 trials. We expect that primary endpoints for future clinical trials of PTC124 in cystic fibrosis would include longer-term clinical measures of lung function and that primary endpoints for future clinical trials of PTC124 in Duchenne muscular dystrophy would include clinical measures of muscle function. As such, the results of our Phase 2 clinical trials are not necessarily indicative of the results we may obtain in later stage clinical trials. It may also be more difficult for us to achieve these endpoints than those we are using in our Phase 2 clinical trials.

Even if our early phase clinical trials are successful, we will need to conduct additional clinical trials in larger numbers of patients taking the drug for longer periods for all of our product candidates before we are able to seek approvals to market and sell these product candidates from the FDA and similar regulatory authorities outside the United States. Similarly, even if clinical trials of a product candidate are successful in one indication, clinical trials of that product candidate for other indications may be unsuccessful. If we are not successful in commercializing any of our lead product candidates, or are significantly delayed in doing so, our business will be materially harmed.

If our preclinical studies do not produce positive results, if our clinical trials are delayed or if serious side effects are identified during drug development, we may experience delays, incur additional costs and ultimately be unable to commercialize our product candidates.

Before obtaining regulatory approval for the sale of our product candidates, we must conduct, at our own expense, extensive preclinical tests to demonstrate the safety of our product candidates in animals and clinical trials to demonstrate the safety and efficacy of our product candidates in humans. Preclinical and clinical testing is expensive, difficult to design and implement, can take many years to complete and is uncertain as to outcome. A failure of one or more of our clinical trials can occur at any stage of testing. We may experience numerous unforeseen events during, or as a result of, preclinical testing and the clinical trial process that could delay or prevent our ability to receive regulatory approval or commercialize our product candidates, including:

- regulators or institutional review boards may not authorize us to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- our preclinical tests or clinical trials may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional preclinical testing or clinical trials or we may abandon projects that we expect to be promising;
- the number of patients required for our clinical trials may be larger than we anticipate, enrollment in our clinical trials may be slower than we currently anticipate, or participants may drop out of our clinical trials at a higher rate than we anticipate, any of which would result in significant delays;
- our third-party contractors may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner;
- we might have to suspend or terminate our clinical trials if the participants are being exposed to unacceptable health risks;
- regulators or institutional review boards may require that we hold, suspend or terminate clinical research for various reasons, including noncompliance with regulatory requirements;
- the cost of our clinical trials may be greater than we anticipate;
- the supply or quality of our product candidates or other materials necessary to conduct our clinical trials may be insufficient or inadequate; and

- the effects of our product candidates may not be the desired effects or may include undesirable side effects or the product candidates may have other unexpected characteristics.

In particular, we recently commenced Phase 2 clinical trials of PTC124 for the treatment of cystic fibrosis and Duchenne muscular dystrophy caused by nonsense mutations. Both of these indications are characterized by relatively small patient populations, which may result in slow enrollment of clinical trial participants. In addition, we may experience delays in agreeing to the endpoints for later stage clinical trials of PTC124 with the FDA and similar regulatory authorities outside the United States.

If we are required to conduct additional clinical trials or other testing of our product candidates beyond those that we currently contemplate, if we are unable to successfully complete our clinical trials or other testing, if the results of these trials or tests are not positive or are only modestly positive or if there are safety concerns, we may:

- be delayed in obtaining marketing approval for our product candidates;
- not be able to obtain marketing approval;
- obtain approval for indications that are not as broad as intended; or
- have the product removed from the market after obtaining marketing approval.

In our preclinical testing of PTC124, we noted inflammatory cells in the adrenal glands of some dogs that were treated with PTC124. The clinical implications, if any, of this observation are unknown. We may need to assess adrenal function in humans receiving PTC124 or perform other tests if required by the FDA or other regulatory authorities. Also in our preclinical testing of PTC124, some rats developed brown fat tumors, tumors of the mammary glands and tumors of the testes. It was not clear whether the non-brown fat tumors were caused by PTC124. Brown fat tumors can occur in small animals, including rodents, but are extremely rare in humans. Other drugs known to cause growth of brown fat tumors in rats have not been observed to cause similar tumors in humans. However, at the request of the FDA, we are conducting an additional six-month toxicity study of PTC124 in rats. If the results of this study are unfavorable, our ability to continue the development of PTC124 may be adversely affected.

In one of our Phase 1 clinical trials of PTC124, we observed modest elevations of liver enzymes in some subjects. These elevated enzyme levels did not require cessation of PTC124 administration, and enzyme levels typically normalized after completion of the treatment phase. We did not observe any increases in bilirubin, which can be associated with serious harm to the liver. In the 15 participants we have evaluated to date on our Phase 2 clinical trials for cystic fibrosis, we did not observe any meaningful elevations in liver enzymes or bilirubin. If we were to observe elevations in liver enzymes in patients in our ongoing or potential future clinical trials of PTC124, we may be unable to continue the development of the product candidate. Alternatively, we may be required to instruct physicians to frequently monitor patients for liver enzyme abnormalities, which could be an impediment to the use of PTC124 because of concerns related to its safety and convenience.

Our product development costs will also increase if we experience delays in testing or approvals. We do not know whether any preclinical tests or clinical trials will begin as planned, will need to be restructured or will be completed on schedule, if at all. Significant preclinical or clinical trial delays also could shorten the patent protection period during which we may have the exclusive right to commercialize our product candidates or allow our competitors to bring products to market before we do and impair our ability to commercialize our products or product candidates.

Our focus on the discovery and development of product candidates that target post-transcriptional control processes is unproven, and we do not know whether we will be able to develop any products of commercial value.

Our scientific approach focuses on the discovery and development of product candidates that target post-transcriptional control processes. While a number of commonly used drugs and a growing body of research validate the importance of post-transcriptional control processes in the origin and progression of a number of

diseases, no existing drugs have been specifically designed to alter post-transcriptional control processes in the same manner as our lead product candidates. As a result, we cannot be certain that our focus on targeting these processes will result in the discovery and development of commercially viable drugs that safely and effectively treat genetic disorders, cancer, hepatitis C or other diseases. In addition, even if we are successful in developing and receiving regulatory approval for a commercially viable drug that treats an approved indication by targeting a particular post-transcriptional control process, we cannot be certain that we will also be able to receive regulatory approval for additional indications. Nor can we be certain that we will be able to receive regulatory approval for product candidates that target different post-transcriptional control processes. If we fail to develop and commercialize viable drugs, we will not achieve commercial success.

The commercial success of any product candidates that we may develop, including PTC124 and PTC299, will depend upon the degree of market acceptance by physicians, patients, healthcare payors and others in the medical community.

Any products that we bring to the market, including PTC124 and PTC299 if they receive marketing approval, may not gain market acceptance by physicians, patients, healthcare payors and others in the medical community. If these products do not achieve an adequate level of acceptance, we may not generate significant product revenues and we may not become profitable. The degree of market acceptance of our product candidates, if approved for commercial sale, will depend on a number of factors, including:

- the prevalence and severity of any side effects;
- the efficacy and potential advantages over alternative treatments;
- the ability to offer our product candidates for sale at competitive prices;
- relative convenience and ease of administration;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- the strength of marketing and distribution support; and
- sufficient third-party coverage or reimbursement.

If we are unable to establish sales and marketing capabilities or enter into agreements with third parties to market and sell our product candidates, we may be unable to generate product revenues.

We do not have a sales or marketing organization and have no experience in the sale, marketing or distribution of pharmaceutical products. To achieve commercial success for any approved product, we must either develop a sales and marketing organization or outsource these functions to third parties. Currently, we plan to build a focused specialty sales and marketing infrastructure to market or co-promote some of our product candidates if and when they are approved. There are risks involved with establishing our own sales and marketing capabilities, as well as in entering into arrangements with third parties to perform these services. For example, developing a sales force is expensive and time consuming and could delay any product launch. If the commercial launch of a product candidate for which we recruit a sales force and establish marketing capabilities is delayed or prohibited as a result of FDA requirements or other reasons, we would incur related expenses too early relative to the product launch. This may be costly, and our investment would be lost if we cannot retain our sales and marketing personnel.

If we are unable to obtain adequate reimbursement from governments or third-party payors for any products that we may develop or if we are unable to obtain acceptable prices for those products, our revenues and prospects for profitability will suffer.

Our revenues and profits will depend heavily upon the availability of adequate reimbursement for the use of our approved product candidates from governmental and other third-party payors, both in the United States

and in other markets. Reimbursement by a third-party payor may depend upon a number of factors, including the third-party payor's determination that use of a product is:

- a covered benefit under its health plan;
- safe, effective and medically necessary;
- appropriate for the specific patient;
- cost-effective; and
- neither experimental nor investigational.

Obtaining reimbursement approval for a product from each government or other third-party payor is a time consuming and costly process that could require us to provide supporting scientific, clinical and cost-effectiveness data for the use of our products to each payor. We may not be able to provide data sufficient to gain acceptance with respect to reimbursement. Even when a payor determines that a product is eligible for reimbursement, the payor may impose coverage limitations that preclude payment for some uses that are approved by the FDA or comparable authorities. In addition, there is a risk that full reimbursement may not be available for high priced products. Moreover, eligibility for coverage does not imply that any product will be reimbursed in all cases or at a rate that allows us to make a profit or even cover our costs. Interim payments for new products, if applicable, may also not be sufficient to cover our costs and may not be made permanent. A primary trend in the United States healthcare industry and elsewhere is toward cost containment. We expect recent changes in the Medicare program and increasing emphasis on managed care to continue to put pressure on pharmaceutical product pricing.

Governments outside the United States tend to impose strict price controls, which may adversely affect our revenues, if any.

In some countries, particularly the countries of the European Union, the pricing of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a product. To obtain reimbursement or pricing approval in some countries, we may be required to conduct a clinical trial that compares the cost-effectiveness of our product candidate to other available therapies. If reimbursement of our products is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our business could be adversely affected.

Product liability lawsuits against us could cause us to incur substantial liabilities and to limit commercialization of any products that we may develop.

We face an inherent risk of product liability exposure related to the testing of our product candidates in human clinical trials and will face an even greater risk if we commercially sell any products that we may develop. If we cannot successfully defend ourselves against claims that our product candidates or products caused injuries, we will incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for any product candidates or products that we may develop;
- injury to our reputation;
- withdrawal of clinical trial participants;
- costs to defend the related litigation;
- substantial monetary awards to trial participants or patients;
- loss of revenue; and
- the inability to commercialize any products that we may develop.

We have product liability insurance that covers our clinical trials up to a $5.0 million annual aggregate limit and subject to a per claim deductible. The amount of insurance that we currently hold may not be adequate to cover all liabilities that we may incur. We intend to expand our insurance coverage to include the sale of commercial products if we obtain marketing approval for any products. Insurance coverage is increasingly expensive. We may not be able to maintain insurance coverage at a reasonable cost and we may not be able to obtain insurance coverage that will be adequate to satisfy any liability that may arise.

We face substantial competition which may result in others discovering, developing or commercializing products before or more successfully than we do.

The development and commercialization of new drugs is highly competitive. We face competition with respect to our current product candidates and any products we may seek to develop or commercialize in the future from major pharmaceutical companies, specialty pharmaceutical companies and biotechnology companies worldwide. Potential competitors also include academic institutions, government agencies and other public and private research organizations that conduct research, seek patent protection and establish collaborative arrangements for research, development, manufacturing and commercialization. Our competitors may develop products that are more effective, safer, more convenient or less costly than any that we are developing or that would render our product candidates obsolete or non-competitive. Our competitors may also obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours.

We believe that many competitors are attempting to develop therapeutics for many of our target indications, including academic institutions, government agencies, public and private research organizations, large pharmaceutical companies and smaller more focused companies.

Many of our competitors have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals and marketing approved products than we do. Smaller and other early stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These third parties compete with us in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to or necessary for our programs or advantageous to our business.

Our business activities involve the use of hazardous materials, which require compliance with environmental and occupational safety laws regulating the use of such materials. If we violate these laws, we could be subject to significant fines, liabilities or other adverse consequences.

Our research and development programs involve the controlled use of hazardous materials. Accordingly, we are subject to federal, state and local laws governing the use, handling and disposal of these materials. Although we believe that our safety procedures for handling and disposing of these materials comply in all material respects with the standards prescribed by state and federal regulations, we cannot completely eliminate the risk of accidental contamination or injury from these materials. In addition, our collaborators may not comply with these laws. In the event of an accident or failure to comply with environmental laws, we could be held liable for damages that result, and any such liability could exceed our assets and resources. We maintain liability insurance for some of these risks, but our policy excludes pollution and has a coverage limit of $5.0 million.

Risks Related to Our Dependence on Third Parties

Use of third parties to manufacture our product candidates may increase the risk that we will not have sufficient quantities of our product candidates or such quantities at an acceptable cost, and clinical development and commercialization of our product candidates could be delayed, prevented or impaired.

We do not own or operate manufacturing facilities for clinical or commercial production of our product candidates. We have limited personnel with experience in drug manufacturing and we lack the resources and the capabilities to manufacture any of our product candidates on a clinical or commercial scale. Our strategy is to outsource all manufacturing of our product candidates and products to third parties.

We do not currently have any agreements with third-party manufacturers for the long-term commercial supply of any of our product candidates. To date, we have obtained our supply of the bulk drug substance for both PTC124 and PTC299 from one third-party manufacturer. We engaged a second manufacturer to provide the fill and finish services for the finished product that we are using in our ongoing Phase 2 clinical trials of PTC124 and expect to use in our planned Phase 1a clinical trial of PTC299. We are in the process of negotiating an agreement with a new manufacturer for the supply of bulk drug substance for our future clinical trials of PTC124 and PTC299. We may be unable to conclude agreements for commercial supply with third-party manufacturers, or may be unable to do so on acceptable terms. Even if we conclude these agreements, the manufacturers of each product candidate will be single source suppliers to us for a significant period of time.

Reliance on third-party manufacturers entails risks to which we would not be subject if we manufactured product candidates or products ourselves, including:

- reliance on the third party for regulatory compliance and quality assurance;
- the possible breach of the manufacturing agreement by the third party because of factors beyond our control; and
- the possible termination or nonrenewal of the agreement by the third party, based on its own business priorities, at a time that is costly or inconvenient for us.

Our manufacturers may not be able to comply with current good manufacturing practice, or cGMP, regulations or other regulatory requirements or similar regulatory requirements outside the United States. Our manufacturers are subject to unannounced inspections by the FDA, state regulators and similar regulators outside the United States. Our failure, or the failure of our third-party manufacturers, to comply with applicable regulations could result in sanctions being imposed on us, including fines, injunctions, civil penalties, failure of regulatory authorities to grant marketing approval of our product candidates, delays, suspension or withdrawal of approvals, license revocation, seizures or recalls of product candidates or products, operating restrictions and criminal prosecutions, any of which could significantly and adversely affect supplies of our product candidates.

Our product candidates and any products that we may develop may compete with other product candidates and products for access to manufacturing facilities. There are a limited number of manufacturers that operate under cGMP regulations and that are both capable of manufacturing for us and willing to do so. If the third parties that we engage to manufacture product for our preclinical tests and clinical trials should cease to continue to do so for any reason, we likely would experience delays in advancing these trials while we identify and qualify replacement suppliers and we may be unable to obtain replacement supplies on terms that are favorable to us. In addition, if we are not able to obtain adequate supplies of our product candidates or the drug substances used to manufacture them, it will be more difficult for us to develop our product candidates and compete effectively.

Our current and anticipated future dependence upon others for the manufacture of our product candidates may adversely affect our future profit margins and our ability to develop product candidates and commercialize any products that receive regulatory approval on a timely and competitive basis.

We rely on third parties to conduct our clinical trials and those third parties may not perform satisfactorily, including failing to meet established deadlines for the completion of such trials.

We do not independently conduct clinical trials for our product candidates. We rely on third parties, such as contract research organizations, clinical data management organizations, medical institutions and clinical investigators, to perform this function. Our reliance on these third parties for clinical development activities reduces our control over these activities. We are responsible for ensuring that each of our clinical trials is conducted in accordance with the general investigational plan and protocols for the trial. Moreover, the FDA requires us to comply with standards, commonly referred to as Good Clinical Practices, for conducting, recording, and reporting the results of clinical trials to assure that data and reported results are credible and accurate and that the rights, integrity and confidentiality of trial participants are protected. Our reliance on

third parties that we do not control does not relieve us of these responsibilities and requirements. Furthermore, these third parties may also have relationships with other entities, some of which may be our competitors. If these third parties do not successfully carry out their contractual duties, meet expected deadlines or conduct our clinical trials in accordance with regulatory requirements or our stated protocols, we will not be able to obtain, or may be delayed in obtaining, regulatory approvals for our product candidates and will not be able to, or may be delayed in our efforts to, successfully commercialize our product candidates.

We also rely on other third parties to store and distribute drug supplies for our clinical trials. Any performance failure on the part of our existing or future distributors could delay clinical development or regulatory approval of our product candidates or commercialization of our products, producing additional losses and depriving us of potential product revenue.

We may not be successful in maintaining or establishing collaborations, which could adversely affect our ability to discover, develop and, particularly in international markets, commercialize products.

For each of our product candidates, we plan to evaluate the merits of retaining commercialization rights for ourselves or entering into selective collaboration arrangements with leading pharmaceutical or biotechnology companies, such as our collaborations with Schering-Plough and Bausch & Lomb. We generally plan to seek collaborators for the later stage development and commercialization of product candidates that have high potential development costs or that are directed at indications for which a potential collaborator has a particular expertise or that involve markets that can be served more effectively by a large sales and marketing organization. We also expect to seek to establish collaborations for the sales, marketing and distribution of our products outside the United States. If we are unable to reach agreements with suitable collaborators, we may fail to meet our business objectives for the affected product or program. We face, and will continue to face, significant competition in seeking appropriate collaborators. Moreover, collaboration arrangements are complex and time consuming to negotiate, document and implement. We may not be successful in our efforts to establish and implement collaborations or other alternative arrangements. The terms of any collaborations or other arrangements that we establish may not be favorable to us.

Any collaboration that we enter into may not be successful. The success of our collaboration arrangements will depend heavily on the efforts and activities of our collaborators. It is likely that our collaborators will have significant discretion in determining the efforts and resources that they will apply to these collaborations. In particular, the successful development of a product candidate from our hepatitis C virus program will initially depend on the success of our research collaboration with Schering-Plough and whether Schering-Plough declares one or more of the compounds discovered under the collaboration as development candidates. Thereafter, Schering-Plough will have significant discretion in the development and commercialization of any such development candidate.

The risks that we are subject to in our current collaborations, and anticipate being subject to in future collaborations, include the following:

- our collaboration agreements are likely to be for fixed terms and subject to termination by our collaborators in the event of a material breach or lack of scientific progress by us;
- our collaborators are likely to have the first right to maintain or defend our intellectual property rights and, although we would likely have the right to assume the maintenance and defense of our intellectual property rights if our collaborators do not, our ability to do so may be compromised by our collaborators' acts or omissions; and
- our collaborators may utilize our intellectual property rights in such a way as to invite litigation that could jeopardize or invalidate our intellectual property rights or expose us to potential liability.

Collaborations with pharmaceutical companies and other third parties often are terminated or allowed to expire by the other party. For example, Schering-Plough has the right to terminate our hepatitis C virus collaboration at any time after the third anniversary of the agreement upon prior written notice. Schering-Plough can also terminate the collaboration if it has not accepted a development candidate within two years of the effective date of the agreement. Such terminations or expirations would adversely affect us financially and could harm our business reputation.

Risks Related to Our Intellectual Property

If we are unable to obtain and maintain protection for the intellectual property relating to our technology and products, the value of our technology and products will be adversely affected.

Our success will depend in large part on our ability to obtain and maintain protection in the United States and other countries for the intellectual property covering or incorporated into our technology and products. The patent situation in the field of biotechnology and pharmaceuticals generally is highly uncertain and involves complex legal and scientific questions. We may not be able to obtain additional issued patents relating to our technology or products. Even if issued, patents issued to us or our licensors may be challenged, narrowed, invalidated, held to be unenforceable or circumvented, which could limit our ability to stop competitors from marketing similar products or limit the length of term of patent protection we may have for our products. Changes in either patent laws or in interpretations of patent laws in the United States and other countries may diminish the value of our intellectual property or narrow the scope of our patent protection.

Our patents also may not afford us protection against competitors with similar technology. Because patent applications in the United States and many other jurisdictions are typically not published until 18 months after filing, or in some cases not at all, and because publications of discoveries in the scientific literature often lag behind actual discoveries, neither we nor our licensors can be certain that we or they were the first to make the inventions claimed in our or their issued patents or pending patent applications, or that we or they were the first to file for protection of the inventions set forth in these patent applications. If a third party has also filed a U.S. patent application covering our product candidates or a similar invention, we may have to participate in an adversarial proceeding, known as an interference, declared by the U.S. Patent Office to determine priority of invention in the United States. The costs of these proceedings could be substantial and it is possible that our efforts could be unsuccessful, resulting in a loss of our U.S. patent position.

If we fail to comply with our obligations in our intellectual property licenses with third parties, we could lose license rights that are important to our business.

We are a party to a number of license agreements and expect to enter into additional licenses in the future. Our existing licenses impose, and we expect that future licenses will impose, various diligence, milestone payment, royalty, insurance and other obligations on us. If we fail to comply with these obligations, the licensor may have the right to terminate the license, in which event we might not be able to market any product that is covered by the licensed patents.

If we are unable to protect the confidentiality of our proprietary information and know-how, the value of our technology and products could be adversely affected.

In addition to patented technology, we rely upon unpatented proprietary technology, processes and know-how. We seek to protect our unpatented proprietary information in part by confidentiality agreements with our employees, consultants and third parties. These agreements may be breached and we may not have adequate remedies for any such breach. In addition, our trade secrets may otherwise become known or be independently developed by competitors. If we are unable to protect the confidentiality of our proprietary information and know-how, competitors may be able to use this information to develop products that compete with our products, which could adversely impact our business.

If we infringe or are alleged to infringe intellectual property rights of third parties, it will adversely affect our business.

Our research, development and commercialization activities, as well as any product candidates or products resulting from these activities, may infringe or be accused of infringing one or more claims of an issued patent or may fall within the scope of one or more claims in a published patent application that may subsequently issue and to which we do not hold a license or other rights. Third parties may own or control these patents or patent applications in the United States and abroad. These third parties could bring claims against us or our collaborators that would cause us to incur substantial expenses and, if successful against us,

could cause us to pay substantial damages. Further, if a patent infringement suit were brought against us or our collaborators, we or they could be forced to stop or delay research, development, manufacturing or sales of the product or product candidate that is the subject of the suit.

With respect to PTC124, we are aware of published U.S. and international patent applications that purport to disclose or contain claims to chemical scaffolds that are sufficiently broad that they could be read to encompass PTC124, even though none of these applications specifically discloses PTC124. Although none of these published applications has issued, if a U.S. patent containing compound claims covering PTC124 is issued to one or more of these third parties, one or more of these third parties may bring a patent infringement or other legal proceeding against us regarding PTC124. We believe that the claims of these patent applications that could be read to encompass PTC124, including the allowed claims in a U.S. application, were they to issue in their current form, would likely be held to be invalid. In order to successfully challenge the validity of any issued U.S. patent, we would need to overcome a presumption of validity. This burden is a high one requiring us to present clear and convincing evidence as to the invalidity of these claims. There is no assurance that a court would find these claims to be invalid.

With respect to PTC299, we are aware of published U.S. and international patent applications that purport to disclose or contain claims to chemical scaffolds that are sufficiently broad that they could be read to encompass PTC299, even though none of these applications specifically discloses PTC299. Although none of these published applications has issued, if a U.S. patent containing compound claims covering PTC299 is issued to one or more of these third parties, one or more of these third parties may bring a patent infringement or other legal proceeding against us regarding PTC299. We anticipate that we would challenge the validity of such a patent claim.

In addition, we believe that our testing of both PTC124 and PTC299 in clinical trials for the purpose of seeking FDA approval would be a valid defense against any infringement claims in the United States based on the availability of a statutory exemption. However, there can be no assurance that our interpretation of the statutory exemption would be upheld.

If any patents issued from the patent applications described above were found to be valid and we were found to infringe any of them, or any other patent rights of third parties, or in order to avoid potential claims, we or our potential future collaborators may choose or be required to seek a license from a third party and be required to pay license fees or royalties or both. These licenses may not be available on acceptable terms, or at all. Even if we or our collaborators were able to obtain a license, the rights may be nonexclusive, which could result in our competitors gaining access to the same intellectual property. Ultimately, we could be prevented from commercializing a product, or be forced to cease some aspect of our business operations, if, as a result of actual or threatened patent infringement claims, we or our collaborators are unable to enter into licenses on acceptable terms. This could harm our business significantly.

There has been substantial litigation and other proceedings regarding patent and other intellectual property rights in the pharmaceutical and biotechnology industries. In addition to infringement claims against us, we may become a party to other patent litigation and other proceedings, including interference proceedings declared by the United States Patent and Trademark Office and opposition proceedings in the European Patent Office, regarding intellectual property rights with respect to our products and technology. The cost to us of any patent litigation or other proceeding, even if resolved in our favor, could be substantial. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their substantially greater financial resources. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace. Patent litigation and other proceedings may also absorb significant management time.

Many of our employees were previously employed at universities or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. We try to ensure that our employees do not use the proprietary information or know-how of others in their work for us. However, we may be subject to claims that we or these employees have inadvertently or otherwise used or disclosed intellectual property, trade secrets or other proprietary information of any such employee’s former employer. Litigation may be

necessary to defend against these claims and, even if we are successful in defending ourselves, could result in substantial costs to us or be distracting to our management. If we fail to defend any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel.

Risks Related to Regulatory Approval of Our Product Candidates

If we are not able to obtain required regulatory approvals, we will not be able to commercialize our product candidates, and our ability to generate revenue will be materially impaired.

Our product candidates, including PTC124 for the treatment of genetic disorders and PTC299 for the treatment of cancer, and the activities associated with their development and commercialization, including their testing, manufacture, safety, efficacy, recordkeeping, labeling, storage, approval, advertising, promotion, sale and distribution, are subject to comprehensive regulation by the FDA and other regulatory agencies in the United States and by comparable authorities in other countries. Failure to obtain regulatory approval for a product candidate will prevent us from commercializing the product candidate. We have not received regulatory approval to market any of our product candidates in any jurisdiction. We have only limited experience in filing and prosecuting the applications necessary to gain regulatory approvals and expect to rely on third-party contract research organizations to assist us in this process. Securing FDA approval requires the submission of extensive preclinical and clinical data and supporting information to the FDA for each therapeutic indication to establish the product candidate's safety and efficacy. Securing FDA approval also requires the submission of information about the product manufacturing process to, and inspection of manufacturing facilities by, the FDA. Our future products may not be effective, may be only moderately effective or may prove to have undesirable or unintended side effects, toxicities or other characteristics that may preclude our obtaining regulatory approval or prevent or limit commercial use.

The process of obtaining regulatory approvals is expensive, often takes many years, if approval is obtained at all, and can vary substantially based upon a variety of factors, including the type, complexity and novelty of the product candidates involved. Changes in regulatory approval policies during the development period, changes in or the enactment of additional statutes or regulations, or changes in regulatory review for each submitted product application, may cause delays in the approval or rejection of an application. The FDA has substantial discretion in the approval process and may refuse to accept any application or may decide that our data is insufficient for approval and require additional preclinical, clinical or other studies. In addition, varying interpretations of the data obtained from preclinical and clinical testing could delay, limit or prevent regulatory approval of a product candidate. Any regulatory approval we ultimately obtain may be limited or subject to restrictions or post-approval commitments that render the approved product not commercially viable.

We may not be able to obtain orphan drug exclusivity for our product candidates. If our competitors are able to obtain orphan drug exclusivity for their products that are the same drug as our product candidates, we may not be able to have competing products approved by the applicable regulatory authority for a significant period of time.

Regulatory authorities in some jurisdictions, including the United States and Europe, may designate drugs for relatively small patient populations as orphan drugs. We have obtained orphan drug designations from the FDA and from the European Medicines Agency, or EMEA, for our product candidate PTC124 for the treatment of cystic fibrosis caused by nonsense mutations and for the treatment of Duchenne muscular dystrophy caused by nonsense mutations. Generally, if a product with an orphan drug designation subsequently receives the first marketing approval for the indication for which it has such designation, the product is entitled to a period of marketing exclusivity, which precludes the EMEA or the FDA from approving another marketing application for the same drug for that time period. The applicable period is seven years in the United States and ten years in Europe. The European exclusivity period can be reduced to six years if a drug no longer meets the criteria for orphan drug designation or if the drug is sufficiently profitable so that market exclusivity is no longer justified. For a drug composed of small molecules, the FDA defines "same drug" as a drug that contains the same active molecule and is intended for the same use. Obtaining orphan drug exclusivity for PTC124 for these indications, both in the United States and in Europe, may be important to the

product candidate's success. If a competitor obtains orphan drug exclusivity for a product competitive with PTC124 before we do and if the competitor's product is the same drug as ours, we would be excluded from the market. Even if we obtain orphan drug exclusivity for PTC124 for these indications, we may not be able to maintain it. For example, if a competitive product that is the same drug as our product candidate is shown to be clinically superior to our product candidate, any orphan drug exclusivity we have obtained will not block the approval of such competitive product.

The fast track designation for PTC124 may not actually lead to a faster development or regulatory review or approval process.

If a drug is intended for the treatment of a serious or life-threatening condition and the drug demonstrates the potential to address unmet medical needs for this condition, the drug sponsor may apply for FDA fast track designation. We have obtained a fast track designation from the FDA for PTC124 for the treatment of both cystic fibrosis and Duchenne muscular dystrophy caused by nonsense mutations. However, we may not experience a faster development process, review or approval compared to conventional FDA procedures. The FDA may withdraw our fast track designation if the FDA believes that the designation is no longer supported by data from our clinical development program. Our fast track designation does not guarantee that we will qualify for or be able to take advantage of the FDA's expedited review procedures.

Any product for which we obtain marketing approval could be subject to restrictions or withdrawal from the market and we may be subject to penalties if we fail to comply with regulatory requirements or if we experience unanticipated problems with our products, when and if any of them are approved.

Any product for which we obtain marketing approval, along with the manufacturing processes, post-approval clinical data, labeling, advertising and promotional activities for such product, will be subject to continual requirements of and review by the FDA and comparable regulatory authorities. These requirements include submissions of safety and other post-marketing information and reports, registration requirements, cGMP requirements relating to quality control, quality assurance and corresponding maintenance of records and documents, requirements regarding the distribution of samples to physicians and recordkeeping. Even if regulatory approval of a product is granted, the approval may be subject to limitations on the indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for costly post-marketing testing and surveillance to monitor the safety or efficacy of the product. Later discovery of previously unknown problems with our products, manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may result in actions such as:

- restrictions on such products, manufacturers or manufacturing processes;
- warning letters;
- withdrawal of the products from the market;
- refusal to approve pending applications or supplements to approved applications that we submit;
- recall;
- fines;
- suspension or withdrawal of regulatory approvals;
- refusal to permit the import or export of our products;
- product seizure; and
- injunctions or the imposition of civil or criminal penalties.

Failure to obtain regulatory approval in international jurisdictions would prevent us from marketing our products abroad.

We intend to have our products marketed outside the United States. In order to market our products in the European Union and many other jurisdictions, we must obtain separate regulatory approvals and comply with numerous and varying regulatory requirements. The approval procedure varies among countries and can involve additional testing. The time required to obtain approval may differ from that required to obtain FDA approval. The regulatory approval process outside the United States may include all of the risks associated with obtaining FDA approval. In addition, in many countries outside the United States, it is required that the product be approved for reimbursement before the product can be approved for sale in that country. We may not obtain approvals from regulatory authorities outside the United States on a timely basis, if at all. Approval by the FDA does not ensure approval by regulatory authorities in other countries or jurisdictions, and approval by one regulatory authority outside the United States does not ensure approval by regulatory authorities in other countries or jurisdictions or by the FDA. We may not be able to file for regulatory approvals and may not receive necessary approvals to commercialize our products in any market.

Risks Related to Employee Matters and Managing Growth

Our future success depends on our ability to retain our chief executive officer and other key executives and to attract, retain and motivate qualified personnel.

We are highly dependent on Dr. Stuart W. Peltz, our co-founder, President and Chief Executive Officer, and the other principal members of our executive and scientific teams. The loss of the services of any of these persons might impede the achievement of our research, development and commercialization objectives. We do not maintain “key person” insurance on Dr. Peltz or on any of our other executive officers.

Recruiting and retaining qualified scientific personnel, clinical personnel and sales and marketing personnel will also be critical to our success. We may not be able to attract and retain these personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition for the hiring of scientific and clinical personnel from universities and research institutions. In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategy. Our consultants and advisors may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us.

We expect to expand our development, regulatory and sales and marketing capabilities, and as a result, we may encounter difficulties in managing our growth, which could disrupt our operations.

We expect to experience significant growth in the number of our employees and the scope of our operations, particularly in the areas of drug development, regulatory affairs and sales and marketing. To manage our anticipated future growth, we must continue to implement and improve our managerial, operational and financial systems, expand our facilities and continue to recruit and train additional qualified personnel. Due to our limited resources, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. The physical expansion of our operations may lead to significant costs and may divert our management and business development resources. Any inability to manage growth could delay the execution of our business plans or disrupt our operations.

Risks Related to Our Common Stock and This Offering

After this offering, our executive officers, directors and principal stockholders will maintain the ability to control all matters submitted to stockholders for approval.

When this offering is completed, our executive officers, directors and stockholders who owned more than 5% of our outstanding common stock before this offering will, in the aggregate, beneficially own shares

representing approximately % of our capital stock. As a result, if these stockholders were to choose to act together, they would be able to control all matters submitted to our stockholders for approval, as well as our management and affairs. For example, these persons, if they choose to act together, will control the election of directors and approval of any merger, consolidation or sale of all or substantially all of our assets. This concentration of voting power could delay or prevent an acquisition of our company on terms that other stockholders may desire.

Provisions in our corporate charter documents and under Delaware law could make an acquisition of us, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our corporate charter and our bylaws that will become effective upon the closing of this offering may discourage, delay or prevent a merger, acquisition or other change in control of us that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. In addition, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors. Because our board of directors is responsible for appointing the members of our management team, these provisions could in turn affect any attempt by our stockholders to replace current members of our management team. Among others, these provisions:

- establish a classified board of directors such that not all members of the board are elected at one time;
- allow the authorized number of our directors to be changed only by resolution of our board of directors;
- limit the manner in which stockholders can remove directors from the board;
- establish advance notice requirements for stockholder proposals that can be acted on at stockholder meetings and nominations to our board of directors;
- require that stockholder actions must be effected at a duly called stockholder meeting and prohibit actions by our stockholders by written consent;
- limit who may call stockholder meetings;
- authorize our board of directors to issue preferred stock without stockholder approval, which could be used to institute a “poison pill” that would work to dilute the stock ownership of a potential hostile acquirer, effectively preventing acquisitions that have not been approved by our board of directors; and
- require the approval of the holders of at least 75% of the votes that all our stockholders would be entitled to cast to amend or repeal certain provisions of our charter or bylaws.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which prohibits a person who owns in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner.

If you purchase shares of common stock in this offering, you will suffer immediate dilution of your investment.

We expect the initial public offering price of our common stock to be substantially higher than the net tangible book value per share of our common stock. Therefore, if you purchase shares of our common stock in this offering, you will pay a price per share that substantially exceeds our net tangible book value per share after this offering. To the extent outstanding options or warrants are exercised, you will incur further dilution.

Based on an assumed initial public offering price of $ per share, which is the midpoint of the price range listed on the cover page of this prospectus, you will experience immediate dilution of $ per share, representing the difference between our pro forma net tangible book value per share after giving effect to this offering and the assumed initial public offering price. In addition, purchasers of common stock in this offering will have contributed approximately % of the aggregate price paid by all purchasers of our stock but will own only approximately % of our common stock outstanding after this offering.

An active trading market for our common stock may not develop.

Prior to this offering, there has been no public market for our common stock. The initial public offering price for our common stock will be determined through negotiations with the underwriters. Although we have applied to have our common stock approved for quotation on The Nasdaq National Market, an active trading market for our shares may never develop or be sustained following this offering. If an active market for our common stock does not develop, it may be difficult for you to sell shares you purchase in this offering without depressing the market price for the shares or at all.

If our stock price is volatile, purchasers of our common stock could incur substantial losses.

Our stock price is likely to be volatile. The stock market in general and the market for biotechnology companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. As a result of this volatility, investors may not be able to sell their common stock at or above the initial public offering price. The market price for our common stock may be influenced by many factors, including:

- results of clinical trials of our product candidates or those of our competitors;
- regulatory or legal developments in the United States and other countries;
- variations in our financial results or those of companies that are perceived to be similar to us;
- changes in the structure of healthcare payment systems;
- market conditions in the pharmaceutical and biotechnology sectors and issuance of new or changed securities analysts' reports or recommendations;
- general economic, industry and market conditions; and
- the other factors described in this "Risk Factors" section.

We have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

Our management will have broad discretion in the application of the net proceeds from this offering and could spend the proceeds in ways that do not improve our results of operations or enhance the value of our common stock. The failure by our management to apply these funds effectively could result in financial losses that could have a material adverse effect on our business, cause the price of our common stock to decline and delay the development of our product candidates. Pending their use, we may invest the net proceeds from this offering in a manner that does not produce income or that loses value.

We have never paid cash dividends on our capital stock and we do not anticipate paying any cash dividends in the foreseeable future.

We have paid no cash dividends on our capital stock to date. We currently intend to retain our future earnings, if any, to fund the development and growth of our business. In addition, the terms of existing or any future debt agreements may preclude us from paying dividends. As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future.

A significant portion of our total outstanding shares are restricted from immediate resale but may be sold into the market in the near future. This could cause the market price of our common stock to drop significantly, even if our business is doing well.

Sales of a substantial number of shares of our common stock in the public market could occur at any time. These sales, or the perception in the market that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock. After this offering, we will have outstanding shares of common stock based on the number of shares outstanding as of March 15, 2006. This includes the shares that we are selling in this offering, which may be resold in the public market immediately. Of the remaining shares, shares are currently restricted as a result of securities laws or lock-up agreements but will be able to be sold after the offering as described in the "Shares Eligible for Future Sale" section of this prospectus. Moreover, after this offering, holders of an aggregate of shares of our common stock will have rights, subject to some conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders. We also intend to register all shares of common stock that we may issue under our equity compensation plans. Once we register these shares, they can be freely sold in the public market upon issuance, subject to the lock-up agreements described in the "Underwriters" section of this prospectus.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements that involve substantial risks and uncertainties. All statements, other than statements of historical facts, included in this prospectus regarding our strategy, future operations, future financial position, future revenues, projected costs, prospects, plans and objectives of management are forward-looking statements. The words “anticipate,” “believe,” “estimate,” “expect,” “intend,” “may,” “plan,” “predict,” “project,” “will,” “would” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

The forward-looking statements in this prospectus include, among other things, statements about:

- our plans to develop and commercialize PTC124 and PTC299;
- our collaborations with Schering-Plough and Bausch & Lomb;
- our ongoing and planned discovery programs, preclinical studies and clinical trials;
- the potential benefits of our existing collaboration agreements and our ability to enter into selective additional collaboration arrangements;
- the timing of and our ability to obtain and maintain regulatory approvals for our product candidates;
- the rate and degree of market acceptance and clinical utility of our products;
- our ability to quickly and efficiently identify and develop product candidates;
- the extent to which our scientific approach may potentially address a broad range of diseases across multiple therapeutic areas;
- our commercialization, marketing and manufacturing capabilities and strategy;
- our intellectual property position; and
- our estimates regarding expenses, future revenues, capital requirements and needs for additional financing.

We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included in this prospectus, particularly in the “Risk Factors” section, that we believe could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make.

You should read this prospectus and the documents that we reference in this prospectus and have filed as exhibits to the registration statement of which this prospectus is a part completely and with the understanding that our actual future results may be materially different from what we expect. We do not assume any obligation to update any forward-looking statements.

USE OF PROCEEDS

We estimate that the net proceeds from our issuance and sale of shares of common stock in this offering will be approximately $ million, assuming an initial public offering price of $ per share, which is the midpoint of the price range listed on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and offering expenses payable by us. A $1.00 increase (decrease) in the assumed initial public offering price of $ per share would increase (decrease) our net proceeds from this offering by approximately $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions. If the underwriters exercise their over-allotment option in full, we estimate that the net proceeds to us from this offering will be approximately $ million, assuming an initial public offering price of $ per share, which is the midpoint of the price range listed on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and offering expenses payable by us.

We intend to use the net proceeds from this offering as follows:

- approximately $ million to fund a portion of our development activities for PTC124, including the ongoing Phase 2 clinical trials of PTC124 for the treatment of cystic fibrosis and Duchenne muscular dystrophy and potential later stage clinical trials if our Phase 2 trials are successful;
- approximately $ million to fund a portion of our development activities for PTC299, including our planned Phase 1a clinical trial in healthy volunteers and Phase 1b clinical trial in cancer patients;
- approximately $ million to fund research and development for our discovery programs; and
- the balance, if any, to fund working capital, capital expenditures and other general corporate purposes, which may include the acquisition or licensing of complementary technologies, products or businesses.

This expected use of net proceeds of this offering represents our intentions based upon our current plans and business conditions. The amounts and timing of our actual expenditures depend on numerous factors, including the ongoing status of and results from clinical trials and other studies for PTC124 and PTC299, as well as the development of our preclinical product pipeline, any collaborations we may enter into with third parties for our product candidates and any unforeseen cash needs. As a result, our management will retain broad discretion over the allocation of the net proceeds from this offering. We do not expect the net proceeds from this offering and our other available funds to be sufficient to fund the completion of the development of our lead product candidates, and we expect that we will need to raise additional funds prior to being able to market any products. We have no current plans, agreements or commitments for any material acquisitions or licenses of any technologies, products or businesses.

Pending use of the proceeds from this offering, we intend to invest the proceeds in a variety of capital preservation investments, including short-term, investment-grade, interest-bearing instruments.

DIVIDEND POLICY

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all of our future earnings to finance the growth and development of our business. We do not intend to pay cash dividends to our stockholders in the foreseeable future.

CAPITALIZATION

The following table sets forth our cash and cash equivalents and short-term investments and our capitalization as of December 31, 2005:

- on an actual basis;
- on a pro forma basis to give effect to the automatic conversion of all outstanding shares of our preferred stock into an aggregate of 13,504,722 shares of common stock upon the closing of this offering; and
- on a pro forma as adjusted basis to give further effect to our issuance and sale of shares of common stock in this offering at an assumed initial public offering price of $ per share, which is the midpoint of the price range listed on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and offering expenses payable by us.

The pro forma information below is illustrative only and our capitalization following the closing of this offering will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing. You should read this table together with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and the related notes appearing at the end of this prospectus.

	As of December 31, 2005		
	Actual	Pro Forma	Pro Forma As Adjusted
		(in thousands) (unaudited)	
Cash and cash equivalents and short-term investments(1)	$ 37,840	$ 37,840	$
Long-term debt, net of current portion	$ 804	$ 804	$
Stockholders' equity:			
Series A convertible preferred stock, par value $0.001 per share; 750,000 shares authorized, issued and outstanding, actual; no shares authorized, issued or outstanding, pro forma and pro forma as adjusted	750	—	
Series B convertible preferred stock, par value $0.001 per share; 187,500 shares authorized, issued and outstanding, actual; no shares authorized, issued or outstanding, pro forma and pro forma as adjusted	365	—	
Series C convertible preferred stock, par value $0.001 per share; 6,295,000 shares authorized and 6,000,000 shares issued and outstanding, actual; no shares authorized, issued or outstanding, pro forma and pro forma as adjusted	14,117	—	
Series D convertible preferred stock, par value $0.001 per share; 13,800,000 shares authorized and 13,095,769 shares issued and outstanding, actual; no shares authorized, issued or outstanding, pro forma and pro forma as adjusted	39,282	—	
Series E convertible preferred stock, par value $0.001 per share; 128,242,850 shares authorized and 125,740,607 shares issued and outstanding, actual; no shares authorized, issued or outstanding, pro forma and pro forma as adjusted	49,048	—	
Series E-2 convertible preferred stock, par value $0.001 per share; 4,132,232 shares authorized and 3,670,138 shares issued and outstanding, actual; no shares authorized, issued or outstanding, pro forma and pro forma as adjusted	26,511	—	
Preferred Stock, par value $0.001 per share; no shares authorized, issued or outstanding, actual and pro forma; shares authorized and no shares issued or outstanding, pro forma as adjusted			
Common stock, par value $0.001 per share; 18,228,538 shares authorized, actual and pro forma; 6,943 shares issued and outstanding, actual; 13,511,665 shares issued and outstanding, pro forma; shares authorized and shares issued and outstanding, pro forma as adjusted	—	14	
Additional paid-in capital(1)	506	130,565	
Accumulated other comprehensive loss	(34)	(34)	
Deficit accumulated during the development stage	(92,144)	(92,144)	
Total stockholders' equity(1)	38,401	38,401	
Total capitalization(1)	$ 39,205	$ 39,205	$

(1) A $1.00 increase (decrease) in the assumed initial public offering price of $ per share would increase (decrease) each of cash and cash equivalents and short-term investments, additional paid-in capital, total stockholders' equity and total capitalization by approximately $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions.

The table above does not include:

- 2,064,958 shares of common stock issuable upon exercise of options outstanding as of December 31, 2005 at a weighted average exercise price of $2.28 per share;
- 277,151 shares of common stock issuable upon the exercise of warrants outstanding as of December 31, 2005 at a weighted average exercise price of $17.86 per share;
- an aggregate of shares of common stock reserved for future issuance under our 2006 equity plan as of the closing of this offering; and
- an aggregate of shares of common stock reserved for future issuance under our 2006 employee stock purchase plan as of the closing of this offering.

DILUTION

If you invest in our common stock, your interest will be diluted immediately to the extent of the difference between the public offering price per share of our common stock and the pro forma net tangible book value per share of our common stock after this offering.

The historical net tangible book value of our common stock as of December 31, 2005 was approximately $ million or $ per share, based on 6,943 shares of common stock outstanding as of December 31, 2005. Historical net tangible book value per share represents the amount of our total tangible assets less total liabilities, divided by the number of shares of common stock outstanding.

Our pro forma net tangible book value as of December 31, 2005 was approximately $ million, or $ per share of common stock. Pro forma net tangible book value per share represents the amount of our total tangible assets less total liabilities, divided by the pro forma number of shares of common stock outstanding after giving effect to the automatic conversion of all outstanding shares of our preferred stock into an aggregate of 13,504,722 shares of common stock upon the closing of this offering.

After giving effect to our issuance and sale of shares of common stock in this offering at an assumed initial public offering price of $ per share, which is the midpoint of the price range listed on the cover page of this prospectus, less the estimated underwriting discounts and commissions and offering expenses payable by us, our pro forma net tangible book value as of December 31, 2005 would have been approximately $ million or $ per share. This represents an immediate increase in pro forma net tangible book value of $ per share to our existing stockholders and immediate dilution in pro forma net tangible book value of $ per share to new investors purchasing common stock in this offering at the initial public offering price. Dilution per share to new investors is determined by subtracting pro forma net tangible book value per share after this offering from the initial public offering price per share paid by a new investor. The following table illustrates this dilution on a per share basis:

Assumed initial public offering price per share		$
Historical net tangible book value per share as of December 31, 2005	$	
Increase attributable to the conversion of outstanding preferred stock		
Pro forma net tangible book value per share as of December 31, 2005		
Increase per share attributable to new investors		
Pro forma net tangible book value per share after this offering		
Dilution per share to new investors		$

A $1.00 increase (decrease) in the assumed initial public offering price of $ per share would increase (decrease) our pro forma net tangible book value after the offering by approximately $ million, our pro forma net tangible book value per share after this offering by approximately $ and dilution per share to new investors by approximately $, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions.

If the underwriters exercise their over-allotment option or if any shares are issued in connection with outstanding options or warrants, you will experience further dilution.

The following table summarizes as of December 31, 2005 the number of shares purchased from us after giving effect to the automatic conversion of all outstanding shares of our preferred stock into an aggregate of 13,504,722 shares of common stock upon the closing of this offering, the total consideration paid and the average price per share paid, or to be paid, to us by existing stockholders and by new investors in this offering at an assumed initial public offering price of $ per share, which is the midpoint of the price range listed on the cover page of this prospectus, before deducting estimated underwriting discounts and commissions and offering expenses payable by us.

	Shares Purchased		Total Consideration		Average Price per Share
	Number	Percentage	Amount	Percentage	
Existing stockholders		%		%	$
New investors					
Total		100%		$ 100%	

A $1.00 increase (decrease) in the assumed initial public offering price of $ per share would increase (decrease) the total consideration paid by new investors by $ million and increase (decrease) the percentage of total consideration paid by new investors by approximately %, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same.

The table above is based on 6,943 shares of common stock outstanding as of December 31, 2005 and an additional 13,504,722 shares of common stock issuable upon the automatic conversion of all outstanding shares of our preferred stock upon the closing of this offering and excludes:

- 2,064,958 shares of common stock issuable upon exercise of stock options outstanding as of December 31, 2005 at a weighted average exercise price of $2.28 per share;
- 277,151 shares of common stock issuable upon the exercise of warrants outstanding as of December 31, 2006 at a weighted average exercise price of $17.86 per share;
- an aggregate of shares of common stock reserved for future issuance under our 2006 equity plan as of the closing of this offering; and
- an aggregate of shares of common stock reserved for future issuance under our 2006 employee stock purchase plan as of the closing of this offering.

If the underwriters exercise their over-allotment option in full, the following will occur:

- the percentage of shares of common stock held by existing stockholders will decrease to approximately % of the total number of shares of our common stock outstanding after this offering; and
- the pro forma as adjusted number of shares held by new investors will be increased to , or approximately %, of the total pro forma as adjusted number of shares of our common stock outstanding after this offering.

SELECTED FINANCIAL DATA

You should read the following selected financial data together with our financial statements and the related notes appearing at the end of this prospectus and the "Management's Discussion and Analysis of Financial Condition and Results of Operations" section of this prospectus. We have derived the statements of operations data for the years ended December 31, 2003, 2004 and 2005 and for the period from March 31, 1998 (inception) to December 31, 2005, and the balance sheet data as of December 31, 2004 and 2005 from our audited financial statements, which are included in this prospectus. We have derived the consolidated statements of operations data for the years ended December 31, 2001 and 2002 and the consolidated balance sheet data as of December 31, 2001, 2002 and 2003 from our audited financial statements, which are not included in this prospectus. The cumulative statements of operations data for the period from March 31, 1998 (inception) through December 31, 2005 includes amounts for the period from March 31, 1998 (inception) to December 31, 2001, which were audited by auditors who have ceased operations. As described in note 2(o) to our financial statements included elsewhere in this prospectus, those financial statements have been restated. KPMG LLP, an independent registered public accounting firm, audited the adjustments described in note 2(o) that were applied to restate the cumulative financial statements for the period from March 31, 1998 (inception) to December 31, 2001. In KPMG's opinion, such adjustments are appropriate and have been properly applied. Our historical results for any prior period are not necessarily indicative of results to be expected for any future period.

	Year Ended December 31,					Period from March 31, 1998 (Inception) to December 31, 2005
	2001	2002	2003	2004	2005	
	(in thousands, except share and per share data)					
Statements of Operations Data:						
Revenues	$ —	$ 180	$ 756	$ 1,606	$ 4,967	$ 7,669
Operating expenses:						
Research and development	5,808	10,238	17,695	20,070	21,123	76,970
General and administrative	3,395	4,165	4,693	6,023	7,944	27,231
Total operating expenses	9,203	14,403	22,388	26,093	29,067	104,201
Loss from operations	(9,203)	(14,223)	(21,632)	(24,487)	(24,100)	(96,532)
Interest income	1,043	769	317	579	854	3,998
Interest expense	(54)	(270)	(358)	(184)	(141)	(1,007)
Loss before tax benefit	(8,214)	(13,724)	(21,673)	(24,092)	(23,387)	(93,541)
Tax benefit	—	232	235	451	479	1,397
Loss applicable to common stockholders	$ (8,214)	$ (13,492)	$ (21,438)	$ (23,641)	$ (22,908)	$ (92,144)
Basic and diluted loss per share applicable to common stockholders	$ (134,477)	$ (201,365)	$ (315,259)	$ (347,670)	$ (9,925)	
Shares used to compute basic and diluted loss per share applicable to common stockholders	62	67	68	68	2,308	
Pro forma basic and diluted net loss per common share (unaudited)					$ (2.11)	
Shares used to compute pro forma basic and diluted net loss per common share (unaudited)					10,831,634	

	As of December 31,				
	2001	2002	2003	2004	2005
	(in thousands)				
Balance Sheet Data:					
Cash and cash equivalents and short-term investments	$ 32,507	$ 24,599	$ 41,570	$ 32,987	$ 37,840
Working capital	31,669	22,119	37,045	29,580	34,331
Total assets	44,401	34,800	49,054	38,968	43,974
Long-term debt, net of current portion	621	2,728	846	205	804
Deficit accumulated during the development stage	(10,666)	(24,157)	(45,595)	(69,237)	(92,144)
Total stockholders' equity	42,340	28,896	43,275	34,613	38,401

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations together with our financial statements and the related notes appearing at the end of this prospectus. Some of the information contained in this discussion and analysis or set forth elsewhere in this prospectus, including information with respect to our plans and strategy for our business and related financing, includes forward-looking statements that involve risks and uncertainties. You should read the "Risk Factors" section of this prospectus for a discussion of important factors that could cause actual results to differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.

Overview

We are a biopharmaceutical company focused on the discovery, development and commercialization of orally administered, proprietary small-molecule drugs that target post-transcriptional control processes. Our current pipeline of clinical and preclinical product candidates addresses multiple indications, including genetic disorders, oncology and infectious diseases. Our three most advanced product development programs are:

- ***PTC124 for genetic disorders.*** We are currently conducting two Phase 2 clinical trials of PTC124 in patients with cystic fibrosis and one Phase 2 clinical trial of PTC124 in patients with Duchenne muscular dystrophy in cases in which a nonsense mutation is the cause of the disease. We have conducted an interim analysis of data from 15 patients who have completed their participation in our cystic fibrosis trials.
- ***PTC299 for oncology.*** In April 2006, we expect to commence a Phase 1a clinical trial of PTC299 in healthy volunteers in Belgium. If this Phase 1a trial is successful, we plan to initiate a Phase 1b clinical trial of PTC299 in late 2006 in patients with advanced solid tumors whose disease has progressed during therapy or for whom there is no effective therapy available.
- ***Hepatitis C development program.*** In March 2006, we entered into a collaboration with Schering-Plough Corporation for the commercialization of our compounds for the potential treatment of hepatitis C.

We are also conducting discovery programs focused on identifying new treatments for multiple therapeutic areas, including bacterial infections, anemia and musculoskeletal conditions.

We have generated significant losses as we have progressed our lead product candidates into clinical development and expect to continue to generate losses as we continue the clinical development of PTC124 and PTC299. Our net loss for 2005 was $22.9 million. As of December 31, 2005, we had a deficit accumulated during the development stage of $92.1 million.

Financial Operations Overview

Revenues

To date, we have not generated any product sale revenues. We have funded our operations primarily through the sale of equity securities, capital lease and equipment financings, foundation and government grants and collaboration revenues. Our revenues for 2005 were approximately $5.0 million, consisting primarily of grant revenues.

We have received grant funding from a variety of foundations and government agencies, including Cystic Fibrosis Foundation Therapeutics, Inc., the Muscular Dystrophy Association, Parent Project Muscular Dystrophy and the National Institutes of Health. Grants are awarded on a project basis. We recognize grant revenues as we receive funding or when preclinical, clinical or regulatory milestones are met.

In March 2006, we entered into a collaboration and license agreement with a subsidiary of Schering-Plough Corporation under which we and Schering-Plough are collaborating in the discovery, development and

commercialization of compounds for the treatment of HCV and other viral diseases. Pursuant to the collaboration agreement, Schering-Plough paid us an upfront non-refundable payment of $12.0 million. Our agreement with Schering-Plough provides for a research collaboration, in connection with which Schering-Plough has agreed to provide us with funding, based on a full-time equivalent rate, for an agreed upon number of full-time equivalent scientific or research and development personnel that we dedicate to the research program. The initial research term is three years. Schering-Plough has two options to extend the research term for an additional term of one year per option. Schering-Plough can terminate the research term in specified circumstances. Schering-Plough is responsible for worldwide clinical development and commercialization of any compounds that it elects to advance from our research collaboration. We are eligible to receive more than $200 million in payments if we achieve specified development, regulatory and sales milestones. We are also entitled to royalties on sales of products developed pursuant to the collaboration, with the royalty percentage based on specified thresholds of worldwide net product sales.

In December 2005, we entered into a research collaboration and exclusive option agreement with Bausch & Lomb under which Bausch & Lomb is evaluating compounds in our anti-angiogenesis program for the purpose of identifying potential candidates for development by Bausch & Lomb for the treatment of ophthalmic diseases associated with angiogenesis, including macular degeneration. Under the terms of the agreement, we granted Bausch & Lomb exclusive options to license selected compounds. Bausch & Lomb has one year from the date of the agreement to exercise any such option. In exchange for the one-year options, Bausch & Lomb paid us an upfront non-refundable option grant fee of $300,000 and agreed to provide us with research funding during the option term to compensate us for completing agreed research. Bausch & Lomb has the right to extend the option term with respect to certain specified compounds for an additional six months in exchange for an extension fee. As of December 31, 2005, we had recognized $50,000 of revenue pursuant to the agreement.

Research and Development Expense

Research and development expenses consist of the costs associated with our research activities, as well as the costs associated with our drug discovery efforts, conducting preclinical studies and clinical trials, manufacturing development efforts and activities related to regulatory filings. Our research and development expenses consist of:

- external research and development expenses incurred under agreements with third-party contract research organizations and investigative sites, third-party manufacturing organizations and consultants;
- employee-related expenses, which include salaries and benefits for the personnel involved in our drug discovery and development activities; and
- facilities, depreciation and other allocated expenses, which include direct and allocated expenses for rent and maintenance of facilities, depreciation of leasehold improvements and equipment, and laboratory and other supplies.

We use our employee and infrastructure resources across multiple research projects, including our drug development programs. We track expenses related to our clinical programs on a per project basis. Accordingly, we allocate internal employee-related and infrastructure costs, as well as third-party costs, to each clinical program. We do not allocate expenses related to preclinical programs.

The following table summarizes our principal product development programs, including the related stages of development for each product candidate in development and the research and development expenses allocated to each clinical product candidate. The information in the column labeled "Estimated Completion of Current Trial" is our estimate of the timing of completion of the current clinical trial or trials for the particular product candidate. The actual timing of completion could differ materially from the estimates provided in the table.

Product Candidate	Indication	Phase of Development	Estimated Completion of Current Trial	Research and Development Expenses Year Ended December 31, 2003	2004	2005
					(in thousands)	
Clinical development:						
PTC124	Cystic Fibrosis; Duchenne Muscular Dystrophy	Phase 2	2006	$ 2,642	$ 6,018	$ 5,132
PTC299	Cancer	Phase 1a	2006	—	83	2,021
Total clinical development				2,642	6,101	7,153
Research and preclinical				15,053	13,969	13,970
Total research and development				$17,695	$20,070	$21,123

The successful development of our product candidates is highly uncertain. At this time, we cannot reasonably estimate or know the nature, timing and estimated costs of the efforts that will be necessary to complete the remainder of the development of, or the period, if any, in which material net cash inflows may commence from, PTC124, PTC299 or any of our preclinical product candidates. This is due to the numerous risks and uncertainties associated with developing drugs, including the uncertainty of:

- the scope, rate of progress and expense of our clinical trials and other research and development activities;
- the potential benefits of our product candidates over other therapies;
- our ability to market, commercialize and achieve market acceptance for any of our product candidates that we are developing or may develop in the future;
- future clinical trial results;
- the terms and timing of regulatory approvals; and
- the expense of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights.

A change in the outcome of any of these variables with respect to the development of a product candidate could mean a significant change in the costs and timing associated with the development of that product candidate. For example, if the FDA or other regulatory authority were to require us to conduct clinical trials beyond those which we currently anticipate will be required for the completion of clinical development of a product candidate or if we experience significant delays in enrollment in any our clinical trials, we could be required to expend significant additional financial resources and time on the completion of clinical development.

General and Administrative Expense

General and administrative expense consists primarily of salaries and other related costs for personnel, including stock-based compensation expenses, in our executive, legal, business development, finance, accounting information technology and human resource functions. Other general and administrative expenses include facility-related costs not otherwise included in research and development expense; advertising and

promotional expenses; costs associated with industry and trade shows; and professional fees for legal services, including patent-related expenses, and accounting services.

We expect that general and administrative expense will increase in 2006 and in future periods as a result of increased payroll, expanded infrastructure, increased consulting, legal, accounting and investor relations expenses associated with being a public company and costs incurred to seek collaborations with respect to any of our product candidates.

Interest Income and Interest Expense

Interest income consists of interest earned on our cash and cash equivalents and short-term investments. Interest expense consists of interest incurred to finance equipment, office furniture and fixtures.

Critical Accounting Policies and Significant Judgments and Estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our financial statements, which we have prepared in accordance with U.S. generally accepted accounting principles. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported revenues and expenses during the reporting periods. On an ongoing basis, we evaluate our estimates and judgments, including those described in greater detail below. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

While our significant accounting policies are more fully described in Note 2 to our financial statements appearing at the end of this prospectus, we believe that the following accounting policies are the most critical to aid you in fully understanding and evaluating our financial condition and results of operations.

Revenue Recognition

We recognize grant revenues as we receive the funding or when preclinical, clinical or regulatory milestones are met. Grant revenues are not refundable.

As described above, our collaboration agreements contain multiple elements, including non-refundable up-front license fees, research payments for ongoing research and development, payments associated with achieving development and regulatory milestones and royalties to be paid based on specified percentages of net product sales, if any. We consider a variety of factors in determining the appropriate method of revenue recognition under these arrangements, such as whether the elements are separable, whether there are determinable fair values and whether there is a unique earnings process associated with a particular element of an agreement.

We recognize revenue from non-refundable, up-front fees ratably over the term of our performance under the agreements. These payments are recorded as deferred revenue pending recognition. We recognize revenue related to research payments for ongoing research and development as the services are performed. Generally, the payments received are not refundable and are based on contractual cost per full-time equivalent employee working on the project. We have not yet received any payments associated with achieving development and regulatory milestones, nor have we yet received royalties on net product sales.

Accrued Expenses

As part of the process of preparing our financial statements, we are required to estimate accrued expenses. This process involves communicating with our applicable personnel to identify services that have been performed on our behalf and estimating the level of service performed and the associated cost incurred for the service when we have not yet been invoiced or otherwise notified of actual cost. The majority of our service providers invoice us monthly in arrears for services performed. We make estimates of our accrued

expenses as of each balance sheet date in our financial statements based on facts and circumstances known to us. Examples of estimated accrued expenses include:

- fees paid to contract research organizations in connection with preclinical and toxicology studies and clinical trials;
- fees paid to investigative sites in connection with clinical trials;
- fees paid to contract manufacturers in connection with the production of clinical trial materials; and
- professional service fees.

Stock-Based Compensation

Through December 31, 2005, in accordance with Statement of Financial Accounting Standards, or SFAS, No. 123, *Accounting for Stock-Based Compensation*, we elected to account for stock-based employee compensation using the intrinsic-value method under Accounting Principles Board, or APB, Opinion No. 25, *Accounting for Stock Issued to Employees*, and related interpretations. As such, we did not record expense on employee stock options granted when the exercise price of the options was equal to the fair value of the underlying stock on the date of the grant. Pro forma information regarding net loss and loss per share is required by SFAS No. 123 and has been determined as if we had accounted for employee stock option grants under the fair value method prescribed by that statement. Information with regard to the number of options granted, market price of the grants, vesting requirements and the maximum term of the options granted appears in Note 2 to our financial statements. Stock-based payments to non-employees are measured at the fair value of the stock-based instruments issued or the fair value of the goods or services received, whichever is more readily determinable.

For stock-based payments to both employees and non-employees, the fair value of the stock is a significant factor in determining credits or charges to operations. Because, prior to this offering, our shares have not been publicly traded, we must estimate the fair value of our common stock. There is no certainty that the results of our estimation would be the value at which the shares would be traded for cash. Factors that we consider in determining the fair value of our common stock include:

- pricing of private sales of our preferred stock;
- prior valuations of stock grants and preferred stock sales and the effect of events, including the progression of our product candidates, that have occurred between the time of the grants or sales;
- comparative rights and preferences of the security being granted compared to the rights and preferences of our other outstanding equity;
- comparative values of public companies discounted for the risk and limited liquidity provided for in the shares we are issuing;
- perspective provided by unrelated valuation specialists;
- perspective provided by investment banks, including the likelihood of an initial public offering and our potential value in an initial public offering; and
- general economic trends.

Our board of directors has historically determined the fair value of our equity instruments, excluding preferred stock, based upon information available to it on the measurement dates. In connection with our grant of stock options in February 2005 and in February 2006, we performed a concurrent analysis to determine the fair market value of our common stock. We performed our analysis in accordance with applicable elements of the practice aid issued by the American Institute of Certified Public Accountants entitled *Valuation of Privately Held Company Equity Securities Issued as Compensation*. We used two primary valuation methodologies within the income approach to determine our enterprise valuation. First, we used a probability-weighted income approach that reduced our estimated cash flows based on the probability of successfully completing clinical trials. Second, we employed a traditional income approach that analyzed our manage-

ment's internal operating forecast without directly adjusting cash flows for the probability of success. We then weighted the probability-weighted income approach and the traditional income approach equally to arrive at a single enterprise value. Finally, we used that enterprise value in an option-pricing model to calculate the value of our outstanding common stock.

In December 2004, the Financial Accounting Standards Board, or FASB, issued SFAS No. 123(R), *Share-Based Payment*. SFAS No. 123(R) supersedes SFAS No. 123, APB Opinion No. 25 and its related implementation guidance. SFAS No. 123(R) will require compensation costs related to share-based payment transactions to be recognized in our financial statements. We will measure the amount of compensation cost based on the grant-date fair value of the equity or liability instruments issued. We will recognize compensation cost over the period that an employee provides service in exchange for the award. SFAS No. 123(R) is effective as of the beginning of the first interim or annual reporting period that begins after December 15, 2005. We cannot predict the full impact of adoption of SFAS No. 123(R) because it will depend on levels of share-based payments that we grant in the future. We have not yet determined the impact that implementing SFAS No. 123(R) will have on our results of operations or financial condition.

Income Taxes

As part of the process of preparing our financial statements, we are required to estimate our income taxes in each of the jurisdictions in which we operate. This process involves estimating our actual current tax exposure together with assessing temporary differences resulting from differing treatments of items for tax and accounting purposes. These differences result in deferred tax assets and liabilities. As of December 31, 2005, we had federal net operating loss carryforwards of $52.5 million, which expire starting in 2018, and federal research and development credit carryforwards of $3.7 million. We also had state net operating loss carryforwards of $49.7 million, which expire starting in 2009, and state research and development credit carryforwards of $2.8 million. At December 31, 2005, we recorded a full valuation allowance against our net deferred tax asset of approximately $45.5 million, as our management believes it cannot at this time conclude that it is more likely than not they will be realized. If we determine in the future that we will be able to realize all or a portion of our net deferred tax asset, an adjustment to the deferred tax valuation allowance would increase net income in the period in which we make such a determination. The Tax Reform Act of 1986 contains provisions that may limit the utilization of net operating loss credit carryforwards available to be used in any given year in the event of a change in ownership.

Results of Operations

Year Ended December 31, 2005 Compared to Year Ended December 31, 2004

Revenues. Revenues were $5.0 million in 2005, an increase of $3.4 million from revenues of $1.6 million in 2004. The increase resulted primarily from a significant increase in the number of grants and the dollar value of the grants that we received in 2005. In particular, in 2005 we received grants totaling $2.7 million from two patient advocacy groups, Cystic Fibrosis Foundation Therapeutics, Inc. and the Muscular Dystrophy Association, related to the clinical development of PTC124. We continue to seek additional grant revenue opportunities.

Research and Development Expense. Research and development expense was $21.1 million in 2005, an increase of $1.0 million, or 5.2%, from $20.1 million in 2004. The increase resulted primarily from the following changes in costs:

- increased costs for preclinical studies and manufacturing for PTC299 of $1.6 million;
- increased costs for preclinical studies for PTC124 of $895,000; and
- decreased costs for clinical studies and manufacturing for PTC124 of $1.6 million.

We expect that research and development expenses will increase in the future as a result of increased manufacturing and clinical development costs primarily relating to our PTC124 and PTC299 clinical development programs. The timing and amount of these expenses will depend upon the outcome of our

ongoing clinical trials, particularly the costs associated with our ongoing Phase 2 clinical trials of PTC124 and our planned Phase 1a and Phase 1b clinical trials of PTC299. The timing and amount of these expenses will also depend on the costs associated with potential future clinical trials of our product candidates and the related expansion of our research and development organization, regulatory requirements, advancement of our preclinical programs and product candidate manufacturing costs.

General and Administrative Expense. General and administrative expense was $7.9 million in 2005, an increase of $1.9 million, or 31.9%, from $6.0 million in 2004. The increase resulted principally from the following:

- increased personnel costs of $1.1 million attributable to increased salaries as well as increased headcount in legal and human resources;
- increased consulting expense of $290,000 related to commercialization planning and information technology infrastructure; and
- increased patent-related expense of $528,000 related to filings for PTC124, PTC299 and compounds in our HCV program.

We expect that general and administrative expense will increase in 2006 and in future periods as a result of increased payroll, expanded infrastructure, increased consulting, legal, accounting and investor relations expenses associated with being a public company, costs incurred to seek collaborations with respect to any of our product candidates and the stock-based compensation expense that we expect to record under SFAS No. 123(R).

Interest Income and Interest Expense. Interest income was $854,000 in 2005, compared to $579,000 in 2004. Interest expense was $141,000 in 2005, compared to $184,000 in 2004. The increase in interest income resulted from higher average interest rates in 2005, partially offset by lower average cash and cash equivalents and short-term investment balances during the year. The reduction in interest expense resulted from a reduction in our equipment financing and capital lease obligations during 2005.

Tax Benefit. We recognize tax benefits related to our sale of net operating losses in the New Jersey Tax Transfer Program. Our tax benefit was $479,000 in 2005 and $451,000 in 2004.

Year Ended December 31, 2004 Compared to Year Ended December 31, 2003

Revenues. Revenues were $1.6 million in 2004 and $756,000 in 2003. The increase resulted from an increase in the number of grants that we received in 2004.

Research and Development Expense. Research and development expense was $20.1 million in 2004, an increase of $2.4 million, or 13.4%, from $17.7 million in 2003. The increase resulted principally from the following:

- increased costs of clinical studies and manufacturing for PTC124 of $2.6 million;
- increased laboratory supply and library compound costs of $408,000;
- increased personnel costs of $1.1 million; and
- decreased in-process research and development of $1.4 million.

General and Administrative Expense. General and administrative expense was $6.0 million in 2004, an increase of $1.3 million, or 28.3%, from $4.7 million in 2003. The increase resulted principally from the following:

- increased personnel costs of $450,000 attributable to increased salaries and increased headcount in investor relations and general management;
- increased consulting expense of $419,000 related to increased legal and human resource temporary staffing;

- increased patent and legal expense of $254,000 related to filings for PTC124 and general corporate legal expenses; and
- increased miscellaneous corporate expenses of $216,000.

Interest Income and Interest Expense. Interest income was $579,000 in 2004, compared to $317,000 in 2003. Interest expense was $184,000 in 2004, compared to $358,000 in 2003. The increase in interest income resulted from higher average interest rates in 2004 and higher average cash and cash equivalents and short-term investment balances during the year. The reduction in interest expense resulted from a reduction in our equipment financing and capital lease obligations during 2004.

Tax Benefit. Our tax benefit related to our sale of net operating losses in the New Jersey Tax Transfer Program was $451,000 in 2004 and $235,000 in 2003.

Liquidity and Capital Resources

Sources of Liquidity

As a result of our significant research and development expenditures and the lack of any approved products to generate product sales revenue, we have not been profitable and have generated operating losses since we were incorporated in 1998. As such, we have funded our research and development operations primarily through sales of our preferred stock. Through December 31, 2005, we had received aggregate net proceeds of $128.5 million from these sales. We have also received funding from grant and foundation support, capital lease financings and interest earned on investments.

As of December 31, 2005, we had cash and cash equivalents and short-term investments of $37.8 million. We hold our cash and investment balances in a variety of interest-bearing instruments, including obligations of U.S. government agencies and money market accounts. We invest cash in excess of our immediate requirements with regard to liquidity and capital preservation. Wherever possible, we seek to minimize the potential effects of concentration and degrees of risk.

Cash Flows

The following table provides information regarding our cash flows and our capital expenditures for the years ended December 31, 2003, 2004 and 2005.

	Year Ended December 31,		
	2003	2004	2005
	(in thousands)		
Cash provided by (used in):			
Operating activities	$ (16,225)	$ (22,408)	$ (20,720)
Investing activities	13,618	(20,218)	(1,647)
Financing activities	32,223	13,425	26,555
Capital expenditures (included in investing activities above)	667	1,121	963

Net cash used in operating activities was $20.7 million for the year ended December 31, 2005, $22.4 million for the year ended December 31, 2004 and $16.2 million in the year ended December 31, 2003. The net cash used in each of these periods primarily reflects the net loss for those periods, offset in part by depreciation, and changes in operating assets and liabilities.

Net cash used in investing activities was $1.6 million for the year ended December 31, 2005 and $20.2 million for the year ended December 31, 2004. Net cash provided by investing activities was $13.6 million for the year ended December 31, 2003. Cash used in investing activities was primarily related to net purchases of investments, and to a lesser extent, purchases of property and equipment.

Net cash provided by financing activities was $26.6 million for the year ended December 31, 2005, $13.4 million for the year ended December 31, 2004 and $32.2 million for the year ended December 31, 2003. Net cash provided by financing activities in 2005 was primarily attributable to the $26.5 million in proceeds

that we received from our Series E-2 preferred stock financing, and to a lesser extent, proceeds of $1.4 million in debt financing used to acquire property and equipment. Partially offsetting these proceeds were payments on debt obligations of $1.2 million. Net cash provided by financing activities in 2004 was primarily attributable to the subsequent closings on our Series E preferred stock financing, which initially closed in December 2003, totaling $14.9 million. Partially offsetting these proceeds were payments on debt obligations of $1.9 million. Net cash provided by financing activities in 2003 was primarily attributable to the initial closing of our Series E preferred stock financing totaling $34.2 million. Partially offsetting these proceeds were payments on debt obligations of $2.0 million.

Funding Requirements

We believe that the net proceeds from this offering, together with our existing cash and cash equivalents and short-term investments and research funding that we expect to receive under our collaborations, will be sufficient to enable us to fund our operating expenses and capital expenditure requirements until . We have based this estimate on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we currently expect. Because of the numerous risks and uncertainties associated with the development and commercialization of our product candidates, and the extent to which we enter into collaborations with third parties to participate in their development and commercialization, we are unable to estimate the amounts of increased capital outlays and operating expenditures associated with our current and anticipated clinical trials. Our future capital requirements will depend on many factors, including:

- the progress and results of our clinical trials of PTC124 and PTC299;
- the success of our hepatitis C virus collaboration with Schering-Plough;
- the scope, progress, results and costs of preclinical development and laboratory testing and clinical trials for our other product candidates;
- the costs, timing and outcome of regulatory review of our product candidates;
- the number and development requirements of other product candidates that we pursue;
- the costs of commercialization activities, including product marketing, sales and distribution;
- the costs of preparing, filing and prosecuting patent applications and maintaining, enforcing and defending intellectual property-related claims;
- the extent to which we acquire or invest in businesses, products and technologies; and
- our ability to establish and maintain collaborations.

We do not anticipate that we will generate product revenue for at least the next several years. In the absence of additional funding, we expect our continuing operating losses to result in increases in our cash used in operations over the next several quarters and years. To the extent our capital resources are insufficient to meet our future capital requirements, we will need to finance our future cash needs through public or private equity offerings, debt financings or corporate collaboration and licensing arrangements. Except for research funding by our collaborators, particularly Schering-Plough, we do not currently have any commitments for future external funding.

Additional equity or debt financing, grants, or corporate collaboration and licensing arrangements, may not be available on acceptable terms, if at all. If adequate funds are not available, we may be required to delay, reduce the scope of or eliminate our research and development programs, reduce our planned commercialization efforts or obtain funds through arrangements with collaborators or others that may require us to relinquish rights to certain drug candidates that we might otherwise seek to develop or commercialize independently. In addition, any future equity funding may dilute the ownership of our equity investors.

Contractual Obligations

The following table summarizes our significant contractual obligations and commercial commitments as of December 31, 2005 (in thousands).

	Total	Less than 1 Year	1-3 Years	4-5 Years	More than 5 Years
Equipment financing obligations	$ 1,282	$ 478	$ 774	$ 30	—
Operating lease obligations	1,338	384	785	169	—
Total fixed contractual obligations	$ 2,620	$ 862	$ 1,559	$ 199	—

Quantitative and Qualitative Disclosures About Market Risk

The primary objective of our investment activities is to preserve our capital to fund operations. We also seek to maximize income from our investments without assuming significant risk. To achieve our objectives, we maintain a portfolio of cash equivalents and investments in a variety of securities of high credit quality. As of December 31, 2005, we had cash and cash equivalents and short-term investments of $37.8 million. A portion of our investments may be subject to interest rate risk and could fall in value if market interest rates increase. However, because our investments are short-term in duration, we believe that our exposure to interest rate risk is not significant and a 1% movement in market interest rates would not have a significant impact on the total value of our portfolio. We actively monitor changes in interest rates.

Recent Accounting Pronouncements

In December 2004, the FASB issued SFAS No. 123(R). SFAS No. 123(R) supersedes SFAS No. 123, APB Opinion No. 25 and its related implementation guidance. SFAS No. 123(R) will require compensation costs related to share-based payment transactions to be recognized in the financial statements. The amount of compensation cost will be measured based on the grant-date fair value of the equity or liability instruments issued. Compensation cost will be recognized over the period that an employee provides service in exchange for the award. SFAS No. 123(R) is effective as of the beginning of the first interim or annual reporting period that begins after December 15, 2005. We cannot predict the full impact of adoption of SFAS No. 123(R) at this time because it will depend on levels of share-based payments granted in the future. We have not yet determined the impact that implementing SFAS No. 123(R) will have on our results of operations or financial condition.

In June 2005, the FASB issued SFAS No. 154, *Accounting Changes and Error Corrections*. This statement requires that a voluntary change in accounting principle be applied retrospectively with all prior period financial statements presented on the basis of the new accounting principle, unless it is impracticable to do so. SFAS No. 154 also provides that (1) a change in method of depreciating or amortizing a long-lived nonfinancial asset be accounted for as a change in estimate (prospectively) that was effected by a change in accounting principle, and (2) correction of errors in previously issued financial statements should be termed a “restatement.” The new standard is effective for accounting changes and correction of errors made in fiscal years beginning after December 15, 2005. Early adoption of this standard is permitted for accounting changes and correction of errors made in fiscal years beginning after June 1, 2005. We do not anticipate that the adoption of this statement will have a material impact on our results of operations or financial condition.

In November 2005, the FASB issued FASB Staff Position FAS 115-1 and FAS 124-1, *The Meaning of Other-Than-Temporary Impairment and Its Application to Certain Investments*. This Staff Position addresses

the determination as to when an investment is considered impaired, whether that impairment is other than temporary and the measurement of an impairment loss. This Staff Position also includes accounting considerations subsequent to the recognition of an other-than-temporary impairment and requires certain disclosures about unrealized losses that have not been recognized as other-than-temporary impairments. The guidance in the Staff Position is required to be applied to reporting periods beginning after December 15, 2005. We will adopt the provisions of this Staff Position in 2006 and do not currently believe that implementation will have a material effect on our results of operations or financial condition.

BUSINESS

Overview

We are a biopharmaceutical company focused on the discovery, development and commercialization of orally administered, proprietary small-molecule drugs that target post-transcriptional control processes. Our lead product development programs are PTC124 for genetic disorders and PTC299 for oncology. We are currently conducting Phase 2 clinical trials of PTC124 for the treatment of cystic fibrosis and Duchenne muscular dystrophy patients with a specific type of genetic mutation. We recently performed an interim analysis of data from 15 patients who have completed our ongoing cystic fibrosis trials and observed statistically significant results. For PTC299, we expect to commence a Phase 1a clinical trial in healthy volunteers in April 2006. We plan to develop our compounds both on our own and through selective collaboration arrangements with leading pharmaceutical and biotechnology companies. We hold worldwide commercialization rights to PTC124 and PTC299 and recently entered into a collaboration with Schering-Plough Corporation for the development and commercialization of preclinical compounds that we have identified for the potential treatment of hepatitis C.

Post-transcriptional control processes regulate the rate and timing of protein production and are of central importance to proper cellular function. The small-molecule compounds that we are developing are designed to alter post-transcriptional processes and modulate the utilization of messenger RNA, or mRNA, a key intermediate in protein production. We have assembled proprietary technologies and extensive knowledge of post-transcriptional control processes that we apply in our drug discovery and development activities. We believe that systematically targeting these processes represents a new and unexploited approach to drug discovery and development, which has several potential key advantages. These include the potential to use orally available small-molecule drugs to address previously intractable drug targets and to up or down regulate the level of production of a protein of interest. In addition, this approach has the potential to treat a broad range of diseases. Our current pipeline of clinical and preclinical product candidates addresses multiple indications, including genetic disorders, oncology and infectious diseases.

Our three most advanced product development programs are:

- ***PTC124 for genetic disorders.*** We are developing PTC124 for the treatment of patients with genetic disorders that arise as a result of a type of genetic mutation known as a nonsense mutation. Our initial target indications for PTC124 are cystic fibrosis and Duchenne muscular dystrophy in cases in which a nonsense mutation is the cause of the disease. We are currently conducting two Phase 2 clinical trials of PTC124 in patients with cystic fibrosis and one Phase 2 clinical trial of PTC124 in patients with Duchenne muscular dystrophy. We have performed an interim analysis of data from 15 patients who have completed their participation in our cystic fibrosis trials. In this analysis, we observed statistically significant results which suggest that PTC124 may have pharmacological activity that addresses the underlying cause of cystic fibrosis in these patients. We believe that this is the first time such activity has been observed in a clinical trial of an oral therapy for cystic fibrosis. We believe that PTC124 is potentially applicable to a broad range of other genetic disorders in which a nonsense mutation is the cause of the disease. We expect to complete our ongoing Phase 2 clinical trials of PTC124 for both cystic fibrosis and Duchenne muscular dystrophy in the second half of 2006.
- ***PTC299 for oncology.*** We are developing PTC299 initially for the treatment of cancer. In preclinical studies, PTC299 directly and potently inhibited the production of vascular endothelial growth factor, or VEGF. VEGF is a protein that plays a central role in tumor growth through the process of new blood vessel formation referred to as angiogenesis. Because PTC299 blocks the production of VEGF, its activity is different from that of currently available anti-VEGF agents, which typically act by blocking the action of VEGF that has already been produced. In April 2006, we expect to commence a Phase 1a clinical trial of PTC299 in healthy volunteers in Belgium. If this Phase 1a clinical trial is successful, we plan to initiate a Phase 1b clinical trial of PTC299 in cancer patients in late 2006. PTC299 and related compounds are also potentially applicable to other diseases in which regulating VEGF levels plays a key role, such as age-related macular degeneration.

- ***Hepatitis C development program.*** We have identified a number of small-molecule compounds that, in preclinical tests, inhibited hepatitis C viral protein synthesis and the production of the virus. These compounds target a specific site on the viral mRNA known as an internal ribosomal entry site, or IRES, which is critical to the replication of the hepatitis C virus. We believe that our approach may be complementary to existing therapies and other compounds currently in development for the treatment of hepatitis C. Pursuant to our collaboration with Schering-Plough, we and Schering-Plough will conduct a joint research program relating to compounds in our hepatitis C program, and Schering-Plough will be responsible for worldwide development and commercialization efforts for any product candidates that are developed. Schering-Plough has made an upfront payment to us of $12.0 million and has agreed to provide funding for our research activities. In addition, we are eligible to receive more than $200 million in payments if specified development, regulatory and sales milestones are achieved. We are also entitled to royalties on sales of products developed pursuant to the collaboration, with the royalty percentage based on specified thresholds of worldwide net product sales.

We are also conducting discovery programs focused on developing new treatments for multiple therapeutic areas, including bacterial infections, anemia and musculoskeletal conditions.

We employ several proprietary technologies in our research and development activities. Our principal technology is Gene Expression Modulation by Small Molecules, or GEMS, which we use to identify compounds that increase or decrease protein levels by altering post-transcriptional control processes. GEMS is a screening procedure that is based on our understanding of specific elements of mRNA that are critical for post-transcriptional control. Through the use of GEMS and other proprietary technologies, we have identified compounds that have exhibited desired pharmaceutical activity and side effect profiles in preclinical studies. We believe that these results validate our ability to identify compounds that affect protein levels through post-transcriptional control processes and our ability to optimize these compounds as potential product candidates for their specified indications.

Our goal is to become a leading pharmaceutical company focused on developing and commercializing small-molecule therapeutics that target post-transcriptional control processes and address unmet medical needs. We plan to develop our compounds both on our own and through selective collaboration arrangements with leading pharmaceutical and biotechnology companies. We hold worldwide commercialization rights to PTC124 and PTC299. In addition to our collaboration with Schering-Plough, we have entered into a research collaboration with Bausch & Lomb to identify and potentially license compounds from our anti-angiogenesis program as development candidates for specified ophthalmic diseases. Our decision to seek to enter into additional collaboration arrangements will be based on such factors as anticipated development costs, therapeutic expertise and the commercial infrastructure required to access a particular market. We intend to retain commercialization rights and establish a commercial infrastructure for our product candidates for which we receive marketing approvals in situations in which we believe it is possible to access the market through a focused, specialized sales force.

The PTC Approach

Our approach to drug discovery and development is to systematically target post-transcriptional control processes that can be modulated by small-molecule therapeutics. We believe this may provide several potential advantages in comparison with conventional approaches to drug discovery and development. The following are some of the key potential advantages of our approach.

Unexploited area of drug discovery and development. Targeting post-transcriptional control processes is a new field for drug discovery. We believe that focusing on post-transcriptional control processes will enable us both to address known drug targets through new mechanisms of action and to pursue a broad range of targets that have previously not been amenable to drug discovery. Our approach is a complex endeavor that requires a comprehensive understanding of post-transcriptional control processes and the development of specialized secondary functional assays to characterize the interaction between a drug candidate and a target of interest.

We believe that a large number of promising post-transcriptional control drug targets remain unexploited, providing a significant opportunity for our integrated and systematic approach to drug discovery.

Broad applicability to address intractable drug targets and unmet medical needs. One common approach to drug discovery is to use high-throughput screening assays to identify compounds that inhibit enzymatic activity. However, this approach often does not permit the identification of compounds that enhance enzymatic activity. In addition, this drug discovery approach does not work for the large number of medically relevant drug targets whose function is unknown or that are not amenable to traditional screening. In contrast, drugs that interact with components of the post-transcriptional control apparatus can effectively act as therapeutics by either increasing the production of a needed protein or by reducing the production of an undesirable protein. We also believe that drugs can be designed to regulate the production of a specific protein without otherwise interfering with normal operation of the cell. Because post-transcriptional control is important to the modulation of the amounts of many types of proteins, we believe that these types of therapeutics may have the potential to treat a wide variety of diseases for which there is an unmet medical need, including genetic disorders, cancer, anemia and musculoskeletal disorders, as well as inflammation, metabolic disorders, cardiovascular conditions and neurological disorders. Targeting post-transcriptional control processes may also be applicable to treating infectious diseases, including viral infections, in which the virus acts by harnessing the infected body's post-transcriptional control processes and bacterial infections, in which the bacteria have their own distinct post-transcriptional control processes.

Use of small molecules. Our focus is on developing orally available small molecules. In contrast, many of the alternative therapies that can overcome some of the limitations of traditional small-molecule drug screening approaches, such as biologics, antisense, gene therapy and RNAi, are generally unable to be delivered orally. As a result, problems with effective treatment delivery have hampered development of many of these newer experimental approaches. Our small molecules have the potential to replace these expensive and difficult to administer therapeutics with pills, tablets or orally administered liquids, which are generally more convenient and may enhance patient compliance. We also expect to be able to take advantage of the general ease of synthesis of small-molecule production and the extensive pharmaceutical industry experience with manufacturing, formulating and distributing small-molecule drugs.

Proof of concept. There are several marketed drugs that act by affecting post-transcriptional control processes. These drugs include the aminoglycoside antibiotics, such as gentamicin, other antibiotics, including erythromycin and linezolid, and some immunosuppressant drugs, such as rapamycin. Although the majority of these drugs were developed without prior knowledge of their mechanism of action, we believe that what is now known about the manner in which they act validates the potential of our approach. Accordingly, we believe that a methodical and scientific approach to the identification and selection of drugs that target post-transcriptional control processes has significant commercial potential.

Our Product Development Programs

The following table summarizes key information about our product candidates that are in clinical trials and our other principal product development and discovery stage programs. All of the compounds in these programs are new chemical entities identified using our technologies and developed through our own internal research efforts.

Program	Development Status	Commercialization Rights
PTC124 for genetic disorders	Phase 2 clinical trials in cystic fibrosis and Duchenne muscular dystrophy ongoing; analysis of interim data from cystic fibrosis trials completed	PTC
PTC299 for oncology	Phase 1a clinical trial in healthy volunteers to commence in April 2006; Phase 1b clinical trial in cancer patients planned	PTC
Hepatitis C virus program	Preclinical	Schering-Plough Corporation
Antibacterial program	Discovery	PTC
Anemia program	Discovery	PTC
Musculoskeletal program	Discovery	PTC
Ophthalmology program	Subject of research collaboration	Bausch & Lomb

PTC124

PTC124 is a novel, orally administered small-molecule compound that targets a particular genetic alteration known as a nonsense mutation. We are developing PTC124 for the treatment of genetic disorders in which a nonsense mutation is the cause of the disease because we believe that PTC124 may restore the protein functionality that is lost as a result of the mutation. In the fourth quarter of 2005, we commenced two Phase 2 clinical trials of PTC124 for cystic fibrosis caused by nonsense mutations and one Phase 2 clinical trial of PTC124 for Duchenne muscular dystrophy caused by nonsense mutations. We have conducted an interim analysis of data from a total of 15 patients who have completed their participation in our cystic fibrosis trials. We believe that our findings to date support our continued development of PTC124 both in cystic fibrosis and in other genetic disorders caused by nonsense mutations. We expect to complete our ongoing Phase 2 clinical trials of PTC124 in the second half of 2006.

The FDA has granted fast track designation and orphan drug designation to PTC124 for the treatment of both cystic fibrosis and Duchenne muscular dystrophy caused by nonsense mutations. The European Medicines Agency, or EMEA, has granted orphan drug status to PTC124 for the treatment of both cystic fibrosis and Duchenne muscular dystrophy.

Background on Genetic Disorders and Nonsense Mutations

The National Institutes of Health Office of Rare Diseases estimates that rare disorders afflict 25 million people in the United States. There are at least 1,800 distinct genetic disorders, including cystic fibrosis, Duchenne muscular dystrophy, spinal muscular atrophy, hemophilia, lysosomal storage disorders, retinitis pigmentosa, familial hypercholesterolemia and some forms of cancer. We estimate that, on average, 5% to 15% of patients with any genetic disorder have a nonsense mutation as the cause of the disease. Because genetic disorders are often a consequence of the absence of a single protein, the restoration of the production of that protein has the potential to treat the genetic disorder.

Through the post-transcriptional process of translation, a specialized cellular apparatus, called the ribosome, builds functional proteins by translating the genetic code contained in the mRNA. This decoding process reads the building blocks of the mRNA, known as nucleotides, in groups of three. Each group of three

nucleotides is called a codon. Three of the 64 possible codons contained in mRNA serve as normal stop signals and indicate the end of the protein-coding region of the mRNA. When functioning properly, the stop codons cause the ribosome to halt translation of the mRNA once the mRNA's genetic code has been completely translated into a full-length, functional protein.

There are four basic types of mutations in DNA that can cause a genetic disorder. These are known as insertion, deletion, missense and nonsense mutations. A nonsense mutation is a single nucleotide alteration in the DNA that, when copied to mRNA, is interpreted by the ribosome as a premature stop signal in the protein-coding region of the mRNA. As a result, the translation process is halted before a full-length, functional protein is formed. The resulting truncated protein is too short to serve its necessary function, and the absence of a full-length, functional protein may cause disease.

Cystic Fibrosis

Cystic fibrosis is among the most common life-threatening genetic disorders worldwide. According to the Cystic Fibrosis Foundation, the disease affects approximately 30,000 adults and children in the United States and, according to the European Cystic Fibrosis Foundation, it affects a similar number of patients in Europe. Cystic fibrosis occurs in approximately one of every 3,500 live births, with approximately 1,000 new cases diagnosed each year in the United States. There is a commercially available genetic test to determine if a patient's cystic fibrosis is caused by a nonsense mutation. The Cystic Fibrosis Foundation estimates that approximately 83% of the active patients in their National Patient Registry have been genotyped. Based on information provided to us by the Cystic Fibrosis Foundation, we estimate that nonsense mutations are the cause of cystic fibrosis in approximately 10% of patients in the United States.

Cystic fibrosis is caused by defects in a single gene known as the cystic fibrosis transmembrane conductance regulator, or CFTR. The CFTR gene encodes the CFTR protein, which is used by the body to transport chloride across cell membranes. Genetic mutations that result in the loss of function of the CFTR protein cause the body to produce abnormally thick and sticky mucus that clogs the lungs, obstructs the pancreas and blocks the bile duct in the liver. This leads to life-threatening lung infections, permanent pancreatic damage and malnutrition because digestive enzymes from the pancreas do not reach the intestines to help break down and absorb food. Because patients with cystic fibrosis have malabsorption and a high calorie expenditure for breathing, their body weights can often be low.

Complications from lung infections are the primary cause of death from cystic fibrosis. From as early as four months of age, patients with cystic fibrosis may begin to develop airway obstruction and inflammation. Over time, most patients develop chronic bacterial infections in the airways, resulting in repeated episodes of pneumonia. Ultimately, progressive lung dysfunction leads to respiratory failure and death. According to the Cystic Fibrosis Foundation's National Patient Registry, the median age of survival for a person with cystic fibrosis is in the mid-30s.

There is currently no available therapy to correct defective CFTR production and function. Instead, available treatments for cystic fibrosis are designed to alleviate the symptoms of the disease. These treatments include chest physical therapy to clear the thick mucus from the lungs, antibiotics to treat lung infections and a mucus-thinning drug designed to reduce the number of lung infections and improve lung function. In addition, the majority of cystic fibrosis patients take pancreatic enzyme supplements to assist with food absorption in digestion.

There is a significant unmet medical need for a treatment for the underlying cause of cystic fibrosis. We believe that PTC124 may be a suitable treatment for the subset of cystic fibrosis patients whose disease is caused by a nonsense mutation.

Duchenne Muscular Dystrophy

Muscular dystrophies are genetic disorders characterized by progressive muscle wasting and weakness. There are several types of muscular dystrophy, of which Duchenne muscular dystrophy is the most common and one of the most severe. Duchenne muscular dystrophy occurs when a mutation in the dystrophin gene

prevents the cell from making a functional dystrophin protein. Dystrophin is critical to the structural stability of the fibers in skeletal, diaphragm and heart muscle. The absence of normally functioning dystrophin results in muscle fragility and muscle injury when muscles are stretched during normal use. As muscle damage progresses, connective tissue and fat replace muscle fibers.

Because the dystrophin gene is located on the X chromosome, Duchenne muscular dystrophy occurs almost exclusively in young boys. Duchenne muscular dystrophy occurs in approximately 1 in 3,500 live male births, with approximately 20,000 new cases diagnosed each year worldwide. We estimate that Duchenne muscular dystrophy affects approximately 12,000 boys and adolescents in the United States and a similar number of patients in Europe. As with cystic fibrosis, genetic tests are available to determine if a patient's Duchenne muscular dystrophy is caused by a nonsense mutation. Based on the testing records of the United Dystrophinopathy Project, we estimate that a nonsense mutation is the cause of Duchenne muscular dystrophy in approximately 13% of patients in the United States.

Children with Duchenne muscular dystrophy typically begin to show symptoms as early as age three, when they develop a waddling gait, may seem clumsy and often fall. Progressive weakness then develops in the voluntary muscles in the arms, legs and trunk. This muscle weakness results in fixations, known as contractures, of joints such as knees, hips, elbows and feet. By the age of eight, most subjects have difficulty ascending stairs. By the age of 10 to 12, many are confined to wheelchairs. By the early teens, patients' hearts and respiratory muscles are also often affected. The wheelchair dependence of a Duchenne muscular dystrophy patient results in further loss of strength and the weakening of heart and lung muscles. This eventually results in fatal heart or lung failure. The average age of survival of Duchenne muscular dystrophy patients is 20 to 25 years.

As with cystic fibrosis, there is currently no available therapy to improve or correct dystrophin production and function. As a result, currently available treatments for Duchenne muscular dystrophy are palliative in nature. These treatments seek to address the symptoms through supportive care measures, such as bracing to give patients some opportunity to remain standing, joint stretching exercises to avoid contractures, tendon release surgery and eventual wheelchair use and assisted ventilation. Corticosteroids are also often prescribed to treat and delay the onset of the symptoms of the disease but cause significant complications.

There is a significant unmet medical need for a treatment for the underlying cause of Duchenne muscular dystrophy. We believe that PTC124 may be a suitable treatment for the subset of Duchenne muscular dystrophy patients whose disease is caused by a nonsense mutation.

PTC124 Scientific Background

We believe that a drug with a mechanism of action that allows the ribosome to read through premature stop codons without affecting the normal termination of protein synthesis may be able to overcome the effects of nonsense mutations. For example, in *in vitro*, animal and human studies, the antibiotic gentamicin has demonstrated the ability to bind to ribosomes in a manner that causes the ribosomes to read through a premature stop signal and continue the translation process to produce a full-length, functional protein. Specifically, in animal studies in which gentamicin was administered at high doses, the study animals produced full-length versions of the CFTR and dystrophin proteins. In addition, in a study conducted in Israel on 19 patients with cystic fibrosis caused by a nonsense mutation, the administration of gentamicin as nose drops restored CFTR protein function in the membranes of the nasal mucosa cells of 90% of the patients. Although these results involving gentamicin serve as a proof of concept for the read through of nonsense mutations as a therapeutic approach to treating genetic disorders, we believe that gentamicin's serious dose-limiting toxicities and need for intravenous administration make it an unattractive treatment for these disorders.

PTC124 also allows the cellular machinery to read through premature stop codons in mRNA, and thereby enables the translation process to produce full-length, functional proteins. However, PTC124 is from a distinct structural class that we believe acts at a different location on the ribosome than gentamicin and does not have antibiotic properties. We do not expect PTC124 to have the serious dose-limiting toxicities associated with gentamicin.

Preclinical Development of PTC124

We have conducted multiple *in vitro* and animal preclinical studies of PTC124. Key findings of these studies include the following:

- The administration of PTC124 resulted in the production of full-length and functionally active CFTR in a mouse model of cystic fibrosis. Similarly, the administration of PTC124 resulted in the production of full-length and functionally active dystrophin in both *in vitro* and animal models of Duchenne muscular dystrophy.
- PTC124 demonstrated greater potency and activity than gentamicin controls in the read through of premature stop codons in *in vitro* studies.
- In *in vitro* and animal safety pharmacology studies, PTC124's activity was specific for the premature stop codons resulting from nonsense mutations. There was no evidence of read through of normal stop codons in these studies, even when PTC124 was tested at significantly higher plasma concentrations than those that we expect to see in patients.

PTC124 demonstrated an acceptable toxicity profile when tested at high exposure levels in rats and dogs. In these studies, we did not observe any meaningful toxicity to vital organs, including brain, liver, kidneys, heart, lungs and ears. In our long-term toxicology study in dogs, we noted inflammatory cells in the adrenal glands of the dogs that were treated with PTC124. We did not observe a similar finding in rats. We are evaluating the functional consequences of this observation in the dogs. The clinical implications, if any, are unknown at this time. Some rats developed brown fat tumors at PTC124 levels that were significantly higher than those that we expect to observe in our clinical trials. Brown fat is functionally important in rats but has little importance in humans. Accordingly, tumors of brown fat are extremely rare in humans. Other drugs known to cause growth of brown fat tumors in rats have not been observed to cause similar tumors in humans. In addition, one female rat that received PTC124 and one female rat in the control group were noted to have nonmetastatic tumors of the mammary glands, and two male rats that received PTC124 had nonmetastatic tumors of the testes. Given the isolated occurrence and distribution of these non-brown fat tumors across the treatment groups, it was not clear whether the occurrence of these tumors in the rats was specifically caused by PTC124. We did not observe any tumors or pre-cancerous lesions in dogs. At the request of the FDA, we are conducting an additional six-month toxicity study of PTC124 in rats.

Clinical Development of PTC124

Phase 1 Clinical Trials. In our clinical trials, we are administering PTC124 orally as a liquid suspension comprising a powdered form of the compound mixed with water. We designed this formulation because PTC124 is being administered to children, who often have difficulty swallowing pills or capsules.

We have completed two Phase 1 clinical trials of PTC124 involving a total of 62 healthy volunteers. The first Phase 1 trial was a single-dose, randomized, placebo-controlled safety and pharmacokinetic study conducted in a total of 31 healthy volunteers between the ages of 18 and 30. In the first stage of the trial, subjects were enrolled at escalating dose levels ranging from 3 to 200 mg/kg. In this study, we determined that 100 mg/kg is the maximum tolerated dose based on the observation of increased frequency of headaches, dizziness and mild gastrointestinal events, such as nausea, vomiting and diarrhea, at the 150 mg/kg and 200 mg/kg doses. The drug was palatable, with no obvious odor or taste. In the second stage of this trial, we assessed the effect of food on the safety and pharmacokinetic profiles of PTC124 at a dose of 50 mg/kg. This study provided us with pharmacokinetic data that indicated minimal alterations in the pharmacokinetic profile when PTC124 was taken after a meal and supported giving PTC124 with food to maintain plasma concentrations. The study also provided pharmacokinetic information allowing us to predict PTC124 blood exposure levels in future studies.

The second Phase 1 trial was a multiple-dose, open-label safety and pharmacokinetic study conducted in a total of 31 healthy volunteers between the ages of 18 and 30. In the first stage of the trial, subjects were enrolled at escalating twice-daily doses ranging from 10 to 50 mg/kg per dose taken with food for seven consecutive days. In the second stage of this trial, subjects were enrolled at a twice-daily dose of 50 mg/kg per

dose for 14 days. In this study, there were no clinically significant adverse events reported at any dose tested, although we observed modest elevations of liver enzymes in some subjects. These elevated enzyme levels did not require cessation of PTC124 administration, and enzyme levels typically normalized after completion of the treatment phase. We did not observe any increases in bilirubin, which can be associated with serious harm to the liver. As in the single-dose study, we were able to achieve and maintain plasma concentrations of PTC124 that, based on preclinical data, we believe may have a therapeutic effect. In the multiple-dose trial, as in the single-dose study, we sought to determine whether PTC124 promoted improper read through of normal stop codons. We assessed this by observing whether the trial participants produced improperly large forms of specified proteins. We did not observe any such improper protein formation.

Phase 2 Clinical Trials for Cystic Fibrosis. In the fourth quarter of 2005, we commenced two open-label Phase 2 clinical trials of PTC124 for the treatment of cystic fibrosis caused by nonsense mutations. In each trial, we expect to enroll at least 18 evaluable patients age 18 years or older who have been diagnosed with cystic fibrosis resulting from a nonsense mutation in the CFTR gene. The goals of these trials are to obtain indications of pharmacological activity and to assess dose response, safety and pharmacokinetics. We are conducting one trial at the Hadassah University Hospital in Jerusalem, Israel and the second trial at four sites in the United States. We are performing the trial in Israel because the incidence of cystic fibrosis caused by a nonsense mutation is significantly higher in Israel than elsewhere in the world and because the investigators at the Hadassah University Hospital have past experience in conducting similar types of studies. All U.S. sites are member institutions of the Cystic Fibrosis Therapeutics Development Network, a network of 18 cystic fibrosis care centers with extensive experience in conducting clinical trials.

The trial designs are comparable and include two treatment cycles. Each cycle consists of a two-week period of continuous PTC124 treatment, and then a two-week follow-up period without PTC124 treatment. During the two weeks of PTC124 treatment in the first cycle, participants receive a lower-dose regimen of PTC124, consisting of 4 mg/kg with breakfast, 4 mg/kg with lunch and 8 mg/kg with dinner, for a total daily dose of 16 mg/kg. During the two weeks of PTC124 treatment in the second cycle, the same participants receive a higher-dose regimen of PTC124, consisting of 10 mg/kg with breakfast, 10 mg/kg with lunch and 20 mg/kg with dinner, for a total daily dose of 40 mg/kg. We established these dosing regimens based on pharmacokinetic modeling from our Phase 1 clinical trials with the goal of achieving plasma concentrations of PTC124 that, based on our preclinical models, we anticipate may have a therapeutic effect. We evaluate trial participants at the beginning and end of each two-week treatment period and follow-up period in each cycle.

The objective in both trials is to determine the change in CFTR-mediated chloride conductance in respiratory cells as measured between the beginning and end of treatment for each study participant. To make this determination, we measure the patient's transepithelial potential difference, or TEPD. TEPD is assessed by means of a standardized, minimally invasive procedure. In the procedure, a small plastic catheter is used to assess electrical differences across the outer cell membrane of nasal mucosa cells in the nostril. TEPD values are expressed in millivolts, or mV. A chloride conductance equal to or more electrically negative than -5.0 mV is generally considered to be in the normal range. Because of the role of the CFTR protein in transporting chloride across cell membranes and because of the absence of this protein in cystic fibrosis patients, these patients have an abnormal TEPD chloride conductance. Cystic fibrosis patients with TEPD values closer to normal are more likely to have better lung function and are less likely to develop acute lung infections. As a result, TEPD serves as a marker for the diagnosis and prognosis of cystic fibrosis. TEPD has become the standard primary pharmacodynamic endpoint for Phase 1 and Phase 2 clinical trials for drugs aimed at correcting CFTR dysfunction.

Interim Data from Phase 2 Clinical Trials for Cystic Fibrosis. In March 2006, we conducted an interim analysis of data from a total of 15 patients who have completed their participation in the trials. We believe that our findings to date support our continued development of PTC124 both in cystic fibrosis and in other genetic disorders caused by nonsense mutations. The following discussion of the interim data from the trials combines data from the 15 patients from both the U.S. and Israeli trials. These results have become recently available. New information may arise from our continuing analysis of the data that may be less favorable than the data presented below. The results from additional patients enrolled in the ongoing studies may cause the final

results of our trials to differ from the data for the 15 patients presented below. In addition, we are conducting these trials as open-label studies, which are generally considered to be less conclusive than blinded studies.

Endpoints. The primary endpoint in both trials is the change in TEPD chloride conductance. We have assessed this endpoint by dose level in the following three ways:

- *Mean change in TEPD chloride conductance.* This is the average among all study participants of the changes from the beginning to the end of the treatment period in each participant's TEPD chloride conductance. For example, if the study consisted of three participants and if the changes in TEPD chloride conductance for the three participants were -7.0 mV, -2.0 mV and -9.0 mV, the mean change in TEPD chloride conductance among these participants would be -6.0 mV.
- *Percentage of patients with a chloride conductance response.* This is the percentage of patients who demonstrated a TEPD chloride conductance response at the end of each treatment period with PTC124. For purposes of the trials, a chloride conductance response is defined as a TEPD chloride conductance improvement of at least -5.0 mV. For example, in a patient with a TEPD chloride conductance value of +1.0 mV at baseline and a TEPD chloride conductance value of -6.0 mV at the end of treatment, the TEPD chloride conductance improvement would be -7.0 mV, representing a chloride conductance response.
- *Percentage of patients with improvements of TEPD chloride conductance values into the normal range.* As noted above, a chloride conductance equal to or more electrically negative than -5.0 mV is generally considered to be in the normal range. As such, a patient with a TEPD chloride conductance value of +1.0 mV at baseline would be considered to have an abnormal value because the value is more electrically positive than -5.0 mV. If, at the end of treatment, that patient's TEPD chloride conductance value improved to -6.0 mV, this would represent an improvement into the normal range because the improved value is more electrically negative than -5.0 mV.

Secondary endpoints include lung function testing, with measurements of forced expiratory volume in one second, or FEV_1, and forced vital capacity, or FVC; overall safety profile as evaluated by measuring the type, frequency, severity, timing and relationship to PTC124 of any adverse events, laboratory abnormalities or electrocardiogram abnormalities; study drug compliance as assessed by quantification of used and unused PTC124; and pharmacokinetics of PTC124 as evaluated by frequent blood sampling on the first day and last day of each treatment period. Although not predetermined endpoints in the trial protocols, we are also assessing changes in patients' body weights and patient-reported improvements, if any, in cystic fibrosis-related symptoms.

Inclusion and Exclusion Criteria. Key inclusion criteria for study participants include a diagnosis of cystic fibrosis caused by a nonsense mutation; an abnormal TEPD chloride conductance at baseline; age of at least 18 years; body weight of at least 40 kilograms and FEV_1 at baseline of at least 40% of normal, based on patient gender, age and height. Key exclusion criteria for study participants include ongoing acute illness, including acute upper or lower respiratory infections within two weeks prior to study treatment; history of major complications of lung disease within two months prior to start of study treatment; abnormal chest x-ray; substantial liver abnormalities; abnormalities of kidney function; and ongoing use of or changes in specified medications.

Patient Demographics. Of the 15 patients included in the interim analysis, three were from the U.S. trial and 12 were from the Israeli trial. Seven patients were male and eight were female. Patients had a median age of 22 years. Three of the most common types of nonsense mutations in the CFTR gene were represented among the 15 patients. All patients had multiple signs and symptoms of cystic fibrosis, including some degree of lung dysfunction. Based on patient gender, age and height, the mean FEV_1 value at study entry was 64% of normal and the mean FVC value at study entry was 79% of normal. Fourteen of the 15 patients included in the interim analysis had airway colonization with *Pseudomonas aeruginosa*, a common bacterial infection in cystic fibrosis patients that can lead to serious pneumonia. Fourteen of the 15 patients also had pancreatic insufficiency and required chronic pancreatic enzyme replacement therapy. The patients included

in the interim analysis had relatively low body weights, with a mean weight of 58.3 kilograms, or 128.5 pounds, at study entry.

TEPD Results. In the 15 patients included in the interim analysis, at both dose levels, we observed:

- statistically significant mean improvements in TEPD chloride conductance;
- statistically significant percentages of patients with a TEPD chloride conductance response; and
- statistically significant increases in the percentage of patients with a TEPD chloride conductance value in the normal range.

The statistical significance of clinical trial results is determined by statistical methods that establish the p-value of the results. Typically, clinical trial results are statistically significant if they have a p-value of 0.05 or less, meaning that there is less than a one-in-twenty likelihood that the observed results occurred by chance.

We believe that these results suggest that PTC124 has meaningful pharmacological activity that is consistent with our hypothesis that treatment with PTC124 can restore the production and function of CFTR protein in patients with cystic fibrosis caused by a nonsense mutation. We also believe that this is the first time such activity has been observed in a clinical trial of an oral therapy for cystic fibrosis.

The following table presents the TEPD results for the 15 patients included in the interim analysis. For each measurement, we present the results on a best-of-nostrils and mean-of-both-nostrils basis. Historically, results of TEPD tests have typically been presented on a best-of-nostrils basis. However, recent guidelines established by the Cystic Fibrosis Therapeutics Development Network recommend that TEPD results be presented on both bases.

	Lower Dose Level		Higher Dose Level	
TEPD Result	**Result**	**p-Value**	**Result**	**p-Value**
Mean change in TEPD chloride conductance:				
Best of nostrils	-9.0 mV	<0.001	-6.4 mV	0.009
Mean of both nostrils	-6.7 mV	<0.001	-4.4 mV	0.023
Number of patients with[3] -5 mV improvement in TEPD chloride conductance:				
Best of nostrils	9/15 (60)%	<0.001	8/15 (53)%	<0.001
Mean of both nostrils	6/15 (40)%	0.005	7/15 (47)%	<0.001
Number of patients with improvement in TEPD chloride conductance to normal:				
Best of nostrils	8/15 (53)%	0.008	8/15 (53)%	0.008
Mean of both nostrils	6/15 (40)%	0.032	7/15 (47)%	0.016

The treatment effects at the lower and higher dose levels of PTC124 were not statistically significantly different. In addition, we observed TEPD chloride conductance responses in patients with each of the three most common types of nonsense mutations in the CFTR gene. However, the small number of patients included in the interim analysis makes it difficult to draw conclusions based on these observations.

Secondary Endpoint Results. The trials have not been powered to detect statistically significant changes in secondary endpoints. However, in our interim analysis, we observed statistically significant improvements from study entry to the end of the higher-dose treatment cycle in the patients' mean FEV_1, FVC and weight. The following table presents the results of the changes. For the changes in lung function, only 14 of the

15 patients are included because one patient did not have lung function measured at the end of the higher-dose treatment cycle.

Endpoint	Study Entry	End of Higher Dose Treatment	Change	p-Value
Lung function (expressed as a percentage of normal for gender, age and height):				
Mean FEV_1	65.8%	69.1%	3.3%	0.015
Mean FVC	80.2%	85.1%	4.9%	0.037
Weight	58.3 kg	59.0 kg	0.7 kg	0.012

In addition, although we are not formally measuring changes in patient's symptoms through the use of a quality-of-life questionnaire, trial investigators were requested to ask about changes in patients' cystic fibrosis symptoms. In the 15 patients included in the interim analysis, six reported general improvements in well being, six reported decrease in cough and 10 reported decreased mucus thickness and easier clearing of mucus.

Safety and Tolerability Results. PTC124 was generally well tolerated among the 15 patients included in the interim analysis. No serious drug-related adverse events were reported. All adverse events that were potentially drug-related were mild in severity. These adverse events included irritation in the back of the throat in one patient; nausea in two patients; diarrhea in two patients; and dysuria, a burning sensation during urination, in four patients. There were no safety concerns identified in patients' physical examinations, vital sign measurements or electrocardiograms. We did not observe any meaningful elevations in serum liver enzymes or bilirubin. Similarly, we did not observe any clinically relevant changes in kidney function. There were no dosing interruptions or trial discontinuations due to toxicity. Treatment compliance was very good, with patients taking more than 98% of the intended total drug treatment at both the lower and higher dose levels.

Pharmacokinetics. In the patients included in the interim analysis, PTC124 was readily absorbed and desired plasma concentrations were achieved at the first and fourteenth days of both the lower-dose and higher-dose treatment cycles. At both the lower dose level and higher dose level, there was neither evidence of drug accumulation nor evidence of decreased drug levels due to the induction of metabolism during the treatment periods.

Phase 2 Clinical Trial for Duchenne Muscular Dystrophy. In the fourth quarter of 2005, we also commenced an open-label Phase 2 clinical trial of PTC124 for the treatment of Duchenne muscular dystrophy caused by nonsense mutations. The goals of this trial are to obtain indications of pharmacological activity and to assess dose response, safety and pharmacokinetics. We expect to enroll at least 24 evaluable patients age five years or older who have been diagnosed with Duchenne muscular dystrophy resulting from a nonsense mutation in the dystrophin gene. We are conducting the trial in the United States at three academic centers that are experienced in the conduct of clinical trials involving subjects with muscular dystrophy.

Participants in the trial are divided into two groups, with all participants in both groups receiving PTC124 treatment for 28 days. The first group comprises the first six participants in the trial. Participants in this group will take PTC124 for 28 days at a dosing regimen consisting of 4 mg/kg with breakfast, 4 mg/kg with lunch and 8 mg/kg with dinner, for a total daily dose of 16 mg/kg. If the six participants in the first group tolerate the study medication, the second group, comprising the remaining participants in the trial, will receive treatment at an escalated dose. For this second group, the dosing regimen will consist of 10 mg/kg with breakfast, 10 mg/kg with lunch and 20 mg/kg with dinner, for a total daily dose of 40 mg/kg. These dosing regimens are the same as for the cystic fibrosis trials, which we based on pharmacokinetic modeling from our Phase 1 clinical trials with the goal of achieving plasma concentrations of PTC124 that, based on our preclinical models, we anticipate may have a therapeutic effect. We will test the effects of PTC124 on trial participants at the end of the 28-day treatment cycle and will conduct a follow-up assessment four weeks after the last dose administration.

The primary endpoint in this trial is the change from baseline measurement of dystrophin levels in a biopsy of a muscle in the foot known as the extensor digitorum brevis, or EDB. An absence of dystrophin at baseline is viewed as confirmation of the diagnosis of Duchenne muscular dystrophy. If PTC124 promotes suppression of the nonsense mutation, we expect to observe increases from baseline in study participants' dystrophin levels in the EDB muscle biopsy. Secondary endpoints of the trial include changes in other proteins in the EDB muscle biopsy, changes in muscle strength, time taken to perform specified functions such as walking and climbing steps and compliance with PTC124 treatment. The trial will also assess the safety and pharmacokinetic profiles of PTC124. We expect to complete this trial in the second half of 2006.

Plans for Future Development

Our goal is to advance the clinical development of PTC124 for both cystic fibrosis and Duchenne muscular dystrophy. Accordingly, we intend to conduct pivotal clinical trials to support the filing of an NDA for a particular indication if our Phase 2 clinical trials for that indication are successful. We anticipate conducting a Phase 2b cystic fibrosis clinical trial in Israel involving the patients participating in our current cystic fibrosis trial in Israel. The purpose of this trial will be to assess the safety and pharmacological activity associated with longer-term dosing of PTC124. Subject to our discussions with regulatory authorities, we anticipate commencing Phase 3 pivotal clinical trials for PTC124 in cystic fibrosis while this Phase 2b trial is ongoing. We expect that primary endpoints for future trials in cystic fibrosis would include clinical measures of lung function and that primary endpoints for future trials in Duchenne muscular dystrophy would include clinical measures of muscle function. We are also assessing additional genetic disorders that are characterized by nonsense mutations to determine whether to initiate clinical trials of PTC124 for the treatment of those indications.

PTC299

PTC299 is a novel, orally administered small-molecule compound designed to inhibit the production of VEGF. We discovered PTC299 using our GEMS technology. We are developing PTC299 for the treatment of cancer because the overexpression of VEGF plays a key role in the growth of many types of cancers. In April 2006, we expect to commence a Phase 1a clinical trial of PTC299 in healthy volunteers in Belgium. If this Phase 1a trial is successful, we plan to initiate a Phase 1b clinical trial of PTC299 in late 2006 in patients with advanced solid tumors whose disease has progressed during therapy or for whom there is no effective therapy available.

Background on Cancer and the Role of VEGF

According to the American Cancer Society, approximately 1.4 million new cancer cases are reported in the United States annually. Despite significant ongoing drug development aimed at cancer treatment, cancers of all types result in approximately 570,000 deaths in the United States each year, making cancer the second leading cause of death in the United States. VEGF is a protein that stimulates the process of new blood vessel formation, known as angiogenesis. By binding to its receptors on the surface of blood vessel cells, VEGF stimulates blood vessel growth. VEGF overexpression by tumors is critically important in the processes of tumor growth and metastasis for virtually all tumor types. Overexpression of VEGF also plays a role in other diseases, including ophthalmic diseases such as age-related macular degeneration.

Because of the role of VEGF in cancer and other diseases, there has been significant drug discovery activity focused on identifying drugs that target VEGF and its function with the goal of curtailing pathological angiogenesis. Most anti-VEGF compounds that are on the market or under development are designed to prevent VEGF from binding to its receptors, rather than to inhibit the formation of VEGF itself. For example, this is the mechanism of action of Genentech, Inc.'s monoclonal antibody, Avastin. The FDA recently approved Avastin for use in combination with chemotherapy for the treatment of colorectal cancer. Genentech reported that U.S. sales of Avastin were $1.1 billion in 2005. Although Avastin has been successful in slowing the time of tumor progression, the drug does not eradicate cancers. Accordingly, there is an unmet medical need for agents that either eliminate tumors or further reduce the pace of tumor progression. We believe that

targeting VEGF by a different mechanism of action may work in a complementary manner with Avastin and other cancer therapies.

PTC299 Scientific Background

Post-transcriptional control processes play a critical role in VEGF production. The initiation of protein translation in most cases depends upon the interaction of ribosomes and associated factors at the end of the mRNA from which translation commences. This mRNA structure is designated as the five prime cap, or 5' cap, and the untranslated region to which the 5' cap is attached is designated as the five prime UTR, or 5' UTR, of the mRNA. Normal translation usually requires the 5' cap. This cap-dependent translation is largely suppressed under conditions of cell stress, such as the occurrence of subnormal concentrations of oxygen, a state known as cell hypoxia. However, the 5' UTR of the mRNA that is used in the formation of VEGF contains a sequence, known as a cellular internal ribosomal entry site, or IRES, that initiates the synthesis of VEGF independently of normal cap-dependent translation. In fact, IRES-dependent VEGF translation increases in the presence of cell hypoxia. As a result, under the hypoxic conditions commonly found in tumors, there is an increase in the amount of VEGF produced. This increased production of VEGF can lead to the subsequent angiogenesis that supports tumor growth.

We have designed PTC299 to inhibit VEGF production in tumors by targeting the post-transcriptional processes that regulate VEGF formation. Based on our preclinical testing, we believe that PTC299 functions through the 5' UTR of the VEGF mRNA. Because PTC299 inhibits VEGF production, its action occurs at a different point in the VEGF pathway than therapies, such as Avastin, that target the binding of VEGF to its receptors on the surface of blood vessel cells. We believe that PTC299 may be active both as a single agent or when used in combination with other anti-angiogenic agents or with chemotherapy agents for the treatment of cancers. PTC299 may also prove clinically useful in other diseases where VEGF levels play a key role, such as in age-related macular degeneration.

Preclinical Development of PTC299

We have conducted multiple *in vitro* and animal preclinical studies of PTC299. Key findings of these studies include the following:

- In *in vitro* studies PTC299 was a potent inhibitor of tumor VEGF production. In these studies, PTC299 demonstrated a broad range of activity in blocking VEGF synthesis in multiple tumor types, including breast, cervical, colorectal, fibrosarcoma, gastric, lung, melanoma, neuroblastoma, ovarian, pancreas, prostate and renal cell cancer lines.
- In multiple animal studies, PTC299 as a monotherapy significantly reduced VEGF concentrations in tumors and plasma, reduced tumor blood vessel density and substantially impeded tumor progression. In addition, in animal studies, PTC299 enhanced the antitumor activity of chemotherapy agents and of Avastin when given as a component of combination therapy.

We believe that safety pharmacology and toxicology studies indicate that PTC299 has an acceptable preclinical safety toxicity profile to proceed to Phase 1a clinical testing in healthy volunteers. *In vitro* and *in vivo* safety pharmacology studies showed no adverse off-target effects and no toxicities in major organ systems. Toxicology studies in rats and dogs through seven days indicated good tolerability at doses and exposures in excess of those required for VEGF inhibition in rats and dogs.

Clinical Development of PTC299

Phase 1a Single-Dose Clinical Trial in Healthy Volunteers. In April 2006, we expect to commence a Phase 1a clinical trial of PTC299. We have designed this trial as a single-site, randomized, double-blind, placebo-controlled escalating single-dose safety and pharmacokinetic study in healthy volunteers between the ages of 18 and 55. We will conduct this trial in Belgium. We believe that an initial single-dose study of PTC299 in healthy volunteers may allow us to rapidly assess the clinical and pharmacokinetic proprieties of PTC299 in support of a subsequent Phase 1b multiple-dose study in patients with cancer.

We plan to conduct the Phase 1a trial in two stages. In the first stage, we expect to enroll a total of 40 subjects in five cohorts of eight subjects each. The cohorts will undergo five sequential dose escalations of PTC299. At each treatment administration, six subjects in each cohort will receive a single dose of PTC299 and two subjects will receive a single dose of placebo. We plan to commence the second stage of the trial after we determine the highest safe dose level in the first stage. In the second stage, we expect to enroll 12 new subjects to evaluate the effect of food on the safety and pharmacokinetic profile of PTC299. All participants will take the study medication orally in capsule form. These capsules consist of the active pharmaceutical ingredient of PTC299, in a lipid-soluble form. We are also developing a back-up candidate to PTC299 that may be formulated in a water-soluble form.

The primary objective of this Phase 1a clinical trial will be to determine a dose range for PTC299 that is well tolerated, achieves pharmacologically active plasma concentrations and is appropriate for use in a subsequent Phase 1b multiple-dose study. We also expect to assess the side effect profile, drug pharmacokinetics and effects on VEGF concentrations in the blood. We expect to complete this trial in the second quarter of 2006.

Plans for Future Development

If our Phase 1a clinical trial of PTC299 is successful, we plan to initiate a Phase 1b single-arm, open-label, dose-ranging study in late 2006 in patients with advanced solid tumors whose disease has progressed during therapy or for whom there is no therapy available. We expect to conduct this trial in either the United States or Europe.

In this trial, we plan to administer PTC299 to patients in escalating doses in order to determine a maximum tolerated dose. At the maximum tolerated dose, we plan to enroll at least 18 patients to assess the safety of PTC299 and the activity of PTC299 as measured by evaluations of VEGF levels in the blood. We also plan to assess effects on tumor size. The primary objective of this trial will be to establish the maximum tolerated dose and appropriate dose range of PTC299 for application in Phase 2 clinical trials. We expect to complete this Phase 1b trial in late 2007 or early 2008.

If the results of our planned Phase 1a and Phase 1b clinical trials of PTC299 are favorable, we plan to advance PTC299 into additional clinical trials in selected solid tumor indications. We expect to determine those indications based on considerations including scientific rationale, preclinical efficacy, medical need, competitive positioning, patient enrollment potential and the regulatory environment. We anticipate potentially evaluating PTC299 in these clinical trials in combination with chemotherapy, hormonal therapy or anti-angiogenic agents that are typically used to treat the selected indications.

Hepatitis C Program

Using our GEMS technology, we have identified a number of small molecules from our compound library that, in *in vitro* studies, selectively inhibited the translation of the hepatitis C virus protein without inhibiting human host cell translation. In March 2006, we entered into a collaboration with Schering-Plough for the commercialization of the compounds in our hepatitis C program. Pursuant to the collaboration, we and Schering-Plough will conduct a joint research program relating to these compounds, and Schering-Plough will be responsible for worldwide development and commercialization efforts for any product candidates that are developed. Schering-Plough has made an upfront payment to us of $12.0 million and has agreed to provide funding for our research activities. In addition, we are eligible to receive more than $200 million in payments if we achieve specified development, regulatory and sales milestones. We are also entitled to royalties on sales of products developed pursuant to the collaboration, with the royalty percentage based on specified thresholds of worldwide net product sales.

Background on Hepatitis C

Hepatitis refers to inflammation of the liver. Hepatitis can result from infection with one of several known viruses, the most common of which are the hepatitis A virus, the hepatitis B virus and the hepatitis C virus. The hepatitis C virus is generally referred to as HCV. Hepatitis A is an acute disease from which individuals

typically recover and is rarely fatal. In contrast, hepatitis B and hepatitis C often become chronic, progressive liver disorders, potentially leading to liver scarring, known as cirrhosis, and death from liver failure or liver cancer. Because of the risks associated with hepatitis B and hepatitis C, there is significant drug development effort directed at finding therapeutics for patients with chronic hepatitis B and chronic hepatitis C.

Chronic hepatitis C is the leading cause of liver failure requiring liver transplantation in both the United States and Europe. According to the World Health Organization, approximately 170 million people, or roughly 3% of the world's population, are chronically infected with HCV. The Centers for Disease Control, or CDC, estimate that more than 2.7 million people in the United States have chronic HCV infection. In addition, approximately 8,000 to 10,000 patients die annually in the United States from complications resulting from this infection. We expect the prevalence of cirrhosis and the incidence of its complications, including various forms of liver cancer and liver related deaths, to increase dramatically over the next 10 to 20 years. The annual worldwide market for hepatitis C therapeutics currently exceeds $3 billion and may exceed $10 billion by 2014.

There are at least six basic genetic variants, or genotypes, of HCV. The different genotypes vary in prevalence in different regions of the world. In the United States, Europe and Japan, the genotype 1 strain of HCV is the most predominant. This genotype is responsible for more than 70% of hepatitis C infections in the United States and Japan and is the predominant HCV genotype in Western Europe. Of the six basic HCV genotypes, the genotype 1 strain is the most difficult to treat with currently available therapies.

There are no available vaccines against HCV. The current standard of care for the treatment of HCV is a combination of two drugs, interferon and ribavirin. More than 50% of patients infected with the genotype 1 strain of HCV generally do not respond to this therapy. In addition, there are significant side effects to this therapy, which often result in dose reductions or premature treatment termination. Product candidates currently in development, such as protease and polymerase inhibitors, have shown rapid development of viral resistance. Thus, there remains a significant unmet medical need for new HCV treatments. We believe that targeting HCV by a different mechanism of action that may work in a complementary manner with other HCV therapies may prove important.

HCV Program Scientific Background

The hepatitis C virus is an RNA virus. The viral genome encodes all of the proteins required for viral reproduction. The HCV RNA does not have a 5' cap structure, but has a large 5' UTR that forms an extensive secondary structure harboring an HCV IRES. The HCV IRES initiates translation using a mechanism that is distinct from the cap-dependent translation involved in normal cellular protein synthesis. The HCV IRES has a critically important function in replication of the HCV virus. As a result, this sequence of RNA is present in all HCV genotypes. This makes the HCV IRES an attractive target for the development of a broad-spectrum anti-HCV agent that is potentially active against all HCV genotypes. Based on our knowledge of the difference between HCV and host cellular protein synthesis, we have designed compounds that have selectively inhibited viral replication in several *in vitro* surrogate cell-based systems. Because the IRES is distinct from viral proteins targeted by existing drugs and other product candidates in development, such as protease or polymerase inhibitors, we believe that our compounds under development may be useful in combination with these other agents. In addition, the essential nature of the IRES may reduce the prospect for resistance to our compounds.

Lead Compound Optimization and Plans for Future Development

We are engaged in late stage chemical optimization of lead compounds in our HCV program. Using our GEMS technology, we have screened our library of compounds to identify a number of potential development candidates that, in *in vitro* testing, specifically inhibited protein synthesis by interacting with the HCV IRES, did not inhibit normal cellular cap-dependent translation and did not display toxicity to cells. Notably, these compounds have displayed equal activity against the IRESs from all common HCV genotypes, including the genotype 1 strain of HCV. Through our collaboration with Schering-Plough, we will continue our research activities with respect to these compounds so that Schering-Plough may select one or more development

candidates. Schering-Plough has worldwide clinical development and commercialization rights under the collaboration.

Our Discovery Stage Programs

We believe that targeting post-transcriptional control processes offers opportunities to discover and develop novel therapies for a wide range of diseases. Currently, our most advanced discovery programs are in the areas of antibacterial therapy, anemia and musculoskeletal disorders. In each of these programs we have identified multiple post-transcriptional targets and compounds that have demonstrated *in vitro* and, in many cases, *in vivo* activity. We intend to initiate additional discovery programs in disease areas that we believe to be well suited to our approach and for which we believe there is significant unmet medical need and commercial opportunity.

Our discovery stage programs include the following:

Antibacterial Program

Although currently available antibiotics are effective in treating many bacterial infections, the emergence of resistant strains of bacteria, particularly in the hospital setting, is an increasing worldwide problem. Current therapies do not always address these new resistant strains of bacteria, resulting in a significant unmet medical need for treatments for these new resistant strains of bacteria. We believe that a new broad-spectrum antibiotic directed at a novel target could be an important treatment for bacterial infections.

We have developed a screening technology to identify compounds with the potential to combat infectious bacteria by altering bacterial post-transcriptional control processes. Our most advanced program targets an enzyme known as peptidyl-tRNA hydrolase, or Pth. The Pth enzyme appears to play a key role in a post-transcriptional control process important for all bacteria. We believe that this enzyme is an attractive target because it appears to be essential for bacterial survival. Because the Pth enzyme is present in many types of bacteria, we anticipate that Pth inhibitors could be broad-spectrum antibiotics. Currently there are no drugs that inhibit the Pth enzyme. In *in vitro* tests, the lead compounds in our antibacterial program demonstrated significant activity against several drug-resistant strains of bacteria, including methicillin-resistant and methicillin-susceptible *Staphylococcus aureus* and vancomycin-resistant *Enterococci*. These antibacterial effects have been achieved without toxicity being observed in human cell lines.

Anemia Program

Anemia is a condition that results from a reduced number of red blood cells in circulation, which in turn can lead to insufficient delivery of oxygen to tissues. Common causes of anemia include kidney failure, chronic inflammation, chemotherapy, vitamin deficiency and bleeding. The incidence of anemia has been estimated to be as high as 8% in the developed world and higher in the undeveloped world. The hormone erythropoietin, or EPO, is the master regulator of red blood cell production. Increasing the concentration of EPO in the blood is a clinically proven method to alleviate anemia. The worldwide market for recombinant human EPO protein replacement products exceeds $10 billion and is growing at an average annual rate of 21%. All currently approved EPO therapies rely on injection, which is an expensive and inconvenient method of administration. We believe that a small-molecule approach to increasing EPO levels might be able to overcome these disadvantages.

We have applied our GEMS technology to identify small-molecule post-transcriptional activators of EPO gene expression. We have identified several structural classes of small molecules that increase EPO expression in animal models and have favorable pharmaceutical properties.

Musculoskeletal Program

Separate from our development of PTC124 for genetic disorders, we have entered into a collaboration with Parent Project Muscular Dystrophy to identify additional new drugs with the potential to treat Duchenne muscular dystrophy by affecting post-transcriptional control processes. Parent Project Muscular Dystrophy is

a patient advocacy organization that supports drug discovery efforts as part of its mission to improve the well being of patients with Duchenne muscular dystrophy. With support from this organization, we have applied our GEMS technology to five different proteins that may be targets for new therapies for patients with Duchenne muscular dystrophy who would not be candidates for PTC124 treatment because their disease is not caused by a nonsense mutation. In 2004, we performed five high throughput screens against these targets. From these screens, we have identified a number of molecules that demonstrated promising activity in early *in vitro* studies. We are now developing additional data with respect to these targets to begin further characterization of these molecules. This characterization will include preclinical assessment of potency, toxicity and pharmaceutical properties together with chemical optimization. Our goal is to identify appropriate candidates to advance into preclinical and clinical development.

Scientific Background of Post-Transcriptional Control Processes

Proteins are present in all living beings and are essential for the life of each cell as well as the life of the entire organism. To produce proteins, organisms use information encoded in their genes. Genes consist of discrete stretches of DNA molecules located within chromosomes in the nucleus of a cell. Not all of the genes in an organism are used, or expressed, at once. To express a gene and create a protein, the cell follows an ordered, multi-step process.

The first major step in the process of gene expression is called transcription. During transcription, the cell copies the information from a gene to create an RNA molecule that is subsequently processed into a molecule of mRNA. Each mRNA molecule is specific to a particular gene and exists in the cell only for the period it is needed. When present in the cell, the mRNA is used in the next major step of gene expression, called translation. During translation, a specialized cellular apparatus, called the ribosome, decodes the information in each mRNA molecule to produce an individual protein.

Post-transcriptional control processes are the events that occur in cells following the transcription of DNA to make mRNA. These processes include mRNA processing, transport and eventual degradation, as well as translation of mRNA into protein. These processes also modulate how long an mRNA molecule lasts in the cell and how efficiently the mRNA is used to make its protein. The quantity of a particular protein produced in a given time period depends both on how much of the mRNA that codes for that protein is in the cell and on how efficiently the cellular translation apparatus uses that mRNA. Precise control of mRNA utilization is critical for many important functions, including the cell division cycle, the immune response and the growth and repair of tissues.

Portions of mRNA molecules that do not directly code for proteins, known as untranslated regions, or UTRs, are unique to specific mRNAs and are directly involved in the post-transcriptional control of protein production. Interactions of other molecules in the cell with the UTRs and other control structures on the mRNA can modulate the rate at which mRNA is degraded and eliminated from the cell as well as the mRNA's translational efficiency. These regulatory molecules in the cell also often interact with each other. The various post-transcriptional control processes are critical to proper cellular function and provide the organism with a diverse array of approaches to modulate protein levels in response to specific biological needs.

Our Post-Transcriptional Control Drug Discovery Technologies

We have assembled an integrated set of proprietary technologies for the discovery of small molecules that target post-transcriptional control processes. Our technologies allow us to perform multiple screens of our compound library in different therapeutic areas in an expeditious and cost-effective manner. Our scientists are able to conduct a drug discovery program from target identification and characterization to the identification of selective lead molecules with defined pharmaceutical properties within months.

GEMS is the principal technology that we use to identify small-molecule drug candidates that have the potential to up-regulate or down-regulate protein levels. The compounds that we identify using GEMS modulate gene expression by targeting the post-transcriptional control processes that act through the UTRs of mRNA molecules. We have used our GEMS technology in the discovery and development of PTC299 and to

identify the lead compounds in our HCV program. Furthermore, we are conducting preclinical testing of a number of compounds in other programs that we have identified through GEMS.

The Importance of UTRs in Post-Transcriptional Control Processes

The mRNA of humans consists of several specific regions. At the beginning of an mRNA molecule is the 5' cap, which is a structure attached to the mRNA through a post-transcriptional process. Adjacent to the 5' cap is the 5' UTR. Located next to the 5' UTR is the open reading frame, which contains the information that the ribosomes decode to produce proteins. The 3' UTR follows the open reading frame. The terminal element of the 3' UTR is a structure known as the poly(A) tail. The following diagram illustrates the mRNA structure.

The UTRs of mRNA have important roles in the regulation of protein production by the cell because they contain the instructions for how much protein should be made from a given mRNA molecule. The information in the UTRs can determine whether one protein molecule is synthesized per mRNA or thousands of copies of a protein are synthesized. The UTRs usually function independently from other elements of mRNA, such as the open reading frame. Our GEMS technology takes advantage of this property of UTRs to identify small molecules that modulate post-transcriptional control.

Our GEMS and Other Discovery Technologies

Before applying our GEMS technology, we seek to identify target proteins of potential biological and medical relevance to human disease. We select targets based on our reviews of the biomedical literature and discussions with our scientific advisors. We analyze each potential target to determine whether its cellular production is likely to be affected by post-transcriptional control processes and to assess the clinical feasibility of developing a therapeutic that acts on the target.

After identifying a target, we precisely identify the UTRs of the gene for that target. We then link the sequences of the UTRs with a reporter gene so that the target gene's UTRs flank the open reading frame of the reporter gene. The following diagram illustrates this process.

In most cases, we derive the reporter from the firefly luciferase gene. Luciferase is a protein that performs a chemical reaction that produces light. Compounds that act at the UTRs to modulate luciferase protein levels increase or decrease the amount of light produced. By measuring changes in the amount of light, we can rapidly assess the effect of a test compound on post-transcriptional processes.

The next step of our GEMS technology is to develop stable cell lines that express the UTR-reporter gene constructs. We test these cell lines against our compound library using high-throughput screening technology. In a typical screen, we assay the effect of the compounds in our library to identify those that are likely to enhance or inhibit expression of the target gene by modulating the post-transcriptional control processes that act through that target's UTRs. We can screen our entire library of approximately 200,000 compounds in one week.

We then select compounds that demonstrate statistically significant alterations in reporter expression for further characterization in secondary assays. These assays monitor the dose-response profile of the compounds, their cell-based activity against the target and their specificity and selectivity against other protein targets. Based on the results of these analyses, and on the compounds' pharmacological activity and toxicity in animal models, we identify lead compounds and initiate chemical lead optimization. The goal of lead optimization is to improve compound efficacy, potency and pharmaceutical properties, so that we can select a development candidate to evaluate in preclinical studies and clinical trials.

We have developed considerable knowledge in the area of post-transcriptional regulation of gene expression. Using this knowledge, we have discovered new elements in UTRs that regulate gene expression and have built databases that allow us to identify targets that are suitable for our technology. We have also discovered new regulatory mechanisms that require cooperative interaction between sequences situated in both the 5' and 3' UTRs of the mRNA and the proteins that interact with these elements. These cooperative interactions play an essential role in regulating the protein levels of important genes and, we believe, represent new and promising targets for the selective modulation of gene expression in a number of therapeutic areas, including genetic disorders, oncology, infectious diseases, anemia and musculoskeletal disorders, as well as inflammation, metabolic disorders, cardiovascular conditions and neurological disorders.

We believe that our GEMS technology enables us to identify small-molecule compounds that alter protein production for previously intractable target proteins and target proteins that have not yet been isolated or structurally characterized. In addition, we believe that a key advantage of our GEMS technology is that it is commercially scalable. In particular, we can screen a large number of medically relevant targets in a short period of time and continually add targets to the screening tier.

In addition to GEMS, we have developed several other proprietary approaches to identify compounds with the potential to treat disease by interacting with post-transcriptional control processes. For example, we discovered PTC124 using an approach that identifies compounds that can overcome a nonsense mutation in the open reading frame of a reporter gene. In addition, our antibacterial program stems from a drug discovery platform we developed that identifies compounds directed against the synthesis or metabolism of a type of RNA, called transfer RNA, that is required for protein synthesis.

Our Compound Library

We believe that our compound library of approximately 200,000 diverse compounds is another important asset of our drug discovery and development efforts. We designed this library to maximize diversity and drug-like characteristics relevant to the targeting of post-transcriptional control processes. We support the library with an automated infrastructure for compound handling and housing, thereby allowing rapid and accurate robotic integration of this chemistry resource with our drug discovery technologies.

Integrated Research and Development Infrastructure

We have integrated the biology, chemistry, pharmacology and clinical aspects of our drug discovery and development activities. To do so, we employ extensive and sophisticated informatics across biology and chemistry and multiple predictive approaches to target identification, compound analoging and lead optimization. We believe that the integration of these disciplines enhances the speed, efficiency and yield of our drug discovery processes. Using this infrastructure, we have established a large, proprietary dataset pertaining to the activity of our compound library. We routinely perform computational analysis of this dataset, which allows us to rapidly identify compounds that demonstrate specificity against a desired target. This capability enables us to quickly progress from the initial stage of screening compounds to the identification and optimization of chemical hits from those screens. As we assess pharmacological properties, such as bioavailability, metabolism and pharmacokinetics, we integrate this information into a database so that we can subsequently compare large numbers of compounds and select those with the most desirable properties. During this process, there is frequent consultation among our biology, chemistry, pharmacology and clinical disciplines so that we select final development candidates we believe will demonstrate the desired characteristics when advanced into preclinical and clinical development.

Use of Pharmacodynamic Markers in Clinical Trials

In our development activities, we generally focus on indications for which there are well-defined pharmacodynamic markers that can serve as measurements of efficacy, or endpoints, in human clinical trials. Pharmacodynamic markers generally are cellular or tissue functions, enzyme activities or protein levels that are indicative of clinical improvement of the underlying disease. Although the FDA typically requires more direct measures of clinical improvement in later stage clinical trials, the benefit of pharmacodynamic markers

is that they can allow for a rapid determination of signals of potential drug function in early-stage clinical trials. One of the reasons that we chose cystic fibrosis and Duchenne muscular dystrophy as our initial target indications for PTC124 is that there are well-established pharmacodynamic markers for both of these disorders. There are also pharmacodynamic markers for the anti-VEGF mechanism of action of PTC299, and viral load may be a pharmacodynamic marker in clinical trials for any HCV product candidates that result from our collaboration with Schering-Plough.

Our Strategy

Our goal is to become a leading pharmaceutical company focused on developing and commercializing small-molecule therapeutics that target post-transcriptional control processes and address unmet medical needs. To achieve our goal, we are pursuing the following strategies:

- ***Rapidly advance our lead programs.*** We are devoting a significant portion of our resources and business efforts to completing the development of our most advanced product candidates. We plan to complete our Phase 2 clinical trials of PTC124 for the treatment of cystic fibrosis and Duchenne muscular dystrophy and advance this product candidate into pivotal clinical trials as rapidly as possible. In addition, we believe that PTC124 may have applicability to a significant number of other genetic disorders for which a nonsense mutation is the cause of the disease. Similarly, we believe that PTC299, our anti-angiogenesis product candidate, may have potential to treat a range of solid tumor cancers as well as other diseases in which angiogenesis and VEGF overexpression play a role, such as age-related macular degeneration. We plan to pursue these additional potential commercial opportunities for PTC124 and PTC299 aggressively. For our genetic disorder program with PTC124, we are collaborating with patient advocacy groups, foundations and government agencies in order to obtain financial support, access to thought leaders and assistance in obtaining market acceptance of products that we successfully develop. We plan to pursue similar activities in other programs.

- ***Apply our integrated approach to continue to discover and develop small molecules that alter post-transcriptional control processes.*** We are applying several proprietary technologies, including GEMS, to the discovery and development of small molecules designed to exert therapeutic effects by altering post-transcriptional control processes. We have steadily enhanced these technologies, which span the key disciplines of biology, chemistry and pharmacology, over a number of years. Because post-transcriptional control processes offer many targets for therapeutic intervention and because drugs that alter these processes have the potential to both up-regulate and down-regulate protein production, we believe that our approach may be applicable to a broad range of diseases. We plan to continue to build our technologies for application in the field of post-transcriptional control processes and to apply these technologies in discovering and developing treatments in new therapeutic areas.

- ***Build a specialized sales and marketing infrastructure.*** We plan to establish our own sales and marketing capabilities. We expect to accomplish this initially by retaining commercial rights for our product candidates for which we receive marketing approvals in situations in which we believe it is possible to access the market through a focused, specialized sales force. For example, for PTC124, we believe that the pulmonologists and neurologists who are the key specialists in treating cystic fibrosis and Duchenne muscular dystrophy are sufficiently concentrated that we will be able to effectively promote the product with our own targeted sales force. For some situations in which we enter into commercial collaborations with third-party pharmaceutical and biotechnology companies, our goal will be to maintain co-promotion or co-commercialization rights in the United States and, in some cases, other markets, in order to further develop our internal sales and marketing capabilities.

- ***Selectively establish strategic alliances with leading pharmaceutical and biotechnology companies.*** For each of our product candidates, we plan to evaluate the merits of retaining commercialization rights for ourselves or entering into collaboration arrangements with leading pharmaceutical or biotechnology companies, such as our collaborations with Schering-Plough and Bausch & Lomb. Our decision to enter into additional collaboration arrangements will be based on such factors as anticipated development costs, therapeutic expertise and the commercial infrastructure required to

access a particular market. We generally plan to seek collaborators for the development and commercialization of product candidates that have high anticipated development costs or that are directed at indications for which a potential collaborator has a particular expertise or that involve markets that can be served more effectively by a large sales and marketing organization.

Our Collaborations

A key element of our strategy is to establish strategic collaborations with leading pharmaceutical and biotechnology companies. To date, we have entered into collaborations with Schering-Plough Corporation and Bausch & Lomb. These collaborations provide us with an opportunity to extend our post-transcriptional drug discovery technology into additional therapeutic areas and to benefit from the research, development and commercialization capabilities of our collaborators as well as to augment our financial resources.

Schering-Plough

In March 2006, we entered into a collaboration and license agreement with a subsidiary of Schering-Plough Corporation under which we and Schering-Plough are collaborating in the discovery, development and commercialization of compounds for the treatment of HCV and other viral diseases. Pursuant to the collaboration agreement, Schering-Plough paid us an upfront non-refundable payment of $12.0 million. Schering-Plough has additional financial obligations described below.

Research Collaboration. The agreement provides for a research collaboration under which we and Schering-Plough will conduct a research program designed to discover, identify, synthesize and evaluate our compounds for use in the prevention, treatment or diagnosis of HCV. During the research term, Schering-Plough has agreed to provide us with funding, based on a full-time equivalent rate, for an agreed upon number of full-time equivalent scientific or research and development personnel that we dedicate to the research program. The initial research term is three years. Schering-Plough has two options to extend the research term for an additional term of one year per option. Schering-Plough can terminate the research term in the circumstances described below.

Development and Commercialization. Schering-Plough is responsible for worldwide clinical development and commercialization of any compounds that it elects to advance from our research collaboration. We have granted Schering-Plough worldwide exclusive licenses, with the right to grant sublicenses, to our patent rights and know-how with respect to compounds arising from the collaboration that exhibit high anti-HCV activity. We are eligible to receive more than $200 million in payments if specified development, regulatory and sales milestones are achieved. Some of these milestones relate to second products or indications. We are also entitled to royalties on sales of products developed pursuant to the collaboration, with the royalty percentage based on specified thresholds of worldwide net product sales. Schering-Plough's obligation to pay us royalties at full rates will expire generally on a country-by-country basis on the expiration of the last-to-expire patent covering a product in the given country. In some circumstances following the expiration of all applicable patents in a particular country, Schering-Plough may be obligated to pay us royalties at lower rates for a specified period following the launch of the product in the country.

Exclusivity. Schering-Plough has the exclusive right to develop and commercialize compounds arising from the collaboration that exhibit high anti-HCV activity. Furthermore, for a period ending on the one-year anniversary of the expiration or termination of the research term, except in the case of certain terminations of the collaboration agreement or in the event that Schering-Plough in-licenses or acquires certain compounds or products, neither we nor Schering-Plough is permitted, outside the collaboration, to conduct any research or development on compounds that have as their primary mechanism of action the inhibition, either directly or indirectly, of viral replication by virtue of decreasing IRES-dependent translation of viral proteins.

Termination. Unless terminated earlier, the collaboration agreement will continue on a country-by-country and a product-by-product basis until there are no remaining royalty payment obligations in the given country with respect to the particular product.

Schering-Plough's termination rights under the collaboration agreement include the following:

- the right to terminate the collaboration agreement upon prior written notice at any time after the third anniversary of the effective date of the agreement;
- the right to terminate the collaboration agreement if, during the research term, a third-party patent or patent application that could substantially interfere with compounds that we are pursuing under the research collaboration is granted or published in a major market and we are not able to mutually agree on an applicable course of action or obtain a non-infringement opinion with respect to such patent or patent application; and
- the right to terminate the research program or the collaboration agreement upon prior written notice if Schering-Plough has not accepted a development candidate within two years of the effective date of the agreement.

Either party may terminate the collaboration agreement in the event of an uncured material breach by the other party or in the event of the other party's bankruptcy or insolvency. In addition, Schering-Plough has the right to terminate the research program upon specified changes of control of us involving competitors of Schering-Plough.

Upon termination of the collaboration agreement in specified circumstances, including termination by Schering-Plough for convenience or termination by us as a result of Schering-Plough's breach or bankruptcy, we have the right to assume the development and commercialization of product candidates arising from the collaboration agreement. In that event, we may become obligated to pay royalties to Schering-Plough on net sales of any products for which we receive regulatory approvals.

Joint Steering Committee. The collaboration is governed by a joint steering committee, consisting of an equal number of representatives of us and Schering-Plough. The parties have agreed to use reasonable good faith efforts to reach consensus on all decisions within the responsibility of the joint steering committee. If the parties cannot reach agreement, including, in the case of decisions relating to the research collaboration, after following a specified decision resolution procedure, Schering-Plough's decision will control. However, Schering-Plough may not make decisions relating to the research collaboration that are inconsistent with Schering-Plough's funding obligations, that would require us to undertake specified research activities unrelated to the optimization or characterization of the compounds being pursued under the collaboration, or that would prevent us from presenting for designation a development candidate or a back-up development candidate.

Bausch & Lomb

In December 2005, we entered into a research collaboration and exclusive option agreement with Bausch & Lomb under which Bausch & Lomb is evaluating compounds from our anti-angiogenesis program for the purpose of identifying potential candidates for development by Bausch & Lomb for the treatment of ophthalmic diseases associated with angiogenesis, including macular degeneration. Under the terms of the agreement, we granted Bausch & Lomb the exclusive option to license specified compounds, which we refer to as the program compounds, for the treatment, diagnosis or prevention of diseases of the eye. If Bausch & Lomb exercises its option for any of the program compounds, Bausch & Lomb would be obligated to pay us an option exercise fee and we and Bausch & Lomb would enter into a license agreement in a pre-negotiated form. Under any such license, we would be eligible to receive up to $17.5 million in payments based on the achievement of specified development, regulatory and sales milestones with respect to the first compound developed under the applicable license. We would also be entitled to receive royalties on sales of products developed pursuant to any such license, with the royalty percentage based on specified thresholds of worldwide net product sales. In addition, we granted Bausch & Lomb the exclusive option to license specified alternative compounds, which we refer to as the development compounds, for the treatment, diagnosis or prevention of diseases of the eye through local delivery to the eye. If Bausch & Lomb exercises its option for any of the development compounds, we and Bausch & Lomb would enter into a license agreement on terms, including financial terms, to be negotiated. If we and Bausch & Lomb are not able to reach agreement on license terms

for the development compounds within a specified period, Bausch & Lomb's option to license the development compounds will expire. Bausch & Lomb has one year from the date of the agreement to exercise any of its license options.

In exchange for the one-year options, Bausch & Lomb paid us an upfront non-refundable option grant fee of $300,000 and agreed to provide us with research funding during the option term to compensate us for completing agreed research. Bausch & Lomb has the right to extend the option term with respect to the program compounds for an additional six months in exchange for an extension fee. Either we or Bausch & Lomb may terminate the agreement in the event of the other party's uncured material breach of the agreement. Bausch & Lomb may terminate the agreement without cause upon 90 days' written notice to us. Upon expiration of Bausch & Lomb's license options, the rights to compounds that Bausch & Lomb has not elected to license revert to us.

Intellectual Property

Patents and Trade Secrets

Our success depends in part on our ability to obtain and maintain proprietary protection for our product candidates, technology and know-how, to operate without infringing the proprietary rights of others and to prevent others from infringing our proprietary rights. Our policy is to seek to protect our proprietary position by, among other methods, filing U.S. and foreign patent applications related to our proprietary technology, inventions and improvements that are important to the development of our business. We also rely on trade secrets, know-how, continuing technological innovation and in-licensing opportunities to develop and maintain our proprietary position.

As of December 31, 2005, we owned or exclusively licensed a total of 15 U.S. patents and 38 U.S. patent applications as well as numerous foreign counterparts to many of these patents and patent applications. Our patent portfolio includes patents and patent applications with claims directed to the composition of matter, pharmaceutical formulation and methods of use of many of our compounds, including PTC124 and PTC299.

The patent rights relating to PTC124 owned or licensed by us consist of one issued U.S. composition of matter patent and multiple patent applications relating to composition of matter, methods of use, formulation and dosing. The issued patent is currently set to expire in 2024 and all U.S. patents that issue from the pending U.S. patent applications would currently expire in 2024, except for one, which would expire in 2026. All of these patent rights are also the subject of counterpart patent applications in a number of other jurisdictions, including Europe and Japan. The patent rights relating to PTC299 owned by us consist of two U.S. patent applications and one counterpart PCT patent application which designates other jurisdictions, including Europe and Japan. These patent applications relate to the composition of matter, methods of use and formulation of PTC299. Any U.S. patents that issue from the pending U.S. patent applications relating to PTC299 would currently expire in 2025. U.S. patents generally have a term of 20 years from the filing date of the earliest non-provisional application.

The patent positions of companies like ours are generally uncertain and involve complex legal and factual questions. Our ability to maintain and solidify our proprietary position for our technology will depend on our success in obtaining effective claims and enforcing those claims once granted. We do not know whether any of our patent applications or those patent applications that we license will result in the issuance of any patents. Our issued patents and those that may issue in the future, or those licensed to us, may be challenged, narrowed, circumvented or found to be invalid or unenforceable, which could limit our ability to stop competitors from marketing related products or the length of term of patent protection that we may have for our products. Neither we nor our licensors can be certain that we were the first to invent the inventions claimed in our owned or licensed patents or patent applications. In addition, our competitors may independently develop similar technologies or duplicate any technology developed by us, and the rights granted under any issued patents may not provide us with any meaningful competitive advantages against these competitors. Furthermore, because of the extensive time required for development, testing and regulatory review of a potential product, it is possible that, before any of our products can be commercialized, any related patent may

expire or remain in force for only a short period following commercialization, thereby reducing any advantage of the patent.

We may rely, in some circumstances, on trade secrets to protect our technology. However, trade secrets can be difficult to protect. We seek to protect our proprietary technology and processes, in part, by confidentiality agreements with our employees, consultants, scientific advisors and contractors. We also seek to preserve the integrity and confidentiality of our data and trade secrets by maintaining physical security of our premises and physical and electronic security of our information technology systems. While we have confidence in these individuals, organizations and systems, agreements or security measures may be breached, and we may not have adequate remedies for any breach. In addition, our trade secrets may otherwise become known or be independently discovered by competitors. To the extent that our consultants, contractors or collaborators use intellectual property owned by others in their work for us, disputes may arise as to the rights in related or resulting know-how and inventions.

License Agreements

We are a party to a number of license agreements under which we license patents, patent applications and other intellectual property. We enter into these agreements to augment the significant intellectual property created by our scientists. The licensed intellectual property covers some of the compounds that we are researching and developing, some post-transcriptional control targets and some of the scientific processes that we use. These licenses impose various diligence and financial payment obligations on us. We expect to continue to enter into these types of license agreements in the future.

Manufacturing

We do not currently own or operate manufacturing facilities for the production of clinical or commercial quantities of PTC124 or PTC299 or for the compounds that we are testing in our preclinical programs. We currently rely, and expect to continue to rely, on third parties for the manufacture of our product candidates and any products that we may develop, other than small amounts of compounds that we synthesize ourselves for preclinical testing. To date, we have obtained our supply of the bulk drug substance for both PTC124 and PTC299 from one third-party manufacturer. We engaged a second manufacturer to provide the fill and finish services for the finished product that we are using in our ongoing Phase 2 clinical trials of PTC124 and expect to use in our planned Phase 1a clinical trial of PTC299. We are in the process of negotiating an agreement with a new manufacturer for the supply of bulk drug substance for our future clinical trials of PTC124 and PTC299. We obtain our supplies of the product candidates from these manufacturers pursuant to agreements that include specific supply timelines and volume expectations. If any of these manufacturers should become unavailable to us for any reason, we believe that there are a number of potential replacements, although we might incur some delay in identifying and qualifying such replacements.

All of our drug candidates are organic compounds of low molecular weight, generally called small molecules. We have selected these compounds not only on the basis of their potential efficacy and safety, but also for their ease of synthesis and reasonable cost of their starting materials. In particular, PTC124 and PTC299 are each manufactured in reliable and reproducible synthetic processes from readily available starting materials. The chemistry is amenable to scale up and does not require unusual equipment in the manufacturing process. We expect to continue to develop drug candidates that can be produced cost-effectively at contract manufacturing facilities.

Competition

The biotechnology and pharmaceutical industries are characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary products. While we believe that our technologies, knowledge, experience and scientific resources provide us with competitive advantages, we face potential competition from many different sources, including commercial pharmaceutical and biotechnology enterprises, academic institutions, government agencies and private and public research institutions. Any product

candidates that we successfully develop and commercialize will compete with existing therapies and new therapies that may become available in the future.

Many of our competitors may have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals and marketing approved products than we do. These competitors also compete with us in recruiting and retaining qualified scientific and management personnel, as well as in acquiring technologies complementary to, or necessary for, our programs. Smaller or early stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies.

Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer side effects, are more convenient or are less expensive than any products that we may develop. In addition, our ability to compete may be affected because in some cases insurers or other third-party payors seek to encourage the use of generic products. This may have the effect of making branded products less attractive, from a cost perspective, to buyers.

If PTC124, PTC299 or an HCV product candidate are approved, they will compete with currently marketed drugs and potentially with other product candidates that are currently in development for the same indications. The competition for our product candidates includes the following:

- ***PTC124 for cystic fibrosis.*** There are currently no approved therapeutics to treat the root causes of cystic fibrosis. Current treatments are designed to alleviate the symptoms of the disease and depend upon the stage of the disease and the organs involved. Clearing mucus from the lungs is an important part of the daily cystic fibrosis treatment regimen. Chest physical therapy is a form of airway clearance that involves vigorous clapping on the back and chest to dislodge the thick mucus from the lungs. Other treatments for cystic fibrosis include TOBI, an aerosolized antibiotic used to treat lung infections that is marketed by Chiron Corporation, Pulmozyme, a mucus-thinning drug shown to reduce the number of lung infections and improve lung function, that is marketed by Genentech, Inc., and azithromycin, an antibiotic recently proven to be effective in people with cystic fibrosis whose lungs are chronically infected with the common bacteria known as *Pseudomonas aeruginosa*. We believe that PTC124 is the only orally administered product candidate in clinical trials that is designed to treat the root cause of cystic fibrosis by restoring CFTR activity through the read through of a nonsense mutation. However, we are aware of other preclinical and clinical programs of third parties aimed at modulating CFTR function, including programs of Alnylam Pharmaceuticals, Inc. and Vertex Pharmaceuticals Incorporated. In addition, various other anti-inflammatory, anti-infective and mucus regulating product candidates are in clinical development.

- ***PTC124 for Duchenne muscular dystrophy.*** There are currently no approved therapeutics to treat the root causes of Duchenne muscular dystrophy. Current treatments seek to address symptoms through supportive care measures, such as bracing, joint stretching exercises, tendon release surgery, wheelchair use and assisted ventilation. Corticosteroids, such as prednisone and deflazacort are often prescribed to treat some of the symptoms of the disease. We believe that PTC124 is the only product candidate in clinical trials that is designed to treat the root cause of Duchenne muscular dystrophy by restoring dystrophin activity through the read through of a nonsense mutation. We are aware of early stage gene therapy programs of third parties targeting Duchenne muscular dystrophy. Various growth factors in development for other indications, including other forms of muscular dystrophy and amyotrophic lateral sclerosis, may, if approved, be used for the treatment of Duchenne muscular dystrophy. In addition, Wyeth has a potentially muscle-enhancing product candidate in Phase 2 clinical trials for muscular dystrophy.

- ***PTC299.*** If approved for the treatment of cancer, PTC299 would compete with numerous cancer therapies. Most notably, we expect that PTC299 would compete with other anti-angiogenesis therapies. These include Genentech's Avastin and Bayer's and Onyx's Nexavar, which act by preventing VEGF from binding to its receptor, and Pfizer Inc.'s Sutent, a tyrosine kinase inhibitor. We are also aware of numerous other anti-angiogenesis cancer therapies in development by third parties, including the VEGF Trap, which is in development by Sanofi-Aventis and Regeneron.

However, we are not aware of any other product candidates that, like PTC299, are designed to prevent VEGF formation by targeting post-transcriptional control processes.

- ***HCV.*** The current standard of care for the treatment of HCV is the combination of interferon and ribavirin. In addition, there are numerous product candidates for the treatment of HCV in clinical development. These include product candidates of Idenix Pharmaceuticals, Inc. and Vertex Pharmaceuticals.

The key competitive factors affecting the success of all of our product candidates are likely to be their efficacy, safety, convenience and price.

Sales and Marketing

If we receive regulatory approval for our product candidates, we plan to commence commercialization activities by building a focused sales and marketing organization complemented by selective co-promotion and other arrangements with leading pharmaceutical or biotechnology collaborators.

We generally expect to retain commercial rights for our product candidates for which we receive marketing approvals in situations in which we believe it is possible to access the market through a focused, specialized sales force. In particular, we believe that such a sales force could address the community of pulmonologists and neurologists who are the key specialists in treating cystic fibrosis and Duchenne muscular dystrophy, for which we are developing PTC124. Accordingly, if PTC124 is approved, we plan to initially build our own internal sales force to target these specialists.

We also plan to build a marketing and sales management organization to create and implement marketing strategies for any products that we market through our own sales organization and to oversee and support our sales force. The responsibilities of the marketing organization would include developing educational initiatives with respect to approved products and establishing relationships with thought leaders in relevant fields of medicine.

Government Regulation

Government authorities in the United States, at the federal, state and local level, and in other countries extensively regulate, among other things, the research, development, testing, approval, manufacturing, labeling, post-approval monitoring and reporting, packaging, promotion, storage, advertising, distribution, marketing and export and import of pharmaceutical products such as those we are developing. The process of obtaining regulatory approvals and the subsequent substantial compliance with appropriate federal, state, local and foreign statutes and regulations require the expenditure of substantial time and financial resources.

United States Government Regulation

In the United States, the information that must be submitted to the FDA in order to obtain approval to market a new drug varies depending upon whether the drug is a new product whose safety and efficacy have not previously been demonstrated in humans or a drug whose active ingredients and certain other properties are the same as those of a previously approved drug. A product whose safety and efficacy have not previously been demonstrated in humans will follow the New Drug Application, or NDA, route.

The NDA Approval Process

In the United States, the FDA regulates drugs under the Federal Food, Drug, and Cosmetic Act and implementing regulations. Failures to comply with the applicable FDA requirements at any time during the product development process, approval process or after approval may result in administrative or judicial sanctions. These sanctions could include the FDA's imposition of a clinical hold on trials, refusal to approve pending applications, withdrawal of an approval, warning letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, civil penalties or criminal prosecution. Any agency or judicial enforcement action could have a material adverse effect on us.

The steps required before a drug may be marketed in the United States include:

- completion of preclinical laboratory tests, animal studies and formulation studies under the FDA's good laboratory practices regulations;
- submission to the FDA of an investigational new drug application, or IND, for human clinical testing, which must become effective before human clinical trials may begin and which must include independent Institutional Review Board, or IRB, approval at each clinical site before the trials may be initiated;
- performance of adequate and well-controlled clinical trials in accordance with Good Clinical Practices to establish the safety and efficacy of the product for each indication;
- submission to the FDA of an NDA;
- satisfactory completion of an FDA Advisory Committee review, if applicable;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities at which the product is produced to assess compliance with current good manufacturing practices, or cGMP, to assure that the facilities, methods and controls are adequate to preserve the product's identity, strength, quality and purity; and
- FDA review and approval of the NDA.

Preclinical tests include laboratory evaluations of product chemistry, toxicity and formulation, as well as animal studies. An IND sponsor must submit the results of the preclinical tests, together with manufacturing information and analytical data, to the FDA as part of the IND. Some preclinical testing may continue after the IND is submitted. The IND must become effective before human clinical trials may begin. An IND will automatically become effective 30 days after receipt by the FDA, unless before that time the FDA raises concerns or questions about issues such as the conduct of the trials as outlined in the IND. In that case, the IND sponsor and the FDA must resolve any outstanding FDA concerns or questions before clinical trials can proceed. In other words, submission of an IND may not result in the FDA allowing clinical trials to commence.

Clinical trials involve the administration of the investigational product to human subjects under the supervision of qualified investigators. Clinical trials are conducted under protocols detailing, among other things, the objectives of the study, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated. A protocol for each clinical trial and any subsequent protocol amendments must be submitted to the FDA as part of the IND. In addition, an IRB at each site at which the study is conducted must approve the protocol and any amendments. All research subjects must provide their informed consent in writing.

Clinical trials typically are conducted in three sequential phases, but the phases may overlap or be combined. Phase 1 trials usually involve the initial introduction of the investigational drug into healthy volunteers to evaluate the product's safety, dosage tolerance and pharmacokinetics and, if possible, to gain an early indication of its effectiveness.

Phase 2 trials usually involve controlled trials in a limited patient population to:

- evaluate dosage tolerance and appropriate dosage;
- identify possible adverse effects and safety risks; and
- provide a preliminary evaluation of the efficacy of the drug for specific indications.

Phase 2 trials are sometimes denoted by companies as Phase 2a or Phase 2b trials. Phase 2a trials typically represent the first human clinical trial of a drug candidate in a smaller patient population and are designed to provide earlier information on drug safety and efficacy. Phase 2b trials typically involve larger numbers of patients or longer durations of therapy and may involve comparison with placebo, standard treatments or other active comparators.

Phase 3 trials usually further evaluate clinical efficacy and test further for safety in an expanded patient population. Phase 3 trials usually involve comparison with placebo, standard treatments or other active comparators. These trials are intended to establish the overall risk-benefit profile of the product and provide an adequate basis for physician labeling. Phase 3 trials are usually larger, more time consuming, more complex and more costly than Phase 1 and Phase 2 trials.

Phase 1, Phase 2 and Phase 3 testing may not be completed successfully within any specified period, if at all. Furthermore, the FDA or we may suspend or terminate clinical trials at any time on various grounds, including a finding that the subjects or patients are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of research if the research is not being conducted in accordance with the IRB's requirements or if the research has been associated with unexpected serious harm to patients.

Assuming successful completion of the required clinical testing, the results of the preclinical studies and of the clinical trials, together with other detailed information, including information on the chemistry, manufacture and composition of the product, are submitted to the FDA in the form of an NDA requesting approval to market the product for one or more indications. In most cases, the NDA must be accompanied by a substantial user fee. The FDA will initially review the NDA for completeness before it accepts the NDA for filing. After the NDA submission is accepted for filing, the FDA reviews the NDA to determine, among other things, whether a product is safe and effective for its intended use and whether the product is being manufactured in accordance with cGMP to assure and preserve the product's identity, strength, quality and purity.

Under the Pediatric Research Equity Act of 2003, or PREA, NDAs or supplements to NDAs must contain data to assess the safety and effectiveness of the drug for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the drug is safe and effective. The FDA may grant deferrals for submission of data or full or partial waivers. Unless otherwise required by regulation, PREA does not apply to any drug for an indication for which orphan designation has been granted.

Before approving an NDA, the FDA will inspect the facility or the facilities at which the product is manufactured. The FDA will not approve the product unless cGMP compliance is satisfactory. If the FDA determines the application, manufacturing process or manufacturing facilities are not acceptable, it will outline the deficiencies in the submission and often will request additional testing or information. Notwithstanding the submission of any requested additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval.

The testing and approval process requires substantial time, effort and financial resources, and each may take several years to complete. Data obtained from clinical activities are not always conclusive and may be susceptible to varying interpretations, which could delay, limit or prevent regulatory approval. The FDA may not grant approval on a timely basis, or at all. We may encounter difficulties or unanticipated costs in our efforts to secure necessary governmental approvals, which could delay or preclude us from marketing our products. The FDA may limit the indications for use or place other conditions on any approvals that could restrict the commercial application of the products. After approval, some types of changes to the approved product, such as adding new indications, manufacturing changes and additional labeling claims, are subject to further testing requirements and FDA review and approval.

Post-Approval Requirements

After regulatory approval of a product is obtained, we are required to comply with a number of post-approval requirements. For example, as a condition of approval of an NDA, the FDA may require post marketing testing and surveillance to monitor the product's safety or efficacy. In addition, holders of an approved NDA are required to report certain adverse reactions and production problems to the FDA, to provide updated safety and efficacy information and to comply with requirements concerning advertising and promotional labeling for their products. Also, quality control and manufacturing procedures must continue to conform to cGMP after approval. The FDA periodically inspects manufacturing facilities to assess compliance with cGMP, which imposes certain procedural, substantive and recordkeeping requirements. Accordingly,

manufacturers must continue to expend time, money and effort in the area of production and quality control to maintain compliance with cGMP and other aspects of regulatory compliance.

We rely, and expect to continue to rely, on third parties for the production of clinical and commercial quantities of our product candidates. Future FDA inspections may identify compliance issues at our facilities or at the facilities of our contract manufacturers that may disrupt production or distribution, or require substantial resources to correct. In addition, discovery of problems with a product or the failure to comply with applicable requirements may result in restrictions on a product, manufacturer or holder of an approved NDA, including withdrawal or recall of the product from the market or other voluntary, FDA-initiated or judicial action that could delay or prohibit further marketing. Newly discovered or developed safety or effectiveness data may require changes to a product's approved labeling, including the addition of new warnings and contraindications. Also, new government requirements, including those resulting from new legislation, may be established that could delay or prevent regulatory approval of our products under development.

Orphan Drug Designation

We have received an orphan drug designation from the FDA for our product candidate PTC124 for the treatment of cystic fibrosis and Duchenne muscular dystrophy resulting from a nonsense mutation. The FDA may grant orphan drug designation to drugs intended to treat a "rare disease or condition" that affects fewer than 200,000 individuals in the United States, or more than 200,000 individuals in the United States and for which there is no reasonable expectation that the cost of developing and making available in the United States a drug for this type of disease or condition will be recovered from sales in the United States for that drug. Orphan drug designation must be requested before submitting an application for marketing approval. Orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory review and approval process. Orphan drug designation can provide opportunities for grant funding towards clinical trial costs, tax advantages and FDA user-fee benefits. In addition, if a product which has an orphan drug designation subsequently receives the first FDA approval for the indication for which it has such designation, the product is entitled to orphan drug exclusivity, which means the FDA may not approve any other application to market the same drug for the same indication for a period of seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan exclusivity. Competitors may receive approval of different drugs or biologics for the indications for which the orphan product has exclusivity.

Fast Track Designation

We have obtained fast track designation from the FDA for our product candidate PTC124 for the treatment of cystic fibrosis and Duchenne muscular dystrophy caused by nonsense mutations. The FDA's fast track programs, one of which is fast track designation, are designed to facilitate the development and review of new drugs that are intended to treat serious or life threatening conditions and that demonstrate the potential to address unmet medical needs for the conditions. Fast track designation applies to a combination of the product and the specific indication for which it is being studied. Thus, it is the development program for a specific drug for a specific indication that receives fast track designation. The sponsor of a product designated as being in a fast track drug development program may engage in close early communication with the FDA including through timely meetings and feedback on clinical trials. Products in fast track drug development programs also may receive priority review or accelerated approval and sponsors may be able to submit portions of an application before the complete application is submitted. The FDA may notify a sponsor that its program is no longer classified as a fast track development program if the fast track designation is no longer supported by emerging data or the designated drug development program is no longer being pursued.

Regulation Outside the United States

In addition to regulations in the United States, we will be subject to a variety of regulations in other jurisdictions governing clinical trials and commercial sales and distribution of our products. Whether or not we obtain FDA approval for a product, we must obtain approval of a product by the comparable regulatory authorities of countries outside the United States before we can commence clinical trials or marketing of the

product in those countries. The approval process varies from country to country, and the time may be longer or shorter than that required for FDA approval. The requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary greatly from country to country.

We have obtained an orphan medicinal product designation from the Committee for Orphan Medicinal Products of the EMEA for our product candidate PTC124 for the treatment of cystic fibrosis and Duchenne muscular dystrophy. The EMEA grants orphan drug designation to promote the development of products that may offer therapeutic benefits for life-threatening or chronically debilitating conditions affecting not more than five in 10,000 people in the European Union. In addition, orphan drug designation can be granted if the drug is intended for a life threatening, seriously debilitating or serious and chronic condition in the European Union and that without incentives it is unlikely that sales of the drug in the European Union would be sufficient to justify developing the drug. Orphan drug designation is only available if there is no other satisfactory method approved in the European Union of diagnosing, preventing or treating the condition, or if such a method exists, the proposed orphan drug will be of significant benefit to patients. Orphan drug designation provides opportunities for free protocol assistance, fee reductions for access to the centralized regulatory procedures before and during the first year after marketing authorization and 10 years of market exclusivity following drug approval. Fee reductions are not limited to the first year after authorization for small and medium enterprises. The exclusivity period may be reduced to six years if the designation criteria are no longer met, including where it is shown that the product is sufficiently profitable not to justify maintenance of market exclusivity.

To obtain regulatory approval of a drug under European Union regulatory systems, we may submit marketing authorizations either under a centralized or decentralized procedure. The centralized procedure, which is compulsory for medicines produced by certain biotechnological processes and optional for those which are highly innovative, provides for the grant of a single marketing authorization that is valid for all European Union member states. All marketing authorizations for products designated as orphan drugs must be granted in accordance with the centralized procedure. The decentralized procedure provides for approval by one or more other, or concerned, member states of an assessment of an application performed by one member state, known as the reference member state. Under this procedure, an applicant submits an application, or dossier, and related materials including a draft summary of product characteristics, and draft labeling and package leaflet, to the reference member state and concerned member states. The reference member state prepares a draft assessment and drafts of the related materials within 120 days after receipt of a valid application. Within 90 days of receiving the reference member state’s assessment report, each concerned member state must decide whether to approve the assessment report and related materials. If a member state cannot approve the assessment report and related materials on the grounds of potential serious risk to the public health, the disputed points may eventually be referred to the European Commission, whose decision is binding on all member states.

Pharmaceutical Pricing and Reimbursement

In the United States and markets in other countries, sales of any products for which we receive regulatory approval for commercial sale will depend in part on the availability of reimbursement from third-party payors. Third-party payors include government health administrative authorities, managed care providers, private health insurers and other organizations. These third-party payors are increasingly challenging the price and examining the cost-effectiveness of medical products and services. In addition, significant uncertainty exists as to the reimbursement status of newly approved healthcare product candidates. We may need to conduct expensive pharmacoeconomic studies in order to demonstrate the cost-effectiveness of our products. Our product candidates may not be considered cost-effective. Adequate third-party reimbursement may not be available to enable us to maintain price levels sufficient to realize an appropriate return on our investment in product development.

In 2003, the United States government enacted legislation providing a partial prescription drug benefit for Medicare recipients, beginning in 2006. Government payment for some of the costs of prescription drugs may increase demand for any products for which we receive marketing approval. However, to obtain payments under this program, we would be required to sell products to Medicare recipients through drug procurement

organizations operating pursuant to this legislation. These organizations would negotiate prices for our products, which are likely to be lower than we might otherwise obtain. Federal, state and local governments in the United States continue to consider legislation to limit the growth of healthcare costs, including the cost of prescription drugs. Future legislation could limit payments for pharmaceuticals such as the drug candidates that we are developing.

The marketability of any products for which we receive regulatory approval for commercial sale may suffer if the government and third-party payors fail to provide adequate coverage and reimbursement. In addition, an increasing emphasis on managed care in the United States has increased and will continue to increase the pressure on pharmaceutical pricing.

Scientific Advisory Board

Our scientific advisory board consists of scientific and clinical advisors who are leading experts in the fields of post-transcriptional regulation and chemistry, preclinical studies, drug manufacturing or clinical trials. Our scientific advisory board consults with us regularly on matters relating to:

- our research and development programs;
- the design and implementation of our clinical trials;
- market opportunities from a clinical perspective;
- new technologies relevant to our research and development programs; and
- scientific and technical issues relevant to our business.

Our current scientific advisory board members are:

Name	Professional Affiliation
Allan Jacobson, Ph.D.	Chairman of the Department of Molecular Genetics and Microbiology, University of Massachusetts Medical School
Eric N. Jacobsen, Ph.D.	Professor, Department of Chemistry and Chemical Biology, Harvard University
Paul A. Marks, M.D.	President Emeritus and Head, Developmental Cell Biology Laboratory, Memorial Sloan-Kettering Cancer Center
Joseph Puglisi, Ph.D.	Professor and Chair, Department of Structural Biology and Director of the Stanford Magnetic Resonance Laboratory, Stanford University School of Medicine
Robert Schneider, Ph.D.	Professor, Department of Microbiology, Program in Microbiology, Cellular and Molecular Biology, Molecular Oncology and Immunology, and co-director of translational cancer research and breast cancer research programs, New York University School of Medicine
H. Lee Sweeney, Ph.D.	Professor and Chairman of Physiology, University of Pennsylvania School of Medicine
Marvin Wickens, Ph.D.	Professor of Biochemistry, University of Wisconsin-Madison; former President of the RNA Society

Employees

As of March 15, 2006, we had 91 full-time employees, including a total of 42 employees with M.D. or Ph.D. degrees. Of our workforce, 62 employees are engaged in research and development. None of our employees is represented by labor unions or covered by collective bargaining agreements. We consider our relationship with our employees to be good.

Properties

Our principal facilities consist of approximately 42,000 square feet of research and office space located at 100 and 200 Corporate Court, Middlesex Business Center, South Plainfield, New Jersey that we occupy under a lease that expires in 2009. We have an option to renew this lease for an additional five years.

Legal Proceedings

We are not currently a party to any material legal proceedings.

MANAGEMENT

Our executive officers and directors and their respective ages and positions as of March 15, 2006 are as follows:

Name	Age	Position
Stuart W. Peltz, Ph.D.	46	President and Chief Executive Officer and Director
William D. Ju, M.D.	49	Chief Operating Officer
Langdon Miller, M.D.	52	Chief Medical Officer
William Baird, III	34	Chief Financial Officer
John Babiak, Ph.D.	49	Senior Vice President, Drug Discovery Technologies
Mark E. Boulding	45	Senior Vice President and General Counsel
Michael Schmertzler	54	Chairman of the Board of Directors
Harvey Berger, M.D.	55	Director
Axel Bolte	34	Director
Søren Carlsen, Ph.D.	53	Director
Carl Goldfischer, M.D.	47	Director
Allan Jacobson, Ph.D.	60	Director
Michael Kranda	52	Director
David P. Southwell	45	Director

(1) Member of the Audit Committee.

(2) Member of the Compensation Committee.

(3) Member of the Nominating and Corporate Governance Committee.

Stuart W. Peltz, Ph.D. is a co-founder of our company and has been our President and Chief Executive Officer and a member of our board of directors since our inception in 1998. Prior to founding PTC, Dr. Peltz was a Professor in the Department of Molecular Genetics & Microbiology at the University of Medicine and Dentistry of New Jersey. Dr. Peltz has published over 80 publications in the area of post-transcriptional control processes. Dr. Peltz received his Ph.D. from the McArdle Laboratory for Cancer Research at the University of Wisconsin.

William D. Ju, M.D. has been our Chief Operating Officer since October 2003. From July 2001 to September 2003, Dr. Ju was the Vice President, Research and Development and Project Leadership Oncology of Pharmacia Corporation, a pharmaceutical company. From May 1994 to June 2001, Dr. Ju held executive positions at Merck Research Laboratories in clinical pharmacology, clinical research, regulatory affairs and project planning in numerous therapeutic areas. From May 1992 to April 1994, Dr. Ju was a clinical leader developing new chemical entities and supporting marketed compounds at Hoffmann-La Roche. From July 1988 to April 1992, Dr. Ju was a senior staff fellow in basic oncology research at the National Cancer Institute. Dr. Ju received his M.D. degree from the University of Pennsylvania School of Medicine, where he completed his residency and chief residency training.

Langdon Miller, M.D. has been our Chief Medical Officer since July 2003. From 1995 until July 2003, Dr. Miller served in various positions in oncology clinical development, including as Vice President of Global Clinical Research, Oncology, at Pharmacia Corporation. From 1989 to 1995, Dr. Miller served as a Senior Investigator at the National Cancer Institute. Dr. Miller received his M.D. degree from Northwestern University Medical School. He completed an internal medicine residency at the University of Minnesota and a medical oncology fellowship at Stanford University.

William Baird, III has been our Chief Financial Officer since April 2005. From February 2004 until April 2005, Mr. Baird was our Vice President of Finance and Strategic Planning. From January 2002 until February

2004, Mr. Baird was our Senior Director of Finance and Strategic Planning. From August 1999 to January 2002, Mr. Baird worked at L.E.K. Consulting, a strategy consulting firm, most recently as an engagement manager. Mr. Baird received an M.B.A. in finance from The Wharton Business School and a B.S. from Georgetown University.

John Babiak, Ph.D. has been our Senior Vice President of Drug Discovery Technologies since September 2001. From March 1999 to September 2001, Dr. Babiak was Vice President of Technology at Pharmacopeia, a biopharmaceutical company. From January 1993 to March 1999, Dr. Babiak was Director of Robotics and High Throughput Screening at Wyeth-Ayerst Research, the pharmaceutical research unit of American Home Products Corporation, a pharmaceutical and health care products company. Dr. Babiak received his S.B. in physics from the Massachusetts Institute of Technology and his Ph.D. in biophysics from the University of California at Berkeley.

Mark E. Boulding has been our Senior Vice President and General Counsel and Secretary since April 2002. From May 2000 to April 2002, Mr. Boulding was the General Counsel, Executive Vice President and Secretary of MedicaLogic/ Medscape, Inc., a provider of digital health records software and healthcare information. From June 1999 to May 2000, Mr. Boulding was the General Counsel, Vice President and Secretary of Medscape, Inc., a provider of online health information and education. Prior to joining Medscape, Mr. Boulding was a partner in two Washington, D.C.-based law firms. Mr. Boulding received his J.D. from the University of Michigan and his B.A. from Yale College.

Michael Schmertzler has served as a member of our board of directors since August 2001 and as our Chairman of the Board since November 2004. Since 2001, Mr. Schmertzler has been a Managing Director of Aries Advisors, LLC, the sub-advisor to Credit Suisse First Boston Equity Partners, L.P., a private equity fund, and the Chair of the investment committee. From 1997 to 2001, Mr. Schmertzler was Co-Head of United States and Canadian Private Equity at Credit Suisse First Boston, an investment banking company. Prior to 1997, Mr. Schmertzler held various management positions with Morgan Stanley and its affiliates, including President of Morgan Stanley Leveraged Capital Funds, and was Managing Director and Chief Financial Officer of Lehman Brothers Kuhn Loeb, an investment banking firm. Mr. Schmertzler is also a director of Cytokinetics, Incorporated and, since 1978, has been an Adjunct Professor at Yale University. Mr. Schmertzler received a B.A. from Yale College in Molecular Biophysics and Biochemistry, History and City Planning and an M.B.A. from the Harvard Business School.

Harvey Berger, M.D. has served as a member of our board of directors since September 2000. Dr. Berger is the principal founder and a director of ARIAD Pharmaceuticals, Inc., a biotechnology company. He has served as ARIAD's Chairman of the Board and Chief Executive Officer since April 1991, and served as ARIAD's President from April 1991 to September 2003 and from December 2004 to present. From 1986 to 1991, Dr. Berger held a series of senior management positions at Centocor, Inc., a biotechnology company, including Executive Vice President and President, Research and Development Division. He also has held senior academic and administrative appointments at Emory University, Yale University and the University of Pennsylvania and was an Established Investigator of the American Heart Association, Inc. Dr. Berger received his A.B. degree in Biology from Colgate University and his M.D. degree from Yale University School of Medicine and did further medical and research training at the Massachusetts General Hospital and Yale-New Haven Hospital.

Axel Bolte has served as a member of our board of directors since December 2003. Since March 2003, Mr. Bolte has served as investment advisor at HBM Partners AG, a provider of investment advisory services in the life sciences industry. From March 2001 to February 2003, Mr. Bolte was an investment manager of NMT New Medical Technologies AG, a Swiss venture capital company focused on life sciences. Prior to joining NMT New Medical Technologies AG, Mr. Bolte served as a scientist at Serono SA, a biotechnology company. He currently serves on the board of directors of Newron Pharmaceuticals, SpA and Nabriva Therapeutics Forschungs GmbH, two privately held biotechnology companies. Mr. Bolte received his M.B.A from the University of St. Gallen, Switzerland and his degree in biochemistry at the Swiss Federal Institute of Technology, Zurich, Switzerland.

Søren Carlsen, Ph.D. has served as a member of our board of directors since August 2001. Dr. Carlsen has been managing partner of Novo Ventures, the venture capital division of Novo A/ S, an investment company in the life sciences industry, since May 2000. From August 1979 until May 2000, Dr. Carlsen served in various positions with Novo Nordisk A/ S, a pharmaceutical products company, including as Corporate Vice President and Chief Science Officer since 1994. Dr. Carlsen currently serves on the board of directors of various private biotechnology companies and is the chairman of the Association of Biotechnology Industries in Denmark. Dr. Carlsen received his M.Sc. in Biochemistry from the Technical University of Denmark.

Carl Goldfischer, M.D. has served as a member of our board of directors since March 2002. Since July 2001, Dr. Goldfischer has been a Managing Director of Bay City Capital LLC, a merchant bank and management advisory firm which invests in life sciences companies, and serves on Bay City Capital's board of directors and executive committee. Dr. Goldfischer joined Bay City Capital as an Executive-in-Residence in January 2001. From May 1996 to July 2000 Dr. Goldfischer was the Vice President, Finance and Chief Financial Officer of ImClone Systems Incorporated, a biopharmaceutical company. Dr. Goldfischer is also a director of Diametrics Medical, Inc. and NeoRx Corporation and a member of the board of trustees of Sarah Lawrence College. Dr. Goldfischer received his M.D. degree from Albert Einstein College of Medicine in 1988, and served as a resident in radiation oncology at Montefiore Hospital of the Albert Einstein College of Medicine until 1991.

Allan Jacobson, Ph.D. is a co-founder of our company and has served as a member of our board of directors since our inception in 1998. Dr. Jacobson has been the Chairman of the Department of Molecular Genetics and Microbiology at the University of Massachusetts Medical School since 1994. In 1992, Dr Jacobson co-founded Applied bioTechnology, Inc., a biotechnology company, and served as its chairman until its sale in 1991. From 1987 to 1990, Dr. Jacobson served as special limited partner at Euclid Partners, a venture capital firm. Dr. Jacobson received his Ph.D. from Brandeis University in 1971.

Michael Kranda has been a member of our board of directors since December 2003. Since September 2003, Mr. Kranda has been director of biotechnology venture investments at Vulcan Capital, the private investment group of Vulcan Inc. From July 1996 to July 2002, Mr. Kranda served as chief executive officer at Oxford GlycoSciences, a biotechnology company. Prior to joining Oxford GlycoSciences, Mr. Kranda was President and Chief Operating Officer at Immunex Corporation (now Amgen), a biopharmaceutical company. Mr. Kranda also serves on the board of Cumbre Pharmaceuticals, BiPar Sciences, Nura, Inc., Raven Biotechnologies and the Washington State Biotechnology Business Association. Mr. Kranda received his B.A. and M.B.A from the University of Washington School of Business.

David P. Southwell has been a member of our board of directors since December 2005. Since October 1995, Mr. Southwell has been the Executive Vice President and Chief Financial Officer of Sepracor Inc., a pharmaceutical company. From July 1994 until October 1995 Mr. Southwell served as Sepracor's Senior Vice President and Chief Financial Officer. From August 1988 until July 1994, Mr. Southwell was associated with Lehman Brothers Inc., a securities firm, in various positions with the investment banking division, most recently in the position of Vice President. Mr. Southwell is a director of BioSphere Medical, Inc.

Board Composition and Election of Directors

Our board of directors is currently authorized to have, and we currently have, nine members. In accordance with the terms of our certificate of incorporation and bylaws that will become effective upon the closing of this offering, our board of directors will be divided into three classes, class I, class II and class III, with each class serving staggered three-year terms. Upon the closing of this offering, the members of the classes will be divided as follows:

- the class I directors will be , and , and their term will expire at the annual meeting of stockholders to be held in 2007;
- the class II directors will be , and , and their term will expire at the annual meeting of stockholders to be held in 2008; and

- the class III directors will be and and their term will expire at the annual meeting of stockholders to be held in 2009.

Our directors may be removed only for cause by the affirmative vote of the holders of 75% or more of our voting stock. Upon the expiration of the term of a class of directors, directors in that class will be eligible to be elected for a new three-year term at the annual meeting of stockholders in the year in which their term expires.

of our current directors, , and , are independent directors, as defined by the applicable rules of The Nasdaq National Market. We refer to these directors as our "independent directors." Upon the closing of this offering each of these independent directors will serve on one or more of our audit committee, compensation committee and nominating and corporate governance committees. There are no family relationships among any of our directors or executive officers.

Board Committees

Our board of directors has established an audit committee, a compensation committee and a nominating and corporate governance committee. The composition of each committee will be effective upon the closing of this offering.

Audit Committee

The members of our audit committee are , and . Our audit committee assists our board of directors in its oversight of the integrity of our financial statements, our independent registered public accounting firm's qualifications and independence and the performance of our independent registered public accounting firm.

Upon the closing of this offering, our audit committee's responsibilities will include:

- appointing, approving the compensation of, and assessing the independence of our independent registered public accounting firm;
- overseeing the work of our independent registered public accounting firm, including through the receipt and consideration of certain reports from our independent registered public accounting firm;
- reviewing and discussing with management and the independent registered public accounting firm our annual and quarterly financial statements and related disclosures;
- monitoring our internal control over financial reporting, disclosure controls and procedures and code of business conduct and ethics;
- establishing policies regarding hiring employees from our independent registered public accounting firm and procedures for the receipt and retention of accounting related complaints and concerns;
- meeting independently with our independent registered public accounting firm and management; and
- preparing the audit committee report required by Securities and Exchange Commission rules.

All audit and non-audit services to be provided to us by our independent registered public accounting firm must be approved in advance by our audit committee.

is our audit committee financial expert and the chair of the committee. We believe that the composition of our audit committee meets the requirements for independence under the current Nasdaq National Market and Securities and Exchange Commission rules and regulations.

Compensation Committee

Messrs. , and are the members of our compensation committee. is the chair of the committee. Our compensation committee assists our board of directors in the discharge of its responsibilities relating to the compensation of our executive officers.

Our compensation committee's responsibilities include:

- reviewing and approving, or making recommendations to our board of directors with respect to, the compensation of our chief executive officer;
- overseeing the evaluation of performance of our senior executives;
- overseeing and administering, and making recommendations to our board of directors with respect to, our cash and equity incentive plans; and
- reviewing and making recommendations to the board of directors with respect to director compensation.

Nominating and Corporate Governance Committee

Messrs. , and are the members of our nominating and corporate governance committee. chairs the committee.

Our nominating and corporate governance committee's responsibilities include:

- recommending to our board of directors the persons to be nominated for election as directors and to each of the board of director's committees;
- overseeing an annual evaluation of management succession planning;
- developing and recommending to our board of directors corporate governance principles; and
- overseeing a periodic self-evaluation of our board of directors.

Compensation Committee Interlocks and Insider Participation

None of our executive officers serves as a member of the board of directors or compensation committee, or other committee serving an equivalent function, of any entity that has one or more of its executive officers serving as a member of our board of directors or our compensation committee. None of the members of our compensation committee has ever been our employee.

Director Compensation

In March 2005, our board of directors approved a compensation program pursuant to which we will pay each of our non-employee directors an annual retainer of 5,500 stock options for service as a director. In addition, under this program, each independent director, upon appointment to the Board of Directors, will receive a one time grant of 15,000 stock options. We will reimburse each non-employee member of our board of directors for out-of-pocket expenses incurred in connection with attending our board and committee meetings.

Executive Compensation

The following summary compensation table sets forth the total compensation paid or accrued for the year ended December 31, 2005 to our chief executive officer and our four other most highly compensated executive officers who were serving as executive officers on December 31, 2005 and whose total annual compensation

exceeded $100,000 for the year ended December 31, 2005. We refer to these officers as our “named executive officers.”

Summary Compensation Table

Name and Principal Position	Year	Annual Compensation		Long-Term Compensation	All Other Compensation
		Salary	Bonus	Shares Underlying Options (#)	
Stuart W. Peltz, Ph.D. President, Chief Executive Officer and Director	2005	$ 346,500	$ 83,716(1)	711,720(2)	—
William D. Ju, M.D. Chief Operating Officer	2005	$ 277,160	$ 50,107(3)	84,814(4)	—
Langdon Miller, M.D. Chief Medical Officer	2005	$ 331,800	$ 80,327(5)	131,040(6)	$ 50,890(7)
John Babiak, Ph.D. Senior Vice President, Drug Discovery Technologies	2005	$ 240,240	$ 43,304(8)	95,090(9)	—
Mark E. Boulding Senior Vice President and General Counsel	2005	$ 250,120	$ 45,084(10)	97,290(11)	—

(1) Includes $42,099 that was paid in March 2006 as part of Dr. Peltz’s 2005 bonus.
(2) Includes options to purchase 16,410 shares of common stock granted in March 2006 as part of Dr. Peltz’s 2005 bonus.
(3) Includes $24,944 that was paid in March 2006 as part of Dr. Ju’s 2005 bonus.
(4) Includes options to purchase 12,150 shares of common stock granted in March 2006 as part of Dr. Ju’s 2005 bonus.
(5) Includes $40,313 that was paid in March 2006 as part of Dr. Miller’s 2005 bonus.
(6) Includes options to purchase 16,410 shares of common stock granted in March 2006 as part of Dr. Miller’s 2005 bonus.
(7) Represents the principal amount of and applicable interest on a loan made by us to Dr. Miller which was forgiven in 2005.
(8) Includes $21,621 that was paid in March 2006 as part of Dr. Babiak’s 2005 bonus.
(9) Includes options to purchase 12,150 shares of common stock granted in March 2006 as part of Dr. Babiak’s 2005 bonus.
(10) Includes $22,510 that was paid in March 2006 as part of Mr. Boulding’s 2005 bonus.
(11) Includes options to purchase 12,150 shares of common stock granted in March 2006 as part of Mr. Boulding’s 2005 bonus.

Stock Option Grants

The following table contains information regarding grants of stock options to purchase shares of our common stock to our named executive officers during the year ended December 31, 2005.

Amounts in the following table represent potential realizable gains that could be achieved for the options if exercised at the end of the option term. The 5% and 10% assumed annual rates of compounded stock price appreciation are calculated based on the requirements of the Securities and Exchange Commission and do not represent an estimate or projection of our future common stock prices. These amounts represent certain assumed rates of appreciation in the value of our common stock from the fair market value on the date of grant. Actual gains, if any, on stock option exercises depend on the future performance of the common stock and overall stock market conditions. The amounts reflected in the following table may not necessarily be achieved.

Option Grants in Last Fiscal Year

Name	Number of Securities Underlying Options Granted (#)	Percentage of Total Options Granted to Employees in Fiscal Year	Exercise Price Per Share	Expiration Date	Potential Realizable Value of Assumed Annual Rates of Stock Price Appreciation for Option Term(1)	
					5% ($)	10% ($)
Stuart W. Peltz, Ph.D.	17,320	1%	$ 1.89	5/24/2015		
	677,990	32	1.89	11/5/2014		
William D. Ju, M.D.	12,830	1	1.89	5/24/2015		
	4	*	1.89	6/14/2014		
	59,830	3	1.89	11/5/2014		
Langdon Miller, M.D.	17,320	1	1.89	5/24/2015		
	97,310	5	1.89	11/5/2014		
John Babiak, Ph.D.	12,830	1	1.89	5/24/2015		
	70,110	3	1.89	11/5/2014		
Mark E. Boulding	12,830	1	1.89	5/24/2015		
	72,310	3	1.89	11/5/2014		

* Less than one percent.

(1) The dollar amounts under these columns are the result of calculations at rates set by the Securities and Exchange Commission and, therefore, are not intended to forecast possible future appreciation, if any, in the price of the underlying common stock. The potential realizable values are calculated using the assumed initial public offering price of $ per share and assuming that the market price appreciates from this price at the indicated rate for the entire term of each option and that each option is exercised and sold on the last day of its term at the assumed appreciated price.

Option Exercises and Year-End Option Values

The following table provides information about the number of shares issued upon option exercises by our named executive officers during the year ended December 31, 2005, and the value realized by our named executive officers. The table also provides information about the number and value of shares underlying options held by our named executive officers at December 31, 2005. There was no public trading market for our common stock as of December 31, 2005. Accordingly, as permitted by the rules of the Securities and Exchange Commission, we have calculated the value of unexercised in-the-money options at fiscal year-end assuming that the fair market value of our common stock as of December 31, 2005 was equal to the assumed initial public offering price of $ per share, less the aggregate exercise price.

Aggregated Option Exercises in Last Fiscal Year and Fiscal Year-End Option Values

Name	Shares Acquired on Exercise (#)	Value Realized	Number of Securities Underlying Unexercised Options at December 31, 2005		Value of Unexercised In-the-Money Options at December 31, 2005	
			Exercisable	Unexercisable	Exercisable	Unexercisable
Stuart W. Peltz, Ph.D.	—	—	592,756	102,571		
William D. Ju, M.D.	—	—	34,338	38,327		
Langdon Miller, M.D.	—	—	55,773	58,862		
John Babiak, Ph.D.	—	—	47,122	35,822		
Mark E. Boulding	—	—	48,661	36,483		

Employment Agreements

Stuart W. Peltz, Ph.D. Pursuant to an employment agreement effective August 1, 2002, we employ Dr. Peltz as our president and chief executive officer. Under this agreement, Dr. Peltz is entitled to an annual base salary of at least $280,000. Adjustments to his base salary are in the discretion of our board of directors. We have agreed not to reduce his base salary below $280,000 unless the reduction is in connection with a general reduction in compensation of our senior executives. The agreement provides that Dr. Peltz is eligible to participate in any executive bonus plans established by the board from time to time.

The agreement will continue for successive one-year terms until either Dr. Peltz or we provide written notice of termination to the other in accordance with the terms of the agreement. Upon the termination of his employment by us other than for cause, or by him for good reason, including a change in our control where the successor company does not assume our obligations to him, Dr. Peltz has the right to receive a severance payment in an amount equal to 18 times his monthly base salary then in effect, payable in accordance with our regular payroll schedule. In addition, Dr. Peltz is entitled to the continuation of benefits for a comparable period as a result of any such termination. Dr. Peltz is not entitled to severance payments if we terminate him for cause or if he resigns without good reason. Dr. Peltz is bound by non-disclosure, inventions and non-competition covenants that prohibit him from competing with us during the term of his employment and for one year after termination of employment.

Other Named Executive Officers. We entered into an employment agreement with Langdon Miller, M.D. in December 2004, under which he is employed as our chief medical officer. Under this agreement, Dr. Miller is entitled to an annual base salary of at least $331,800. In addition, we agreed to provide Dr. Miller with a loan of $50,000 per year during a three-year period beginning on his start date, with the remaining loan, funded on the first and second anniversaries of his start date. We agreed to forgive each loan on the anniversary of the date on which it was made as long as Dr. Miller remained an employee on that date.

Under our employment agreement with William D. Ju, M.D., he is employed as our chief operating officer, at an annual base salary of at least $277,160. Under our employment agreement with John

Babiak, Ph.D., he is employed as our senior vice president, discovery technologies, at an annual base salary of at least $240,240. Under our employment agreement with Mark E. Boulding, he is employed as our senior vice president and general counsel, at an annual base salary of at least $250,120.

Our executive employment agreements with Drs. Ju, Miller and Babiak and Mr. Boulding each provide that any increase to the executive's base salary is in the sole discretion of the compensation committee of our board of directors. In addition to their base salary, we have agreed to pay each executive a discretionary bonus annually if, in the judgment of the compensation committee, the qualifying criteria established by the committee for payment of a bonus have been met. Pursuant to the agreements, each executive is entitled also to such other benefits as we generally provide our senior executives. In addition, one half of any outstanding unvested stock options granted to each executive will vest immediately upon a change in our control or other specified corporate change, and the remainder will vest proportionately according to their terms.

Each executive employment agreement has an initial term that expires December 15, 2007, and will continue thereafter for successive one-year periods until we provide the executive with written notice in accordance with its terms. Should we or our successor terminate an executive's employment other than for good cause within two years following certain corporate changes, the executive has the right to receive a lump-sum severance payment in an amount equal to 12 times his monthly base salary in effect as of the date of the corporate change or as of the date of termination, whichever is greater, and any outstanding unvested stock options held by him will vest. Any reduction in an executive's base salary or significant reduction in his duties following such a corporate change entitles the executive to immediate vesting of outstanding stock options and severance payment. Each executive is not otherwise entitled to accelerated vesting or severance payment under the agreements in cases where no such corporate change occurs, where we terminate his employment for good cause or where he resigns. Each executive is bound by non-disclosure, inventions, non-solicitation and non-competition covenants that prohibit him from competing with us during the term of his employment and for 12 months after termination of employment.

Stock Option and Other Compensation Plans

1998 Employee, Director and Consultant Stock Option Plan

Our 1998 employee, director and consultant stock option plan, as amended and restated from time to time, was adopted by our board of directors and approved by our stockholders. The plan provides for the grant of incentive stock options and non-statutory stock options. A maximum of 2,426,008 shares of common stock are authorized for issuance under our 1998 stock option plan.

In accordance with the terms of the 1998 stock option plan, our board of directors has authorized our compensation committee to administer the plan.

Under our 1998 stock option plan, if a merger or other reorganization event occurs, our board of directors, in its discretion, shall either:

- provide that the outstanding options under the 1998 stock option plan be assumed or substituted by the successor corporation;
- upon written notice to optionees, provide that all unexercised options will terminate, unless exercised, immediately prior to the consummation of such transaction; or
- provide that all or any of our outstanding options will terminate in exchange for a cash payment equal to their value.

As of March 15, 2006, there were options to purchase 2,340,715 shares of common stock outstanding under the 1998 stock option plan and options to purchase 11,828 shares of common stock had been exercised. After the effective date of the 2006 equity plan described below, we will grant no further stock options under the 1998 stock option plan.

2006 Equity and Long Term Incentive Plan

Our 2006 equity plan was adopted by our board of directors on , 2006 and approved by our stockholders on , 2006. The 2006 equity plan will become effective on the date that the registration statement of which this prospectus forms a part is declared effective. The 2006 equity plan provides for the grant of incentive stock options, non-statutory stock options, restricted stock awards and other stock unit awards. Upon effectiveness, shares of common stock will be reserved for issuance under the 2006 equity plan.

Our employees, officers, directors, consultants and advisors are eligible to receive awards under our 2006 equity plan. Incentive stock options may only be granted to our employees. The maximum number of shares of common stock with respect to which awards may be granted to any participant under the plan is per calendar year.

In accordance with the terms of the 2006 equity plan, our board of directors has authorized our compensation committee to administer the plan. Our compensation committee selects the recipients of awards and determines:

- the number of shares of common stock covered by options and the dates upon which the options become exercisable;
- the exercise price of options; provided, however, that the exercise price shall not be less than 100% of fair market value of the stock on the date of grant;
- the duration of options, provided that no option shall have a term in excess of 10 years;
- the method of payment of the exercise price; and
- the number of shares of common stock subject to any restricted stock or other stock-based awards and the terms and conditions of such awards, including conditions for repurchase, issue price and repurchase price.

If our board of directors delegates authority to an executive officer, the executive officer has the power to make awards to all of our employees, except to executive officers. Our board of directors will fix the terms of the awards to be granted by such executive officer, including the exercise price of such awards, and the maximum number of shares subject to awards that such executive officer may make.

If a merger or other reorganization event occurs, our board of directors shall provide that all of our outstanding options are to be assumed or substituted by the successor corporation. If the merger or reorganization event also constitutes a change in control event as defined under our 2006 equity plan, the assumed or substituted options will become immediately exercisable in full if on or prior to the 18-month anniversary of the reorganization event an option holder's employment with us or our succeeding corporation is terminated by the option holder for good reason or is terminated by us or the succeeding corporation without cause, each as defined in our 2006 equity plan. In the event the succeeding corporation does not agree to assume, or substitute for, outstanding options, then our board of directors shall provide that all unexercised options will become exercisable in full prior to the completion of the event and that these options will terminate immediately prior to the completion of the merger or other reorganization event if not previously exercised. Our board of directors may also provide for a cash out of the value of any outstanding options. In addition, upon the occurrence of a change in control event that does not also constitute a reorganization event under our 2006 equity plan, each option will continue to vest according to its original vesting schedule, except that an option will become immediately exercisable in full if on or prior to the 18-month anniversary of the reorganization event an option holder's employment with us or our succeeding corporation is terminated by the option holder for good reason or is terminated by us or our succeeding corporation without cause.

No award may be granted under the 2006 equity plan after , 2016, but the vesting and effectiveness of awards granted before that date may extend beyond that date. Our board of directors may amend, suspend or terminate the 2006 equity plan at any time, except that stockholder approval will be required for any revision that would materially increase the number of shares reserved for issuance, expand the

types of awards available under the plan, materially modify plan eligibility requirements, extend the term of the plan or materially modify the method of determining the exercise price of options granted under the plan, or otherwise as required to comply with applicable law or stock market requirements.

2006 Employee Stock Purchase Plan

On , 2006, our board of directors approved our 2006 employee stock purchase plan. The 2006 employee stock purchase plan, which was approved by stockholders in 2006, became effective on . The plan provides for the issuance of up to shares of our common stock to participating employees.

All of our employees, including directors who are employees, and all employees of any participating subsidiaries:

- whose customary employment is more than 20 hours per week for more than five months in a calendar year;
- who were employed by us for at least 90 days prior to enrolling, other than in connection with the initial plan period; and
- who are employed on the first day of a designated payroll deduction offering period

are eligible to participate in the 2006 employee stock purchase plan.

Employees who would immediately after the grant of an option under the 2006 employee stock purchase plan own 5% or more of the total combined voting power or value of our stock or the stock of any of our subsidiaries are not eligible to participate in the plan.

We will make one or more offerings to our employees to purchase stock under the 2006 employee stock purchase plan. Offerings will begin on each April 1 and October 1, except that our first offering will begin on the date on which trading of our common stock commences on the Nasdaq National Market in connection with this offering. Each offering commencement date, except the first offering, will begin a six-month period during which payroll deductions will be made and held for the purchase of our common stock at the end of the offering period. Our board of directors may, in its discretion, choose a different offering period for each subsequent offering.

On the first day of an offering period, we will grant to each eligible employee who has elected to participate in the 2006 employee stock purchase plan an option to purchase shares of our common stock as follows: the employee may authorize up to 10% of his or her compensation (as defined in the plan) to be deducted by us during the offering period. On the last day of the offering period, the employee is deemed to have exercised the option, at the option exercise price, to the extent of accumulated payroll deductions. Under the terms of the 2006 employee stock purchase plan, the option exercise price is an amount equal to 85% of the lower of the closing price of our common stock on the first day or the last day of the offering period. For purposes of the first offering period under the 2006 employee stock purchase plan, the closing price of our common stock on the first day of such period is deemed to equal the initial public offering price per share in this offering.

In no event may an employee be granted an option under the plan which permits his rights to purchase stock under the plan (or any other employee stock purchase plan of ours or our subsidiaries) to accrue at a rate which exceeds $25,000 of our common stock at fair market value for each calendar year in which the option is outstanding at any time.

An employee who is not a participant on the last day of the offering period is not entitled to exercise any option, and the employee’s accumulated payroll deductions will be refunded. An employee’s rights under the 2006 employee stock purchase plan terminate upon voluntary withdrawal from the purchase plan at any time, or when the employee ceases employment for any reason, except that upon termination of employment because of death, the balance in the employee’s account will be paid to the employee’s beneficiary.

Because participation in the 2006 employee stock purchase plan is voluntary, we cannot now determine the number of shares of our common stock to be purchased by any particular current executive officer, by all current executive officers as a group or by non-executive employees as a group.

Limitation of Liability and Indemnification of Officers and Directors

Our certificate of incorporation that will be in effect upon the closing of this offering limits the personal liability of directors for breach of fiduciary duty to the maximum extent permitted by the Delaware General Corporation Law. Our certificate of incorporation provides that no director will have personal liability to us or to our stockholders for monetary damages for breach of fiduciary duty or other duty as a director. However, these provisions do not eliminate or limit the liability of any of our directors:

- for any breach of their duty of loyalty to us or our stockholders;
- for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law;
- for voting or assenting to unlawful payments of dividends or other distributions; or
- for any transaction from which the director derived an improper personal benefit.

Any amendment to or repeal of these provisions will not eliminate or reduce the effect of these provisions in respect of any act or failure to act, or any cause of action, suit or claim that would accrue or arise prior to any amendment or repeal or adoption of an inconsistent provision. If the Delaware General Corporation Law is amended to provide for further limitations on the personal liability of directors of corporations, then the personal liability of our directors will be further limited to the greatest extent permitted by the Delaware General Corporation Law.

In addition, our certificate of incorporation provides that we must indemnify our directors and officers and we must advance expenses, including attorneys' fees, to our directors and officers in connection with legal proceedings, subject to very limited exceptions.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

Since January 1, 2003, we have engaged in the following transactions with our directors, executive officers and holders of more than 5% of our voting securities on an as converted to common stock basis, and affiliates of our directors, executive officers and holders of more than 5% of our voting securities. We believe that all of these transactions were on terms as favorable as could have been obtained from unrelated third parties.

Issuance of Series E and Series E-2 Convertible Preferred Stock

In December 2003 and in April and June 2004, we issued an aggregate of 125,740,607 shares of our Series E convertible preferred stock at a price of approximately $0.40 per share for total cash proceeds to us of approximately $50.0 million before transaction expenses. In September and October 2005, we issued an aggregate of 3,670,138 shares of our Series E-2 convertible preferred stock at a price of $7.26 per share for total cash proceeds to us of approximately $26.6 million before transaction expenses.

The following table sets forth the number of shares of Series E convertible preferred stock and Series E-2 convertible preferred stock sold to our 5% stockholders and directors and their affiliates in these financings. The shares of Series E convertible preferred stock referred to in the table will convert automatically into an aggregate of 5,466,386 shares of our common stock upon the closing of this offering. The shares of Series E-2 convertible preferred stock referred to in the table will convert automatically into an aggregate of 2,803,265 shares of our common stock upon the closing of this offering.

Name	Number of Shares of Series E Preferred Stock	Number of Shares of Series E-2 Preferred Stock
Entities affiliated with Credit Suisse(1)	35,699,539	890,854
HBM BioVentures (Cayman) Ltd.(2)	18,315,568	824,187
Vulcan Capital Venture Holdings Inc.(3)	16,708,349	330,650
Entities affiliated with Delphi Ventures(4)	13,493,914	275,482
Entities affiliated with Bay City Capital(5)	10,059,249	206,610
Novo A/S(6)	5,532,586	275,482
Total	99,806,205	2,803,265

(1) Includes 27,879,539 shares of Series E convertible preferred stock and 695,712 shares of Series E-2 convertible preferred stock issued to Credit Suisse First Boston Equity Partners, L.P.; 7,793,048 shares of Series E convertible preferred stock and 194,469 shares of Series E-2 convertible preferred stock issued to Credit Suisse First Boston Equity Partners (Bermuda), L.P.; and 26,952 shares of Series E convertible preferred stock and 673 shares of Series E-2 convertible preferred stock issued to Credit Suisse First Boston U.S. Executive Advisors, L.P. Mr. Schmertzler, one of our directors, is a Managing Director of Aries Advisors, LLC, an affiliate of Credit Suisse.

(2) Mr. Bolte, one of our directors, is an employee of HBM Partners AG. HBM Partners AG acts as an investment advisor to HBM BioVentures (Cayman) Ltd. HBM Partners (Cayman) Ltd. provides investment management services to HBM BioVentures (Cayman) Ltd. Neither HBM Partners AG nor Mr. Bolte have voting or investment power over the shares held by HBM BioVentures (Cayman) Ltd.

(3) Mr. Kranda, one of our directors, is director of biotechnology venture investments at Vulcan Inc.

(4) Includes 13,349,165 shares of Series E convertible preferred stock and 272,527 shares of Series E-2 convertible preferred stock issued to Delphi Ventures V, L.P.; and 144,749 shares of Series E convertible preferred stock and 2,955 shares of Series E-2 convertible preferred stock issued to Delphi BioInvestments V, L.P.

(5) Includes 9,637,670 shares of Series E convertible preferred stock and 197,952 shares of Series E-2 convertible preferred stock issued to The Bay City Capital Fund III, L.P.; and 421,579 shares of Series E convertible preferred stock and 8,658 shares of Series E-2 convertible preferred stock issued to The Bay

City Capital Fund III Co-Investment Fund, L.P. Dr. Goldfischer, one of our directors, is a Managing Director of Bay City Capital LLC.

(6) Dr. Carlsen, one of our directors, is managing partner of Novo Ventures, an affiliate of Novo A/S.

Certain Relationships

Registration Rights

Pursuant to an investor rights agreement among holders of our Series A, Series B, Series C, Series D, Series E and Series E-2 convertible preferred stock and us, we granted registration rights to all such holders. Entities affiliated with Credit Suisse, HBM BioVentures (Cayman) Ltd., Vulcan Capital Venture Holdings Inc., Delphi Ventures, Bay City Capital LLC, holders of 5% or more of our voting securities, and their affiliates are each a party to this investor rights agreement. See "Description of Capital Stock—Registration Rights."

Loan to Executive Officer

In connection with his initial offer of employment, we extended a series of interest-bearing loans in the aggregate principal amount of $150,000 to Dr. Langdon Miller, our Chief Medical Officer. As of December 31, 2005, in accordance with Dr. Miller's employment terms, we have forgiven an aggregate of $100,000 in principal amount of these loans. We forgave the final $50,000 loan to Dr. Miller in the first quarter of 2006.

Director Compensation

Please see "Management—Director Compensation" for a discussion of options granted and other compensation to our non-employee directors.

Executive Compensation and Employment Agreements

Please see "Management—Executive Compensation" and "—Stock Options" for additional information on compensation of our executive officers. Information regarding employment agreements with our executive officers is set forth under "Management—Employment Agreements."

PRINCIPAL STOCKHOLDERS

The following table sets forth information with respect to the beneficial ownership of our common stock, as of March 15, 2006, by:

- each of our directors;
- each of our named executive officers;
- each person, or group of affiliated persons, who is known by us to beneficially own more than 5% of our common stock; and
- all of our directors and executive officers as a group.

The column entitled "Percentage of Shares Beneficially Owned— Before Offering" is based on a total of 13,516,611 shares of our common stock outstanding on March 15, 2006, assuming conversion of all outstanding shares of our preferred stock into common stock upon the closing of this offering. The column entitled "Percentage of Shares Beneficially Owned— After Offering" is based on shares of common stock to be outstanding after this offering, including the shares that we are selling in this offering, but not including any shares issuable upon exercise of warrants or options.

For purposes of the table below, we deem shares of common stock subject to options or warrants that are currently exercisable or exercisable within 60 days of March 15, 2006 to be outstanding and to be beneficially owned by the person holding the options or warrants for the purpose of computing the percentage ownership of that person but we do not treat them as outstanding for the purpose of computing the percentage ownership of any other person. Except as otherwise noted, the persons or entities in this table have sole voting and investing power with respect to all of the shares of common stock beneficially owned by them, subject to community property laws, where applicable. Except as otherwise set forth below, the street address of the beneficial owner is c/o PTC Therapeutics, Inc., 100 Corporate Court, South Plainfield, New Jersey 07080-2449.

Name and Address of Beneficial Owner	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned	
		Before Offering	After Offering
5% Stockholders			
Entities affiliated with Credit Suisse(1) Eleven Madison Avenue, 16th Floor New York, NY 10010	3,435,467	25.2%	
HBM BioVentures (Cayman) Ltd.(2) Centennial Towers, 3rd Floor 2454 West Bay Road Grand Cayman, Cayman Islands	2,017,840	14.9	
Entities affiliated with Vulcan Venture Holdings Inc.(3) 505 Fifth Avenue South, Suite 900 Seattle, WA 98104	1,904,527	14.1	
Entities affiliated with Delphi Ventures(4) 3000 Sand Hill Road, Building 1, Suite 135, Menlo Park, CA 94025	1,169,330	8.7	
Entities affiliated with the Bay City Capital Fund(5) 750 Battery Street, Suite 400 San Francisco, CA 94111	995,669	7.4	
Novo A/S(6) Krogshoejvej 41 2880 Bagsvaerd, Denmark	697,559	5.2	

Name and Address of Beneficial Owner	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned	
		Before Offering	After Offering
Executive Officers and Directors			
Stuart W. Peltz, Ph.D.(7)	624,445	4.4	
William D. Ju, M.D.(8)	47,173	*	
Langdon Miller, M.D.(9)	75,151	*	
John Babiak, Ph.D.(10)	59,420	*	
Mark E. Boulding(11)	61,143	*	
Michael Schmertzler(12)	2,751	*	
Harvey Berger, M.D.(13)	460	*	
Axel Bolte(14)	—	—	
Søren Carlsen, Ph.D.(15)	1	*	
Carl Goldfischer, M.D.(16)	1	*	
Allan Jacobson, Ph.D.(17)	156,118	1.1	
Michael Kranda(17)	—	—	
David P. Southwell	1,250	*	
All directors and executive officers as a group (14 persons)(19)	1,073,498	7.4	

* Less than one percent.

(1) Consists of 2,662,259 shares held by Credit Suisse First Boston Equity Partners, L.P.; 744,169 shares held by Credit Suisse First Boston Equity Partners (Bermuda), L.P.; 2,573 shares held by Credit Suisse First Boston U.S. Executive Advisors, L.P.; 24,800 shares held by EMA Private Equity Fund 1999, L.P.; and 1,666 shares held by Credit Suisse First Boston Finders & Screeners, L.P. Mr. Schmertzler, a member of our board of directors, is a Managing Director of Aries Advisors, LLC, the sub-advisor to Credit Suisse First Boston Equity Partners, L.P., who disclaims beneficial ownership of the shares held by entities affiliated with Credit Suisse except to the extent of any pecuniary interest therein.

(2) Consists of 2,017,840 shares held by HBM BioVentures (Cayman) Ltd. The board of directors of HBM BioVentures (Cayman) Ltd. has sole voting and investment power with respect to the shares by held by such entity and acts by majority vote. The board of directors of HBM BioVentures (Cayman) Ltd. is comprised of John Arnold, Colin Shaw, Richard Coles, Dr. Andreas Wicki and John Urquhart, none of whom has individual voting or investment power with respect to such shares and each disclaims beneficial ownership of the shares held by HBM except to the extent of any pecuniary interest therein. Mr. Bolte, a member of our board of directors, is an employee of HBM Partners AG. HBM Partners AG acts as an investment advisor to HBM Partners (Cayman) Ltd. HBM Partners (Cayman) Ltd. provides investment management services to HBM BioVentures (Cayman) Ltd. Neither HBM Partners AG nor Mr. Bolte have voting or investment power over the shares held by HBM BioVentures (Cayman) Ltd.

(3) Consists of 330,650 shares held by Vulcan Capital Venture Holdings Inc. and 1,573,877 shares held by Vulcan Ventures Inc. Mr. Kranda, a member of our board of directors, is a Managing Director of Vulcan Ventures Inc. and is responsible for its biotech venture investments. Vulcan Capital Venture Holdings Inc. and Vulcan Ventures Inc. are wholly-owned by the sole stockholder of Vulcan Inc.

(4) Consists of 1,156,787 shares held by Delphi Ventures V, L.P. and 12,543 shares held by Delphi BioInvestments V, L.P.

(5) Consists of 953,944 shares held by The Bay City Capital Fund III, L.P. and 41,725 shares held by The Bay City Capital Fund III Co-Investment Fund, L.P. Dr. Goldfischer, a member of our board of directors, is a Managing Director of Bay City Capital LLC, and serves on Bay City Capital's board of managers and investment committee. Bay City Capital LLC is the manager of the general partner of the above mentioned funds. Dr. Goldfischer disclaims beneficial ownership of the shares held by Bay City except to the extent of any pecuniary interest therein.

(6) Novo A/S is a Danish private limited liability company fully owned by the Novo Nordisk Foundation. Dr. Carlsen, a member of our board of directors and is Managing Partner of Novo A/ S. Dr. Carlsen disclaims beneficial ownership of such shares, except to the extent of his pecuniary interest arising as a result of his engagement with Novo A/ S.
(7) Consists of 624,417 shares issuable upon exercise of stock options exercisable within 60 days of March 15, 2006 and 28 shares of common stock.
(8) Consists of 47,173 shares issuable upon exercise of stock options exercisable within 60 days of March 15, 2006.
(9) Consists of 75,151 shares issuable upon exercise of stock options exercisable within 60 days of March 15, 2006.
(10) Consists of 59,420 shares issuable upon exercise of stock options exercisable within 60 days of March 15, 2006.
(11) Consists of 61,143 shares issuable upon exercise of stock options exercisable within 60 days of March 15, 2006.
(12) Consists of 2,751 shares issuable upon exercise of stock options exercisable within 60 days of March 15, 2006. Mr. Schmertzler disclaims beneficial ownership of the shares held by Credit Suisse First Boston except to the extent of his pecuniary interest therein. See footnote 1.
(13) Consists of 460 shares issuable upon exercise of stock options exercisable within 60 days of March 15, 2006.
(14) Mr. Bolte disclaims beneficial ownership of the shares held by HBM BioVentures (Cayman) Ltd. except to the extent of his pecuniary interest therein. See footnote 2.
(15) Dr. Carlsen disclaims beneficial ownership of the shares held by Novo A/S except to the extent of his pecuniary interest therein. See footnote 6.
(16) Dr. Goldfischer disclaims beneficial ownership of the shares held by the Bay City Capital Fund except to the extent of his pecuniary interest therein. See footnote 5.
(17) Consists of 156,093 shares issuable upon the exercise of stock options exercisable within 60 days of March 15, 2006 and 28 shares of common stock.
(18) Mr. Kranda disclaims beneficial ownership of the shares held by Vulcan Ventures except to the extent of his pecuniary interest therein. See footnote 3.
(19) Consists of 1,073,442 shares issuable upon the exercise of stock options exercisable within 60 days of March 15, 2006 and includes 56 shares of common stock.

DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock and provisions of our certificate of incorporation and bylaws are summaries and are qualified by reference to the certificate of incorporation and the bylaws that will be in effect upon the closing of this offering. We have filed copies of these documents with the Securities and Exchange Commission as exhibits to our registration statement of which this prospectus forms a part. The description of the capital stock reflects changes to our capital structure that will occur upon the closing of this offering.

Upon the closing of this offering, our authorized capital stock will consist of shares of common stock, par value $0.001 per share, and shares of preferred stock, par value $0.001 per share, all of which preferred stock will be undesignated.

As of March 15, 2006, we had issued and outstanding:

- 11,889 shares of common stock outstanding held by 14 stockholders of record;
- 750,000 shares of Series A convertible preferred stock that are convertible into 62,500 shares of common stock;
- 187,500 shares of Series B convertible preferred stock that are convertible into 25,000 shares of common stock;
- 6,000,000 shares of Series C convertible preferred stock that are convertible into 833,325 shares of common stock;
- 13,095,769 shares of Series D convertible preferred stock that are convertible into 2,026,717 shares of common stock;
- 125,740,607 shares of Series E convertible preferred stock that are convertible into 6,887,042 shares of common stock; and
- 3,670,138 shares of Series E-2 convertible preferred stock that are convertible into 3,670,138 shares of common stock.

As of March 15, 2006, we also had outstanding:

- options to purchase 2,340,715 shares of common stock at a weighted average exercise price of $2.40 per share;
- a warrant to purchase 77,380 shares of common stock at an exercise price of $21.00 per share;
- a warrant to purchase 295,000 shares of Series C preferred stock at an exercise price of $2.50 per share;
- warrants to purchase an aggregate of 674,166 shares of Series D preferred stock at an exercise price of $3.25 per share; and
- warrants to purchase an aggregate of 994,415 shares of Series E preferred stock at an exercise price of $.397644 per share.

Upon the closing of this offering, all of the outstanding shares of our preferred stock will automatically convert into a total of 13,504,722 shares of our common stock. In addition, upon the closing of this offering and after giving effect to the automatic conversion of our preferred stock into common stock, warrants to purchase an aggregate of 277,151 shares of common stock will remain outstanding.

Common Stock

Holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of stockholders and do not have cumulative voting rights. An election of directors by our stockholders shall be determined by a plurality of the votes cast by the stockholders entitled to vote on the election. Holders

of common stock are entitled to receive proportionately any dividends as may be declared by our board of directors, subject to any preferential dividend rights of outstanding preferred stock.

In the event of our liquidation or dissolution, the holders of common stock are entitled to receive proportionately all assets available for distribution to stockholders after the payment of all debts and other liabilities and subject to the prior rights of any outstanding preferred stock. Holders of common stock have no preemptive, subscription, redemption or conversion rights. The rights, preferences and privileges of holders of common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

Preferred Stock

Under the terms of our certificate of incorporation, our board of directors is authorized to issue shares of preferred stock in one or more series without stockholder approval. Our board of directors has the discretion to determine the rights, preferences, privileges and restrictions, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences, of each series of preferred stock.

The purpose of authorizing our board of directors to issue preferred stock and determine its rights and preferences is to eliminate delays associated with a stockholder vote on specific issuances. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions, future financings and other corporate purposes, could have the effect of making it more difficult for a third party to acquire, or could discourage a third party from seeking to acquire, a majority of our outstanding voting stock. Upon the closing of this offering, there will be no shares of preferred stock outstanding, and we have no present plans to issue any shares of preferred stock.

Warrants

As of March 15, 2006, we had outstanding a warrant to purchase 77,380 shares of common stock at an exercise price of $21.00 per share, a warrant to purchase 295,000 shares of Series C preferred stock at an exercise price of $2.50 per share, warrants to purchase an aggregate of 674,166 shares of Series D preferred stock at an exercise price of $3.25 per share and warrants to purchase an aggregate of 994,415 shares of Series E preferred stock at an exercise price of $.397644 per share.

Upon the closing of this offering, the warrant to purchase shares of Series C preferred stock will automatically convert into a warrant to purchase 40,972 shares of common stock at an exercise price of $18.00 per share, the warrants to purchase shares of Series D preferred stock will automatically convert into warrants to purchase an aggregate of 104,334 shares of common stock at an exercise price of $21.00 per share and the warrants to purchase shares of Series E preferred stock will automatically convert into warrants to purchase an aggregate of 54,465 shares of common stock at an exercise price of $7.26 per share. Accordingly, upon the closing of this offering, we will have outstanding warrants to purchase an aggregate of 277,151 shares of our common stock at a weighted average exercise price of $17.86 per share. The warrants provide for adjustments in the event of specified mergers, reorganizations, reclassifications, stock dividends, stock splits or other changes in our corporate structure. The warrants also provide for cashless exercise. The warrants expire on various dates between March 14, 2008 and April 21, 2014.

The warrant to purchase 77,380 shares of common stock contains vesting provisions. As of March 15, 2006, that warrant was vested with respect to 61,904 shares. The warrant would vest with respect to the remaining 15,476 shares if we receive marketing approval for PTC124 from the FDA or any similar regulatory authority outside the United States.

Options

As of March 15, 2006, options to purchase 2,340,715 shares of common stock at a weighted average exercise price of $2.40 per share were outstanding.

Anti-Takeover Effects of Delaware Law and our Corporate Charter Documents

Delaware Law

We are subject to Section 203 of the Delaware General Corporation Law. Subject to certain exceptions, Section 203 prevents a publicly held Delaware corporation from engaging in a "business combination" with any "interested stockholder" for three years following the date that the person became an interested stockholder, unless the interested stockholder attained such status with the approval of our board of directors or unless the business combination is approved in a prescribed manner. A "business combination" includes, among other things, a merger or consolidation involving us and the "interested stockholder" and the sale of more than 10% of our assets. In general, an "interested stockholder" is any entity or person beneficially owning 15% or more of our outstanding voting stock and any entity or person affiliated with or controlling or controlled by such entity or person. The restrictions contained in Section 203 are not applicable to any of our existing stockholders that will own 15% or more of our outstanding voting stock upon the closing of this offering

Staggered Board

Our certificate of incorporation and our bylaws divide our board of directors into three classes with staggered three-year terms. In addition, our certificate of incorporation and our bylaws provide that directors may be removed only for cause and only by the affirmative vote of the holders of 75% of our shares of capital stock present in person or by proxy and entitled to vote. Under our certificate of incorporation and bylaws, any vacancy on our board of directors, including a vacancy resulting from an enlargement of our board of directors, may be filled only by vote of a majority of our directors then in office. Furthermore, our certificate of incorporation provides that the authorized number of directors may be changed only by the resolution of our board of directors. The classification of our board of directors and the limitations on the ability of our stockholders to remove directors, change the authorized number of directors and fill vacancies could make it more difficult for a third party to acquire, or discourage a third party from seeking to acquire, control of our company.

Stockholder Action; Special Meeting of Stockholders; Advance Notice Requirements for Stockholder Proposals and Director Nominations

Our certificate of incorporation and our bylaws provide that any action required or permitted to be taken by our stockholders at an annual meeting or special meeting of stockholders may only be taken if it is properly brought before such meeting and may not be taken by written action in lieu of a meeting. Our certificate of incorporation and our bylaws also provide that, except as otherwise required by law, special meetings of the stockholders can only be called by our chairman of the board, our president or chief executive officer or our board of directors. In addition, our bylaws establish an advance notice procedure for stockholder proposals to be brought before an annual meeting of stockholders, including proposed nominations of candidates for election to the board of directors. Stockholders at an annual meeting may only consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of the board of directors, or by a stockholder of record on the record date for the meeting, who is entitled to vote at the meeting and who has delivered timely written notice in proper form to our secretary of the stockholder's intention to bring such business before the meeting. These provisions could have the effect of delaying until the next stockholder meeting stockholder actions that are favored by the holders of a majority of our outstanding voting securities.

Super-Majority Voting

The Delaware General Corporation Law provides generally that the affirmative vote of a majority of the shares entitled to vote on any matter is required to amend a corporation's certificate of incorporation or bylaws, unless a corporation's certificate of incorporation or bylaws, as the case may be, requires a greater percentage. Our bylaws may be amended or repealed by a majority vote of our board of directors or the affirmative vote of the holders of at least 75% of the votes that all our stockholders would be entitled to cast in any annual election of directors. In addition, the affirmative vote of the holders of at least 75% of the votes that

all our stockholders would be entitled to cast in any election of directors is required to amend or repeal or to adopt any provisions inconsistent with any of the provisions of our certificate of incorporation described above.

Registration Rights

Upon the closing of this offering, holders of an aggregate of shares of our common stock, including shares of common stock underlying outstanding warrants, will have the right to require us to register these shares under the Securities Act under specified circumstances.

Demand and Form S-3 Registration Rights

Beginning six months after the closing of this offering, subject to specified limitations, these stockholders may require that we register all or part of these securities for sale under the Securities Act on two occasions. In addition, these stockholders may from time to time make demand for registrations on Form S-3, a short form registration statement, when we are eligible to use this form.

Incidental Registration Rights

If we register any of our common stock, either for our own account or for the account of other securityholders, these stockholders are entitled to notice of the registration and to include their shares of common stock in the registration.

Limitations and Expenses

Other than in a demand registration, with specified exceptions, a holder's right to include shares in a registration is subject to the right of the underwriters to limit the number of shares included in the offering. All fees, costs and expenses of any demand registrations and any registrations on Form S-3 will be paid by us, and all selling expenses, including underwriting discounts and commissions, will be paid by the holders of the securities being registered.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock will be American Stock Transfer & Trust Company.

Nasdaq National Market

We have applied to have our common stock approved for quotation on The Nasdaq National Market under the symbol "PTCT."

SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, there has been no market for our common stock, and a liquid trading market for our common stock may not develop or be sustained after this offering. Future sales of substantial amounts of common stock, including shares issued upon exercise of outstanding options and warrants or in the public market after this offering, or the anticipation of those sales, could adversely affect market prices prevailing from time to time and could impair our ability to raise capital through sales of our equity securities.

Upon the closing of this offering, we will have outstanding shares of common stock, after giving effect to the issuance of shares of common stock in this offering and the automatic conversion of all outstanding shares of our preferred stock into an aggregate of 13,504,722 shares of our common stock and assuming no exercise of the underwriters' over-allotment option and no exercise of options or warrants outstanding as of December 31, 2005.

Of the shares to be outstanding immediately after the closing of this offering, the shares to be sold in this offering will be freely tradable without restriction under the Securities Act unless purchased by our "affiliates," as that term is defined in Rule 144 under the Securities Act. The remaining shares of common stock are "restricted securities" under Rule 144. Substantially all of these restricted securities will be subject to the 180-day lock-up period described below.

After the 180-day lock-up period, these restricted securities may be sold in the public market only if registered or if they qualify for an exemption from registration under Rule 144 or 701 under the Securities Act, which exemptions are summarized below.

Rule 144

In general, under Rule 144, beginning 90 days after the date of this prospectus, a person who has beneficially owned shares of our common stock for at least one year, including the holding period of any prior owner other than one of our affiliates, would be entitled to sell within any three-month period a number of shares that does not exceed the greater of:

- 1% of the number of shares of our common stock then outstanding, which will equal approximately shares immediately after this offering, and
- the average weekly trading volume in our common stock on The Nasdaq National Market during the four calendar weeks preceding the date of filing of a Notice of Proposed Sale of Securities Pursuant to Rule 144 with respect to the sale.

Sales under Rule 144 are also subject to manner of sale provisions and notice requirements and to the availability of current public information about us. Upon expiration of the 180-day lock-up period described below, of shares of our common stock will be eligible for sale under Rule 144, excluding shares eligible for resale under Rule 144(k) as described below. We cannot estimate the number of shares of common stock that our existing stockholders will elect to sell under Rule 144.

Rule 144(k)

Subject to the lock-up agreements described below, shares of our common stock eligible for sale under Rule 144(k) may be sold immediately upon the closing of this offering. In general, under Rule 144(k), a person may sell shares of common stock acquired from us immediately upon the closing of this offering, without regard to manner of sale, the availability of public information about us or volume limitations, if:

- the person is not our affiliate and has not been our affiliate at any time during the three months preceding the sale; and
- the person has beneficially owned the shares proposed to be sold for at least two years, including the holding period of any prior owner other than our affiliates.

Upon the expiration of the 180-day lock-up period described below, approximately shares of common stock will be eligible for sale under Rule 144(k).

Rule 701

In general, under Rule 701 of the Securities Act, any of our employees, consultants or advisors who purchased shares from us in connection with a qualified compensatory stock plan or other written agreement is eligible to resell those shares 90 days after the effective date of this offering in reliance on Rule 144, but without compliance with the various restrictions, including the holding period, contained in Rule 144. Subject to the 180-day lock-up period described below, approximately shares of our common stock will be eligible for sale in accordance with Rule 701.

Lock-up Agreements

We expect that the holders of substantially all of our currently outstanding capital stock will agree that, without the prior written consent of Morgan Stanley, they will not, during the period ending 180 days after the date of this prospectus, subject to exceptions specified in the lock-up agreements, offer, sell, contract to sell or otherwise dispose of, directly or indirectly, or hedge our common stock or securities convertible into or exchangeable for or exercisable for our common stock, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend or otherwise dispose of, directly or indirectly, any shares of our common stock or any securities convertible into or exercisable for our common stock. Further, these holders have agreed that, during this period, they will not make any demand for, or exercise any right with respect to, the registration of our common stock or warrants or other rights to purchase the common stock.

Registration Rights

Upon the closing of this offering, the holders of an aggregate of shares of our common stock, including shares of common stock underlying outstanding warrants, will have the right to require us to register these shares under the Securities Act under specified circumstances. After registration pursuant to these rights, these shares will become freely tradable without restriction under the Securities Act. Please see “Description of Capital Stock— Registration Rights” for additional information regarding these registration rights.

Stock Options

As of March 15, 2006, we had outstanding options to purchase 2,340,715 shares of common stock, of which options to purchase 1,545,064 shares were vested. Following this offering, we intend to file registration statements on Form S-8 under the Securities Act to register all of the shares of common stock subject to outstanding options and options and other awards issuable pursuant to our 1998 stock option plan, our 2006 equity plan and our 2006 employee stock purchase plan. Please see “Management— Stock Option and Other Compensation Plans” for additional information regarding these plans. Accordingly, shares of our common stock registered under the registration statements will be available for sale in the open market, subject to Rule 144 volume limitations applicable to affiliates, and subject to any vesting restrictions and lock-up agreements applicable to these shares.

Warrants

Upon the closing of this offering, we will have outstanding warrants to purchase an aggregate of 277,151 shares of our common stock at a weighted average exercise price of $17.86 per share. Any shares purchased pursuant to the cashless exercise features of these warrants will be freely tradable under Rule 144(k), subject to the 180-day lock-up period described above.

UNDERWRITERS

Under the terms and subject to the conditions contained in an underwriting agreement dated the date of this prospectus, the underwriters named below, for whom Morgan Stanley & Co. Incorporated, J.P. Morgan Securities Inc. and Pacific Growth Equities, LLC are acting as representatives, have severally agreed to purchase, and we have agreed to sell to them, severally, the number of shares of common stock indicated in the table below:

Name	Number of Shares
Morgan Stanley & Co. Incorporated	
J.P. Morgan Securities Inc.	
Pacific Growth Equities, LLC	
Total	

The underwriters are offering the shares of common stock subject to their acceptance of the shares from us and subject to prior sale. The underwriting agreement provides that the obligations of the several underwriters to pay for and accept delivery of the shares of common stock offered by this prospectus are subject to the approval of certain legal matters by their counsel and to other conditions. The underwriters are obligated to take and pay for all of the shares of common stock offered by this prospectus if any such shares are taken. However, the underwriters are not required to take or pay for the shares covered by the underwriters' over-allotment option described below.

The underwriters initially propose to offer part of the shares of common stock directly to the public at the public offering price listed on the cover page of this prospectus and part to certain dealers at a price that represents a concession not in excess of $ a share under the public offering price. No underwriter may allow, and no dealer may re-allow, any concession to other underwriters or to certain dealers. After the initial offering of the shares of common stock, the offering price and other selling terms may from time to time be varied by the representatives.

We have granted to the underwriters an option, exercisable for 30 days from the date of this prospectus, to purchase up to an aggregate of additional shares of common stock at the public offering price listed on the cover page of this prospectus, less underwriting discounts and commissions. The underwriters may exercise this option solely for the purpose of covering over-allotments, if any, made in connection with the offering of the shares of common stock offered by this prospectus. To the extent the option is exercised, each underwriter will become obligated, subject to certain conditions, to purchase approximately the same percentage of the additional shares of common stock as the number listed next to the underwriter's name in the preceding table bears to the total number of shares of common stock listed next to the names of all underwriters in the preceding table. If the underwriters' over-allotment option is exercised in full, the total price to the public would be $, the total underwriters' discounts and commissions would be $ and the total proceeds to us would be $.

The following table shows the per share and total underwriting discounts and commissions that we are to pay to the underwriters in connection with this offering. These amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase additional shares of our common stock.

	No Exercise	Full Exercise
Per share	$	$
Total	$	$

In addition, we estimate that the expenses of this offering payable by us, other than underwriting discounts and commissions, will be approximately $ million.

The underwriters have informed us that they do not intend sales to discretionary accounts to exceed five percent of the total number of shares of common stock offered by them.

We, all of our directors and executive officers and holders of substantially all of our outstanding stock have agreed that, without the prior written consent of Morgan Stanley & Co. Incorporated on behalf of the underwriters, we and they will not, during the period ending 180 days after the date of this prospectus:

- offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend or otherwise transfer or dispose of directly or indirectly, any shares of common stock or any securities convertible into or exercisable or exchangeable for our common stock; or
- enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the common stock;

whether any such transaction described above is to be settled by delivery of common stock or such other securities, in cash or otherwise.

The 180-day restricted period described in the preceding paragraph will be extended if:

- during the last 17 days of the 180-day restricted period we issue an earnings release or material news or a material event relating to our company occurs; or
- prior to the expiration of the 180-day restricted period, we announce that we will release earnings results during the 16-day period beginning on the last day of the 180-day period,

in which case the restrictions described in the preceding paragraph will continue to apply until the expiration of the 18-day period beginning on the issuance of the earnings release or the occurrence of the material news or material event.

These restrictions do not apply to:

- the sale of shares to the underwriters;
- the issuance by us of shares of common stock upon the exercise of an option or a warrant or the conversion of a security outstanding on the date of this prospectus of which the underwriters have been advised in writing;
- the grant of options or the issuance of shares of common stock by us pursuant to our equity plans described in this prospectus, provided that the recipient of the options or shares agrees to be subject to the restrictions described in this paragraph;
- the issuance by us of shares of common stock in connection with strategic transactions, such as collaboration or license agreements, provided that the recipient of the shares agrees to be subject to the restrictions described in this paragraph;
- transactions by any person other than us relating to shares of common stock or other securities acquired in open market transactions after the closing of the offering of the shares;
- transfers by any person other than us of shares of common stock or other securities as a bona fide gift; or
- distributions other than by us of shares of common stock or other securities to limited partners or stockholders;

provided that in the case of each of the last three transactions, no filing under Section 16(a) of the Exchange Act is required or is voluntarily made in connection with the transaction, and in the case of each of the last two transactions, each donee or distributee agrees to be subject to the restrictions on transfer described above.

In order to facilitate this offering of the common stock, the underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the common stock. Specifically, the underwriters may sell more shares than they are obligated to purchase under the underwriting agreement, creating a short position. A short sale is covered if the short position is no greater than the number of shares available for purchase by the underwriters under the over-allotment option. The underwriters can close out a covered short sale by

exercising the over-allotment option or by purchasing shares in the open market. In determining the source of shares to close out a covered short sale, the underwriters will consider, among other things, the open market price of shares compared to the price available under the over-allotment option. The underwriters may also sell shares in excess of the over-allotment option, creating a naked short position. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the common stock in the open market after pricing that could adversely affect investors who purchase in this offering. In addition, to stabilize the price of the common stock, the underwriters may bid for, and purchase shares of common stock in the open market. Finally, the underwriting syndicate may reclaim selling concessions allowed to an underwriter or a dealer for distributing the common stock in the offering, if the syndicate repurchases previously distributed common stock in transactions to cover syndicate short positions or to stabilize the price of the common stock. Any of these activities may stabilize or maintain the market price of the common stock above independent market levels or prevent or retard a decline in the market price of the common stock. The underwriters are not required to engage in these activities, and may end any of these activities at any time.

We have applied for quotation of our common stock on the Nasdaq National Market under the symbol “PTCT.”

We and the underwriters have agreed to indemnify each other against certain liabilities, including liabilities under the Securities Act.

Directed Share Program

At our request, the underwriters have reserved for sale, at the initial public offering price, up to shares offered by this prospectus to directors, officers, employees and other individuals associated with us through a directed share program. The number of shares of our common stock available for sale to the general public in the offering will be reduced to the extent these persons purchase these reserved shares. Any reserved shares not purchased by these persons will be offered by the underwriters to the general public on the same basis as the other shares offered by this prospectus. Recipients of reserved shares will be required to agree with the underwriters not to sell, transfer, assign, pledge or hypothecate these shares for a period of 180 days after purchasing the shares.

Pricing of the Offering

Prior to this offering, there has been no public market our common stock. The initial public offering price will be determined by negotiations between us and the representatives of the underwriters. Among the factors to be considered in determining the initial public offering price will be our future prospects and those of our industry in general, our sales, earnings and other financial operating information in recent periods, and the price-earnings ratios, price-sales ratios and market prices of securities and certain financial and operating information of companies engaged in activities similar to ours. The estimated initial public offering price range set forth on the cover page of this preliminary prospectus is subject to change as a result of market conditions and other factors.

A prospectus in electronic format may be made available on the websites maintained by one or more of the underwriters, and one or more of the underwriters may distribute prospectuses electronically. The underwriters may agree to allocate a number of shares to underwriters for sale to their online brokerage account holders. Internet distributions will be allocated by the underwriters that make Internet distributions on the same basis as other allocations.

LEGAL MATTERS

The validity of the common stock we are offering will be passed upon by Wilmer Cutler Pickering Hale and Dorr LLP, New York, New York. Ropes & Gray LLP has acted as counsel for the underwriters in connection with certain legal matters related to this offering.

EXPERTS

The financial statements of PTC Therapeutics, Inc. (a development-stage company) as of December 31, 2004 and 2005, and for each of the years in the three-year period ended December 31, 2005 and for the period from March 31, 1998 (inception) to December 31, 2005, have been included herein and in the registration statement in reliance upon the reports of KPMG LLP, independent registered public accounting firm, and Arthur Andersen LLP, independent accountants, appearing elsewhere herein, and upon the authority of said firms as experts in accounting and auditing.

KPMG LLP's audit report contains an explanatory paragraph that refers to KPMG LLP's audit of the adjustments that were applied to restate the cumulative statements of operations, stockholders' equity (deficit) and comprehensive loss, and cash flows for the period from March 31, 1998 (inception) to December 31, 2001, as more fully described in note 2(o) to the financial statements. However, KPMG LLP was not engaged to audit, review or apply procedures to the cumulative financial statements for the period from March 31, 1998 (inception) to December 31, 2001 other than with respect to such adjustments, and accordingly, KPMG LLP did not express an opinion or any other form of assurance on the cumulative financial statements for the period from March 31, 1998 (inception) to December 31, 2001, taken as a whole.

The cumulative statements of operations, stockholders' equity (deficit) and comprehensive loss, and cash flows for the period from March 31, 1998 (inception) to December 31, 2001 of PTC Therapeutics, Inc. (a development-stage company), included herein and in the registration statement, have been audited by Arthur Andersen LLP, our former accountants. You have no effective remedy against Arthur Andersen in connection with a material misstatement or omission in those financial statements, particularly in the event that Arthur Andersen ceases to exist as an entity or becomes insolvent as a result of proceedings against it.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the Securities and Exchange Commission a registration statement on Form S-1 under the Securities Act with respect to the shares of common stock we are offering to sell. This prospectus, which constitutes part of the registration statement, does not include all of the information contained in the registration statement and the exhibits, schedules and amendments to the registration statement. For further information with respect to us and our common stock, we refer you to the registration statement and to the exhibits and schedules to the registration statement. Statements contained in this prospectus about the contents of any contract or any other document are not necessarily complete, and, in each instance, we refer you to the copy of the contract or other documents filed as an exhibit to the registration statement. Each of these statements is qualified in all respects by this reference.

You may read and copy the registration statement of which this prospectus is a part at the Securities and Exchange Commission's public reference room, which is located at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. You can request copies of the registration statement by writing to the Securities and Exchange Commission and paying a fee for the copying cost. Please call the Securities and Exchange Commission at 1-800-SEC-0330 for more information about the operation of the Securities and Exchange Commission's public reference room. In addition, the Securities and Exchange Commission maintains an Internet website, which is located at http://www.sec.gov, that contains reports, proxy and information statements and other information regarding issuers that file electronically with the Securities and Exchange Commission. You may access the registration statement of which this prospectus is a part at the Securities and Exchange Commission's Internet website. Upon closing of this offering, we will be subject to the information reporting requirements of the Securities Exchange Act of 1934, as amended, and we will file reports, proxy statements and other information with the Securities and Exchange Commission.

This prospectus includes statistical data that were obtained from industry publications. These industry publications generally indicate that the authors of these publications have obtained information from sources believed to be reliable but do not guarantee the accuracy and completeness of their information. While we believe these industry publications to be reliable, we have not independently verified their data.

PTC THERAPEUTICS, INC.
(A Development-Stage Company)

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Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders
PTC Therapeutics, Inc.:

We have audited the accompanying balance sheets of PTC Therapeutics, Inc. (a development-stage company) as of December 31, 2004 and 2005, and the related statements of operations, stockholders' equity (deficit) and comprehensive loss, and cash flows for each of the years in the three-year period ended December 31, 2005 and for the period from March 31, 1998 (inception) to December 31, 2005. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits. The cumulative statements of operations, stockholders' equity (deficit) and comprehensive loss, and cash flows for the period from March 31, 1998 (inception) to December 31, 2005 include amounts for the period from March 31, 1998 (inception) to December 31, 1998 and for each of the years in the three-year period ended December 31, 2001, which were audited by other auditors who have ceased operations. Those auditors expressed an unqualified opinion on those financial statements, before the restatement described in note 2(o) to the financial statements, in their report dated March 22, 2002. Our opinion, insofar as it relates to the amounts included for the period from March 31, 1998 (inception) to December 31, 2001 before the restatement described in note 2(o), is based solely on the report of the other auditors.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, based on our audits and the report of the other auditors, the financial statements referred to above present fairly, in all material respects, the financial position of PTC Therapeutics, Inc. (a development-stage company) as of December 31, 2004 and 2005, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2005 and for the period from March 31, 1998 (inception) to December 31, 2005, in conformity with U.S. generally accepted accounting principles.

As discussed above, the cumulative statements of operations, stockholders' equity (deficit) and comprehensive loss, and cash flows for the period from March 31, 1998 (inception) to December 31, 2005 include amounts for the period from March 31, 1998 (inception) to December 31, 2001, which were audited by other auditors who have ceased operations. As described in note 2(o), those financial statements have been restated. We audited the adjustments described in note 2(o) that were applied to restate the cumulative financial statements for the period from March 31, 1998 (inception) to December 31, 2001. In our opinion, such adjustments are appropriate and have been properly applied. However, we were not engaged to audit, review, or apply any procedures to the cumulative financials statements for the period from March 31, 1998 (inception) to December 31, 2001 of PTC Therapeutics, Inc. other than with respect to such adjustments, and, accordingly, we do not express an opinion or any other form of assurance on the cumulative financial statements for the period from March 31, 1998 (inception) to December 31, 2001 taken as a whole.

/s/ KPMG LLP

Philadelphia, Pennsylvania
March 31, 2006

The following is a copy of a report issued by Arthur Andersen LLP report for the fiscal year ended December 31, 2001 issued on March 22, 2002. This report has not been reissued by Arthur Andersen LLP, and Arthur Andersen LLP has not consented to its use in this Registration Statement on Form S-1.

Report of Independent Public Accountants

To the Stockholders and Board of Directors of
PTC Therapeutics, Inc.:

We have audited the accompanying balance sheets of PTC Therapeutics, Inc. (a Delaware corporation in the development stage) as of December 31, 2000 and 2001, and the related statements of operations, stockholders' equity (deficit), and cash flows for the years ended December 31, 2000 and 2001, and the period from inception (March 31, 1998) through December 31, 2001. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of PTC Therapeutics, Inc. as of December 31, 2000 and 2001, and the results of its operations and its cash flows for the years ended December 31, 2000 and 2001, and the period form inception (March 31, 1998) through December 31, 2001, in conformity with accounting principles generally accepted in the United States.

/s/ Arthur Andersen LLP

Philadelphia, Pennsylvania
March 22, 2002

PTC THERAPEUTICS, INC.
(A Development-Stage Company)

BALANCE SHEETS
December 31, 2004 and 2005 and Pro Forma December 31, 2005

	2004	2005	Pro Forma 2005 (unaudited) (see note 2(u))
ASSETS			
Current assets:			
Cash and cash equivalents	$ 6,777,339	$ 10,964,552	$ 10,964,552
Short-term investments	26,209,351	26,875,682	26,875,682
Prepaid expenses and other current assets	721,941	1,136,755	1,136,755
Total current assets	33,708,631	38,976,989	38,976,989
Fixed assets, net	5,205,361	4,701,786	4,701,786
Deposits and other assets	54,049	295,704	295,704
Total assets	$ 38,968,041	43,974,479	43,974,479
LIABILITIES AND STOCKHOLDERS' EQUITY			
Current liabilities:			
Accounts payable	$ 1,703,026	$ 1,183,261	$ 1,183,261
Accrued expenses	1,500,875	2,710,366	2,710,366
Current portion of long-term debt	924,516	477,808	477,808
Deferred revenue	—	275,000	275,000
Total current liabilities	4,128,417	4,646,435	4,646,435
Deferred rent	21,441	122,653	122,653
Long-term debt	204,975	804,473	804,473
Total liabilities	4,354,833	5,573,561	5,573,561
Commitments and contingencies (note 9)			
Stockholders' equity:			
Preferred stock, $0.001 par value, authorized 153,407,582 shares;			
Series A convertible preferred stock, designated 750,000 shares issued and outstanding 750,000 shares actual (liquidation preference of $750,000); no shares issued and outstanding pro forma	750,000	750,000	—
Series B convertible preferred stock, designated 187,500 shares issued and outstanding 187,500 shares actual (liquidation preference of $375,000); no shares issued and outstanding pro forma	364,524	364,524	—
Series C convertible preferred stock, designated 6,295,000 shares issued and outstanding 6,000,000 shares actual (liquidation preference of $15,000,000); no shares issued and outstanding pro forma	14,117,089	14,117,089	—
Series D convertible preferred stock, designated 13,800,000 shares issued and outstanding 13,095,769 shares actual (liquidation preference of $42,561,249); no shares issued and outstanding pro forma	39,282,460	39,282,460	—
Series E convertible preferred stock, designated 128,242,850 shares issued and outstanding 125,740,607 shares actual (liquidation preference of $49,999,998); no shares issued and outstanding pro forma	49,048,047	49,048,047	—
Series E-2 convertible preferred stock, designated 4,132,232 shares issued and outstanding 3,670,138 shares actual (liquidation preference of $26,645,187); no shares issued and outstanding pro forma	—	26,510,745	—
Common stock, $0.001 par value; authorized 18,228,538 shares; issued and outstanding 68 shares at December 31, 2004 and 6,943 shares at December 31, 2005 and 13,511,665 issued and outstanding pro forma (unaudited)	—	7	13,512
Additional paid-in capital	353,131	506,364	130,565,724
Accumulated other comprehensive loss	(65,429)	(33,972)	(33,972)
Deficit accumulated during the development stage	(69,236,614)	(92,144,346)	(92,144,346)
Total stockholders' equity	34,613,208	38,400,918	38,400,918
Total liabilities and stockholders' equity	$ 38,968,041	$ 43,974,479	$ 43,974,479

See accompanying notes to financial statements.

PTC THERAPEUTICS, INC.
(A Development-Stage Company)

STATEMENTS OF OPERATIONS
Years Ended December 31, 2003, 2004, and 2005, and for the Period from March 31, 1998 (inception) to December 31, 2005

	Year Ended December 31,			Period from March 31, 1998 (inception) to December 31,
	2003	2004	2005	2005
Revenues	$ 756,101	$ 1,606,076	$ 4,966,779	$ 7,668,956
Operating expenses:				
Research and development	17,694,414	20,070,231	21,122,934	76,970,532
General and administrative	4,693,240	6,022,740	7,943,584	27,230,732
Total operating expenses	22,387,654	26,092,971	29,066,518	104,201,264
Loss from operations	(21,631,553)	(24,486,895)	(24,099,739)	(96,532,308)
Interest income	316,827	578,732	853,817	3,997,886
Interest expense	(358,022)	(184,145)	(140,647)	(1,006,919)
Loss before tax benefit	(21,672,748)	(24,092,308)	(23,386,569)	(93,541,341)
Tax benefit	235,142	450,781	478,837	1,396,995
Net loss allocable to common stockholders	$ (21,437,606)	$ (23,641,527)	$ (22,907,732)	$ (92,144,346)
Basic and diluted net loss per share allocable to common stockholders	$ (315,259)	$ (347,670)	$ (9,925)	
Shares used to compute basic and diluted net loss per share allocable to common stockholders	68	68	2,308	
Pro forma basic and diluted net loss per common share (note 2(t)) (unaudited)			$ (2.11)	
Shares used to compute pro forma basic and diluted net loss per common share (note 2(t)) (unaudited)			10,831,634	

See accompanying notes to financial statements.

PTC THERAPEUTICS, INC.
(A Development-Stage Company)

STATEMENTS OF STOCKHOLDERS' EQUITY (DEFICIT) AND COMPREHENSIVE LOSS
Period from March 31, 1998 (inception) to December 31, 2005

	Series A Convertible Preferred Stock		Series B Convertible Preferred Stock		Series C Convertible Preferred Stock		Series D Convertible Preferred Stock		Series E Convertible Preferred Stock	
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount
Initial capitalization, March 31, 1998	—	$ —	—	$ —	—	$ —	—	$ —	—	$ —
Issuance of common stock	—	—	—	—	—	—	—	—	—	—
Sale of Series A convertible preferred stock	750,000	750,000	—	—	—	—	—	—	—	—
Deferred compensation	—	—	—	—	—	—	—	—	—	—
Amortization of deferred compensation	—	—	—	—	—	—	—	—	—	—
Net loss and comprehensive loss	—	—	—	—	—	—	—	—	—	—
Balance, December 31, 1998	750,000	750,000	—	—	—	—	—	—	—	—
Deferred compensation	—	—	—	—	—	—	—	—	—	—
Amortization of deferred compensation	—	—	—	—	—	—	—	—	—	—
Net loss and comprehensive loss	—	—	—	—	—	—	—	—	—	—
Balance, December 31, 1999	750,000	750,000	—	—	—	—	—	—	—	—
Sales of Series B convertible preferred stock, net of issuance costs of $10,476	—	—	187,500	364,524	—	—	—	—	—	—
Sales of Series C convertible preferred stock, net of issuance costs of $882,911	—	—	—	—	6,000,000	14,117,089	—	—	—	—
Issuance of common stock	—	—	—	—	—	—	—	—	—	—
Deferred compensation	—	—	—	—	—	—	—	—	—	—
Amortization of deferred compensation	—	—	—	—	—	—	—	—	—	—
Comprehensive loss:										
Net loss	—	—	—	—	—	—	—	—	—	—
Unrealized gain on investments	—	—	—	—	—	—	—	—	—	—
Total comprehensive loss										
Balance, December 31, 2000	750,000	750,000	187,500	364,524	6,000,000	14,117,089	—	—	—	—
Sales of Series D convertible preferred stock, net of issuance costs of $2,286,789	—	—	—	—	—	—	12,295,769	37,674,460	—	—
Amortization of deferred compensation	—	—	—	—	—	—	—	—	—	—
Comprehensive loss:										
Net loss	—	—	—	—	—	—	—	—	—	—
Unrealized loss on investments	—	—	—	—	—	—	—	—	—	—
Total comprehensive loss										
Balance, December 31, 2001	750,000	750,000	187,500	364,524	6,000,000	14,117,089	12,295,769	37,674,460	—	—
Exercise of stock options	—	—	—	—	—	—	—	—	—	—
Amortization of deferred compensation	—	—	—	—	—	—	—	—	—	—
Net loss and comprehensive loss	—	—	—	—	—	—	—	—	—	—
Balance, December 31, 2002	750,000	750,000	187,500	364,524	6,000,000	14,117,089	12,295,769	37,674,460	—	—
Exercise of stock options	—	—	—	—	—	—	—	—	—	—
Issuance of options to consultants	—	—	—	—	—	—	—	—	—	—
Issuance of Series D convertible preferred stock in connection with the termination of collaboration agreement	—	—	—	—	—	—	800,000	1,608,000	—	—
Sales of Series E convertible preferred stock, net of issuance costs of $803,782	—	—	—	—	—	—	—	—	88,018,430	34,196,218
Net loss and comprehensive loss	—	—	—	—	—	—	—	—	—	—
Balance, December 31, 2003	750,000	750,000	187,500	364,524	6,000,000	14,117,089	13,095,769	39,282,460	88,018,430	34,196,218
Exercise of stock options	—	—	—	—	—	—	—	—	—	—
Warrants issued for in-process research and development	—	—	—	—	—	—	—	—	—	—
Sales of Series E convertible preferred stock, net of issuance costs of $148,169	—	—	—	—	—	—	—	—	37,722,177	14,851,829
Comprehensive loss:										
Net loss	—	—	—	—	—	—	—	—	—	—
Unrealized loss on investments	—	—	—	—	—	—	—	—	—	—
Total comprehensive loss										
Balance, December 31, 2004	750,000	750,000	187,500	364,524	6,000,000	14,117,089	13,095,769	39,282,460	125,740,607	49,048,047
Exercise of stock options	—	—	—	—	—	—	—	—	—	—
Warrants issued for in-process research and development	—	—	—	—	—	—	—	—	—	—
Sales of Series E-2 convertible preferred stock, net of issuance costs of $134,441	—	—	—	—	—	—	—	—	—	—
Comprehensive loss:										
Net loss	—	—	—	—	—	—	—	—	—	—
Unrealized gain on investments	—	—	—	—	—	—	—	—	—	—
Total comprehensive loss										
Balance, December 31, 2005	750,000	$ 750,000	187,500	$ 364,524	6,000,000	$ 14,117,089	13,095,769	$ 39,282,460	125,740,607	$ 49,048,047

PTC THERAPEUTICS, INC.
(A Development-Stage Company)

STATEMENTS OF STOCKHOLDERS' EQUITY (DEFICIT) AND COMPREHENSIVE LOSS—(Continued)

	Series E-2 Convertible Preferred Stock		Common Stock						
	Shares	Amount	Shares	$0.001 Par Value	Additional Paid-in Capital	Deferred Compensation	Accumulated Other Comprehensive Income (Loss)	Deficit Accumulated During the Development-Stage	Total Stockholders' Equity (Deficit)
Initial capitalization, March 31, 1998	—	$ —	59	$ —	$ 1,000	$ —	$ —	$ —	$ 1,000
Issuance of common stock	—	—	2	—	42	—	—	—	42
Sale of Series A convertible preferred stock	—	—	—	—	—	—	—	—	750,000
Deferred compensation	—	—	—	—	197	(197)	—	—	—
Amortization of deferred compensation	—	—	—	—	—	49	—	—	49
Net loss and comprehensive loss	—	—	—	—	—	—	—	(322,338)	(322,338)
Balance, December 31, 1998	—	—	61	—	1,239	(148)	—	(322,338)	428,753
Deferred compensation	—	—	—	—	197	(197)	—	—	—
Amortization of deferred compensation	—	—	—	—	—	86	—	—	86
Net loss and comprehensive loss	—	—	—	—	—	—	—	(671,055)	(671,055)
Balance, December 31, 1999	—	—	61	—	1,436	(259)	—	(993,393)	(242,216)
Sales of Series B convertible preferred stock, net of issuance costs of $10,476	—	—	—	—	—	—	—	—	364,524
Sales of Series C convertible preferred stock, net of issuance costs of $882,911	—	—	—	—	—	—	—	—	14,117,089
Issuance of common stock	—	—	1	—	7,812	—	—	—	7,812
Deferred compensation	—	—	—	—	98,381	(98,381)	—	—	—
Amortization of deferred compensation	—	—	—	—	—	64,279	—	—	64,279
Comprehensive loss:									
Net loss	—	—	—	—	—	—	—	(1,459,060)	(1,459,060)
Unrealized gain on investments	—	—	—	—	—	—	10,313	—	10,313
Total comprehensive loss									(1,448,747)
Balance, December 31, 2000	—	—	62	—	107,629	(34,361)	10,313	(2,452,453)	12,862,741
Sales of Series D convertible preferred stock, net of issuance costs of $2,286,789	—	—	—	—	—	—	—	—	37,674,460
Amortization of deferred compensation	—	—	—	—	—	26,466	—	—	26,466
Comprehensive loss:									
Net loss	—	—	—	—	—	—	—	(8,213,604)	(8,213,604)
Unrealized loss on investments	—	—	—	—	—	—	(10,313)	—	(10,313)
Total comprehensive loss									(8,223,917)
Balance, December 31, 2001	—	—	62	—	107,629	(7,895)	—	(10,666,057)	42,339,750
Exercise of stock options	—	—	6	—	40,000	—	—	—	40,000
Amortization of deferred compensation	—	—	—	—	—	7,895	—	—	7,895
Net loss and comprehensive loss	—	—	—	—	—	—	—	(13,491,424)	(13,491,424)
Balance, December 31, 2002	—	—	68	—	147,629	—	—	(24,157,481)	28,896,221
Exercise of stock options	—	—	—	—	775	—	—	—	775
Issuance of options to consultants	—	—	—	—	10,917	—	—	—	10,917
Issuance of Series D convertible preferred stock in connection with the termination of collaboration agreement	—	—	—	—	—	—	—	—	1,608,000
Sales of Series E convertible preferred stock, net of issuance costs of $803,782	—	—	—	—	—	—	—	—	34,196,218
Net loss and comprehensive loss	—	—	—	—	—	—	—	(21,437,606)	(21,437,606)
Balance, December 31, 2003	—	—	68	—	159,321	—	—	(45,595,087)	43,274,525
Exercise of stock options	—	—	—	—	643	—	—	—	643
Warrants issued for in-process research and development	—	—	—	—	193,167	—	—	—	193,167
Sales of Series E convertible preferred stock, net of issuance costs of $148,169	—	—	—	—	—	—	—	—	14,851,829
Comprehensive loss:									
Net loss	—	—	—	—	—	—	—	(23,641,527)	(23,641,527)
Unrealized loss on investments	—	—	—	—	—	—	(65,429)	—	(65,429)
Total comprehensive loss									(23,706,956)
Balance, December 31, 2004	—	—	68	—	353,131	—	(65,429)	(69,236,614)	34,613,208
Exercise of stock options	—	—	6,875	7	12,986	—	—	—	12,993
Warrants issued for in-process research and development	—	—	—	—	140,247	—	—	—	140,247
Sales of Series E-2 convertible preferred stock, net of issuance costs of $134,441	3,670,138	26,510,745	—	—	—	—	—	—	26,510,745
Comprehensive loss:									
Net loss	—	—	—	—	—	—	—	(22,907,732)	(22,907,732)
Unrealized gain on investments	—	—	—	—	—	—	31,457	—	31,457
Total comprehensive loss									(22,876,275)
Balance, December 31, 2005	3,670,138	$ 26,510,745	6,943	$ 7	$ 506,364	$ —	$ (33,972)	$ (92,144,346)	$ 38,400,918

See accompanying notes to financial statements.

PTC THERAPEUTICS, INC.
(A Development-Stage Company)

STATEMENTS OF CASH FLOWS
Years Ended December 31, 2003, 2004, and 2005, and for the Period from March 31, 1998 (inception) to December 31, 2005

	Year Ended December 31,			Period from March 31, 1998 (inception) to December 31, 2005
	2003	2004	2005	
Cash flows from operating activities:				
Net loss allocable to common stockholders	$ (21,437,606)	$ (23,641,527)	$ (22,907,732)	$ (92,144,346)
Adjustments to reconcile net loss to net cash used in operating activities:				
Depreciation and amortization	1,553,029	1,437,444	1,466,131	6,325,046
In-process research and development charge	1,608,000	193,167	140,247	1,941,414
Stock-based compensation expense	10,917	—	—	109,692
Issuance of common stock for license	—	—	—	7,812
Realized gain on investment	—	—	—	(10,314)
Gain on disposal of fixed assets	(2,768)	—	—	(2,768)
Forgiveness of related-party loan	—	50,000	50,000	100,000
Changes in operating assets and liabilities:				
Prepaid expenses and other current assets	157,788	(443,388)	(414,814)	(1,086,755)
Deposits and other assets	19,970	(5,617)	(241,655)	(295,704)
Accounts payable	376,275	565,409	(397,790)	1,183,261
Accrued expenses	1,513,238	(454,012)	1,209,491	2,710,366
Deferred rent	(24,185)	(109,183)	101,212	122,653
Deferred revenue	—	—	275,000	275,000
Net cash used in operating activities	(16,225,342)	(22,407,707)	(20,719,910)	(80,764,643)
Cash flows from investing activities:				
Purchases of fixed assets	(667,491)	(1,120,810)	(962,556)	(11,039,173)
Purchases of investments	(11,038,405)	(51,671,306)	(34,741,738)	(177,586,492)
Sales of investments	25,374,112	32,623,927	34,106,864	150,687,151
Issuance of related-party loan	(50,000)	(50,000)	(50,000)	(150,000)
Net cash used in investing activities	13,618,216	(20,218,189)	(1,647,430)	(38,088,514)
Cash flows from financing activities:				
Proceeds from long-term debt	—	317,080	1,366,678	7,825,587
Payments on long-term debt	(1,974,286)	(1,866,128)	(1,213,888)	(6,528,196)
Proceeds from sale of Series A preferred stock	—	—	—	750,000
Proceeds from sale of Series B preferred stock, net of issuance costs	—	—	—	364,524
Proceeds from sale of Series C preferred stock, net of issuance costs	—	—	—	14,117,089
Proceeds from sale of Series D preferred stock, net of issuance costs	—	—	—	37,674,460
Proceeds from sale of Series E preferred stock, net of issuance costs	34,196,218	14,851,829	—	49,048,047
Proceeds from sale of Series E-2 preferred stock, net of issuance costs	—	—	26,510,745	26,510,745
Net proceeds from issuance of common stock	775	643	12,993	55,453
(Payments on) proceeds from short-term borrowings	—	121,975	(121,975)	—
Net cash provided by financing activities	32,222,707	13,425,399	26,554,553	129,817,709
Net increase (decrease) in cash and cash equivalents	29,615,581	(29,200,497)	4,187,213	10,964,552
Cash and cash equivalents, beginning of period	6,362,255	35,977,836	6,777,339	—
Cash and cash equivalents, end of period	$ 35,977,836	$ 6,777,339	$ 10,964,552	$ 10,964,552
Supplemental disclosure:				
Cash paid for interest	$ 358,022	$ 186,434	$ 138,770	$ 1,007,331
Unrealized gain (loss) on investments	—	(65,429)	31,457	(33,972)
Issuance of Series D preferred stock for in-process research and development	1,608,000	—	—	1,608,000
Issuance of warrants for in-process research and development	—	193,167	140,247	333,414
Acquisition of fixed assets through capital leases	—	—	—	15,110

See accompanying notes to financial statements.

PTC THERAPEUTICS, INC.
(A Development-Stage Company)

NOTES TO FINANCIAL STATEMENTS
December 31, 2004 and 2005

(1) The Company

PTC Therapeutics, Inc. (the Company) was incorporated as a Delaware corporation on March 31, 1998. The Company is in the development-stage and is a biopharmaceutical company focused on the discovery, development and commercialization of orally administered, proprietary small-molecule drugs that target post-transcriptional control processes.

The Company is devoting substantially all of its efforts toward product research and development, initial sales and market development, and raising capital. The Company has not generated product revenue to date and is subject to a number of risks similar to those of other development-stage companies, including dependence on key individuals, the development of commercially usable products, the need to obtain adequate additional financing necessary to fund the development of its products, and competition from larger companies. The Company has incurred losses each year since inception. As of December 31, 2005, the Company had a deficit accumulated during the development stage of $92.1 million. Given its planned level of operating expenses, management believes that its existing cash and cash equivalents and short-term investments, expected revenue from collaborations, grants, and interest income should be sufficient to meet its operating and capital requirements at least through 2007.

The Company may require amounts of additional capital in the future to fund operations, and the Company does not have any assurance that funding will be available when needed or on terms that the Company finds favorable, if at all. If the Company is unable to raise additional capital when required, the Company may need to delay, scale back, or eliminate some of its research and development programs.

(2) Summary of Significant Accounting Policies

(a) Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

(b) Cash and Cash Equivalents

The Company considers all highly liquid investments purchased with a maturity of 90 days or less at the time of purchase to be cash equivalents. Cash equivalents are carried at market value.

(c) Investments

The Company’s short-term investments consist of debt securities. Management determines the classification of debt securities at the time of purchase and re-evaluates such designation as of each balance sheet date. Management cannot definitively state that it has the ability and intent to hold its short-term investments to maturity. As such, these investments are classified as available-for-sale and carried at fair market value, with any unrealized gain or loss recorded as a separate component of stockholders’ equity. As of December 31, 2004 and 2005, the Company has held all of its short-term investments to maturity. Fair value is based upon market prices quoted on the last day of the fiscal quarter.

The Company reviews its short-term investments on a periodic basis for other-than-temporary impairments. This review is subjective, as it requires management to evaluate whether an event or change in circumstances has occurred in that period that may have a significant adverse effect on the fair value of the

investment. As of December 31, 2005, the Company has deemed its unrealized loss not to be other-than-temporary.

Following is a summary of investments accounted for as available-for-sale securities at December 31, 2004 and 2005:

	December 31, 2004			
		Unrealized		
	Cost	Gains	Losses	Estimated Fair Value
December 31, 2004:				
Commercial paper	$ 996,657	$ —	$ (617)	$ 996,040
U.S. corporate debt securities	23,089,766	—	(64,745)	23,025,021
U.S. government debt securities	2,188,357	35	(102)	2,188,290
Total short-term investments	$ 26,274,780	$ 35	$ (65,464)	$ 26,209,351

	December 31, 2005			
		Unrealized		
	Cost	Gains	Losses	Estimated Fair Value
December 31, 2005:				
Commercial paper	$ 1,497,124	$ —	$ —	$ 1,497,124
U.S. corporate debt securities	25,412,530	—	(33,972)	25,378,558
Total short-term investments	$ 26,909,654	$ —	$ (33,972)	$ 26,875,682

All investments on the balance sheet at December 31, 2005 mature in 2006.

(d) Depreciation and Amortization

Depreciation and amortization are computed using the straight-line method based on the shorter of the estimated useful life of the related asset, or the lease term after considering renewals, as follows:

Lab leasehold improvements	7 years
Computer equipment and software	3 years
Furniture, fixtures and lab equipment	3 to 7 years
Leasehold improvements	7 years

Depreciation and amortization expense was $1,553,029, $1,437,444, $1,466,131, and $6,325,046 for the years ended December 31, 2003, 2004, and 2005, and the period from March 31, 1998 (inception) to December 31, 2005, respectively.

(e) Concentration of Credit Risk

The Company has no significant off-balance-sheet risk or credit risk concentrations. The Company maintains its cash, cash equivalents and short-term investments with various established financial institutions. The Company invests its excess funds primarily in government bonds and “A” rated, or better, corporate bonds.

PTC THERAPEUTICS, INC.
(A Development-Stage Company)

NOTES TO FINANCIAL STATEMENTS—(Continued)

(f) Deferred Rent

The Company has several operating leases for office space and office equipment. Under the terms of the office building lease, the Company was entitled to $166,000 of lease incentives as a reimbursement for leasehold improvements. In addition, four months of lease incentives totaling $125,000 were included in the initial lease terms. Two months of lease incentives were taken at the beginning of the lease in 2004 and two will be taken at the end of the lease in 2009, The remaining rent due on the lease, after incentives, is spread evenly over the lease period and recorded as rent expense. The difference between the actual cash paid and the rent expense is recorded as deferred rent.

(g) Revenue Recognition

Revenues represent grant proceeds and income from a collaboration agreement. The Company records deferred revenue for amounts received upfront under collaboration agreements in which they have continuing involvement, and the Company recognizes such deferred amounts as revenue ratably over the estimated contract performance period. Such revenue recognition may be accelerated in the event of contract termination prior to completion of the expected performance period. Milestone fees are recorded as revenue when the milestone event is achieved. Grant revenues are recognized as the cash is received or when the related preclinical, clinical or regulatory milestones are met.

(h) Research and Development Costs

Research and development expenses include the clinical development costs associated with the Company's product development programs and research and development costs associated with the Company's discovery programs. These expenses include internal research and developments costs and the costs of research and development conducted on behalf of the Company by third parties, including sponsored university-based research agreements and clinical study vendors. All research and development costs are expensed as incurred. Costs incurred in obtaining technology licenses are charged immediately to research and development expense if the technology licensed has not reached technological feasibility and has no alternative future uses. For the years ended December 31, 2003, 2004, and 2005, and the period from March 31, 1998 (inception) to December 31, 2005, the Company recorded in-process research and development charges of $1,608,000, $193,167, $140,247, and $1,941,414, respectively, related to a license agreement (see note 9).

(i) Fair Value of Financial Instruments

Cash and cash equivalents, short-term investments and accounts payable are reflected in the accompanying financial statements at fair value due to the short-term nature of those instruments. The carrying amounts of the Company's debt obligations approximate their fair values as of each of the balance sheet dates based upon the interest rates on recent borrowings.

(j) Impairment of Long-Lived Assets

The Company assesses the recoverability of long-lived assets by determining whether the carrying value of such assets can be recovered through the sum of the undiscounted future operating cash flows and cash flows from the eventual disposition of the asset. If impairment is indicated, the Company measures the amount of such impairment by comparing the carrying value of the assets to the fair value of these assets, generally determined based on the present value of the expected future cash flows associated with the assets. Although current and historical negative cash flows are indicators of impairment, management believes the future cash flows to be received from the long-lived assets and the ultimate success of the Company's research

PTC THERAPEUTICS, INC.
(A Development-Stage Company)

NOTES TO FINANCIAL STATEMENTS—(Continued)

programs will exceed the assets' carrying value, and accordingly, the Company has not recognized any impairment losses through December 31, 2005.

(k) Stock-Based Compensation

The Company has elected to account for its employee stock-based compensation plans following Accounting Principles Board (APB) Opinion No. 25, *Accounting for Stock Issued to Employees*, and related interpretations rather than the alternative fair value accounting provided under Statement of Financial Accounting Standards (SFAS) No. 123, *Accounting for Stock-Based Compensation* (see note 8).

The Company has adopted the disclosure provisions of SFAS No. 123, as amended by SFAS No. 148, *Accounting for Stock-Based Compensation— Transition and Disclosure*. The following table illustrates the effect on the net loss if the fair-value-based method had been applied to all outstanding and unvested awards in each period.

	Year Ended December 31,			Period from March 31, 1998 (inception) to December 31,
	2003	2004	2005	2005
Net loss allocable to common stockholders, as reported	$ (21,437,606)	$ (23,641,527)	$ (22,907,732)	$ (92,144,346)
Deduct total stock-based employee compensation expense determined under fair-value-based method for all awards	(33,656)	(25,603)	(464,570)	(594,563)
Pro forma net loss allocable to common stockholders	$ (21,471,262)	$ (23,667,130)	$ (23,372,302)	$ (92,738,909)
Basic and diluted net loss per share allocable to common stockholders, as reported	$ (315,259)	$ (347,670)	$ (9,925)	
Pro forma basic and diluted loss per share allocable to common stockholders	$ (315,754)	$ (348,046)	$ (10,127)	

The Company has computed the pro forma disclosures required under SFAS No. 123 using the Black-Scholes option-pricing model prescribed by SFAS No. 123. There were 2,106,803 options granted in 2005. The weighted average fair value of options granted during 2003 and 2005 is $0.04 per share and $0.31 per share, respectively. There were no stock option grants in 2004. The fair value of each option grant in 2003 and 2005 was estimated on the date of grant with the following assumptions:

	2003	2005
Risk-free interest rate	2.53%	3.62%
Expected life	5	5
Dividend yield	0%	0%
Expected volatility	0%	0%

PTC THERAPEUTICS, INC.
(A Development-Stage Company)

NOTES TO FINANCIAL STATEMENTS—(Continued)

(l) Income Taxes

The Company accounts for income taxes under the asset and liability method in accordance with SFAS No. 109, *Accounting for Income Taxes*. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in the statement of operations in the period that includes the enactment date.

(m) Recently Issued Accounting Standards

In December 2004, the Financial Accounting Standards Board (FASB) issued SFAS No. 123(R), *Share-Based Payment*. SFAS No. 123(R) supersedes SFAS No. 123, APB Opinion No. 25 and its related implementation guidance. SFAS No. 123(R) will require compensation costs related to share-based payment transactions to be recognized in the financial statements. The amount of compensation cost will be measured based on the grant-date fair value of the equity or liability instruments issued. Compensation cost will be recognized over the period that an employee provides service in exchange for the award. SFAS No. 123(R) is effective as of the beginning of the first interim or annual reporting period that begins after December 15, 2005. The Company has not yet determined the impact that implementing SFAS No. 123(R) will have on the Company's results of operations or financial condition.

In June 2005, the FASB issued SFAS No. 154, *Accounting Changes and Error Corrections*. This statement requires that a voluntary change in accounting principle be applied retrospectively with all prior period financial statements presented on the basis of the new accounting principle, unless it is impracticable to do so. SFAS No. 154 also provides that (1) a change in method of depreciating or amortizing a long-lived nonfinancial asset be accounted for as a change in estimate (prospectively) that was effected by a change in accounting principle, and (2) correction of errors in previously issued financial statements should be termed a "restatement." The new standard is effective for accounting changes and correction of errors made in fiscal years beginning after December 15, 2005. Early adoption of this standard is permitted for accounting changes and correction of errors made in fiscal years beginning after June 1, 2005. The Company does not anticipate that the adoption of this statement will have a material impact on the Company's results of operation or financial condition.

In November 2005, the FASB issued FASB Staff Position FAS 115-1 and FAS 124-1, *The Meaning of Other-Than-Temporary Impairment and Its Application to Certain Investments* (FSP). The FSP addresses the determination as to when an investment is considered impaired, whether that impairment is other than temporary and the measurement of an impairment loss. The FSP also includes accounting considerations subsequent to the recognition of an other-than-temporary impairment and requires certain disclosures about unrealized losses that have not been recognized as other-than-temporary impairments. The guidance in the FSP is required to be applied to reporting periods beginning after December 15, 2005. The Company will adopt the provisions of this FSP in 2006 and does not currently believe that implementation will have a material effect on the results of the Company's operations or financial condition.

(n) Segment Information

The Company is managed and operated as one business. The Company is managed by a single management team that reports to the chief executive officer. The Company does not operate separate lines of business or separate business entities with respect to any of its product candidates. Accordingly, the Company does not prepare discrete financial information with respect to separate product areas, or by location, and does not have separately reportable segments.

PTC THERAPEUTICS, INC.
(A Development-Stage Company)

NOTES TO FINANCIAL STATEMENTS—(Continued)

(o) Restatement

During the year ended December 31, 2002, the Company restated its 2001 financial statements to properly account for its investments. The Company previously reported its investments at cost instead of amortized cost. The restatement resulted in a decrease to interest income and an increase in net loss and deficit accumulated during the development stage of $275,452.

(p) Reclassifications

Certain reclassifications have been made to the 2003 and 2004 financial statements and the financials statements for the period from March 31, 1998 (inception) to December 31, 2005 to conform to the 2005 presentation.

(q) Advertising Costs

Advertising costs are charged to expense as incurred.

(r) Patent Costs

Patent costs are charged to expense as incurred.

(s) Net Loss per Share

Net loss per share is computed in accordance with SFAS No. 128, *Earnings per Share*, by dividing the net loss allocable to common stockholders by the weighted average number of shares of common stock outstanding.

As of December 31, 2005, the Company has outstanding certain options, warrants and convertible preferred stock (see notes 7 and 8), which have not been used in the calculation of diluted net loss per share because to do so would be anti-dilutive. Anti-dilutive instruments totaled approximately 7,991,000, 10,112,000, and 15,847,000 at December 31, 2003, 2004, and 2005, respectively. As such, the numerator and the denominator used in computing both basic and diluted net loss per share allocable to common stockholders are equal.

(t) Pro Forma Net Loss per Share (Unaudited)

The following pro forma basic and diluted net loss per share allocable to common stockholders and shares used in computing pro forma basic and diluted net loss per share allocable to common stockholders have been presented reflecting the assumed automatic conversion into shares of common stock of the convertible

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preferred stock upon completion of the planned initial public offering (the Offering) (see note 7), using the if converted method from their respective dates of issuance:

	Year Ended December 31, 2005
	(unaudited)
Net loss allocable to common stockholders	$ (22,907,732)
Weighted average shares used in computing basic and diluted net loss per share	2,308
Basic and diluted net loss per common share	$ (9,925)
Pro forma (unaudited):	
Shares used above	2,308
Pro forma adjustment to reflect weighted effect of assumed conversion of convertible preferred stock	10,829,326
Shares used in computing pro forma basic and diluted net loss per common share	10,831,634
Pro forma basic and diluted net loss per common share (unaudited)	$ (2.11)

(u) Pro Forma Balance Sheet (Unaudited)

Upon the closing of the Offering, all of the outstanding shares of convertible preferred stock as of December 31, 2005 will automatically convert into 13,504,722 shares of common stock (see note 7). The December 31, 2005 unaudited pro forma balance sheet has been prepared assuming the automatic conversion of the convertible preferred stock outstanding as of December 31, 2005 into common stock.

(3) Income Taxes

The effective tax rate varies from the U.S. federal statutory tax rate for the years ended December 31, 2003, 2004, and 2005 principally due to the following:

	2003		2004		2005	
	Amount	%	Amount	%	Amount	%
U.S. Federal statutory tax	$ (7,288,786)	(34.0)%	$ (8,191,385)	(34.0)%	$ (7,951,433)	(34.0)%
Add (deduct):						
Sale of state net operating losses	(235,142)	(1.1)	(450,781)	(1.9)	(478,837)	(2.0)
State tax benefit on deferred taxes	—	—	(2,817,428)	(11.7)	(2,895,164)	(12.4)
Federal research and development credits	(782,985)	(3.7)	(910,000)	(3.8)	(1,119,567)	(4.8)
Change in valuation allowance	8,060,518	37.6	11,903,786	49.4	11,927,854	51.0
Other net	11,253	0.1	15,027	0.1	38,310	0.2
Tax benefit	$ (235,142)	(1.1)%	$ (450,781)	(1.9)%	$ (478,837)	(2.0)%

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The components of the Company's deferred tax assets and liabilities at December 31, 2004 and 2005 are as follows:

	2004	2005
Deferred tax assets		
Amortization	$ 197,739	$ 185,447
Accruals	86,416	186,250
Federal tax credits	2,592,037	3,711,604
State tax credits	1,959,903	2,825,245
Federal net operating losses	15,399,753	18,178,386
State net operating losses	3,874,728	4,554,412
Capitalized research and development costs	9,541,084	15,625,393
Other	125,317	217,901
	33,776,977	45,484,638
Valuation allowance	(33,522,215)	(45,450,069)
Total assets	254,762	34,569
Deferred tax liabilities:		
Depreciation	(254,762)	(34,569)
Total liabilities	(254,762)	(34,569)
Net deferred tax asset	$ —	$ —

The increase in the valuation allowance during the years ended December 31, 2003, 2004, and 2005 was approximately $8,061,000, $11,904,000, and $11,928,000, respectively. At December 31, 2004 and 2005, the Company had recorded a full valuation allowance against its net deferred tax asset of approximately $33,522,000 and $45,450,000, respectively, as management believes it cannot at this time conclude that it is more likely than not they will be realized.

As of December 31, 2004 and 2005, the Company has approximately $44,763,000 and $52,536,000, respectively, of federal net operating loss carryforwards, and $41,914,000 and $49,687,000, respectively, of state net operating loss carryforwards. As of December 31, 2005, credit carryforwards for federal and state purposes are $3,712,000 and $2,825,000, respectively. The federal net operating loss carryforwards expire beginning in 2018, while the federal credit carryforwards expire beginning in 2013. Both are subject to review and possible adjustment by the Internal Revenue Service. State net operating loss carryforwards begin to expire in 2009 and the state credit carryforwards begin to expire in 2015. The *Internal Revenue Code* contains provisions that may limit the net operating loss and credit carryforwards available to be used in any given year given certain historical changes in the ownership interests of significant stockholders.

During the years ended December 31, 2003, 2004, and 2005, the Company sold $271,841, $521,134, and $547,242, respectively, of New Jersey state net operating loss carryforwards to a third-party. Accordingly, the Company recorded income tax benefits and received cash for the years ended December 31, 2003, 2004 and 2005 in the amount of $235,142, $450,781, and $478,837, respectively.

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NOTES TO FINANCIAL STATEMENTS—(Continued)

(4) Fixed Assets, Net

Fixed assets, net were as follows at December 31, 2004 and 2005:

	2004	2005
Lab leasehold improvements	$ 1,763,281	$ 1,763,281
Computer equipment and software	1,629,726	1,766,827
Furniture and fixtures and lab equipment	5,603,508	6,190,666
Leasehold improvements	802,785	1,011,723
Construction in progress	249,733	279,092
	10,049,033	11,011,589
Less accumulated depreciation	(4,843,672)	(6,309,803)
	$ 5,205,361	$ 4,701,786

(5) Accrued Expenses

Accrued expenses at December 31, 2004 and 2005 consist of the following:

	2004	2005
Employee compensation, benefits, and related accruals	$ 832,070	$ 1,113,030
Consulting and contracted research	390,299	710,028
Professional fees	175,727	607,387
Other	102,779	279,921
	$ 1,500,875	$ 2,710,366

(6) Long-Term Debt

In March 2001, the Company entered into a $1,300,000 equipment facility agreement with a bank. The equipment facility bore interest at a fixed rate of 7.65%. Borrowings under this line were collateralized by certain of the Company's business assets. Under this agreement, the Company recorded interest expense of $30,482, $2,515, and $150,882 for the years ended December 31, 2003 and 2004 and the period from March 31, 1998 (inception) to December 31, 2005, respectively. This equipment facility matured on April 1, 2004.

In January 2002, the Company entered into an equipment line of credit with a lending institution. In accordance with the line of credit, the Company entered into a series of promissory notes in the aggregate amount of $4,824,414, which were collateralized by certain of the Company's fixed assets. These promissory notes carried fixed interest rates ranging from 9.51% to 9.83%. The Company recorded interest expense of $327,201, $171,885, $29,427, and $721,316 for the years ended December 31, 2003, 2004, and 2005, and the period from March 31, 1998 (inception) to December 31, 2005, respectively, related to these promissory notes. In connection with the promissory notes, in 2002 the Company issued warrants to purchase 59,378 shares of the Company's common stock (see note 7). At the time of issuance, the fair value of the warrants was determined to be immaterial. The notes matured in 2005.

In June 2004, the Company entered into an equipment line of credit with a lending institution. In accordance with the line of credit, the Company entered into two promissory notes in 2004 for an aggregate amount of $317,080 and four promissory notes in the aggregate amount of $1,366,678 in 2005, all of which are collateralized by certain of the Company's fixed assets. These promissory notes carry fixed interest rates

ranging from 9.55% to 10.30% and are payable in fixed monthly installments. The Company recorded interest expense of $9,745, $111,220, and $120,965 for the years ended December 31, 2004 and 2005, and the period from March 31, 1998 (inception) to December 31, 2005, respectively, related to these promissory notes.

Short-term borrowings in 2004 included outstanding checks that were reclassified to accounts payable on the balance sheet at December 31, 2004.

Long-term debt maturities as of December 31, 2005 are as follows:

2006	$ 477,808
2007	512,712
2008	261,122
2009	30,639
	$ 1,282,281

(7) Stockholders' Equity

(a) Reverse Stock Split

In conjunction with the Series E financing, the Company effected a 30,000-for-1 reverse stock split of the common stock in 2004. As a result, the Company's issued and outstanding stock was reduced from 2,137,564 to 68 shares. The par value of the common stock was not affected by the reverse stock split and remains at $0.001 per share. Consequently, the aggregate par value of the issued common stock was reduced by reclassifying the par value amount of the eliminated shares of common stock to additional paid-in capital. Outstanding shares have been retroactively restated in the financial statements and in the notes to financial statements for all periods presented to reflect the reverse stock split.

(b) Founders' Common Stock

During 1998, the Company issued 59 shares of common stock to the two founders of the Company for consideration representing the fair market value of the shares. The Company also issued two shares of common stock to a university in exchange for an exclusive license. The license agreement had antidilution provisions. Under this provision, the Company issued an additional one share to the university during 2000 (see note 9).

The holders of the common stock are entitled to elect two members of the Board of Directors.

(c) Convertible Preferred Stock

As of December 31, 2005, the Company has authorized for issuance up to 153,407,582 shares of preferred stock, $0.001 par value. The authorized shares have been designated as follows: 750,000 shares of Series A convertible preferred stock (Series A), 187,500 shares of Series B convertible preferred stock (Series B), 6,295,000 shares of Series C convertible preferred stock (Series C), 13,800,000 shares of Series D convertible preferred stock (Series D), 128,242,850 shares of Series E convertible preferred stock (Series E), and 4,132,232 of Series E-2 convertible preferred stock (Series E-2).

The rights and preferences of the Series A, Series B, Series C, Series D, Series E, and Series E-2 are as follows:

Conversion— On a post-reverse-split basis, each share of Series A, Series B, Series C, Series D, Series E, and Series E-2 stock is convertible at the option of the holder into such number of shares of common stock as is determined by applying a factor to the outstanding shares of approximately 0.0833, 0.1333, 0.1389, 0.1548,

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0.0548, and 1.00 for the Series A, Series B, Series C, Series D, Series E, and Series E-2, respectively. These conversion factors are subject to adjustment. Prior to the issuance of Series E, each share of preferred stock was convertible into one share of common stock. The conversion becomes automatic upon the closing of an initial public offering in which not less than $50,000,000 of net proceeds shall be received by the Company, at a price per share for common stock that is at least equal to two times the Series E-2 price of $7.26 per share.

Voting— Each preferred shareholder is entitled to the number of votes per share as if the preferred shares were converted to common stock. Additionally, the holders of the preferred stock, voting as a single class, are entitled to elect four members of the Board of Directors.

Liquidation— Upon the liquidation, dissolution or winding-up of the Company, holders of preferred stock will be entitled to receive, before any distribution or payment is made on the common stock, an amount equal to $1.00 per share for Series A, $2.00 per share for Series B, $2.50 per share for Series C, $3.25 per share for Series D, $0.397644 per share for Series E, and $7.26 per share for Series E-2, plus all declared, but unpaid, dividends. As of December 31, 2005, the aggregate liquidation preference is $750,000, $375,000, $15,000,000, $42,561,249, $49,999,998, and $26,645,187 for the Series A, Series B, Series C, Series D, Series E, and Series E-2 stock, respectively. The Company has never declared any dividends.

(d) Warrants

In 2000, the Company issued warrants to purchase 295,000 shares of Series C stock for services rendered in connection with the Series C financing. The warrants vested immediately and have an exercise price of $2.50 per share. The warrants expire in 2010.

In 2001, the Company issued a warrant to purchase one share of the Company's common stock for services rendered by a consultant. The warrant vested immediately and had an exercise price of $75,000. Under the Black-Scholes option-pricing model, the fair market value of the warrant was immaterial. The warrant expired in 2005.

In 2001, the Company issued warrants to purchase 614,788 shares of Series D stock for services rendered in connection with the Series D financing. The warrants vested immediately and have an exercise price of $3.25 per share. The warrants expire in 2011.

In 2002, the Company issued warrants (with antidilution protection) to purchase 59,378 shares of the Company's common stock in connection with a debt financing (see note 6). The warrants vested immediately and have an exercise price of $97,500 per share. The warrants expire in 2009. In connection with the Series E financing in 2004, the Company and warrant holder agreed to cancel the existing common stock warrants and to replace them with Series D stock warrants to purchase 614,788 shares of Series D stock at $3.25 per share. Both the common stock warrants and the Series D stock warrants were determined to have the same approximate fair value.

In 2003, the Company issued warrants (with antidilution protection) to purchase shares of common stock in connection with the termination of a collaboration agreement and acquisition of the related intangibles (see note 9). Based on adjustments to the conversion price resulting from the Series E financing and accounting for the subsequent reverse stock split, the warrants are exercisable for 77,380 shares of common stock as of December 31, 2005. The warrants vest upon the achievement of certain clinical milestones, the first of which was met in 2004 and a second milestone was met in 2005. As a result, on a split adjusted basis, warrants to purchase 38,690 and 23,214 shares of common stock vested, with related charges of $193,167, $140,247, and $333,414 for the years ended December 31, 2004 and 2005, and the period from March 31, 1998 (inception) to December 31, 2005, respectively.

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In 2004, the Company issued warrants to purchase 994,415 shares of Series E preferred stock for services rendered in connection with the Series E financing. The warrants immediately vested with an exercise price of $0.3976 per share.

Unless otherwise noted, all warrants are outstanding as of December 31, 2005.

(8) Stock Option Plan

During 1998, the Company established the 1998 Stock Option Plan (the 1998 Plan), which provides for the granting of incentive stock options and nonqualified stock options. In 2005, the Board of Directors approved an additional 400,000 shares for grant under this plan. As of December 31, 2005, 254,168 options were available for grant. The Board of Directors has the authority to select the employees and nonemployees to whom options are granted and determine the terms of each option, including (i) the number of shares of common stock subject to the option; (ii) the date on which the option becomes exercisable; (iii) the option exercise price, which, in the case of incentive stock options, must be at least 100% (110% in the case of incentive stock options granted to a stockholder owning in excess of 10% of the Company's stock) of the fair market value of the common stock as of the date of grant; and (iv) the duration of the option (which, in the case of incentive stock options, may not exceed ten years). Options granted under the 1998 Plan vest over various periods and expire no later than ten years from the date of grant.

A summary of stock option activity to employees and nonemployees is as follows:

	Number of Shares	Exercise Price	Weighted Average Exercise Price
Outstanding at March 31, 1998 (inception)	—	$ —	$ —
Granted	88	3,000-9,900	8,225.00
Exercised	(7)	6,000-7,500	6,005.00
Forfeited	(12)	6,000-9,900	6,809.00
Outstanding at December 31, 2002	69	3,000-9,900	8,692.00
Granted	25	9,900	9,900.00
Exercised	—	—	—
Forfeited	(1)	9,900	9,900.00
Outstanding at December 31, 2003	93	3,000-9,900	9,010.25
Granted	—	—	—
Exercised	—	—	—
Forfeited	—	—	—
Outstanding at December 31, 2004	93	3,000-9,900	9,010.25
Granted	2,106,803	1.89	1.89
Exercised	(6,875)	1.89	1.89
Forfeited	(35,063)	1.89-9,900	3.04
Outstanding at December 31, 2005	2,064,958	1.89-9,900	2.28
Exercisable at December 31, 2005	1,379,159	$ 1.89-9,900	$ 2.42

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Exercise Price Range	Number of Options Outstanding	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life in Years	Number of Options Exercisable	Weighted Average Exercise Price
$3,000-9,900	89	$ 8,145.65	6.21	81	$ 8,910.14
1.89	2,064,869	1.89	8.91	1,379,078	1.89
	2,064,958			1,379,159	

The Company issued common stock options in connection with the Company's stock plans to nonemployees. The Company recognized compensation expense related to these options of $10,917, $0, $0, and $109,692 for the years ended December 31, 2003, 2004, and 2005, and the period from March 31, 1998 (inception) to December 31, 2005, respectively. Included in the above tables are fractional shares outstanding as a result of the 30,000-for-1 reverse stock split.

(9) Commitments and Contingencies

(a) Amgen SF, LLC (formerly Tularik, Inc.) Collaboration Agreement

In 1998, the Company entered into a collaboration agreement with Amgen SF, LLC (Amgen) to develop and market novel therapeutic products based on compounds identified from an established cooperative research relationship between the two parties. This research was being directed by the research management committee, which consists of representatives from both parties. Under this agreement, Amgen agreed to pay milestone payments upon the occurrence of certain events, as defined in the agreement.

In 2003, the Company received shareholder consent to terminate the existing collaboration agreement with Amgen and enter into a new license agreement. Under the terms of the license agreement, the Company received rights in the nonsense suppression field to specific compounds and intellectual property generated under the prior collaboration agreement. In exchange for these rights, the Company issued Amgen 800,000 shares of Series D stock and warrants for shares of common stock (see note 7). The preferred shares were 100% vested upon issuance and the warrants vest based on certain clinical milestones. The warrants will be valued using the Black-Scholes option-pricing model and the Company will record a noncash expense upon achievement of the milestones. The value of the Series D stock issued in connection with the agreement was based upon an independent appraisal. In 2004, the Company recorded a noncash in-process research and development charge of $193,167, in conjunction with the vesting of a portion of the warrants based upon the achievement of the first clinical milestone. The amount was immediately expensed due to the preclinical status of the related compounds and intellectual property rights acquired. In 2005, the Company recorded a noncash in-process research and development charge of $140,247 upon the achievement of the second clinical milestone. Based on adjustments to the conversion price resulting from the Series E financing and accounting for the subsequent reverse stock split, the net number of vested shares underlying these milestones was 38,690 and 61,904 at December 31, 2004 and 2005, respectively.

(b) University of Medicine and Dentistry of New Jersey Research, Option and License Agreement

In 1998, the Company entered into a Research, Option and License Agreement (the Agreement) with the University of Medicine and Dentistry of New Jersey (the University) that gives the Company the exclusive right to develop and commercialize products covered by certain licensed technology. As partial consideration for the licenses, the Company issued 4% (two shares with par value of $0.001) of its common stock to the University in 1998. The fair market value of the shares issued was charged to expense due to the uncertainty of the future uses of the technology. In 2000, the Company issued an additional share to the

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University to ensure that its ownership interest in the Company continued to comprise 4% of the outstanding capital stock on a fully diluted basis until a total of $2,000,000 was raised by the Company, as required by the Agreement. The Agreement requires the Company to remit royalty payments on the sale of products, if any covered by the licensed technology. If products are sold by third parties through sublicensing agreements, then the Company is obligated to remit a portion of the sublicensing income related to the licensed technology to the University.

(c) Consulting Agreements

The Company has signed various consulting agreements with individuals for services to be provided through 2006.

(d) Operating Leases

The Company leases office space under a noncancelable operating lease through July 2009. Rent expense was $246,942, $180,715, $319,088 and $1,169,582 for the years ended December 31, 2003, 2004 and 2005, and the period from March 31, 1998 (inception) to December 31, 2005, respectively. The Company also leases certain office equipment under operating leases. Future minimum lease payments as of December 31, 2005 are as follows:

2006	$ 383,688
2007	393,763
2008	391,302
2009	169,688
	$ 1,338,441

(e) Related-Party Transactions

The Company issued a loan in the amount of $50,000 in 2003 in connection with the hiring of an executive. This executive was entitled to two additional loans of $50,000 each to be issued upon the one- and two-year anniversary date of the first issuance. The Company agreed to forgive payment of the loans upon the one-year anniversary date of each of the loan issuances assuming the executive is still an employee of the Company. Principal and interest were forgiven under this loan upon the one-year anniversary date of issuance. A second loan in the amount of $50,000 was made in 2004 and, along with interest, forgiven upon the executive's two-year anniversary in 2005. A final loan in the amount of $50,000 was made in August 2005. This loan was forgiven on March 29, 2006. As of December 31, 2005, the loan is included in prepaid expenses and other current assets on the accompanying balance sheet.

(f) 401(k) Plans

The Company maintains 401(k) plans for its employees. Employee contributions are voluntary. The Company may match employee contributions in amounts to be determined at the Company's sole discretion. No contributions have been made by the Company from March 31, 1998 (inception) to December 31, 2005.


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PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. *Other Expenses of Issuance and Distribution*

The following table indicates the expenses to be incurred in connection with the offering described in this Registration Statement, other than underwriting discounts and commissions, all of which will be paid by the Registrant. All amounts are estimated except the Securities and Exchange Commission registration fee and the National Association of Securities Dealers Inc. filing fee.

	Amount
Securities and Exchange Commission registration fee	$ 9,229
National Association of Securities Dealers Inc. fee	9,125
Nasdaq Stock Market listing fee	*
Accountants' fees and expenses	*
Legal fees and expenses	*
Blue Sky fees and expenses	*
Transfer Agent's fees and expenses	*
Printing and engraving expenses	*
Miscellaneous	*
Total expenses	$ *

* To be filed by amendment.

Item 14. *Indemnification of Directors and Officers*

Section 102 of the General Corporation Law of the State of Delaware permits a corporation to eliminate the personal liability of directors of a corporation to the corporation or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his or her duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit. The Registrant's certificate of incorporation provides that no director of the Registrant shall be personally liable to it or its stockholders for monetary damages for any breach of fiduciary duty as director, notwithstanding any provision of law imposing such liability, except to the extent that the General Corporation Law of the State of Delaware prohibits the elimination or limitation of liability of directors for breaches of fiduciary duty.

Section 145 of the General Corporation Law of the State of Delaware provides that a corporation has the power to indemnify a director, officer, employee, or agent of the corporation and certain other persons serving at the request of the corporation in related capacities against expenses (including attorneys' fees), judgments, fines and amounts paid in settlements actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he or she is or is threatened to be made a party by reason of such position, if such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful, except that, in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

The Registrant's restated certificate of incorporation provides that the Registrant will indemnify each person who was or is a party or threatened to be made a party to any threatened, pending or completed action,

suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the Registrant) by reason of the fact that he or she is or was, or has agreed to become, a director or officer of the Registrant, or is or was serving, or has agreed to serve, at the Registrant's request as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise, including any employee benefit plan, (all such persons being referred to hereafter as an "Indemnitee"), or by reason of any action alleged to have been taken or omitted in such capacity or in any other capacity while serving as a director, officer, partner, employee or trustee against all expenses (including attorneys' fees), liabilities, loss, judgments, fines, ERISA taxes or penalties and amounts paid in settlement actually and reasonably incurred by or on behalf of Indemnitee in connection with such action, suit or proceeding and any appeal therefrom, if such Indemnitee acted in good faith and in a manner which Indemnitee reasonably believed to be in, or not opposed to, the Registrant's best interests, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful. The Registrant's restated certificate of incorporation provides that the Registrant will indemnify any Indemnitee who was or is a party to or threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the Registrant to procure a judgment in the Registrant's favor by reason of the fact that the Indemnitee is or was, or has agreed to become, a director or officer of the Registrant, or is or was serving, or has agreed to serve, at the Registrant's request, as a director, officer, partner, employee or trustee of or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise, (including any employee benefit plan), or by reason of any action alleged to have been taken or omitted in such capacity or in any other capacity while serving as a director, officer, partner, employee or trustee, against all expenses (including attorneys' fees) and, to the extent permitted by law, amounts paid in settlement actually and reasonably incurred by or on behalf of Indemnitee in connection with such action, suit or proceeding and any appeal therefrom, if Indemnitee acted in good faith and in a manner which Indemnitee reasonably believed to be in, or not opposed to, the best interests of the Registrant, except that no indemnification shall be made with respect to any claim, issue or matter as to which Indemnitee shall have been adjudged to be liable to the Registrant, unless, and only to the extent, that the Court of Chancery of Delaware or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of such liability but in view of all the circumstances of the case, Indemnitee is fairly and reasonably entitled to indemnity for such expense (including attorney's fees) which the Court of Chancery of Delaware or such other court shall deem proper. Notwithstanding the foregoing, to the extent that an Indemnitee has been successful, on the merits or otherwise, in defense of any action, suit or proceeding, Indemnitee shall be indemnified by the Registrant against all expenses (including attorneys' fees) actually and reasonably incurred in connection therewith. Expenses must be advanced to an Indemnitee under certain circumstances.

The Registrant maintains a general liability insurance policy that covers certain liabilities of the Registrant's directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers.

In any Underwriting Agreement that the Registrant enters into in connection with the sale of common stock being registered hereby, the underwriters will agree to indemnify, under certain conditions, the Registrant, its directors, its officers and persons who control the Registrant within the meaning of the Securities Act of 1933, as amended, against certain liabilities.

Item 15. ***Recent Sales of Unregistered Securities***

Set forth below is information regarding shares of common stock and preferred stock issued, and options and warrants granted, by the Registrant within the past three years that were not registered under the Securities Act of 1933, as amended. Also included is the consideration, if any, received by the Registrant for such shares, options and warrants and information relating to the section of the Securities Act, or rule of the Securities and Exchange Commission, under which exemption from registration was claimed.

(a) Issuances of Securities

1. In December 2003 and in April and June 2004, the Registrant issued an aggregate of 125,740,607 shares of Series E convertible preferred stock at a price of $.397644 per share, together with warrants to purchase an aggregate of 994,415 shares of Series E convertible preferred stock with an exercise price of $.397644 per share to institutional investors, including Credit Suisse Entities, HBM BioVentures (Cayman) Ltd., Vulcan Capital Venture Holdings Inc., Delphi Ventures Entities, Bay City Capital Entities, Novo A/ S and Three Crowns Capital (Bermuda) Ltd., for aggregate cash proceeds of approximately $50.0 million.

2. In September and October 2005, the Registrant issued an aggregate of 3,670,138 shares of Series E-2 convertible preferred stock at a price of $7.26 per share to institutional investors, including Credit Suisse Entities, HBM BioVentures (Cayman) Ltd., Vulcan Capital Venture Holdings Inc., Delphi Ventures Entities, Bay City Capital Entities and Novo A/ S, for aggregate cash proceeds of approximately $26.6 million.

3. In the first quarter of 2004, we issued to General Electric Capital Corporation a warrant to purchase 59,378 shares of our series D convertible preferred stock in exchange for the cancellation of a previously issued warrant to purchase shares of our common stock.

No underwriters were involved in the foregoing sales of securities. The securities described in this section (a) of Item 15 were issued to a combination of foreign and U.S. investors in reliance upon the exemption from the registration requirements of the Securities Act, as set forth in Section 4(2) under the Securities Act and Rule 506 of Regulation D promulgated thereunder relative to sales by an issuer not involving any public offering, to the extent an exemption from such registration was required. All purchasers of shares of convertible preferred stock described above represented to the Registrant in connection with their purchase that they were accredited investors and were acquiring the shares for investment and not distribution, that they could bear the risks of the investment and could hold the securities for an indefinite period of time. The purchasers received written disclosures that the securities had not been registered under the Securities Act and that any resale must be made pursuant to a registration statement or an available exemption from such registration.

(b) Stock Option Grants

Since inception, the Registrant has issued options to certain employees, consultants and others to purchase an aggregate of 2,389,011 shares of common stock as of March 15, 2006. As of March 15, 2006, options to purchase 11,828 shares of common stock had been exercised, options to purchase 36,468 shares of common stock had been forfeited and options to purchase 2,340,715 shares of common stock remained outstanding at a weighted average exercise price of $2.40 per share.

The issuance of stock options and the common stock issuable upon the exercise of such options as described in this section (b) of Item 15 were issued pursuant to written compensatory plans or arrangements with the Registrant’s employees, directors and consultants, in reliance on the exemption provided by Rule 701 promulgated under the Securities Act. All recipients either received adequate information about the Registrant or had access, through employment or other relationships, to such information.

All of the foregoing securities are deemed restricted securities for purposes of the Securities Act. All certificates representing the issued shares of common stock described in this Item 15 included appropriate legends setting forth that the securities had not been registered and the applicable restrictions on transfer.

Item 16. ***Exhibits and Financial Statement Schedules***

(a) Exhibits

Exhibit Number	Description
1.1*	Form of Underwriting Agreement.
3.1	Restated Certificate of Incorporation of the Registrant.
3.2*	Form of Restated Certificate of Incorporation of the Registrant to be effective upon closing of the offering.
3.3	Amended and Restated Bylaws of the Registrant.
3.4*	Form of Amended and Restated Bylaws of the Registrant to be effective upon the closing of the offering.
4.1*	Specimen Stock Certificate evidencing shares of common stock.
4.2	Fifth Amended and Restated Investor Rights Agreement, dated as of September 21, 2005, by and among the Registrant and the other parties named therein.
4.3	Warrant to Purchase Shares of Series C Convertible Preferred Stock, dated May 26, 2000, issued to Three Crowns Capital (Bermuda) Ltd.
4.4	Warrant to Purchase Shares of Common Stock, dated March 15, 2001, issued to Silicon Valley Bank.
4.5	Warrant to Purchase Shares of Series D Convertible Preferred Stock, dated August 17, 2001, issued to Three Crowns Capital (Bermuda) Ltd.
4.6	Warrant to Purchase Shares of Series D Convertible Preferred Stock, dated August 28, 2001, issued to Three Crowns Capital (Bermuda) Ltd.
4.7	Warrant to Purchase Shares of Series D Convertible Preferred Stock issued to General Electric Capital Corporation.
4.8	Warrant to Purchase Shares of Common Stock, dated December 6, 2002, issued to Tularik Inc.
4.9	Warrant to Purchase Shares of Series E Convertible Preferred Stock, dated December 19, 2003, issued to Three Crowns Capital (Bermuda) Ltd.
4.10	Warrant to Purchase Shares of Series E Convertible Preferred Stock, dated April 21, 2004, issued Three Crowns Capital (Bermuda) Ltd.
5.1*	Opinion of Wilmer Cutler Pickering Hale and Dorr LLP.
10.1	Sixth Amended and Restated 1998 Employee, Director and Consultant Stock Option Plan.
10.2*	2006 Equity and Long Term Incentive Plan.
10.3*	2006 Employee Stock Purchase Plan.
10.4⊥	Research Collaboration and Exclusive Option Agreement, dated as of December 1, 2005, by and between Bausch & Lomb Incorporated and the Registrant.
10.5⊥	Collaboration and License Agreement, dated as of March 17, 2006, by and between the Registrant and Essex Chemie AG, a wholly owned subsidiary of Schering-Plough Corporation.
10.6*	Employment Agreement, dated as of August 1, 2002, between the Registrant and Stuart W. Peltz, Ph.D.
10.7*	Executive Employment Agreement, dated as of December 15, 2004, between the Registrant and William D. Ju, M.D.
10.8*	Executive Employment Agreement, dated as of December 15, 2004, between the Registrant and Langdon Miller, M.D.
10.9*	Executive Employment Agreement, dated as of December 15, 2004, between the Registrant and William Baird, III.
10.10*	Executive Employment Agreement, dated as of December 15, 2004, between the Registrant and John Babiak, Ph.D.
10.11*	Executive Employment Agreement, dated as of December 15, 2004, between the Registrant and Mark E. Boulding.
10.12	Lease Agreement, dated July 14, 2000, between the Registrant and 46.24 Associates L.P., as amended.
10.13	Master Security Agreement, dated as of July 30, 2004, between the Registrant and Oxford Finance Corporation.

Exhibit Number	Description
10.14	Form of Promissory Note issued to Oxford Finance Corporation.
23.1	Consent of KPMG LLP.
23.2*	Consent of Wilmer Cutler Pickering Hale and Dorr LLP (included in Exhibit 5.1).
24.1	Powers of Attorney (included on signature page).

* To be filed by amendment.
⊥ Confidential treatment requested as to portions of the exhibit. Confidential portions omitted and filed separately with the Securities and Exchange Commission.

(b) Financial Statement Schedules

All schedules have been omitted because they are not required or are not applicable or the required information is shown in the financial statements or notes thereto.

Item 17. ***Undertakings***

(a) The undersigned Registrant hereby undertakes to provide to the underwriters at the closing specified in the Underwriting Agreement, certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

(b) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the provisions described under Item 14 above, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

(c) The undersigned Registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this Registration Statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this Registration Statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act, the Registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of South Plainfield, New Jersey on the 31st day of March, 2006.

PTC THERAPEUTICS, INC.

By: /s/ STUART W. PELTZ

Stuart W. Peltz, Ph.D.
President and Chief Executive Officer

POWER OF ATTORNEY

We, the undersigned directors and officers of PTC Therapeutics, Inc. hereby severally constitute and appoint Stuart W. Peltz, Ph.D., William Baird, III and Mark E. Boulding, and each of them, his true and lawful attorneys-in-fact and agents, with full power of substitution and re-substitution for him and in his name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement, and any subsequent registration statements pursuant to Rule 462 of the Securities Act of 1933, as amended, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that each of said attorney-in-fact or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ STUART W. PELTZ Stuart W. Peltz, Ph.D.	President, Chief Executive Officer and Director (Principal Executive Officer)	March 31, 2006
/s/ WILLIAM BAIRD, III William Baird, III	Chief Financial Officer (Principal Financial and Accounting Officer)	March 31, 2006
/s/ MICHAEL SCHMERTZLER Michael Schmertzler	Chairman of the Board of Directors	March 31, 2006
/s/ HARVEY BERGER Harvey Berger, M.D.	Director	March 31, 2006
/s/ AXEL BOLTE Axel Bolte	Director	March 31, 2006
/s/ SØREN CARLSEN Søren Carlsen, Ph.D.	Director	March 31, 2006
/s/ CARL GOLDFISCHER Carl Goldfischer, M.D.	Director	March 31, 2006
/s/ ALLAN JACOBSON Allan Jacobson, Ph.D.	Director	March 31, 2006
/s/ MICHAEL KRANDA Michael Kranda	Director	March 31, 2006
/s/ DAVID P. SOUTHWELL David P. Southwell	Director	March 31, 2006

EXHIBIT INDEX

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10.13	Master Security Agreement, dated as of July 30, 2004, between the Registrant and Oxford Finance Corporation.
10.14	Form of Promissory Note issued to Oxford Finance Corporation.
23.1	Consent of KPMG LLP.

Exhibit Number	Description
23.2*	Consent of Wilmer Cutler Pickering Hale and Dorr LLP (included in Exhibit 5.1).
24.1	Powers of Attorney (included on signature page).

* To be filed by amendment.
⊥ Confidential treatment requested as to portions of the exhibit. Confidential portions omitted and filed separately with the Securities and Exchange Commission.

Exhibit 3.1

RESTATED CERTIFICATE OF INCORPORATION

OF

PTC THERAPEUTICS, INC.

(Pursuant to Sections 242 and 245 of the General Corporation Law of the State of Delaware)

PTC Therapeutics, Inc., a Delaware corporation, hereby certifies as follows:

1. The name of the corporation is PTC Therapeutics, Inc. (the "Corporation"). The date of filing of the original Certificate of Incorporation of the Corporation with the Secretary of State of the State of Delaware was March 31, 1998.

2. This Restated Certificate of Incorporation amends, restates and integrates the provisions of said Certificate of Incorporation, as heretofore amended, supplemented or restated, of said Corporation, and has been duly adopted pursuant to a resolution adopted by the Board of Directors, and by not less than a majority of all of the outstanding shares of stock of the Corporation, acting by written consent in accordance with the provisions of Section 228 of the General Corporation Law of the State of Delaware. Written notice of the taking of such action has been given in accordance with Section 228(e) of the General Corporation Law of the State of Delaware.

The text of the Certificate of Incorporation is hereby amended and restated to read in full as follows:

FIRST The name of the Corporation is:

PTC THERAPEUTICS, INC.

SECOND The address, including street, number, city, and county, of the registered office of the Corporation in the State of Delaware is 2711 Centerville Road, Suite 400, City of Wilmington, County of New Castle; and the name of the registered agent of the Corporation in the State of Delaware is Corporation Service Company.

THIRD The nature of the business to be conducted and the purposes of the Corporation are:

To purchase or otherwise acquire, invest in, own, lease, mortgage, pledge, sell, assign and transfer or otherwise dispose of, trade and deal in and with real property and personal property of every kind, class and description (including, without limitation, goods, wares and merchandise of every kind, class and description), to manufacture goods, wares and merchandise of every kind, class and description, both on its own account and for others;

To make and perform agreements and contracts of every kind and description; and

Generally to engage in any lawful act or activity or carry on any business for which corporations may be organized under the Delaware General Corporation Law or any successor statute.

FOURTH The total number of shares of all classes of stock which the Corporation shall have authority to issue is 171,636,120, consisting of:

18,228,538 shares of Common Stock, Zero Dollars and One Tenth Cent ($0.001) Par Value per share (the "Common Stock"); and

A. 153,407,582 shares of preferred stock, Zero Dollars and One Tenth Cent ($0.001) Par Value per share (the "Preferred Stock"), 750,000 shares of which have been designated as Series A Convertible Preferred Stock ("Series A Preferred Stock"), 187,500 shares of which have been designated as Series B Convertible Preferred Stock ("Series B Preferred Stock"), 6,295,000 shares of which have been designated as Series C Convertible Preferred Stock ("Series C Preferred Stock"), 13,800,000 shares of which have been designated as Series D Preferred Stock ("Series D Preferred Stock"), 128,242,850 shares of which have been designated as Series E Convertible Preferred Stock ("Series E Preferred Stock") and 4,132,232 shares of which have been designated as Series E-2 Convertible Preferred Stock ("Series E-2 Preferred Stock"). The Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock and Series E-2 Preferred Stock are collectively hereinafter referred to as the "Designated Preferred Stock".

B. Common Stock.

1. General. The voting, dividend and liquidation and other rights of the holders of the Common Stock are expressly made subject to and qualified by the rights of the holders of any series of Designated Preferred Stock.

2. Voting Rights. The holders of record of the Common Stock are entitled to one vote per share on all matters to be voted on by the Corporation's stockholders.

3. Dividends. Dividends may be declared and paid on the Common Stock from funds lawfully available therefor if, as and when determined by the Board of Directors in their sole discretion, subject to provisions of law, any provision of this Restated Certificate of Incorporation, as amended from time to time, and subject to the relative rights and preferences of any shares of Designated Preferred Stock authorized, issued and outstanding hereunder.

4. Liquidation. Upon the dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, holders of record of the Common Stock will be entitled to receive pro rata all assets of the Corporation available for distribution to its stockholders, subject, however, to the liquidation rights of the holders of Designated Preferred Stock authorized, issued and outstanding hereunder.

5. Reverse Stock Split. For the avoidance of doubt, this Fourth Section, Subsection B reflects a reverse stock split of the Common Stock in which each 30,000 authorized shares were converted and combined into one share of the Corporation's Common Stock (the "Reverse Stock Split"). The Reverse Stock Split was effectuated by the Company in a Certificate of Amendment of the Restated Certificate of Incorporation filed with the Secretary of State of the State of Delaware on December 29, 2004.

C. Preferred Stock.

The Preferred Stock may be issued from time to time in one or more series. The Board of Directors is authorized, subject to any limitations prescribed by law, to provide for the issuance of shares of Preferred Stock in series, and by filing a certificate pursuant to the applicable law of the State of Delaware (such certificate being hereafter referred to as a "Preferred Stock Designation"), to establish from time to time the number of shares to be included in each such series, and to fix the designation, powers, preferences and rights of the shares of each such series and any qualifications, limitations or restrictions thereof. In the event that at any time the Board of Directors shall have established and designated one or more series of Preferred Stock consisting of a number of shares less than all of the authorized number of shares of Preferred Stock, the remaining authorized shares of Preferred Stock shall be deemed to be shares of an undesignated series of Preferred Stock unless and until designated by the Board of Directors as being part of a series previously established or a new series then being established by the Board of Directors. Notwithstanding the fixing of the number of shares constituting a particular series of Preferred Stock (other than the Designated Preferred Stock), the Board of Directors may at any time thereafter authorize an increase or decrease in the number of shares of any such series except as set forth in the Preferred Stock Designation for such series. In case the number of shares of any series of Preferred Stock shall be so decreased, the shares constituting such decrease shall resume the status of authorized undesignated Preferred Stock unless and until designated by the Board of Directors as being a part of a series previously established or a new series then being established by the Board of Directors. The number of authorized shares of Preferred Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the outstanding shares of capital stock and the affirmative vote of the holders of a majority of the outstanding Designated Preferred Stock, voting together as a single class on an as-converted to Common Stock basis. The date of the first issuance of Series E-2 Preferred Stock pursuant to the Subscription Agreement, dated September 21, 2005, by and among the Corporation and the other signatories thereto (the "Subscription Agreement"), after giving effect thereto, is hereinafter referred to as the "Effective Date".

D. Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock and Series E-2 Preferred Stock.

1. Liquidation, Dissolution or Winding Up; Certain Mergers, Consolidations and Asset Sales.

(a) In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation, (together with a Reorganization as defined in Article FOURTH, D Section 1(c) herein, each such event, a "Liquidation Event"), the holders of shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock and Series E-2 Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders, before any payment shall be made to the holders of Common Stock or any other class or series of stock ranking on liquidation junior to the Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock or Series E-2 Preferred Stock (such Common Stock and other stock being collectively referred to as "Junior Stock") by reason of their ownership thereof, an amount equal to $1.00 per share in the case of the Series A Preferred Stock, $2.00 per share in the case of the Series B Preferred Stock, $2.50 per share in the case of the Series C Preferred Stock, $3.25 per share in the case of the Series D Preferred Stock, $0.397644 in the case of the Series E Preferred Stock and $7.26 in the case of the Series E-2 Preferred Stock, (in each case subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization affecting such shares), plus any dividends declared but unpaid on such shares. If, upon any Liquidation Event, the remaining assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock and Series E-2 Preferred Stock the full amount to which they shall be entitled, the remaining assets and funds of the Corporation legally available for distribution shall be distributed first, ratably among the holders of shares of Series E Preferred Stock and Series E-2 Preferred Stock in proportion to the respective amounts which would otherwise be payable in respect of the shares of Series E Preferred Stock and Series E-2 Preferred Stock held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full, second, ratably among the holders of shares of Series D Preferred Stock in proportion to the respective amounts which would otherwise be payable in respect of the shares of Series D Preferred Stock held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full and, third, ratably among the holders of shares of Series A Preferred Stock, the Series B Preferred Stock and Series C Preferred Stock and any class or series of stock ranking on a parity as to liquidation with the Series A Preferred Stock, the Series B Preferred Stock and the Series C Preferred Stock in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

(b) After the payment of all preferential amounts required to be paid to the holders of Designated Preferred Stock, as set forth in Section 1(a) above, upon a Liquidation Event, the holders of shares of Junior Stock then outstanding shall be entitled to receive the remaining assets and funds of the Corporation available for distribution to its stockholders.

(c) A Reorganization (as defined below) shall be regarded as a liquidation, dissolution or winding up of the affairs of the Corporation within the meaning of this Section 1. For the purposes hereof, a "Reorganization" shall mean a capital reorganization of the Common

Stock (other than a subdivision, combination, recapitalization, reclassification or exchange of shares provided for elsewhere in Section 2) or a consolidation or merger of the Corporation, or a sale, lease or other disposition of all or substantially all of the assets or intellectual property of the Corporation, other than a reorganization, merger or consolidation of the Corporation in a transaction in which the shareholders of the Corporation immediately prior to the transaction possess more than 50% of the voting power of the surviving entity (or parent, if any) immediately after the transaction. Notwithstanding the foregoing, a Reorganization, as defined herein, shall not include any reorganization, merger or consolidation involving (1) only a change in the state of incorporation of the Corporation, (2) a merger of the Corporation with or into a wholly-owned subsidiary of the Corporation which is incorporated in the United States of America, or (3) an acquisition by the Corporation through a merger, reorganization or consolidation, in which the Corporation is substantively the surviving corporation and operates as a going concern, of another corporation which is incorporated in the United States of America and which is engaged in a business similar to or related to the business of the Corporation and which does not involve a change in the terms of the Series A Preferred Stock, the Series B Preferred Stock, the Series C Preferred Stock, the Series D Preferred Stock, the Series E Preferred Stock, the Series E-2 Preferred Stock or of the Common Stock and of which the stockholders of the Corporation immediately prior to such acquisition possess at least 51% of the voting power of the surviving entity immediately following the consummation of such acquisition.

2. Conversion. The holders of Designated Preferred Stock shall have conversion rights as follows (the "Conversion Rights"):

(a) Right to Convert; Conversion Price.

(i) Each share of Series A Preferred Stock shall be convertible, without the payment of any additional consideration by the holder thereof and at the option of the holder thereof, at any time after the date of issuance of such share, at the office of the Corporation or any transfer agent for the Series A Preferred Stock, into such number of fully paid and non-assessable shares of Common Stock as is determined by dividing $1.00 by the relevant Conversion Price, determined as hereinafter provided, in effect at the time of conversion. The Conversion Price for purposes of calculating the number of shares of Common Stock deliverable upon conversion without the payment of any additional consideration by the holder of Series A Preferred Stock (the "Series A Conversion Price") shall be $12.00 as of the Effective Date. Such Series A Conversion Price shall be subject to adjustment, in order to adjust the number of shares of Common Stock into which the Series A Preferred Stock is convertible, as hereinafter provided.

(ii) Each share of Series B Preferred Stock shall be convertible, without the payment of any additional consideration by the holder thereof and at the option of the holder thereof, at any time after the date of issuance of such share, at the office of the Corporation or any transfer agent for the Series B Preferred Stock, into such number of fully paid and non-assessable shares of Common Stock as is determined by dividing $2.00 by the relevant

Conversion Price, determined as hereinafter provided, in effect at the time of conversion. The Conversion Price for purposes of calculating the number of shares of Common Stock deliverable upon conversion without the payment of any additional consideration by the holder of Series B Preferred Stock (the "Series B Conversion Price") shall be $15.00 as of the Effective Date. Such Series B Conversion Price shall be subject to adjustment, in order to adjust the number of shares of Common Stock into which the Series B Preferred Stock is convertible, as hereinafter provided.

(iii) Each share of Series C Preferred Stock shall be convertible, without the payment of any additional consideration by the holder thereof and at the option of the holder thereof, at any time after the date of issuance of such share, at the office of the Corporation or any transfer agent for the Series C Preferred Stock, into such number of fully paid and non-assessable shares of Common Stock as is determined by dividing $2.50 by the relevant Conversion Price, determined as hereinafter provided, in effect at the time of conversion. The Conversion Price for purposes of calculating the number of shares of Common Stock deliverable upon conversion without the payment of any additional consideration by the holder of Series C Preferred Stock (the "Series C Conversion Price") shall be $18.00 as of the Effective Date. Such Series C Conversion Price shall be subject to adjustment, in order to adjust the number of shares of Common Stock into which the Series C Preferred Stock is convertible, as hereinafter provided.

(iv) Each share of Series D Preferred Stock shall be convertible, without the payment of any additional consideration by the holder thereof and at the option of the holder thereof, at any time after the date of issuance of such share, at the office of the Corporation or any transfer agent for the Series D Preferred Stock, into such number of fully paid and non-assessable shares of Common Stock as is determined by dividing $3.25 by the relevant Conversion Price, determined as hereinafter provided, in effect at the time of conversion. The Conversion Price for purposes of calculating the number of shares of Common Stock deliverable upon conversion without the payment of any additional consideration by the holder of Series D Preferred Stock (the "Series D Conversion Price") shall be $21.00 as of the Effective Date. Such Series D Conversion Price shall be subject to adjustment, in order to adjust the number of shares of Common Stock into which the Series D Preferred Stock is convertible, as hereinafter provided.

(v) Each share of Series E Preferred Stock shall be convertible, without the payment of any additional consideration by the holder thereof and at the option of the holder thereof, at any time after the date of issuance of such share, at the office of the Corporation or any transfer agent for the Series E Preferred Stock, into such number of fully paid and non-assessable shares of Common Stock as is determined by dividing $0.397644 by the relevant Conversion Price, determined as hereinafter provided, in effect at the time of conversion. The Conversion Price for purposes of calculating the number of shares of Common Stock deliverable upon conversion without the payment of any additional consideration by the holder of Series E Preferred Stock (the "Series E Conversion Price") shall be $7.26 as of the Effective Date. Such Series E Conversion Price shall be subject to adjustment, in order to adjust

the number of shares of Common Stock into which the Series E Preferred Stock is convertible, as hereinafter provided.

(vi) Each share of Series E-2 Preferred Stock shall be convertible, without the payment of any additional consideration by the holder thereof and at the option of the holder thereof, at any time after the date of issuance of such share, at the office of the Corporation or any transfer agent for the Series E-2 Preferred Stock, into such number of fully paid and non-assessable shares of Common Stock as is determined by dividing $7.26 by the relevant Conversion Price, determined as hereinafter provided, in effect at the time of conversion. The Conversion Price for purposes of calculating the number of shares of Common Stock deliverable upon conversion without the payment of any additional consideration by the holder of Series E-2 Preferred Stock (the "Series E-2 Conversion Price") shall be $7.26 as of the Effective Date. Such Series E-2 Conversion Price shall be subject to adjustment, in order to adjust the number of shares of Common Stock into which the Series E-2 Preferred Stock is convertible, as hereinafter provided.

Each of the Series A Conversion Price, the Series B Conversion Price, the Series C Conversion Price, the Series D Conversion Price, the Series E Conversion Price and the Series E-2 Conversion Price is sometimes referred to herein, as the context requires, as the "Conversion Price."

(b) Mechanics of Conversion.

(i) Before any holder of Designated Preferred Stock shall be entitled to convert the same into full shares of Common Stock, such holder shall surrender the certificate or certificates therefor, duly endorsed, at the office of the Corporation or of any designated transfer agent, and shall give written notice to the Corporation at such office that such holder elects to convert the same and shall state therein the name of such holder or the name or names of the nominees of such holder in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. No fractional shares of Common Stock shall be issued upon conversion of any shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock or Series E-2 Preferred Stock. In lieu of any fractional shares of Common Stock to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the then effective applicable Conversion Price. The Corporation shall, as soon as practicable thereafter, issue and deliver at such office to such holder of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock or Series E-2 Preferred Stock or to such holder's nominee or nominees, a certificate or certificates for the number of shares of Common Stock to which such holder shall be entitled as aforesaid, together with cash in lieu of any fraction of a share. Such conversion shall be deemed to have been made immediately prior to the close of business on the date of such surrender of the shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock or Series E-2 Preferred Stock to be converted, and the person or persons

entitled to receive the shares of Common Stock issuable upon conversion shall be treated for all purposes as the record holder or holders of such shares of Common Stock on such date.

(ii) The issuance or delivery of certificates for Common Stock upon the conversion of shares of Designated Preferred Stock pursuant to this Section D.2 shall be made without charge to the converting holder of shares of Designated Preferred Stock for such certificates or for any tax in respect of the issuance or delivery of such certificates or the securities represented thereby, and such certificates shall be issued or delivered in the respective names of, or (subject to compliance with the applicable provisions of federal and state securities laws) in such names as may be directed by, the holders of the shares of Designated Preferred Stock converted; provided, however, that the Corporation shall not be required to pay any tax which may be payable in respect of any transfer involved in the issuance and delivery of any such certificates in a name other than that of the holder of the shares of Designated Preferred Stock converted, and the Corporation shall not be required to issue or deliver such certificate unless or until the entity or entities requesting the issuance or delivery thereof shall have paid to the Corporation the amount of such tax or shall have established to the reasonable satisfaction of the Corporation that such tax has been paid.

(c) Adjustments to Conversion Price for Diluting Issues.

(i) Special Definitions. For the purposes of this Section 2(c), the following definitions shall apply:

(1) "Additional Closing" means the consummation of the sale and issuance by the Corporation of shares of Series E-2 Preferred Stock pursuant to the Subscription Agreement and the acceptance by a person or persons of such shares, occurring after the date of the Initial Closing.

(2) "Additional Shares of Common Stock" means all shares of Common Stock issued (or, pursuant to Subsection 2(c)(iii) deemed to be issued) by the Corporation after the Effective Date, other than Excluded Securities.

(3) "Convertible Securities" means any evidences of indebtedness, shares (other than the Common Stock or the Designated Preferred Stock), or other securities directly or indirectly convertible into or exchangeable for the Common Stock.

(4) "Excluded Securities" means any of the following Securities:

(A) any dividend or distribution payable pro rata to all holders of Common Stock or Designated Preferred Stock of the Corporation after the Effective Date;

(B) Up to 2,326,008 shares of Common Stock (subject to equitable adjustment in the event of any stock dividend, stock split, combination, reorganization, recapitalization or similar event involving a change in the Common Stock), including Options therefor, issued pursuant to the Corporation's 1998 Employee Director and Consultant Stock Option Plan (as amended from time-to-time); provided that, shares of Common Stock or Options therefor in excess of such 2,326,008 shares may be issued or issuable pursuant to the Corporation's 1998 Employee, Director and Consultant Stock Option Plan (as amended from time-to-time), or such other arrangements, contracts, or plans as are recommended by management and approved by the Board of Directors or compensation committee established by the Board of Directors, and not considered "Additional Shares of Common Stock" upon written consent of the holders of a majority of the Designated Preferred Stock;

(C) securities issued in connection with the conversion or exercise of any Option (including securities issued in connection with any subsequent conversion of the securities issued upon the exercise of such Option), Convertible Securities outstanding on the Effective Date (including those issued on the Effective Date and Series E-2 Preferred Stock issued at any Additional Closing) or Designated Preferred Stock;

(D) up to that number of shares of Common Stock or Options equal to 1% of the aggregate number of shares of outstanding Common Stock on an as-converted, fully-diluted basis (after giving effect to the issuance of the Series E-2 Preferred Stock) measured as of the date of the latest issuance of Series E-2 Preferred Stock issued after the Effective Date (subject to equitable adjustment in the event of any stock dividend, stock split, combination, reorganization, recapitalization or similar event involving a change in the Common Stock) to institutional lenders in connection with the establishment or maintenance by the Corporation of credit facilities, including equipment lease facilities, approved in each case by a majority of the Board of Directors of the Corporation;

(E) securities issued pursuant to a registered public offering, the closing of which is on or after the Effective Date;

(F) up to that number of shares of Common Stock or Options equal to 1% of the aggregate number of shares of outstanding Common Stock on an as-converted, fully-diluted basis (after giving effect to the issuance of the Series E-2 Preferred Stock) measured as of the date of the latest issuance of Series E-2 Preferred Stock in connection with the sale of Common Stock or Convertible Securities of the Corporation issued

after the Effective Date (subject to equitable adjustment in the event of any stock dividend, stock split, combination, reorganization, recapitalization or similar event involving a change in the Common Stock) to any licensor of technology or patent rights to the Corporation or to any collaborative partner or licensee with respect to the development or commercialization of products;

(G) up to that number of shares of Common Stock or Options equal to 4% of the aggregate number of shares of outstanding Common Stock on an as-converted, fully-diluted basis (after giving effect to the issuance of the Series E-2 Preferred Stock) measured as of the date of the latest issuance of Series E-2 Preferred Stock by the Corporation issued after the Effective Date (subject to equitable adjustment in the event of any stock dividend, stock split, combination, reorganization, recapitalization or similar event involving a change in the Common Stock) in connection with the acquisition of another business entity by merger, purchase of all or substantially all of its assets or acquisition of all or substantially all of the equity interest of such business entity; or

(H) shares of Series E-2 Preferred Stock issued at the Initial Closing or any Additional Closing for consideration of not less than $7.26 per share.

(5) "Initial Closing" means the first consummation of the sale and issuance by the Corporation of shares of Series E-2 Preferred Stock and the acceptance by a person or persons of such shares.

(6) "Option" means any right, option or warrant to subscribe for, purchase or otherwise acquire Common Stock, Preferred Stock or Convertible Securities (as defined below).

(ii) No Adjustment of Conversion Price. No adjustment shall be made in the Series A Conversion Price as a result of the issuance of Additional Shares of Common Stock or otherwise, unless the consideration per share determined pursuant to Subsection 2(c)(vi) for an Additional Share of Common Stock issued or deemed to be issued by the Corporation is less than the Series A Conversion Price in effect on the date of, and immediately prior to, the issue of such Additional Shares of Common Stock. In addition, no adjustment shall be made in the Series A Conversion Price as a result of the issuance of Additional Shares of Common Stock or otherwise, if the right to such adjustment is waived by the holders of at least a majority of the then-outstanding shares of Series A Preferred Stock. No adjustment shall be made in the Series B Conversion Price as a result of the issuance of Additional Shares of Common Stock or otherwise, unless the consideration per share determined pursuant to Subsection 2(c)(vi) for an Additional Share of Common Stock issued or deemed to be issued by the Corporation is less than the Series B Conversion Price in effect on the date of, and immediately prior to, the issue of such Additional Shares of Common Stock. In addition, no adjustment shall be made in the Series B

Conversion Price as a result of the issuance of Additional Shares of Common Stock or otherwise, if the right to such adjustment is waived by the holders of at least a majority of the then-outstanding shares of Series B Preferred Stock. No adjustment shall be made in the Series C Conversion Price as a result of the issuance of Additional Shares of Common Stock or otherwise, unless the consideration per share determined pursuant to Subsection 2(c)(vi) for an Additional Share of Common Stock issued or deemed to be issued by the Corporation is less than the Series C Conversion Price in effect on the date of, and immediately prior to, the issue of such Additional Shares of Common Stock. In addition, no adjustment shall be made in the Series C Conversion Price as a result of the issuance of Additional Shares of Common Stock or otherwise, if the right to such adjustment is waived by the holders of at least a majority of the then-outstanding shares of Series C Preferred Stock. No adjustment shall be made in the Series D Conversion Price as a result of the issuance of Additional Shares of Common Stock or otherwise, unless the consideration per share determined pursuant to Subsection 2(c)(vi) for an Additional Share of Common Stock issued or deemed to be issued by the Corporation is less than the Series D Conversion Price in effect on the date of, and immediately prior to, the issue of such Additional Shares of Common Stock. In addition, no adjustment shall be made in the Series D Conversion Price as a result of the issuance of Additional Shares of Common Stock or otherwise, if the right to such adjustment is waived by the holders of at least a majority of the then-outstanding shares of Series D Preferred Stock. No adjustment shall be made in the Series E Conversion Price as a result of the issuance of Additional Shares of Common Stock or otherwise, unless the consideration per share determined pursuant to Subsection 2(c)(vi) for an Additional Share of Common Stock issued or deemed to be issued by the Corporation is less than the Series E Conversion Price in effect on the date of, and immediately prior to, the issue of such Additional Shares of Common Stock. In addition, no adjustment shall be made in the Series E Conversion Price as a result of the issuance of Additional Shares of Common Stock or otherwise, if each of the following conditions are met: (w) the right to such adjustment is waived by the holders of at least sixty-six and two-thirds percent (66 2/3%) of the then-outstanding shares of Series E Preferred Stock, (x) in connection with the same circumstances giving rise to the waiver referred to in subclause (w) above, the holders of the Series C Preferred Stock waive their right to adjustment of the Series C Conversion Price in accordance with the terms set forth in this Subsection 2(c)(ii), (y) in connection with the same circumstances giving rise to the waiver referred to in subclause (w) above, the holders of the Series D Preferred Stock have waived their right to adjustment of the Series D Conversion Price as provided in this Subsection 2(c)(ii) and (z) in connection with the same circumstances giving rise to the waiver referred to in subclause (w) above, the holders of the Series E-2 Preferred Stock have waived their right to adjustment of the Series E-2 Conversion Price as provided in this Subsection 2(c)(ii). No adjustment shall be made in the Series E-2 Conversion Price as a result of the issuance of Additional Shares of Common Stock or otherwise, unless the consideration per share determined pursuant to Subsection 2(c)(vi) for an Additional Share of Common Stock issued or deemed to be issued by the Corporation is less than the Series E-2 Conversion Price in effect on the date of, and immediately prior to, the issue of such Additional Shares of Common Stock. In addition, no adjustment shall be made in the Series E-2 Conversion Price as a result of the issuance of Additional Shares of Common Stock or otherwise, if each of the following conditions are met: (w) the right to such adjustment is waived by the holders of at least sixty-six and two-thirds

percent (66 2/3%) of the then-outstanding shares of Series E-2 Preferred Stock, (x) in connection with the same circumstances giving rise to the waiver referred to in subclause (w) above, the holders of the Series C Preferred Stock waive their right to adjustment of the Series C Conversion Price in accordance with the terms set forth in this Subsection 2(c)(ii), (y) in connection with the same circumstances giving rise to the waiver referred to in subclause (w) above, the holders of the Series D Preferred Stock have waived their right to adjustment of the Series D Conversion Price as provided in this Subsection 2(c)(ii) and (z) in connection with the same circumstances giving rise to the waiver referred to in subclause (w) above, the holders of the Series E Preferred Stock have waived their right to adjustment of the Series E Conversion Price as provided in this Subsection 2(c)(ii).

(iii) Issue of Options, Preferred Stock and Convertible Securities Deemed Issue of Additional Shares of Common Stock. If the Corporation at any time or from time to time after the Effective Date shall issue any Options, Preferred Stock or Convertible Securities, or shall fix a record date for the determination of holders of any class of securities entitled to receive any such Options, Preferred Stock or Convertible Securities, then the maximum number of shares of the Common Stock (as set forth in the instrument relating thereto without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or, in the case of Preferred Stock or Convertible Securities and Options therefor, the conversion or exchange of such Preferred Stock or Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date, provided, that with respect to the Series A Preferred Stock, the Series B Preferred Stock, the Series C Preferred Stock, the Series D Preferred Stock, the Series E Preferred Stock and the Series E-2 Preferred Stock, as the case may be, no Additional Shares of Common Stock shall be deemed to have been issued unless the consideration per share determined pursuant to Subsection 2(c)(vi) for such Additional Shares of Common Stock would be less than the Series A Conversion Price, Series B Conversion Price, Series C Conversion Price, the Series D Conversion Price, the Series E Conversion Price or the Series E-2 Conversion Price, as the case may be, in effect on the date of and immediately prior to such issue, or such record date, as the case may be, and provided, further, that in any such case in which Additional Shares of Common Stock are deemed to be issued:

(1) No further adjustment in the Series A Conversion Price, the Series B Conversion Price, the Series C Conversion Price, the Series D Conversion Price, the Series E Conversion Price or the Series E-2 Conversion Price, as the case may be, shall be made upon the subsequent issue of Preferred Stock, Convertible Securities or shares of the Common Stock, in each case, upon the exercise of such Options, conversion or exchange of such Preferred Stock or Convertible Securities;

(2) If such Options, Preferred Stock or Convertible Securities by their terms provide, with the passage of time or otherwise, for any increase or decrease, other than any decrease due to anti-dilution provisions, in the consideration payable to the Corporation, or decrease or increase, other than any increase due to anti-

dilution provisions, in the number of shares of the Common Stock issuable, upon the exercise, conversion or exchange thereof, the Series A Conversion Price, the Series B Conversion Price, the Series C Conversion Price, the Series D Conversion Price, the Series E Conversion Price and the Series E-2 Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon the effectiveness of any such increase or decrease in consideration, or decrease or increase in the number of shares, be recomputed to reflect such increase or decrease in consideration, or decrease or increase in the number of shares, insofar as it affects such Options or the right of conversion or exchange under such Preferred Stock or Convertible Securities;

(3) Upon the expiration or termination of any such Options or any rights of conversion or exchange under such Preferred Stock or Convertible Securities which shall not have been exercised, the Series A Conversion Price, the Series B Conversion Price, the Series C Conversion Price, the Series D Conversion Price, the Series E Conversion Price or the Series E-2 Conversion Price, as the case may be, computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto) and any subsequent adjustments based thereon shall, upon such expiration, be recomputed as if:

(A) In the case of Preferred Stock, Convertible Securities or Options for Common Stock, the only Additional Shares of Common Stock issued were the shares of the Common Stock, if any, actually issued upon the exercise of such Options or the conversion or exchange of such Preferred Stock or Convertible Securities and the consideration received therefor was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration actually received by the Corporation upon such exercise, or for the issue of all such Preferred Stock or Convertible Securities which were actually converted or exchanged, plus the additional consideration, if any, actually received by the Corporation upon such conversion or exchange; and

(B) In the case of Options for Preferred Stock or Convertible Securities, only the Preferred Stock or Convertible Securities, if any, actually issued upon the exercise thereof were issued at the time of issue of such Options, and the consideration received by the Corporation for the Additional Shares of Common Stock deemed to have been then issued was the consideration actually received by the Corporation for the issue of all such Options, whether or not exercised, plus the consideration deemed to have been received by the Corporation determined pursuant to Subsection 2(c)(iii) upon the issue of the Preferred Stock or Convertible Securities with respect to which such Options were actually exercised;

(4) No recomputation pursuant to Subsection 2(c)(iii)(2) or Subsection 2(c)(iii)(3) above shall have the effect of (A) increasing the Series A Conversion Price to an amount that exceeds the lower of (i) the applicable Series A Conversion Price prior to the original adjustment for such deemed issuance, or (ii) the Series A Conversion Price that would have resulted from any issuance of Additional Shares of Common Stock between the original adjustment date and such recomputation date, (B) increasing the Series B Conversion Price to an amount that exceeds the lower of (i) the applicable Series B Conversion Price prior to the original adjustment for such deemed issuance, or (ii) the Series B Conversion Price that would have resulted from any issuance of Additional Shares of Common Stock between the original adjustment date and such recomputation date, (C) increasing the Series C Conversion Price to an amount that exceeds the lower of (i) the applicable Series C Conversion Price prior to the original adjustment for such deemed issuance, or (ii) the Series C Conversion Price that would have resulted from any issuance of Additional Shares of Common Stock between the original adjustment date and such recomputation date, (D) increasing the Series D Conversion Price to an amount that exceeds the lower of (i) the applicable Series D Conversion Price prior to the original adjustment for such deemed issuance, or (ii) the Series D Conversion Price that would have resulted from any issuance of Additional Shares of Common Stock between the original adjustment date and such recomputation date (E) increasing the Series E Conversion Price to an amount that exceeds the lower of (i) the applicable Series E Conversion Price prior to the original adjustment for such deemed issuance, or (ii) the Series E Conversion Price that would have resulted from any issuance of Additional Shares of Common Stock between the original adjustment date and such recomputation date or (F) increasing the Series E-2 Conversion Price to an amount that exceeds the lower of (i) the applicable Series E-2 Conversion Price prior to the original adjustment for such deemed issuance, or (ii) the Series E-2 Conversion Price that would have resulted from any issuance of Additional Shares of Common Stock between the original adjustment date and such recomputation date; and

(5) If such record date shall have been fixed and such Options, Preferred Stock or Convertible Securities are not issued on the date fixed therefor, the adjustment previously made in the Series A Conversion Price, Series B Conversion Price, Series C Conversion Price, Series D Conversion Price, Series E Conversion Price or Series E-2 Conversion Price which became effective on such record date shall be canceled as of the close of business on such record date, and thereafter the Series A Conversion Price, Series B Conversion Price, Series C Conversion Price, Series D Conversion Price, Series E Conversion Price or Series E-2 Conversion Price shall be adjusted pursuant to this Subsection 2(c)(iii) as of the actual date of their issuance.

(iv) Stock Dividends and Stock Distributions. In case the Corporation shall at any time or from time to time after the Effective Date distribute to all holders of shares of its Common Stock (including any such distribution made in connection with a consolidation or merger in which the Corporation is the resulting or surviving corporation and the Common Stock is not changed or exchanged) cash, evidences of indebtedness of the Corporation or another

issuer, securities of the Corporation or another issuer or other assets (excluding (A) dividends or distributions paid or made to holders of shares of Designated Preferred Stock in the manner provided in Section 4(a), and (B) dividends payable in shares of Common Stock (or any options, warrants or other rights to acquire Common Stock) for which adjustment is made under another clause of this Section 2(c)(iv)), then, and in each such case, the Conversion Price then in effect shall be adjusted by multiplying the Conversion Price in effect immediately prior to the date of such distribution by a fraction (x) the numerator of which shall be such Current Market Price of one share of the Common Stock less the then Fair Market Value (as determined by the Board of Directors of the Corporation) of the portion of the cash, evidences of indebtedness, securities or other assets so distributed or of such subscription rights or warrants applicable to one share of Common Stock and (y) the denominator of which shall be the Current Market Price of the Common Stock on the record date referred to below (but such denominator not to be less than one). Such adjustment shall be made whenever any such distribution is made and shall become effective retroactively to a date immediately following the close of business on the record date for the determination of stockholders entitled to receive such distribution. If such record date shall have been fixed and such dividend or distribution shall not have been fully paid on the date fixed therefor, the adjustment previously made in the Series A Conversion Price, Series B Conversion Price, Series C Conversion Price, Series D Conversion Price, Series E Conversion Price or Series E-2 Conversion Price which became effective on such record date shall be canceled as of the close of business on such record date, and thereafter the Series A Conversion Price, Series B Conversion Price, Series C Conversion Price, Series D Conversion Price, Series E Conversion Price or Series E-2 Conversion Price shall be adjusted pursuant to this Subsection 2(c)(iv) as of the time of actual payment of such dividend.

For purposes of this Section 2(c)(iv), the following definitions shall apply:

(A) "Current Market Price" per share shall mean, on any date specified herein for the determination thereof, (a) the average daily Market Price of the Common Stock for those days during the period of 5 days, ending on such date, which are days on which national securities exchanges in the United States are open for trading, and (b) if the Common Stock is not then listed or admitted to trading on any national securities exchange or quoted in the over-the-counter market, the Market Price on such date.

(B) "Fair Market Value" shall mean (x) if available, the Current Market Price (determined without reference to the last sentence of the definition of Market Price) or (y) if there shall be no Current Market Price available, the amount which a willing buyer, under no compulsion to buy, would pay a willing seller, under no compulsion to sell, in an arm's-length transaction (assuming (i) that the Common Stock is valued "as if fully distributed" and (ii) no consideration is given for minority investment discounts, or discounts related to illiquidity or restrictions on transferability).

(C) "Market Price" shall mean, per share of Common Stock on any date specified herein: (a) the closing price per share of the Common Stock on such date published in The Wall Street Journal or, if no such closing price on such date is published in The Wall Street Journal, the average of the closing bid and asked prices on such date, as officially reported on the principal national securities exchange on which the Common Stock is then listed or admitted to trading, (b) if the Common Stock is not then listed or admitted to trading on any national securities exchange but is designated as a national market system security, the last trading price of the Common Stock on such date, or (c) if there shall have been no trading on such date or if the Common Stock is not so designated, the average of the reported closing bid and asked prices of the Common Stock on such date as shown by NASDAQ and reported by any member firm of the NYSE, selected by the Corporation. If neither (a), (b) or (c) is applicable, Market Price shall mean the Fair Market Value per share determined in good faith by the Board of Directors of the Corporation which shall be deemed to be Fair Market Value unless holders of at least a majority of the outstanding shares of Designated Preferred Stock request, in writing, that the Corporation obtain an opinion of an investment banking firm chosen by the Company, which is reasonably satisfactory to such holders, (at the Corporation's expense), in which event Fair Market Value shall be as determined by such investment banking firm.

(D) "NASDAQ" shall mean the National Market System of The NASDAQ Stock Market, Inc.

(E) "NYSE" shall mean The New York Stock Exchange, Inc.

(v) Adjustment of Conversion Price Upon Certain Events. If, after the Effective Date, the Corporation shall issue Additional Shares of Common Stock, including Additional Shares of Common Stock deemed to be issued pursuant to Subsection 2(c)(iii) hereof, but excluding events described in Subsection 2(d) (which event is dealt with in such Subsection):

(1) Without consideration or for a consideration per share less than the Series A Conversion Price in effect immediately prior to such issue, then and in such event, the Series A Conversion Price shall be reduced, concurrently with such issue in order to increase the number of shares of Common Stock into which a share of Series A Preferred Stock is convertible, to a price (calculated at least to the nearest 1/100th of a cent) determined by multiplying the Series A Conversion Price in effect immediately prior to such issue by a fraction (x) the numerator of which shall be (A) the number of shares of Common Stock outstanding immediately prior to such issue (including shares of the Common Stock issuable upon exercise or conversion of any outstanding Options, Designated Preferred Stock or Convertible Securities) plus (B) the

number of shares of the Common Stock which the aggregate consideration received by the Corporation for the total number of Additional Shares of Common Stock so issued would purchase at the Series A Conversion Price in effect immediately prior to such issue and (y) the denominator of which shall be (A) the number of shares of the Common Stock outstanding immediately prior to such issue (including shares of Common Stock issuable upon exercise or conversion of any outstanding Options, Designated Preferred Stock or Convertible Securities) plus (B) the number of such Additional Shares of Common Stock so issued or deemed to be issued.

(2) Without consideration or for a consideration per share less than the Series B Conversion Price in effect immediately prior to such issue, then and in such event, the Series B Conversion Price shall be reduced, concurrently with such issue in order to increase the number of shares of Common Stock into which a share of Series B Preferred Stock is convertible, to a price (calculated at least to the nearest 1/100th of a cent) determined by multiplying the Series B Conversion Price in effect immediately prior to such issue by a fraction (x) the numerator of which shall be (A) the number of shares of Common Stock outstanding immediately prior to such issue (including shares of the Common Stock issuable upon exercise or conversion of any outstanding Options, Designated Preferred Stock or Convertible Securities) plus (B) the number of shares of the Common Stock which the aggregate consideration received by the Corporation for the total number of Additional Shares of Common Stock so issued would purchase at the Series B Conversion Price in effect immediately prior to such issue and (y) the denominator of which shall be (A) the number of shares of the Common Stock outstanding immediately prior to such issue (including shares of Common Stock issuable upon exercise or conversion of any outstanding Options, Designated Preferred Stock or Convertible Securities) plus (B) the number of such Additional Shares of Common Stock so issued or deemed to be issued.

(3) Without consideration or for a consideration per share less than the Series C Conversion Price in effect immediately prior to such issue, then and in such event, the Series C Conversion Price shall be reduced, concurrently with such issue in order to increase the number of shares of Common Stock into which a share of Series C Preferred Stock is convertible, to a price (calculated at least to the nearest 1/100th of a cent) determined by multiplying the Series C Conversion Price in effect immediately prior to such issue by a fraction (x) the numerator of which shall be (A) the number of shares of Common Stock outstanding immediately prior to such issue (including shares of the Common Stock issuable upon exercise or conversion of any outstanding Options, Designated Preferred Stock or Convertible Securities) plus (B) the number of shares of the Common Stock which the aggregate consideration received by the Corporation for the total number of Additional Shares of Common Stock so issued would purchase at the Series C Conversion Price in effect immediately prior to such issue and (y) the denominator of which shall be (A) the number of shares of the Common Stock outstanding immediately prior to such issue (including shares of Common Stock issuable upon exercise or conversion of any outstanding Options, Designated Preferred

Stock or Convertible Securities) plus (B) the number of such Additional Shares of Common Stock so issued or deemed to be issued.

(4) Without consideration or for a consideration per share less than the Series D Conversion Price in effect immediately prior to such issue, then and in such event, the Series D Conversion Price shall be reduced, concurrently with such issue in order to increase the number of shares of Common Stock into which a share of Series D Preferred Stock is convertible, to a price (calculated at least to the nearest 1/100th of a cent) determined by multiplying the Series D Conversion Price in effect immediately prior to such issue by a fraction (x) the numerator of which shall be (A) the number of shares of Common Stock outstanding immediately prior to such issue (including shares of the Common Stock issuable upon exercise or conversion of any outstanding Options, Designated Preferred Stock or Convertible Securities) plus (B) the number of shares of the Common Stock which the aggregate consideration received by the Corporation for the total number of Additional Shares of Common Stock so issued would purchase at the Series D Conversion Price in effect immediately prior to such issue and (y) the denominator of which shall be (A) the number of shares of the Common Stock outstanding immediately prior to such issue (including shares of Common Stock issuable upon exercise or conversion of any outstanding Options, Designated Preferred Stock or Convertible Securities) plus (B) the number of such Additional Shares of Common Stock so issued or deemed to be issued.

(5) Without consideration or for a consideration per share less than the Series E Conversion Price in effect immediately prior to such issue, then and in such event, the Series E Conversion Price shall be reduced, concurrently with such issue in order to increase the number of shares of Common Stock into which a share of Series E Preferred Stock is convertible, to a price (calculated at least to the nearest 1/100th of a cent) determined by multiplying the Series E Conversion Price in effect immediately prior to such issue by a fraction (x) the numerator of which shall be (A) the number of shares of Common Stock outstanding immediately prior to such issue (including shares of the Common Stock issuable upon exercise or conversion of any outstanding Options, Designated Preferred Stock or Convertible Securities) plus (B) the number of shares of the Common Stock which the aggregate consideration received by the Corporation for the total number of Additional Shares of Common Stock so issued would purchase at the Series E Conversion Price in effect immediately prior to such issue and (y) the denominator of which shall be (A) the number of shares of the Common Stock outstanding immediately prior to such issue (including shares of Common Stock issuable upon exercise or conversion of any outstanding Options, Designated Preferred Stock or Convertible Securities) plus (B) the number of such Additional Shares of Common Stock so issued or deemed to be issued. For the avoidance of doubt, any adjustment to the Series E Conversion Price in connection with the issuance of Additional Shares of Common Stock (and/or deemed issuance pursuant to Subsection 2(c)(iii) hereof) for cash or other consideration shall be made in accordance with Subsection 2(c)(v)(7).

(6) Without consideration or for a consideration per share less than the Series E-2 Conversion Price in effect immediately prior to such issue, then and in such event, the Series E-2 Conversion Price shall be reduced, concurrently with such issue in order to increase the number of shares of Common Stock into which a share of Series E-2 Preferred Stock is convertible, to a price (calculated at least to the nearest 1/100th of a cent) determined by multiplying the Series E-2 Conversion Price in effect immediately prior to such issue by a fraction (x) the numerator of which shall be (A) the number of shares of Common Stock outstanding immediately prior to such issue (including shares of the Common Stock issuable upon exercise or conversion of any outstanding Options, Designated Preferred Stock or Convertible Securities) plus (B) the number of shares of the Common Stock which the aggregate consideration received by the Corporation for the total number of Additional Shares of Common Stock so issued would purchase at the Series E-2 Conversion Price in effect immediately prior to such issue and (y) the denominator of which shall be (A) the number of shares of the Common Stock outstanding immediately prior to such issue (including shares of Common Stock issuable upon exercise or conversion of any outstanding Options, Designated Preferred Stock or Convertible Securities) plus (B) the number of such Additional Shares of Common Stock so issued or deemed to be issued. For the avoidance of doubt, any adjustment to the Series E-2 Conversion Price in connection with the issuance of Additional Shares of Common Stock (and/or deemed issuance pursuant to Subsection 2(c)(iii) hereof) for cash or other consideration shall be made in accordance with Subsection 2(c)(v)(8).

(7) Notwithstanding anything to the contrary set forth in Subsections 2(c)(v)(5) or 2(c)(v)(6), if the Corporation shall issue (or be deemed to have issued pursuant to Subsection 2(c)(iii) hereof) Additional Shares of Common Stock (other than in connection with any issuance or deemed issuance where the securities issued, but for the number of shares issued or deemed issued, would constitute an Excluded Security) for cash or other consideration (including any Options issued in connection therewith) per share less than the Series E Conversion Price in effect immediately prior to such issuance, then, and in such event, the Series E Conversion Price shall be reduced to equal the price per share of the Additional Shares of Common Stock so issued.

(8) Notwithstanding anything to the contrary set forth in Subsections 2(c)(v)(5) or 2(c)(v)(6), if the Corporation shall issue (or be deemed to have issued pursuant to Subsection 2(c)(iii) hereof) Additional Shares of Common Stock (other than in connection with any issuance or deemed issuance where the securities issued, but for the number of shares issued or deemed issued, would constitute an Excluded Security) for cash or other consideration (including any Options issued in connection therewith) per share less than the Series E-2 Conversion Price in effect immediately prior to such issuance, then, and in such event, the Series E-2 Conversion Price shall be reduced to equal the price per share of the Additional Shares of Common Stock so issued.

(vi) Determination of Consideration. For purposes of Subsection 2(c)(v), the consideration received by the Corporation for the issue of any Additional Shares of Common Stock shall be computed as follows:

(1) Cash and Property: Such consideration shall:

(A) Insofar as it consists of cash, be computed at the aggregate of cash received by the Corporation, excluding amounts paid or payable for accrued interest or accrued dividends;

(B) Insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board of Directors; and

(C) In the event Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration, computed as provided in Subsections 2(c)(vi)(1)(A) and 2(c)(vi)(1)(B) above, received in respect of the Additional Shares of Common Stock, as determined in good faith by the Board of Directors;

(2) Options, Designated Preferred Stock and Convertible Securities. The consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to Subsection 2(c)(iii), relating to Options, Designated Preferred Stock and Convertible Securities, shall be determined by dividing:

(A) The total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options, Designated Preferred Stock or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration until such subsequent adjustment occurs) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Designated Preferred Stock or Convertible Securities, or in the case of Options for Designated Preferred Stock or Convertible Securities, the exercise of such Options for Designated Preferred Stock or Convertible Securities and the conversion or exchange of such Designated Preferred Stock or Convertible Securities, by

(B) The maximum number of shares of the Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number until such subsequent adjustment occurs) issuable upon the exercise of such Options or the conversion or exchange of such

Designated Preferred Stock or Convertible Securities and, in the case of Options for Preferred Stock or Convertible Securities, the exercise of such Options for Preferred Stock or Convertible Securities and the conversion or exchange of such Preferred Stock or Convertible Securities.

(d) Adjustment for Stock Splits, Stock Dividends, Subdivisions, Combinations or Consolidation of Common Stock. In the event that at any time or from time to time after the Effective Date the outstanding shares of the Common Stock shall be split, subdivided, combined or consolidated, by reclassification or otherwise, into a greater or lesser number of shares of Common Stock, and in the event that the Corporation shall issue shares of the Common Stock by way of a stock dividend or other distribution to the holders of the Common Stock, the Series A Conversion Price, Series B Conversion Price, Series C Conversion Price, Series D Conversion Price, Series E Conversion Price and Series E-2 Conversion Price in effect immediately prior to such split, subdivision, stock dividend, combination or consolidation shall, concurrently with the effectiveness of such split, subdivision, stock dividend, combination or consolidation, be increased or decreased proportionately, so that the holder of any share of Designated Preferred Stock thereafter surrendered for conversion shall be entitled to receive (in lieu of the number of shares of Common Stock that the holders would otherwise have been entitled to receive) the number of shares of Common Stock or other securities of the Corporation that such holder would have owned or would have been entitled to receive upon or by reason of any of the events described above, had such share of Designated Preferred Stock been converted immediately prior to the occurrence of such event.

(e) Automatic Conversion.

(i) Each share of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock and Series E-2 Preferred Stock shall automatically be converted into shares of Common Stock at the then effective relevant Conversion Price upon either (i) the closing of a firm commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, covering the offer and sale of Common Stock for the account of the Corporation to the public at an initial public offering price per share of not less than an amount equal to two times the Series E-2 Conversion Price then in effect with net proceeds to the Corporation of not less than $50,000,000 or (ii) any other public offering upon the written election of the Company and holders of at least sixty-six and two-thirds percent (66 2/3 %) of the outstanding shares of Preferred Stock, voting together on an as-converted basis (a "Qualified Initial Public Offering").

(ii) Each share of Series A Preferred Stock, Series B Preferred Stock, and Series C Preferred Stock shall automatically be converted into shares of Common Stock at the then relevant Conversion Price upon the written election of the holders of not less than sixty-six and two-thirds percent (66 2/3%) in voting power of the then outstanding shares of Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock voting together, treating all such shares as if converted, to require such mandatory conversion.

(iii) Each share of Series D Preferred Stock shall automatically be converted into shares of Common Stock at the then relevant Series D Conversion Price upon the written election of the holders of not less than sixty-six and two-thirds percent (66 2/3%) in voting power of the then outstanding shares of Series D Preferred Stock, voting as a separate class, treating all such shares as if converted, to require such mandatory conversion.

(iv) Each share of Series E Preferred Stock and Series E-2 Preferred Stock shall automatically be converted into shares of Common Stock at the then relevant Series E Conversion Price and Series E-2 Conversion Price, respectively, upon the written election of the holders of not less than sixty-six and two-thirds percent (66 2/3%) in voting power of the then outstanding shares of Series E Preferred Stock and Series E-2 Preferred Stock, voting together, treating all such shares as if converted, to require such mandatory conversion.

(v) Upon the occurrence of an event specified in Sections 2(e)(i) or 2(e)(ii) in the case of Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock or 2(e)(iii) in the case of Series D Preferred Stock or 2(e)(iv) in the case of Series E Preferred Stock and Series E-2 Preferred Stock all applicable shares of Series A Preferred Stock, Series B Preferred Stock and Series C Preferred Stock, or Series D Preferred Stock, Series E Preferred Stock or Series E-2 Preferred Stock, as the case may be, shall be converted automatically without any further action by any holder of such shares and whether or not the certificate or certificates representing such shares are surrendered to the Corporation or the designated transfer agent, provided, however, that the Corporation shall not be obligated to issue a certificate or certificates evidencing the shares of Common Stock into which such shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock or Series E-2 Preferred Stock, as the case may be, are converted unless the certificate or certificates representing such shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock or Series E-2 Preferred Stock, as the case may be, being converted are either delivered to the Corporation or the transfer agent, or the holder notifies the Corporation or such transfer agent that such certificate or certificates have been lost, stolen, or destroyed and executes and delivers an agreement satisfactory to the Corporation to indemnify the Corporation from any loss incurred by it in connection therewith and, if the Corporation so elects, provides an appropriate indemnity.

(vi) Upon the automatic conversion of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock and Series E-2 Preferred Stock, as the case may be, each holder of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock and Series E-2 Preferred Stock, as the case may be, shall surrender the certificate or certificates representing such holder's shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock and Series E-2 Preferred Stock, as the case may be, at the office of the Corporation or of the transfer agent for such shares. Thereupon, there shall be issued and delivered to such holder, promptly at such office and in such holder's name as shown on such surrendered certificate or certificates, a

certificate or certificates for the number of shares of Common Stock into which the shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock Series E Preferred Stock and Series E-2 Preferred Stock, as the case may be, surrendered were convertible on the date on which such automatic conversion occurred. No fractional shares of Common Stock shall be issued upon the automatic conversion of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock or Series E-2 Preferred Stock. In lieu of any fractional shares of Common Stock to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the then effective Conversion Price.

(f) In case of any capital reorganization or reclassification or other change of outstanding shares of Common Stock (other than (i) a change in par value, or from par value to no par value, or from no par value to par value or (ii) a split, subdivision, combination or consolidation of shares of Common Stock provided for in Section D.2(d) of this Article FOURTH), or in case of any consolidation or merger of the Corporation with or into another entity (other than a consolidation or merger in which the Corporation is the resulting or surviving corporation and which does not result in any reclassification or change of outstanding Common Stock), or in case of any sale, lease or other disposition to another entity of all or substantially all of the assets or intellectual property of the Corporation (any of the foregoing but excluding a Reorganization (as defined in Section D.1(c) of this Article FOURTH), a "Transaction"), the Corporation, or such successor or purchasing entity, as the case may be, shall execute and deliver to each holder of Designated Preferred Stock at least 10 business days prior to effecting any of the foregoing Transactions a certificate that the holder of each share of Designated Preferred Stock then outstanding shall have the right thereafter to convert such share of Designated Preferred Stock into the kind and amount of shares of stock or other securities (of the Corporation or another issuer) or property or cash receivable upon such Transaction by a holder of the number of shares of Common Stock into which such share of Designated Preferred Stock could have been converted immediately prior to such Transaction. Such certificate shall provide for adjustments which shall be as nearly equivalent as may be practicable to the adjustments provided for in Section D.2(c)(v) of this Article FOURTH. If, in the case of any such Transaction, the stock, other securities, cash or property receivable thereupon by a holder of Common Stock includes shares of stock or other securities of an entity other than the successor or purchasing entity and other than the Corporation, which controls or is controlled by the successor or purchasing entity or which, in connection with such Transaction, issues stock, securities, other property or cash to holders of Common Stock, then such certificate also shall be executed by such entity, and such entity shall, in such certificate, specifically acknowledge the obligations of such successor or purchasing entity and acknowledge its obligations to issue such stock, securities, other property or cash to the holders of Designated Preferred Stock upon conversion of the shares of Designated Preferred Stock as provided above. The provisions of this Section D.2(f) and any equivalent thereof in any such certificate shall apply similarly to successive Transactions. Compliance with this Section D.2(f) shall be a condition for any Transaction.

(g) Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the relevant Conversion Price pursuant to this Section 2, the Corporation at its expense shall promptly compute such adjustment or readjustment in accordance with the terms hereof and furnish to each affected holder of Designated Preferred Stock, a certificate setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, upon the written request at any time of any affected holder of Designated Preferred Stock furnish to such holder a like certificate setting forth (i) such adjustments and readjustments, (ii) the Conversion Price at the time in effect and (iii) the number of shares of Common Stock and the amount, if any, of other property which at the time would be received upon conversion of each share of Designated Preferred Stock.

(h) Notices of Record Date. In the event that this Corporation shall propose at any time:

(i) to declare any dividend or distribution upon its Common Stock, whether in cash, property, stock, or other securities, whether or not a regular cash dividend and whether or not out of earnings or earned surplus;

(ii) to offer for subscription pro rata to the holders of any class or series of its stock any additional shares of stock of any class or series or other rights, warrants, options or other securities;

(iii) to effect any reclassification or recapitalization of its Common Stock outstanding involving a change in the Common Stock; or

(iv) to engage in any Reorganization or Transaction, or to liquidate, dissolve, or wind up; then, in connection with each such event, this Corporation shall send to the holders of the Designated Preferred Stock:

(1) at least 10 days' prior written notice of the date on which a record shall be taken for such dividend, distribution, or subscription rights (and specifying the date on which the holders of Common Stock shall be entitled thereto) or for determining rights to vote in respect of the matters referred to in (iii) and (iv) above; and

(2) in the case of the matters referred to in (iii) and (iv) above, at least 10 days' prior written notice of the date when the same shall take place (and specifying the date on which the holders of Common Stock shall be entitled to exchange their Common Stock for securities or other property deliverable upon the occurrence of such event or the record date for the determination of such holders if such record date is earlier).

Each such written notice shall be delivered personally by carrier service providing evidence of delivery or given by first class mail, postage prepaid, addressed to the holders of the

Designated Preferred Stock at the address for each such holder as shown on the books of this Corporation; provided, however, that United States mail shall not be used to effectuate the delivery of any such to addresses outside the United States. Each such written notice shall state (x) the date on which a record is to be taken for the purpose of such dividend, distribution or rights, warrants, options or other securities, or if a record is not to be taken, the date as of which the holders of Common Stock of record to be entitled to such dividend, distribution or rights, warrants, options or other securities are to be determined, or (y) the date on which such Reorganization, Transaction, reclassification, recapitalization, dissolution, liquidation or winding up is expected to become effective. Such notice also shall specify the date as of which it is expected that holders of Common Stock of record shall be entitled to exchange their Common Stock for shares of stock or other securities or property or cash deliverable upon such Reorganization, Transaction, reclassification, recapitalization, dissolution, liquidation or winding up.

(i) Common Stock Reserved. The Corporation shall reserve and keep available out of its authorized but unissued Common Stock such number of shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding shares of Designated Preferred Stock, and shall take all action required to increase the authorized number of shares of Common Stock if at any time there shall be insufficient authorized but unissued shares of Common Stock to permit such reservation or to permit the conversion of all outstanding shares of Designated Preferred Stock.

(j) Certain Taxes. The Corporation shall pay any issue or transfer taxes payable in connection with the conversion of any shares of Designated Preferred Stock, provided, however, that the Corporation shall not be required to pay any tax which may be payable in respect of any transfer to a name other than that of the holder of such Designated Preferred Stock.

(k) Closing of Books. The Corporation shall at no time close its transfer books against the transfer of any Designated Preferred Stock, or of any shares of Common Stock issued or issuable upon the conversion of any shares of Designated Preferred Stock in any manner which interferes with the timely conversion or transfer of such Designated Preferred Stock.

(l) No Impairment. The Corporation shall not, by amendment of its Certificate of Incorporation (other than by amendment approved by the Designated Preferred Stock in accordance with the provisions of this Certificate of Incorporation) or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed hereunder by the Corporation but shall at all times in good faith assist in the carrying out of all the provisions of this Section 2 and in the taking of all such action as may be necessary or appropriate in order to protect the conversion rights of the holders of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock and Series E-2 Preferred Stock against impairment.

3. Voting Rights.

(a) Except as otherwise provided by applicable law and this Restated Certificate of Incorporation, each holder of outstanding shares of Designated Preferred Stock shall be entitled to the number of votes equal to the number of whole shares of Common Stock into which the shares of Designated Preferred Stock held by such holder are convertible (as adjusted from time to time pursuant to Section 2 hereof) as of the record date, at each meeting of stockholders of the Corporation (and written actions of stockholders in lieu of meetings) with respect to any and all matters presented to the stockholders of the Corporation for their action or consideration. Except as provided by law or by the provisions of Section 3(b), (c), (d), (e) and (f) below or by the provisions establishing any other series of stock, holders of Designated Preferred Stock and of any other outstanding series of stock shall vote together with the holders of Common Stock as a single class on an as-converted to Common Stock basis.

(b) Notwithstanding the provisions of Section 3(a), at each annual or special meeting called for the purpose of electing directors, the holders of the Designated Preferred Stock, voting as a single class, shall be entitled to elect five (5) members of the Board of Directors and the holders of the Common Stock shall be entitled to elect two (2) members of the Board of Directors and the remaining directors shall be elected by the holders of Designated Preferred Stock and the holders of Common Stock voting together as a single class. The provisions of this Section 3(b) shall expire and be of no further force or effect upon conversion of all outstanding shares of Designated Preferred Stock into Common Stock pursuant to the provisions of Section 2(a) or 2(e) hereof. In the case of any vacancy in the office of a director elected by a specified group of stockholders, a successor shall be elected to hold office for the unexpired term of such director by the affirmative vote of a majority of the shares of such specified group given at a special meeting of such stockholders duly called or by an action by written consent for that purpose. Any director who shall have been elected by a specified group of stockholders may be removed during the aforesaid term of office, either for or without cause, by, and only by, the affirmative vote of the holders of a majority of the shares of such specified group, given at a special meeting of such stockholders duly called or by an action by written consent for that purpose, and any such vacancy thereby created, may be filled by the vote of the holders of a majority of the shares of such specified group represented at such meeting or in such consent.

(c) The Corporation shall not, without first having obtained the affirmative vote or written consent of a majority in voting power of the outstanding shares of Designated Preferred Stock, voting together as a single class on an as-converted to Common Stock basis:

(i) Subject to the additional restrictions set forth in Sections D.3(e) and (f) of this Article FOURTH, redeem, purchase or otherwise acquire for value (or pay into or set aside for a sinking fund for such purpose) any shares of Designated Preferred Stock otherwise than by conversion in accordance with Section D.2 of this Article FOURTH;

(ii) Authorize or issue, or obligate itself to issue, any other equity security (including any security convertible into or exercisable for any equity security) senior to

or on a parity with any of the Designated Preferred Stock as to dividend rights, redemption rights, liquidation preferences, voting rights, where any equity security issued shall have more than one vote for each such security issued or be convertible into a voting security which has more than one vote for such equity security issued, or conversion rights, where any equity security issued shall be convertible into more than one voting equity security, except for adjustments made to all Preferred Stock in connection with (A) any stock split, reverse stock split or like transaction, or (B) any dilutive issuances;

(iii) Make any redemption, repurchase, payment of dividends or other distributions with respect to Common Stock (except for acquisitions of Common Stock by the Corporation pursuant to agreements which permit the Corporation to repurchase such shares upon termination of services to the Corporation or in exercise of the Corporation's right of first refusal upon a proposed transfer);

(iv) Effect any sale, lease, transfer or other conveyance of all or substantially all of the assets or intellectual property of the Corporation or any of its subsidiaries, or any consolidation or merger involving the Corporation or any of its subsidiaries, or any reclassification or recapitalization of the Corporation;

(v) Increase the number of shares reserved under the Company's 1998 Employee, Director and Consultant Stock Option Plan (as amended from time-to-time); or

(vi) Increase the number of authorized shares of Preferred Stock.

(d) The Corporation shall not, without first having obtained the affirmative vote or written consent of a majority in voting power of the outstanding shares of Series D Preferred Stock, Series E Preferred Stock and Series E-2 Preferred Stock, voting together as a single class on an as converted to Common Stock basis:

(i) Alter or change the preferences, rights, privileges or powers of, or the restrictions provided for the benefit of, the Series D Preferred Stock, the Series E Preferred Stock or the Series E-2 Preferred Stock in a material and adverse way;

(ii) Authorize or issue, or obligate itself to issue, any other equity security (including any security convertible into or exercisable for any equity security) senior to or on a parity with any of the Series D Preferred Stock, the Series E Preferred Stock or Series E-2 Preferred Stock as to dividend rights, redemption rights, liquidation preferences, voting rights, where any equity security issued shall have more than one vote for each such security issued or be convertible into a voting security which has more than one vote for such equity security issued, or conversion rights, where any equity security issued shall be convertible into more than one voting equity security, except for adjustments made to all Preferred Stock in connection with (A) any stock split, reverse stock split or like transaction, or (B) any dilutive issuances;

(iii) Increase or decrease the authorized number of shares of the Series D Preferred Stock, the Series E Preferred Stock or the Series E-2 Preferred Stock;

(iv) Amend, alter or repeal any provision of the Restated Certificate of Incorporation or the Corporation's Bylaws so as to adversely affect the rights, powers, preferences and privileges of the Series D Preferred Stock, the Series E Preferred Stock or the Series E-2 Preferred Stock (including, without limitation, by merger, reconsolidation, recapitalization or other transactions);

(v) Effect any sale, lease, transfer or other conveyance of all or substantially all of the Corporation's assets or intellectual property or consummate a transaction which results in the holders of the Corporation's capital stock prior to the transaction owning less than 50% of the voting power of the Corporation's capital stock after the transaction;

(vi) Increase or decrease the number of members of the Corporation's Board of Directors from nine (9); or

(vii) Effect a substantial change in the principal business of the Corporation so that the principal business of the Corporation is no longer related to the discovery, licensing, development and manufacturing of prophylactic, therapeutic or diagnostic products; provided, that, such consent shall not be required if the Corporation's Board of Directors has unanimously approved such change in the Corporation's business.

(e) The Corporation shall not, without first having obtained the affirmative vote or written consent of sixty-six and two-thirds percent (66 2/3%) of the voting power of the outstanding shares of Series D Preferred Stock, voting on an as converted to Common Stock basis, redeem, purchase or otherwise acquire for value (or pay or set aside for a sinking fund or for any purpose) any shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock or any Junior Stock prior to redeeming, purchasing or otherwise acquiring for value all of the outstanding shares of Series D Preferred Stock; provided, however, that any Junior Stock subject to a restriction agreement (or equivalent terms in any option agreement) may be reacquired by the Corporation pursuant to the terms of such agreement, if, in the judgment of the Board of Directors, such reacquisition is in the best interest of the stockholders.

(f) The Corporation shall not, without first having obtained the affirmative vote or written consent of sixty-six and two-thirds percent (66-2/3%) of the voting power of the outstanding shares of Series E Preferred Stock and Series E-2 Preferred Stock, voting together as a single class on an as converted to Common Stock basis, (i) notwithstanding anything to the contrary set forth in Subsection 3(d)(iv), amend the definition of Liquidation Event set forth in Subsection 1(a) or Subsection 1(c), or (ii) redeem, purchase or otherwise acquire for value (or pay or set aside for a sinking fund or for any purpose) any shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock or any Junior Stock prior to redeeming, purchasing or otherwise acquiring for value all of the outstanding shares of Series E Preferred Stock and Series E-2 Preferred Stock, provided, however, that any Junior Stock subject to a restriction agreement (or equivalent terms in any option agreement) may be reacquired by the Corporation pursuant to the terms of such agreement, if, in the judgment of the Board of Directors, such reacquisition is in the best interest of the stockholders.

(g) The Corporation shall not, without first having obtained the affirmative vote or written consent of seventy-five percent (75%) of the voting power of the outstanding shares of Series E Preferred Stock, voting on an as converted to Common Stock basis, amend the requirements with respect to the effectiveness of any waivers of adjustments to the Series E Conversion Price as a result of the issuance of Additional Shares of Common Stock or otherwise set forth in Subsection 2(c)(ii).

(h) The Corporation shall not, without first having obtained the affirmative vote or written consent of seventy-five percent (75%) of the voting power of the outstanding shares of Series E-2 Preferred Stock, voting on an as converted to Common Stock basis, amend the requirements with respect to the effectiveness of any waivers of adjustments to the Series E-2 Conversion Price as a result of the issuance of Additional Shares of Common Stock or otherwise set forth in Subsection 2(c)(ii).

Notwithstanding the foregoing, approval of a majority of the voting power of any series of Preferred Stock, voting as a single class, shall be required for any action that (i) materially and adversely affects holders of such series in a different manner than other series of Designated Preferred Stock; provided, however, that the determination of whether any holder of Preferred Stock or group of such holders is affected differently shall be made without regard to the number of shares of Shares held by such holder or group of holders; (ii) increases the Conversion Price of such series or (iii) alters or changes the liquidation preferences of any such series.

4. Dividends.

(a) The Corporation shall not declare or pay any dividends or distributions (as defined below) on shares of Common Stock unless the holders of the Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock and Series E-2 Preferred Stock then outstanding shall have first received, or simultaneously receive, a like distribution on each outstanding share of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock and Series E-2 Preferred Stock in an amount at least equal to the product of (i) the per share amount, if any, of the dividends or distributions to be declared or paid on the Common Stock, multiplied by (ii) the number of whole shares of Common Stock into which such share of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock or Series E-2 Preferred Stock is convertible as of the record date for such dividend or distribution.

(b) The Corporation shall not declare or pay any dividends or distributions on shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock. Series E Preferred Stock or Series E-2 Preferred Stock unless the holders of the other series of Designated Preferred Stock shall have first received, or simultaneously receive, a like distribution on each outstanding share of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock or Series E-2

Preferred Stock, as the case may be, in an equal amount; provided, however, the Corporation shall not pay any dividends or distributions on any shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock or any Junior Stock prior to paying in full such equal dividends or distributions on all of the outstanding shares of the Series E Preferred Stock and Series E-2 Preferred Stock; provided, further, the Corporation shall not pay any dividends or distributions on any shares of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock or any Junior Stock prior to paying in full such equal dividends or distributions on all of the outstanding shares of the Series D Preferred Stock. For purposes of this Section 4(b), the determination of whether such dividends or distributions are equal in amount shall be made based on a comparison of the product of (i) the amount per share of Designated Preferred Stock of the dividends or distributions to be declared or set aside multiplied by (ii) the number of whole shares of Common Stock into which such share of Designated Preferred Stock is convertible as of the record date for such dividend or distribution.

(c) For purposes of this Section 4, "distribution" shall mean the transfer of cash or property without consideration, whether by way of dividend or otherwise, or the purchase or redemption of shares of the Corporation (other than repurchases of Common Stock held by employees or directors of, or consultants to, the Corporation upon termination of their employment or services pursuant to agreements approved by the Board of Directors providing for such repurchase at a price equal to the original issue price of such shares or at fair market value, provided such repurchase at fair market value is approved by the Board of Directors) for cash or property, including any such transfer, purchase or redemption by a subsidiary of the Corporation.

5. No Reissuance of Designated Preferred Stock. No share or shares of Preferred Stock acquired by the Corporation by reason of redemption, purchase, conversion or otherwise shall be reissued, and all such shares shall be canceled, retired and eliminated from the shares which the corporation shall be authorized to issue.

6. Residual Rights. All rights accruing to the outstanding shares of the Corporation not expressly provided for in the terms of the Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock and Series E-2 Preferred Stock shall be vested in the Common Stock.

7. Increasing Common Stock. The number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares of Common Stock then outstanding) by an affirmative vote of the holders of a majority of the Common Stock and the Designated Preferred Stock, voting together as a single class, on an as-converted basis.

FIFTH The Corporation is to have perpetual existence.

SIXTH For the management of the business and for the conduct of the affairs of the Corporation, and in further definition and not in limitation of the powers of the Corporation and of its directors and of its stockholders or any class thereof, as the case may be, conferred by the State of Delaware, it is further provided that:

A. The management of the business and the conduct of the affairs of the Corporation shall be vested in its Board of Directors. The number of directors which shall constitute the whole Board of Directors shall be fixed by, or in the manner provided in, the By-Laws. The phrase "whole Board" and the phrase "total number of directors" shall be deemed to have the same meaning, to wit, the total number of directors which the Corporation would have if there were no vacancies. No election of directors need be by written ballot.

B. After the original or other By-Laws of the Corporation have been adopted, amended or repealed, as the case may be, in accordance with the provisions of Section 109 of the General Corporation Law of the State of Delaware, and, after the Corporation has received any payment for any of its stock, the power to adopt, amend, or repeal the By-Laws of the Corporation may be exercised by the Board of Directors of the Corporation.

C. The books of the Corporation may be kept at such place within or without the State of Delaware as the By-Laws of the Corporation may provide or as may be designated from time to time by the Board of Directors of the Corporation.

SEVENTH The Corporation shall, to the fullest extent permitted by Section 145 of the General Corporation Law of the State of Delaware, as the same may be amended and supplemented from time to time, indemnify and advance expenses to, (i) its directors and officers and (ii) any person who at the request of the Corporation is or was serving as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, from and against any and all of the expenses, liabilities, or other matters referred to in or covered by said section as amended or supplemented (or any successor), provided, however, that except with respect to proceedings to enforce rights to indemnification, the By-Laws of the Corporation may provide that the Corporation shall indemnify any director, officer or such person in connection with a proceeding (or part thereof) initiated by such director, officer or such person only if such proceeding (or part thereof) was authorized by the Board of Directors of the Corporation. The Corporation, by action of its Board of Directors, may provide indemnification or advance expenses to employees and agents of the Corporation or other persons only on such terms and conditions and to the extent determined by the Board of Directors in its sole and absolute discretion. The indemnification provided for herein shall not be deemed exclusive of any other rights to which those indemnified may be entitled under any By-Law, agreement, vote of stockholders or disinterested directors or otherwise, both as to action in their official capacity and as to action in another capacity while holding such office, and shall continue as to a person who has ceased to be a director, officer, employee, or agent and shall inure to the benefit of the heirs, executors and administrators of such a person.

EIGHTH No director of this Corporation shall be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director except to the extent that exemption from liability or limitation thereof is not permitted under the General Corporation Law of the State of Delaware as in effect at the time such liability or limitation thereof is determined. No amendment, modification or repeal of this Article shall apply to or have any effect on the liability or alleged liability of any director of the Corporation for or with

respect to any acts or omissions of such director occurring prior to such amendment, modification or repeal. If the General Corporation Law of the State of Delaware is amended after approval by the stockholders of this Article to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by the General Corporation Law of the State of Delaware, as so amended.

NINTH Whenever a compromise or arrangement is proposed between this Corporation and its creditors or any class of them and/or between this Corporation and its stockholders or any class of them, any court of equitable jurisdiction within the State of Delaware may, on the application in a summary way of this Corporation or of any creditor or stockholder thereof or on the application of any receiver or receivers appointed for this Corporation under the provisions of Section 291 of Title 8 of the Delaware Code or on the application of trustees in dissolution or of any receiver or receivers appointed for this Corporation under the provisions of Section 279 of Title 8 of the Delaware Code, order a meeting of the creditors or class of creditors, and/or of the stockholders or class of stockholders of this Corporation, as the case may be, to be summoned in such manner as the said court directs. If a majority in number representing three-fourths (3/4) in value of the creditors or class of creditors, and/or of the stockholders or class of stockholders of this Corporation, as the case may be, agree to any compromise or arrangement and to any reorganization of this Corporation as consequence of such compromise or arrangement, the said compromise or arrangement and the said reorganization shall, if sanctioned by the court to which the said application has been made, be binding on all the creditors or class of creditors, and/or on all the stockholders or class of stockholders, of this Corporation, as the case may be, and also on this Corporation.

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IN WITNESS WHEREOF, the Corporation has caused this Restated Certificate of Incorporation to be signed by its duly authorized officer this 21st day of September, 2005.

PTC THERAPEUTICS, INC.

By: /S/ STUART W. PELTZ

Name: Stuart W. Peltz
Title: President

Exhibit 3.3

AMENDED AND RESTATED BYLAWS
of
PTC THERAPEUTICS, INC.

ARTICLE I
STOCKHOLDERS

Section 1. Annual Meeting.

An annual meeting of the stockholders, for the election of directors to succeed those whose terms expire and for the transaction of such other business as may properly come before the meeting, shall be held at ten o'clock a.m. or such other time as is determined by the Board of Directors, on such date (other than a Saturday, Sunday or legal holiday) as is determined by the Board of Directors, which date shall be within thirteen (13) months subsequent to the later of the date of incorporation or the last annual meeting of stockholders, and at such place as the Board of Directors shall each year fix.

Section 2. Special Meetings.

Subject to the rights of the holders of any class or series of preferred stock of the Corporation, special meetings of stockholders of the Corporation may be called only by the Board of Directors pursuant to a resolution adopted by a majority of the total number of directors authorized. Special meetings of the stockholders may be held at such place within or without the State of Delaware as may be stated in such resolution.

Section 3. Notice of Meetings.

Written notice of the place, date, and time of all meetings of the stockholders shall be given, not less than ten (10) nor more than sixty (60) days before the date on which the meeting is to be held, to each stockholder entitled to vote at such meeting, except as otherwise provided herein or required by law (meaning, here and hereinafter, as required from time to time by the Delaware General Corporation Law or the Certificate of Incorporation of the Corporation) (the "Certificate of Incorporation").

When a meeting is adjourned to another place, date or time, written notice need not be given of the adjourned meeting if the place, date and time thereof are announced at the meeting at which the adjournment is taken; provided, however, that if the date of any adjourned meeting is more than thirty (30) days after the date for which the meeting was originally noticed, or if a new record date is fixed for the adjourned meeting, written notice of the place, date, and time of the adjourned meeting shall be given in conformity herewith. At any adjourned meeting, any business may be transacted which might have been transacted at the original meeting.

Section 4. Quorum.

At any meeting of the stockholders, the holders of a majority of all of the shares of the stock entitled to vote at the meeting, present in person or by proxy, shall constitute a quorum for all purposes, unless or except to the extent that the presence of a larger number may be required by law. Except as otherwise provided in the Certificate of Incorporation, where a separate vote by a class or classes is required, a majority of the shares of such class or classes present in person or represented by proxy shall constitute a quorum entitled to take action with respect to that vote on that matter.

If a quorum shall fail to attend any meeting, the chairman of the meeting or the holders of a majority of the shares of stock entitled to vote who are present, in person or by proxy, may adjourn the meeting to another place, date, or time.

Section 5. Organization.

The Chairman of the Board of Directors or, in his or her absence, such person as the Board of Directors may have designated or, in his or her absence, the chief executive officer of the Corporation or, in his or her absence, such person as may be chosen by the holders of a majority of the shares entitled to vote who are present, in person or by proxy, shall call to order any meeting of the stockholders and act as chairman of the meeting. In the absence of the Secretary of the Corporation, the secretary of the meeting shall be such person as the chairman of the meeting appoints.

Section 6. Conduct of Business.

The Chairman of the Board of Directors or his or her designee or, if neither the Chairman of the Board nor his or her designee is present at the meeting, then a person appointed by a majority of the Board of Directors, shall preside at, and act as chairman of, any meeting of the stockholders. The chairman of any meeting of stockholders shall determine the order of business and the procedures at the meeting, including such regulation of the manner of voting and the conduct of discussion as he or she deems to be appropriate.

Section 7. Proxies and Voting.

At any meeting of the stockholders, every stockholder entitled to vote may vote in person or by proxy authorized by an instrument in writing filed in accordance with the procedure established for the meeting.

Each stockholder shall have one (1) vote for every share of stock entitled to vote which is registered in his or her name on the record for the meeting, except as otherwise provided herein, in the Certificate of Incorporation or required by law.

All voting, including on the election of directors but excepting where otherwise required by law, may be by a voice vote; provided, however, that upon demand therefore by a stockholder entitled to vote or his or her proxy, a vote by ballot shall be taken.

Elections shall be determined in accordance with the voting provisions set forth in the Corporation's Certificate of Incorporation and in the Second Amended and Restated Management and Voting Agreement by and among the Corporation and the stockholders who are signatories thereto, dated as of December 17, 2003 ("MVRA"). Except as otherwise provided in the Corporation's Certificate of Incorporation, the MVRA or required by law, all other matters shall be determined by a majority of the votes cast.

Section 8. Action Without Meeting.

Any action required to be taken at any annual or special meeting of stockholders, or any action which may be taken at any annual or special meeting of such stockholders, may be taken without a meeting, without prior notice and without a vote, if a consent or consents in writing, setting forth the action so taken, shall be (1) signed and dated by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action on a meeting at which all shares entitled to vote thereon were present and voted and (2) delivered to the Corporation within sixty (60) days of the earliest dated consent by delivery to its registered office in the State of Delaware (in which case delivery shall be by hand or by certified or registered mail, return receipt requested), its principal place of business, or an officer or agent of the Corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Prompt notice of the taking of the corporate action without a meeting by less than unanimous written consent shall be given to those stockholders who have not consented in writing.

Section 9. Stock List.

A complete list of stockholders entitled to vote at any meeting of stockholders, arranged in alphabetical order for each class of stock and showing the address of each such stockholder and the number of shares registered in his or her name, shall be open to the examination of any such stockholder, for any purpose germane to the meeting, during ordinary business hours for a period of at least ten (10) days prior to the meeting, either at a place within the city where the meeting is to be held, which place shall be specified in the notice of the meeting, or if not so specified, at the place where the meeting is to be held.

The stock list shall also be kept at the place of the meeting during the whole time thereof and shall be open to the examination of any such stockholder who is present. Such list shall presumptively determine the identity of the stockholders entitled to vote at the meeting and the number of shares held by each of them.

ARTICLE II
BOARD OF DIRECTORS

Section 1. Number, Election, Tenure and Qualification.

The number of directors which shall constitute the whole board shall be nine (9) directors. The directors shall be elected at any annual or special meeting of the Corporation's stockholders, or upon an action by written consent, called or solicited for such purpose, in accordance with the voting provisions set forth in the Corporation's Certificate of Incorporation and in the MVRA, and

each director shall hold office until his or her successor is elected and qualified, unless sooner displaced. Directors need not be stockholders.

Section 2. Vacancies and Newly Created Directorships.

Vacancies on the Board of Directors shall be filled in accordance with the provisions set forth in the Corporation's Certificate of Incorporation and the MVRA. New directorship of the Board of Directors may only be created in accordance with the voting provisions set forth in the Corporation's Certificate of Incorporation and may only be filled in accordance with the provisions set forth in the Corporation's Certificate of Incorporation and the MVRA.

Section 3. Resignation.

Any director may resign at any time upon written notice to the Corporation at its principal place of business or to the chief executive officer or secretary. Such resignation shall be effective upon receipt unless it is specified to be effective at some other time or upon the happening of some other event.

Section 4. Regular Meetings.

Regular meetings of the Board of Directors shall be held at such place or places, on such date or dates, and at such time or times as shall have been established by the Board of Directors and publicized among all directors. A written notice of each regular meeting shall not be required.

Section 5. Special Meetings.

Special meetings of the Board of Directors may be called by the Chairman of the Board of Directors, if any, the President, the Treasurer, the Secretary or one or more of the directors then in office and shall be held at such place, on such date, and at such time as they or he or she shall fix. Notice of the place, date, and time of each such special meeting shall be given to each director by whom it is not waived by mailing written notice not less than three (3) days before the meeting or orally, by telegraph, telex, cable or telecopy given not less than twenty-four (24) hours before the meeting. Unless otherwise indicated in the notice thereof, any and all business may be transacted at a special meeting.

Section 6. Quorum.

At any meeting of the Board of Directors, a majority of the total number of members of the Board of Directors shall constitute a quorum for all purposes. If a quorum shall fail to attend any meeting, a majority of those present may adjourn the meeting to another place, date, or time, without further notice or waiver thereof.

Section 7. Action by Consent.

Unless otherwise restricted by the Certificate of Incorporation or these Bylaws, any action required or permitted to be taken at any meeting of the Board of Directors or of any committee thereof may be taken without a meeting, if all members of the Board or committee, as the case may

be, consent thereto in writing, and the writing or writings are filed with the minutes of proceedings of the Board or committee.

Section 8. Participation in Meetings By Conference Telephone.

Members of the Board of Directors, or of any committee thereof, may participate in a meeting of such Board or committee by way of conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other and such participation shall constitute presence in person at such meeting.

Section 9. Conduct of Business.

At any meeting of the Board of Directors, business shall be transacted in such order and manner as the Board may from time to time determine, and all matters shall be determined by the vote of a majority of the directors present, except as otherwise provided herein or required by law.

Section 10. Powers.

The Board of Directors may, except as otherwise required by law or the Certificate of Incorporation, exercise all such powers and do all such acts and things as may be exercised or done by the Corporation, including, without limiting the generality of the foregoing, the qualified power:

(a) To declare dividends from time to time in accordance with law and the Certificate of Incorporation;

(b) To purchase or otherwise acquire any property, rights or privileges on such terms as it shall determine;

(c) To authorize the creation, making and issuance, in such form as it may determine, of written obligations of every kind, negotiable or non-negotiable, secured or unsecured, to borrow funds and guarantee obligations, and to do all things necessary in connection therewith;

(d) To remove any officer of the Corporation with or without cause, and from time to time to devolve the powers and duties of any officer upon any other person for the time being;

(e) To confer upon any officer of the Corporation the power to appoint, remove and suspend subordinate officers, employees and agents;

(f) To adopt from time to time such stock, option, stock purchase, bonus or other compensation plans of directors, officers, employees and agents of the Corporation and its subsidiaries as it may determine;

(g) To adopt from time to time such insurance, retirement, and other benefit plans for directors, officers, employees and agents of the Corporation and its subsidiaries as it may determine; and,

(h) To adopt from time to time regulations, not inconsistent with these Bylaws, for the management of the Corporation's business and affairs.

Section 11. Compensation of Directors.

Directors, as such, may receive, pursuant to a resolution of the Board of Directors, fixed fees and other compensation for their services as directors, including, without limitation, their services as members of committees of the Board of Directors.

ARTICLE III
COMMITTEES

Section 1. Committees of the Board of Directors.

The Board of Directors, by a vote of a majority of the Board of Directors, may from time to time designate committees of the Board, with such lawfully delegable powers and duties as it thereby confers, to serve at the pleasure of the Board and shall, for those committees and any others provided for herein, elect a director or directors, subject to the rights of any preferred stockholder pursuant to the MVRA, to serve as the member or members, designating, if it desires other directors as alternate members who may replace any absent or disqualified member at any meeting of the committee. Any such committee, to the extent provided in the resolution of the Board of Directors, shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the Corporation, and may authorize the seal of the Corporation to be affixed to all papers which may require it; but no such committee shall have the power or authority in reference to amending the Certificate of Incorporation, adopting an agreement of merger or consolidation, recommending to the stockholders the sale, lease, or exchange of all or substantially all of the Corporation's property and assets, recommending to the stockholders a dissolution of the Corporation or a revocation of a dissolution, or amending the Bylaws of the Corporation. Any committee so designated may exercise the power and authority of the Board of Directors to declare a dividend, to authorize the issuance of stock or to adopt a certificate of ownership and merger pursuant to Section 253 of the Delaware General Corporation Law if the resolution which designates the committee or a supplemental resolution of the Board of Directors shall so provide. In the absence or disqualification of any member of any committee and any alternate member in his or her place, the member or members of the committee present at the meeting and not disqualified from voting, whether or not he or she or they constitute a quorum, may by unanimous vote appoint another member of the Board of Directors to act at the meeting in the place of the absent or disqualified member subject to the rights of any preferred stockholder pursuant to the MVRA.

Section 2. Conduct of Business.

Each Committee may determine the procedural rules for meeting and conducting its business and shall act in accordance therewith, except as otherwise provided herein or required by law. Adequate provision shall be made for notice to members of all meetings; one-third (1/3) of the members shall constitute a quorum; and all matters shall be determined by a majority vote of the members present. Action may be taken by any committee without a meeting if all members thereof

consent thereto in writing, and the writing or writings are filed with the minutes of the proceedings of such committee.

ARTICLE IV
OFFICERS

Section 1. Enumeration.

The officers of the Corporation shall be the President, the Treasurer, the Secretary and such other officers as the Board of Directors or the Chairman of the Board may determine, including, but not limited to, the Chairman of the Board of Directors, one or more Vice Presidents, Assistant Treasurers and Assistant Secretaries.

Section 2. Election and Compensation.

Officers shall be elected by the Board of Directors at its first meeting following every annual meeting of stockholders. The compensation of the officers elected by the Board of Directors shall be fixed from time to time, by the Board of Directors or by such officers as may be designated by resolution of the Board of Directors.

Section 3. Qualification.

No officer need be a stockholder. The Chairman of the Board, if any, and any Vice Chairman appointed to act in the absence of the Chairman, if any, shall be elected by and from the Board of Directors, but no other officer need be a director. Two or more offices may be held by any one person. If required by vote of the Board of Directors, an officer shall give bond to the Corporation for the faithful performance of his or her duties, in such form and amount and with such sureties as the Board of Directors may determine. The premiums for such bonds shall be paid by the Corporation.

Section 4. Tenure and Removal.

Each officer shall hold office until the first meeting of the Board of Directors following the next annual meeting of the stockholders and until his or her successor is elected or appointed and qualified, or until he or she dies, resigns, is removed or becomes disqualified, unless a shorter term is specified in the vote electing or appointing said officer. Any officer may resign by giving written notice of his or her resignation to the Chairman of the Board, if any, the President, or the Secretary, or to the Board of Directors at a meeting of the Board, and such resignation shall become effective at the time specified therein. Any officer may be removed from office with or without cause by vote of a majority of the directors.

Section 5. Chairman of the Board.

The Chairman of the Board, if any, shall preside at all meetings of the Board of Directors and stockholders at which he or she is present and shall have such authority and perform such duties as may be prescribed by these Bylaws or from time to time be determined by the Board of Directors.

Section 6. President.

The President shall, subject to the control and direction of the Board of Directors, have and perform such powers and duties as may be prescribed by these Bylaws or from time to time be determined by the Board of Directors.

Section 7. Vice Presidents.

The Vice Presidents, if any, in the order of their election, or in such other order as the Board of Directors may determine, shall have and perform the powers and duties of the President (or such of the powers and duties as the Board of Directors may determine) whenever the President is absent or unable to act. The Vice Presidents, if any, shall also have such other powers and duties as may from time to time be determined by the Board of Directors.

Section 8. Treasurer and Assistant Treasurers.

The Treasurer shall, subject to the control and direction of the Board of Directors, have and perform such powers and duties as may be prescribed in these Bylaws or be determined from time to time by the Board of Directors. All property of the Corporation in the custody of the Treasurer shall be subject at all times to the inspection and control of the Board of Directors. Unless otherwise voted by the Board of Directors, each Assistant Treasurer, if any, shall have and perform the powers and duties of the Treasurer whenever the Treasurer is absent or unable to act, and may at any time exercise such of the powers of the Treasurer, and such other powers and duties, as may from to time be determined by the Board of Directors.

Section 9. Secretary and Assistant Secretaries.

The Board of Directors shall appoint a Secretary and, in his or her absence, an Assistant Secretary. The Secretary or, in his or her absence, any Assistant Secretary, shall attend all meetings of the directors and shall record all votes of the Board of Directors and minutes of the proceedings at such meetings. The Secretary or, in his or her absence, any Assistant Secretary, shall notify the directors of their meetings, and shall have and perform such other powers and duties as may from time to time be determined by the Board of Directors. If the Secretary or an Assistant Secretary is elected but is absent from any meeting of directors, a temporary secretary may be appointed by the directors at the meeting.

Section 10. Bond.

If required by the Board of Directors, any officer shall give the Corporation a bond in such sum and with such surety or sureties and upon such terms and conditions as shall be satisfactory to the Board of Directors, including without limitation a bond for the faithful performance of the duties of his office and for the restoration to the Corporation of all books, papers, vouchers, money and other property of whatever kind in his or her possession or under his or her control and belonging to the Corporation.

Section 11. Action with Respect to Securities of Other Corporations.

Unless otherwise directed by the Board of Directors, the President, the Treasurer or any officer of the Corporation authorized by the President shall have power to vote and otherwise act on behalf of the Corporation, in person or by proxy, at any meeting of stockholders of, or with respect to any action of stockholders of any other corporation in which this Corporation may hold securities and otherwise to exercise any and all rights and powers which this Corporation may possess by reason of its ownership of securities in such other corporation.

ARTICLE V
STOCK

Section 1. Certificates of Stock.

Each stockholder shall be entitled to a certificate signed by, or in the name of, the Corporation by the Chairman of the Board of Directors, or the President or a Vice President, and by the Treasurer or Assistant Treasurer, or the Secretary or an Assistant Secretary, certifying the number of shares owned by him or her. Any or all of the signatures on the certificate may be by facsimile.

Section 2. Transfers of Stock.

Transfers of stock shall be made only upon the transfer books of the Corporation kept at an office of the Corporation or by transfer agents designated to transfer shares of the stock of the Corporation. Except where a certificate is issued in accordance with Section 4 of this Article of these Bylaws, an outstanding certificate for the number of shares involved shall be surrendered for cancellation before a new certificate is issued therefore.

Section 3. Record Date.

In order that the Corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders, or to receive payment of any dividend or other distribution or allotment of any rights or to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the Board of Directors may fix a record date, subject to the notice provisions of the Certificate of Incorporation, which record date shall not precede the date on which the resolution fixing the record date is adopted and which record date shall not be more than sixty (60) nor 1ess than ten (10) days before the date of any meeting of stockholders, nor more than sixty (60) days prior to the time for such other action hereinbefore described; provided, however, that if no record date is fixed by the Board of Directors, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held, and, for determining stockholders entitled to receive payment of any dividend or other distribution or allotment of rights or to exercise any rights of change, conversion or exchange of stock or for any other purpose, the record date shall be at the close of business on the day on which the Board of Directors adopts a resolution relating thereto.

A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided, however, that the Board of Directors may fix a new record date for the adjourned meeting.

Section 4. Lost, Stolen or Destroyed Certificates.

In the event of the loss, theft or destruction of any certificate of stock, another may be issued in its p1ace pursuant to such regulations as the Board of Directors may establish concerning proof of such loss, theft or destruction and concerning the giving of a satisfactory bond or bonds of indemnity.

Section 5. Regulations.

The issue, transfer, conversion and registration of certificates of stock shall be governed by such other regulations as the Board of Directors may establish.

Section 6. Interpretation.

Subject to Article XI of these Bylaws, the Board of Directors shall have the power to interpret all of the terms and provisions of these Bylaws, which interpretation shall be conclusive.

ARTICLE VI
NOTICES

Section 1. Notices.

Except as otherwise specifically provided herein, in the Certificate of Incorporation or required by law, all notices required to be given to any stockholder, director, officer, employee or agent shall be in writing and may in every instance be effectively given by hand delivery to the recipient thereof, by depositing such notice in the mail postage paid, or by sending such notice by courier service, prepaid telegram or mailgram, or telecopy, cable, or telex. Any such notice shall be addressed to such stockholder, director, officer, employee or agent at his or her last known address as the same appears on the books of the Corporation. The time when such notice is received, if hand delivered, or dispatched, if delivered through the mail or by courier, telegram, mailgram, telecopy, cable, or telex shall be the time of the giving of the notice.

Section 2. Waiver of Notice.

A written waiver of any notice, signed by a stockholder, director, officer, employee or agent, whether before or after the time of the event for which notice is to be given, shall be deemed equivalent to the notice required to be given to such stockholder, director, officer, employee or agent. Neither the business nor the purpose of any meeting need be specified in such a waiver. Attendance of a director or stockholder at a meeting without protesting prior thereto or at its commencement the lack of notice shall also constitute a waiver of notice by such director or stockholder.

ARTICLE VII
INDEMNIFICATION

Section 1. Actions other than by or in the Right of the Corporation.

The Corporation shall indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than action by or in the right of the Corporation) by reason of the fact that he or she is or was a director, officer, employee or agent of the Corporation, or is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by him or her in connection with such action, suit or proceeding if he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the Corporation, and, with respect to any criminal action or proceedings, had no reasonable cause to believe his or her conduct was unlawful. The termination of any action, suit or proceeding by judgment, order, settlement, conviction, or upon a plea of nolo contendere or its equivalent, shall not, of itself, create a presumption that the person did not act in good faith and in a manner which he or she reasonably believed to be in or not opposed to the best interests of the Corporation, and, with respect to any criminal action or proceeding, had reasonable cause to believe that his or her conduct was unlawful.

Section 2. Actions by or in the Right of the Corporation.

The Corporation shall indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the Corporation to procure a judgment in its favor by reason of the fact that he or she is or was a director, officer, employee or agent of the Corporation, or is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust, or other enterprise, against expenses (including attorneys' fees) actually and reasonably incurred by him or her in connection with the defense or settlement of such action or suit if he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the Corporation and except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the Corporation unless and only to the extent that the Court of Chancery of the State of Delaware or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery of the State of Delaware or such other court shall deem proper.

Section 3. Success on the Merits.

To the extent that any person described in Section 1 or Section 2 of this Article has been successful on the merits or otherwise in defense of any action, suit or proceeding referred to in said Sections, or in defense of any claim, issue or matter therein, he or she shall be indemnified against expenses (including attorneys' fees) actual and reasonably incurred by him or her in connection therewith.

Section 4. Specific Authorization.

Any indemnification under Section 1 or Section 2 of this Article (unless ordered by a court) shall be made by the Corporation only as authorized in the specific case upon a determination that indemnification of any person described in said Sections is proper in the circumstances because he or she has met the applicable standard of conduct set forth in said Sections. Such determination shall be made (1) by the Board of Directors by a majority vote of a quorum consisting of directors who were not parties to such action, suit or proceeding, or (2) if such a quorum is not obtainable, or, even if obtainable, a quorum of disinterested directors so directs, by independent legal counsel in a written opinion, or (3) by the stockholders of the Corporation.

Section 5. Advance Payment.

Expenses incurred in defending any civil, criminal, administrative, or investigative action, suit or proceeding may be paid by the Corporation in advance of the final disposition of such action, suit or proceeding upon receipt of an undertaking by or on behalf of any person described in said Section to repay such amount if it shall ultimately be determined that he or she is not entitled to indemnification by the Corporation as authorized in this Article.

Section 6. Non-Exclusivity.

The indemnification and advancement of expenses provided by, or granted pursuant to, the other Sections of this Article shall not be deemed exclusive of any other rights to which those provided indemnification or advancement of expenses may be entitled under any bylaw, agreement, vote of stockholders or disinterested directors or otherwise, both as to action in such person's official capacity and as to action in another capacity while holding such office.

Section 7. Insurance.

The Board of Directors may authorize, by a vote of the majority of the full board, the Corporation to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the Corporation, or is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against him or her and incurred by him or her in any such capacity, or arising out of his or her status as such, whether or not the Corporation would have the power to indemnify him or her against such liability under the provisions of this Article.

Section 8. Continuation of Indemnification and Advancement of Expenses.

The indemnification and advancement of expenses provided by, or granted pursuant to, this Article shall continue as to a person who has ceased to be a director, officer, employee or agent and shall inure to the benefit of the heirs, executors and administrators of such a person.

Section 9. Severability.

If any word, clause or provision of this Article or any award made hereunder shall for any reason be determined to be invalid, the provisions hereof shall not otherwise be affected thereby but shall remain in full force and effect.

Section 10. Intent of Article.

The intent of this Article is to provide for indemnification and advancement of expenses to the fullest extent permitted by Section 145 of the General Corporation Law of Delaware. To the extent that such Section or any successor section may be amended or supplemented from time to time, this Article shall be amended automatically and construed so as to permit indemnification and advancement of expenses to the fullest extent from time to time permitted by law.

ARTICLE VIII
CERTAIN TRANSACTIONS

Section 1. Transactions with Interested Parties.

No contract or transaction between the Corporation and one or more of its directors or officers, or between the Corporation and any other corporation, partnership, association, or other organization in which one or more of its directors or officers are directors or officers, or have a financial interest, shall be void or voidable solely for this reason, or solely because the director or officer is present at or participates in the meeting of the Board or committee thereof which authorizes the contract or transaction or solely because the votes of such director or officer are counted for such purpose, if:

(a) The material facts as to his or her relationship or interest and as to the contract or transaction are disclosed or are known to the Board of Directors or the committee, and the Board or committee in good faith authorizes the contract or transaction by the affirmative votes of a majority of the disinterested directors, even though the disinterested directors be less than a quorum; or

(b) The material facts as to his or her relationship or interest and as to the contract or transaction are disclosed or are known to the stockholders entitled to vote thereon, and the contract or transaction is specifically approved in good faith by vote of the stockholders; or

(c) The contract or transaction is fair as to the Corporation as of the time it is authorized, approved or ratified, by the Board of Directors, a committee thereof, or the stockholders.

Section 2. Quorum.

Common or interested directors may be counted in determining the presence of a quorum at a meeting of the Board of Directors or of a committee which authorizes the contract or transaction.

ARTICLE IX
MISCELLANEOUS

Section 1. Facsimile Signatures

In addition to the provisions for use of facsimile signatures elsewhere specifically authorized in these Bylaws, facsimile signatures of any officer or officers of the Corporation may be used whenever and as authorized by the Board of Directors or a committee thereof.

Section 2. Corporate Seal.

The Board of Directors may provide a suitable seal, containing the name of the Corporation, which shall be in the charge of the Secretary. If and when so directed by the Board of Directors or a committee thereof, duplicates of the seal may be kept and used by the Treasurer or by an Assistant Secretary or Assistant Treasurer.

Section 3. Reliance upon Books, Reports and Records.

Each director, each member of any committee designated by the Board of Directors, and each officer of the Corporation shall, in the performance of his or her duties, be fully protected in relying in good faith upon the books of account or other records of the Corporation and upon such information, opinions, reports or statements presented to the Corporation by any of its officers or employees, or committees of the Board of Directors so designated, or by any other person as to matters which such director or committee member reasonably believes are within such other person's professional or expert competence and who has been selected with reasonable care by or on behalf of the Corporation.

Section 4. Fiscal Year

Except as otherwise determined by the Board of Directors from time to time, the fiscal year of the Corporation shall end on the last day of December of each year.

Section 5. Time Periods.

In applying any provision of these Bylaws which requires that an act be done or not be done on a specified number of days prior to an event or that an act be done during a period of a specified number of days prior to an event, calendar days shall be used, the day of the doing of the act shall be excluded, and the day of the event shall be included.

ARTICLE X
AMENDMENTS

These Bylaws may be amended, added to, rescinded or repealed by the stockholders or by the Board of Directors, when such power is conferred upon the Board of Directors by the Certificate of Incorporation, at any meeting of the stockholders or of the Board of Directors, provided notice of the proposed change was given in the notice of the meeting or, in the case of a meeting of the Board of Directors, a notice given not less than two (2) days prior to the meeting.

ARTICLE XI
CONFLICTS

In the event of a conflict or inconsistency between the provisions of these Bylaws and the provisions of the Fourth Amended and Restated Investor Rights Agreement, made as of December 17, 2003 by and among the Company and the other signatories thereto, and/or the MVRA (together, the "Agreements"), the provisions of the Agreements shall control.

EXHIBIT 4.2

FIFTH AMENDED AND RESTATED

INVESTOR RIGHTS AGREEMENT

FIFTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT (this "Agreement") made as of September 21, 2005 (the "Effective Date") by and among (i) PTC Therapeutics, Inc., a Delaware corporation (the "Company"), (ii) the persons identified on the signature page of this Agreement as Founders (the "Founders"), (iii) those Holders of shares of Series A Stock and Series B Stock (each as defined below) of the Company listed on Exhibit A attached hereto (the "Series A and Series B Investors"), (iv) those Holders of shares of Series C Stock (as defined below) of the Company listed on Exhibit B attached hereto (the "Series C Purchasers"), (v) the Holders of shares of Series D Stock (as defined below) of the Company listed on Exhibit C attached hereto (the "Series D Purchasers"), (vi) those Holders of Series E Stock (as defined below) of the Company listed on Exhibit D attached hereto (the "Series E Purchasers"), (vii) the purchasers of Series E-2 Stock (as defined below) of the Company listed on Exhibit E attached hereto (the "Series E-2 Purchasers") and (viii) the holders of warrants to purchase Preferred Stock and/or Common Stock of the Company listed on Exhibit F attached hereto (the "Warrant Purchasers"). The Series A and Series B Investors, the Series C Purchasers, the Series D Purchasers, the Series E Purchasers and the Series E-2 Purchasers may be referred to herein individually as an "Investor" and collectively as the "Investors." The Founders and the Investors may be referred to herein individually as a "Stockholder" and collectively as the "Stockholders."

WHEREAS, the Company proposes to issue and sell up to an aggregate of 4,132,232 shares of Series E-2 Convertible Preferred Stock, par value $.001 per share (the "Series E-2 Stock"), to the Series E-2 Purchasers pursuant to that certain Subscription Agreement dated as of the date hereof among the Company and the Series E-2 Purchasers (the "Subscription Agreement");

WHEREAS, in connection with their respective purchases of shares of the Series C Stock, the Series D Stock, the Series E Stock and the Series E-2 Stock, the Series C Purchasers, the Series D Purchasers, the Series E Purchasers and the Series E-2 Purchasers have requested that the Company extend to them registration rights and certain other rights and covenants as set forth herein, and the Series C Purchasers, the Series D Purchasers, the Series E Purchasers and the Series E-2 Purchasers have requested that the Founders enter into certain restrictions on the transfer of Common Stock (as hereinafter defined) owned or controlled by such Founders;

WHEREAS, in connection with their purchase of certain warrants, the Warrant Purchasers have requested that the Company extend to them registration rights as set forth herein;

WHEREAS, the Board of Directors of the Company has determined that it is in the best interests of the Company that the Company enter into this Agreement; and

WHEREAS, the Company and the holders of two-thirds of the outstanding shares of the Company's Series A Convertible Preferred Stock, par value $.001 per share (the

"Series A Stock"), the Company's Series B Convertible Preferred Stock, par value $.001 per share (the "Series B Stock"), the Company's Series C Convertible Preferred Stock, par value $.001 per share (the "Series C Stock"), the holders of the Company's Series D Convertible Preferred Stock, par value $.001 per share (the "Series D Stock") and the Company's Series E Convertible Preferred Stock, par value $.001 per share (the "Series E Stock") (the Series A Stock, the Series B Stock, the Series C Stock, the Series D Stock, the Series E Stock and the Series E-2 Stock, collectively being referred to herein as the "Preferred Stock") have consented to the terms of this Agreement and the amendment and restatement of that certain Fourth Amended and Restated Investor Rights Agreement, dated as of December 17, 2003, among the Company and the Investors named therein (the "Fourth Amended Rights Agreement"), which amended and restated that certain Third Amended and Restated Investor Rights Agreement, dated as of August 17, 2001, among the Company and the Investors named therein (the "Third Amended Rights Agreement"), which amended and restated that certain Second Amended and Restated Investor Rights Agreement dated as of May 26, 2000 among the Company and the Investors named therein (the "Second Amended Rights Agreement") which amended and restated that certain Amended and Restated Investor Rights Agreement dated as of February 9, 2000 among the Company and the Investors named therein (the "Amended Rights Agreement"), which amended and restated that certain Investor Rights Agreement dated as of August 19, 1998 among the Company and the Series A and Series B Investors named therein (the "Original Rights Agreement"), as set forth herein and have evidenced such consent by executing and delivering either (i) an omnibus signature page in the form attached hereto as Exhibit H-1 or (ii) a written consent of stockholders in the form attached hereto as Exhibit H-2 to this Agreement.

NOW, THEREFORE, in consideration of the covenants and agreements set forth herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby mutually acknowledged, the parties hereto amend and restate in its entirety the Third Amended Rights Agreement and covenant and agree as follows:

1. GENERAL PROVISIONS

1.1. SHARES SUBJECT TO THIS AGREEMENT. The Stockholders expressly agree that the terms and restrictions of this Agreement shall apply to all shares of capital stock which any of them now owns or hereafter acquires by any means, including without limitation by purchase, assignment or operation of law, or as a result of any stock dividend, stock split, reorganization, reclassification, whether voluntary or involuntary, or other similar transaction, and to any shares of capital stock of any successor in interest of the Company, whether by sale, merger, consolidation or other similar transaction, or by purchase, assignment or operation of law (the "Shares").

1.2. NO PARTNERSHIP RELATIONSHIP. Notwithstanding, but not in limitation of, any other provision of this Agreement, the parties understand and agree that the creation, management and operation of the Company shall not create or imply a general partnership between or among the Stockholders and shall not make any Stockholder the agent or partner of any other Stockholder for any purpose.

1.3. CERTAIN DEFINITIONS. As used in this Agreement, the following terms shall have the following respective meanings:

"Additional Closing Date" shall have the meaning assigned to such term in the Subscription Agreement.

"Affiliate" has the meaning ascribed to that term in Rule 12b-2 under the Exchange Act, or any successor rule.

"Commission" shall mean the Securities and Exchange Commission and any successor agency of the Federal government administering the Securities Act and the Exchange Act.

"Common Stock" shall mean (i) the common stock, $.001 par value per share, of the Company, (ii) any other capital stock of the Company, however designated, authorized on or after the date hereof, which shall neither be limited to a fixed sum or percentage of par value in respect of the rights of the holders thereof to participate in dividends nor entitled to a preference in the distribution of assets upon the voluntary or involuntary liquidation, dissolution or winding up of the Company; and (iii) any other securities into which or for which any of the securities described in (i) or (ii) may be converted or exchanged pursuant to a plan of recapitalization, reorganization, merger, consolidation, sale of assets or other similar transaction.

"Company Stock Option Plan" shall mean the Company's 1998 Employee, Director and Consultant Stock Option Plan (as amended from time-to-time); or such other arrangements, contracts, or plans as are recommended by management and approved by the Board of Directors or compensation committee established by the Board of Directors.

"Exchange Act" shall mean the Securities Exchange Act of 1934, as amended, and any similar or successor Federal statute, and the rules and regulations of the Commission thereunder, all as the same shall be in effect from time to time.

"Holder" shall mean the Investors and Warrant Purchasers holding Registrable Securities or securities convertible into Registrable Securities and any person holding such securities to whom the rights under this Agreement have been transferred in accordance with Section 4.12 hereof.

"Initial Closing Date" shall have the meaning assigned to such term in the Subscription Agreement.

"Initial Public Offering" shall mean either (i) the first underwritten public offering of Common Stock of the Company, offered on a firm commitment basis pursuant to a registration statement filed with the Commission under the Securities Act on Form S-1 or its then equivalent with net proceeds to the Company of not less than $50,000,000 and a per share price of not less than an amount equal to two times the Adjusted Series E-2 Price (subject to equitable adjustment in the event of any stock dividend, stock split, combination, reorganization, recapitalization or similar event involving a change in the Common Stock) or (ii) any other public offering upon the written election of the

Company and Holders of at least sixty-six and two-thirds percent (66 2/3 %) of the outstanding shares of Preferred Stock, on an as-converted basis.

"Person" means an individual, corporation, company, partnership, joint venture, trust or unincorporated organization, or a government or any agency or political subdivision thereof.

The terms "register", "registered" and "registration" shall refer to a registration effected by preparing and filing a registration statement in compliance with the Securities Act and applicable rules and regulations thereunder, and the declaration or ordering of the effectiveness of such registration statement, or, as the context may require, under the Exchange Act or applicable state securities laws.

"Registrable Securities" shall mean any (i) shares of Common Stock issued or issuable pursuant to the conversion of the Preferred Stock; (ii) shares of Common Stock issued or issuable pursuant to the exercise of the Warrants (and the conversion of any Preferred Stock issued or issuable pursuant thereto) pursuant to the terms set forth therein and (iii) shares of Common Stock issued or issuable pursuant to the conversion of the Preferred Stock, the exercise of the Warrants or the exercise or conversion of any warrant, right or other security issued in exchange for or in replacement of the Preferred Stock or issued with respect to the Preferred Stock or issued upon any stock split, stock dividend or other distribution, recapitalization, reorganization, merger, consolidation, sale of assets or similar event. As to any particular Registrable Securities, once issued, such securities shall cease to be Registrable Securities when (a) a registration statement with respect to the sale of such securities shall have become effective under the Securities Act and such securities shall have been disposed of in accordance with such registration statement, (b) they shall have been sold as permitted by Rule 144 (or any successor provision) under the Securities Act and the purchaser thereof does not receive "restricted securities" as defined in Rule 144, (c) they shall have been otherwise transferred, new certificates for them not bearing a legend restricting further transfer shall have been delivered by the Company and subsequent public distribution of them shall not, in the opinion of counsel for the holders, require registration of them under the Securities Act or (d) they shall have ceased to be outstanding.

"Registration Expenses" shall mean the expenses so described in Section 4.7.

"Securities Act" shall mean the Securities Act of 1933, as amended, and any similar or successor Federal statute, and the rules and regulations of the Commission thereunder, all as the same shall be in effect from time to time.

"Selling Expenses" shall mean the expenses so described in Section 4.7.

"Subsidiary" or "Subsidiaries" shall mean any corporation, partnership, trust or other entity of which the Company and/or any of its other Subsidiaries directly or indirectly owns at the time a majority of the outstanding shares of any class of equity security of such corporation, partnership, trust or other entity.

"Warrants" shall mean those certain warrants to purchase capital stock issued by the Company to the Warrant Purchasers listed on Exhibit E attached hereto.

2. PERCENTAGE MAINTENANCE RIGHTS

2.1. NOTICE OF NEW ISSUANCE. Except with respect to "Exempt Issuances" as defined in Section 2.3, in the event that the Company issues any (i) shares of Common Stock, (ii) warrants, options or other rights to purchase Common Stock (collectively, "Rights"), or (iii) any debentures or other securities convertible into or exchangeable for shares of Common Stock (collectively, "Convertible Securities"), the Company will deliver to those Investors then holding more than half of one percent (0.5%) of the shares of the Preferred Stock (each a "Qualified Stockholder") a notice (the "Offer Notice") upon the completion of such issuance (the "New Issuance"), stating the price and other terms and conditions thereof.

2.2. RIGHT TO PURCHASE SHARES, RIGHTS OR CONVERTIBLE SECURITIES. In the event of a New Issuance (other than an Exempt Issuance), any Qualified Stockholder shall have the right to purchase such number of shares of Common Stock, Rights or Convertible Securities at the price and on the terms upon which the New Issuance was made, such price to be paid in full in cash or by check at the time of issuance of such securities to such Qualified Stockholders so that, after giving effect to the issuance to the Qualified Stockholders and the conversion, exercise and exchange into or for (whether directly or indirectly) shares of Common Stock of all such Rights and Convertible Securities, each Qualified Stockholder who exercises such right will continue to maintain its same proportionate ownership of Common Stock as of the date immediately preceding the New Issuance, treating each Qualified Stockholder, for the purpose of such computation, as the Holder of the number of shares of Common Stock which would be issuable to it upon conversion, exercise and exchange of all Rights and Convertible Securities held by it on the date immediately preceding the New Issuance and assuming the like conversion, exercise and exchange of all such securities held by other persons. The rights set forth in this Article 2 shall be exercised by the Qualified Stockholders, if at all, by written notice to the Company delivered not later than thirty (30) days after the receipt by the Investors of the Offer Notice in accordance with the terms and conditions stated therein, and such right shall expire with respect to a Qualified Stockholder at the end of the thirtieth day after the day of the receipt by such Qualified Stockholders of the Offer Notice. The Company shall, promptly following the expiration of such thirty (30) day period, notify all Qualified Stockholders who have exercised their purchase rights under this Section 2.2 of the aggregate number of shares of Common Stock, Rights and Convertible Securities to be issued pursuant to this Section 2.2, and afford each Qualified Stockholder the opportunity to adjust the number of such securities it purchases under this Section 2.2 in order to conform its proportionate ownership after the New Issuance and the exercise of rights under this Section 2.2 to its proportionate ownership as of the date immediately preceding the New Issuance.

2.3. EXEMPT ISSUANCES. The issuances referred to in Section 2.1 which will not give the Investors the rights described in Section 2.2 (the "Exempt Issuances") are issuances in which shares of Common Stock or Rights or Convertible Securities of the Company are

issued or deemed issued (i) as a dividend or distribution payable pro rata to all holders of Common Stock or other securities of the Company; (ii) up to 2,326,008 shares of Common Stock (subject to equitable adjustment in the event of any stock dividend, stock split, combination, reorganization, recapitalization or similar event involving a change in the Common Stock), including Options therefor, pursuant to the Corporation's 1998 Employee Director and Consultant Stock Option Plan (as amended from time-to-time); and shares of Common Stock or Options therefor in excess of such 2,326,008 shares that are issued pursuant to the Corporation's 1998 Employee, Director and Consultant Stock Option Plan (as amended from time-to-time), or such other arrangements, contracts, or plans that are recommended by management and approved by the Board of Directors or compensation committee established by the Board of Directors, upon written consent of the holders of a majority of the Preferred Stock; (iii) upon conversion or exercise of any Rights (including shares issued in connection with any subsequent conversion of the shares issued upon the exercise of such Rights) or Convertible Securities outstanding on the date hereof; (iv) as up to 4,132,232 shares of Series E-2 Stock in connection with the Subscription Agreement (including shares issued in connection with any subsequent conversion of such Series E-2 Stock); (vi) as up to that number of shares equal to 1% of the aggregate number of shares (subject to equitable adjustment in the event of any stock dividend, stock split, combination, reorganization, recapitalization or similar event involving a change in the Common Stock) of outstanding Common Stock on an as-converted, fully-diluted basis (after giving effect to the issuance of the Series E-2 Stock pursuant to the Subscription Agreement) measured as of the date of the latest issuance of Series E-2 Stock issued after the date hereof, in each case, in accordance with the terms of the Subscription Agreement, to institutional lenders in connection with the establishment or maintenance by the Company of credit facilities, including equipment lease facilities, approved in each case by a majority of the Board of Directors of the Company; (vii) pursuant to a registered public offering, the closing of which is on or after the date hereof; (viii) as up to that number of shares equal to 1% of the aggregate number of shares (subject to equitable adjustment in the event of any stock dividend, stock split, combination, reorganization, recapitalization or similar event involving a change in the Common Stock) of outstanding Common Stock on an as-converted, fully-diluted basis (after giving effect to the issuance of the Series E-2 Stock pursuant to the Subscription Agreement) measured as of the date of the latest issuance of Series E-2 Stock issued after the date hereof, in each case, in accordance with the terms of the Subscription Agreement in connection with the sale of Common Stock or Convertible Securities of the Company to any licensor of technology or patent rights to the Company or to any collaborative partner or licensee with respect to the development or commercialization of products; or (ix) as up to that number of shares equal to 4% of the aggregate number of shares (subject to equitable adjustment in the event of any stock dividend, stock split, combination, reorganization, recapitalization or similar event involving a change in the Common Stock) of outstanding Common Stock on an as-converted, fully-diluted basis (after giving effect to the issuance of the Series E-2 Stock pursuant to the Subscription Agreement) measured as of the date of the latest issuance of Series E-2 Stock issued after the date hereof, in each case, in accordance with the terms of the Subscription Agreement in connection with the acquisition by the Company of another business entity by merger,

purchase of all or substantially all of its assets or acquisition of all or substantially all of the equity interest of such business entity.

3. RESTRICTIONS ON TRANSFER

3.1. NON-COMPLYING TRANSFERS PROHIBITED. No Founder may sell, assign, transfer, exchange, gift, devise, pledge, hypothecate, encumber or otherwise alienate or dispose of any Shares owned by such Founder, or any right or interest therein, whether voluntarily or involuntarily, by operation of law or otherwise, except in accordance with this Agreement. Notwithstanding the foregoing, a Founder may transfer any or all of his Shares (i) to his spouse or children or to a trust established for the benefit of his spouse, children or himself, or (ii) under his will (each such transferee, a "Permitted Transferee"); provided that such Shares shall remain subject to this Agreement and such permitted transferee shall, as a condition to such transfer, deliver to the Company a written instrument confirming that such transferee shall be bound by all of the terms and conditions of this Agreement. The restrictions on the transfer of shares by the Founders are in addition to, and not in lieu of, any restrictions on such Shares contained in each of the Stock Restriction Agreements between the Founders and the Company dated August 19, 1998.

3.2. RIGHTS OF FIRST REFUSAL ON VOLUNTARY TRANSFERS.

3.2.1. RIGHT OF FIRST REFUSAL OF THE COMPANY. Except in cases explicitly permitted by Section 3.1, any Founder who intends to sell, assign, transfer or otherwise voluntarily alienate or dispose of any Shares (the "Selling Stockholder") shall, prior to any such transfer, give written notice (the "Selling Stockholder's Notice") of such intention to the Company and to each Qualified Stockholder. The Selling Stockholder's Notice shall include the name of the proposed transferee, the proposed purchase price per Share, the terms of payment of such purchase price and all other matters relating to such sale and shall be accompanied by a copy of a binding written agreement of the proposed transferee to purchase such Shares from the Selling Stockholder. The Selling Stockholder's Notice shall constitute a binding offer by the Selling Stockholder to sell to the Company all or any part of such number of Shares (the "Offered Shares") then owned by the Selling Stockholder as are proposed to be sold in the Selling Stockholder's Notice at the monetary price per Share designated in the Selling Stockholder's Notice, payable as provided in Section 3.2.3 hereof. Not later than thirty (30) days after receipt of the Selling Stockholder's Notice, the Company shall deliver written notice (the "Company Notice") to the Selling Stockholder stating whether the Company has accepted the offer stated in the Selling Stockholder's Notice (in whole or in part). The closing of any purchase of the Offered Shares by the Company shall take place on the later of (i) fifteen (15) days after the end of the thirty (30) day period set forth above and (ii) the date on which the Buying Stockholders (as hereinafter defined in Section 3.2.2) consummate any purchase of Offered Shares pursuant to Section 3.2.2 below.

3.2.2. RIGHT OF FIRST REFUSAL OF THE STOCKHOLDERS. If the Company does not accept the offer to purchase all of the Offered Shares within the thirty (30) day period provided in Section 3.2.1, no later than the end of such thirty (30) day period the Company shall give notice (the "Second Company Notice") of that fact to each Qualified Stockholder, and each Qualified Stockholder shall have the right to purchase all or any part of its Proportionate Percentage (as defined below) of the Offered Shares not purchased by the Company (the "Remaining Shares"), at the monetary price per Share designated in the Selling Stockholder's Notice, payable as provided in Section 3.2.3. Not later than fifteen (15) days after delivery of the Second Company Notice, each Qualified Stockholder shall deliver to the Company, the other Qualified Stockholders and the Selling Stockholder a written notice stating whether such Qualified Stockholder has accepted the offer stated in the Selling Stockholder's Notice with respect to its Proportionate Percentage of the Remaining Shares. Promptly following the expiration of such fifteen (15) day period, the Company shall notify each Qualified Stockholder that has exercised its rights under this Section 3.2.2 (each a "Buying Stockholder") of the number of Remaining Shares (if any) that other Qualified Stockholders have not elected to purchase. If one or more of the Qualified Stockholders elects not to purchase all of the Remaining Shares which it is entitled to purchase pursuant to this Section 3.2.2, the Buying Stockholders, by written notice to the Company and the Selling Stockholder within five (5) days after the delivery of the Company's notice pursuant to the proceeding sentence, may elect to purchase all or a part of such unpurchased Remaining Shares without the consent of any non-purchasing Qualified Stockholders, pro rata between or among them or in such other manner as they may agree. The closing of any purchase of the Remaining Shares by the Buying Stockholders shall take place no later than fifteen (15) days after the end of the fifteen (15) day period set forth above. As used in this Section 3.2.2, "Proportionate Percentage" shall mean with respect to each Qualified Stockholder a fraction, the numerator of which is the number of Shares owned by such Qualified Stockholder (calculated on a fully diluted basis), and the denominator of which is the total number of Shares owned by all the Qualified Stockholders (calculated on a fully-diluted basis).

3.2.3. CLOSING. The place for the closing of any purchase and sale described in Section 3.2.1 or Section 3.2.2 shall be the principal office of the Company or at such other place as the parties shall agree. At the closing, the Selling Stockholder shall accept payment on the terms offered by the proposed transferee named in the Selling Stockholder's Notice, provided, however, that the Company and the Buying Stockholders shall not be required to meet any non-monetary terms of the proposed transfer, including, without limitation, delivery of other securities in exchange for the Shares proposed to be sold. At the closing, the Selling Stockholder shall deliver to the Company or the Buying Stockholders, as the case may be, in exchange for Shares purchased and sold at the closing, certificates for the number of Shares stated in the Selling Stockholder's Notice, accompanied by duly executed instruments of transfer.

3.2.4. TRANSFERS TO THIRD PARTIES. If the Company and the Buying Stockholders in aggregate fail to accept the offer stated in the Selling Stockholder's Notice with respect to all of the Offered Shares, they shall not have the right to purchase any Offered Shares, and the Selling Stockholder shall, subject to Section 3.3 herein, be free to sell all, but not less than all, of the Offered Shares to the designated transferee at a price and on terms no less favorable to the Selling Stockholder than described in the Selling Stockholder's Notice, provided, however, that such sale is consummated within ninety (90) days after the giving of the Selling Stockholder's Notice pursuant to Section 3.2.1. As a condition precedent to the effectiveness of a transfer pursuant to this Section 3.2.4, the proposed transferee(s) shall agree in writing prior to such transfer to become a party to this Agreement and shall thereafter be permitted to transfer Shares only in accordance with this Agreement.

3.3. PARTICIPATION IN SALES.

3.3.1. TAKE-ALONG RIGHT. In the event that a Founder (the "Offeree") receives a bona fide offer from a third party or parties other than the Company or any other Stockholder (the "Third Party Buyer") to purchase any of the Shares owned by the Offeree (the "Take-Along Shares"), for a specified price payable in cash or otherwise and on specified terms and conditions (the "Offer"), and the Offeree proposes to sell or otherwise transfer the Take-Along Shares to the Third Party Buyer pursuant to the Offer, each Qualified Stockholder shall have the right to sell to the Third Party Buyer, at the same price per Share and on the same terms and conditions as stated in the Offer, up to the number of Shares equal to the Take-Along Shares multiplied by a fraction, the numerator of which is the aggregate number of Shares owned by such Qualified Stockholder (calculated on a fully diluted, as converted to Common Stock basis) and the denominator shall be the aggregate number of Shares held by all stockholders (calculated on a fully-diluted, as converted to Common Stock basis), provided, however, that if the prospective third-party purchaser objects to the delivery of any series of Preferred Stock in lieu of Common Stock, such selling Qualified Stockholder shall convert such Preferred Stock into Common Stock and deliver Common Stock as provided in this Section 3.3.1. The Company agrees to make any such conversion concurrent with the actual transfer of such shares to the purchaser and contingent on such transfer; and provided further, that such rights of the Qualified Stockholders granted pursuant to this 3.3.1 shall not apply to the transfer or transfers by a Founder of up to 100,000 Shares in the aggregate (subject to appropriate adjustment for stock splits, stock dividends, combinations and similar recapitalization events) (a "Permitted Transfer"), provided that, such Shares transferred pursuant to a Permitted Transfer shall remain subject to this Agreement and such permitted transferee shall, as a condition to such transfer, deliver to the Company a written instrument confirming that such transferee shall be bound by all of the terms and conditions of this Agreement.

3.3.2. NOTICES OF OFFER AND INTENT TO PARTICIPATE. If a Qualified Stockholder wishes to participate in any sale pursuant to Section 3.3.1 it shall notify the

Offeree in writing of such intention and the number of Shares it wishes to sell pursuant to this Section 3.3 not later than fifteen (15) days after delivery of the Second Company Notice (as described in Section 3.2.2 above). If the Offeree does not receive such notice from a Qualified Stockholder within such fifteen (15) day period, the Offeree shall be free to consummate the proposed transaction without any obligation to include such Qualified Stockholder's Shares in such transaction. The non-exercise or partial exercise of the rights of any Qualified Stockholder hereunder to participate in one or more sales of Shares made by a Founder shall not adversely affect such Qualified Stockholder's right to participate in subsequent sales of Shares by a Founder.

3.3.3. SALE OF TAKE-ALONG SHARES. The Offeree and each Qualified Stockholder who has provided timely notice in accordance with Section 3.3.2 above shall sell to the Third Party Buyer all, or at the option of the Third Party Buyer, any part of the Shares proposed to be sold by them at not less than the price and upon other terms and conditions, if any, not more favorable to the Third Party Buyer than those stated in the Offer, provided, however, that any purchase of less than all of such Shares by the Third Party Buyer shall be made from the Offeree and each Qualified Stockholder pro rata based upon the relative amount of the Shares that the Offeree and such Qualified Stockholder is entitled to sell pursuant to Section 3.3.1. The stock certificate or certificates that the selling Qualified Stockholder delivers to the Offeree pursuant to this Section 3.3 shall be transferred to the prospective purchaser in consummation of the sale of the Shares pursuant to the terms and conditions specified in the transfer notice, and the Offeree shall concurrently therewith remit to such selling Qualified Purchaser that portion of the sale proceeds to which such selling Qualified Purchaser is entitled by reason of its participation in such sale. To the extent that any prospective purchaser or purchasers prohibits such assignment or otherwise refuses to purchase shares or other securities from a selling Qualified Stockholder exercising its take along rights hereunder, the Offeree shall not sell to such prospective purchaser or purchasers any Shares unless and until, simultaneously with such sale, the Offeree shall purchase such shares or other securities from such selling Qualified Stockholder for the same consideration and on the same terms and conditions as the proposed transfer described in the transfer notice.

3.3.4. PROHIBITED TRANSFERS.

(a) In the event any Founder should sell any Shares in contravention of the take-along rights of the Qualified Stockholders under Section 3 (a "Prohibited Transfer"), the Qualified Stockholders, in addition to such other remedies as may be available at law, in equity or hereunder, shall have the put option provided below, and such Founder shall be bound by the applicable provisions of such option.

(b) In the event of a Prohibited Transfer, each Qualified Stockholder shall have the right to sell to such Founder the type and number of the Shares equal to the number of shares each Qualified Stockholder would have been

entitled to transfer to the third-party transferee(s) under Section 3.3 hereof had the Prohibited Transfer been effected pursuant to and in compliance with the terms hereof. Such sale shall be made on the following terms and conditions:

(i) The price per share at which the shares are to be sold to such Founder shall be equal to the price per share paid by the third-party transferee(s) to such Founder in the Prohibited Transfer. Such Founder shall also reimburse each Qualified Stockholder for any and all fees and expense, including legal fees and expenses, incurred pursuant to the exercise or the attempted exercise of the Qualified Stockholder's rights under Section 3.3.4.

(ii) Within 45 days after the later of the dates on which the Qualified Stockholder (A) received notice of the Prohibited Transfer or (B) otherwise became aware of the Prohibited Transfer, each Qualified Stockholder shall, if exercising the option created hereby, deliver to such Founder the certificate or certificates representing shares to be sold, each certificate to be properly endorsed for transfer.

(iii) Such Founder shall, upon receipt of the certificate or certificates for the shares to be sold by a Qualified Stockholder, pursuant to this Section 3.3.4, pay the purchase price therefor and the amount of reimbursable fees and expenses, as specified in Section 3.3.4(b)(i), in cash or by other means acceptable to such Qualified Stockholder.

(iv) Notwithstanding the foregoing, any attempt by a Founder to transfer the Shares in violation of this Agreement shall be null and void ab initio and the Company agrees it will not effect such a transfer nor will it treat any alleged transferee(s) as the owner of such shares without the written consent of a majority in interest of the Qualified Stockholders.

(c) The Qualified Stockholders, severally but not jointly, will indemnify the Company against all liabilities incurred by the Company relating to tax obligations owed by the Company pursuant to the exercise by such Qualified Stockholders of the option set forth in this Section 3.3.4.

3.4. COMPANY RECORDS. The Company shall not transfer on its books any of the shares of Common Stock held by any Stockholder or Permitted Transferee without first ascertaining compliance with all of the applicable provisions of this Agreement with respect to such transfer. Each Founder agrees that, in order to ensure compliance with the restrictions referred to herein, the Company may issue appropriate "stop-transfer" instructions to its transfer agent, if any, and that, if the Company transfers its own securities, it may make appropriate notations to the same effect in its own records. The Company shall not be required (i) to transfer on its books any Shares that have been sold or otherwise transferred in violation of any of the provisions of this Section 3.3, or (ii) to treat as owner of such Shares or to accord the right to vote or pay dividends to any purchaser or other transferee to whom such Shares shall have been transferred.

3.5. LEGEND-REQUIREMENT. All certificates evidencing Shares subject to Section 3.3 herein shall, during the term of this Agreement, bear such restrictive legends as the Company and the Company's counsel deem necessary or advisable under applicable law or pursuant to this Agreement, including without limitation the following (or a substantially similar legend):

"THE SECURITIES REPRESENTED HEREBY ARE SUBJECT TO A RIGHT OF CO-SALE BY CERTAIN SHAREHOLDERS OF THE COMPANY, PURSUANT TO AN AGREEMENT RELATING TO SUCH SECURITIES, AND MAY NOT BE SOLD OR OTHERWISE TRANSFERRED EXCEPT IN COMPLIANCE WITH THE TERMS OF SUCH AGREEMENT."

4. TRANSFER OF REGISTRABLE SECURITIES; REGISTRATION

4.1. RESTRICTIVE LEGEND. Each certificate representing shares of Preferred Stock or Registrable Securities shall, except as otherwise provided in this Section 4.1 or in Section 4.2, be stamped or otherwise imprinted with a legend substantially in the following form (in addition to any legend required under applicable state securities laws):

"The securities represented by this certificate have not been registered under the Securities Act of 1933, as amended, or any other securities laws. These securities have been acquired for investment and not with a view to distribution or resale. Such securities may not be offered for sale, sold, delivered after sale, transferred, pledged or hypothecated in the absence of an effective registration statement covering such securities under the Securities Act of 1933 and any other applicable securities laws, unless the holder shall have obtained an opinion of counsel reasonably satisfactory to the corporation that such registration is not required."

Upon request of a Holder of such a certificate, the Company shall remove the foregoing legend (as well as the legend set forth in Section 4.2 of the Subscription Agreement) from the certificate or issue to such Holder a new certificate therefor free of any transfer legend, if there is an effective registration statement covering the securities represented by such certificate or, with such request, the Company shall have received either the opinion referred to in Section 4.2(i) or the "no-action" letter referred to in Section 4.2(ii).

4.2. NOTICE OF PROPOSED TRANSFER. Prior to any proposed sale, pledge, hypothecation or other transfer of any shares of Preferred Stock or Registrable Securities (other than under the circumstances described in Section 4.3, 4.4 or 4.5), the Holder thereof shall give written notice to the Company of its intention to effect such sale, pledge, hypothecation or other transfer. Each such notice shall describe the manner of the proposed sale, pledge, hypothecation or other transfer and, if requested by the Company

shall be accompanied by either (i) an opinion of counsel reasonably satisfactory to the Company stating that that the proposed sale, pledge, hypothecation or other transfer may be effected without registration under the Securities Act or (ii) a "no action" letter from the Commission to the effect that the distribution of such securities without registration will not result in a recommendation by the staff of the Commission that action be taken with respect thereto, whereupon the Holder of such stock shall be entitled to transfer such stock in accordance with the terms of its notice; provided, however, that no such opinion of counsel shall be required for (x) a distribution to one or more partners of the transferor (in the case of a transferor that is a partnership), stockholders (in the case of a transferor that is a corporation) or members (in the case of a transferor that is a limited liability company) in each case in respect of the beneficial interest of such partner, stockholder or member or (y) Affiliates, except in the case of clause (y), as the Company shall otherwise reasonably request. Each certificate for Preferred Stock or Registrable Securities transferred as above provided shall bear the appropriate restrictive legend set forth in Section 4.1, except that such certificate shall not bear such legend if (i) such transfer is in accordance with the provisions of Rule 144 (or any other rule permitting public sale without registration under the Securities Act) or (ii) the opinion of counsel or "no-action" letter referred to above is to the further effect that the transferee and any subsequent transferee (other than an affiliate of the Company) would be entitled to transfer such securities in a public sale without registration under the Securities Act or that such legend is not required to establish compliance with any provisions of the Securities Act. Notwithstanding any other provision hereof, the restrictions provided for in this Section 4.2 shall not apply to securities which are not required to bear the legend prescribed by Section 4.1 in accordance with the provisions of that Section. If the Company does not accept an opinion of counsel required hereby signed by the original Holder's counsel, the Company will pay the reasonable fees and disbursements of other counsel in connection with all opinions rendered by them pursuant to this Section 4.2.

4.3. REGISTRATION ON FORM S-1.

(a) If at any time, Holders of more than 20% of the outstanding shares of Registrable Securities request that the Company file a registration statement for at least 20% of the shares of the outstanding Registrable Securities, (such Holders, the "Initiating Holders") anticipated aggregate proceeds of which, net of underwriting discounts and commissions, would exceed $10,000,000, the Company shall:

(i) within ten days of the receipt by the Company of such notice, give written notice of the proposed registration, qualification or compliance to all other Holders; and

(ii) as soon as practicable use its best efforts to effect such registration, qualification or compliance (including, without limitation, appropriate qualification under applicable blue sky or other state securities laws and appropriate compliance with applicable regulations issued under the Securities Act and any other governmental requirements or regulations) as may be so requested and as would permit or facilitate the

sale and distribution of all or such portion of such Registrable Securities as are specified in such request, together with all or such portion of the Registrable Securities of any Holder or Holders joining in such request as are specified in a written request received by the Company within 20 days after receipt of such written notice from the Company;

provided, however, that the Company shall not be obligated to take any action to effect any such registration, qualification or compliance pursuant to this Section 4.3:

(A) In any particular jurisdiction in which the Company would be required to execute a general consent to service of process in effecting such registration, qualification or compliance unless the Company is already subject to service in such jurisdiction and except as may be required by the Securities Act;

(B) Prior to the date six (6) months following the effective date of the Company's first registered public offering of its stock, pursuant to a firm commitment underwritten offering;

(C) After the Company has effected four (4) such registrations pursuant to this Section 4.3(a) and such registrations have been declared or ordered effective and the securities offered thereunder have been sold;

(D) If the Company shall furnish to such Holders a certificate signed by the President of the Company stating that in the good faith judgment of the Board of Directors it would be seriously detrimental to the Company or its stockholders for a registration statement to be filed in the near future, then the Company's obligation to use its best efforts to register, qualify or comply under this Section 4.3 shall be deferred for a period not to exceed 90 days from the date of receipt of written request from the Initiating Holders; provided, however, that the Company shall not exercise such right more than once in any twelve-month period; provided, further, that it shall be considered seriously detrimental to the Company and its stockholders for a registration statement to be filed in the near future if the Company shall be preparing in good faith to commence any offering at the time any such request by the Initiating Holders is made.

(E) If such Holders propose to dispose of shares of Registrable Securities that may be immediately registered on Form S-3 pursuant to a request made under the provisions of Section 4.4 hereof.

Subject to the foregoing clauses (A) through (E), the Company shall file a registration statement covering the Registrable Securities so requested to be registered as soon as practicable after receipt of the request or requests of the Initiating Holders.

(b) Underwriting. If the Initiating Holders request a registration pursuant to this Section 4.3 for a registered public offering and intend to distribute

the Registrable Securities covered by their request by means of an underwriting, they shall so advise the Company as a part of their request made pursuant to this Section 4.3 and the Company shall so advise the Holders as part of the notice given pursuant to Section 4.3(a)(i). In such event, the right of any Holder to registration pursuant to Section 4.3 shall be conditioned upon such Holder's participation in the underwriting arrangements required by this Section 4.3, and the inclusion of such Holder's Registrable Securities in the underwriting to the extent requested shall be limited to the extent provided herein.

A registration statement filed pursuant to this Section 4.3 may, subject to the following provisions, include (i) shares of Common Stock for sale by the Company for its own account, (ii) shares of Common Stock held by officers or directors of the Company and (iii) shares of Common Stock held by persons who by virtue of agreements with the Company are entitled to include such shares in such registration (the "Other Shareholders"), in each case for sale in accordance with the method of disposition specified by the requesting Holders. If such registration shall be underwritten, the Company shall (together with all Holders proposing to distribute their securities through such underwriting) enter into an underwriting agreement in customary form with the managing underwriter of recognized national standing selected for such underwriting by the Company and reasonably acceptable to a majority of the Holders proposing to distribute their securities through such underwriting; provided, that, the Holders shall not be required to make any representation or warranty in the underwriting agreement in connection with such offering other than as to (i) their ownership and authority to transfer, free of liens, claims and encumbrances (other than those that arise under the terms of this Agreement) and (ii) the accuracy and completeness of any information furnished by them for inclusion in the registration statement. If and to the extent that the managing underwriter determines that marketing factors require a limitation on the number of shares to be included in such registration, then the shares of Common Stock held by officers or directors (other than Registrable Securities) of the Company or by Other Shareholders (other than Registrable Securities) and shares of Common Stock to be sold by the Company for its own account shall be excluded from such registration to the extent so required by such managing underwriter, and unless the Holders of such shares and the Company have otherwise agreed in writing, such exclusion shall be applied first to the shares held by the directors and officers and the Other Shareholders to the extent required by the managing underwriter, then to the shares of Common Stock of the Company to be included for its own account to the extent required by the managing underwriter. If the managing underwriter determines that marketing factors require a further limitation of the number of Registrable Securities to be registered under this Section 4.3, then Registrable Securities shall be excluded in such manner that the securities to be sold shall be allocated among the selling Holders pro rata based on their ownership of Registrable Securities. In any event all securities to be sold other than Registrable Securities will be excluded prior to any exclusion of Registrable Securities. No Registrable Securities or any other security excluded from the underwriting by reason of the underwriter's marketing limitation shall be included in such registration.

If any Holder of Registrable Securities or Other Shareholder disapproves of the terms of the underwriting, such Holder or Other Shareholder may elect to withdraw

therefrom by written notice to the Company, the managing underwriter and the Initiating Holders. The Registrable Securities and/or other securities so withdrawn shall also be withdrawn from registration. All such withdrawn Registrable Securities and/or other securities shall remain subject to any agreements executed in connection with Section 4.11.

4.4. REGISTRATION ON FORM S-3.

(a) In addition to the rights provided in Sections 4.3 and 4.5, subject to a limit of one (1) registration hereunder in any six (6) month period, if at any time (i) any Holder or Holders of Registrable Securities request that the Company file a registration statement on Form S-3 or any comparable or successor form thereto for a public offering of all or any portion of the shares of Registrable Securities held by such requesting Holder or Holders, the reasonably anticipated aggregate price to the public of which would exceed US $5,000,000 and (ii) the Company is a registrant entitled to use Form S-3 or any comparable or successor form thereto to register such shares, then the Company shall use its best efforts to register under the Securities Act on Form S-3 or any comparable or successor form thereto, for public sale in accordance with the method of disposition specified in such notice, the number of shares of Registrable Securities specified in such notice. Whenever the Company is required by this Section 4.4 to use its best efforts to effect the registration of Registrable Securities, each of the procedures and requirements set forth below, including but not limited to the requirement that the Company notify all Holders of Registrable Securities from whom notice has not been received and provide them with the opportunity to participate in the offering, shall apply to such registration.

(b) The Company shall use its best efforts to qualify for registration on Form S-3 or any comparable or successor form or forms; and to that end the Company shall register (whether or not required by law to do so) the Common Stock under the Exchange Act in accordance with the provisions of that Act following the effective date of the first registration of any securities of the Company on Form S-1 or any comparable or successor form.

(c) Following receipt of any notice under this Section 4.4, the Company shall immediately notify all Holders of Registrable Securities from whom notice has not been received and such Holders shall then be entitled within thirty (30) days after receipt of such notice from the Company to request the Company to include in the requested registration all or any portion of their shares of Registrable Securities. The Company shall use its best efforts to register under the Securities Act, for public sale in accordance with the method of disposition specified in the notice from requesting Holders described in paragraph (a) above, the number of shares of Registrable Securities specified in such notice (and in all notices received by the Company from other Holders within thirty (30) days after the receipt of such notice by such Holders). The Company shall be obligated to register the Registrable Securities pursuant to this Section 4.4 on four (4) occasions; provided, however, that such obligation shall be deemed satisfied only

when a registration statement covering all shares of Registrable Securities specified in notices received as aforesaid (except to the extent reduced by the managing underwriter, if any, pursuant to Section 4.4(e)), for sale in accordance with the method of disposition specified by the requesting Holders, shall have become effective.

(d) If the Holders requesting such registration intend to distribute the Registrable Securities covered by their request by means of an underwriting, they shall so advise the Company as a part of their request made pursuant to this Section 4.4 and the Company shall include such information in the written notice referred to in paragraph (c) above. The right of any Holder to registration pursuant to this Section 4.4 shall be conditioned upon such Holder's agreeing to participate in such underwriting and to permit inclusion of such Holder's Registrable Securities in the underwriting; provided, that, the Holders shall not be required to make any representation or warranty in the underwriting agreement in connection with such offering other than as to (i) their ownership and authority to transfer, free of liens, claims and encumbrances (other than those that arise under the terms of this Agreement), and (ii) the accuracy and completeness of any information furnished by them for inclusion in the registration statement. If such method of disposition is an underwritten public offering, the Holders of at least a majority in interest of the shares of Registrable Securities to be sold in such offering may designate the managing underwriter of such offering, which managing underwriter shall be reasonably acceptable to the Company. A Holder may elect to include in such underwriting all or a part of the Registrable Securities it holds.

(e) A registration statement filed pursuant to this Section 4.4 may, subject to the following provisions, include (i) shares of Common Stock for sale by the Company for its own account, (ii) shares of Common Stock held by officers or directors of the Company and (iii) shares of Common Stock held by persons who by virtue of agreements with the Company are entitled to include such shares in such registration (the "Other Shareholders"), in each case for sale in accordance with the method of disposition specified by the requesting Holders. If such registration shall be underwritten, the Company, such officers and directors and Other Shareholders proposing to distribute their shares through such underwriting shall enter into an underwriting agreement in customary form with the representative of the underwriter or underwriters selected for such underwriting on terms no less favorable to such officers, directors or Other Shareholders than the terms afforded the Holders of Registrable Securities. If and to the extent that the managing underwriter determines that marketing factors require a limitation on the number of shares to be included in such registration, then the shares of Common Stock held by officers or directors (other than Registrable Securities) of the Company or by Other Shareholders (other than Registrable Securities) and shares of Common Stock to be sold by the Company for its own account shall be excluded from such registration to the extent so required by such managing underwriter, and unless the Holders of such shares and the Company have otherwise agreed in writing, such exclusion shall be applied

first to the shares held by the directors and officers and the Other Shareholders to the extent required by the managing underwriter, then to the shares of Common Stock of the Company to be included for its own account to the extent required by the managing underwriter. If the managing underwriter determines that marketing factors require a further limitation of the number of Registrable Securities to be registered under this Section 4.4, then Registrable Securities shall be excluded in such manner that the securities to be sold shall be allocated among the selling Holders pro rata based on their ownership of Registrable Securities. In any event all securities to be sold other than Registrable Securities will be excluded prior to any exclusion of Registrable Securities. No Registrable Securities or any other security excluded from the underwriting by reason of the underwriter's marketing limitation shall be included in such registration.

If any Holder of Registrable Securities, officer, director or Other Shareholder who has requested inclusion in such registration as provided above, disapproves of the terms of the underwriting, such Holder, officer, director or Other Shareholder may elect to withdraw therefrom by written notice to the Company and the managing underwriter. The securities so withdrawn shall also be withdrawn from registration.

4.5. INCIDENTAL REGISTRATION. If the Company at any time (other than pursuant to Sections 4.3 and 4.4) proposes to register any of its securities under the Securities Act for sale to the public, whether for its own account or for the account of other security Holders or both (except with respect to registration statements on Forms S-4, S-8 or any successor to such forms or another form not available for registering the Registrable Securities for sale to the public) each such time it will promptly give written notice to all Holders of the Registrable Securities of its intention so to do. Upon the written request of any such Holder, received by the Company within thirty (30) days after the giving of any such notice by the Company, to register any or all of its Registrable Securities, the Company will use its best efforts to cause the Registrable Securities as to which registration shall have been so requested to be included in the securities to be covered by the registration statement proposed to be filed by the Company, all to the extent requisite to permit the sale or other disposition by the Holder (in accordance with its written request) of such Registrable Securities so registered. If the registration of which the Company gives notice is for a registered public offering involving an underwriting, the Company shall so advise the Holders of Registrable Securities as a part of the written notice given pursuant to this Section 4.5. In such event the right of any Holder of Registrable Securities to registration pursuant to this Section 4.5 shall be conditioned upon such Holder's participation in such underwriting to the extent provided herein. All Holders of Registrable Securities proposing to distribute their securities through such underwriting shall (together with the Company and the Other Shareholders distributing their securities through such underwriting) enter into an underwriting agreement in customary form with the underwriter or underwriters selected for underwriting by the Company; provided, that, the Holders shall not be required to make any representation or warranty in the underwriting agreement in connection with such offering other than as to (i) their ownership and authority to transfer, free of liens, claims and encumbrances (other than those that arise under the terms of this Agreement), and (ii) the accuracy and completeness of any information furnished by them for inclusion in the registration

statement. Notwithstanding any other provision of the Agreement, if the underwriter determines in good faith that marketing factors require a limitation of the number of shares to be underwritten, the number of shares that may be included in the underwriting shall be allocated, first, to the Company; second, to the Holders on a pro rata basis based on the total number of Registrable Securities requested to be registered by such Holders; and third, to the Other Shareholders on a pro rata basis. No such reduction shall (i) reduce the securities being offered by the Company for its own account to be included in the registration and underwriting, or (ii) reduce the amount of securities of the selling Holders included in the registration below twenty-five percent (25%) of the total amount of securities included in such registration, unless such offering is the initial public offering and such registration does not include shares of any other selling shareholders, in which event any or all of the Registrable Securities of the Holders may be excluded in accordance with the immediately preceding sentence. Notwithstanding the foregoing provisions, the Company may withdraw any registration statement referred to in this Section 4.4 without thereby incurring any liability to the Holders of Registrable Securities. If any Holder of Registrable Securities or Other Shareholder disapproves of the terms of any such underwriting, it may elect to withdraw therefrom by written notice to the Company and the underwriter. Any Registrable Securities or other securities excluded or withdrawn from such underwriting shall be withdrawn from such registration.

4.6. REGISTRATION PROCEDURES. If and whenever the Company is required by the provisions of Section 4.3, 4.4 or 4.5 to use its best efforts to effect the registration of any Registrable Securities under the Securities Act, the Company will, as expeditiously as possible:

(a) prepare and file with the Commission a registration statement with respect to such securities including executing an undertaking to file post-effective amendments and use its best efforts to cause such registration statement to become and remain effective for the period of the distribution contemplated thereby;

(b) prepare and file with the Commission such amendments and supplements to such registration statement and the prospectus used in connection therewith as may be necessary to keep such registration statement effective for the period specified herein and comply with the provisions of the Securities Act with respect to the disposition of all Registrable Securities covered by such registration statement in accordance with the sellers' intended method of disposition set forth in such registration statement for such period;

(c) furnish to each seller of Registrable Securities and to each underwriter such number of copies of the registration statement and each such amendment and supplement thereto (in each case including all exhibits) and the prospectus included therein (including each preliminary prospectus) as such persons reasonably may request in order to facilitate the public sale or other disposition of the Registrable Securities covered by such registration statement;

(d) use its best efforts to register or qualify the Registrable Securities covered by such registration statement under the securities or "blue sky" laws of such jurisdictions as the sellers of Registrable Securities or, in the case of an underwritten public offering, the managing underwriter reasonably shall request, provided, however, that the Company shall not for any such purpose be required to qualify generally to transact business as a foreign corporation in any jurisdiction where it is not so qualified or to consent to general service of process in any such jurisdiction, unless the Company is already subject to service in such jurisdiction;

(e) use its best efforts to list the Registrable Securities covered by such registration statement with any securities exchange on which the Common Stock of the Company is then listed;

(f) comply with all applicable rules and regulations under the Securities Act and Exchange Act;

(g) immediately notify each seller of Registrable Securities and each underwriter under such registration statement, at any time when a prospectus relating thereto is required to be delivered under the Securities Act, of the happening of any event of which the Company has knowledge as a result of which the prospectus contained in such registration statement, as then in effect, includes an untrue statement of a material fact or omits to state a material fact required to be stated therein or necessary to make the statements therein not misleading in light of the circumstances then existing, and promptly prepare and furnish to such seller a reasonable number of copies of a prospectus supplemented or amended so that, as thereafter delivered to the purchasers of such Registrable Securities, such prospectus shall not include an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading in light of the circumstances then existing;

(h) if the offering is underwritten on a "best efforts" basis and at the request of any seller of Registrable Securities, use its best efforts to furnish on the date that Registrable Securities are delivered to the underwriters for sale pursuant to such registration: (i) an opinion dated such date of counsel representing the Company for the purposes of such registration, addressed to the underwriters to such effects as reasonably may be requested by counsel for the underwriters and (ii) a letter dated such date from the independent public accountants retained by the Company, addressed to the underwriters stating that they are independent public accountants within the meaning of the Securities Act and that, in the opinion of such accountants, the financial statements of the Company included in the registration statement or the prospectus, or any amendment or supplement thereof, comply as to form in all material respects with the applicable accounting requirements of the Securities Act, and such letter shall additionally cover such other financial matters (including information as to the period ending no more than five (5) business days prior to the date of such letter) with respect to such registration as such underwriters reasonably may request;

(i) make available for inspection by each seller of Registrable Securities, any underwriter participating in any distribution pursuant to such registration statement, and any attorney, accountant or other agent retained by such seller or underwriter, reasonable access to all financial and other records, pertinent corporate documents and properties of the Company, as such parties may reasonably request, and cause the Company's officers, directors and employees to supply all information reasonably requested by any such seller, underwriter, attorney, accountant or agent in connection with such registration statement;

(j) cooperate with the selling Holders of Registrable Securities and the managing underwriter, if any, to facilitate the timely preparation and delivery of certificates representing Registrable Securities to be sold, such certificates to be in such denominations and registered in such names as such Holders or the managing underwriter may request at least two business days prior to any sale of Registrable Securities;

(k) permit any Holder of Registrable Securities which Holder, in the sole and exclusive judgment, exercised in good faith, of such Holder, might be deemed to be a controlling person of the Company, to participate in good faith in the preparation of such registration or comparable statement and to require the insertion therein of material, furnished to the Company in writing, which in the reasonable judgment of such Holder and its counsel should be included; and

(l) in connection with such registration, use reasonable efforts to cause the senior management of the Company to participate in any "road show" presentations to prospective investors for such period of time as is reasonably requested by the managing underwriters.

For purposes of this Agreement, the period of distribution of Registrable Securities in a firm commitment underwritten public offering shall be deemed to extend until each underwriter has completed the distribution of all securities purchased by it, and the period of distribution of Registrable Securities in any other registration shall be deemed to extend until the earlier of the sale of all Registrable Securities covered thereby or 180 days after the effective date thereof; provided, however, in the case of any registration of Registrable Securities on Form S-3 or a comparable or successor form which are intended to be offered on a continuous or delayed basis, such 180 day-period shall be extended, if necessary, to keep the registration statement effective until all such Registrable Securities are sold, provided that Rule 415, or any successor rule under the Securities Act, permits an offering on a continuous or delayed basis; and provided, further, that applicable rules under the Securities Act governing the obligation to file a post-effective amendment, permit, in lieu of filing a post-effective amendment which (y) includes any prospectus required by Section 10(a)(3) of the Securities Act or (z) reflects facts or events representing a material or fundamental change in the information set forth in the registration statement, the incorporation by reference of information required to be included in (y) and (z) above contained in periodic reports filed pursuant to Section 13 or 15(d) of the Exchange Act in the registration statement.

In connection with each registration hereunder, the sellers of Registrable Securities will furnish to the Company in writing such information requested by the Company with respect to themselves and the proposed distribution by them as shall be reasonably necessary in order to assure compliance with Federal and applicable state securities laws.

4.7. EXPENSES.

(a) All expenses incurred by the Company in complying with Sections 4.3, 4.4 and 4.5, including, without limitation, all registration and filing fees, printing expenses, fees and disbursements of counsel and independent public accountants for the Company, fees and expenses (including counsel fees) incurred in connection with complying with state securities or "blue sky" laws, fees of the National Association of Securities Dealers, Inc., transfer taxes, fees of transfer agents and registrars, costs of any insurance which might be obtained by the Company with respect to the offering by the Company, and up to $150,000 in reasonable fees and disbursements of one counsel selected by a majority in interest of the sellers of Registrable Securities, but excluding any Selling Expenses, are called "Registration Expenses". All underwriting discounts and selling commissions applicable to the sale of Registrable Securities are called "Selling Expenses."

(b) The Company will pay all Registration Expenses in connection with each registration statement under Sections 4.3, 4.4 and 4.5. All Selling Expenses in connection with each registration statement under Section 4.3, 4.4 or 4.5 shall be borne by the participating sellers in proportion to the number of shares registered by each, or by such participating sellers other than the Company (except to the extent the Company shall be a seller) as they may agree.

4.8. INDEMNIFICATION AND CONTRIBUTION.

(a) In the event of a registration of any of the Registrable Securities under the Securities Act pursuant to Section 4.3, 4.4 or 4.5, the Company will indemnify and hold harmless each Holder of Registrable Securities, its officers, directors and partners, each underwriter of such Registrable Securities thereunder and each other person, if any, who controls such Holder or underwriter within the meaning of the Securities Act, against any losses, claims, damages or liabilities, joint or several, to which such Holder, officer, director, partner, underwriter or controlling person may become subject under the Securities Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon (i) any untrue statement or alleged untrue statement of any material fact contained in any registration statement under which such Registrable Securities were registered under the Securities Act pursuant to Section 4.3, 4.4 or 4.5, any preliminary prospectus or final prospectus contained therein, or any amendment or supplement thereto, or (ii) any omission or alleged omission to state in any such registration statement, prospectus, amendment or supplement, a material fact required to be stated therein or necessary to make the

statements therein not misleading, and will reimburse each such seller, and such officer, director and partner, each such underwriter and each such controlling person for any legal or other expenses reasonably incurred by them in connection with investigating or defending any such loss, claim, damage, liability or action, promptly after being so incurred, provided, however, that the Company will not be liable in any such case if and to the extent that any such loss, claim, damage or liability arises out of or is based upon an untrue statement or alleged untrue statement or omission or alleged omission so made in conformity with written information furnished by any such Holder, any such underwriter or any such controlling person in writing specifically for use in such registration statement or prospectus.

(b) In the event of a registration of any of the Registrable Securities under the Securities Act pursuant to Section 4.3, 4.4 or 4.5, each seller of such Registrable Securities thereunder, severally and not jointly, will indemnify and hold harmless the Company, each person, if any, who controls the Company within the meaning of the Securities Act, each officer of the Company who signs the registration statement, each director of the Company, each other seller of Registrable Securities, each underwriter and each person who controls any underwriter within the meaning of the Securities Act, against all losses, claims, damages or liabilities, joint or several, to which the Company or such officer, director, other seller, underwriter or controlling person may become subject under the Securities Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon (i) any untrue statement or alleged untrue statement of any material fact contained in any registration statement under which such Registrable Securities were registered under the Securities Act pursuant to Section 4.3, 4.4 or 4.5, any preliminary prospectus or final prospectus contained therein, or any amendment or supplement thereto, or (ii) any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading (if and only to the extent that any such statement or alleged statement or omission or alleged omission was made in reliance upon and in conformity with written information furnished to the Company by such seller specifically stating that it is for use in the preparation of such registration statement, preliminary prospectus, final prospectus, summary prospectus, amendment or supplement) and will reimburse the Company and each such officer, director, other seller, underwriter and controlling person for any legal or other expenses reasonably incurred by them in connection with investigating or defending any such loss, claim, damage, liability or action, promptly after being so incurred; provided, however, that the liability of such indemnifying party under this Section 4.8(b) shall be limited to the amount of the net proceeds received by such indemnifying party in the offering giving rise to such liability. Such indemnity shall remain in full force and effect, regardless of any investigation made by or on behalf of the Company or any such director, officer or controlling person and shall survive the transfer of such securities by such seller.

(c) Promptly after receipt by an indemnified party hereunder of notice of the commencement of any action, such indemnified party shall, if a claim in respect thereof is to be made against the indemnifying party hereunder, notify the indemnifying party in writing thereof, but the omission so to notify the indemnifying party shall not relieve it from any liability which it may have to such indemnified party other than under this Section 4.8 and shall only relieve it from any liability which it may have to such indemnified party under this Section 4.8 if and to the extent the indemnifying party is actually prejudiced by such omission. In case any such action shall be brought against any indemnified party and it shall notify the indemnifying party of the commencement thereof, the indemnifying party shall be entitled to participate in and, to the extent it shall wish, to assume and undertake the defense thereof with counsel satisfactory to such indemnified party, and, after notice from the indemnifying party to such indemnified party of its election so to assume and undertake the defense thereof, the indemnifying party shall not be liable to such indemnified party under this Section 4.8 for any legal expenses subsequently incurred by such indemnified party in connection with the defense thereof other than reasonable costs of investigation and of liaison with counsel so selected, provided, however, that, if the defendants in any such action include both the indemnified party and the indemnifying party and the indemnified party shall have reasonably concluded that there may be reasonable defenses available to it which are different from or additional to those available to the indemnifying party or that the interests of the indemnified party reasonably may be deemed to conflict with the interests of the indemnifying party, the indemnified party shall have the right to select a separate counsel and to assume such legal defenses and otherwise to participate in the defense of such action, with the expenses and fees of such separate counsel and other expenses related to such participation to be reimbursed by the indemnifying party as incurred. No indemnifying party, in the defense of any such claim or action, shall, except with the consent of each indemnified party, consent to entry of any judgment or enter into any settlement which does not include as an unconditional term thereof the giving by the claimant or plaintiff to such indemnified party of a release from all liability in respect to such claim or action. Each indemnified party shall furnish such information regarding itself or the claim in question as an indemnifying party may reasonably request in writing and as shall be reasonably required in connection with defense of such claim and litigation resulting therefrom.

(d) In order to provide for just and equitable contribution to joint liability under the Securities Act in any case in which either (i) any Holder of Registrable Securities exercising rights under this Agreement, or any controlling person of any such Holder, makes a claim for indemnification pursuant to this Section 4.8 but it is judicially determined (by the entry of a final judgment or decree by a court of competent jurisdiction and the expiration of time to appeal or the denial of the last right of appeal) that such indemnification may not be enforced in such case notwithstanding the fact that this Section 4.8 provides for indemnification in such case, or (ii) contribution under the Securities Act may be required on the part of any such selling Holder or any such controlling person in

circumstances for which indemnification is provided under this Section 4.8; then, and in each such case, the Company and such Holder will contribute to the aggregate losses, claims, damages or liabilities to which they may be subject (after contribution from others) in such proportion as is appropriate to reflect the relative fault of the Company on the one hand and of the Holder on the other in connection with the matter that resulted in such loss, claim, damage or liability, as well as any other relevant equitable considerations. The relative fault of the Company and of the Holder will be determined by a court of law by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission to state a material fact relates to information supplied by the Company or by the Holder and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission; provided, however, that, in any such case, (A) no such Holder of Registrable Securities will be required to contribute any amount in excess of the net proceeds received from the sale of all such Registrable Securities offered by it pursuant to such registration statement; and (B) no person or entity guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) will be entitled to contribution from any person or entity who was not guilty of such fraudulent misrepresentation. Such Holders' obligations to contribute as provided in this Section 4.8(d) are several in proportion to the relative value of their respective Registrable Securities covered by such registration statement and not joint. In addition, no person or entity shall be obligated to contribute hereunder any amounts in payment for any settlement of any action or claim effected without such person's or entity's consent, which consent shall not be unreasonably withheld.

(e) The indemnities and obligations provided in this Section 4.8 shall survive the transfer of any Registrable Securities by such Holder.

4.9. CHANGES IN COMMON STOCK. If, and as often as, there is any change in the Common Stock by way of a stock split, stock dividend, combination or reclassification, or through a merger, consolidation, reorganization or recapitalization, or by any other means, appropriate adjustment shall be made in the provisions hereof so that the rights and privileges granted hereby shall continue with respect to the Common Stock as so changed.

4.10. RULE 144 REPORTING. With a view to making available the benefits of certain rules and regulations of the Commission which may at any time permit the sale of the Registrable Securities to the public without registration, except as provided in paragraph (c) below, at all times after ninety (90) days after any registration statement covering a public offering of securities of the Company under the Securities Act shall have become effective, the Company agrees to:

(a) make and keep public information available, as those terms are understood and defined in Rule 144 under the Securities Act (or any successor rule);

(b) use its best efforts to file with the Commission in a timely manner all reports and other documents required of the Company under the Securities Act and the Exchange Act; and

(c) furnish to each Holder of Registrable Securities forthwith upon request (i) a written statement by the Company as to its compliance with the reporting requirements of such Rule 144 (or any successor rule), (ii) at any time after it has become subject to such reporting requirements, of the Securities Act and the Exchange Act, a copy of the most recent annual or quarterly report of the Company and (iii) such other reports and documents so filed by the Company as such Holder may reasonably request in availing itself of any rule or regulation of the Commission allowing such Holder to sell any Registrable Securities without registration.

4.11. "MARKET STAND-OFF" AGREEMENT. Each of the Holders of Registrable Securities agrees, severally and not jointly, if reasonably requested by the Company and an underwriter of Common Stock (or other securities) of the Company, not to sell or otherwise transfer or dispose of any Common Stock (or other securities) of the Company held by such Holder of Registrable Securities during a period not to exceed one hundred and eighty (180) days following the effective date of the Company's Initial Public Offering (or such additional period, not to exceed 17 days, as may be reasonably requested by the Company in order to permit the publication or distribution of a research report or make a public appearance concerning the Company prior to and after the expiration, waiver or termination of a lock-up agreement executed in connection with the Initial Public Offering), and to enter into an agreement to such effect; provided, that (y) all persons including Shares in such offering and (z) all of the Company's officers and directors and holders of at least 5% of the Company's Common Stock also enter into agreements to such effect. Nothing in this Section 4.11 shall require any Investor to make any factual representations other than the Investor's commitment not to sell or otherwise transfer or dispose of any capital stock of the Company as provided herein.

The Company may impose stop-transfer instructions with respect to the shares (or securities) subject to the foregoing restriction until the end of said period.

4.12. ASSIGNMENT OF REGISTRATION RIGHTS. The rights to cause the Company to register Registrable Securities pursuant to this Section 4 may be assigned (but only with all related obligations) by a Holder of Registrable Securities who is a Qualified Stockholder to a transferee or assignee of such securities who is not engaged in a business activity competitive with the Company (as reasonably determined by the Company's Board of Directors) and who, after such assignment or transfer, holds (i) at least one half of one percent (0.5%) of the shares of the Preferred Stock (and is, therefore, a Qualified Shareholder) (subject to appropriate adjustment for stock splits, stock dividends, combinations and similar recapitalization events), (ii) who, after any such transfer, as a single entity, holds all Registrable Securities of the Company held by the transferring party immediately prior to such transfer, or (iii) who is an Affiliate, partner or member of such Holder, provided that in each of the foregoing cases the Company is, within a reasonable time after such transfer, furnished with written notice of the name and address

of such transferee or assignee and the securities with respect to which such registration rights are being assigned; and provided, further, that such assignment shall be effective only if (i) immediately following such transfer the further disposition of such securities by the transferee or assignee is restricted under the Act and (ii) the transferee or assignee shall acknowledge in writing that the transferred or assigned Registrable Securities shall remain subject to this Agreement. For the purposes of determining the number of shares of Registrable Securities held by a transferee or assignee, the holdings of transferees and assignees of a partnership who are partners or retired partners of such partnership (including spouses and ancestors, lineal descendants and siblings of such partners or spouses who acquire Registrable Securities by gift, will or intestate succession) shall be aggregated together and with the partnership; provided, that all assignees and transferees who would not qualify individually for assignment of registration rights shall have a single attorney-in-fact for the purpose of exercising any rights, receiving notices or taking any action under this Section 4.

4.13. LIMITATION ON SUBSEQUENT REGISTRATION RIGHTS. Except for any registration rights granted to the parties pursuant to this Agreement and for the registration rights that are both in effect as of the Effective Date and listed on Schedule 4.13 hereto, the Company shall not grant to any third party any registration rights senior to, or that conflict with, any of those contained herein, so long as any of the registration rights under this Agreement remains in effect; provided, however, that any additional entity may be added as an "Other Shareholder" solely for purposes of Section 4.5 and as a "Holder" solely for purposes of such provisions of Sections 4.6 thru 4.13 that such entity may agree to become subject as a result of its negotiations with the Company without an amendment to this Agreement upon the execution and delivery by such entity of a Joinder Agreement substantially in the form of Exhibit G attached hereto. The execution of any such Joinder Agreement(s) shall not constitute an amendment for purposes of Section 7.13 hereof.

5. AFFIRMATIVE COVENANTS OF THE COMPANY

The Company covenants and agrees that, from and after the date of the Initial Closing under the Subscription Agreement and thereafter so long as any Investor owns Preferred Stock or Registrable Securities, it will perform and observe the following covenants and provisions, and will cause each Subsidiary, if and when such Subsidiary exists, to perform and observe the following covenants and provisions as applicable to such Subsidiary.

5.1. FINANCIAL STATEMENTS; OTHER REPORTS. The Company will deliver to each Qualified Stockholder:

(a) as soon as available and in any event within 45 days after the end of each of the first three quarters of each fiscal year of the Company, a consolidated balance sheet of the Company and its Subsidiaries as of the end of such quarter and the related statements of income and stockholders' equity and of cash flows of the Company for the period commencing at the end of the previous fiscal year and ending with the end of such quarter, setting forth in each case in

comparative form the corresponding figures for the corresponding period of the preceding fiscal year and the budget for such current year, all in reasonable detail and prepared in accordance with generally accepted accounting principles consistently applied, and duly certified (subject to year-end audit adjustments) by the chief financial officer of the Company;

(b) the Company shall use its best efforts to provide within 90 days, but in no event more than 120 days, after the end of each fiscal year of the Company, a copy of the annual audit report for such year for the Company, including therein a consolidated balance sheet of the Company and its Subsidiaries as of the end of such fiscal year and statements of income and stockholders' equity and of cash flows of the Company for such fiscal year, setting forth in each case in comparative form the corresponding figures for the preceding fiscal year, all duly certified by independent public accountants of recognized standing acceptable to the Qualified Stockholders;

(c) promptly after sending or making available, and only to the extent available and requested in writing, such reports and financial statements as the Company shall send or make available to the management of the Company from time to time;

(d) promptly upon receipt thereof, any written report submitted to the Company by independent public accountants in connection with an annual or interim audit of the books of the Company and its Subsidiaries made by such accountants;

(e) promptly after sending, making available, or filing the same, such reports and financial statements as the Company shall send or make available to the stockholders of the Company; and

(f) as soon as available in the form approved by the Board of Directors, and in any event before the beginning of the fiscal year to which it applies, the annual budget and business plan of the Company.

Neither the foregoing provisions of this Section nor any other provision of this Agreement shall be in limitation of any rights which a Qualified Stockholder may have with respect to the books and records of the Company and its Subsidiaries, or to inspect their properties or discuss their affairs, finances and accounts, under the laws of the jurisdictions in which they are incorporated.

5.2. STOCK DISPOSITION AGREEMENT. The Company and each employee, officer, director or consultant of the Company who hereafter acquires shares of the Company's capital stock from the Company, or any option or right to acquire shares of the Company's capital stock from the Company, shall enter into a stock disposition agreement, or similar agreement, in such form as approved by the Board of Directors, and with such amendments or modifications as may be entered into or effected with the approval of the Board of Directors.

5.3. CONFIDENTIALITY AND ASSIGNMENT OF INVENTION PROVISIONS. Other than as may be approved by the Board of Directors from time-to-time on a case-by-case basis, the Company shall require all officers, employees, contractors and consultants who may have access to Company Intellectual Property to execute and deliver an Inventions Agreement. The terms "Company Intellectual Property" and "Inventions Agreement" shall have the meanings assigned to such terms in the Subscription Agreement.

5.4. USE OF NAME. Except where required by law or regulation, the Company shall not use the name of any Investor in any press release or other public disclosure without the advance consent of the relevant Investor, such consent not to be unreasonably withheld or delayed. The foregoing notwithstanding, the previous sentence of this Section 5.3 shall not be interpreted to require the Company to obtain the advance consent of any Investor in order to identify to potential third party investors in a private offering in compliance with the Securities Act the fact that such Investor is an investor in the Company.

6. PRIOR AGREEMENTS

By execution of this Agreement, the Company, each Series A and Series B Investor, Founder, Series C Purchaser, Series D Purchaser, Series E Purchaser and Series E-2 Purchaser agrees as follows:

(a) the Fourth Amended Rights Agreement, Third Amended Rights Agreement, the Second Amended Rights Agreement, the Amended Rights Agreement, the Original Rights Agreement are hereby terminated and replaced in their entirety by this Fifth Amended and Restated Investor Rights Agreement; and

(b) each Series A and Series B Investor, Series C Purchaser, Series D Purchaser and Series E Purchaser agrees and consents to waive any and all percentage maintenance rights with respect to the offer and sale by the Company of shares of its Series E-2 Stock to the Series E-2 Purchasers contemplated by the Subscription Agreement including, without limitation, such rights set forth in Section 2 "Percentage Maintenance Rights" of that certain Fourth Amended Rights Agreement.

7. MISCELLANEOUS

7.1. NOTICES. All notices, requests, consents and other communications hereunder shall be in writing, shall be addressed to the receiving party's address set forth below or to such other address as a party may designate by notice hereunder, and shall be either (i) delivered by hand, (ii) made by telecopy or facsimile transmission, (iii) sent by overnight courier, or (iv) sent by registered or certified mail, return receipt requested, postage prepaid; provided, however, that if the notice being provided under this Section 7.1 is to an address outside of the United States, such notice shall be sent using the methods specified in (ii) and/or (iii) above.

If to the Company:	PTC Therapeutics, Inc. 100 Corporate Court Middlesex Business Center South Plainfield, NJ 07080-2449 Attn.: Legal Dep't
With a copy to:	Wilmer Cutler Pickering Hale and Dorr LLP 60 State Street Boston, Massachusetts 02109 Attn: David E. Redlick, Esq.
And an email copy to	legal@ptcbio.com
If to the Holders:	To the addresses set forth on Exhibit A, Exhibit B, Exhibit C, Exhibit D, Exhibit E or Exhibit F attached hereto

All notices, requests, consents and other communications hereunder shall be deemed to have been given either (i) if by hand, at the time of the delivery thereof to the receiving party at the address of such party set forth above, (ii) if made by telecopy, facsimile, or email transmission, at the time that receipt thereof has been acknowledged by electronic confirmation or otherwise, (iii) if sent by overnight courier, on the next business day following the day such notice is delivered to the courier service, or, in the case of international deliveries, two business days following the day such notice is delivered to the courier service or (iv) if sent by registered or certified mail, on the fifth business day following the day such mailing is made.

7.2. ENTIRE AGREEMENT. This Agreement, together with those certain Stock Restriction Agreements by and between the Company and each of the Founders dated August 19, 1998, embodies the entire agreement and understanding between the parties hereto with respect to the subject matter hereof and supersedes all prior oral or written agreements and understandings relating to the subject matter hereof, including the Fourth Amended Rights Agreement, the Third Amended Rights Agreement, the Second Amended Rights Agreement, the Amended Rights Agreement and the Original Rights Agreement. No statement, representation, warranty, covenant or agreement of any kind not expressly set forth in this Agreement shall affect, or be used to interpret, change or restrict, the express terms and provisions of this Agreement.

7.3. MODIFICATIONS AND AMENDMENTS. This Agreement may not be amended or modified, and no provision hereof may be waived, without the written consent of the Company, Holders of at least sixty-six and two-thirds percent (66 2/3 %) of the outstanding shares of Preferred Stock, on an as-converted, fully-diluted basis (after giving effect to the issuance of the Series E-2 Stock pursuant to the Subscription Agreement); provided, that, (i) if any such amendment, modification or waiver adversely affects the interests of any Stockholder or group of Stockholders differently from the interests of any other Stockholder, such amendment, modification or waiver shall also require the written consent of such Stockholder or of a majority of such group of Stockholders, as the case may be; provided, however, that the determination of whether

any Stockholder or group of Stockholders is affected differently shall be made without regard to the number of shares of Preferred Stock held by such Stockholder or group of Stockholders and (ii) no such amendment, modification or waiver shall impose any new or increased obligation on any Stockholder without the written agreement of the affected Stockholder. Any waiver or consent hereunder shall be effective only in the specific instance and for the purpose for which it was given and shall not constitute a continuing waiver or consent.

7.4. ASSIGNMENT. Except by operation of law, the rights and obligations of the Company under this Agreement may not be assigned by the Company without the prior written consent of at least a majority of the Holders of Registrable Securities, unless specifically permitted by the terms hereof. Any purported or attempted assignment in violation of this Section 7.4 shall be null and void.

7.5. BENEFIT. All statements, representations, warranties, covenants and agreements in this Agreement shall be binding on the parties hereto and shall inure to the benefit of the respective successors and permitted assigns of each party hereto. Nothing in this Agreement shall be construed to create any rights or obligations except among the parties hereto and no person or entity shall be regarded as a third-party beneficiary of this Agreement.

7.6. AGGREGATION OF STOCK. All shares held or acquired by affiliated entities or persons or successor entities of a Stockholder shall be aggregated together with the shares held by such Stockholder for the purposes of determining the availability of rights under this Agreement.

7.7. GOVERNING LAW. This Agreement and the rights and obligations of the parties hereunder shall be construed in accordance with and governed by the law of the State of Delaware, without giving effect to the conflict of law principles thereof.

7.8. SEVERABILITY. In the event that any court of competent jurisdiction shall determine that any provision, or any portion thereof, contained in this Agreement shall be unenforceable in any respect, then such provision shall be deemed limited to the extent that such court deems it enforceable and as so limited shall remain in full force and effect. In the event that such court shall deem any such provision, or portion thereof, wholly unenforceable, the remaining provisions of this Agreement shall nevertheless remain in full force and effect.

7.9. INTERPRETATION. The parties hereto acknowledge and agree that: (i) each party and its counsel reviewed and negotiated the terms and provisions of this Agreement and have contributed to its revision; (ii) the rule of construction to the effect that any ambiguities are resolved against the drafting party shall not be employed in the interpretation of this Agreement; and (iii) the terms and provisions of this Agreement shall be construed fairly as to all parties hereto and not in favor of or against any party, regardless of which party was generally responsible for the preparation of this Agreement.

7.10. HEADINGS AND CAPTIONS. The headings and captions of the various subdivisions of this Agreement are for convenience of reference only and shall in no way modify or affect the meaning or construction of any of the terms or provisions hereof.

7.11. ENFORCEMENT. Each of the parties hereto acknowledges and agrees that the rights acquired by each party hereunder are unique and that irreparable damage would occur in the event that any of the provisions of this Agreement to be performed by the other parties were not performed in accordance with their specific terms or were otherwise breached. Accordingly, in addition to any other remedy to which the parties hereto are entitled at law or in equity, each party hereto shall be entitled to an injunction or injunctions to prevent breaches of this Agreement by any other party and to enforce specifically the terms and provisions hereof in any federal or state court to which the parties have agreed hereunder to submit to jurisdiction.

7.12. NO WAIVER OF RIGHTS, POWERS AND REMEDIES. No failure or delay by a party hereto in exercising any right, power or remedy under this Agreement, and no course of dealing among the parties hereto, shall operate as a waiver of any such right, power or remedy of the party. No single or partial exercise of any right, power or remedy under this Agreement by a party hereto, nor any abandonment or discontinuance of steps to enforce any such right, power or remedy, shall preclude such party from any other or further exercise thereof or the exercise of any other right, power or remedy hereunder. The election of any remedy by a party hereto shall not constitute a waiver of the right of such party to pursue other available remedies. No notice to or demand on a party not expressly required under this Agreement shall entitle the party receiving such notice or demand to any other or further notice or demand in similar or other circumstances or constitute a waiver of the rights of the party giving such notice or demand to any other or further action in any circumstances without such notice or demand.

7.13. COUNTERPARTS. This Agreement may be executed by facsimile signature and in one or more counterparts, and by different parties hereto on separate counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

7.14. TERMINATION. The respective rights and obligations of the parties under the following provisions of this Agreement shall terminate upon the consummation of an Initial Public Offering: Section 1.1 (but only with respect to Shares acquired after the Initial Public Offering); Article 2; Article 3 and Article 5.

7.15. LEGAL REPRESENTATIONS OF THE PARTIES. Each Holder and Founder acknowledges that (i) Credit Suisse First Boston Equity Partners L.P. ("CSFB") retained Paul, Weiss, Rifkind, Wharton & Garrison LLP ("PWRW&G") to represent CSFB in connection with this Agreement, (ii) PWRW&G represents CSFB and any other Holder who has specifically retained PWRW&G in writing for representation with respect to this Agreement (CSFB and all such Holders, collectively, the "PWRW&G Clients") and (iii) no Holder, other than the PWRW&G Clients, nor any Founder has relied on PWRW&G for legal counsel in connection with the negotiation, preparation, execution, delivery or performance of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Fifth Amended and Restated Investor Rights Agreement or caused this Fifth Amended and Restated Investor Rights Agreement to be executed by their duly authorized representatives, as of the date first written above.

PTC THERAPEUTICS, INC.

By: /S/ STUART W. PELTZ

Name: Stuart W. Peltz
Title: President and CEO

FOUNDERS

By: /S/ STUART W. PELTZ

Stuart W. Peltz

By: /S/ ALLAN S. JACOBSON

Allan S. Jacobson

AGREED TO AND ACKNOWLEDGED BY:

/S/ DENISE BROUILLETTE JACOBSON
- ---
Denise Brouillette Jacobson

[Investors Executed by Means of Omnibus Signature Pages or Stockholder Consents, the forms of which are attached hereto as Exhibit H-1and Exhibit H-2, respectively]

Exhibit 4.3

THIS WARRANT AND THE SHARES OF CAPITAL STOCK ISSUED UPON ANY EXERCISE HEREOF HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY APPLICABLE STATE SECURITIES LAWS AND MAY NOT BE SOLD OR OTHERWISE TRANSFERRED BY ANY PERSON, INCLUDING A PLEDGEE, UNLESS (1) EITHER (A) A REGISTRATION WITH RESPECT TO THERETO SHALL BE EFFECTIVE UNDER THE SECURITIES ACT, OR (B) THE COMPANY SHALL HAVE RECEIVED AN OPINION OF COUNSEL SATISFACTORY TO THE COMPANY THAT AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT IS AVAILABLE, AND (2) THERE SHALL HAVE BEEN COMPLIANCE WITH ALL APPLICABLE STATE SECURITIES OR "BLUE SKY" LAWS.

For the purchase of up to 295,000
shares of Series C Preferred Stock,
par value $.001 per share

No. W-01 May 26, 2000

PTC THERAPEUTICS, INC., a Delaware corporation (the "Company"), hereby certifies that, for good and valuable consideration, Three Crowns Capital (Bermuda) Ltd. or its permitted assigns (the "Warrant Holder") is entitled, subject to the terms set forth below, to purchase from the Company at any time on or before 5:00 p.m., eastern time, on May 26, 2010 (the "Exercise Period"), up to two hundred ninety-five thousand (295,000) fully-paid and non-assessable shares of Series C Preferred Stock, par value $.001 per share, of the Company (the "Series C Preferred Stock"), or shares of the Common Stock, par value $.001 per share, of the Company (the "Common Stock") upon a mandatory conversion of the Series C Preferred Stock as provided in Section 3 hereof (the Series C Preferred Stock and the Common Stock are hereinafter collectively referred to as "Shares"), at a price per share (the "Exercise Price") which shall initially be $2.50 per share and which shall be subject to adjustment as herein provided.

1. Exercise of Warrants.

1.1. Exercise. Subject to the terms and conditions of this Warrant, this Warrant shall become exercisable by the Warrant Holder on May 26, 2000.

1.2. Procedure to Exercise. This Warrant may be exercised by the Warrant Holder, in whole or in part, by surrendering this Warrant, with the purchase form appended hereto as Exhibit A duly executed by such Warrant Holder or by such Warrant Holder's duly authorized attorney, at the principal office of the Company, or at such other office or agency as the Company may designate, accompanied by payment in full by cash, check or wire transfer of the amount obtained by multiplying the number of Shares in the notice of exercise by the Exercise Price (the "Purchase Price").

1.3. Net Issue Exercise. In lieu of exercising this Warrant in the manner provided above in Section 1.2, the Warrant Holder may elect to receive shares equal to the value of this Warrant (or the portion thereof being converted) by surrender of this Warrant, in whole or in part, at the principal office of the Company together with the notice of exercise attached hereto

as Exhibit A, in which event the Company shall issue to the Warrant Holder the number of Shares computed using the following formula (a "Net Issue Exercise"):

$$X = \frac{Y (A - B)}{A}$$

Where: X = The number of Shares to be issued to the Warrant Holder.

Y = The number of Shares purchasable under this Warrant (at the date of such calculation) that are being converted, in whole or in part, hereunder.

A = The Fair Market Value of one Share (at the date of such calculation).

B = The Exercise Price (as adjusted to the date of such calculation).

For purposes of this Section 1.3, if any Shares of the Warrant Holder or any other shareholder of the Company are registered or publicly traded, then the Fair Market Value of one Share shall mean the average of the closing bid and asked prices of the Common Stock quoted in the over the counter market summary or the closing price quoted by the Nasdaq National Market or any exchange on which the Common Stock is listed, whichever is applicable, as published in the Western Edition of The Wall Street Journal for the business day prior to the date of determination of fair market value. If the Shares are not traded on the Nasdaq National Market or on an exchange, the Fair Market Value of one Share shall be determined in good faith by the Company's Board of Directors.

1.4. Effectiveness. Each exercise or Net Issue Exercise of this Warrant shall be deemed to have been effected immediately prior to the close of business on the day on which this Warrant shall have been surrendered to the Company as provided in Sections 1.2 or 1.3 above. At such time, the person or persons in whose name or names any certificates for the Shares shall be issuable upon such exercise or Net Issue Exercise as provided in Section 2 below shall be deemed to have become the holder or holders of record of the Shares represented by such certificates.

2. Delivery of Stock Certificate, Etc. As soon as practicable after the exercise or Net Issue Exercise of this Warrant in full or in part, and in any event within 10 days thereafter, the Company at its expense will cause to be issued in the name of, and delivered to, the Warrant Holder, or as such Warrant Holder (upon payment by such Warrant Holder of any applicable transfer taxes) may direct (i) a certificate or certificates for the number of fully paid and non-assessable Shares to which the Warrant Holder shall be entitled upon such exercise or Net Issue Exercise, and (ii) in case such exercise or Net Issue Exercise is in part only, a new warrant or warrants (dated the date hereof) of like tenor, calling in the aggregate on the face or faces thereof for the number of Shares equal (without giving effect to any adjustment therein) to the number of Shares called for on the face of this Warrant minus the number of Shares purchased by the Warrant Holder upon such exercise or Net Issuance Exercise as provided in Sections 1.2 or 1.3 herein.

3. Adjustments Upon Mandatory Conversion of Series C Preferred Stock. Upon any mandatory conversion of the Series C Preferred Stock pursuant to the Company's Certificate of

Incorporation, as amended or amended and restated from time to time, this Warrant shall cease to be exercisable for shares of Series C Preferred Stock and shall become exercisable for that number of shares of Common Stock into which the shares of Series C Preferred Stock purchasable hereunder would have been convertible immediately prior to such mandatory conversion, and such that payment of the Exercise Price, or any multiple thereof, shall entitle the Warrant Holder to receive the number of shares of Common Stock as would have been issued upon conversion of each share of Series C Preferred Stock purchasable hereunder immediately prior to such mandatory conversion.

4. Stock Splits, Stock Dividends and Combinations. If the Company at any time subdivides the outstanding shares of Series C Preferred Stock, or issues a stock dividend on the outstanding shares of Series C Preferred Stock, the Exercise Price in effect immediately prior to such subdivision or the issuance of such stock dividend shall be proportionately decreased, and the number of Shares shall be proportionately increased, and if the Company at any time combines the outstanding shares of Series C Preferred Stock, the Exercise Price in effect immediately prior to such combination shall be proportionately increased, and the number of shares shall be proportionately decreased, effective at the close of business on the date of such subdivision, stock dividend or combination, as the case may be. Upon any mandatory conversion of the Series C Preferred Stock as provided in Section 3, each reference to Series C Preferred Stock in this Section 4 shall be deemed to be Common Stock.

5. Conversions; Reorganizations; Reclassifications; Merger; Sales. In case of any capital reorganization or any reclassification of the capital stock of the Company or in case of the consolidation or merger of the Company with or into another corporation or the conveyance of all or substantially all of the assets of the Company to another corporation, this Warrant shall thereafter be exercisable for the number of shares of stock or other securities or property to which a holder of the number of Shares deliverable upon exercise of the Warrant would have been entitled to upon such conversion, reorganization, reclassification, consolidation, merger or conveyance and, in any such case, appropriate adjustment as determined by the Board of Directors of the Company shall be made in the application of the provisions herein set forth with respect to the rights and interests thereafter of the Warrant Holder to the end that the provisions set forth herein (including provisions with respect to changes in and other adjustments of the Exercise Price and the number of Shares) shall thereafter be applicable, as nearly as reasonably may be, in relation to any shares of stock or other property thereafter deliverable upon the exercise of the Warrant.

6. Statement of Adjustment. Whenever the Exercise Price shall be adjusted as provided herein, the Company shall promptly file with the Secretary of the Company or at such other place as shall be designated by the Company, a statement, signed by its chief financial officer, showing in detail the facts requiring such adjustment, the Exercise Price in effect before and after such adjustment and the kind and amount of shares of capital stock, securities or other property thereafter to be received upon the exercise of this Warrant. The Company shall also cause a copy of such statement to be sent in the manner specified in Section 16.3 to the Warrant Holder.

7. Notice of Adjustment. In the event the Company shall propose to take any action of the types described in Sections 4 or 5, the Company shall give notice to the Warrant Holder in

the manner set forth in Section 16.3, which notice shall specify the record date, if any, with respect to any such action and the date on which such action is to take place. Such notice shall also set forth such facts with respect thereto as shall be reasonably necessary to indicate the effect of such action (to the extent such effect may be known at the date of such notice) on the Exercise Price and the number, kind or class of shares or other securities or property which shall be deliverable or purchasable upon the occurrence of such action or deliverable upon the exercise hereof. In the case of any action which would require the fixing of a record date, such notice shall be given at least ten (10) days prior to the date so fixed, and in case of all other actions, such notice shall be given at least twenty (20) days prior to the taking of such proposed action. Failure to give such notice, or any defect therein, shall not affect the legality or validity of any such action.

8. Taxes. The Company shall pay all documentary, stamp or other transactional taxes attributable to the issuance or delivery of shares of capital stock of the Company upon the exercise or conversion hereof.

9. No Fractional Shares. Each adjustment in the number of Shares purchasable hereunder shall be calculated, to the nearest whole share with fractional shares disregarded.

10. Covenants as to Series C Preferred Stock and Common Stock. The Company covenants and agrees that the shares of Series C Preferred Stock issuable hereunder, and the Common Stock issuable upon conversion thereof, and the Common Stock issuable hereunder, as the case may be, will, upon issuance in accordance with the terms hereof, be validly issued and outstanding, fully paid and nonassessable, with no personal liability attaching to the ownership thereof, and free from all taxes, liens and charges with respect to the issuance thereof imposed by or through the Company. The Company further covenants and agrees that the Company will at all times have authorized and reserved, free from preemptive rights imposed by or through the Company, a sufficient number of shares of Series C Preferred Stock and Common Stock to provide for the exercise of the rights represented by this Warrant. The Company further covenants and agrees that if any shares of capital stock to be reserved for the purpose of the issuance of shares upon the exercise of this Warrant require registration or qualification with or approval by the Securities and Exchange Commission or any state regulatory agency under Federal or state law before such shares may be validly issued or delivered upon exercise, then the Company will in good faith and as expeditiously as possible endeavor to secure such registration, qualification or approval, as the case may be. Holders of Series C Preferred Stock and Common Stock issuable upon exercise of this Warrant or conversion of any such shares, as the case may be, shall be entitled to all the rights and privileges of the Purchase Agreement and the Registration Rights Agreement dated as of the date hereof between the Company and the Investors (as defined therein) with respect to such shares.

11. No Impairment. The Company will not, by amendment of its Certificate of Incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, or any other similar voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such action as may be necessary or appropriate in order to protect the rights of the Warrant Holder against impairment due to such event. Without limiting the generality of the foregoing, the Company (a) will not increase the

par value of any shares of stock receivable on the exercise of the Warrant above the amount payable therefor on such exercise, (b) will take all action that may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of stock, free from all taxes, liens and charges with respect to the issue thereof, on the exercise of all of the Warrants from time to time outstanding and (c) will not consolidate with or merge into any other person or permit any such person to consolidate with or merge into the Company (if the Company is not the surviving person), unless such other person shall expressly assume in writing and will be bound by all the terms of this Warrant.

12. Compliance with Securities Act.

12.1. Unregistered Securities. The Warrant Holder acknowledges that this Warrant and the Shares have not been registered under the Securities Act of 1933, as amended, and the rules and regulations thereunder, or any successor legislation (the "Securities Act"), and agrees not to sell, pledge, distribute, offer for sale, transfer or otherwise dispose of this Warrant or any Shares in the absence of (i) an effective registration statement under the Securities Act covering this Warrant or such Shares and registration or qualification of this Warrant or such Shares under any applicable "blue sky" or state securities law then in effect, or (ii) an opinion of counsel, satisfactory to the Company, that such registration and qualification are not required. The Company may delay issuance of the Shares until completion of any action or obtaining of any consent, which the Company deems necessary under any applicable law (including without limitation state securities or "blue sky" laws).

12.2. Investment Letter. Without limiting the generality of Section 12.1, unless the offer and sale of any shares of Shares shall have been effectively registered under the Securities Act, the Company shall be under no obligation to issue the Shares unless and until the Warrant Holder shall have executed an investment letter in form and substance satisfactory to the Company, including a warranty at the time of such exercise that the Warrant Holder is acquiring such shares for its own account, for investment and not with a view to, or for sale in connection with, the distribution of any such shares.

12.3. Legend. Certificates delivered to the Warrant Holder pursuant to Section 2 shall bear the following legend or a legend in substantially similar form:

"THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 OR ANY OF THE SECURITIES LAWS. THESE SECURITIES HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO DISTRIBUTION OR RESALE. SUCH SECURITIES MAY NOT BE OFFERED FOR SALE, SOLD, DELIVERED AFTER SALE, TRANSFERRED, PLEDGED OR HYPOTHECATED IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT COVERING SUCH SECURITIES UNDER THE SECURITIES ACT OF 1933 AND ANY OTHER APPLICABLE SECURITIES LAWS, UNLESS THE HOLDER SHALL HAVE OBTAINED AN OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE CORPORATION THAT SUCH REGISTRATION IS NOT REQUIRED."

13. Transferability. Without the prior written consent of the Company, the Warrant shall not be assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) and shall not be subject to execution, attachment or similar process. Any attempted transfer, assignment, pledge, hypothecation or other disposition of the Warrant or of any rights granted hereunder contrary to the provisions of this Section 13, or the levy of any attachment or similar process upon the Warrant or such rights, shall be null and void.

14. Lost, Stolen, Mutilated or Destroyed Warrant. If this Warrant is lost, stolen, mutilated or destroyed, the Company may, on such terms as to indemnity or otherwise as it may reasonably in its discretion impose (which shall in the case of a mutilated Warrant, include the surrender thereof), issue a new Warrant of like denomination and tenor as the Warrant so lost, stolen, mutilated or destroyed.

15. Register of Warrants. The Company shall maintain, at the principal office of the Company (or such other office as it may designate by notice to the Warrant Holder), a register for the Warrants in which the Company shall record the name and address of the person in whose name a Warrant has been issued, as well as the name and address of each transferee and each prior owner of such Warrant.

16. Miscellaneous.

16.1. Waivers and Amendments. This Warrant or any provisions hereof may be changed, waived, discharged or terminated only by a statement in writing signed by the Company and by Warrant Holders who hold or have the right to acquire at least two-thirds of the Shares at such time issued or issuable upon exercise of the Warrants, provided that no change, addition, omission or waiver shall be made without the written consent of the Warrant Holder(s) which affects (i) the number of Shares issuable on exercise of this Warrant, (ii) the Exercise Price or (iii) any other provision other than in a manner in which all the Warrants are affected.

16.2. Governing Law. This Agreement shall be governed by and construed and enforced in accordance with the laws of the State of Delaware without giving effect to the conflicts of laws principles thereof.

16.3. Notices. All notices or other communications required or permitted hereunder shall be in writing and shall be hand delivered, sent by facsimile or other electronic medium, or mailed, postage prepaid, or sent by reputable overnight courier, delivery charges prepaid, addressed as follows or to such other address as may be furnished in writing to the other parties hereto:

If to the Warrant Holder: Three Crowns Capital (Bermuda) Ltd.
Clarendon House
PO Box HM 666
2 Church Street
Hamilton HM KX
Bermuda
441-292-4720 (Fax)
Attention: Peter Svennilson

With a copy to: Conyers Dill & Pearman
Clarendon House
2 Church Street
Hamilton HM 11
Bermuda
441-292-4720 (Fax)
Attention: Peter A.S. Pearman

If to the Company: PTC Therapeutics, Inc.
Two Chestnut Street
Grafton, MA 01519
508-856-5920 (Fax)
Attention: President

With a copy to: Mintz, Levin, Cohn, Ferris, Glovsky
and Popeo, P.C.
One Financial Center
Boston, MA 02111
617-542-6000
617-542-2241 (Fax)
Attention: Jeffrey M. Wiesen, Esq.

All such notices and communications shall be deemed to have been duly given (i) five (5) business days after being deposited in the mail, postage prepaid if mailed, (ii) one (1) business day after being sent by overnight courier, (iii) when receipt acknowledged if telecopied and (iv) upon receipt if delivered by hand.

16.4. Headings. The headings in this Warrant are for convenience of reference only and shall not limit or otherwise affect the terms hereof.

16.5. Remedies. The Company stipulates that the remedies at law of the holder of this Warrant in the event of any default or threatened default by the Company in the performance of or compliance with any of the terms of this Warrant are not and will not be adequate, and that such terms may be specifically enforced by a decree for the specific performance of any agreement contained herein or by an injunction against a violation of any of the terms hereof or otherwise.

16.6. Closing of Books. The Company will at no time close its transfer books against the transfer of any Warrant or of any Shares issued or issuable upon the exercise of the Warrant in a manner which interferes with the timely exercise of this Warrant.

16.7. No Rights or Liabilities as a Stockholder. This Warrant shall not entitle the Warrant Holder to any voting rights or other rights as a stockholder of the Company prior to the exercise or conversion of the Warrant, provided that nothing herein shall be construed to limit or impair other rights that the Warrant Holder may have under this Warrant or otherwise. No provision of this Warrant, in the absence of affirmative action by the Warrant Holder to purchase the Shares, and no mere enumeration herein of the rights or privileges of the Warrant Holder,

shall give rise to any liability of such Warrant Holder for the Exercise Price or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

IN WITNESS WHEREOF, the undersigned has caused this Warrant to be executed as an instrument under seal.

PTC THERAPEUTICS, INC.

By: /s/ Stuart Peltz

EXHIBIT A

NOTICE OF EXERCISE OR NET ISSUE EXERCISE

Date: _____

PTC Therapeutics, Inc.
100 Corporate Court
Middlesex Business Center
South Plainfield, NJ 07080
Attention: President

Gentlemen:

The undersigned hereby elects to exercise or Net Issue Exercise the enclosed Warrant issued to it by PTC Therapeutics, Inc. (the "Company") and dated as of _____, 20_.

The undersigned elects to:

[ ] Exercise the Warrant and to purchase thereunder _____ shares of the Series C Preferred Stock of the Company (the "Shares") at an exercise price of _____ per Share for an aggregate purchase price of _____ Dollars ($_____) (the "Purchase Price"). Pursuant to the terms of the Warrant, the undersigned has delivered the Purchase Price herewith in full.

[ ] Net Issue Exercise ____% of the value of the Warrant at the current Exercise Price (as defined in the Warrant) of $_____ per Share.

Very truly yours,

_____

Receipt Acknowledged:

PTC Therapeutics, Inc.

By _____

on _____

THIS WARRANT AND THE SHARES ISSUABLE HEREUNDER HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED OR ANY APPLICABLE STATE SECURITIES LAW, AND MAY NOT BE SOLD, PLEDGED, OR OTHERWISE TRANSFERRED WITHOUT AN EFFECTIVE REGISTRATION THEREOF UNDER SUCH ACT OR PURSUANT TO RULE 144 AND AN EXEMPTION UNDER APPLICABLE STATE LAW OR AN OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE CORPORATION AND ITS COUNSEL, THAT SUCH REGISTRATION IS NOT REQUIRED.

WARRANT TO PURCHASE STOCK

Corporation:	PTC Therapeutics, Inc., a Delaware corporation
Number of Shares:	26,000
Class of Stock:	Common
Initial Exercise Price:	$2.50 per share
Issue Date:	March 15, 2001
Expiration Date:	March 14, 2008

THIS WARRANT CERTIFIES THAT, for the agreed upon value of $1.00 and for other good and valuable consideration, SILICON VALLEY BANK ("Holder") is entitled to purchase the number of fully paid and nonassessable shares of the class of securities (the "Shares") of the corporation (the "Company") at the initial exercise price per Share (the "Warrant Price") all as set forth above and as adjusted pursuant to Article 2 of this Warrant, subject to the provisions and upon the terms and conditions set forth in this Warrant.

ARTICLE 1. EXERCISE.

1.1 Method of Exercise. Holder may exercise this Warrant by delivering a duly executed Notice of Exercise in substantially the form attached as Appendix 1 to the principal office of the Company. Unless Holder is exercising the conversion right set forth in Section 1.2, Holder shall also deliver to the Company a check for the aggregate Warrant Price for the Shares being purchased.

1.2 Conversion Right. In lieu of exercising this Warrant as specified in Section 1.1, Holder may from time to time convert this Warrant, in whole or in part, into a number of Shares determined by dividing (a) the aggregate fair market value of the Shares or other securities otherwise issuable upon exercise of this Warrant minus the aggregate Warrant Price of such Shares by (b) the fair market value of one Share. The fair market value of the Shares shall be determined pursuant Section 1.3.

1.3 Fair Market Value. If the Shares are traded in a public market, the fair market value of the Shares shall be the closing price of the Shares (or the closing price of the Company's stock into which the Shares are convertible) reported for the business day immediately before Holder delivers its Notice of Exercise to the Company. If the Shares are not

traded in a public market, the Board of Directors of the Company shall determine fair market value in its reasonable good faith judgment.

1.4 Delivery of Certificate and New Warrant. Promptly after Holder exercises or converts this Warrant, the Company shall deliver to Holder certificates for the Shares acquired and, if this Warrant has not been fully exercised or converted and has not expired, a new Warrant representing the Shares not so acquired.

1.5 Replacement of Warrants. On receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant and, in the case of loss, theft or destruction, on delivery of an indemnity agreement reasonably satisfactory in form and amount to the Company or, in the case of mutilation, or surrender and cancellation of this Warrant, the Company shall execute and deliver, in lieu of this Warrant, a new warrant of like tenor.

1.6 Assumption on Sale, Merger, or Consolidation of the Company.

1.6.1 "Acquisition". For the purpose of this Warrant, "Acquisition" means any sale, license, or other disposition of all or substantially all of the assets of the Company, or any reorganization, consolidation, or merger of the Company where the holders of the Company's securities before the transaction beneficially own less than 50% of the outstanding voting securities of the surviving entity after the transaction.

1.6.2 Assumption of Warrant. Upon the closing of any Acquisition, the successor entity shall assume the obligations of this Warrant, and this Warrant shall be exercisable for the same securities, cash, and property as would be payable for the Shares issuable upon exercise of the unexercised portion of this Warrant as if such Shares were outstanding on the record date for the Acquisition and subsequent closing. The Initial Exercise Price and/or number of Shares shall be adjusted accordingly.

ARTICLE 2. ADJUSTMENTS TO THE SHARES.

2.1 Stock Dividends, Splits, Etc. If the Company declares or pays a dividend on its common stock (or the Shares if the Shares are securities other than common stock) payable in common stock, or other securities or if the Company, subdivides the outstanding common stock into a greater amount of common stock, or, if the Shares are securities other than common stock, subdivides the Shares in a transaction that increases the amount of common stock into which the Shares are convertible, then upon exercise of this Warrant, for each Share acquired, Holder shall receive, without cost to Holder, the total number and kind of securities to which Holder would have been entitled had Holder owned the Shares of record as of the date the dividend or subdivision occurred. If the outstanding shares are combined or consolidated, by reclassification or otherwise, into a lesser number of shares, the Initial Exercise Price shall be proportionately increased.

2.2 Reclassification, Exchange, Combinations or Substitution. Upon any reclassification, exchange, substitution, or other event that results in a change of the number and/or class of the securities issuable upon exercise or conversion of this Warrant, Holder shall be entitled to receive, upon exercise or conversion of this Warrant, the number and kind of

securities and property that Holder would have received for the Shares if this Warrant had been exercised immediately before such reclassification, exchange, substitution, or other event. Such an event shall include any automatic conversion of the outstanding or issuable securities of the Company of the same class or series as the Shares to common stock pursuant to the terms of the Company's Articles of Incorporation upon the closing of a registered public offering of the Company's common stock. The Company or its successor shall promptly issue to Holder a new Warrant for such new securities or other property. The new Warrant shall provide for adjustments which shall be as nearly equivalent as may be practicable to the adjustments provided for in this Article 2 including, without limitation, adjustments to the Initial Exercise Price and to the number of securities or property issuable upon exercise of the new Warrant. The provisions of this Section 2.2 shall similarly apply to successive reclassifications, exchanges, substitutions, or other events.

2.3 Adjustments for Diluting Issuances. The Warrant Price and the number of Shares issuable upon exercise of this Warrant shall be subject to adjustment, from time to time in the manner set forth in the Company's Certificate of Incorporation. The provisions set forth for the Shares in the Company's Certificate of Incorporation relating to the above in effect as of the issue Date may not be amended, modified or waived, without the prior written consent of Holder unless such amendment, modification or waiver affects Holder in the same manner as they affect all other shareholders of the same series of shares granted to the Holder.

2.4 No Impairment. The Company shall not, by amendment of its Articles of Incorporation or through a reorganization, transfer of assets, consolidation, merger, dissolution, issue, or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed under this Warrant by the Company, but shall at all times in good faith assist in carrying out of all the provisions of this Article 2 and in taking all such action as may be necessary or appropriate to protect Holder's rights under this Article against impairment.

2.5 Fractional Shares. No fractional Shares shall be issuable upon exercise or conversion of the Warrant and the number of Shares to be issued shall be rounded down to the nearest whole Share. If a fractional share interest arises upon any exercise or conversion of the Warrant, the Company shall eliminate such fractional share interest by paying Holder the amount computed by multiplying the fractional interest by the fair market value of a full Share.

2.6 Certificate as to Adjustments. Upon each adjustment of the Warrant Price, the Company shall promptly notify Holder in writing, and, at the Company's expense, promptly compute such adjustment, and furnish Holder with a certificate of its Chief Financial Officer setting forth such adjustment and the facts upon which such adjustment is based. The Company shall, upon written request, furnish Holder a certificate setting forth the Warrant Price in effect upon the date thereof and the series of adjustments leading to such Warrant Price.

ARTICLE 3. REPRESENTATIONS AND COVENANTS OF THE COMPANY.

3.1 Representations and Warranties. The Company represents and warrants to the Holder as follows:

(a) The initial Warrant Price referenced on the first page of this Warrant is not greater than (i) the price per share at which the Shares were last issued in an arms-length transaction in which at least $500,000 of the Shares were sold and (ii) the fair market value of the Shares as of the date of this Warrant.

(b) All Shares which may be issued upon the exercise of the purchase right represented by this Warrant, and all securities, if any, issuable upon conversion of the Shares, shall, upon issuance, be duly authorized, validly issued, fully paid and nonassessable, and free of any liens and encumbrances except for restrictions on transfer provided for herein or under applicable federal and state securities laws.

(c) The Capitalization Table previously provided to Holder remains true and complete as of the Issue Date.

3.2 Notice of Certain Events. If the Company proposes at any time (a) to declare any dividend or distribution upon its common stock, whether in cash, property, stock, or other securities and whether or not a regular cash dividend; (b) to offer for subscription pro rata to the holders of any class or series of its stock any additional shares of stock of any class or series or other rights; (c) to effect any reclassification or recapitalization of common stock; (d) to merge or consolidate with or into any other corporation, or sell, lease, license, or convey all or substantially all of its assets, or to liquidate, dissolve or wind up; or (e) offer holders of registration rights the opportunity to participate in an underwritten public offering of the company's securities for cash, then, in connection with each such event, the Company shall give Holder (1) at least 10 days prior written notice of the date on which a record will be taken for such dividend, distribution, or subscription rights (and specifying the date on which the holders of common stock will be entitled thereto) or for determining rights to vote, if any, in respect of the matters referred to in (c) and (d) above; (2) in the case of the matters referred to in (c) and (d) above at least 10 days prior written notice of the date when the same will take place (and specifying the date on which the holders of common stock will be entitled to exchange their common stock for securities or other property deliverable upon the occurrence of, such event); and (3) in the case of the matter referred to in (e) above, the same notice as is given to the holders of such registration rights.

3.3 Registration Under Securities Act of 1933, as amended. If the Company (i) initiates any public offering of its common stock within one year of the Issue Date or (ii) amends its Second Amended and Restated Investor Rights Agreement ("Investor Rights Agreement"), the Company agrees to amend the Investor Rights Agreement so that the Shares shall be subject to the registration rights set forth in the Investor Rights Agreement. Once the Shares are subject to the Investor Rights Agreement, the provisions set forth in the Investor Right Agreement relating to the above may not be amended, modified or waived without the prior written consent of Holder unless such amendment, modification or waiver affects Holder in the same manner as they affect all other shareholders of the same series of shares granted to the Holder.

ARTICLE 4. REPRESENTATIONS, WARRANTIES OF THE HOLDER. The holder represents and warrants to the company as follows:

4.1 Purchase for Own Account. Except for transfers to Holder's affiliates, this Warrant and the securities to be acquired upon exercise of this Warrant by the Holder will be acquired for investment for the Holder's account, not as a nominee or agent, and not with a view to the public resale or distribution within the meaning of the 1933 Act, and the Holder has no present intention of selling, granting any participation in, or otherwise distributing the same. If not an individual, the Holder also represents that the Holder has not been formed for the specific purpose of acquiring this Warrant or the Shares.

4.2 Disclosure of Information. The Holder has received or has had full access to all the information it considers necessary or appropriate to make an informed investment decision with respect to the acquisition of this Warrant and its underlying securities. The Holder further has had an opportunity to ask questions and receive answers from the Company regarding the terms and conditions of the offering of this Warrant and its underlying securities and to obtain additional information (to the extent the Company possessed such information or could acquire it without unreasonable effort or expense) necessary to verify any information furnished to the Holder or to which the Holder has access.

4.3 Investment Experience. The Holder understands that the purchase of this Warrant and its underlying securities involves substantial risk. The Holder: (i) has experience as an investor in securities of companies in the development stage and acknowledges that the Holder is able to fend for itself, can bear the economic risk of such Holder's investment in this Warrant and its underlying securities and has such knowledge and experience in financial or business matters that the Holder is capable of evaluating the merits and risks of its investment in this Warrant and its underlying securities and/or (ii) has a preexisting personal or business relationship with the Company and certain of its officers, directors or controlling persons of a nature and duration that enables the Holder to be aware of the character, business acumen and financial circumstances of such persons.

4.4 Accredited Investor Status. The Holder is an "accredited investor" within the meaning of Regulation D promulgated under the 1933 Act.

ARTICLE 5. MISCELLANEOUS.

5.1 Term. This Warrant is exercisable in whole or in part at any time and from time to time on or before the Expiration Date.

5.2 Legends. This Warrant and the Shares (and the securities issuable, directly or indirectly, upon conversion of the Shares, if any) shall be imprinted with a legend in substantially the following form:

> THIS SECURITY HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED OR UNDER ANY APPLICABLE STATE LAWS, AND MAY NOT BE SOLD, PLEDGED OR OTHERWISE TRANSFERRED WITHOUT AN EFFECTIVE REGISTRATION THERE OF

UNDER SUCH ACT AND AN EXEMPTION UNDER APPLICABLE STATE LAW OR PURSUANT TO RULE 144 OR AN OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE CORPORATION AND ITS COUNSEL THAT SUCH REGISTRATION IS NOT REQUIRED.

5.3 Compliance with Securities Laws on Transfer. This Warrant and the Shares issuable upon exercise of this Warrant (and the securities issuable, directly or indirectly, upon conversion of the Shares, if any) may not be transferred or assigned in whole or in part without compliance with applicable federal and state securities laws by the transferor and the transferee (including, without limitation, the delivery of investment representation letters and legal opinions reasonably satisfactory to the Company, as reasonably requested by the Company). The Company shall not require Holder to provide an opinion of counsel if the transfer is to an affiliate of Holder or if there is no material question as to the availability of current information as referenced in Rule 144(c), Holder represents that it has complied with Rule 144(d) and (e) in reasonable detail, the selling broker represents that it has complied with Rule 144(f), and the Company is provided with a copy of Holder's notice of proposed sale.

5.4 Transfer Procedure. Subject to the provisions of Section 5.3, Holder may transfer all or part of this Warrant or the Shares issuable upon exercise of this Warrant (or the securities issuable, directly or indirectly, upon conversion of the Shares, if any) at any time to Silicon Valley Bancshares or The Silicon Valley Bank Foundation, or to any affiliate of Holder, or, to any other transferee by giving the Company notice of the portion of the Warrant being transferred with the name, address and taxpayer identification number of the transferee and surrendering this Warrant to the Company for reissuance to the transferee(s) (and Holder if applicable). The Company may refuse to transfer this Warrant to any person who directly competes with the Company, unless the stock of the Company is publicly traded.

5.5 Notices. All notices and other communications from the Company to the Holder, or vice versa, shall be deemed delivered and effective when given personally or mailed by first-class registered or certified mail, postage prepaid, at such address as may have been furnished to the Company or the Holder, as the case may be, in writing by the Company or such holder from time to time. All notices to the Holder shall be addressed as follows:

Silicon Valley Bank
Attn: Treasury Department
3003 Tasman Drive, HG 110
Santa Clara, CA 95054

5.6 Waiver. This Warrant and any term hereof may be changed, waived, discharged or terminated only by an instrument in writing signed by the party against which enforcement of such change, waiver, discharge or termination is sought.

5.7 Attorney's Fees. In the event of any dispute between the parties concerning the terms and provisions of this Warrant, the party prevailing in such dispute shall be entitled to collect from the other party all costs incurred in such dispute, including reasonable attorney's fees.

5.8 Governing Law. This Warrant shall be governed by and construed in accordance with the laws of the State of New Jersey, without giving effect to its principles regarding conflicts of law.

PTC THERAPEUTICS, INC.

By: /s/ STUART PELTZ

Name: STUART PELTZ
Title: Chief Executive Officer

"HOLDER"
SILICON VALLEY BANK

By: /s/ ASH MILANI

Name: Ash Milani
Title: Vice President

APPENDIX 1

NOTICE OF EXERCISE

1. Holder elects to purchase _____ shares of the Common/Series _____ Preferred [strike one] Stock of PTC Therapeutics, Inc. pursuant to the terms of the attached Warrant, and tenders payment of the purchase price of the shares in full.

1. Holder elects to convert the attached Warrant into Shares/cash (strike one] in the manner specified in the Warrant. This conversion is exercised for _____ of the Shares covered by the Warrant.

[Strike paragraph that does not apply.]

2. Please issue a certificate or certificates representing the shares in the name specified below:

_____
Holders Name

_____

_____
(Address)

3. The undersigned represents it is acquiring the shares solely for its own account and not as a nominee for any other party and not with a view toward the resale or distribution except in compliance with applicable securities laws.

HOLDER:

_____

By: _____

Name: _____

Title: _____

_____
(Date)

Exhibit 4.5

THIS WARRANT AND THE SHARES OF CAPITAL STOCK ISSUED UPON ANY EXERCISE HEREOF HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY APPLICABLE STATE SECURITIES LAWS AND MAY NOT BE SOLD OR OTHERWISE TRANSFERRED BY ANY PERSON, INCLUDING A PLEDGEE, UNLESS (1) EITHER (A) A REGISTRATION WITH RESPECT TO THERETO SHALL BE EFFECTIVE UNDER THE SECURITIES ACT, OR (B) THE COMPANY SHALL HAVE RECEIVED AN OPINION OF COUNSEL SATISFACTORY TO THE COMPANY THAT AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT IS AVAILABLE, AND (2) THERE SHALL HAVE BEEN COMPLIANCE WITH ALL APPLICABLE STATE SECURITIES OR "BLUE SKY" LAWS.

For the purchase of up to 507,692 shares of
shares of Series D Convertible Preferred Stock,
par value $.001 per share

No. W-02 August 17, 2001

PTC THERAPEUTICS, INC., a Delaware corporation (the "Company"), hereby certifies that, for good and valuable consideration, Three Crowns Capital (Bermuda) Ltd. or its permitted assigns (the "Warrant Holder") is entitled, subject to the terms set forth below, to purchase from the Company at any time on or before 5:00 p.m., eastern time, on August 17, 2011 (the "Exercise Period"), up to 507,692 fully-paid and non-assessable shares of Series D Convertible Preferred Stock, par value $.001 per share, of the Company (the "Series D Preferred Stock"), or shares of the Common Stock, par value $.001 per share, of the Company (the "Common Stock") upon a mandatory conversion of the Series D Preferred Stock as provided in Section 3 hereof (the Series D Preferred Stock and the Common Stock are hereinafter collectively referred to as "Shares"), at a price per share (the "Exercise Price") which shall initially be $3.25 per share and which shall be subject to adjustment as herein provided.

1. Exercise of Warrants.

1.1. Exercise. Subject to the terms and conditions of this Warrant, this Warrant shall become exercisable by the Warrant Holder on August 17, 2001.

1.2. Procedure to Exercise. This Warrant may be exercised by the Warrant Holder, in whole or in part, by surrendering this Warrant, with the purchase form appended hereto as Exhibit A duly executed by such Warrant Holder or by such Warrant Holder's duly authorized attorney, at the principal office of the Company, or at such other office or agency as the Company may designate, accompanied by payment in full by cash, check or wire transfer of the amount obtained by multiplying the number of Shares in the notice of exercise by the Exercise Price (the "Purchase Price").

1.3. Net Issue Exercise. In lieu of exercising this Warrant in the manner provided above in Section 1.2, the Warrant Holder may elect to receive shares equal to the value of this Warrant (or the portion thereof being converted) by surrender of this Warrant, in whole or in

part, at the principal office of the Company together with the notice of exercise attached hereto as Exhibit A, in which event the Company shall issue to the Warrant Holder the number of Shares computed using the following formula (a "Net Issue Exercise"):

$$X = \frac{Y(A - B)}{A}$$

Where: X = The number of Shares to be issued to the Warrant Holder.

Y = The number of Shares purchasable under this Warrant (at the date of such calculation) that are being converted, in whole or in part, hereunder.

A = The Fair Market Value of one Share (at the date of such calculation).

B = The Exercise Price (as adjusted to the date of such calculation).

For purposes of this Section 1.3, if any Shares of the Warrant Holder or any other shareholder of the Company are registered or publicly traded, then the Fair Market Value of one Share shall mean the average of the closing bid and asked prices of the Common Stock quoted in the over the counter market summary or the closing price quoted by the Nasdaq National Market or any exchange on which the Common Stock is listed, whichever is applicable, as published in the Western Edition of The Wall Street Journal for the business day prior to the date of determination of fair market value. If the Shares are not traded on the Nasdaq National Market or on an exchange, the Fair Market Value of one Share shall be determined in good faith by the Company's Board of Directors.

1.4. Effectiveness. Each exercise or Net Issue Exercise of this Warrant shall be deemed to have been effected immediately prior to the close of business on the day on which this Warrant shall have been surrendered to the Company as provided in Sections 1.2 or 1.3 above. At such time, the person or persons in whose name or names any certificates for the Shares shall be issuable upon such exercise or Net Issue Exercise as provided in Section 2 below shall be deemed to have become the holder or holders of record of the Shares represented by such certificates.

2. Delivery of Stock Certificates, Etc. As soon as practicable after the exercise or Net Issue Exercise of this Warrant in full or in part, and in any event within 10 days thereafter, the Company at its expense will cause to be issued in the name of, and delivered to, the Warrant Holder, or as such Warrant Holder (upon payment by such Warrant Holder of any applicable transfer taxes) may direct (i) a certificate or certificates for the number of fully paid and non-assessable Shares to which the Warrant Holder shall be entitled upon such exercise or Net Issue Exercise, and (ii) in case such exercise or Net Issue Exercise is in part only, a new warrant or warrants (dated the date hereof) of like tenor, calling in the aggregate on the face or faces thereof for the number of Shares equal (without giving effect to any adjustment therein) to the number of Shares called for on the face of this Warrant minus the number of Shares purchased by the Warrant Holder upon such exercise or Net Issuance Exercise as provided in Sections 1.2 or 1.3 herein.

3. Adjustments Upon Mandatory Conversion of Series D Preferred Stock. Upon any mandatory conversion of the Series D Preferred Stock pursuant to the Company's Certificate of Incorporation, as amended or amended and restated from time to time, this Warrant shall cease to be exercisable for shares of Series D Preferred Stock and shall become exercisable for that number of shares of Common Stock into which the shares of Series D Preferred Stock purchasable hereunder would have been convertible immediately prior to such mandatory conversion, and such that payment of the Exercise Price, or any multiple thereof, shall entitle the Warrant Holder to receive the number of shares of Common Stock as would have been issued upon conversion of each share of Series D Preferred Stock purchasable hereunder immediately prior to such mandatory conversion.

4. Stock Splits, Stock Dividends and Combinations. If the Company at any time subdivides the outstanding shares of Series D Preferred Stock, or issues a stock dividend on the outstanding shares of Series D Preferred Stock, the Exercise Price in effect immediately prior to such subdivision or the issuance of such stock dividend shall be proportionately decreased, and the number of Shares shall be proportionately increased, and if the Company at any time combines the outstanding shares of Series D Preferred Stock, the Exercise Price in effect immediately prior to such combination shall be proportionately increased, and the number of shares shall be proportionately decreased, effective at the close of business on the date of such subdivision, stock dividend or combination, as the case may be. Upon any mandatory conversion of the Series D Preferred Stock as provided in Section 3, each reference to Series D Preferred Stock in this Section 4 shall be deemed to be Common Stock.

5. Conversions; Reorganizations; Reclassifications; Merger; Sales. In case of any capital reorganization or any reclassification of the capital stock of the Company or in case of the consolidation or merger of the Company with or into another-corporation or the conveyance of all or substantially all of the assets of the Company to another corporation, this Warrant shall thereafter be exercisable for the number of shares of stock or other securities or property to which a holder of the number of Shares deliverable upon exercise of the Warrant would have been entitled to upon such conversion, reorganization, reclassification, consolidation, merger or conveyance and, in any such case, appropriate adjustment as determined by the Board of Directors of the Company shall be made in the application of the provisions herein set forth with respect to the rights and interests thereafter of the Warrant Holder to the end that the provisions set forth herein (including provisions with respect to changes in and other adjustments of the Exercise Price and the number of Shares) shall thereafter be applicable, as nearly as reasonably may be, in relation to any shares of stock or other property thereafter deliverable upon the exercise of the Warrant.

6. Statement of Adjustment. Whenever the Exercise Price shall be adjusted as provided herein, the Company shall promptly file with the Secretary of the Company or at such other place as shall be designated by the Company, a statement, signed by its chief financial officer, showing in detail the facts requiring such adjustment, the Exercise Price in effect before and after such adjustment and the kind and amount of shares of capital stock, securities or other property thereafter to be received upon the exercise of this Warrant. The Company shall also cause a copy of such statement to be sent in the manner specified in Section 16.3 to the Warrant Holder.

7. Notice of Adjustment. In the event the Company shall propose to take any action of the types described in Sections 4 or 5, the Company shall give notice to the Warrant Holder in the manner set forth in Section 16.3, which notice shall specify the record date, if any, with respect to any such action and the date on which such action is to take place. Such notice shall also set forth such facts with respect thereto as shall be reasonably necessary to indicate the effect of such action (to the extent such effect may be known at the date of such notice) on the Exercise Price and the number, kind or class of shares or other securities or property which shall be deliverable or purchasable upon the occurrence of such action or deliverable upon the exercise hereof. In the case of any action which would require the fixing of a record date, such notice shall be given at least ten (10) days prior to the date so fixed, and in case of all other actions, such notice shall be given at least twenty (20) days prior to the taking of such proposed action. Failure to give such notice, or any defect therein, shall not affect the legality or validity of any such action.

8. Taxes. The Company shall pay all documentary, stamp or other transactional taxes attributable to the issuance or delivery of shares of capital stock of the Company upon the exercise or conversion hereof.

9. No Fractional Shares. Each adjustment in the number of Shares purchasable hereunder shall be calculated, to the nearest whole share with fractional shares disregarded.

10. Covenants as to Series D Preferred Stock and Common Stock. The Company covenants and agrees that the shares of Series D Preferred Stock issuable hereunder, and the Common Stock issuable upon conversion thereof, and the Common Stock issuable hereunder, as the case may be, will, upon issuance in accordance with the terms hereof, be validly issued and outstanding, fully paid and nonassessable, with no personal liability attaching to the ownership thereof, and free from all taxes, liens and charges with respect to the issuance thereof imposed by or through the Company. The Company further covenants and agrees that the Company will at all times have authorized and reserved, free from preemptive rights imposed by or through the Company, a sufficient number of shares of Series D Preferred Stock and Common Stock to provide for the exercise of the rights represented by this Warrant. The Company further covenants and agrees that if any shares of capital stock to be reserved for the purpose of the issuance of shares upon the exercise of this Warrant require registration or qualification with or approval by the Securities and Exchange Commission or any state regulatory agency under Federal or state law before such shares may be validly issued or delivered upon exercise, then the Company will in good faith and as expeditiously as possible endeavor to secure such registration, qualification or approval, as the case may be. Holders of Series D Preferred Stock and Common Stock issuable upon exercise of this Warrant or conversion of any such shares, as the case may be, shall be entitled to all the rights and privileges of the Purchase Agreement and the Registration Rights Agreement dated as of the date hereof between the Company and the Investors (as defined therein) with respect to such shares.

11. No Impairment. The Company will not, by amendment of its Certificate of Incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, or any other similar voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such action as may be necessary or appropriate in order to protect the rights of the Warrant Holder against impairment due to such event. Without limiting the generality of the foregoing, the Company (a) will not increase the par value of any shares of stock receivable on the exercise of the Warrant above the amount payable therefor on such exercise, (b) will take all action that may be necessary or

appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of stock, free from all taxes, liens and charges with respect to the issue thereof, on the exercise of all of the Warrants from time to time outstanding and (c) will not consolidate with or merge into any other person or permit any such person to consolidate with or merge into the Company (if the Company is not the surviving person), unless such other person shall expressly assume in writing and will be bound by all the terms of this Warrant.

12. Compliance with Securities Act.

12.1. Unregistered Securities. The Warrant Holder acknowledges that this Warrant and the Shares have not been registered under the Securities Act of 1933, as amended, and the rules and regulations thereunder, or any successor legislation (the "Securities Act"), and agrees not to sell, pledge, distribute, offer for sale, transfer or otherwise dispose of this Warrant or any Shares in the absence of (i) an effective registration statement under the Securities Act covering this Warrant or such Shares and registration or qualification of this Warrant or such Shares under any applicable "blue sky" or state securities law then in effect, or (ii) an opinion of counsel, satisfactory to the Company, that such registration and qualification are not required. The Company may delay issuance of the Shares until completion of any action or obtaining of any consent, which the Company deems necessary under any applicable law (including without limitation state securities or "blue sky" laws).

12.2. Investment Representation. The Warrant Holder represents to the Company that this Warrant is being acquired for the Warrant Holder's own account and for the purpose of investment and not with a present view to, or for sale in connection with, the distribution thereof, nor with any present intention of distributing or selling the Warrant or Common Stock issuable upon exercise of the Warrant. The Warrant Holder acknowledges that it has been afforded the opportunity to meet with the management of the Company and to ask questions of, and receive answers from, such management and the Company's counsel about the business and affairs of the Company and concerning the terms and conditions of the offering of this Warrant, and to obtain any additional information, to the extent that the Company possessed such information or could acquire it without unreasonable effort or expense, necessary to verify the accuracy of the information otherwise obtained by or furnished to the Warrant Holder. The Holder has received all information which the Warrant Holder considered necessary to form a decision concerning the purchase of this Warrant, and no valid request to the Company by the Warrant Holder hereof for information of any kind about the Company has been refused or denied by the Company or remains unfulfilled as of the date hereof. The Warrant Holder attests that it may be considered to be a sophisticated investor, is familiar with the risks inherent in speculative investments such as in the Company, has such knowledge and experience in financial business matters that he is capable of evaluating the merits and risk of the investment in this Warrant and the Shares, and is able to bear the economic risk of the investment. The Warrant Holder confirms that he is an "accredited investor" as such term is defined in rule 501(a) of the Securities Act.

12.3. Investment Letter. Without limiting the generality of Section 12.1, unless the offer and sale of any shares of Shares shall have been effectively registered under the Securities Act, the Company shall be under no obligation to issue the Shares unless and until the Warrant Holder shall have executed an investment letter in form and substance satisfactory to the Company, including a warranty at the time of such exercise that the Warrant Holder is acquiring such shares for its own account, for investment and not with a view to, or for sale in connection with, the distribution of any such shares.

12.4. Legend. Certificates delivered to the Warrant Holder pursuant to Section 2 shall bear the following legend or a legend in substantially similar form:

> "THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 OR ANY OF THE SECURITIES LAWS. THESE SECURITIES HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO DISTRIBUTION OR RESALE. SUCH SECURITIES MAY NOT BE OFFERED FOR SALE, SOLD, DELIVERED AFTER SALE, TRANSFERRED, PLEDGED OR HYPOTHECATED IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT COVERING SUCH SECURITIES UNDER THE SECURITIES ACT OF 1933 AND ANY OTHER APPLICABLE SECURITIES LAWS, UNLESS THE HOLDER SHALL HAVE OBTAINED AN OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE CORPORATION THAT SUCH REGISTRATION IS NOT REQUIRED."

13. Transferability. Without the prior written consent of the Company, the Warrant shall not be assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) and shall not be subject to execution, attachment or similar process. Any attempted transfer, assignment, pledge, hypothecation or other disposition of the Warrant or of any rights granted hereunder contrary to the provisions of this Section 13, or the levy of any attachment or similar process upon the Warrant or such rights, shall be null and void.

14. Lost, Stolen, Mutilated or Destroyed Warrant. If this Warrant is lost, stolen, mutilated or destroyed, the Company may, on such terms as to indemnity or otherwise as it may reasonably in its discretion impose (which shall in the case of a mutilated Warrant, include the surrender thereof), issue a new Warrant of like denomination and tenor as the Warrant so lost, stolen, mutilated or destroyed.

15. Register of Warrants. The Company shall maintain, at the principal office of the Company (or such other office as it may designate by notice to the Warrant Holder), a register for the Warrants in which the Company shall record the name and address of the person in whose name a Warrant has been issued, as well as the name and address of each transferee and each prior owner of such Warrant.

16. Miscellaneous.

16.1. Waivers and Amendments. This Warrant or any provisions hereof may be changed, waived, discharged or terminated only by a statement in writing signed by the Company and by Warrant Holders who hold or have the right to acquire at least two-thirds of the Shares at such time issued or issuable upon exercise of the Warrants, provided that no change, addition, omission or waiver shall be made without the written consent of the Warrant Holder(s) which affects (i) the number of Shares issuable on exercise of this Warrant, (ii) the Exercise Price or (iii) any other provision other than in a manner in which all the Warrants are affected.

16.2. Governing Law. This Agreement shall be governed by and construed and enforced in accordance with the laws of the State of Delaware without giving effect to the conflicts of laws principles thereof.

16.3. Notices. All notices or other communications required or permitted hereunder shall be in writing and shall be hand delivered, sent by facsimile or other electronic medium, or mailed, postage prepaid, or sent by reputable overnight courier, delivery charges prepaid, addressed as follows or to such other address as may be furnished in writing to the other parties hereto:

If to the Warrant Holder:	Three Crowns Capital (Bermuda) Ltd. Clarendon House PO Box HM 666 2 Church Street Hamilton HM KX Bermuda 441-292-4720 (Fax) Attention: Peter Svennilson
With a copy to:	Conyers Dill & Pearman Clarendon House 2 Church Street Hamilton HM 11 Bermuda 441-292-4720 (Fax) Attention: Peter A.S. Pearman
And:	Nixon Peabody LLP 101 Federal Street Boston, MA 02110 617-345-1300 Attention: Carter S. Boom, Jr.
If to the Company:	PTC Therapeutics, Inc. Two Chestnut Street Grafton, MA 01519 508-856-5920 (Fax) Attention: President

With a copy to: Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.
One Financial Center
Boston, MA 02111
617-542-6000
617-542-2241 (Fax)
Attention: Jeffrey M. Wiesen, Esq.

All such notices and communications shall be deemed to have been duly given (i) five (5) business days after being deposited in the mail, postage prepaid if mailed, (ii) one (1) business day after being sent by overnight courier, (iii) when receipt acknowledged if telecopied and (iv) upon receipt if delivered by hand.

16.4. Headings. The headings in this Warrant are for convenience of reference only and shall not limit or otherwise affect the terms hereof.

16.5. Remedies. The Company stipulates that the remedies at law of the holder of this Warrant in the event of any default or threatened default by the Company in the performance of or compliance with any of the terms of this Warrant are not and will not be adequate, and that such terms may be specifically enforced by a decree for the specific performance of any agreement contained herein or by an injunction against a violation of any of the terms hereof or otherwise.

16.6. Closing of Books. The Company will at no time close its transfer books against the transfer of any Warrant or of any Shares issued or issuable upon the exercise of the Warrant in a manner which interferes with the timely exercise of this Warrant.

16.7. No Rights or Liabilities as a Stockholder. This Warrant shall not entitle the Warrant Holder to any voting rights or other rights as a stockholder of the Company prior to the exercise or conversion of the Warrant, provided that nothing herein shall be construed to limit or impair other rights that the Warrant Holder may have under this Warrant or otherwise. No provision of this Warrant, in the absence of affirmative action by the Warrant Holder to purchase the Shares, and no mere enumeration herein of the rights or privileges of the Warrant Holder, shall give rise to any liability of such Warrant Holder for the Exercise Price or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

IN WITNESS WHEREOF, the undersigned has caused this Warrant to be executed as an instrument under seal.

PTC THERAPEUTICS, INC.

BY: /S/ STUART W. PELTZ

Name: Stuart W. Peltz, Ph.D.
Title: President

AGREED AND ACKNOWLEDGED:

THREE CROWNS CAPITAL (BERMUDA) LTD.

By: /s/ P. SVENNILSON

Name: P. Svennilson
Title:

EXHIBIT A

NOTICE OF EXERCISE OR NET ISSUE EXERCISE

Date: _____

PTC Therapeutics, Inc.
Two Chestnut Street
Grafton, MA 01519
Attention: President

Gentlemen:

The undersigned hereby elects to exercise or Net Issue Exercise the enclosed Warrant issued to it by PTC Therapeutics, Inc. (the "Company") and dated as of _____, 20__.

The undersigned elects to:

[ ] Exercise the Warrant and to purchase thereunder __ shares of the Series D Preferred Stock of the Company (the "Shares") at an exercise price of ___ per Share for an aggregate purchase price of _____ Dollars ($___) (the "Purchase Price"). Pursuant to the terms of the Warrant, the undersigned has delivered the Purchase Price herewith in full.

[ ] Net Issue Exercise ____% of the value of the Warrant at the current Exercise Price (as defined in the Warrant) of $ ____ per Share.

Very truly yours,

_____

Receipt Acknowledged:

PTC Therapeutics, Inc.

By: _____

on _____

Exhibit 4.6

THIS WARRANT AND THE SHARES OF CAPITAL STOCK ISSUED UPON ANY EXERCISE HEREOF HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY APPLICABLE STATE SECURITIES LAWS AND MAY NOT BE SOLD OR OTHERWISE TRANSFERRED BY ANY PERSON, INCLUDING A PLEDGEE, UNLESS (1) EITHER (A) A REGISTRATION WITH RESPECT TO THERETO SHALL BE EFFECTIVE UNDER THE SECURITIES ACT, OR (B) THE COMPANY SHALL HAVE RECEIVED AN OPINION OF COUNSEL SATISFACTORY TO THE COMPANY THAT AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT IS AVAILABLE, AND (2) THERE SHALL HAVE BEEN COMPLIANCE WITH ALL APPLICABLE STATE SECURITIES OR "BLUE SKY" LAWS.

For the purchase of up to 107,096 shares of
shares of Series D Convertible Preferred Stock,
par value $.001 per share

No. W-03 August 28, 2001

PTC THERAPEUTICS, INC., a Delaware corporation (the "Company"), hereby certifies that, for good and valuable consideration, Three Crowns Capital (Bermuda) Ltd. or its permitted assigns (the "Warrant Holder") is entitled, subject to the terms set forth below, to purchase from the Company at any time on or before 5:00 p.m., eastern time, on August 28, 2011 (the "Exercise Period"), up to 107,096 fully-paid and non-assessable shares of Series D Convertible Preferred Stock, par value $.001 per share, of the Company (the "Series D Preferred Stock"), or shares of the Common Stock, par value $.001 per share, of the Company (the "Common Stock") upon a mandatory conversion of the Series D Preferred Stock as provided in Section 3 hereof (the Series D Preferred Stock and the Common Stock are hereinafter collectively referred to as "Shares"), at a price per share (the "Exercise Price") which shall initially be $3.25 per share and which shall be subject to adjustment as herein provided.

1. Exercise of Warrants.

1.1. Exercise. Subject to the terms and conditions of this Warrant, this Warrant shall become exercisable by the Warrant Holder on August 28, 2001.

1.2. Procedure to Exercise. This Warrant may be exercised by the Warrant Holder, in whole or in part, by surrendering this Warrant, with the purchase form appended hereto as Exhibit A duly executed by such Warrant Holder or by such Warrant Holder's duly authorized attorney, at the principal office of the Company, or at such other office or agency as the Company may designate, accompanied by payment in full by cash, check or wire transfer of the amount obtained by multiplying the number of Shares in the notice of exercise by the Exercise Price (the "Purchase Price").

1.3. Net Issue Exercise. In lieu of exercising this Warrant in the manner provided above in Section 1.2, the Warrant Holder may elect to receive shares equal to the value of this Warrant (or the portion thereof being converted) by surrender of this Warrant, in whole or in part, at the principal office of the Company together with the notice of exercise attached hereto

as Exhibit A, in which event the Company shall issue to the Warrant Holder the number of Shares computed using the following formula (a "Net Issue Exercise"):

$$X = \frac{Y (A - B)}{A}$$

Where:

X = The number of Shares to be issued to the Warrant Holder.

Y = The number of Shares purchasable under this Warrant (at the date of such calculation) that are being converted, in whole or in part, hereunder.

A = The Fair Market Value of one Share (at the date of such calculation).

B = The Exercise Price (as adjusted to the date of such calculation).

For purposes of this Section 1.3, if any Shares of the Warrant Holder or any other shareholder of the Company are registered or publicly traded, then the Fair Market Value of one Share shall mean the average of the closing bid and asked prices of the Common Stock quoted in the over the counter market summary or the closing price quoted by the Nasdaq National Market or any exchange on which the Common Stock is listed, whichever is applicable, as published in the Western Edition of The Wall Street Journal for the business day prior to the date of determination of fair market value. If the Shares are not traded on the Nasdaq National Market or on an exchange, the Fair Market Value of one Share shall be determined in good faith by the Company's Board of Directors.

1.4. Effectiveness. Each exercise or Net Issue Exercise of this Warrant shall be deemed to have been effected immediately prior to the close of business on the day on which this Warrant shall have been surrendered to the Company as provided in Sections 1.2 or 1.3 above. At such time, the person or persons in whose name or names any certificates for the Shares shall be issuable upon such exercise or Net Issue Exercise as provided in Section 2 below shall be deemed to have become the holder or holders of record of the Shares represented by such certificates.

2. Delivery of Stock Certificates, Etc. As soon as practicable after the exercise or Net Issue Exercise of this Warrant in full or in part, and in any event within 10 days thereafter, the Company at its expense will cause to be issued in the name of, and delivered to, the Warrant Holder, or as such Warrant Holder (upon payment by such Warrant Holder of any applicable transfer taxes) may direct (i) a certificate or certificates for the number of fully paid and non-assessable Shares to which the Warrant Holder shall be entitled upon such exercise or Net Issue Exercise, and (ii) in case such exercise or Net Issue Exercise is in part only, a new warrant or warrants (dated the date hereof) of like tenor, calling in the aggregate on the face or faces thereof for the number of Shares equal (without giving effect to any adjustment therein) to the number of Shares called for on the face of this Warrant minus the number of Shares purchased by the Warrant Holder upon such exercise or Net Issuance Exercise as provided in Sections 1.2 or 1.3 herein.

3. Adjustments Upon Mandatory Conversion of Series D Preferred Stock. Upon any mandatory conversion of the Series D Preferred Stock pursuant to the Company's Certificate of

Incorporation, as amended or amended and restated from time to time, this Warrant shall cease to be exercisable for shares of Series D Preferred Stock and shall become exercisable for that number of shares of Common Stock into which the shares of Series D Preferred Stock purchasable hereunder would have been convertible immediately prior to such mandatory conversion, and such that payment of the Exercise Price, or any multiple thereof, shall entitle the Warrant Holder to receive the number of shares of Common Stock as would have been issued upon conversion of each share of Series D Preferred Stock purchasable hereunder immediately prior to such mandatory conversion.

4. Stock Splits, Stock Dividends and Combinations. If the Company at any time subdivides the outstanding shares of Series D Preferred Stock, or issues a stock dividend on the outstanding shares of Series D Preferred Stock, the Exercise Price in effect immediately prior to such subdivision or the issuance of such stock dividend shall be proportionately decreased, and the number of Shares shall be proportionately increased, and if the Company at any time combines the outstanding shares of Series D Preferred Stock, the Exercise Price in effect immediately prior to such combination shall be proportionately increased, and the number of shares shall be proportionately decreased, effective at the close of business on the date of such subdivision, stock dividend or combination, as the case may be. Upon any mandatory conversion of the Series D Preferred Stock as provided in Section 3, each reference to Series D Preferred Stock in this Section 4 shall be deemed to be Common Stock.

5. Conversions; Reorganizations; Reclassification; Merger; Sales. In case of any capital reorganization or any reclassification of the capital stock of the Company or in case of the consolidation or merger of the Company with or into another corporation or the conveyance of all or substantially all of the assets of the Company to another corporation, this Warrant shall thereafter be exercisable for the number of shares of stock or other securities or property to which a holder of the number of Shares deliverable upon exercise of the Warrant would have been entitled to upon such conversion, reorganization, reclassification, consolidation, merger or conveyance and, in any such case, appropriate adjustment as determined by the Board of Directors of the Company shall be made in the application of the provisions herein set forth with respect to the rights and interests thereafter of the Warrant Holder to the end that the provisions set forth herein (including provisions with respect to changes in and other adjustments of the Exercise Price and the number of Shares) shall thereafter be applicable, as nearly as reasonably may be, in relation to any shares of stock or other property thereafter deliverable upon the exercise of the Warrant.

6. Statement of Adjustment. Whenever the Exercise Price shall be adjusted as provided herein, the Company shall promptly file with the Secretary of the Company or at such other place as shall be designated by the Company, a statement, signed by its chief financial officer, showing in detail the facts requiring such adjustment, the Exercise Price in effect before and after such adjustment and the kind and amount of shares of capital stock, securities or other property thereafter to be received upon the exercise of this Warrant. The Company shall also cause a copy of such statement to be sent in the manner specified in Section 16.3 to the Warrant Holder.

7. Notice of Adjustment. In the event the Company shall propose to take any action of the types described in Sections 4 or 5, the Company shall give notice to the Warrant Holder in

the manner set forth in Section 16.3, which notice shall specify the record date, if any, with respect to any such action and the date on which such action is to take place. Such notice shall also set forth such facts with respect thereto as shall be reasonably necessary to indicate the effect of such action (to the extent such effect may be known at the date of such notice) on the Exercise Price and the number, kind or class of shares or other securities or property which shall be deliverable or purchasable upon the occurrence of such action or deliverable upon the exercise hereof. In the case of any action which would require the fixing of a record date, such notice shall be given at least ten (10) days prior to the date so fixed, and in case of all other actions, such notice shall be given at least twenty (20) days prior to the taking of such proposed action. Failure to give such notice, or any defect therein, shall not affect the legality or validity of any such action.

8. Taxes. The Company shall pay all documentary, stamp or other transactional taxes attributable to the issuance or delivery of shares of capital stock of the Company upon the exercise or conversion hereof.

9. No Fractional Shares. Each adjustment in the number of Shares purchasable hereunder shall be calculated, to the nearest whole share with fractional shares disregarded.

10. Covenants as to Series D Preferred Stock and Common Stock. The Company covenants and agrees that the shares of Series D Preferred Stock issuable hereunder, and the Common Stock issuable upon conversion thereof, and the Common Stock issuable hereunder, as the case may be, will, upon issuance in accordance with the terms hereof, be validly issued and outstanding, fully paid and nonassessable, with no personal liability attaching to the ownership thereof, and free from all taxes, liens and charges with respect to the issuance thereof imposed by or through the Company. The Company further covenants and agrees that the Company will at all times have authorized and reserved, free from preemptive rights imposed by or through the Company, a sufficient number of shares of Series D Preferred Stock and Common Stock to provide for the exercise of the rights represented by this Warrant. The Company further covenants and agrees that if any shares of capital stock to be reserved for the purpose of the issuance of shares upon the exercise of this Warrant require registration or qualification with or approval by the Securities and Exchange Commission or any state regulatory agency under Federal or state law before such shares may be validly issued or delivered upon exercise, then the Company will in good faith and as expeditiously as possible endeavor to secure such registration, qualification or approval, as the case may be. Holders of Series D Preferred Stock and Common Stock issuable upon exercise of this Warrant or conversion of any such shares, as the case may be, shall be entitled to all the rights and privileges of the Purchase Agreement and the Registration Rights Agreement dated as of the date hereof between the Company and the Investors (as defined therein) with respect to such shares.

11. No Impairment. The Company will not, by amendment of its Certificate of Incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, or any other similar voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such action as may be necessary or appropriate in order to protect the rights of the Warrant Holder against impairment due to such event. Without limiting the generality of the foregoing, the Company (a) will not increase the

par value of any shares of stock receivable on the exercise of the Warrant above the amount payable therefor on such exercise, (b) will take all action that may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of stock, free from all taxes, liens and charges with respect to the issue thereof, on the exercise of all of the Warrants from time to time outstanding and (c) will not consolidate with or merge into any other person or permit any such person to consolidate with or merge into the Company (if the Company is not the surviving person), unless such other person shall expressly assume in writing and will be bound by all the terms of this Warrant.

12. Compliance with Securities Act.

12.1. Unregistered Securities. The Warrant Holder acknowledges that this Warrant and the Shares have not been registered under the Securities Act of 1933, as amended, and the rules and regulations thereunder, or any successor legislation (the "Securities Act"), and agrees not to sell, pledge, distribute, offer for sale, transfer or otherwise dispose of this Warrant or any Shares in the absence of (i) an effective registration statement under the Securities Act covering this Warrant or such Shares and registration or qualification of this Warrant or such Shares under any applicable "blue sky" or state securities law then in effect, or (ii) an opinion of counsel, satisfactory to the Company, that such registration and qualification are not required. The Company may delay issuance of the Shares until completion of any action or obtaining of any consent, which the Company deems necessary under any applicable law (including without limitation state securities or "blue sky" laws).

12.2. Investment Representation. The Warrant Holder represents to the Company that this Warrant is being acquired for the Warrant Holder's own account and for the purpose of investment and not with a present view to, or for sale in connection with, the distribution thereof, nor with any present intention of distributing or selling the Warrant or Common Stock issuable upon exercise of the Warrant. The Warrant Holder acknowledges that it has been afforded the opportunity to meet with the management of the Company and to ask questions of, and receive answers from, such management and the Company's counsel about the business and affairs of the Company and concerning the terms and conditions of the offering of this Warrant, and to obtain any additional information, to the extent that the Company possessed such information or could acquire it without unreasonable effort or expense, necessary to verify the accuracy of the information otherwise obtained by or furnished to the Warrant Holder. The Holder has received all information which the Warrant Holder considered necessary to form a decision concerning the purchase of this Warrant, and no valid request to the Company by the Warrant Holder hereof for information of any kind about the Company has been refused or denied by the Company or remains unfulfilled as of the date hereof. The Warrant Holder attests that it may be considered to be a sophisticated investor, is familiar with the risks inherent in speculative investments such as in the Company, has such knowledge and experience in financial business matters that he is capable of evaluating the merits and risk of the investment in this Warrant and the Shares, and is able to bear the economic risk of the investment. The Warrant Holder confirms that he is an "accredited investor" as such term is defined in rule 501(a) of the Securities Act.

12.3. Investment Letter. Without limiting the generality of Section 12.1, unless the offer and sale of any shares of Shares shall have been effectively registered under the Securities Act, the Company shall be under no obligation to issue the Shares unless and until the Warrant

Holder shall have executed an investment letter in form and substance satisfactory to the Company, including a warranty at the time of such exercise that the Warrant Holder is acquiring such shares for its own account, for investment and not with a view to, or for sale in connection with, the distribution of any such shares.

12.4. Legend. Certificates delivered to the Warrant Holder pursuant to Section 2 shall bear the following legend or a legend in substantially similar form:

"THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 OR ANY OF THE SECURITIES LAWS. THESE SECURITIES HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO DISTRIBUTION OR RESALE. SUCH SECURITIES MAY NOT BE OFFERED FOR SALE, SOLD, DELIVERED AFTER SALE, TRANSFERRED, PLEDGED OR HYPOTHECATED IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT COVERING SUCH SECURITIES UNDER THE SECURITIES ACT OF 1933 AND ANY OTHER APPLICABLE SECURITIES LAWS, UNLESS THE HOLDER SHALL HAVE OBTAINED AN OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE CORPORATION THAT SUCH REGISTRATION IS NOT REQUIRED."

13. Transferability. Without the prior written consent of the Company, the Warrant shall not be assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) and shall not be subject to execution, attachment or similar process. Any attempted transfer, assignment, pledge, hypothecation or other disposition of the Warrant or of any rights granted hereunder contrary to the provisions of this Section 13, or the levy of any attachment or similar process upon the Warrant or such rights, shall be null and void.

14. Lost, Stolen, Mutilated or Destroyed Warrant. If this Warrant is lost, stolen, mutilated or destroyed, the Company may, on such terms as to indemnity or otherwise as it may reasonably in its discretion impose (which shall in the case of a mutilated Warrant, include the surrender thereof), issue a new Warrant of like denomination and tenor as the Warrant so lost, stolen, mutilated or destroyed.

15. Register of Warrants. The Company shall maintain, at the principal office of the Company (or such other office as it may designate by notice to the Warrant Holder), a register for the Warrants in which the Company shall record the name and address of the person in whose name a Warrant has been issued, as well as the name and address of each transferee and each prior owner of such Warrant.

16. Miscellaneous.

16.1. Waivers and Amendments. This Warrant or any provisions hereof may be changed, waived, discharged or terminated only by a statement in writing signed by the Company and by Warrant Holders who hold or have the right to acquire at least two-thirds of the Shares at such time issued or issuable upon exercise of the Warrants, provided that no change, addition, omission or waiver shall be made without the written consent of the Warrant Holder(s)

which affects (i) the number of Shares issuable on exercise of this Warrant, (ii) the Exercise Price or (iii) any other provision other than in a manner in which all the Warrants are affected.

16.2. Governing Law. This Agreement shall be governed by and construed and enforced in accordance with the laws of the State of Delaware without giving effect to the conflicts of laws principles thereof.

16.3. Notices. All notices or other communications required or permitted hereunder shall be in writing and shall be hand delivered, sent by facsimile or other electronic medium, or mailed, postage prepaid, or sent by reputable overnight courier, delivery charges prepaid, addressed as follows or to such other address as may be furnished in writing to the other parties hereto:

If to the Warrant Holder:	Three Crowns Capital (Bermuda) Ltd. Clarendon House PO Box HM 666 2 Church Street Hamilton HM KX Bermuda 441-292-4720 (Fax) Attention: Peter Svennilson
With a copy to:	Conyers Dill & Pearman Clarendon House 2 Church Street Hamilton HM 11 Bermuda 441-292-4720 (Fax) Attention: Peter A.S. Pearman
And:	Nixon Peabody LLP 101 Federal Street Boston, MA 02110 617-345-1300 Attention: Carter S. Boom, Jr.
If to the Company:	PTC Therapeutics, Inc. Two Chestnut Street Grafton, MA 01519 508-856-5920 (Fax) Attention: President

With a copy to: Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.
One Financial Center
Boston, MA 02111
617-542-6000
617-542-2241 (Fax)
Attention: Jeffrey M. Wiesen, Esq.

All such notices and communications shall be deemed to have been duly given (i) five (5) business days after being deposited in the mail, postage prepaid if mailed, (ii) one (1) business day after being sent by overnight courier, (iii) when receipt acknowledged if telecopied and (iv) upon receipt if delivered by hand.

16.4. Headings. The headings in this Warrant are for convenience of reference only and shall not limit or otherwise affect the terms hereof.

16.5. Remedies. The Company stipulates that the remedies at law of the holder of this Warrant in the event of any default or threatened default by the Company in the performance of or compliance with any of the terms of this Warrant are not and will not be adequate, and that such terms may be specifically enforced by a decree for the specific performance of any agreement contained herein or by an injunction against a violation of any of the terms hereof or otherwise.

16.6. Closing of Books. The Company will at no time close its transfer books against the transfer of any Warrant or of any Shares issued or issuable upon the exercise of the Warrant in a manner which interferes with the timely exercise of this Warrant.

16.7. No Rights or Liabilities as a Stockholder. This Warrant shall not entitle the Warrant Holder to any voting rights or other rights as a stockholder of the Company prior to the exercise or conversion of the Warrant, provided that nothing herein shall be construed to limit or impair other rights that the Warrant Holder may have under this Warrant or otherwise. No provision of this Warrant, in the absence of affirmative action by the Warrant Holder to purchase the Shares, and no mere enumeration herein of the rights or privileges of the Warrant Holder, shall give rise to any liability of such Warrant Holder for the Exercise Price or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

IN WITNESS WHEREOF, the undersigned has caused this Warrant to be executed as an instrument under seal.

PTC THERAPEUTICS, INC.

By: /s/ Stuart Peltz
_____

Name: Stuart W. Peltz, Ph.D.
Title: President

AGREED AND ACKNOWLEDGED:

THREE CROWNS CAPITAL (BERMUDA) LTD.

EXHIBIT A

NOTICE OF EXERCISE OR NET ISSUE EXERCISE

Date: _____

PTC Therapeutics, Inc.
100 Corporate Court
Middlesex Business Center
South Plainfield, NJ 07080
Attention: President

Gentlemen:

The undersigned hereby elects to exercise or Net Issue Exercise the enclosed Warrant issued to it by PTC Therapeutics, Inc. (the "Company") and dated as of _____, 20__.

The undersigned elects to:

[ ] Exercise the Warrant and to purchase thereunder _____ shares of the Series D Preferred Stock of the Company (the "Shares") at an exercise price of _____ per Share for an aggregate purchase price of Dollars ($_____) (the "Purchase Price"). Pursuant to the terms of the Warrant, the undersigned has delivered the Purchase Price herewith in full.

[ ] Net Issue Exercise ____% of the value of the Warrant at the current Exercise Price (as defined in the Warrant) of $_____ per Share.

Very truly yours,

_____

Receipt Acknowledged:

PTC Therapeutics, Inc.

By _____

on _____

THIS WARRANT HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, AND MAY NOT BE SOLD, OFFERED FOR SALE, PLEDGED HYPOTHECATED OR OTHERWISE TRANSFERRED IN VIOLATION OF SUCH ACT, THE RULES AND REGULATIONS THEREUNDER, OR THE PROVISIONS OF THIS WARRANT. THIS WARRANT HAS BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO DISTRIBUTION OR RESALE.

No. of Shares of Series D Convertible Preferred Stock: 59,378

Warrant No. W-GE-01D

WARRANT

TO PURCHASE SERIES D CONVERTIBLE PREFERRED STOCK OF

PTC THERAPEUTICS, INC.

GENERAL ELECTRIC CAPITAL CORPORATION, or registered assigns, in exchange for consideration the receipt and sufficiency of which is hereby acknowledged, is entitled, at any time during the Exercise Period (as hereinafter defined), to purchase from PTC THERAPEUTICS, INC., a Delaware corporation ("Company"), 59,378 shares of Series D Convertible Preferred Stock (as hereinafter defined and subject to adjustment as provided herein), in whole or in part, at a purchase price of THREE and 25/00 Dollars ($3.25) per share (subject to adjustment as provided in Article IV) (as so adjusted, the "Exercise Price") on the terms and conditions set forth herein.

I. DEFINITIONS

The following terms have the meanings set forth below:

"Additional Shares of Series D Stock" means all shares of Series D Stock issued by Company after the date of this Warrant other than Warrant Stock.

"Additional Shares of Stock" has the same meaning ascribed to the term "Additional Shares of Common Stock" set forth in the Certificate of Incorporation.

"Board" means the Board of Directors of Company.

"Business Day" means any day that is not a Saturday, a Sunday or a day on which commercial banks in the State of New York are required or permitted by law or executive order to be closed.

"Certificate of Incorporation" means the Restated Certificate of Incorporation of the Company, as may be amended or amended and restated from time to time.

"Common Stock" has the same meaning ascribed to the term "Common Stock" set forth in the Certificate of Incorporation.

"Company" has the meaning set forth in the recitals.

"Convertible Security" means any option, warrant or share of preferred stock of Company or any other security or instrument, including without limitation any evidence of indebtedness, in any case, which is convertible directly or indirectly into or exchangeable with or without payment of additional consideration for Additional Shares of Stock, either immediately or upon the occurrence of a specified date or a specified event.

"Current Market Price" means, in respect of a share of Series D Preferred Stock (or any other security for which this Warrant is then exercisable) on any date of determination, either (a) if there shall then be a public market for the trading of Series D Preferred Stock (or any other security for this Warrant is then exercisable), the average of the daily market prices (determined as provided below) for ten (10) consecutive trading days commencing 12 trading days immediately before such date, or (b) if there shall not then be a public trading market for the Series D Preferred Stock (or any other security for which this Warrant is then exercisable), the fair market value (determined as provided below) of a share of the Series D Preferred Stock (or any other security for which this Warrant is then exercisable) as at such date. For purposes of clause (a), the "daily market price" for any trading day shall be (i) the closing price of the principal trading session on such day on the New York Stock Exchange or other principal national stock exchange or, if none, the last sale price on the National Market of the NASDAQ on which the Series D Preferred Stock (or any other security for which this Warrant is then exercisable) is then listed or admitted to trading, (ii) if no sale takes place on such day on any such exchange or NASDAQ, the average of the last reported closing bid and ask prices on such day as officially quoted on any such exchange or NASDAQ, (iii) if the Series D Preferred Stock (or any other security for which this Warrant is then exercisable) is not then listed or admitted to trading on any national stock exchange or National Market of NASDAQ, the average of the last reported closing bid and ask prices on such day in the over-the-counter market as furnished by the National Quotation Bureau, Incorporated (or similar organization or agency succeeding to its functions of reporting security prices), or (iv) if there is no such firm, as furnished by any member of the NASD or the New York Stock Exchange selected by the Required Holders and Company or, if they cannot agree upon such selection, as selected by two such members of the NASD or New York Stock Exchange, one of which shall be selected by the Required Holders and one of which shall be selected by Company. For purposes of clause (b), "fair market value" shall be the price that reflects the value of such shares on a fully distributed basis (that is, as if such shares were traded on a free and active market on an exchange or over-the-counter) in a sale by a willing seller under no compulsion to sell and a willing buyer under no compulsion to buy, without any premium or discount for any reason, including but not limited to any discount related to the offering of such shares, any premium for control or any discount for illiquidity, as agreed upon by Company and the Required Holders; provided, however, that if Company and the Required Holders cannot agree on such fair market value, then Company shall engage an investment banking firm of nationally recognized standing mutually acceptable to and selected

by Company and the Required Holders within ten (10) days after the date of the event or notice giving rise to the need to determine fair market value to determine fair market value in accordance with the preceding provisions. If Company and the Required Holders cannot agree on a mutually acceptable investment banking firm within such ten (10) day period, or if a mutually acceptable investment banking firm is unable or unwilling to perform the valuation contemplated hereby, Company and the Required Holders shall, within such ten (10) day period, each choose one investment banking firm of recognized standing and the respective chosen firms shall, within five (5) days after the later of such firms is chosen, agree on another investment banking firm which shall be engaged to make the determination of the fair market value in accordance with the preceding provisions. The determination by the engaged firm shall be made as soon as practicable, but not later than thirty (30) days after the date such firm is engaged. The cost of the investment banking firm or firms selected shall be borne by Company.

"Exchange Act" means the Securities Exchange Act of 1934, as amended, and all rules and regulations promulgated thereunder.

"Exercise Period" has the meaning set forth in Section 2.1.

"Exercise Price" has the meaning set forth in the first paragraph of this Warrant.

"Expiration Date" means the last day of the Exercise Period on which the Warrant may be exercised.

"Governmental Authority" means any nation or government, any state or other political subdivision thereof, and any agency, department or other entity exercising executive, legislative, judicial, regulatory or administrative functions of or pertaining to government.

"Holder" means GENERAL ELECTRIC CAPITAL CORPORATION, a New York corporation, any of its successors, or any of their registered assigns.

"Investor Rights Agreement" means the Fourth Amended and Restated Investor Rights Agreement made between the Company and the other signatories thereto, dated December 17, 2003, as may be amended or amended and restated from time to time.

"NASD" means the National Association of Securities Dealers, Inc., or any successor thereto.

"NASDAQ" means the automated quotation system of the NASD.

"Organic Change" means (a) any sale, lease, exchange or other transfer of all or substantially all of the property, assets or business of Company, (b) any liquidation, dissolution or winding up of Company, whether voluntary or involuntary, (c) any merger or consolidation to which Company is a party and pursuant to which either (i) the holders of the voting

securities of Company immediately prior thereto own less than a majority of the outstanding voting securities of the surviving entity immediately following such transaction or (ii) the holders of the voting securities of Company immediately prior thereto do not have the ability to elect a majority of the members of the board of directors (or Persons performing similar functions) of the surviving entity immediately following such transaction, or (d) any Person or group (as such term is used in Section 13(d) of the Exchange Act) of Persons, other than any current shareholder owning 10% of the Common Stock Outstanding as of the date of issuance of this Warrant, shall either (i) beneficially own (as defined in Rule 13d-3 under the Exchange Act) securities of Company representing 50% or more of the voting securities of Company then outstanding or (ii) have the ability to elect a majority of the members of the board of directors (or Persons performing similar functions) of the surviving entity. For purposes of the preceding sentence, "voting securities" shall mean securities, the holders of which are ordinarily entitled to elect the members of the board of directors (or Persons performing similar functions).

"Outstanding" means, (i) when used with reference to Common Stock, on any date, all issued shares of Common Stock on such date, except shares then owned or held by or for the account of Company or any Subsidiary thereof (or any successors or acquiring corporation), including shares of the Common Stock issuable upon exercise or conversion of any outstanding Rights or Convertible Securities, and shall include all shares issuable in respect of outstanding scrip or any certificates representing fractional interests in shares of Common Stock; and (ii) when used with reference to Series D Preferred Stock, on any date, all issued shares of Series D Preferred Stock on such date, except shares then owned or held by or for the account of Company or any Subsidiary thereof (or any successors or acquiring corporation), including shares of the Series D Preferred Stock issuable upon exercise or conversion of any outstanding Rights or Convertible Securities, and shall include all shares issuable in respect of outstanding scrip or any certificates representing fractional interests in shares of Series D Preferred Stock.

"Permitted Issuances" has the same meaning ascribed to the term "Excluded Securities" set forth in the Certificate of Incorporation.

"Qualified Initial Public Offering" has the meaning ascribed to the term "Initial Public Offering" set forth in the Investor Rights Agreement.

"Required Holders" means the holders of Warrants exercisable for in excess of 50% of the aggregate number of Warrant Stock then purchasable upon exercise of all Warrants.

"Rights" means any warrants, options or other rights to purchase Series D Preferred Stock.

"SEC" means the U.S. Securities and Exchange Commission, or any successor thereto.

"Securities Act" means the Securities Act of 1933, as amended, and all rules and regulations promulgated thereunder.

"Series D Preferred Stock" has the meaning ascribed to the term "Series D Preferred Stock" set forth in the Certificate of Incorporation.

"Stock" means any shares of capital stock of the Company.

"Subsidiary" has the meaning ascribed to the term "Subsidiary" set forth in the Investor Rights Agreement.

"Transfer" means any disposition of any Warrant or Warrant Stock or of any interest in either thereof, which would constitute a sale thereof within the meaning of the Securities Act.

"Warrant" means this Warrant and all warrants issued upon transfer, division or combination of, or in substitution for, this Warrant. All Warrants shall at all times be identical as to terms and conditions and date, except as to the number of shares of Series D Preferred Stock for which they may be exercised.

"Warrant Price" means an amount equal to (i) the number of shares of Series D Preferred Stock being purchased upon exercise of this Warrant pursuant to Section 2.1, multiplied by (i) the Exercise Price as of the date of such exercise.

"Warrant Stock" means the shares of Series D Preferred Stock issued or issuable upon the exercise of this Warrant.

II. EXERCISE OF WARRANT

2.1. Exercise Period. From and after the date hereof and until 5:00 P.M., New York time, on APRIL 30, 2009 (the "Expiration Date"), subject to extension pursuant to Section 2.2(e) (the "Exercise Period"), Holder may exercise this Warrant, on any Business Day, for all or any part of the Warrant Stock.

2.2. Exercise Notice; Delivery of Certificates.

(a) In order to exercise this Warrant, Holder shall deliver (which such delivery may, at Holder's option, be by facsimile) to Company at its principal office designated by Company in Section 14.2, a duly executed written notice of Holder's election to exercise this Warrant, specifying the number of shares of Warrant Stock to be purchased, in substantially the form attached hereto as Exhibit A (the "Subscription Notice").

(b) Upon receipt of a Subscription Notice, Company shall, as promptly as practicable, and in any event within five (5) Business Days, subject to receipt of any necessary regulatory approvals (including expiration of any applicable waiting period), thereafter, deliver to Holder a duly executed certificate or certificates representing the aggregate number of full shares of Warrant Stock issuable upon such exercise, together with cash in lieu of any fraction of a share, as hereinafter provided. Such stock certificate or certificates shall be in such denominations and registered in the name designated in the Subscription Notice, subject to Article IX.

(c) In addition, as soon as practicable after the delivery of a Subscription Notice, but subject to the receipt of any necessary regulatory approvals (including expiration of any applicable waiting period), Holder shall deliver in person, by certified mail or courier, to Company at the aforementioned address, (i) if Holder has elected pursuant to the applicable Subscription Notice to make payment of the Warrant Price pursuant to Section 2.3(a), such payment and (ii) this Warrant.

(d) Upon the date required for issuance of the applicable shares of Warrant Stock pursuant to Section 2.2(b) and receipt of any payment required pursuant to Section 2.2(c), Holder or any other Person so designated in the applicable Subscription Notice shall be deemed to have become a holder of record of the applicable Warrant Stock for all purposes. If this Warrant shall have been exercised in part, Company shall deliver to Holder a new Warrant evidencing the rights of Holder to purchase the remaining shares of Warrant Stock issuable upon exercise of this Warrant, which new Warrant shall in all other respects be identical with this Warrant, or appropriate notation may be made on this Warrant and the same returned to Holder.

(e) If in connection with the exercise of a Warrant or acquisition of Warrant Stock by Holder, any regulatory approval shall be required, including expiration of any applicable waiting period, then, if the Warrant is exercised prior to such approval, the Expiration Date shall be extended while any such regulatory approval or waiting period is pending. Without limiting the foregoing, Company hereby acknowledges that the exercise of this Warrant by Holder may subject Company and/or Holder to the filing requirements of the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended (the "HSR Act"). If on or before the expiration Date, Holder has sent the Subscription Notice to Company and Holder has not been able to complete the exercise of this Warrant prior to the Expiration Date because of restrictions under the HSR Act, Holder shall be entitled to complete the process of exercising this Warrant in accordance with the procedures contained herein notwithstanding the fact that completion of the exercise of this Warrant would take place after the Expiration Date.

2.3. Payment of Warrant Price: Net Issue Exercise

(a) Payment of the Warrant Price shall be made at the option of Holder by (i) cash, by check or by wire transfer or (ii) cancellation by Holder of indebtedness of Company to Holder; or (iii) any combination thereof.

(b) In lieu of the payment methods set forth in Section 2.3(a) above, Holder may elect to exchange all or part of the Warrant for shares of Warrant Stock equal to the value of the amount of the Warrant being exchanged on the date of exchange. All references in this Warrant to an "exercise" of the Warrant shall include a net issue exercise pursuant to this Section 2.3(b). If Holder elects to exchange all or part of the Warrant as provided in this Section 2.3(b), Holder shall tender to Company the Warrant for the amount being exchanged, along with a Subscription Notice indicating Holder's election to exchange all or part of the Warrant, and Company shall issue to Holder the number of shares of Warrant Stock computed using the following formula:

$$X = \frac{Y(A-B)}{A}$$

Where

X = number of shares of Warrant Stock to be issued to Holder upon exercise;

Y= total number of shares of Warrant Stock purchasable under the Warrant (or, if only a portion, the amount of Warrant Stock for which the Warrant is being exchanged);

A = Current Market Price of one share of Warrant Stock; and

B = Exercise Price (as adjusted to the date of such calculation).

2.4. Payment of Taxes. Company shall pay all expenses, taxes and other governmental charges with respect to the issue or delivery of the Warrant Stock. Company shall not be required, however, to pay any transfer tax imposed in connection with the issue of any certificate for shares of Warrant Stock in any name other than that of Holder.

2.5. Fractional Shares. Company shall not be required to issue a fractional share of Warrant Stock upon exercise of any Warrant. As to any fraction of a share which Holder of one or more Warrants would otherwise be entitled to purchase upon such exercise, Company shall pay a cash adjustment in respect of such fractional share in an amount equal to the same fraction of the Current Market Price per share of Warrant Stock on the date of exercise.

III. TRANSFER, DIVISION AND COMBINATION

3.1. Transfer. Subject to compliance with Article IX of this Warrant, Company shall register any Transfer of this Warrant and all rights hereunder, in whole or in part, on the books of Company to be maintained for such purpose, upon surrender by Holder of this Warrant at the principal office of Company referred to in Section 14.2, together with a duly executed written assignment of this Warrant substantially in the form of Exhibit B hereto and funds sufficient to pay any transfer taxes payable upon the making of such Transfer. Promptly following such surrender and, if required, such payment, Company shall at its expense, subject to Article IX, execute and deliver a new Warrant or Warrants in the name of the assignee or assignees and in the denomination specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. A Warrant, if properly assigned in compliance with Article IX, may be exercised by a new Holder for the purchase of shares of Series D Preferred Stock without having a new Warrant issued.

3.2. Division and Combination. Subject to Article IX, this Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office or agency of Company, together with a duly executed written notice specifying the names and denominations in which new Warrants are to be issued. Subject to compliance with Section 3.1

and with Article IX as to any Transfer which may be involved in such division or combination, Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice.

3.3. Maintenance of Books. Company agrees to maintain, at its office referred to in Section 14.2, books for the registration of Transfer of the Warrants.

IV. ADJUSTMENTS

The number of shares of Warrant Stock for which this Warrant is exercisable, and the Exercise Price at which such shares may be purchased upon exercise of this Warrant, shall be subject to adjustment from time to time as set forth in this Article IV.

4.1. Adjustments Upon Mandatory Conversion of Series D Preferred Stock. Upon any mandatory conversion of the Series D Preferred Stock pursuant to the Company's Certificate of Incorporation, this Warrant shall cease to be exercisable for shares of Series D Preferred Stock and shall become exercisable for that number of shares of Common Stock into which the shares of Series D Preferred Stock purchasable hereunder would have been convertible immediately prior to such mandatory conversion, and such that payment of the Exercise Price, or any multiple thereof, shall entitle the Warrant Holder to receive the number of shares of Common Stock as would have been issued upon conversion of each share of Series D Preferred Stock purchasable hereunder immediately prior to such mandatory conversion.

4.2. Stock Dividends, Stock Splits, Subdivisions and Combinations. If at any time Company shall:

(a) take a record of the holders of Series D Preferred Stock for the purpose of entitling them to receive a dividend payable in, or other distribution of, Series D Preferred Stock,

(b) subdivide or split its Outstanding shares of Series D Preferred Stock into a larger number of shares of Series D Preferred Stock, or

(c) combine or reclassify its Outstanding shares of Series D Preferred Stock into a smaller number of shares of Series D Preferred Stock;

then, in each of cases (a), (b) and (c) above, (i) the number of shares of Warrant Stock for which this Warrant is exercisable immediately after the occurrence of any such event shall be adjusted to equal the number of shares of Warrant Stock which a record holder of the same number of shares of Warrant Stock for which this Warrant is exercisable immediately prior to the occurrence of such event or the record date therefor, whichever is earlier, would own or be entitled to receive after the happening of such event, and (ii) the Exercise Price shall be adjusted to equal (A) the Exercise Price multiplied by the number of shares of Warrant Stock for which this Warrant is exercisable immediately prior to the adjustment divided by (B) the number of shares of Warrant Stock for which this Warrant is exercisable immediately after such adjustment.

Upon any mandatory conversion of the Series D Preferred Stock as provided in Section 4.1, each reference to Series D Preferred Stock in this Section 4.2 shall be deemed to be Common Stock.

4.3. Certain Other Distributions and Adjustments. If at any time Company shall take a record of the holders of its Series D Preferred Stock for the purpose of entitling them to receive a dividend or other distribution, or shall in any manner declare, order, pay or make a dividend or other distribution (including, without limitation, any distribution of stock or other securities, debt or property or rights or warrants to subscribe for securities of Company or any of its Subsidiaries by way of dividend or spin-off or any other assets) on its Series D Preferred Stock, other than dividends or distributions of shares of Series D Preferred Stock which are referred to in Section 4.2, then and in each such case, (a) the number of shares of Warrant Stock for which this Warrant is exercisable shall be adjusted to equal the number of shares of Series D Preferred Stock which a record holder of the same number of shares of Warrant Stock for which this Warrant is exercisable immediately prior to the occurrence of such event would own or be entitled to receive after the happening of such event, and (b) the Exercise Price to be in effect after such record date shall be determined by multiplying (1) the Exercise Price in effect immediately prior to such record date by (2) a fraction, the numerator of which shall be the Exercise Price in effect immediately prior to such record date less the fair market value (as determined in good faith by the Company's Board) of such dividend or distribution per share of Series D Preferred Stock and the denominator of which shall be such the Exercise Price in effect immediately prior to such record date.

4.4. Antidilution. It is understood and agreed that in the event of an antidilution adjustment affecting any Warrant Shares after the date hereof, the Holder will be entitled to the benefits of such adjustment upon exercise of this Warrant.

4.5. Organic Change. In case of any Organic Change, Holder shall have the right thereafter to receive, upon exercise of the Warrant, in lieu of the Warrant Stock issuable upon such exercise prior to consummation of such Organic Change, the kind and amount of shares of stock, other securities, cash and property receivable (including cash, and including any right to select the consideration so receivable) upon the consummation of such Organic Change by a holder of that number of shares of Warrant Stock into which the Warrant was exercisable immediately prior to such Organic Change (including, on a pro rata basis, the cash, securities or property received by holders of Series D Preferred Stock in any tender or exchange offer that is a step in such Organic Change), assuming such holder of Series D Preferred Stock is not a Person with which Company consolidated or into which Company merged or which merged into Company or to which such sale or transfer was made, as the case may be, or an affiliate of such a Person. In case securities or property other than Series D Preferred Stock shall be issuable or deliverable upon conversion as aforesaid, then all references in this Article IV shall be deemed to apply, so far as appropriate and nearly as may be, to such other securities or property. In case of any Organic Change, the successor or acquiring corporation (if other than Company) shall expressly assume the due and punctual observance and performance of each covenant and condition of this Warrant to be performed and observed by Company and all the obligations and liabilities hereunder, subject to such modifications as may be deemed appropriate (as determined

by resolution of the Board) in order to provide for adjustments of shares of Warrant Stock for which this Warrant is exercisable which shall be as nearly equivalent as practicable to the adjustments provided for in this Article IV. The foregoing provisions of this Section 4.5 shall similarly apply to successive Organic Changes.

4.6. Qualified Initial Public Offering. Upon the completion of any Qualified Initial Public Offering, the provisions of this Section IV shall be extinguished and of no further force or effect.

V. NOTICES TO WARRANT HOLDERS

5.1. Notice of Adjustments. Whenever an adjustment to this Warrant is made pursuant to Article IV, Company shall promptly deliver to Holder (by facsimile and by either first class mail, postage prepaid or overnight delivery) a certificate from the Company setting forth, in reasonable detail, the event requiring the adjustment and the method by which such adjustment was calculated, specifying the number of shares of Warrant Stock for which this Warrant is exercisable and (if such adjustment was made pursuant to Section 4.5) describing the number and kind of any other shares of stock or other securities or property for which this Warrant is exercisable, and any change in Exercise Price, after giving effect to such adjustment or change. Company shall keep in the office or agency designated pursuant to Section 14.2 copies of all such certificates and cause the same to be available for inspection at said office during normal business hours by any Holder or any prospective purchaser of a Warrant designated by a Holder thereof. Any adjustment to this Warrant pursuant to Article IV shall be automatic and shall occur without any action on the part of Company or Holder, and any failure by Company to comply with the terms of this Section 5.1 (including any error made by Company in the calculations described above) shall have no effect on such automatic adjustment. Notwithstanding any other provision of this Section 5.1, Holder shall retain the right to contest the adjustment calculations provided by Company described above, and such calculations shall not be entitled to any presumption of accuracy in any case, action or other proceeding to determine the actual amount of adjustment required by Article IV.

5.2. Notice of Corporate Action. If at any time

(a) Company shall take a record of the holders of its Series D Preferred Stock for the purpose of entitling them to receive a dividend or other distribution, or any right to subscribe for or purchase any evidences of its indebtedness, any shares of stock of any class or any other securities or property, or to receive any other right; or

(b) there shall be approved by the Board any capital reorganization of Company, any reclassification or recapitalization of the capital stock of Company or any consolidation or merger of Company with, or any sale, transfer or other disposition of all or substantially all the property, assets or business of Company to, another corporation, including without limitation any such event constituting an Organic Change; or

(c) there shall be a voluntary or involuntary dissolution, liquidation or winding up of Company;

then, in any one or more of such cases, Company shall give to Holder (i) at least twenty (20) days' prior written notice of the date on which a record date shall be selected in respect of such event and (ii) in the case of any such event, at least sixty (60) days' prior written notice of the date when the same shall take place; provided that in the case of an Organic Change to which Section 4.5 applies, Company shall give at least thirty (30) days' written notice as aforesaid. Such notice shall also specify (i) the date on which the holders of Series D Preferred Stock shall be entitled to any such dividend, distribution or right, and the amount and character thereof and (ii) the date on which any such reorganization, reclassification, merger, consolidation, sale, transfer, disposition, dissolution, liquidation or winding up is to take place and the time, if any such time is to be fixed, as of which the holders of Series D Preferred Stock shall be entitled to exchange their shares of Series D Preferred Stock for securities or other property deliverable upon such event.

VI. NO IMPAIRMENT

Company shall not by any action, including, without limitation, amending its Certificate of Incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issuance or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of Holder against impairment. Without limiting the generality of the foregoing, Company will take all such action as may be necessary or appropriate in order that Company may upon the exercise of this Warrant validly and legally issue fully paid and nonassessable shares of Series D Preferred Stock that are not subject to preemptive rights, including taking such action as is necessary for the Exercise Price to be not less than the par value of the shares of Series D Preferred Stock issuable upon exercise of this Warrant. Company will obtain all such authorizations, exemptions or consents from any Governmental Authority having jurisdiction thereof, or any other Person, as may be necessary to enable Company to perform its obligations under this Warrant. Without limiting the foregoing, Company will make any filings under the HSR Act required in order to perform its obligations under this Warrant.

VII. RESERVATION AND AUTHORIZATION OF SERIES D PREFERRED STOCK AND COMMON STOCK

From and after the date of this Warrant, Company shall at all times reserve and keep available for issue upon the exercise of this Warrant such number of its authorized but unissued shares of Series D Preferred Stock and the Common Stock issuable upon the conversion thereof, and the Common Stock issuable hereunder, as the case may be, as will be sufficient to permit the exercise in full of this Warrant. All shares of Warrant Stock which shall be so issuable, when issued upon exercise of this Warrant and payment therefor in accordance with the

terms of this Warrant, shall be duly and validly issued and fully paid and nonassessable, and not subject to preemptive rights.

VIII. TAKING OF RECORD; STOCK AND WARRANT TRANSFER OF BOOKS

In the case of all dividends or other distributions by Company to the holders of its Series D Preferred Stock with respect to which any provision of Article IV refers to the taking of a record of such holders, Company will take such record as of the close of business on a Business Day. Company will not at any time, except upon dissolution, liquidation or winding up of Company, close its stock transfer books or Warrant transfer books so as to prevent or delay the exercise or transfer of this Warrant.

IX. RESTRICTIONS ON TRANSFERABILITY

The Warrant and the Warrant Stock shall not be transferred, hypothecated or assigned before satisfaction of the conditions specified in this Article IX. Holder, by acceptance of this Warrant, agrees to be bound by the provisions of this Article IX.

9.1. Restrictive Legends.

(a) Except as otherwise provided in this Article IX, each certificate for Warrant Stock initially issued upon the exercise of this Warrant shall be stamped or otherwise imprinted with a legend in substantially the following form:

> "THE SHARES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, AND MAY NOT BE SOLD, OFFERED FOR SALE, PLEDGED HYPOTHECATED OR OTHERWISE TRANSFERRED IN VIOLATION OF SUCH ACT OR THE RULES AND REGULATIONS THEREUNDER."

(b) Except as otherwise provided in this Article IX, each Warrant shall be stamped or otherwise imprinted with a legend in substantially the following form:

> "THIS WARRANT HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, AND MAY NOT BE SOLD, OFFERED FOR SALE, PLEDGED HYPOTHECATED OR OTHERWISE TRANSFERRED IN VIOLATION OF SUCH ACT, THE RULES AND REGULATIONS THEREUNDER OR THE PROVISIONS OF THIS WARRANT."

9.2. Notice of Proposed Transfers. Prior to or promptly following any Transfer of any Warrants or any shares of restricted Warrant Stock, the holder of such Warrants or restricted Warrant Stock shall give written notice to Company of such Transfer. Each certificate,

if any, evidencing such shares of restricted Warrant Stock issued upon such Transfer shall bear the restrictive legend set forth in Section 9.1(a), and each Warrant issued upon such Transfer shall bear the restrictive legend set forth in Section 9.1(b), unless such restrictive legend is not required pursuant to Section 9.3.

9.3. Termination of Restrictions. The restrictions and requirements imposed by this Article IX shall terminate as to any particular Warrant or share of Warrant Stock (a) when and so long as such security shall have been effectively registered under the Securities Act, (b) when Company shall have received an opinion of counsel (which may be Holder's inside corporate counsel) that such security may be transferred without registration thereof under the Securities Act or (c) a sale of such security is made pursuant to SEC Rule 144. Whenever the restrictions imposed by Article IX shall terminate as to this Warrant, as hereinabove provided, Holder shall be entitled to receive from Company, at the expense of Company, a new Warrant without the restrictive legend set forth in Section 9.1(b). Whenever the restrictions imposed by this Article IX shall terminate as to any share of Warrant Stock, as hereinabove provided, the holder thereof shall be entitled to receive from Company, at the expense of Company, a new certificate representing such Series D Preferred Stock not bearing the restrictive legend set forth in Section 9.1(a).

X. SUPPLYING INFORMATION

Company shall cooperate with each Holder of a Warrant and each holder of Warrant Stock in supplying such information as may be reasonably requested with respect to the Company and its businesses and operations (including reasonable access to management and operational personnel): (i) in connection with such Holder evaluating if, and to what extent, it shall exercise the Warrant, and (ii) in order for such Holder to complete and file any information reporting forms presently or hereafter required by the SEC or any other governmental entity as a condition to the availability of an exemption from the registration requirements of the Securities Act for the sale of any Warrant or share of Warrant Stock. Company shall also supply such information as may be reasonably necessary for such Holder to comply with tax and other applicable laws and applicable financial reporting and accounting rules standards.

XI. LOSS OR MUTILATION

Upon receipt by Company from any Holder of evidence reasonably satisfactory to it of the ownership of and the loss, theft, destruction or mutilation of this Warrant and indemnity reasonably satisfactory to it (it being understood that the written agreement of Holder shall be sufficient indemnity), and in case of mutilation upon surrender and cancellation hereof, Company will execute and deliver in lieu hereof a new Warrant of like tenor to such Holder; provided, in the case of mutilation, no indemnity shall be required if this Warrant in identifiable form is surrendered to Company for cancellation.

XII. NO STOCKHOLDER RIGHTS; LIMITATION OF LIABILITY

No provision hereof shall be deemed to impose any rights or obligations upon Holder as a stockholder in Company prior to Holder's exercise of this Warrant and the issuance to Holder of Warrant Shares. Without limiting the foregoing, no provision hereof and no enumeration herein of the rights or privileges of Holder hereof, shall give rise to any liability of such Holder for the purchase price of any Warrant Stock or as a stockholder of Company, whether such liability is asserted by Company, by creditors of Company or by any third party.

XIII. REPRESENTATIONS AND WARRANTIES OF COMPANY

Company hereby represents and warrants to Holder that the statements in the following paragraphs of this Article XIII are true and correct (a) as of the date hereof and (b) except where any such representation and warranty relates specifically to an earlier date, as of the date of any exercise of this Warrant.

13.1. Corporate Organization and Authority. Company (a) is a corporation duly organized, validly existing, and in good standing in its jurisdiction of incorporation, (b) has the corporate power and authority to own and operate its properties and to carry on its business as now conducted and as proposed to be conducted; and (c) is qualified as a foreign corporation in all jurisdictions where such qualification is required.

13.2. Corporate Power. Company has all requisite legal and corporate power and authority to execute, issue and deliver the Warrant, to issue the Series D Preferred Stock issuable upon exercise or conversion of the Warrant, to issue the Common Stock issuable upon the conversion of the Series D Preferred Stock, and to carry out and perform its obligations under the Warrant and any related agreements.

13.3. Authorization; Enforceability. All corporate action on the part of Company, its officers, directors and shareholders necessary for the authorization, execution, delivery and performance of its obligations under this Warrant and for the authorization, issuance and delivery of the Warrant and the Warrant Stock issuable upon exercise of the Warrant has been taken and this Warrant constitutes the legally binding and valid obligation of Company enforceable in accordance with its terms.

13.4. Valid Issuance of Warrant and Warrant Stock. The Warrant has been validly issued and is free of restrictions on transfer other than restrictions on transfer set forth herein, in the Investor Rights Agreement and under applicable state and federal securities laws. The Warrant Stock issuable upon conversion of this Warrant, when issued, sold and delivered in accordance with the terms of this Warrant for the consideration expressed herein, will be duly and validly issued, fully paid and nonassessable, and will be free of restrictions on transfer other than restrictions on transfer under this Warrant, in the Investor Rights Agreement and under applicable state and federal securities laws. Subject to applicable restrictions on transfer, the issuance and delivery of the Warrant and the Warrant Stock issuable upon conversion of the Warrant are not subject to any preemptive or other similar rights or any liens or encumbrances

except as specifically set forth in the Certificate of Incorporation, the Investor Rights Agreement or this Warrant. The offer, sale and issuance of the Warrant and Warrant Stock, as contemplated by this Warrant, are exempt, from the prospectus and registration requirements of applicable United States federal and state security laws, and neither Company nor any authorized agent acting on its behalf has or will take any action hereafter that would cause the loss of such exemption.

13.5. No Conflict with Other Instruments. The execution, delivery, and performance of this Warrant will not result in any violation of, be in conflict with, or constitute a default under, with or without the passage of time or the giving of notice (a) any provision of the Certificate of Incorporation or by-laws; (b) any provision of any judgment, decree, or order to which Company is a party or by which it is bound or an event which results in the creation of any material lien, charge or encumbrance upon any material assets of Company; (c) any contract, obligation, or commitment to which Company is a party or by which it is bound; or (d) any statute, rule, or governmental regulation applicable to Company.

13.6. Capitalization. As of recent date, the authorized capital stock of Company consists of 546,992,837,337 shares of Common Stock, $0.001 par value, of which 2,135,312 were issued and outstanding, and 149,275,350 shares of Preferred Stock, $0.001 par value, of which 145,773,877 were issued and outstanding. The outstanding shares have been duly authorized and validly issued (including, without limitation, issued in compliance with applicable federal and state securities laws), are fully paid and nonassessable. Company has reserved 455,655,829,025 shares of Common Stock for issuance upon conversion of the Preferred Stock. Company has delivered to Holder a capitalization table showing all outstanding warrants, options, conversion privileges, preemptive rights or other rights or agreements to purchase or otherwise acquire or issue any equity securities or Convertible Securities of Company. Except as set forth on such capitalization table, the Company has not authorized the issuance of any of the aforesaid rights to acquire securities of Company as of the date hereof.

13.7. Governmental Consents. No consent, approval, order or authorization of, or registration, qualification, designation, declaration or filing with, any federal, state or local governmental authority on the part of Company is required in connection with the offer, sale or issuance of the Warrant (and the Warrant Stock issuable upon conversion of the Shares), or the consummation of any other transaction contemplated hereby, except for the following: (a) the filing of a notice on Form D under the Securities Act and (b) the compliance with other applicable state securities laws, which compliance will have occurred within the appropriate time periods therefor. The offer, sale and issuance of the Warrant and the shares of Warrant Stock in conformity with the terms of this Warrant are exempt from the registration requirements of the Securities Act and any applicable state laws.

13.8. Registration Rights. Attached hereto as Annex I is the current version of the Investor Rights Agreement which lists all rights (including piggyback registration rights) to have any transaction or proposed transaction involving securities of Company registered with the SEC or any other governmental authority as of the date of issuance of this Warrant.

XIV. MISCELLANEOUS

14.1. Nonwaiver and Expenses. No course of dealing or any delay or failure to exercise any right hereunder on the part of Holder shall operate as a waiver of such right or otherwise prejudice Holder's rights, powers or remedies. If Company fails to make, when due, any payments provided for under this Warrant, or fails to comply with any other provision of this Warrant, Company shall pay to Holder such amounts as shall be sufficient to cover any costs and expenses including, but not limited to, reasonable attorneys' fees, including those of appellate proceedings, incurred by Holder in collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

14.2. Notices. All notices and communications to be given or made under this Warrant shall be in writing and delivered by hand-delivery, registered first class mail (return receipt requested), facsimile, or air courier guaranteeing overnight delivery, addressed as follows, or to such other Person or address as the party named below may designate by notice:

(a) If to any Holder or holder of Warrant Stock, at its last known address appearing on the books of Company maintained for such purpose and any other address sent by such Holder to Company in compliance with this Section 14.2.

(b) If to Company at

PTC THERAPEUTICS, INC.
100 CORPORATE CT.
MIDDLESEX BUSINESS CENTER
SOUTH PLAINFIELD, NJ 07080
ATTN: MARK E. BOULDING

Each such notice or other communication shall be deemed to have been duly given or served on the date on which personally delivered, with receipt acknowledged, or confirmed by telecopy answerback with respect to notice by telecopy, or three Business Days after the same shall have been deposited in the United States mail.

14.3. Successors and Assigns. Subject to the provisions of Section 3.1 and Article IX, this Warrant and the rights evidenced hereby shall inure to the benefit of and be binding upon the successors of Company and the successors and assigns of Holder. The provisions of this Warrant are intended to be for the benefit of all Holders from time to time of this Warrant and shall be enforceable by any such Holder. No other Person shall have any right, benefit or obligation under this Warrant.

14.4. Amendment. No amendment or waiver of any provision of this Warrant or any other Warrant shall be effective without the written consent of Company and all Holders,

14.5. Severability. If one or more provisions of this Warrant are held to be unenforceable to any extent under applicable law, such provision shall be interpreted as if it were

written so as to be enforceable to the maximum extent permitted by law so as to effectuate the parties' intent to the maximum extent, and the balance of this Warrant shall be interpreted as if such provision were so excluded and shall be enforceable in accordance with its terms to the maximum extent permitted by law.

14.6. Section and Other Headings. The section and headings contained in this Warrant are for the convenience only and shall not affect the meaning or interpretation of this Warrant.

14.7. Governing Law. This Warrant shall be governed by, construed and enforced in accordance with the laws of the State of New York, without regard to the conflict of law principles of such state.

14.8. WAIVER OF JURY TRIAL. EACH OF THE PARTIES HERETO HEREBY WAIVES TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY LITIGATION DIRECTLY OR INDIRECTLY ARISING OUT OF, UNDER OR IN CONNECTION WITH THIS WARRANT OR THE WARRANT SHARES.

14.9. CHOICE OF FORUM. EACH OF THE PARTIES HERETO IRREVOCABLE SUBMITS TO THE EXCLUSIVE JURISDICTION OF (A) THE SUPREME COURT OF THE STATE OF NEW YORK, NEW YORK COUNTY, AND (B) THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF NEW YORK, FOR THE PURPOSES OF ANY SUIT, ACTION OR OTHER PROCEEDING ARISING OUT OF THIS WARRANT OR ANY TRANSACTION CONTEMPLATED HEREBY (AND EACH AGREES THAT NO SUCH ACTION, SUIT OR PROCEEDING RELATING TO THIS WARRANT SHALL BE BROUGHT BY IT IN SUCH COURTS). EACH OF THE PARTIES HERETO IRREVOCABLE AND UNCONDITIONALLY WAIVE (AND AGREES NOT TO PLEAD OR CLAIM), ANY OBJECTION TO THE LAYING OF VENUE OF ANY ACTION, SUIT OR PROCEEDING ARISING OUT OF THIS WARRANT OR THE WARRANT SHARES IN (A) THE SUPREME COURT OF THE STATE OF NEW YORK, NEW YORK COUNTY, AND (B) THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF NEW YORK OR THAT ANY SUCH ACTION, SUIT OR PROCEEDING BROUGHT IN ANY SUCH COURT HAS BEEN BROUGHT IN AN INCONVENIENT FORUM.

14.10. Remedies. Each Holder, in addition to being entitled to exercise all rights granted by law, including recovery of damages, will be entitled to specific performance of its rights under this Warrant. Company agrees that monetary damages would not be adequate compensation for any loss incurred by reason of a breach by it of the provisions of this Warrant and hereby agrees to waive the defense in any action for specific performance that a remedy at law would be adequate. In any action or proceeding brought to enforce any provision of this Warrant or where any provision hereof is validly asserted as a defense, the successful party shall be entitled to recover reasonable attorneys' fees in addition to any other available remedy.

14.11. Counterparts. For the convenience of the parties, any number of counterparts of this Warrant may be executed by the parties hereto and each such executed counterpart shall be, and shall be deemed to be, an original instrument.

[SIGNATURES BEGIN ON NEXT PAGE]

IN WITNESS WHEREOF, Company has caused this Warrant to be duly executed by an authorized officer.

Dated:

PTC THERAPEUTICS, INC.

By: /s/ Mark E. Boulding
_____
Name: Mark E. Boulding
Title: SVP, Business Development and Legal

ACKNOWLEDGED AND ACCEPTED BY:

GENERAL ELECTRIC CAPITAL CORPORATION

By: DIANE EARLE
_____
Name: Diane Earle
Title: Senior Vice President

Exhibit 4.7

EXHIBIT A

SUBSCRIPTION NOTICE

[To be executed only upon exercise of Warrant]

The undersigned registered owner of this Warrant irrevocably exercises this Warrant for the purchase of _____ Shares of Series D Preferred Stock of PTC THERAPEUTICS, INC. and herewith makes payment therefor, all at the price and on the terms and conditions specified in this Warrant (including without limitation the conditions set forth in Section 2.1 hereof relating to required regulatory approvals) and requests that certificates for the shares of Warrant Stock hereby purchased (and any securities or other property issuable upon such exercise, including any cash in lieu of fractional shares) be issued in the name of and delivered to _____ whose address is _____ and, if such shares of Warrant Stock shall not include all of the shares of Warrant Stock issuable as provided in this Warrant, that a new Warrant of like tenor and date for the balance of the shares of Warrant Stock issuable hereunder be delivered to the undersigned.

[_____] The undersigned shall tender payment in the following form:_____.

[_____] The undersigned hereby elects the net issue exercise option pursuant to Section 2.3(b) of the Warrant, and accordingly requests delivery of a net of_____ shares of Series D Preferred Stock.

_____
(Name of Registered Owner)

_____
(Signature of Registered Owner)

_____
(Street Address)

_____
(City) (State) (Zip Code)

NOTICE: The signature on this subscription must correspond with the name as written upon the face of the Warrant in every particular, without alteration or enlargement or any change whatsoever.

EXHIBIT B

ASSIGNMENT FORM

FOR VALUE RECEIVED the undersigned registered owner of this Warrant hereby sells, assigns and transfers unto the Assignee named below the rights of the undersigned under this Warrant, with respect to the number of shares of Warrant Stock set forth below:

Name and Address of Assignee	No. of Shares of Warrant Stock

and does hereby irrevocably constitute and appoint _____ attorney-in-fact to register such transfer on the books of PTC THERAPEUTICS, INC. maintained for the purpose, with full power of substitution in the premises.

Dated:

Print Name: _____

Signature: _____

Witness: _____

NOTICE: The signature on this assignment must correspond with the name as written upon the face of the Warrant in every particular, without alteration or enlargement or any change whatsoever.

THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR ANY OTHER SECURITIES LAWS. THESE SECURITIES HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO DISTRIBUTION OR RESALE. SUCH SECURITIES MAY NOT BE OFFERED FOR SALE, SOLD, DELIVERED AFTER SALE, TRANSFERRED, PLEDGED OR HYPOTHECATED (EACH A "TRANSFER") IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT COVERING SUCH SECURITIES UNDER THE SECURITIES ACT OF 1933 AND ANY OTHER APPLICABLE SECURITIES LAWS, UNLESS THE HOLDER SHALL HAVE OBTAINED AN OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED.

THE TRANSFER AND VOTING OF THE SECURITIES OBTAINABLE UPON EXERCISE OF THIS STOCK PURCHASE WARRANT ARE RESTRICTED BY THE TERMS OF THE AMENDED AND RESTATED MANAGEMENT AND VOTING AGREEMENT, DATED AUGUST 17, 2001, AMONG THE COMPANY AND THE STOCKHOLDERS NAMED THEREIN, AND THE THIRD AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT, DATED AUGUST 17, 2001, AMONG THE COMPANY AND THE STOCKHOLDERS NAMED THEREIN AS SUCH AGREEMENTS MAY BE AMENDED FROM TIME TO TIME (THE "STOCKHOLDER AGREEMENTS"), COPIES OF WHICH MAY BE INSPECTED AT THE COMPANY'S PRINCIPAL OFFICE. THE COMPANY WILL NOT REGISTER THE TRANSFER OF SUCH SECURITIES ON THE BOOKS OF THE COMPANY UNLESS AND UNTIL THE TRANSFER HAS BEEN MADE IN COMPLIANCE WITH THE TERMS OF THE STOCKHOLDER AGREEMENTS.

No. SPW-1 December 6, 2002

PTC THERAPEUTICS, INC.

STOCK Purchase Warrant

THIS STOCK PURCHASE WARRANT (this "WARRANT") certifies that, for value received, Tularik Inc., or its registered assigns (the "HOLDER"), is entitled to subscribe for and purchase from PTC Therapeutics, Inc., a Delaware corporation (the "COMPANY"), up to 500,000 (subject to adjustment pursuant to Section 4 hereof) shares (the "SHARES") of the Company's Common Stock, par value $0.001 per share ("COMMON STOCK") at a price per share of $3.25 (subject to adjustment pursuant to Section 4 hereof). This Warrant is being issued pursuant to

that certain Securities Acquisition Agreement, dated as of the date hereof, by and between the Company and Tularik Inc. (the "AGREEMENT").

This Warrant is subject to the following terms and conditions:

1. Vesting and Expiration of Shares. The exercise of this Warrant shall be subject to the Company's achievement of the following milestones:

(a) This Warrant shall become exercisable for up to 250,000 Shares upon the Company's submission to the United States Food and Drug Administration (the "FDA") in the U.S. or to an equivalent regulatory authority in a foreign country of an Investigational New Drug Application (or the corresponding filing or documentation of any foreign country) with respect to a Product Candidate (the "FIRST IND FILING"). As used herein "PRODUCT CANDIDATE" shall mean any product candidate for use in the Field. As used herein the "FIELD" shall mean the therapeutic treatment of disease in humans or other animals by means of the suppression of nonsense mutations. The right to purchase the above referenced 250,000 Shares shall expire and be of no force or effect if not exercised prior to the tenth (10th) anniversary of receipt by Holder of written notice from the Company of the First IND Filing.

(b) This Warrant shall become exercisable for up to an additional 150,000 Shares upon the enrollment of the first human patient in a Phase II Clinical Trial for any Product Candidate. As used herein "PHASE II CLINICAL TRIAL" shall mean a clinical study conducted to evaluate the effectiveness of the Product Candidate for a particular indication or indications in patients with the disease or condition under study. The right to purchase the above referenced 150,000 Shares shall expire and be of no force or effect if not exercised prior to the eighth (8th) anniversary of receipt by Holder of written notice from the Company of the commencement of the first Phase II Clinical Trial.

(c) This Warrant shall become exercisable for up to an additional 100,000 Shares upon any of the Company's Product Candidates receiving Marketing Approval from the FDA or from an equivalent regulatory authority in a foreign country. As used herein, "MARKETING APPROVAL" shall mean any approval necessary for the marketing, promotion, sale or use of a Product Candidate as a pharmaceutical product in a country. The right to purchase the above referenced 100,000 Shares shall expire and be of no force or effect if not exercised prior to the fifth (5th) anniversary of receipt by Holder of written notice from the Company of the first Marketing Approval of a Product Candidate.

(d) Notwithstanding the foregoing, both Holder's right to continued vesting of purchase rights as described in this Section and Holder's right to purchase Shares pursuant to this Warrant shall expire and be of no force or effect as of the 20th anniversary of the date of this Warrant.

2. Method of Exercise; Payment.

(a) Cash Exercise. Subject to the provisions of Section 1, the purchase rights represented by this Warrant may be exercised by the Holder, in whole or in part, at any time, or from time to time, by the surrender of this Warrant (together with a duly executed notice of exercise (the "NOTICE OF EXERCISE") in the form attached hereto as Exhibit A) at the Company's

principal offices, and by payment to the Company of an amount equal to the Exercise Price multiplied by the number of the Shares being purchased, which amount shall be paid in cash, by check or by wire transfer of immediately available funds to an account designated by the Company. The person in whose name any certificate representing the Shares issuable upon any exercise of this Warrant shall be deemed to have become the holder of record of, and shall be treated for all purposes as the record holder of, the Shares represented thereby (and such Shares shall be deemed to have been issued) immediately prior to the close of business on the date or dates upon which such surrender and payment are made. As used herein, the term "PERSON" means any individual or any corporation, partnership, trust, limited liability company or other entity or organization of any kind.

(b) Net Issue Exercise. In lieu of exercising this Warrant pursuant to Section 2(a) hereof, the Holder may elect to receive a number of Shares equal to the value (as determined below) of this Warrant (or the portion thereof being exercised) by surrender of this Warrant at the Company's principal offices together with a duly executed Notice of Exercise in which the appropriate alternative is initialed by the Holder. In such event, the Company shall issue to the Holder the number of Shares computed using the following formula:

$$X = \frac{Y\,(A-B)}{A}$$

Where X = the number of Shares to be issued to the Holder.

Y = the number of Shares subject to this Warrant or, if only a portion of this Warrant is being exercised, the portion of this Warrant being exercised (at the time of such calculation).

A = the Fair Market Value of one Share (at the date of such calculation).

B = the Exercise Price (as adjusted to the date of such calculation).

(c) Fair Market Value. For purposes of this Section 2, the Fair Market Value of one Share shall equal:

(i) the average of the closing sale prices of the Common Stock (or any other security for which this Warrant is then exercisable) quoted on the Nasdaq Stock Market or in the Over-The-Counter Market Summary or the closing price quoted on any national securities exchange on which such securities are listed, whichever is applicable, as published in the Western Edition of The Wall Street Journal for the ten trading days immediately prior to the date of determination of Fair Market Value (or, if no sales take place on any such trading day, the average of the closing bid and asked prices on such trading day); or

(ii) if the Common Stock (or any other security for which this Warrant is then exercisable) is not traded on the Nasdaq Stock Market or Over-The-Counter or on a national securities exchange, the Fair Market Value of a Share shall be established in good faith by the Company's Board of Directors.

(d) Stock Certificates. In the event of any exercise of the rights represented by this Warrant, as promptly as practicable on or after the date of exercise, the Company at its expense shall issue and deliver to the person or persons entitled to receive the same a certificate or certificates representing the number of Shares issued upon such exercise. In the event that this Warrant is exercised in part, as promptly as practicable on or after the date of exercise, the Company at its sole expense will execute and deliver a new Warrant in the form of this Warrant exercisable for the number of Shares for which this Warrant may then be exercised.

(e) Taxes. The issuance of the Shares upon the exercise of this Warrant, and the delivery of certificates or other instruments representing such Shares, shall be made without charge to the Holder for any tax or other charge of whatever nature in respect of such issuance and the Company shall bear any such taxes in respect of such issuance.

3. Stock Fully Paid; Reservation of Shares. All of the Shares issuable upon the exercise of the rights represented by this Warrant will, upon issuance and receipt of the Exercise Price therefor, be fully paid and nonassessable, and free from all preemptive rights, rights of first refusal or first offer, taxes, liens and charges of whatever nature, except as set forth in the Stockholder Agreements (as defined in the Agreement) with respect to the issuance thereof. During the period within which the rights represented by this Warrant may be exercised, the Company shall at all times have authorized and reserved for issuance a sufficient number of shares of its Common Stock to provide for the full exercise of the rights represented by this Warrant.

4. Certain Adjustments.

(a) Special Definitions. For the purposes of this Section 4, the following definitions shall apply:

(i) "ADDITIONAL SHARES OF COMMON STOCK" means all shares of Common Stock issued (or, pursuant to Section 4(c), deemed to be issued) by the Company after the Original Issue Date, other than:

(A) shares of Common Stock issued or issuable as a dividend or distribution payable pro rata to all holders of Common Stock (determined on a fully-diluted, as converted basis) of the Company;

(B) up to 3,000,000 shares of Common Stock or Options issued or issuable to employees, consultants, officers, directors, advisors and other persons performing services for the Company pursuant to the Company's 1998 Employee, Director and Consultant Stock Option Plan or other arrangement approved by the Board of Directors of the Company; provided that, more than 3,000,000 shares of Common Stock or Options may be issued or issuable pursuant to the Corporation's 1998 Employee, Director and Consultant Stock Option Plan and not considered "Additional Shares of Common Stock" upon written consent of the holders of a majority of the Preferred Stock;

(C) shares of Common Stock issued or issuable in connection with the conversion or exercise of any Option or Convertible Securities outstanding on the date hereof;

(D) shares of Common Stock issued or issuable under the Agreement or in connection with the conversion or exercise of any Option or Convertible Securities issued under the Agreement;

(E) up to 175,000 shares of Common Stock or Options issued or issuable to institutional lenders in connection with the establishment or maintenance by the Company of credit facilities, including equipment lease facilities, approved in each case by a majority of the Company's Board of Directors;

(F) shares of Common Stock issued or issuable pursuant to a registered public offering, the closing of which is on or after the Original Issue Date;

(G) up to 175,000 shares of Common Stock or Options issued or issuable in connection with the sale of Common Stock or Convertible Securities of the Company to any licensor of technology or patent rights to the Company or to any collaborative partner or license with respect to the development or commercialization of products;

(H) up to 1,000,000 shares of Common Stock or Options issued or issuable in connection with the acquisition by the Company of another corporation by merger, purchase of all or substantially all of its assets or acquisition of all or substantially all of the capital stock of such corporation; or

(I) shares of Common Stock that are exempted from the definition of "Additional Shares of Common Stock" contained in the Shareholder Documents (as defined below) by action of the holders of Preferred Stock as provided for in the Shareholder Documents.

(ii) "CONVERTIBLE SECURITIES" means any evidences of indebtedness, shares (other than the Common Stock), or other securities directly or indirectly convertible into or exchangeable for the Common Stock; including any series of Preferred Stock convertible by its terms into Common Stock.

(iii) "OPTION" means any right, option or warrant to subscribe for, purchase or otherwise acquire Common Stock or Convertible Securities.

(iv) "ORIGINAL ISSUE DATE" means the date hereof.

(v) "PREFERRED STOCK" means any class of series of stock designated as such under the Company's Restated Certificate of Incorporation, as amended from time to time.

(vi) "SHAREHOLDER DOCUMENTS" shall mean collectively the Company's Restated Certificate of Incorporation, as amended from time to time, the Amended and Restated Management and Voting Agreement, dated as of August 17, 2001, by and among the Company, Tularik Inc. and certain other stockholders named therein, and the Third Amended and Restated Investor Rights Agreement, dated as of August 17, 2001, by and among the Company, Tularik Inc. and certain other stockholders named therein.

(b) No Adjustment of Exercise Price. No adjustment shall be made in the Exercise Price as a result of the issuance of Additional Shares of Common Stock or otherwise, unless the consideration per share determined pursuant to Section 4(f) for an Additional Share of Common Stock issued or deemed to be issued by the Company is less than the Exercise Price in effect on the date of, and immediately prior to, the issue of such Additional Shares of Common Stock.

(c) Issue of Options and Convertible Securities Deemed Issue of Additional Shares of Common Stock. If the Company at any time or from time to time after the Original Issue Date shall issue any Options or Convertible Securities, or shall fix a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares of the Common Stock (as set forth in the instrument relating thereto without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date, provided, that Additional Shares of Common Stock shall not be deemed to have been issued unless the consideration per share determined pursuant to Section 4(f) for such Additional Shares of Common Stock would be less than the Exercise Price in effect on the date of and immediately prior to such issue, or such record date, as the case may be, and provided, further, that in any such case in which Additional Shares of Common Stock are deemed to be issued:

(i) No further adjustment in the Exercise Price shall be made upon the subsequent issue of Convertible Securities or shares of the Common Stock upon the exercise of such Options or conversion or exchange of such Convertible Securities;

(ii) If such Options or Convertible Securities by their terms provide, with the passage of time or otherwise, for any increase or decrease, other than any decrease due to anti-dilution provisions, in the consideration payable to the Company, or decrease or increase, other than any increase due to anti-dilution provisions, in the number of shares of the Common Stock issuable, upon the exercise, conversion or exchange thereof, the Exercise Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon the effectiveness of any such increase or decrease in consideration, or decrease or increase in the number of shares, be recomputed to reflect such increase or decrease in consideration, or decrease or increase in the number of shares, insofar as it affects such Options or the right of conversion or exchange under such Convertible Securities;

(iii) Upon the expiration of any such Options or any rights of conversion or exchange under such Convertible Securities which shall not have been exercised, the Exercise Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto) and any subsequent adjustments based thereon shall, upon such expiration, be recomputed as if:

(A) In the case of Convertible Securities or Options for Common Stock, the only Additional Shares of Common Stock issued were the shares of the Common Stock, if any, actually issued upon the exercise of such Options or the conversion or exchange of such Convertible Securities and the consideration received therefor was the consideration actually received by the Company for the issue of all such Options, whether or not exercised, plus the consideration actually received by the Company upon such exercise, or for the issue of all such Convertible Securities which were actually converted or exchanged, plus the additional consideration, if any, actually received by the Company upon such conversion or exchange; and

(B) In the case of Options for Convertible Securities, only the Convertible Securities, if any, actually issued upon the exercise thereof were issued at the time of issue of such Options, and the consideration received by the Company for the Additional Shares of Common Stock deemed to have been then issued was the consideration actually received by the Company for the issue of all such Options, whether or not exercised, plus the consideration deemed to have been received by the Company determined pursuant to Section 4(c) upon the issue of the Convertible Securities with respect to which such Options were actually exercised;

(iv) No recomputation pursuant to Section 4(c)(ii) or Section 4(c)(iii) above shall have the effect of increasing the Exercise Price to an amount that exceeds the lower of (A) the Exercise Price prior to the original adjustment for such deemed issuance, or (B) the Exercise Price that would have resulted from any issuance of Additional Shares of Common Stock between the original adjustment date and such recomputation date,

(v) In the case of any Options which expire by their terms not more than thirty (30) days after the date of issue thereof, no adjustment of the Exercise Price shall be made until the expiration or exercise of all such Options, whereupon such adjustment shall be made in the same manner provided in Section 4(c)(iii) above; and

(vi) If such record date shall have been fixed and such Options or Convertible Securities are not issued on the date fixed therefor, the adjustment previously made in the Exercise Price which became effective on such record date shall be canceled as of the close of business on such record date, and thereafter the Exercise Price shall be adjusted pursuant to this Section 4(c)(iii) as of the actual date of their issuance.

(d) Stock Dividends, Stock Distributions and Subdivisions. In the event the Company at any time or from time to time after the Original Issue Date shall declare or pay any dividend or make any other distribution on the Common Stock payable in Common Stock, or effect a subdivision of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in Common Stock), then and in any such event, Additional Shares of Common Stock shall be deemed to have been issued:

(i) In the case of any such dividend or distribution, immediately after the close of business on the record date for the determination of holders of any class of securities entitled to receive such dividend or distribution; or

(ii) In the case of any such subdivision, at the close of business on the date immediately prior to the date upon which such corporate action becomes effective.

If such record date shall have been fixed and such dividend shall not have been fully paid on the date fixed therefor, the adjustment previously made in the Exercise Price which became effective on such record date shall be canceled as of the close of business on such record date, and thereafter the Exercise Price shall be adjusted pursuant to this Section 4(d) as of the time of actual payment of such dividend.

(e) Adjustment of Exercise Price and Shares Upon Certain Events. If, after the Original Issue Date, the Company shall issue Additional Shares of Common Stock, including Additional Shares of Common Stock deemed to be issued pursuant to Section 4(c) hereof, but excluding Additional Shares of Common Stock deemed to be issued pursuant to Section 4(d) (which event is dealt with in Section 4(g)) without consideration or for a consideration per share less than the Exercise Price in effect immediately prior to such issue, then and in such event, the Exercise Price shall be reduced, concurrently with such issue, to a price (calculated to the nearest cent, provided that any adjustments not required to be made by virtue of such rounding shall be carried forward and taken into account in any subsequent adjustment) determined by multiplying the Exercise Price in effect immediately prior to such issue by a fraction (x) the numerator of which shall be (A) the number of shares of Common Stock outstanding immediately prior to such issue (including shares of the Common Stock issuable upon exercise or conversion of any outstanding Options or Convertible Securities) plus (B) the number of shares of the Common Stock which the aggregate consideration received by the Company for the total number of Additional Shares of Common stock so issued would purchase at the Exercise Price in effect immediately prior to such issue and (y) the denominator of which shall be (A) the number of shares of the Common Stock outstanding immediately prior to such issue (including shares of Common Stock issuable upon exercise or conversion of any outstanding Options or Convertible Securities) plus (B) the number of such Additional Shares of Common Stock so issued or deemed to be issued. Upon each adjustment of the Exercise Price (other than pursuant to a stock split, reverse stock split or similar transaction), the aggregate number of Shares issuable upon exercise of the Warrant shall be adjusted to equal the quotient obtained by dividing (a) the product resulting from multiplying (i) the number of Shares issuable upon exercise of the Warrant and (ii) the Exercise Price, in each case as in effect immediately before such adjustment, by (b) the adjusted Exercise Price. The number of Shares vesting pursuant to Section 1 shall be proportionately adjusted in accordance with the adjustment made pursuant to this Section 4(e). Upon the occurrence of each adjustment of the Exercise Price, the Company at its expense shall promptly compute such adjustment in accordance with the terms hereof and furnish to the Holder a certificate setting forth such adjustment and showing in detail the facts upon which such adjustment is based.

(f) Determination of Consideration. For purposes of Section 4(e), the consideration received by the Company for the issue of any Additional Shares of Common Stock shall be computed as follows:

(i) Cash and Property: Such consideration shall:

(A) Insofar as it consists of cash, be computed at the aggregate of cash received by the Company, excluding amounts paid or payable for accrued interest or accrued dividends;

(B) Insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board of Directors; and

(C) In the event Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Company for consideration which covers both, be the proportion of such consideration, computed as provided in Sections 4(f)(i)(A) and 4(f)(i)(B) above, received in respect of the Additional Shares of Common Stock, as determined in good faith by the Board of Directors;

(ii) Options and Convertible Securities. The consideration per share received by the Company for Additional Shares of Common Stock deemed to have been issued pursuant to Section 4(c), relating to Options and Convertible Securities, shall be determined by dividing:

(A) The total amount, if any, received or receivable by the Company as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration until such subsequent adjustment occurs) payable to the Company upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by

(B) The maximum number of shares of the Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number until such subsequent adjustment occurs) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities.

(g) Adjustment for Stock Splits, Stock Dividends, Subdivisions, Combinations or Consolidation of Common Stock. In the event that at any time or from time to time after the Original Issue Date the outstanding shares of the Common Stock shall be split, subdivided, combined or consolidated, by reclassification or otherwise, into a greater or lesser number of shares of Common Stock, and in the event that the Company shall issue shares of the Common Stock by way of a stock dividend or other distribution to the holders of the Common Stock, the Exercise Price and/or number of Shares covered by this Warrant in effect immediately prior to such split, subdivision, stock dividend, combination or consolidation shall, concurrently with the effectiveness of such split, subdivision, stock dividend, combination or consolidation, be increased or decreased proportionately.

(h) Termination of Adjustment Rights. The provisions of this Section 4 (other than Section 4(g)) shall terminate immediately prior to the closing of a firm commitment underwritten public offering pursuant to an effective registration statement under the Securities

Act of 1933, as amended, covering the offer and sale of Common Stock for the account of the Company to the public at an initial public offering price per share of not less than $8.00 (subject to equitable adjustment in the event of any stock dividend, stock split, combination, reorganization, recapitalization or similar event involving a change in the Common Stock) with net proceeds to the Company of not less than $40,000,000 (a "QUALIFIED INITIAL PUBLIC OFFERING"). Thereafter, the provisions of this Section 4 shall be of no further force or effect.

(i) No Impairment. The Company shall not, by amendment of its Restated Certificate of Incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed hereunder by the Company but shall at all times in good faith assist in the carrying out of all the provisions of hereof and in the taking of all such action as may be necessary or appropriate in order to protect the rights of Holder against impairment.

5. Notices.

(a) In the event that the Company shall propose at any time:

(i) to declare any dividend or distribution upon its Common Stock (or other stock or securities at the time receivable upon the exercise of this Warrant) whether in cash, property, stock or other securities, whether or not a regular cash dividend and whether or not out of earnings or earned surplus;

(ii) to offer for subscription pro rata to the holders of any class or series of its stock any additional shares of stock of any class or series or other rights;

(iii) to effect any reclassification or recapitalization of its Common Stock outstanding involving a change in the Common Stock;

(iv) to merge or consolidate with or into any other corporation, or sell, lease or convey all or substantially all its property or business, or to liquidate, dissolve or wind up; or

(v) to effect its Qualified Initial Public Offering;

then, in connection with each such event, the Company shall send to the Holder (1) at least ten days' prior written notice of the date on which a record shall be taken for such dividend, distribution or subscription rights (and specifying the date on which the holders of Common Stock shall be entitled thereto) or for determining rights to vote, if any; and (2) at least ten days' prior written notice of the date when the same shall take place (and specifying the date, if any is to be fixed, on which the holders of record of Common Stock shall be entitled to exchange their Common Stock for securities or other property deliverable upon the occurrence of such event). Notwithstanding the above, the ten days' notice requirement may be shortened or waived upon the written consent of the Holder.

(b) Any written notice by the Company or the Holder required or permitted hereunder shall be given in the manner provided in the Agreement; provided, however the delivery of a Notice of Exercise shall be made in person, by first class mail (postage pre-paid) or by nationally recognized overnight courier and accompanied by this Warrant.

6. Rights and Obligations.

(a) The Shares shall be subject to the provisions of the Stockholder Agreements in accordance with their respective terms, including, without limitation, all applicable transfer restrictions set forth in the Stockholder Agreements.

(b) The Holder shall be entitled to incidental registration rights with respect to the Shares on a pro rata basis with other security holders of the Company solely to the extent such other security holders are entitled to have their securities registered pursuant to Section 4.5 of the IR Agreement (as defined in the Agreement); provided, however, that such Section 4.5 of the IR Agreement shall be read without giving effect to the parenthetical phrase "(other than pursuant to Sections 4.3 and 4.4)" solely with respect to the Holder. Solely for purposes of determining the rights and obligations of the Holder with respect to the incidental registration rights granted pursuant to this Section 6(b), the Shares shall be treated as if they were "Registrable Securities" (as defined in the IR Agreement) and the Holder shall be treated as if it was a "Holder" (as defined in the IR Agreement) for purposes of Sections 4.6, 4.7, 4.8, 4.9, 4.10, 4.11, 4.12 and 4.13 of the IR Agreement; provided, however, that except as expressly set forth herein, this Section 6(b) shall not be interpreted in any manner that would expand the Holder's registration rights beyond those incidental registration rights set forth in Section 4.5 of the IR Agreement.

7. Limitations of Transfer. Notwithstanding anything set forth herein to the contrary, this Warrant may not be offered for sale, sold, transferred, pledged, hypothecated or otherwise encumbered under any circumstances prior to December 5, 2007; provided, however, the foregoing provision of this Section 7 shall not apply with respect to the transfer of this Warrant by the Holder to an Affiliate (as defined in the Termination and License Agreement, dated the date hereof, by and between the Company and Tularik Inc. (the "TERMINATION AND LICENSE AGREEMENT")) or in connection with the sale or merger of all or substantially all of the Holder's business, so long as such transfer is otherwise permissible under all applicable securities laws, the terms of this Warrant and any other obligations or limitations to which the Holder or this Warrant is subject.

8. Legend. Each certificate evidencing the Shares issued upon exercise of this Warrant, or transfer of such shares (other than a transfer registered under the Securities Act of 1933, as amended (the "SECURITIES ACT"), or any subsequent transfer of shares so registered) shall be stamped or imprinted with a legend substantially in the following form:

> THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR ANY OTHER SECURITIES LAWS. THESE SECURITIES HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO DISTRIBUTION OR RESALE. SUCH

SECURITIES MAY NOT BE OFFERED FOR SALE, SOLD, DELIVERED AFTER SALE, TRANSFERRED, PLEDGED OR HYPOTHECATED (EACH A "TRANSFER") IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT COVERING SUCH SECURITIES UNDER THE SECURITIES ACT OF 1933 AND ANY OTHER APPLICABLE SECURITIES LAWS, UNLESS THE HOLDER SHALL HAVE OBTAINED AN OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED.

THE TRANSFER AND VOTING OF ANY OF THE SECURITIES REPRESENTED BY THIS CERTIFICATE ARE RESTRICTED BY THE TERMS OF THE AMENDED AND RESTATED MANAGEMENT AND VOTING AGREEMENT, DATED AUGUST 17, 2001, AMONG THE COMPANY AND THE STOCKHOLDERS NAMED THEREIN AND THE THIRD AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT, DATED AUGUST 17, 2001, AMONG THE COMPANY AND THE STOCKHOLDERS NAMED THEREIN, AS SUCH AGREEMENTS MAY BE AMENDED FROM TIME TO TIME (THE "STOCKHOLDER AGREEMENTS"), COPIES OF WHICH MAY BE INSPECTED AT THE COMPANY'S PRINCIPAL OFFICE. THE COMPANY WILL NOT REGISTER THE TRANSFER OF SUCH SECURITIES ON THE BOOKS OF THE COMPANY UNLESS AND UNTIL THE TRANSFER HAS BEEN MADE IN COMPLIANCE WITH THE TERMS OF THE STOCKHOLDER AGREEMENTS.

9. Removal of Legend. Upon request of a holder of a certificate with the legends required by Section 8 hereof, the Company shall issue to such holder a new certificate therefor free of any transfer legend, if, with such request, the Company shall have received an opinion of counsel satisfactory to the Company in form and substance to the effect that any transfer by such holder of the shares evidenced by such certificate will not violate the Securities Act, any applicable state securities laws, or any applicable provision of any Stockholder Agreement.

10. Fractional Shares. No fractional shares will be issued in connection with any exercise hereunder. All shares of Common Stock (including fractions thereof) issuable upon exercise of this Warrant by the Holder shall be aggregated for purposes of determining whether the exercise would result in the issuance of any fractional share. Any fraction of a share resulting from any calculation will be rounded down to the next whole share.

11. Representations and Warranties of the Company. The Company hereby represents and warrants to the Holder as follows:

(a) This Warrant has been duly authorized and executed by the Company and is a valid and binding obligation of the Company enforceable in accordance with its terms;

(b) Prior to the date that this Warrant becomes exercisable, the Shares will have been duly authorized and reserved for issuance by the Company and, when issued in

accordance with the terms hereof, will be validly issued, fully paid and nonassessable, and free from all preemptive rights, rights of first refusal or first offer, taxes, liens and charges of whatever nature, except as set forth in the Stockholder Agreements; and

(c) The execution and delivery of this Warrant are not, and the issuance of the Shares upon exercise of this Warrant in accordance with the terms hereof will not be, inconsistent with the Company's Restated Certificate of Incorporation, as then in effect, and its bylaws, as then in effect.

12. Representations and Warranties by the Holder. The Holder represents and warrants to the Company as follows:

(a) This Warrant is being acquired for its own account, for investment and not with a view to, or for resale in connection with, any distribution thereof within the meaning of the Securities Act. Upon exercise of this Warrant, the Holder shall, if so requested by the Company, confirm in writing, in a form reasonably satisfactory to the Company, that the Shares issuable upon exercise of this Warrant are being acquired for investment and not with a view toward distribution or resale that would violate the Securities Act.

(b) The Holder understands that this Warrant and the Shares have not been registered under the Securities Act by reason of their issuance in a transaction exempt from the registration and prospectus delivery requirements of the Securities Act pursuant to Section 4(2) thereof, and that they must be held by the Holder indefinitely, and that the Holder must therefore bear the economic risk of such investment indefinitely, unless a subsequent disposition thereof is registered under the Securities Act or is exempted from such registration.

(c) The Holder has such knowledge and experience in financial and business matters that it is capable of evaluating the merits and risks of the purchase of this Warrant and the Shares purchasable pursuant to the terms of this Warrant and of protecting its interests in connection therewith.

(d) The Holder is able to bear the economic risk of the purchase of the Shares pursuant to the terms of this Warrant.

13. Rights of Stockholders. Subject to Sections 4 and 5 hereof, no Holder, as such, shall be entitled to vote or receive dividends or be deemed the holder of the Shares or any other securities of the Company that may at any time be issuable on the exercise hereof for any purpose, nor shall anything contained herein be construed to confer upon the Holder, as such, any of the rights of a stockholder of the Company or any right to vote for the election of directors or upon any matter submitted to stockholders at any meeting thereof, or to give or withhold consent to any corporate action (whether upon any recapitalization, issuance of stock, reclassification of stock, change of par value, consolidation, merger, conveyance, or otherwise) or to receive notice of meetings, or to receive dividends or subscription rights or otherwise until this Warrant shall have been exercised and the Shares purchasable upon the exercise hereof shall have become issuable, as provided herein.

14. Miscellaneous.

(a) This Warrant shall be governed by and construed for all purposes under and in accordance with the laws of the State of Delaware without regard to principles of conflicts of law.

(b) The headings in this Warrant are for purposes of reference only, and shall not limit or otherwise affect any of the terms hereof.

(c) The representations, warranties, covenants and conditions of the respective parties contained herein or made pursuant to this Warrant shall survive the execution and delivery of this Warrant.

(d) The terms of this Warrant shall be binding upon and shall inure to the benefit of any successors or assigns of the Company and of the Holder or holders hereof and of the Shares issued or issuable upon the exercise hereof.

(e) This Warrant, together with the Agreement and the Termination and License Agreement, constitute the full and entire understanding and agreement between the parties with regard to the acquisition of this Warrant and the Shares (as defined in the Agreement).

(f) The Company shall not, by amendment of its Restated Certificate of Incorporation or bylaws, or through any other means, directly or indirectly, avoid or seek to avoid the observance or performance of any of the terms of this Warrant and shall at all times in good faith assist in the carrying out of all such terms and in the taking of all such action as may be necessary or appropriate in order to protect the rights of the Holder against impairment.

(g) Upon receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant and, in the case of any such loss, theft or destruction, upon delivery of an indemnity agreement reasonably satisfactory in form and amount to the Company or, in the case of any such mutilation, upon surrender and cancellation of such Warrant, the Company, at its expense, will execute and deliver to the Holder, in lieu thereof, a new Warrant of like date and tenor.

(h) Except as otherwise provided herein, this Warrant and any provision hereof may be amended, waived or terminated only by an instrument in writing signed by the Company and the Holder.

[Signature Page Follows]

IN WITNESS WHEREOF, the Company has caused this Warrant to be signed by its duly authorized officer.

PTC THERAPEUTICS, INC.

By /s/ MARK E. BOULDING

Mark E. Boulding
Senior Vice President, Business Development and Legal; Secretary of the Corporation

Acknowledged and Accepted:

TULARIK INC.

By /s/ J. Rieflin

Name: J. Rieflin
Title: Vice President

Confidential

Exhibit A

NOTICE OF EXERCISE

TO: PTC Therapeutics, Inc.

Attention: Legal Department

1. The undersigned hereby elects to purchase _____ (leave blank if you choose Alternative No. 2 below) shares of Common Stock, par value $0.001 per share, of PTC Therapeutics, Inc. pursuant to the terms of this Warrant, and tenders herewith payment of the purchase price of such shares in full. (Initial here if the undersigned elects this alternative). _____

2. In lieu of exercising the attached Warrant for cash, the undersigned hereby elects to effect the net issuance provision of Section 2(b) of this Warrant and receive _____ (leave blank if you choose Alternative No. 1 above) shares of Common Stock, par value $0.001 per share, of PTC Therapeutics, Inc. pursuant to the terms of this Warrant. (Initial here if the undersigned elects this alternative). _____

3. Please issue a certificate or certificates representing said securities in the name of the undersigned or in such other name as is specified below:

_____

(Name)

_____

_____

(Address)

4. The undersigned hereby represents and warrants that the aforesaid securities are being acquired for the account of the undersigned for investment and not with a view to, or for resale, in connection with the distribution thereof, and that the undersigned has no present intention of distributing or reselling such shares and all representations and warranties of the undersigned set forth in Section 12 of the attached Warrant are true and correct as of the date hereof.

_____

(Signature and Date)

Exhibit 4.9

STOCK PURCHASE WARRANT

For the purchase of up to 534,397 shares of
Series E Convertible Preferred Stock,
par value $.001 per share

No. W-TCC-01E December 19, 2003

PTC Therapeutics, Inc., a Delaware corporation (the "Company"), hereby certifies that, for good and valuable consideration, Three Crowns Capital (Bermuda) Ltd. or its permitted assigns (the "Warrant Holder") is entitled, subject to the terms set forth below, to purchase from the Company at any time on or before 5:00 p.m., Boston, Massachusetts time, on December 19, 2013 (the "Exercise Period"), up to 534,397 fully-paid and non-assessable shares of Series E Convertible Preferred Stock, par value $.001 per share, of the Company (the "Series E Preferred Stock"), or shares of the Common Stock, par value $.001 per share, of the Company (the "Common Stock") upon a mandatory conversion of the Series E Preferred Stock as provided in Section 3 hereof (the Series E Preferred Stock and the Common Stock are hereinafter collectively referred to as "Shares"), at a price per share (the "Exercise Price") which shall initially be $0.397644 per share and which shall be subject to adjustment as herein provided.

1. Exercise of Warrants.

1.1. Exercise. Subject to the terms and conditions of this Warrant, this Warrant shall become exercisable by the Warrant Holder on December 19, 2003.

1.2. Procedure to Exercise. This Warrant may be exercised by the Warrant Holder, in whole or in part, by surrendering this Warrant, with the purchase form appended hereto as Exhibit A duly executed by such Warrant Holder or by such Warrant Holder's duly authorized attorney, at the principal office of the Company, or at such other office or agency as the Company may designate, accompanied by payment in full by cash, check or wire transfer of the amount obtained by multiplying the number of Shares in the notice of exercise by the Exercise Price (the "Purchase Price").

1.3. Net Issue Exercise. In lieu of exercising this Warrant in the manner provided above in Section 1.2, the Warrant Holder may elect to receive shares equal to the value of this Warrant (or the portion thereof being converted) by surrender of this Warrant, in whole or in part, at the principal office of the Company together with the notice of exercise attached hereto as Exhibit A, in which event the Company shall issue to the Warrant Holder the number of Shares computed using the following formula (a "Net Issue Exercise"):

$$X = \frac{Y (A - B)}{A}$$

Where: X = The number of Shares to be issued to the Warrant Holder.

Y = The number of Shares purchasable under this Warrant (at the date of

such calculation) that are being converted, in whole or in part, hereunder.

A = The Fair Market Value of one Share (at the date of such calculation).

B = The Exercise Price (as adjusted to the date of such calculation).

For purposes of this Section 1.3, if any Shares of the Warrant Holder or any other shareholder of the Company are registered or publicly traded, then the Fair Market Value of one Share shall mean the average of the closing bid and asked prices of the Common Stock quoted in the over the counter market summary or the closing price quoted by the Nasdaq National Market or any exchange on which the Common Stock is listed, whichever is applicable, as published in the Western Edition of The Wall Street Journal (or the Financial Times (US Edition) if not published in The Wall Street Journal) for the business day prior to the date of determination of fair market value. If the Shares are not traded on the Nasdaq National Market or on an exchange, the Fair Market Value of one Share shall be determined in good faith by the Company's Board of Directors.

1.4. Effectiveness. Each exercise or Net Issue Exercise of this Warrant shall be deemed to have been effected immediately prior to the close of business on the day on which this Warrant shall have been surrendered to the Company as provided in Sections 1.2 or 1.3 above. At such time, the person or persons in whose name or names any certificates for the Shares shall be issuable upon such exercise or Net Issue Exercise as provided in Section 2 below shall be deemed to have become the holder or holders of record of the Shares represented by such certificates.

2. Delivery of Stock Certificates, Etc. As soon as practicable after the exercise or Net Issue Exercise of this Warrant in full or in part, and in any event within 10 days thereafter, the Company at its expense will cause to be issued in the name of, and delivered to, the Warrant Holder, or as such Warrant Holder (upon payment by such Warrant Holder of any applicable transfer taxes) may direct (i) a certificate or certificates for the number of fully paid and non-assessable Shares to which the Warrant Holder shall be entitled upon such exercise or Net Issue Exercise, and (ii) in case such exercise or Net Issue Exercise is in part only, a new warrant or warrants (dated the date hereof) of like tenor, calling in the aggregate on the face or faces thereof for the number of Shares equal (without giving effect to any adjustment therein) to the number of Shares called for on the face of this Warrant minus the number of Shares purchased by the Warrant Holder upon such exercise or Net Issuance Exercise as provided in Sections 1.2 or 1.3 herein.

3. Adjustments Upon Mandatory Conversion of Series E Preferred Stock. Upon any mandatory conversion of the Series E Preferred Stock pursuant to the Company's Certificate of Incorporation, as amended or amended and restated from time to time, this Warrant shall cease to be exercisable for shares of Series E Preferred Stock and shall become exercisable for that number of shares of Common Stock into which the shares of Series E Preferred Stock purchasable hereunder would have been convertible immediately prior to such mandatory conversion, and such that payment of the Exercise Price, or any multiple thereof, shall entitle the Warrant Holder to receive the number of shares of Common Stock as would have been issued upon conversion of each share of Series E Preferred Stock purchasable hereunder immediately prior to such mandatory conversion.

4. Stock Splits, Stock Dividends and Combinations. If the Company at any time subdivides the outstanding shares of Series E Preferred Stock, or issues a stock dividend on the outstanding shares of Series E Preferred Stock, the Exercise Price in effect immediately prior to such subdivision or the issuance of such stock dividend shall be proportionately decreased, and the number of Shares shall be proportionately increased, and if the Company at any time combines the outstanding shares of Series E Preferred Stock, the Exercise Price in effect immediately prior to such combination shall be proportionately increased, and the number of shares shall be proportionately decreased, effective at the close of business on the date of such subdivision, stock dividend or combination, as the case may be. Upon any mandatory conversion of the Series E Preferred Stock as provided in Section 3, each reference to Series E Preferred Stock in this Section 4 shall be deemed to be Common Stock.

5. Conversions; Reorganizations; Reclassifications; Merger; Sales. In case of any capital reorganization or any reclassification of the capital stock of the Company or in case of the consolidation or merger of the Company with or into another corporation or the conveyance of all or substantially all of the assets of the Company to another corporation (an "M&A Transaction"), this Warrant shall thereafter be exercisable for the number of shares of stock or other securities or property to which a holder of the number of Shares deliverable upon exercise of the Warrant would have been entitled to upon such conversion, reorganization, reclassification, consolidation, merger or conveyance and, in any such case, appropriate adjustment as determined by the Board of Directors of the Company shall be made in the application of the provisions herein set forth with respect to the rights and interests thereafter of the Warrant Holder to the end that the provisions set forth herein (including provisions with respect to changes in and other adjustments of the Exercise Price and the number of Shares) shall thereafter be applicable, as nearly as reasonably may be, in relation to any shares of stock or other property thereafter deliverable upon the exercise of the Warrant. Should the Board of Directors make a good faith determination that compliance with the terms of this Section will have a material adverse effect on the M&A Transaction, then the Company may require that Warrant Holder exercise all or part of this Warrant on the terms set forth herein.

6. Statement of Adjustment. Whenever the Exercise Price shall be adjusted as provided herein, the Company shall promptly file with the Secretary of the Company or at such other place as shall be designated by the Company, a statement, signed by its chief financial officer, showing in detail the facts requiring such adjustment, the Exercise Price in effect before and after such adjustment and the kind and amount of shares of capital stock, securities or other property thereafter to be received upon the exercise of this Warrant. The Company shall also

cause a copy of such statement to be sent in the manner specified in Section 16.3 to the Warrant Holder.

7. Notice of Adjustment. In the event the Company shall propose to take any action of the types described in Sections 4 or 5, the Company shall give notice to the Warrant Holder in the manner set forth in Section 16.3, which notice shall specify the record date, if any, with respect to any such action and the date on which such action is to take place. Such notice shall also set forth such facts with respect thereto as shall be reasonably necessary to indicate the effect of such action (to the extent such effect may be known at the date of such notice) on the Exercise Price and the number, kind or class of shares or other securities or property which shall be deliverable or purchasable upon the occurrence of such action or deliverable upon the exercise hereof. In the case of any action which would require the fixing of a record date, such notice shall be given at least ten (10) days prior to the date so fixed, and in case of all other actions, such notice shall be given at least twenty (20) days prior to the taking of such proposed action. Failure to give such notice, or any defect therein, shall not affect the legality or validity of any such action.

8. Taxes. The Company shall pay all documentary, stamp or other transactional taxes attributable to the issuance or delivery of shares of capital stock of the Company upon the exercise or conversion hereof; provided, however, Company shall have no obligation to pay any documentary, stamp or other transactional taxes on transfers initiated by Warrant Holder.

9. No Fractional Shares. Each adjustment in the number of Shares purchasable hereunder shall be calculated, to the nearest whole share with fractional shares disregarded.

10. Covenants as to Series Preferred Stock and Common Stock. The Company covenants and agrees that the shares of Series E Preferred Stock issuable hereunder, and the Common Stock issuable upon conversion thereof, and the Common Stock issuable hereunder, as the case may be, will, upon issuance in accordance with the terms hereof, be validly issued and outstanding, fully paid and nonassessable, and free from all taxes, liens and charges with respect to the issuance thereof imposed by or through the Company. The Company further covenants and agrees that the Company will at all times have authorized and reserved, free from preemptive rights imposed by or through the Company, a sufficient number of shares of Series E Preferred Stock and Common Stock to provide for the exercise of the rights represented by this Warrant. The Company further covenants and agrees that if any shares of capital stock to be reserved for the purpose of the issuance of shares upon the exercise of this Warrant require registration or qualification with or approval by the Securities and Exchange Commission or any state regulatory agency under Federal or state law (or by any analogous foreign regulatory body) before such shares may be validly issued or delivered upon exercise, then the Company will in good faith and as expeditiously as possible endeavor to secure such registration, qualification or approval, as the case may be. Holders of Series E Preferred Stock and Common Stock issuable upon exercise of this Warrant or conversion of any such shares, as the case may be, shall be entitled to all the rights and privileges, and bound by the obligations, of the Purchase Agreement, the Investor Rights Agreement, and the Amended and Restated Voting Rights Agreement, all dated as of the date hereof between the Company and the Investors (as defined therein) with respect to such shares (the "Shareholder Agreements"). Upon exercise of the Warrant, Warrant Holder at Company's request shall sign any counterpart signature pages required in connection with becoming a party to such Shareholder Agreements.

11. No Impairment. The Company will not voluntarily avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such action as may be necessary or appropriate in order to protect the rights of the Warrant Holder against impairment due to such event.

12. Compliance with Securities Act.

12.1 Unregistered Securities. The Warrant Holder acknowledges that this Warrant and the Shares have not been registered under the Securities Act of 1933, as amended, and the rules and regulations thereunder, or any successor legislation (the "Securities Act"), and agrees not to sell, pledge, distribute, offer for sale, transfer or otherwise dispose of this Warrant or any Shares in the absence of (i) an effective registration statement under the Securities Act covering this Warrant or such Shares and registration or qualification of this Warrant or such Shares under any applicable "blue sky" or state securities law then in effect, or (ii) an opinion of counsel, satisfactory to the Company, that such registration and qualification are not required. The Company may delay issuance of the Shares until completion of any action or obtaining of any consent, which the Company deems necessary under any applicable law (including without limitation state securities or "blue sky" laws).

12.2 Investment Representation. The Warrant Holder represents to the Company that this Warrant is being acquired for the Warrant Holder's own account and for the purpose of investment and not with a present view to, or for sale in connection with, the distribution thereof, nor with any present intention of distributing or selling the Warrant or Common Stock issuable upon exercise of the Warrant. The Warrant Holder acknowledges that it has been afforded the opportunity to meet with the management of the Company and to ask questions of, and receive answers from, such management and the Company's counsel about the business and affairs of the Company and concerning the terms and conditions of the offering of this Warrant, and to obtain any additional information, to the extent that the Company possessed such information or could acquire it without unreasonable effort or expense, necessary to verify the accuracy of the information otherwise obtained by or furnished to the Warrant Holder. The Holder has received all information which the Warrant Holder considered necessary to form a decision concerning the purchase of this Warrant, and no valid request to the Company by the Warrant Holder hereof for information of any kind about the Company has been refused or denied by the Company or remains unfulfilled as of the date hereof. The Warrant Holder attests that it is considered to be a sophisticated investor, is familiar with the risks inherent in speculative investments such as in the Company, has such knowledge and experience in financial business matters that he is capable of evaluating the merits and risk of the investment in this Warrant and the Shares, and is able to bear the economic risk of the investment. The Warrant Holder confirms that he is an "accredited investor" as such term is defined in rule 501(a) of the Securities Act.

12.3 Investment Letter. Without limiting the generality of Section 12.1, unless the offer and sale of any shares of Shares shall have been effectively registered under the Securities Act, the Company shall be under no obligation to issue the Shares unless and until the Warrant Holder shall have executed an investment letter in form and substance satisfactory to the Company, including a warranty at the time of such exercise that the Warrant Holder is acquiring such shares for its own

account, for investment and not with a view to, or for sale in connection with, the distribution of any such shares.

12.4 Legend. Certificates delivered to the Warrant Holder pursuant to Section 2 shall bear the following legend or a legend in substantially similar form (as well any such other legends as Company may reasonably require of its shareholders generally):

"THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 OR ANY OTHER SECURITIES LAWS. THESE SECURITIES HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO DISTRIBUTION OR RESALE. SUCH SECURITIES MAY NOT BE OFFERED FOR SALE, SOLD, DELIVERED AFTER SALE, TRANSFERRED, PLEDGED OR HYPOTHECATED IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT COVERING SUCH SECURITIES UNDER THE SECURITIES ACT OF 1933 AND ANY OTHER APPLICABLE SECURITIES LAWS, UNLESS THE HOLDER SHALL HAVE OBTAINED AN OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE CORPORATION THAT SUCH REGISTRATION IS NOT REQUIRED."

THE CORPORATION IS AUTHORIZED TO ISSUE MORE THAN ONE CLASS OR SERIES OF STOCK. THE CORPORATION WILL FURNISH WITHOUT CHARGE TO EACH STOCKHOLDER WHO SO REQUESTS THE POWERS, DESIGNATIONS, PREFERENCES AND RELATIVE, PARTICIPATING, OPTIONAL, OR OTHER SPECIAL RIGHTS OF EACH CLASS OF STOCK OR SERIES THEREOF AND THE QUALIFICATIONS, LIMITATIONS OR RESTRICTIONS OF SUCH PREFERENCES AND/OR RIGHTS.

THE SHARES REPRESENTED HEREBY ARE ALSO SUBJECT TO RESTRICTIONS ON TRANSFER CONTAINED IN CERTAIN SUBSCRIPTION AND INVESTOR RIGHTS AGREEMENTS, AND MAY NOT BE SOLD, PLEDGED OR OTHERWISE TRANSFERRED WITHOUT COMPLIANCE WITH THE TERMS THEREOF. THE COMPANY WILL FURNISH A COPY OF THE FULL TEXT OF SUCH RESTRICTIONS TO THE HOLDER OF THIS CERTIFICATE UPON WRHTEN REQUEST AND WITHOUT CHARGE.

THE SHARES EVIDENCED BY THIS CERTIFICATE ARE SUBJECT TO A CERTAIN AMENDED AND RESTATED VOTING AGREEMENT DATED AS OF _____, 20__ BY AND AMONG THE COMPANY AND THE STOCKHOLDERS OF THE COMPANY, A COPY OF WHICH AGREEMENT IS AVAILABLE FOR INSPECTION AT THE OFFICES OF THE COMPANY OR MAY BE OBTAINED FROM THE COMPANY UPON REQUEST AND WITHOUT CHARGE.

13. Transferability. Without the prior written consent of the Company, neither the Warrant nor the shares issuable upon exercise thereof (the "Warrant Shares") shall be assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) or be subject to execution, attachment or similar process. Any attempted transfer, assignment, pledge,

hypothecation or other disposition of the Warrant, Warrant Shares, or of any rights granted hereunder contrary to the provisions of this Section 13, or the levy of any attachment or similar process upon the Warrant, Warrant Shares, or such rights, shall be null and void. If, in connection with a registration statement filed by the Company pursuant to the Securities Act of 1933, the Company or its underwriter so requests, the Warrant Holder will agree not to sell any Warrant Shares for a period not to exceed 180 days following the effectiveness of such registration.

14. Lost, Stolen, Mutilated or Destroyed Warrant. If this Warrant is lost, stolen, mutilated or destroyed, the Company may, on such terms as to indemnity or otherwise as it may reasonably in its discretion impose (which shall in the case of a mutilated Warrant, include the surrender thereof), issue a new Warrant of like denomination and tenor as the Warrant so lost, stolen, mutilated or destroyed.

15. Register of Warrants. The Company shall maintain, at the principal office of the Company (or such other office as it may designate by notice to the Warrant Holder), a register for the Warrants in which the Company shall record the name and address of the person in whose name a Warrant has been issued, as well as the name and address of each transferee and each prior owner of such Warrant.

16. Miscellaneous.

16.1 Waivers and Amendments. This Warrant or any provisions hereof may be changed, waived, discharged or terminated only by a statement in writing signed by the Company and by Warrant Holders who hold or have the right to acquire at least two-thirds of the Shares at such time issued or issuable upon exercise of the Warrants, provided that no change, addition, omission or waiver shall be made without the written consent of the Warrant Holder(s) which affects (i) the number of Shares issuable on exercise of this Warrant, (ii) the Exercise Price or (iii) any other provision other than in a manner in which all the Warrants are affected.

16.2 Governing Law. This Agreement shall be governed by and construed and enforced in accordance with the laws of the State of Delaware (US) without giving effect to the conflicts of laws principles thereof.

16.3 Notices. All notices or other communications required or permitted hereunder shall be in writing and shall be hand delivered, sent by facsimile or other electronic medium, or mailed, postage prepaid, or sent by reputable overnight courier, delivery charges prepaid, addressed as follows or to such other address as may be furnished in writing to the other parties hereto:

If to the Warrant Holder: Three Crowns Capital (Bermuda) Ltd.
Suite 1139
48 Par-La-Ville Road
Hamilton HM11
Bermuda
441-293 7107 (Fax)
Attention: Peter Svennilson

With a copy to: Conyers Dill & Pearman

	Clarendon House 2 Church Street Hamilton HM 11 Bermuda 441-292-4720 (Fax) Attention: Peter A. S. Pearman
And:	Nixon Peabody LLP 101 Federal Street Boston, MA 02110 617-345-1300 (Fax) Attention: Carter S. Bacon, Esq.
If to the Company:	PTC Therapeutics, Inc. Attention: Legal Department 100 Corporate Court Middlesex Business Center South Plainfield, NJ 07080 with an email copy to: legal@ptcbio.com
With a copy to:	Wilmer Cutler Pickering Hale and Dorr LLP 60 State Street Boston, Massachusetts 02109 Attn: David E. Redlick, Esq.

All such notices and communications shall be deemed to have been duly given (i) five (5) business days after being deposited in the mail, postage prepaid if mailed, (ii) one (1) business day after being sent by overnight courier, (iii) when receipt acknowledged if telecopied and (iv) upon receipt if delivered by hand.

16.4 Headings. The headings in this Warrant are for convenience of reference only and shall not limit or otherwise affect the terms hereof.

16.5 Remedies. The Company stipulates that the remedies at law of the holder of this Warrant in the event of any default or threatened default by the Company in the performance of or compliance with any of the terms of this Warrant are not and will not be adequate, and that such terms may be specifically enforced by a decree for the specific performance of any agreement contained herein or by an injunction against a violation of any of the terms hereof or otherwise.

16.6 Currency. All currency references herein are to United States Dollars.

16.7 Closing of Books. The Company will at no time close its transfer books against the transfer of any Warrant or of any Shares issued or issuable upon the exercise of the Warrant in a manner which interferes with the timely exercise of this Warrant.

16.8 No Rights or Liabilities as a Stockholder. This Warrant shall not entitle the Warrant Holder to any voting rights or other rights as a stockholder of the Company prior to the

exercise or conversion of the Warrant, provided that nothing herein shall be construed to limit or impair other rights that the Warrant Holder may have under this Warrant or otherwise. No provision of this Warrant, in the absence of affirmative action by the Warrant Holder to purchase the Shares, and no mere enumeration herein of the rights or privileges of the Warrant Holder, shall give rise to any liability of such Warrant Holder for the Exercise Price or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

IN WITNESS WHEREOF, the undersigned has caused this Warrant to be executed as an instrument under seal.

PTC Therapeutics, Inc.

By: /s/ MARK E. BOULDING

Name: Mark E. Boulding

Title: S.V.P., Business Development and Legal

AGREED AND ACKNOWLEDGED:

THREE CROWNS CAPITAL (BERMUDA) LTD.

EXHIBIT A

NOTICE OF EXERCISE OR NET ISSUE EXERCISE

Date: _____ __, 20__

YY

Gentlemen:

The undersigned hereby elects to exercise or Net Issue Exercise the enclosed Warrant issued by YY (the "Company") and dated as of _____ __, 2003.

The undersigned elects to:

[ ] Exercise the Warrant and to purchase thereunder _____ shares of the Series __ Preferred Stock of the Company (the "Shares") at an exercise price of _____ per Share for an aggregate purchase price of _____ (the "Purchase Price"). Pursuant to the terms of the Warrant, the undersigned has delivered the Purchase Price herewith in full.

[ ] Net Issue Exercise _____% of the value of the Warrant at the current Exercise Price (as defined in the Warrant) of _____ per Share.

Very truly yours,

Exhibit 4.10

STOCK PURCHASE WARRANT

For the purchase of up to 460,018 shares of
Series E Convertible Preferred Stock,
par value $.001 per share

No. W-TCC-02E April 21, 2004

PTC Therapeutics, Inc., a Delaware corporation (the "Company"), hereby certifies that, for good and valuable consideration, Three Crowns Capital (Bermuda) Ltd. or its permitted assigns (the "Warrant Holder") is entitled, subject to the terms set forth below, to purchase from the Company at any time on or before 5:00 p.m., Boston, Massachusetts time, on April 21, 2014 (the "Exercise Period"), up to 460,018 fully-paid and non-assessable shares of Series E Convertible Preferred Stock, par value $.001 per share, of the Company (the "Series E Preferred Stock"), or shares of the Common Stock, par value $.001 per share, of the Company (the "Common Stock") upon a mandatory conversion of the Series E Preferred Stock as provided in Section 3 hereof (the Series E Preferred Stock and the Common Stock are hereinafter collectively referred to as "Shares"), at a price per share (the "Exercise Price") which shall initially be $0.397644 per share and which shall be subject to adjustment as herein provided.

1. Exercise of Warrants.

1.1. Exercise. Subject to the terms and conditions of this Warrant, this Warrant shall become exercisable by the Warrant Holder on April 21, 2004.

1.2. Procedure to Exercise. This Warrant may be exercised by the Warrant Holder, in whole or in part, by surrendering this Warrant, with the purchase form appended hereto as Exhibit A duly executed by such Warrant Holder or by such Warrant Holder's duly authorized attorney, at the principal office of the Company, or at such other office or agency as the Company may designate, accompanied by payment in full by cash, check or wire transfer of the amount obtained by multiplying the number of Shares in the notice of exercise by the Exercise Price (the "Purchase Price").

1.3. Net Issue Exercise. In lieu of exercising this Warrant in the manner provided above in Section 1.2, the Warrant Holder may elect to receive shares equal to the value of this Warrant (or the portion thereof being converted) by surrender of this Warrant, in whole or in part, at the principal office of the Company together with the notice of exercise attached hereto as Exhibit A, in which event the Company shall issue to the Warrant Holder the number of Shares computed using the following formula (a "Net Issue Exercise"):

$$X = \frac{Y (A - B)}{A}$$

Where: X = The number of Shares to be issued to the Warrant Holder.

Y = The number of Shares purchasable under this Warrant (at the date of

such calculation) that are being converted, in whole or in part, hereunder.

A = The Fair Market Value of one Share (at the date of such calculation).

B = The Exercise Price (as adjusted to the date of such calculation).

For purposes of this Section 1.3, if any Shares of the Warrant Holder or any other shareholder of the Company are registered or publicly traded, then the Fair Market Value of one Share shall mean the average of the closing bid and asked prices of the Common Stock quoted in the over the counter market summary or the closing price quoted by the Nasdaq National Market or any exchange on which the Common Stock is listed, whichever is applicable, as published in the Western Edition of The Wall Street Journal (or the Financial Times (US Edition) if not published in The Wall Street Journal) for the business day prior to the date of determination of fair market value. If the Shares are not traded on the Nasdaq National Market or on an exchange, the Fair Market Value of one Share shall be determined in good faith by the Company's Board of Directors.

1.4. Effectiveness. Each exercise or Net Issue Exercise of this Warrant shall be deemed to have been effected immediately prior to the close of business on the day on which this Warrant shall have been surrendered to the Company as provided in Sections 1.2 or 1.3 above. At such time, the person or persons in whose name or names any certificates for the Shares shall be issuable upon such exercise or Net Issue Exercise as provided in Section 2 below shall be deemed to have become the holder or holders of record of the Shares represented by such certificates.

2. Delivery of Stock Certificates, Etc. As soon as practicable after the exercise or Net Issue Exercise of this Warrant in full or in part, and in any event within 10 days thereafter, the Company at its expense will cause to be issued in the name of, and delivered to, the Warrant Holder, or as such Warrant Holder (upon payment by such Warrant Holder of any applicable transfer taxes) may direct (i) a certificate or certificates for the number of fully paid and non-assessable Shares to which the Warrant Holder shall be entitled upon such exercise or Net Issue Exercise, and (ii) in case such exercise or Net Issue Exercise is in part only, a new warrant or warrants (dated the date hereof) of like tenor, calling in the aggregate on the face or faces thereof for the number of Shares equal (without giving effect to any adjustment therein) to the number of Shares called for on the face of this Warrant minus the number of Shares purchased by the Warrant Holder upon such exercise or Net Issuance Exercise as provided in Sections 1.2 or 1.3 herein.

3. Adjustments Upon Mandatory Conversion of Series E Preferred Stock. Upon any mandatory conversion of the Series E Preferred Stock pursuant to the Company's Certificate of Incorporation, as amended or amended and restated from time to time, this Warrant shall cease to be exercisable for shares of Series E Preferred Stock and shall become exercisable for that number of shares of Common Stock into which the shares of Series E Preferred Stock purchasable hereunder would have been convertible immediately prior to such mandatory conversion, and such that payment of the Exercise Price, or any multiple thereof, shall entitle the Warrant Holder to receive the number of shares of Common Stock as would have been issued upon conversion of each share of Series E Preferred Stock purchasable hereunder immediately prior to such mandatory conversion.

4. Stock Splits, Stock Dividends and Combinations. If the Company at any time subdivides the outstanding shares of Series E Preferred Stock, or issues a stock dividend on the outstanding shares of Series E Preferred Stock, the Exercise Price in effect immediately prior to such subdivision or the issuance of such stock dividend shall be proportionately decreased, and the number of Shares shall be proportionately increased, and if the Company at any time combines the outstanding shares of Series E Preferred Stock, the Exercise Price in effect immediately prior to such combination shall be proportionately increased, and the number of shares shall be proportionately decreased, effective at the close of business on the date of such subdivision, stock dividend or combination, as the case may be. Upon any mandatory conversion of the Series E Preferred Stock as provided in Section 3, each reference to Series E Preferred Stock in this Section 4 shall be deemed to be Common Stock.

5. Conversions; Reorganizations; Reclassifications; Merger; Sales. In case of any capital reorganization or any reclassification of the capital stock of the Company or in case of the consolidation or merger of the Company with or into another corporation or the conveyance of all or substantially all of the assets of the Company to another corporation (an "M&A Transaction"), this Warrant shall thereafter be exercisable for the number of shares of stock or other securities or property to which a holder of the number of Shares deliverable upon exercise of the Warrant would have been entitled to upon such conversion, reorganization, reclassification, consolidation, merger or conveyance and, in any such case, appropriate adjustment as determined by the Board of Directors of the Company shall be made in the application of the provisions herein set forth with respect to the rights and interests thereafter of the Warrant Holder to the end that the provisions set forth herein (including provisions with respect to changes in and other adjustments of the Exercise Price and the number of Shares) shall thereafter be applicable, as nearly as reasonably may be, in relation to any shares of stock or other property thereafter deliverable upon the exercise of the Warrant. Should the Board of Directors make a good faith determination that compliance with the terms of this Section will have a material adverse effect on the M&A Transaction, then the Company may require that Warrant Holder exercise all or part of this Warrant on the terms set forth herein.

6. Statement of Adjustment. Whenever the Exercise Price shall be adjusted as provided herein, the Company shall promptly file with the Secretary of the Company or at such other place as shall be designated by the Company, a statement, signed by its chief financial officer, showing in detail the facts requiring such adjustment, the Exercise Price in effect before and after such adjustment and the kind and amount of shares of capital stock, securities or other property thereafter to be received upon the exercise of this Warrant. The Company shall also

cause a copy of such statement to be sent in the manner specified in Section 16.3 to the Warrant Holder.

7. Notice of Adjustment. In the event the Company shall propose to take any action of the types described in Sections 4 or 5, the Company shall give notice to the Warrant Holder in the manner set forth in Section 16.3, which notice shall specify the record date, if any, with respect to any such action and the date on which such action is to take place. Such notice shall also set forth such facts with respect thereto as shall be reasonably necessary to indicate the effect of such action (to the extent such effect may be known at the date of such notice) on the Exercise Price and the number, kind or class of shares or other securities or property which shall be deliverable or purchasable upon the occurrence of such action or deliverable upon the exercise hereof. In the case of any action which would require the fixing of a record date, such notice shall be given at least ten (10) days prior to the date so fixed, and in case of all other actions, such notice shall be given at least twenty (20) days prior to the taking of such proposed action. Failure to give such notice, or any defect therein, shall not affect the legality or validity of any such action.

8. Taxes. The Company shall pay all documentary, stamp or other transactional taxes attributable to the issuance or delivery of shares of capital stock of the Company upon the exercise or conversion hereof; provided, however, Company shall have no obligation to pay any documentary, stamp or other transactional taxes on transfers initiated by Warrant Holder.

9. No Fractional Shares. Each adjustment in the number of Shares purchasable hereunder shall be calculated, to the nearest whole share with fractional shares disregarded.

10. Covenants as to Series Preferred Stock and Common Stock. The Company covenants and agrees that the shares of Series E Preferred Stock issuable hereunder, and the Common Stock issuable upon conversion thereof, and the Common Stock issuable hereunder, as the case may be, will, upon issuance in accordance with the terms hereof, be validly issued and outstanding, fully paid and nonassessable, and free from all taxes, liens and charges with respect to the issuance thereof imposed by or through the Company. The Company further covenants and agrees that the Company will at all times have authorized and reserved, free from preemptive rights imposed by or through the Company, a sufficient number of shares of Series E Preferred Stock and Common Stock to provide for the exercise of the rights represented by this Warrant. The Company further covenants and agrees that if any shares of capital stock to be reserved for the purpose of the issuance of shares upon the exercise of this Warrant require registration or qualification with or approval by the Securities and Exchange Commission or any state regulatory agency under Federal or state law (or by any analogous foreign regulatory body) before such shares may be validly issued or delivered upon exercise, then the Company will in good faith and as expeditiously as possible endeavor to secure such registration, qualification or approval, as the case may be. Holders of Series E Preferred Stock and Common Stock issuable upon exercise of this Warrant or conversion of any such shares, as the case may be, shall be entitled to all the rights and privileges, and bound by the obligations, of the Purchase Agreement, the Investor Rights Agreement, and the Amended and Restated Voting Rights Agreement, all dated as of the date hereof between the Company and the Investors (as defined therein) with respect to such shares (the "Shareholder Agreements"). Upon exercise of the Warrant, Warrant Holder at Company's request shall sign any counterpart signature pages required in connection with becoming a party to such Shareholder Agreements.

11. No Impairment. The Company will not voluntarily avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such action as may be necessary or appropriate in order to protect the rights of the Warrant Holder against impairment due to such event.

12. Compliance with Securities Act.

12.1 Unregistered Securities. The Warrant Holder acknowledges that this Warrant and the Shares have not been registered under the Securities Act of 1933, as amended, and the rules and regulations thereunder, or any successor legislation (the "Securities Act"), and agrees not to sell, pledge, distribute, offer for sale, transfer or otherwise dispose of this Warrant or any Shares in the absence of (i) an effective registration statement under the Securities Act covering this Warrant or such Shares and registration or qualification of this Warrant or such Shares under any applicable "blue sky" or state securities law then in effect, or (ii) an opinion of counsel, satisfactory to the Company, that such registration and qualification are not required. The Company may delay issuance of the Shares until completion of any action or obtaining of any consent, which the Company deems necessary under any applicable law (including without limitation state securities or "blue sky" laws).

12.2 Investment Representation. The Warrant Holder represents to the Company that this Warrant is being acquired for the Warrant Holder's own account and for the purpose of investment and not with a present view to, or for sale in connection with, the distribution thereof, nor with any present intention of distributing or selling the Warrant or Common Stock issuable upon exercise of the Warrant. The Warrant Holder acknowledges that it has been afforded the opportunity to meet with the management of the Company and to ask questions of, and receive answers from, such management and the Company's counsel about the business and affairs of the Company and concerning the terms and conditions of the offering of this Warrant, and to obtain any additional information, to the extent that the Company possessed such information or could acquire it without unreasonable effort or expense, necessary to verify the accuracy of the information otherwise obtained by or furnished to the Warrant Holder. The Holder has received all information which the Warrant Holder considered necessary to form a decision concerning the purchase of this Warrant, and no valid request to the Company by the Warrant Holder hereof for information of any kind about the Company has been refused or denied by the Company or remains unfulfilled as of the date hereof. The Warrant Holder attests that it is considered to be a sophisticated investor, is familiar with the risks inherent in speculative investments such as in the Company, has such knowledge and experience in financial business matters that he is capable of evaluating the merits and risk of the investment in this Warrant and the Shares, and is able to bear the economic risk of the investment. The Warrant Holder confirms that he is an "accredited investor" as such term is defined in rule 501(a) of the Securities Act.

12.3 Investment Letter. Without limiting the generality of Section 12.1, unless the offer and sale of any shares of Shares shall have been effectively registered under the Securities Act, the Company shall be under no obligation to issue the Shares unless and until the Warrant Holder shall have executed an investment letter in form and substance satisfactory to the Company, including a warranty at the time of such exercise that the Warrant Holder is acquiring such shares for its own

account, for investment and not with a view to, or for sale in connection with, the distribution of any such shares.

12.4 Legend. Certificates delivered to the Warrant Holder pursuant to Section 2 shall bear the following legend or a legend in substantially similar form (as well any such other legends as Company may reasonably require of its shareholders generally):

"THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 OR ANY OTHER SECURITIES LAWS. THESE SECURITIES HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO DISTRIBUTION OR RESALE. SUCH SECURITIES MAY NOT BE OFFERED FOR SALE, SOLD, DELIVERED AFTER SALE, TRANSFERRED, PLEDGED OR HYPOTHECATED IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT COVERING SUCH SECURITIES UNDER THE SECURITIES ACT OF 1933 AND ANY OTHER APPLICABLE SECURITIES LAWS, UNLESS THE HOLDER SHALL HAVE OBTAINED AN OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE CORPORATION THAT SUCH REGISTRATION IS NOT REQUIRED."

THE CORPORATION IS AUTHORIZED TO ISSUE MORE THAN ONE CLASS OR SERIES OF STOCK. THE CORPORATION WILL FURNISH WITHOUT CHARGE TO EACH STOCKHOLDER WHO SO REQUESTS THE POWERS, DESIGNATIONS, PREFERENCES AND RELATIVE, PARTICIPATING, OPTIONAL, OR OTHER SPECIAL RIGHTS OF EACH CLASS OF STOCK OR SERIES THEREOF AND THE QUALIFICATIONS, LIMITATIONS OR RESTRICTIONS OF SUCH PREFERENCES AND/OR RIGHTS.

THE SHARES REPRESENTED HEREBY ARE ALSO SUBJECT TO RESTRICTIONS ON TRANSFER CONTAINED IN CERTAIN SUBSCRIPTION AND INVESTOR RIGHTS AGREEMENTS, AND MAY NOT BE SOLD, PLEDGED OR OTHERWISE TRANSFERRED WITHOUT COMPLIANCE WITH THE TERMS THEREOF. THE COMPANY WILL FURNISH A COPY OF THE FULL TEXT OF SUCH RESTRICTIONS TO THE HOLDER OF THIS CERTIFICATE UPON WRHTEN REQUEST AND WITHOUT CHARGE.

THE SHARES EVIDENCED BY THIS CERTIFICATE ARE SUBJECT TO A CERTAIN AMENDED AND RESTATED VOTING AGREEMENT DATED AS OF _____, 20__ BY AND AMONG THE COMPANY AND THE STOCKHOLDERS OF THE COMPANY, A COPY OF WHICH AGREEMENT IS AVAILABLE FOR INSPECTION AT THE OFFICES OF THE COMPANY OR MAY BE OBTAINED FROM THE COMPANY UPON REQUEST AND WITHOUT CHARGE.

13. Transferability. Without the prior written consent of the Company, neither the Warrant nor the shares issuable upon exercise thereof (the "Warrant Shares") shall be assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) or be subject to execution, attachment or similar process. Any attempted transfer, assignment, pledge,

hypothecation or other disposition of the Warrant, Warrant Shares, or of any rights granted hereunder contrary to the provisions of this Section 13, or the levy of any attachment or similar process upon the Warrant, Warrant Shares, or such rights, shall be null and void. If, in connection with a registration statement filed by the Company pursuant to the Securities Act of 1933, the Company or its underwriter so requests, the Warrant Holder will agree not to sell any Warrant Shares for a period not to exceed 180 days following the effectiveness of such registration.

14. Lost, Stolen, Mutilated or Destroyed Warrant. If this Warrant is lost, stolen, mutilated or destroyed, the Company may, on such terms as to indemnity or otherwise as it may reasonably in its discretion impose (which shall in the case of a mutilated Warrant, include the surrender thereof), issue a new Warrant of like denomination and tenor as the Warrant so lost, stolen, mutilated or destroyed.

15. Register of Warrants. The Company shall maintain, at the principal office of the Company (or such other office as it may designate by notice to the Warrant Holder), a register for the Warrants in which the Company shall record the name and address of the person in whose name a Warrant has been issued, as well as the name and address of each transferee and each prior owner of such Warrant.

16. Miscellaneous.

16.1 Waivers and Amendments. This Warrant or any provisions hereof may be changed, waived, discharged or terminated only by a statement in writing signed by the Company and by Warrant Holders who hold or have the right to acquire at least two-thirds of the Shares at such time issued or issuable upon exercise of the Warrants, provided that no change, addition, omission or waiver shall be made without the written consent of the Warrant Holder(s) which affects (i) the number of Shares issuable on exercise of this Warrant, (ii) the Exercise Price or (iii) any other provision other than in a manner in which all the Warrants are affected.

16.2 Governing Law. This Agreement shall be governed by and construed and enforced in accordance with the laws of the State of Delaware (US) without giving effect to the conflicts of laws principles thereof.

16.3 Notices. All notices or other communications required or permitted hereunder shall be in writing and shall be hand delivered, sent by facsimile or other electronic medium, or mailed, postage prepaid, or sent by reputable overnight courier, delivery charges prepaid, addressed as follows or to such other address as may be furnished in writing to the other parties hereto:

If to the Warrant Holder: Three Crowns Capital (Bermuda) Ltd.
Suite 1139
48 Par-La-Ville Road
Hamilton HM11
Bermuda
441-293 7107 (Fax)
Attention: Peter Svennilson

With a copy to: Conyers Dill & Pearman

	Clarendon House 2 Church Street Hamilton HM 11 Bermuda 441-292-4720 (Fax) Attention: Peter A. S. Pearman
And:	Nixon Peabody LLP 101 Federal Street Boston, MA 02110 617-345-1300 (Fax) Attention: Carter S. Bacon, Esq.
If to the Company:	PTC Therapeutics, Inc. Attention: Legal Department 100 Corporate Court Middlesex Business Center South Plainfield, NJ 07080 with an email copy to: legal@ptcbio.com
With a copy to:	Wilmer Cutler Pickering Hale and Dorr LLP 60 State Street Boston, Massachusetts 02109 Attn: David E. Redlick, Esq.

All such notices and communications shall be deemed to have been duly given (i) five (5) business days after being deposited in the mail, postage prepaid if mailed, (ii) one (1) business day after being sent by overnight courier, (iii) when receipt acknowledged if telecopied and (iv) upon receipt if delivered by hand.

16.4 Headings. The headings in this Warrant are for convenience of reference only and shall not limit or otherwise affect the terms hereof.

16.5 Remedies. The Company stipulates that the remedies at law of the holder of this Warrant in the event of any default or threatened default by the Company in the performance of or compliance with any of the terms of this Warrant are not and will not be adequate, and that such terms may be specifically enforced by a decree for the specific performance of any agreement contained herein or by an injunction against a violation of any of the terms hereof or otherwise.

16.6 Currency. All currency references herein are to United States Dollars.

16.7 Closing of Books. The Company will at no time close its transfer books against the transfer of any Warrant or of any Shares issued or issuable upon the exercise of the Warrant in a manner which interferes with the timely exercise of this Warrant.

16.8 No Rights or Liabilities as a Stockholder. This Warrant shall not entitle the Warrant Holder to any voting rights or other rights as a stockholder of the Company prior to the

exercise or conversion of the Warrant, provided that nothing herein shall be construed to limit or impair other rights that the Warrant Holder may have under this Warrant or otherwise. No provision of this Warrant, in the absence of affirmative action by the Warrant Holder to purchase the Shares, and no mere enumeration herein of the rights or privileges of the Warrant Holder, shall give rise to any liability of such Warrant Holder for the Exercise Price or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

IN WITNESS WHEREOF, the undersigned has caused this Warrant to be executed as an instrument under seal.

PTC Therapeutics, Inc.

By: /s/ MARK E. BOULDING
Name: Mark E. Boulding
Title: SVP, Business Development and Legal

AGREED AND ACKNOWLEDGED:

THREE CROWNS CAPITAL (BERMUDA) LTD.

By: /s/ HARALD EKMAN
Name: Harald Ekman
Title: President

EXHIBIT A

NOTICE OF EXERCISE OR NET ISSUE EXERCISE

Date: _____ __, 20__

YY

Gentlemen:

The undersigned hereby elects to exercise or Net Issue Exercise the enclosed Warrant issued by YY (the "Company") and dated as of _____ __, 2003.

The undersigned elects to:

[ ] Exercise the Warrant and to purchase thereunder _____ shares of the Series __ Preferred Stock of the Company (the "Shares") at an exercise price of _____ per Share for an aggregate purchase price of _____ (the "Purchase Price"). Pursuant to the terms of the Warrant, the undersigned has delivered the Purchase Price herewith in full.

[ ] Net Issue Exercise ____% of the value of the Warrant at the current Exercise Price (as defined in the Warrant) of _____ per Share.

Very truly yours,

Exhibit 10.1

PTC THERAPEUTICS, INC.
SIXTH AMENDED AND RESTATED
1998 EMPLOYEE, DIRECTOR AND CONSULTANT STOCK OPTION PLAN

1. DEFINITIONS. Unless otherwise specified or unless the context otherwise requires, the following terms, as used in this Sixth Amended and Restated PTC Therapeutics, Inc. 1998 Employee, Director and Consultant Stock Option Plan, have the following meanings:

Administrator means the Board of Directors, unless it has delegated power to act on its behalf to the Committee, in which case the Administrator means the Committee.

Affiliate means a corporation which, for purposes of Section 424 of the Code, is a parent or subsidiary of the Company, direct or indirect.

Board of Directors means the Board of Directors of the Company.
Certificate means an Option Certificate.

Code means the United States Internal Revenue Code of 1986, as amended.

Committee means the committee of the Board of Directors to which the Board of Directors has delegated power to act under or pursuant to the provisions of the Plan.

Common Stock means shares of the Company's common stock, $.001 par value per share.

Company means PTC Therapeutics, Inc., a Delaware corporation.

Disability or Disabled means permanent and total disability as defined in Section 22(e)(3) of the Code.

Fair Market Value of a Share of Common Stock means:
(a) If the Common Stock is listed on a national securities exchange or traded in the over-the-counter market and sales prices are regularly reported for the Common Stock, the closing or last price of the Common Stock on the Composite Tape or other comparable reporting system for the trading day immediately preceding the applicable date;
(b) If the Common Stock is not traded on a national securities exchange but is traded on the over-the-counter market, if sales prices are not regularly reported for the Common Stock for the trading day referred to in clause (a), and if bid and asked prices for the Common Stock are regularly reported, the mean between the bid and the asked price for the Common Stock at the close of trading in the over-the-counter market for the trading day on which Common Stock was traded immediately preceding the applicable date; and
(c) If the Common Stock is neither listed on a national securities exchange nor traded in the over-the-counter market, such value as the Administrator, in good faith, shall determine.
ISO means an option meant to qualify as an incentive stock option under Section 422 of the Code.

Key Employee means any employee of the Company or of an Affiliate (including, without limitation, an employee who is also serving as an officer or director of the Company or of an Affiliate), or otherwise designated by the Administrator to be eligible to be granted one or more Options under the Plan.

Non-Qualified Option means an option which is not intended to qualify as an ISO.

Option means an ISO or Non-Qualified Option granted under the Plan.
Option Certificate means a certificate delivered to the Participant by the Company pursuant to the Plan, in such form as the Administrator shall approve, which sets forth the terms and conditions of a Stock Option Grant.

Participant means a Key Employee, director or consultant to whom one or more Options are granted under the Plan. As used herein, "Participant" shall include "Participant's Survivors" where the context requires.

Plan means this Sixth Amended and Restated PTC Therapeutics, Inc. 1998 Employee, Director and Consultant Stock Option Plan.

Shares means shares of the Common Stock as to which Options have been or may be granted under the Plan or any shares of capital stock into which the Shares are changed or for which they are exchanged within the provisions of Paragraph 3 of the Plan. The Shares issued upon exercise of Options granted under the Plan may be authorized and unissued shares or shares held by the Company in its treasury, or

both.

Stock Option Grant means a grant of an option to purchase Shares under the Plan in either the form of an ISO or Non-Qualified Option.

Survivors means a deceased Participant's legal representatives and/or any person or persons who acquired the Participant's rights to an Option by will or by the laws of descent and distribution.

2. PURPOSES OF THE PLAN. The Plan is intended to encourage ownership of Shares by Key Employees and directors of and certain consultants to the Company in order to attract such people, to induce them to work for the benefit of the Company or of an Affiliate and to provide additional incentive for them to promote the success of the Company or of an Affiliate. The Plan provides for the granting of Stock Option Grants.

3. SHARES SUBJECT TO THE PLAN.

a. The number of Shares which may be issued from time to time pursuant to this Plan shall be equal to Two Million Four Hundred Twenty-six Thousand Eight (2,426,008), or the equivalent of such numbers of Shares after the Administrator, in its sole discretion, has interpreted the effect of any stock split, stock dividend, combination, recapitalization or similar transaction in accordance with Paragraph 16 of the Plan;

b. The maximum number of Shares that may be issued as ISOs pursuant to this Plan shall be equal to Two Million Three Hundred Twenty-six Thousand Eight (2,326,008), or the equivalent of such numbers of Shares after the Administrator, in its sole discretion, has interpreted the effect of any stock split, stock dividend, combination, recapitalization or similar transaction in accordance with Paragraph 16 of the Plan; and

c. If an Option ceases to be "outstanding", in whole or in part, the Shares which were subject to such Option shall be available for the granting of other Options under the Plan. Any Option shall be treated as "outstanding" until such Option is exercised in full, or terminates or expires under the provisions of the Plan, or by agreement of the parties to the pertinent Option Certificate.

4. ADMINISTRATION OF THE PLAN. The Administrator of the Plan will be the Board of Directors, except to the extent the Board of Directors delegates its authority to the Committee, in which case the Committee shall be the Administrator. Subject to the provisions of the Plan, the Administrator is authorized to:

a. Interpret the provisions of the Plan or of any Stock Option Grant or Option Certificate and to make all rules and determinations which it deems necessary or advisable for the administration of the Plan;
b. Determine which employees of the Company or of an Affiliate shall be designated as Key Employees and which of the Key Employees, directors and consultants shall be granted Options;
c. Determine the number of Shares for which an Option or Options shall be granted, provided, however, that in no event shall Options to purchase more than 700,000 Shares be granted to any Participant in any fiscal year; and
d. Specify the terms and conditions upon which an Option or Options may be granted

provided, however, that all such interpretations, rules, determinations, terms and conditions shall be made and prescribed in the context of preserving the tax status under Section 422 of the Code of those Options which are designated as ISOs. Subject to the foregoing, the interpretation and construction by the Administrator of any provisions of the Plan or of any Option granted under it shall be final, unless otherwise determined by the Board of Directors, if the Administrator is the Committee.

5. ELIGIBILITY FOR PARTICIPATION. The Administrator will, in its sole discretion, name the Participants in the Plan, provided, however, that each Participant must be a Key Employee, director or consultant of the Company or of an Affiliate at the time an Option is granted. Notwithstanding the foregoing, the Administrator may authorize the grant of an Option to a person not then an employee, director or consultant of the Company or of an Affiliate; provided, however, that the actual grant of such Option shall be conditioned upon such person becoming eligible to become a Participant at or prior to the time of the delivery of the Option Certificate evidencing such Option. ISOs may be granted only to Key Employees. Non-Qualified Options may be granted to any Key Employee, director or consultant of the Company or an Affiliate. The granting of any Option to any individual shall neither entitle that individual to, nor disqualify him or her from, participation in any other grant of Options.

6. TERMS AND CONDITIONS OF OPTIONS. Each Stock Option Grant shall be set forth in writing in an Option Certificate, duly executed by the Company and, to the extent required by law or requested by the Company, by the Participant. The Administrator may provide that Options be granted subject to such terms and conditions, consistent with the terms and conditions specifically required under this Plan, as the Administrator may deem appropriate including, without limitation, subsequent approval by the shareholders of the Company of this Plan or any amendments thereto.

A. Non-Qualified Options: Each Option intended to be a Non-Qualified Option shall be subject to the terms and conditions which the Administrator determines to be appropriate and in the best interest of the Company, subject to the following minimum standards for any such Non-Qualified Option:

a. Option Price: Each Option Certificate shall state the option price (per share) of the Shares covered by each Stock Option Grant, which option price shall be determined by the Administrator but shall not be less than 85% of the Fair Market Value per share of Common Stock;

b. Each Option Certificate shall state the number of Shares to which it pertains;

c. Each Option Certificate shall state the date or dates on which it first is exercisable and the date after which it may no longer be exercised, and may provide that the Option rights accrue or become exercisable in installments over a period of months or years, or upon the occurrence of certain conditions or the attainment of stated goals or events, or through other circumstances or programs approved by the Administrator (the "Vesting Provisions");

d. The provisions of Paragraph 6(A)(c) above notwithstanding, with the consent of the Administrator, the vesting provisions specified in a Participant's employment agreement shall be the Vesting Provisions that apply to the relevant Non-Qualified Options; and

e. Exercise of any Option may be conditioned upon the Participant's execution of a Share purchase agreement in form satisfactory to the Administrator providing for certain protections for the Company and its other shareholders, including requirements that:

i. The Participant's or the Participant's Survivors' right to sell or transfer the Shares may be restricted; and

ii. The Participant or the Participant's Survivors may be required to execute letters of investment intent and must also acknowledge that the Shares will bear legends noting any applicable restrictions.

B. ISOs: Each Option intended to be an ISO, in accordance with Section 422 of the Code, shall be issued only to a Key Employee and be subject to the following terms and conditions, with such additional restrictions or changes as the Administrator determines are appropriate but not in conflict with Section 422 of the Code and relevant regulations and rulings of the Internal Revenue Service:

a. Minimum standards: The ISO shall meet the minimum standards required of Non-Qualified Options, as described in Paragraph 6(A) above, except clause (a) thereunder;

b. Option Price: Immediately before the ISO is granted, if the Participant owns, directly or by reason of the applicable attribution rules in Section 424(d) of the Code:

   i. Ten percent (10%) or less of the total combined voting power of all classes of stock of the Company or an Affiliate, the Option price per share of the Shares covered by each ISO shall not be less than one hundred percent (100%) of the Fair Market Value per share of the Shares on the date of the Stock Option Grant; or

   ii. More than ten percent (10%) of the total combined voting power of all classes of stock of the Company or an Affiliate, the Option price per share of the Shares covered by each ISO shall not be less than one hundred ten percent (110%) of the said Fair Market Value on the date of the Stock Option Grant;

c. Term of Option: For Participants who own:

   i. Ten percent (10%) or less of the total combined voting power of all classes of stock of the Company or an Affiliate, each ISO shall terminate not more than ten (10) years from the date of the Stock Option Grant or at such earlier time as the Option Certificate may provide; or

   ii. More than ten percent (10%) of the total combined voting power of all classes of stock of the Company or an Affiliate, each ISO shall terminate not more than five (5) years from the date of the Stock Option Grant or at such earlier time as the Option Certificate may provide;

d. Limitation on Yearly Exercise: The Option Certificates shall restrict the amount of ISOs which may be exercisable in any calendar year (under this or any other ISO plan of the Company or an Affiliate) so that the aggregate Fair Market Value (determined at the time each ISO is granted) of the stock with respect to which ISOs are exercisable for the first time by the Participant in any calendar year does not exceed one hundred thousand dollars ($100,000), provided that this subparagraph (d) shall have no force or effect if its inclusion in the Plan is not necessary for Options issued as ISOs to qualify as ISOs pursuant to Section 422(d) of the Code; and

e. Intention to be Treated as an ISO: It is the Company's intent that an ISO qualify for the favorable tax treatment provided to holders of Options that meet the standards of Section 422 of the Code. Any provision of this Plan, an Option Certificate or any other relevant document which conflicts with the Code so that an Option intended to be an ISO would not be deemed an ISO is null and void and any ambiguities shall be resolved so that the Option qualifies as an ISO. Nonetheless, if the Option is determined not to be an ISO, the Participant shall be deemed to acknowledge and agree that neither the Company nor any Affiliate is responsible to compensate him or her or otherwise make up for the treatment of the Option as a Non-

Qualified Option and not as an ISO. The Participant is deemed to have been advised to consult with his or her own tax advisors regarding the tax effects of the Option and the requirements necessary to obtain favorable tax treatment under Section 422 of the Code, including, but not limited to, holding period requirements.

7. EXERCISE OF OPTIONS AND ISSUE OF SHARES. An Option (or any part or installment thereof) shall be exercised by giving written notice to the Company at its principal executive office address, together with provision for payment of the full purchase price in accordance with this Paragraph for the Shares as to which the Option is being exercised, and upon compliance with any other condition(s) set forth in the Option Certificate. Such written notice shall be signed by the person exercising the Option, shall state the number of Shares with respect to which the Option is being exercised and shall contain any representation required by the Plan or the Option Certificate. Payment of the purchase price for the Shares as to which such Option is being exercised shall be made (a) in United States dollars in cash or by check, or (b) at the discretion of the Administrator, through delivery of shares of Common Stock having a Fair Market Value equal as of the date of the exercise to the cash exercise price of the Option, or (c) at the discretion of the Administrator, by having the Company retain from the shares otherwise issuable upon exercise of the Option, a number of shares having a Fair Market Value equal as of the date of exercise to the exercise price of the Option, or (d) at the discretion of the Administrator, by delivery of the grantee's personal recourse note bearing interest payable not less than annually at no less than 100% of the applicable Federal rate, as defined in Section 1274(d) of the Code, or (e) at the discretion of the Administrator, in accordance with a cashless exercise program established with a securities brokerage firm, and as approved by the Administrator, or (f) at the discretion of the Administrator, by any combination of (a), (b), (c), (d) and (e) above. Notwithstanding the foregoing, the Administrator shall accept only such payment on exercise of an ISO as is permitted by Section 422 of the Code.

   The Company shall then reasonably promptly deliver the Shares as to which such Option was exercised to the Participant (or to the Participant's Survivors, as the case may be). In determining what constitutes "reasonably promptly," it is expressly understood that the issuance and delivery of the Shares may be delayed by the Company in order to comply with any law or regulation (including, without limitation, state securities or "blue sky" laws) which requires the Company to take any action with respect to the Shares prior to their issuance. The Shares shall, upon delivery, be evidenced by an appropriate certificate or certificates for fully paid, non-assessable Shares.

   The Administrator shall have the right to accelerate the date of exercise of any installment of any Option; provided that the Administrator shall not accelerate the exercise date of any installment of any Option granted to any Key Employee as an ISO (and not previously converted into a Non-Qualified Option pursuant to Paragraph 19) if such acceleration would violate the annual vesting limitation contained in Section 422(d) of the Code, as described in Paragraph 6.B.d.

   The Administrator may, in its discretion, amend any term or condition of an outstanding Stock Option Grant provided (i) such term or condition as amended is permitted by the Plan, (ii) any such amendment shall be made only with the consent of the Participant to whom the Option was granted, or in the event of the death of the Participant, the Participant's Survivors, if the amendment is adverse to the Participant, and (iii) any such amendment of any ISO shall be made only after the Administrator, after consulting the counsel for the Company, determines whether such amendment would constitute a "modification" of any Option which is an ISO (as that term is defined in Section 424(h) of the Code) or would cause any adverse tax consequences for the holder of such ISO.

8. RIGHTS AS A SHAREHOLDER. No Participant to whom an Option has been granted shall have rights as a shareholder with respect to any Shares covered by such Option, except after due exercise of the Option and tender of the full purchase price, if any, for the Shares being purchased pursuant to such exercise and registration of the Shares in the Company's share register in the name of the Participant.

9. ASSIGNABILITY AND TRANSFERABILITY OF OPTIONS. By its terms, an Option granted to a Participant shall not be transferable by the Participant other than (i) by will or by the laws of descent and distribution, (ii) as approved by the Administrator in its sole discretion and set forth in the applicable Option Certificate, (iii) if approved by the Administrator in its sole discretion, through establishment of blind trusts, family limited partnerships, or other estate planning vehicles wherein the Participant or

his direct descendants are the primary beneficiary, (iv) if approved by the Administrator in its sole discretion, in accordance with the division of property rights set forth in an authorized settlement agreement arising from the Participant's divorce, or (v) under any other circumstances that are approved by the Administrator in its sole discretion. Notwithstanding the foregoing, an ISO transferred in accordance with subsections 9(ii)-(v) above shall no longer qualify as an incentive stock option under Section 422 of the Code. The designation of a beneficiary of an Option by a Participant, with the prior approval of the Administrator and in such form as the Administrator shall prescribe, shall not be deemed a transfer prohibited by this Paragraph. Except as provided above, during the Participant's lifetime, an Option shall only be exercisable by such Participant (or by his or her legal representative) and shall not be assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) and shall not be subject to execution, attachment or similar process. Any attempted transfer, assignment, pledge, hypothecation or other disposition of any Option or of any rights granted thereunder contrary to the provisions of this Plan, or the levy of any attachment or similar process upon an Option, shall be null and void.

The Participant is required to notify the Company in writing immediately after the Participant makes a Disqualifying Disposition of any of the Shares acquired pursuant to the exercise of the Option. A Disqualifying Disposition is defined in Section 424(c) of the Code and includes any disposition (including any sale) of such Shares before the later of (a) two years after the date the Participant was granted the Option or (b) one year after the date the Participant acquired Shares by exercising the Option, except as otherwise provided in Section 424(c) of the Code. If the Participant has died before the Shares are sold, these holding period requirements do not apply and no Disqualifying Disposition can occur thereafter.

10. EFFECT OF TERMINATION OF SERVICE OTHER THAN "FOR CAUSE" OR DEATH OR DISABILITY. Except as otherwise provided in the pertinent Option Certificate, in the event of a termination of service (whether as an employee, director or consultant) with the Company or an Affiliate before the Participant has exercised an Option, the following rules apply:

    a. A Participant who ceases to be an employee, director or consultant of the Company or of an Affiliate (for any reason other than termination "for cause", Disability, or death for which events there are special rules in Paragraphs 11, 12, and 13, respectively), may exercise any Option granted to him or her (i) within three (3) months of such termination to the extent that the Option is exercisable on the date of such termination of service, but only if the Administrator has so designated in the pertinent Option Certificate, or (ii) over such other term as the Administrator shall determine in its sole discretion;

    b. Except as provided in Subparagraph (c) below, or Paragraph 12 or 13, in no event may an Option Certificate provide, if an Option is intended to be an ISO, that the time for exercise be later than three (3) months after the Participant's termination of employment;

c. The provisions of this Paragraph, and not the provisions of Paragraph 12 or 13, shall apply to a Participant who subsequently becomes Disabled or dies after the termination of employment, director status or consultancy in all cases with the Company or an Affiliate, provided, however, in the case of a Participant's Disability or death within three (3) months after the termination of employment, director status or consultancy, the Participant or the Participant's Survivors may exercise the Option within one (1) year after the date of the Participant's termination of employment, but in no event after the date of expiration of the term of the Option;

d. Notwithstanding anything herein to the contrary, if subsequent to a Participant's termination of employment, termination of director status or termination of consultancy, but prior to the exercise of an Option, the Board of Directors determines that, either prior or subsequent to the Participant's termination, the Participant engaged in conduct which would constitute "cause", then such Participant shall forthwith cease to have any right to exercise any Option;

e. A Participant to whom an Option has been granted under the Plan who is absent from work with the Company or with an Affiliate because of temporary disability (any disability other than a permanent and total Disability as defined in Paragraph 1 hereof), or who is on leave of absence for any purpose, shall not, during the period of any such absence, be deemed, by virtue of such absence alone, to have terminated such Participant's employment, director status or consultancy with the Company or with an Affiliate, except as the Administrator may otherwise expressly provide; and

f. Except as required by law or as set forth in the pertinent Option Certificate, Options granted under the Plan shall not be affected by any change of a Participant's status within or among the Company and any Affiliates, so long as the Participant continues to be an employee, director or consultant of the Company or any Affiliate.

11. EFFECT OF TERMINATION OF SERVICE "FOR CAUSE". Except as otherwise provided in the pertinent Option Certificate, the following rules apply if the Participant's service (whether as an employee, director or consultant) with the Company or an Affiliate is terminated "for cause" prior to the time that all his or her outstanding Options have been exercised:

a. All outstanding and unexercised Options as of the time the Participant is notified his or her service is terminated "for cause" will immediately be forfeited;

b. In addition to any definition of the term "for cause" set forth in any employment agreement between the Company and the Participant, for purposes of this Plan, the term "cause" shall include, without limitation (i) the failure of the Participant to perform any of his material duties to the Company or any of its Affiliates, (ii) the conviction of the Participant of any felony involving moral turpitude, (iii) any acts of fraud or embezzlement by the Participant involving the Company or any of its Affiliates, (iv) violation of any federal, state or local law, or administrative regulation related to the business of the Company or any of its Affiliates, (v) a conflict of interest, (vi) conduct that could result in publicity reflecting unfavorably on the Company or any of its Affiliates in a material way, (vii) failure to comply with the policies of the Company or any of its Affiliates, (viii) the unauthorized disclosure of confidential information, or (ix) a breach of the terms of any employment agreement, confidentiality agreement, non-competition and non-solicitation agreement or any other agreement between the Participant and the Company or any of its Affiliates, after giving effect to the notification provisions, if any, and the mechanisms to remedy or cure a breach, if appropriate, as described in any such agreement. The determination of the Administrator as to the existence of "cause" will be conclusive on the Participant and the Company; and

c. "Cause" is not limited to events which have occurred prior to a Participant's termination of service, nor is it necessary that the Administrator's finding of "cause" occur prior to termination. If the Administrator determines, subsequent to a Participant's termination of service but prior to the exercise of an Option, that either prior or subsequent to the Participant's

termination the Participant engaged in conduct which would constitute "cause," then the right to exercise any Option is forfeited.

12. EFFECT OF TERMINATION OF SERVICE FOR DISABILITY. Except as otherwise provided in the pertinent Option Certificate, a Participant who ceases to be an employee, director or consultant of the Company or of an Affiliate by reason of Disability may exercise any Option granted to such Participant:

    a. To the extent that the Option has become exercisable according to the vesting period of such Option as of the date of Disability; and

    b. To the extent of a pro rata portion through the date of Disability of any additional Options that would have become exercisable on the next vesting date had the Participant not become Disabled. The proration shall be based upon the number of days accrued in the current vesting period prior to the date of Disability.

A Disabled Participant may exercise such rights only within the period ending one (1) year after the date of the Participant's termination of employment, directorship or consultancy, as the case may be, notwithstanding that the Participant might have been able to exercise the Option as to some or all of the Shares on a later date if the Participant had not become disabled and had continued to be an employee, director or consultant or, if earlier, within the originally prescribed term of the Option.

The Administrator shall make the determination both of whether Disability has occurred and the date of its occurrence (unless a procedure for such determination is set forth in another agreement between the Company and such Participant, in which case such procedure shall be used for such determination). If requested, the Participant shall be examined by a physician selected or approved by the Administrator, the cost of which examination shall be paid for by the Company.

13. EFFECT OF DEATH WHILE AN EMPLOYEE, DIRECTOR OR CONSULTANT. Except as otherwise provided in the pertinent Option Certificate, in the event of the death of a Participant while the Participant is an employee, director or consultant of the Company or of an Affiliate, the Participant's Survivors may exercise any outstanding Option granted to the Participant:

    a. To the extent that the Option has become exercisable according to the vesting period of such Option as of the date of death; and

    b. To the extent of a pro rata portion through the date of death of any additional Options that would have become exercisable on the next vesting date had the Participant not died. The proration shall be based upon the number of days accrued in the current vesting period prior to the date of death.

If the Participant's Survivors wish to exercise the Option, they must take all necessary steps to exercise the Option within one (1) year after the date of death of such Participant, notwithstanding that the decedent might have been able to exercise the Option as to some or all of the Shares on a later date if he or she had not died and had continued to be an employee, director or consultant or, if earlier, within the originally prescribed term of the Option.

14. PURCHASE FOR INVESTMENT. Unless the offering and sale of the Shares to be issued upon the particular exercise of an Option shall have been effectively registered under the Securities Act of 1933, as now in force or hereafter amended (the "1933 Act"), the Company shall be under no obligation to issue the Shares covered by such exercise unless and until the following conditions have been fulfilled:

a. The person(s) who exercise(s) such Option shall warrant to the Company, prior to the receipt of such Shares, that such person(s) are acquiring such Shares for their own respective accounts, for investment, and not with a view to, or for sale in connection with, the distribution of any such Shares, in which event the person(s) acquiring such Shares shall be bound by the provisions of the following legend which shall be endorsed upon the certificate(s) evidencing their Shares issued pursuant to such exercise or such grant:

"The shares represented by this certificate have been taken for investment, and they may not be sold or otherwise transferred by any person, including a pledgee, unless (1) either (a) a Registration Statement with respect to such shares shall be effective under the Securities Act of 1933, as amended, or (b) the Company shall have received an opinion of counsel satisfactory to it that an exemption from registration under such Act is then available, and (2) there shall have been compliance with all applicable state securities laws."; and

b. At the discretion of the Administrator, the Company shall have received an opinion of its counsel that the Shares may be issued upon such particular exercise in compliance with the 1933 Act without registration thereunder.

15. DISSOLUTION OR LIQUIDATION OF THE COMPANY. Upon the dissolution or liquidation of the Company, all Options granted under this Plan which as of such date shall not have been exercised will terminate and become null and void; provided, however, that if the rights of a Participant or a Participant's Survivors have not otherwise terminated and expired, the Participant or the Participant's Survivors will have the right immediately prior to such dissolution or liquidation to exercise any Option to the extent that the Option is exercisable as of the date immediately prior to such dissolution or liquidation.

16. ADJUSTMENTS. Upon the occurrence of any of the following events, a Participant's rights with respect to any Option granted to him or her hereunder which has not previously been exercised in full shall be adjusted as hereinafter provided, unless otherwise specifically provided in the pertinent Option Certificate or, subject to the consent of the Administrator, as otherwise specified in an employment or other agreement between the Company and the Participant:

A. Stock Dividends and Stock Splits. If (i) the shares of Common Stock shall be subdivided or combined into a greater or smaller number of shares or if the Company shall issue any shares of Common Stock as a stock dividend on its outstanding Common Stock, or (ii) additional shares or new or different shares or other securities of the Company or other non-cash assets are distributed with respect to such shares of Common Stock, the number of shares of Common Stock deliverable upon the exercise of such Option may be appropriately increased or decreased proportionately, and appropriate adjustments may be made in the purchase price per share to reflect such events. The number of Shares subject to the limitation in Paragraph 4(c) shall also be proportionately adjusted upon the occurrence of such events.

B. Consolidations or Mergers. If the Company is to be consolidated with or acquired by another entity in a merger, sale of all or substantially all of the Company's assets or otherwise (an "Acquisition"), the Administrator or the board of directors of any entity assuming the obligations of the Company hereunder (the "Successor Board"), shall, as to outstanding Options, either (i) make appropriate provision for the continuation of such Options by substituting on an equitable basis for the Shares then subject to such Options, including without limitation any provisions relating to the acceleration of vesting, either the consideration payable with respect to the outstanding shares of Common Stock in connection with the Acquisition or securities of any successor or acquiring entity; or (ii) upon written notice to the Participants, provide that all vested Options must be exercised (either to the extent then exercisable, including Options subject to accelerated vesting provisions, or, at

the discretion of the Administrator, all Options being made fully exercisable for purposes of this Subparagraph), at the end of which period the Options shall terminate; or (iii) terminate all Options in exchange for a cash payment equal to the excess of the Fair Market Value of the Shares subject to such Options (either to the extent then exercisable or, at the discretion of the Administrator, all Options being made fully exercisable, including Options subject to accelerated vesting provisions, for purposes of this Subparagraph) over the exercise price thereof.

C. Recapitalization or Reorganization. In the event of a recapitalization or reorganization of the Company (other than a transaction described in Subparagraph B above) pursuant to which securities of the Company or of another corporation are issued with respect to the outstanding shares of Common Stock, a Participant upon exercising an Option shall be entitled to receive for the purchase price, if any, paid upon such exercise the securities which would have been received if such Option had been exercised prior to such recapitalization or reorganization.

D. Modification of ISOs. Notwithstanding the foregoing, any adjustments made pursuant to Subparagraph A, B or C above with respect to ISOs shall be made only after the Administrator, after consulting with counsel for the Company, determines whether such adjustments would constitute a "modification" of such ISOs (as that term is defined in Section 424(h) of the Code) or would cause any adverse tax consequences for the holders of such ISOs. If the Administrator determines that such adjustments made with respect to ISOs would constitute a modification of such ISOs, it may refrain from making such adjustments, unless the holder of an ISO specifically requests in writing that such adjustment be made and such writing indicates that the holder has full knowledge of the consequences of such "modification" on his or her income tax treatment with respect to the ISO.

17. ISSUANCES OF SECURITIES. Except as expressly provided herein, no issuance by the Company of shares of stock of any class, or securities convertible into shares of stock of any class, shall affect, and no adjustment by reason thereof shall be made with respect to, the number or price of shares subject to Options. Except as expressly provided herein, no adjustments shall be made for dividends paid in cash or in property (including without limitation, securities) of the Company prior to any issuance of Shares pursuant to a Stock Option Grant.

18. FRACTIONAL SHARES. No fractional shares shall be issued under the Plan and the person exercising such right shall receive from the Company cash in lieu of such fractional shares equal to the Fair Market Value thereof.

19. CONVERSION OF ISOs INTO NON-QUALIFIED OPTIONS; TERMINATION OF ISOs. The Administrator, at the written request of any Participant, may in its discretion take such actions as may be necessary to convert such Participant's ISOs (or any portions thereof) that have not been exercised on the date of conversion into Non-Qualified Options at any time prior to the expiration of such ISOs, regardless of whether the Participant is an employee of the Company or an Affiliate at the time of such conversion. Such actions may include, but not be limited to,

extending the exercise period or reducing the exercise price of the appropriate installments of such Options. At the time of such conversion, the Administrator (with the consent of the Participant) may impose such conditions on the exercise of the resulting Non-Qualified Options as the Administrator in its discretion may determine, provided that such conditions shall not be inconsistent with this Plan. Nothing in the Plan shall be deemed to give any Participant the right to have such Participant's ISOs converted into Non-Qualified Options, and no such conversion shall occur until and unless the Administrator takes appropriate action. The Administrator, with the consent of the Participant, may also terminate any portion of any ISO that has not been exercised at the time of such conversion.

20. WITHHOLDING. In the event that any federal, state, or local income taxes, employment taxes, Federal Insurance Contributions Act ("F.I.C.A.") withholdings or other amounts are required by applicable law or governmental regulation to be withheld from the Participant's salary, wages or other remuneration in connection with the exercise of an Option or a Disqualifying Disposition (as defined in Paragraphs 9 and 21), the Company may withhold from the Participant's compensation, if any, or may require that the Participant advance in cash to the Company, or to any Affiliate of the Company which employs or employed the Participant, the statutory minimum amount of such withholdings unless a different withholding arrangement, including the use of shares of the Company's Common Stock or a promissory note, is authorized by the Administrator (and permitted by law). For purposes hereof, the fair market value of the shares withheld for purposes of payroll withholding shall be determined in the manner provided in Paragraph 1 above, as of the most recent practicable date prior to the date of exercise. If the fair market value of the shares withheld is less than the amount of payroll withholdings required, the Participant may be required to advance the difference in cash to the Company or the Affiliate employer. The Administrator in its discretion may condition the exercise of an Option for less than the then Fair Market Value on the Participant's payment of such additional withholding.

21. NOTICE TO COMPANY OF DISQUALIFYING DISPOSITION. Each Key Employee who receives an ISO must agree to notify the Company in writing immediately after the Key Employee makes a Disqualifying Disposition of any shares acquired pursuant to the exercise of an ISO. A Disqualifying Disposition is any disposition (including any sale) of such shares before the later of (a) two years after the date the Key Employee was granted the ISO, or (b) one year after the date the Key Employee acquired Shares by exercising the ISO. If the Key Employee has died before such stock is sold, these holding period requirements do not apply and no Disqualifying Disposition can occur thereafter.

22. TERMINATION OF THE PLAN. The Plan will terminate on August 12, 2008, the date which is ten (10) years from the earlier of the date of its adoption and the date of its approval by the shareholders of the Company. The Plan may be terminated at an earlier date by vote of the shareholders of the Company; provided, however, that any such earlier termination shall not affect any Option Certificates executed prior to the effective date of such termination.

23. AMENDMENT OF THE PLAN AND CERTIFICATES. The Plan may be amended by the shareholders of the Company. The Plan may also be amended by the Administrator, including, without limitation, to the extent necessary to qualify any or all outstanding Options granted under the Plan or Options to be granted under the Plan for favorable federal income tax treatment (including deferral of taxation upon exercise) as may be afforded incentive stock options under Section 422 of the Code, and to the extent necessary to qualify the shares issuable upon exercise of any outstanding Options granted, or Options to be granted, under the Plan for listing on any national securities exchange or quotation in any national automated quotation system of securities dealers. Any amendment approved by the Administrator which the Administrator determines is of a scope that requires shareholder approval shall be subject to obtaining such shareholder approval. Any modification or amendment of the Plan shall not, without the consent of a Participant, adversely affect his or her rights under an Option previously granted to him or her. With the consent of the Participant affected, the Administrator may amend outstanding Option Certificates in a manner which may be adverse to the Participant but which is not inconsistent with the Plan. In the discretion of the Administrator, outstanding Option Certificates may be amended by the Administrator in a manner which is not adverse to the Participant. Except as provided herein, the terms and provisions of any Option Certificate may be waived, or consent for the departure therefrom granted, only by written document executed by the party entitled to the benefits of such terms or provisions. No such waiver or consent shall be deemed to be or shall constitute a waiver or consent with respect to any other terms or provisions of such Option Certificate, whether or not similar. Each such waiver or consent shall be effective only in the specific instance and for the purpose for

which it was given, and shall not constitute a continuing waiver or consent.

24. EMPLOYMENT OR OTHER RELATIONSHIP. Nothing in this Plan or any Option Certificates shall be deemed to prevent the Company or an Affiliate from terminating the employment, consultancy or director status of a Participant, nor to prevent a Participant from terminating his or her own employment, consultancy or director status or to give any Participant a right to be retained in employment or other service by the Company or any Affiliate for any period of time.

25. GOVERNING LAW. This Plan shall be construed and enforced in accordance with the law of the State of Delaware.

Exhibit 10.4

Confidential Materials omitted and filed separately with the Securities and Exchange Commission. Asterisks denote omissions.

RESEARCH COLLABORATION AND EXCLUSIVE OPTION AGREEMENT

This Research Collaboration and Exclusive Option Agreement ("Agreement") is made as of December 1, 2005 (the "Effective Date") by and between Bausch & Lomb Incorporated, a New York corporation with a place of business at One Bausch & Lomb Place, Rochester, New York 14604-2701 ("B&L") and PTC Therapeutics, Inc., a Delaware corporation with a place of business at 100 Corporate Court, South Plainfield, New Jersey 07080-2449 ("PTC").

RECITALS

WHEREAS, B&L desires to evaluate certain compounds in the possession of PTC for the purpose of identifying potential candidates for development by B&L for the treatment of ophthalmic diseases caused by angiogenesis;

WHEREAS, PTC is pursuing a subset of these compounds as development candidates in the area of oncology;

WHEREAS, PTC desires to grant, and B&L desires to receive, an exclusive option to license one or more such compounds selected by B&L for use in the treatment, diagnosis and/or prevention of diseases of the eye.

NOW, THEREFORE, in consideration of the foregoing premises and the mutual covenants contained herein, PTC and B&L hereby agree as follows:

1. Definitions. In addition to any terms defined elsewhere in this Agreement, the following terms shall have the meanings set forth below.

1.1 "Affiliate" means any corporation, association or other entity, which directly or indirectly controls, is controlled by or is under common control with the party in question. Solely for purposes of this definition the term "control" means direct or indirect beneficial ownership of more than 50% of the voting stock in such corporation or other business entity, or such other relationship as in fact constitutes actual control.

1.2 "Applicable Know-How" means any technical information, including all biological, chemical, pharmacological, toxicological, clinical and assay information, data, discoveries, inventions, improvements, know-how, materials, processes, formulae and trade secrets, whether patentable or unpatentable (but not patented), that at any time during the applicable Term are Controlled by PTC and that relate to an Evaluation Compound in the applicable Field.

1.3 "Applicable Laws" means all laws, ordinances, rules and regulations applicable to this Agreement or the activities contemplated hereunder, including without limitation the U.S. Federal Food, Drug, and Cosmetic Act, as amended.

1.4 "Applicable Patents" means all U.S. and international patents and U.S. and international patent applications that at any time during the applicable Term are Controlled by PTC, the claims of which may be infringed, absent a license, by the manufacture, use, sale, offer for sale or importation of an Evaluation Compound in the applicable Field.

1.5 "Confidential Information" means any information communicated by one party hereto to the other, which is identified as proprietary or confidential by the disclosing party, or which would be reasonably understood to be the type of information which should be treated as proprietary or confidential. PTC's Confidential Information shall include the Applicable Know-How. B&L's Confidential Information shall include the B&L Improvements.

1.6 "Controlled" means, with respect to any know-how or intellectual property right, possession by a party, directly or through an Affiliate controlled by such party, of the ability to grant the right to access or use, or to grant a license or a sublicense to, such know-how or intellectual property right as provided for herein without violating the terms of the agreement or other arrangement with any third party under which such rights to access or use are obtained.

1.7 "Evaluation Compounds" means both the PTC Development Compounds and the PTC Program Compounds.

1.8 "Field" means (i) with respect to the PTC Program Compounds, the treatment, diagnosis or prevention of diseases of the eye, and (ii) with respect to the PTC Development Compounds, the treatment, diagnosis or prevention of diseases of the eye through local delivery to the eye including without limitation intravitreal injection and implantation.

1.9 "PTC Development Compound" means any chemical compound listed on Exhibit A-2 to this Agreement as supplemented from time to time with additional compounds in related series.

1.10 "PTC Program Compound" means any chemical compound listed on Exhibit A-1 to this Agreement.

2. Evaluation Activities.

2.1 Provision of Information regarding Evaluation Compounds. PTC shall provide the following information to B&L to the extent available for each Evaluation Compound promptly following B&L's request with respect to the first group of Evaluation Compounds to be evaluated and then within [**] following B&L's request with regard to subsequent groups of Evaluation Compounds to be evaluated, provided that such requests with regard to subsequent groups of Evaluation Compounds may occur no more often than [**] and no more often than [**] during the Initial Term and [**] during the Extension Term:

(a) PTC Compound Number ([**]);

(b) molecular weight;

(c) chemical name and structure, including calculated 2D and 3D molecular features; provided, however, that (i) chemical names and structures for PTC Program Compounds shall only be provided for inspection at PTC's offices until such time as specific compounds are selected for evaluation by B&L, at which time the names and structures of only those compounds selected will be provided, and (ii) chemical names and structures for PTC Development Compounds shall not be provided until after the in vitro screening proposed by B&L is complete, and then only for those PTC Development Compounds actually screened and for which B&L submits a written notice of continued interest;

(d) [**];

(e) [**];

(f) [**];

(g) [**];

(h) a summary description of the government grants received by PTC in support of its research and development efforts relating to any Evaluation Compounds;

(i) any additional Applicable Know-How that would reasonably be expected to be material to B&L's evaluation of the Evaluation Compounds; provided, however, that such additional Applicable Know-How shall only be provided for inspection at PTC's offices until such time as specific Evaluation Compounds are selected for evaluation by B&L; and

(j) information regarding any of the following of which PTC becomes aware following the Effective Date: (i) patent or other intellectual property rights owned or controlled by any third party that would be infringed by such Evaluation Compound or B&L's exercise of the evaluation license granted under Section 4.1 in accordance with this Agreement; (ii) any claims made against PTC asserting the invalidity, unenforceability, abuse or misuse of any of the Applicable Know-How or Applicable Patents; (iii) any claim made by PTC of any violation or infringement or misappropriation by others of PTC's rights in an Evaluation Compound, or the Applicable Know-How or Applicable Patents; (iv) any claim made that PTC is in conflict with or infringing upon the asserted rights of others in connection with the Applicable Compound, or the Applicable Know-How or Applicable Patents within the Field; (v) any patent or other intellectual property rights owned or controlled by any third party that would be infringed by the composition of matter of an Evaluation Compound or use of an Evaluation Compound in the applicable Field; and (vi) any licenses or covenants not to sue granted by PTC under the Applicable Know-How or Applicable Patents in the applicable Field; provided that PTC shall have no liability for any Third Party Claims under any provision of this Agreement based on any failure to disclose any information described in this Section 2.1(l); and further provided that PTC's obligation to provide the information described in this Section 2.1(l) shall only commence once B&L intends to engage [**].

2.2 Restrictions on Use of Information. B&L shall limit access to the information disclosed pursuant to Section 2.1 above to those individuals under its control who are involved in the evaluation process. In particular, B&L shall not store such information on any computer system or in any database that is either generally available to B&L scientific personnel or third party consultants or advisers, unless B&L implements reasonable technological measures (e.g.,

two-factor authentication employing unique userids and passwords) to prevent such information from being accessed by individuals other than individuals who are involved in the evaluation process. B&L shall not combine or aggregate such information within any database containing information not developed pursuant to the activities contemplated under this Agreement or a License Agreement.

2.3 Provision of Evaluation Compounds. Subject to the limitation set forth in Sections 2.6 and 2.7, PTC shall, upon request by B&L, make available to B&L in such quantities as B&L may reasonably request any Evaluation Compound selected by B&L for evaluation, screening, testing and formulation. Such Evaluation Compounds shall be made available at PTC's facilities or shall be, at B&L's request and expense, provided to B&L at B&L's facilities.

2.4 Evaluation of PTC Development Compounds by B&L. B&L agrees that it shall select the PTC Development Compounds as the first of the Evaluation Compounds to be evaluated and shall, promptly following the Effective Date, begin evaluation, screening, testing and formulation activities with regard to the PTC Development Compounds. If the evaluation, screening, testing and/or formulation done by B&L fails, B&L shall promptly notify PTC in writing whether B&L intends to continue evaluation, screening, testing or formulation activities with regard to the PTC Development Compounds.

2.5 Support of Evaluation Activities. Subject to the limitation set forth in Sections 2.6 and 2.7, PTC shall support B&L's evaluation activities under this Agreement as reasonably requested by B&L, including without limitation, (i) providing reasonable access to PTC's facilities and equipment required to conduct such activities, (ii) procuring reagents, assays and other chemicals and materials required to conduct such activities, (iii) making available one or more qualified employees to conduct or assist in the conduct of such activities, and (iv) otherwise reasonably cooperating with B&L.

2.6 Payment for PTC Obligations. B&L shall pay PTC $[**] during the Initial Term for PTC's obligations pursuant to Sections 2.3 and 2.5 (the "PTC Obligations"), invoiced by PTC and paid by B&L in four installments of $[**] on a quarterly basis (with quarters, for this purpose, deemed to be the four consecutive three-calendar-month periods commencing with the Effective Date), representing the equivalent of [**] Absent any additional payments by B&L pursuant to Section 2.7, PTC's provision of [**] support during the Initial Term shall represent an upper limit on the amount of support that PTC is required to provide to fulfill the PTC Obligations.

2.7 Additional Resources. By mutual agreement, PTC may provide additional support for the B&L's evaluation activities beyond the PTC Obligations, for which B&L shall reimburse PTC at a rate of $[**] for PTC resources (whether internal or outsourced), or in the case of any out-of-pocket purchase of materials or equipment, for the actual cost to PTC of such materials or equipment.

2.8 Payment Terms. Subject to Section 2.6 (which specifies the payment amount for PTC's performance of the PTC Obligations), PTC shall invoice B&L at the end of each quarter for activities during the quarter then ended specifying the work performed, the man hours expended and the out of pocket expenses incurred, and B&L shall pay such invoices within [**]

following receipt of invoice. If B&L disputes any amounts in an invoice, it shall notify PTC in writing of the reasons for such dispute within [**] of receipt of such invoice. B&L's failure to pay such disputed amounts after written notice is given to PTC shall not constitute a material breach of this Agreement for such time period as the parties are working together in good faith to resolve the dispute.

3. Option.

3.1 Fee for Option Grant. Within fifteen (15) days following the Effective Date, B&L shall pay to PTC the sum of Three Hundred Thousand Dollars ($300,000) via check or wire transfer to a bank account designated by PTC.

3.2 Option to PTC Program Compounds.

(a) Grant of Option. Subject to the terms and conditions set forth in this Agreement, PTC hereby grants to B&L, and B&L hereby accepts, an exclusive option (the "PTC Program Compounds Option") to obtain, from time to time during the Term, one or more exclusive, worldwide licenses to develop and commercialize one or more of the PTC Program Compounds in the applicable Field pursuant to the terms and conditions set forth in Exhibit B (each such license, a "License Agreement").

(b) Exercise of PTC Program Compounds Option. B&L may exercise the PTC Program Compounds Option at any time and as often during the Term as B&L, in its sole discretion, may determine, by providing written notice of such exercise to PTC specifying the PTC Program Compound that is the subject of such exercise. Following exercise of the PTC Program Compounds Option, the parties shall memorialize the license granted to B&L by executing a written License Agreement for such PTC Program Compound in the form attached hereto as Exhibit B, and such PTC Program Compound shall be deemed a "Licensed Compound".

(c) Exercise Fee. Within [**] following execution of the first such License Agreement for a Licensed Compound under Section 3.2(b), B&L shall pay to PTC the sum of [**] Dollars ($[**]), and within [**] following execution of each subsequent License Agreement for a Licensed Compound under Section 3.2(b), B&L shall pay to PTC the sum of [**] Dollars ($[**]). Such amounts shall be paid via check or wire transfer to a bank account designated by PTC at the time of execution of each such License Agreement.

3.3 Option to PTC Development Compounds.

(a) Grant of Option. Subject to the terms and conditions set forth in this Agreement, PTC hereby grants to B&L, and B&L hereby accepts, an exclusive option (the "PTC Development Compounds Option") to obtain a worldwide license to develop and commercialize the PTC Development Compounds in the applicable Field as further described in this Section.

(b) Exercise of Option. B&L may exercise the PTC Development Compounds Option at any time during the DC Term that B&L, in its sole discretion, may determine, by providing written notice of such exercise to PTC.

(c) Negotiation of License Agreement. Following the Effective Date the parties shall negotiate the terms and conditions of an exclusive, worldwide license to develop and commercialize the PTC Development Compounds in the applicable Field. Following exercise of the PTC Development Compounds Option and execution of a license agreement with respect thereto, the PTC Development Compounds shall be deemed "Licensed Compounds". Notwithstanding the foregoing, if after B&L exercises the PTC Development Compounds Option the parties do not reach agreement on the terms of such license agreement and enter into such license agreement prior to the date [**] following the expiration of the DC Term, B&L's rights under this Agreement with respect to the PTC Development Compounds shall expire and be of no further force or effect; provided that the parties shall extend their negotiations for an additional [**] beyond the expiration of such negotiation period if, by mutual agreement, the parties determine that such negotiations then remain active and viable.

4. Intellectual Property.

4.1 Evaluation License. PTC hereby grants to B&L, and B&L hereby accepts, an exclusive license under the Applicable Know-How and the Applicable Patents to evaluate, screen, test and formulate the Evaluation Compounds for utility in the applicable Field. With the consent of PTC, not to be unreasonably withheld, B&L may transfer the Evaluation Compounds to, and have such evaluation, screening, testing and formulation performed for it by, a third-party service provider, provided that B&L shall be responsible for compliance with the terms of this Agreement by any such third-party service provider.

4.2 Exclusivity. PTC agrees that, during the applicable Term, it shall not evaluate, screen or test for any third party, or permit any third party to evaluate, screen, or test (i) any of the Evaluation Compounds for utility in the applicable Field, (ii) disclose any Applicable Know-How to any third party for use in the applicable Field, or (iii) grant or have granted, within the applicable Field, any license, option to license or covenant not to sue under any of the Applicable Patents to any third party.

4.3 B&L Improvements. B&L shall own all right, title and interest in and to, any new process, manufacture, compound, composition of matter, improvement, discovery, claim, formula, process, trade secret, technology or know-how relating to any Evaluation Compound that is conceived or first reduced to practice solely by B&L employees, agents and/or third party contractors during the applicable Term as a result of the activities contemplated under this Agreement, including all patent and other intellectual property rights thereto (collectively, "B&L Improvements").

4.4 Joint Improvements. The parties shall jointly own all right, title and interest in and to, any new process, manufacture, compound, composition of matter, improvement, discovery, claim, formula, process, trade secret, technology or know-how relating to any Evaluation Compound that is conceived or first reduced to practice jointly by one or more B&L employees, agents and/or third party contractors, on the one hand, and one or more PTC employees, agents and/or third party contractors, on the other hand, during the applicable Term as a result of the activities contemplated under this Agreement, including all patent and other intellectual property rights thereto (collectively, "Joint Improvements"). Subject to Section 4.5, each party may freely license or assign its interest in Joint Improvements without the consent of

the other party and without any duty to account to the other party. B&L and PTC shall be jointly responsible, using outside patent counsel mutually agreed upon by the parties and free of ethical conflict, for the preparation, filing, prosecution and maintenance of Joint Improvement patents and patent applications and the parties shall share equally the responsibility for all documented external costs associated therewith. Should either party elect to discontinue its payment obligations under this Section 4.4 for costs incurred for the filing, prosecution and maintenance of a Joint Improvement patent or patent application in one or more countries, at the request of the other party such party will assign its full right, title and interest in and to such particular patent or patent application to such other party

4.5 License to B&L Improvements and Joint Improvements. B&L hereby grants to PTC, and PTC hereby accepts, a non-exclusive, royalty-free, worldwide license, with the right to sublicense, to B&L Improvements for use outside of the applicable Field. At the request of PTC, B&L shall negotiate terms, including the payment of fees and royalties, under which (i) such non-exclusive licenses may be converted to exclusive licenses, and (ii) B&L will grant an exclusive license to B&L's interest in the Joint Improvements for use outside of the applicable Field.

4.6 Restriction on Practice and Use of Applicable Know-How and Applicable Patents. Notwithstanding the license rights granted herein, B&L shall not practice or use any Applicable Know-How or Applicable Patents to synthesize or discover any compound other than Evaluation Compounds, nor to determine the structure of any PTC Development Compound in advance of a disclosure of such compound's structure pursuant to Section 2.1(b). Breach of this Section 4.6 shall constitute material breach of this Agreement under Section 5.3, remedies for which shall not be limited by Section 8.

5. Term and Termination.

5.1 Initial Term. The term of this Agreement shall commence as of the Effective Date and, unless extended or earlier terminated as forth below, shall continue:

(i) with respect to the PTC Program Compounds, for a period of one (1) year following the Effective Date (the "Initial Term"); and

(ii) with respect to the PTC Development Compounds, until the earlier of (a) the date, if any, on which B&L has notified PTC in writing pursuant to Section 2.4 that B&L does not intend to continue evaluation, screening, testing or formulation activities with regard to the PTC Development Compounds; (b) the date, if any, of the execution of a license agreement pursuant to Section 3.3; or (c) one (1) year following the Effective Date (the "DC Term").

5.2 Extension Term. B&L may elect to extend the term of this Agreement solely with respect to the PTC Program Compounds for one (1) additional period of six (6) months following the Initial Term (the "Extension Term") by (i) notifying PTC in writing of such election at least [**] prior to the expiration of the Initial Term, which written notice shall specify the PTC Program Compounds that remain the subject of interest by B&L (the "Extension Compounds"), and (ii) paying to PTC the non-refundable sum of [**] Dollars ($[**]) prior to the

expiration of the Initial Term. Following such extension, the term "Evaluation Compounds" shall refer only to the Extension Compounds. With respect to PTC Program Compounds, the Initial Term together with any applicable Extension Term shall be referred to herein as the "Term." With respect to PTC Development Compounds, any references to the "Initial Term" or the "Term" shall mean the DC Term.

5.3 Termination for Breach. Either party may terminate this Agreement upon written notice to the other party in the event that the other party has failed to perform a material obligation under this Agreement, and has failed to cure such non-performance within sixty (60) days following receipt of written notice specifying in reasonable detail the nature of such failure.

5.4 Termination by B&L. B&L may terminate this Agreement without cause in B&L's sole discretion upon ninety (90) days written notice to PTC.

5.5 Effect of Expiration and Termination.

(a) Expiration of DC Term. Subject to Section 3.3(c), upon expiration of the DC Term, (i) the PTC Development Compound Option shall expire; (ii) rights granted to the PTC Development Compounds shall, if they are not Licensed Compounds, revert to PTC; (iii) the evaluation license granted under Section 4.1 shall terminate with respect to the PTC Development Compounds; and (iv) B&L shall disclose to PTC and permit PTC to use all evaluation, screening, testing and formulation data and the like generated pursuant to this Agreement relating to the PTC Development Compounds, if they are not Licensed Compounds.

(b) Expiration of the Term. Upon expiration of the Term, (i) the PTC Program Compounds Option shall expire; (ii) rights to all PTC Program Compounds that are not Licensed Compounds shall revert to PTC; (iii) the evaluation license granted under Section 4.1 shall terminate with respect to the PTC Program Compounds; and (iv) B&L shall disclose to PTC and permit PTC to use all evaluation, screening, testing and formulation data and the like generated pursuant to this Agreement relating to all PTC Program Compounds that are not Licensed Compounds.

(c) Termination. Upon termination of this Agreement under Sections 5.3 or 5.4, (i) each of the PTC Development Compounds Option and the PTC Program Compounds Option shall expire; (ii) rights to all Evaluation Compounds that are not Licensed Compounds shall revert to PTC; (iii) the evaluation license granted under Section 4.1 shall terminate; and (iv) B&L shall disclose to PTC and permit PTC to use all evaluation, screening, testing, formulation and similar data (but not techniques, protocols or methodologies) generated pursuant to this Agreement relating to all Evaluation Compounds that are not Licensed Compounds.

(d) License upon Expiration or Termination. B&L shall, and hereby does, grant to PTC a non-exclusive license, effective as of expiration or termination of the applicable Term with respect to an Evaluation Compound that is not a Licensed Compound, under all know-how and patent rights that are conceived or first reduced to practice by B&L employees, agents and/or third party contractors prior to such expiration or termination as a result of the activities contemplated under this Agreement which know-how and patent rights cover the Evaluation Compound or method of use of such Evaluation Compound in the applicable Field,

with the right to sublicense, to make, have made, use, offer for sale, sell and import such Evaluation Compound, and only the Evaluation Compound, in any country of the world. At the request of PTC, B&L shall negotiate terms, including the payment of fees and royalties, under which such non-exclusive license may be converted to an exclusive license, subject to any non-exclusive licenses that may have been granted by B&L to any third parties prior to such request.

(e) No Effect on Licensed Compounds. Neither termination nor expiration of this Agreement shall terminate or otherwise affect licenses granted with regard to Licensed Compounds prior to the date of such termination or expiration, and all such licenses shall survive such termination or expiration.

5.6 Survival. Termination or expiration shall not relieve either party from any obligations accrued as of the date of such termination or expiration. The obligations of the parties under Sections 2.2, 4.3, 4.4, 4.5, 5.5, 5.6, 7, 8, 9, 10 and 11 shall survive termination or expiration of this Agreement.

6. Warranties, Representations and Covenants.

6.1 Representations, Warranties and Covenants of Each Party.

(a) Authority. Each party represents and warrants that it possesses all right, title, interest and authority necessary to enter into this Agreement, perform its obligations hereunder and grant the rights embodied herein and that it is not aware of any legal impediment that would inhibit its ability to perform its obligations under this Agreement.

(b) No Conflicts. Each party represents and warrants to the other that the execution, delivery and performance of this Agreement does not: (i) conflict with, or constitute a breach of, any order, judgment, agreement or instrument to which such party is a party or is otherwise bound; or (ii) require the consent of any person or entity.

6.2 Representations, Warranties and Covenants of PTC.

(a) Compliance with Laws. PTC covenants, represents and warrants that it shall comply with all Applicable Laws.

(b) Third Party Intellectual Property. PTC represents and warrants that to its knowledge as of the Effective Date there are no patent or other intellectual property rights owned or controlled by any third party that would be infringed by the Evaluation Compounds or B&L's exercise of the evaluation license granted under Section 4.1 in accordance with this Agreement.

6.3 Representations, Warranties and Covenants of B&L. B&L covenants, represents and warrants that it shall comply with all Applicable Laws.

7. Indemnification.

7.1 PTC Indemnification.

(a) Indemnity. PTC shall indemnify, defend and hold harmless B&L and its Affiliates, and their directors, officers, agents and employees (collectively, the "B&L Indemnified Parties") from and against all claims, demands, losses, liabilities, damages, costs and expenses (including reasonable attorneys' fees and any costs of settlement) incurred by the B&L Indemnified Parties resulting from or arising in connection with any claim, suit, action or proceeding brought by a third party (a "Third Party Claim") against any such B&L Indemnified Party based on:

(i) PTC's breach of any of PTC's covenants, representations or warranties hereunder; or

(ii) any act or omission constituting recklessness, gross negligence or willful misconduct on the part of PTC.

(b) Limitations on PTC Indemnification. PTC shall have no obligation to indemnify, defend or hold harmless the B&L Indemnified Parties in connection with any Third Party Claim to the extent such Third Party Claim is covered by B&L's obligations under Section 7.2, or arises from: (i) a B&L Indemnified Party's breach of any of B&L's covenants, representations or warranties hereunder; or (ii) any act or omission constituting recklessness, gross negligence or willful misconduct on the part of any of the B&L Indemnified Parties.

7.2 B&L Indemnification.

(a) Indemnity. B&L shall indemnify, defend and hold harmless PTC, its Affiliates, and their directors, officers, agents and employees (collectively, the "PTC Indemnified Parties") against all claims, demands, losses, liabilities, damages, costs and expenses (including reasonable attorneys' fees and any costs of settlement) incurred by the PTC Indemnified Parties resulting from or arising in connection with a Third Party Claim brought against any such PTC Indemnified Party based on:

(i) B&L's breach of any of B&L's covenants, representations or warranties hereunder; or

(ii) any act or omission constituting recklessness, gross negligence or willful misconduct on the part of B&L.

(b) Limitations on B&L Indemnification. B&L shall have no obligation to indemnify, defend or hold harmless the PTC Indemnified Parties in connection with any Third Party Claim to the extent such Third Party Claim is covered by PTC's obligations under Section 7.1, or arises from: (i) a PTC Indemnified Party's breach of any of PTC's covenants, obligations, agreements, representations or warranties hereunder; or (ii) any act or omission constituting recklessness, gross negligence or willful misconduct on the part of any of the PTC Indemnified Parties.

7.3 Indemnification Procedure.

(a) Notification and Cooperation. The party seeking indemnification hereunder (the "Indemnified Party") shall: (i) promptly notify in writing the party obligated to indemnify (the "Indemnifying Party") of any claim, action or proceeding of a third party for which the Indemnified Party seeks indemnification; and (ii) cooperate fully with the Indemnifying Party and its legal representatives in the investigation of any such claim, action or proceeding. The Indemnified Party's failure to comply with its obligations under this Section shall not constitute a breach of this Agreement nor relieve the Indemnifying Party of its indemnification obligations hereunder, except to the extent, if any, that the Indemnifying Party's defense or settlement of the affected claim, action or proceeding was actually and materially impaired thereby.

(b) Defense. The Indemnifying Party shall conduct, at its own expense, the defense of any and all such claims, charges, suits or other actions by a third party, and the Indemnified Party may, at its own expense, assist in such defense if it so chooses, provided that the Indemnifying Party shall control such defense and all negotiations relative to the settlement of any such claim. Neither party shall settle or admit liability with respect to any such claims, charges, suits or other actions which could result in liability to the other party without the prior written consent of the other party, which consent shall not be unreasonably withheld or delayed.

8. Limitation of Liability. NOTWITHSTANDING ANYTHING IN THIS AGREEMENT TO THE CONTRARY, NEITHER PTC NOR B&L, NOR THEIR RESPECTIVE AFFILIATES, DIRECTORS, OFFICERS, EMPLOYEES OR AGENTS, SHALL HAVE ANY LIABILITY TO THE OTHER FOR ANY SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES, IN CONNECTION WITH OR ARISING OUT OF THIS AGREEMENT, EVEN IF SUCH DAMAGES WERE FORESEEABLE, EXCEPT TO THE EXTENT SUCH DAMAGES ARE OWED TO A THIRD PARTY BY A PARTY ENTITLED TO INDEMNIFICATION UNDER THIS AGREEMENT AND EXCEPT FOR ANY DAMAGES ARISING FROM BREACH OF A PARTY'S CONFIDENTIALITY OBLIGATIONS UNDER THIS AGREEMENT.

9. Confidentiality.

9.1 Nondisclosure and Nonuse Obligations. During the Term, and thereafter after expiration or termination hereof, each party will maintain all Confidential Information of the other party in trust and confidence and will not disclose any Confidential Information of the other party to any third party or use any Confidential Information of the other party except to the extent required to enjoy its rights or comply with its obligations under this Agreement. Confidential Information shall be disclosed only to employees, agents, Affiliates and consultants who have a need for such information and who are bound by obligations of nondisclosure and non-use at least as restrictive as those set forth herein. Each party shall be responsible for any disclosure or use of the Confidential Information by such employees, agents, Affiliates and consultants. Each party shall protect the other party's Confidential Information using not less than the same standard of care with which it treats its own Confidential Information, but at all times shall use at least reasonable care.

9.2 Exceptions. Confidential Information shall not include any information which:

(a) is now, or lawfully becomes, generally known or available to the public through no fault of the recipient;

(b) is known by the receiving party at the time of receiving such information;

(c) is hereafter lawfully furnished to the receiving party by a third party, as a matter of right and without restriction on disclosure;

(d) is independently developed by the receiving party without any breach of this Section as evidenced by its written records; or

(e) is the subject of a written permission to disclose provided by the disclosing party.

9.3 Authorized Disclosure. Notwithstanding any other provision of this Agreement, each party may disclose Confidential Information of the other party if such disclosure is required: (i) by an order of a court or other governmental body, or any political subdivision thereof or arbitral panel with jurisdiction over the disclosing party; or (ii) by law or regulation (including, without limitation, to comply with any applicable securities regulation, stock exchange or NASDAQ disclosure requirements), but only to the extent that any such disclosure is reasonably necessary. With respect to any order of a court or other governmental body, the disclosing party shall, if practicable, first have given written notice to the other party hereto and shall use reasonable efforts to limit the scope and content of such disclosure to the required scope and content. With respect to disclosure required by Applicable Laws or regulations (including, without limitation, any applicable securities regulation, stock exchange or NASDAQ disclosure requirements), the disclosing party shall, if practicable, first give written notice to the other party hereto and allow the other party a reasonable opportunity to comment on the content of such disclosure and shall consult with the other party with respect to the comments of such other party.

9.4 Obligations at End of Term. Each party agrees, at the request of the other party, upon expiration or termination of this Agreement to either: (i) return to the other party all originals and copies of the other party's Confidential Information; or (ii) at the other party's option, destroy all originals and copies of the other party's Confidential Information and to certify in writing such destruction to the other party; provided, however that (a) the receiving party may keep one copy of the other party's Confidential Information in a secure location, solely for purposes of enforcing and determining such party's rights and obligations under this Agreement; (b) PTC shall have no obligation to return or destroy any copies embodying the B&L Improvements or the Joint Improvements; and (c) B&L shall have no obligation to return or destroy any Applicable Know-How relating to any Licensed Compounds or the Joint Improvements.

9.5 Injunctive Relief. The parties agree that any breach of the restrictions contained in this Section or Section 4.6 will cause irreparable harm to the non-breaching party entitling the non-breaching party to injunctive or other preliminary relief in addition to all other legal remedies.

10. Publicity. All publicity, press releases and other announcements regarding this Agreement or the transactions contemplated hereby shall be reviewed in advance by, and subject to the written approval of, both parties. Notwithstanding the foregoing, either party may, without the written consent of the other, disclose the terms of this Agreement insofar as reasonably required to comply with applicable securities laws (including, without limitation, any applicable stock exchange or NASDAQ disclosure requirements); provided, however, that where practicable the disclosing party shall provide advance notice and a reasonable opportunity to the other party to provide comments regarding any confidential treatment or similar request. The disclosing party shall if practicable reasonably consider any such comments from the other party. In addition, each party shall have the right to disclose, under obligations of confidentiality and as reasonably required, the terms of this Agreement to potential acquirers, investors, lenders, licensees, sublicensees, contractors and other third parties in connection with acquisition, financing, product development or commercialization activities.

11. Miscellaneous.

11.1 Bankruptcy. All licenses granted under this Agreement by PTC to B&L, for all purposes of Section 365(n) of Title XI of the United States Code ("Title XI"), are licenses of rights to "intellectual property" as defined in Title XI. If PTC seeks or involuntarily is placed under Title XI and the trustee rejects this Agreement as contemplated under 11 U.S.C. 365(n)(1), B&L hereby elects pursuant to Section 365(n) to retain all rights granted to B&L under this Agreement to the extent permitted by law.

11.2 Relationship of the Parties. Nothing in this Agreement shall be deemed to create any contract or relationship of employment between B&L and PTC or any personnel of PTC. PTC shall be responsible for all federal, state and local laws pertaining to income taxes, withholding taxes, Social Security, unemployment compensation, worker's compensation and any other rights, benefits, or obligations relating to such personnel.

11.3 Notices. All notices required or permitted hereunder must be given in writing and mailed postage prepaid, certified or registered mail, return receipt requested, or sent by a nationally recognized express courier service, or hand-delivered at the following addresses:

To PTC: PTC Therapeutics, Inc.
100 Corporate Court
South Plainfield, New Jersey 07080-2449
Attn.: Legal Dep't

Email copy to: legal@ptcbio.com

To B&L: Bausch & Lomb Incorporated
One Bausch & Lomb Place
Rochester, New York 14604-2701
Attn.: Senior Vice President - Research and
Development and Chief Scientific Officer

Copy to: Bausch & Lomb Incorporated
One Bausch & Lomb Place
Rochester, New York 14604-2701
Attn.: Senior Vice President and General Counsel

All notices shall be deemed made upon receipt by the addressee as evidenced by the applicable written receipt.

11.4 Captions and Section References. The titles, headings or captions in this Agreement do not define, limit, extend, explain or describe the scope or extent of this Agreement or any of its terms or conditions and therefore shall not be considered in the interpretations, construction or application of this Agreement.

11.5 Severability. If any term or provision of this Agreement shall be found to be invalid, illegal or otherwise unenforceable, such finding shall not affect the other terms or provisions of this Agreement, or the whole of this Agreement, but such term or provision shall be deemed modified to the extent necessary to render such term or provision enforceable, and the rights and obligations of the parties shall be construed and enforced accordingly, preserving to the fullest permissible extent the intent and agreements of the parties set forth in this Agreement.

11.6 Amendment. No amendment, change or modification of any of the terms, provisions or conditions of this Agreement shall be effective unless made in a writing that expressly references this Agreement and is signed on behalf of the parties hereto by their duly authorized representatives.

11.7 Waiver. No waiver of any term, provision or condition of this Agreement, whether by conduct or otherwise, in any one or more instances, shall be deemed to be or construed as a further or continuing waiver of any such or other term, provision or condition of this Agreement.

11.8 Force Majeure. Neither party shall be liable hereunder to the other party nor shall be in breach for failure to perform its obligations caused by circumstances beyond the control of either party, including, but not limited to: acts of nature; fires; earthquakes; floods; riots; wars; civil disturbances; sabotage; accidents; shortages or government actions. In the case of any such event, the affected party shall promptly notify the other party, and shall keep the other party informed of the event in writing specifying the extent to which its performance will likely be affected. The party affected shall exert reasonable diligent efforts to eliminate, cure or overcome any such cause and resume performance as soon as practicable.

11.9 Benefits and Binding Nature of Agreement. This Agreement shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and assigns permitted under this Agreement.

11.10 Assignment; Change in Control. The rights under this Agreement may not be assigned by either party (the "Assigning Party") without the written consent of the other party (the "Non-Assigning Party") except (i) to any Affiliate of the Assigning Party or (ii) to any party

which acquires substantially all of the assets and business of the Assigning Party to which this Agreement relates.

11.11 Entire Agreement. This Agreement, including the Exhibits attached hereto, sets forth the entire agreement between the parties hereto pertaining to the subject matter hereof and supersedes all negotiations, preliminary agreements, memoranda or letters of proposal or intent, discussions and understandings of the parties hereto in connection with the subject matter hereof.

11.12 Governing Law and Forum. This Agreement and all claims related to it, its execution or the performance of the parties under it, shall be construed and governed in all respects according to the laws of the State of New York. The parties agree that all actions or proceedings arising in connection with this Agreement shall be tried and litigated exclusively in the courts located in the Borough of Manhattan, New York, New York. This choice of venue is intended by the parties to be mandatory and not permissive in nature, and to preclude the possibility of litigation between the parties with respect to, or arising out of, this Agreement in any jurisdiction other than that specified in this Section. Each party waives any right it may have to assert the doctrine of forum non-conveniens or similar doctrine or to object to venue with respect to any proceeding brought in accordance with this Section.

11.13 Counterparts. This Agreement may be executed in counterparts. For purposes hereof, a facsimile copy of this Agreement, including the signature page hereto, shall be deemed to be an original. Notwithstanding the foregoing, the parties shall deliver original execution copies of this Agreement to one another as soon as practicable following execution thereof.

[The remainder of this page is left intentionally blank. Signature page follows.]

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed on the day and year first above written.

BAUSCH & LOMB INCORPORATED	PTC THERAPEUTICS, INC.
By: /s/ STEPHEN C. McCLUSKI	By: /s/ MARK E. BOULDING
Name: Stephen C. McClusky	Name: Mark E. Boulding
Title: Senior Vice President and CFO	Title: SVB, Business Development and Legal

EXHIBIT A
TO
RESEARCH COLLABORATION
AND EXCLUSIVE OPTION AGREEMENT

LIST OF EVALUATION COMPOUNDS

Exhibit A-1 (PTC Program Compounds): [attached]
Exhibit A-2 (PTC Development Compounds): [attached]

EXHIBIT A-1 (PTC PROGRAM COMPOUNDS)

Note: These aliases were assigned using PTC MTA reference code [**]

[**]
[**]
[**]
[**]

EXHIBIT A-2 (PTC DEVELOPMENT COMPOUNDS)

Note: These aliases were assigned using PTC MTA reference code [**]

[**]
[**]

EXHIBIT B
TO
RESEARCH COLLABORATION
AND EXCLUSIVE OPTION AGREEMENT

LICENSE AGREEMENT

This License Agreement ("Agreement") is entered into as of [INSERT DATE OF EXERCISE OF THE OPTION] by and between Bausch & Lomb Incorporated, a New York corporation with a place of business at One Bausch & Lomb Place, Rochester, New York 14604-2701 ("B&L") and PTC Therapeutics, Inc., a Delaware corporation with a place of business at 100 Corporate Court, South Plainfield, New Jersey 07080-2449 ("PTC") and shall be effective as of the HSR Clearance Date or, if no filing is to be made under the HSR Act, then it shall be effective on the date set forth above (in either case, the "Effective Date").

RECITALS

WHEREAS, B&L and PTC have entered into a Research Collaboration and Exclusive Option Agreement dated as of December 1, 2005 under which B&L is granted the exclusive right to evaluate certain compounds in the possession of PTC for the purpose of identifying potential candidates for development by B&L for the treatment, diagnosis and/or prevention of diseases of the eye (the "Research Collaboration and Exclusive Option Agreement");

WHEREAS, under the terms of the Research Collaboration and Exclusive Option Agreement, B&L was granted an exclusive option to license one or more such compounds selected by B&L for use in the treatment, diagnosis and/or prevention of diseases of the eye; and

WHEREAS, B&L has exercised such option with regard to the Licensed Compound (as defined below) and PTC desires to grant to B&L, and B&L wishes to acquire from PTC, an exclusive worldwide right and license to such Licensed Compound in accordance with the terms and conditions of this Agreement.

NOW, THEREFORE, in consideration of the foregoing premises and the mutual covenants contained herein, PTC and B&L hereby agree as follows:

1. Definitions. In addition to any terms defined elsewhere in this Agreement, the following terms shall have the meanings set forth below.

1.1 "Affiliate" means any corporation, association or other entity, which directly or indirectly controls, is controlled by or is under common control with the party in question. Solely for purposes of this definition the term "control" means direct or indirect beneficial ownership of more than 50% of the voting stock in such corporation or other business entity, or such other relationship as in fact constitutes actual control.

1.2 "Annual Net Sales" means worldwide Net Sales actually invoiced during a Fiscal Year, or portion thereof, during the term of this Agreement.

1.3 "Applicable Laws" means all laws, ordinances, rules and regulations applicable to this Agreement or the activities contemplated hereunder, including without limitation the U.S. Federal Food, Drug, and Cosmetic Act, as amended.

1.4 "B&L Improvement" means any new compound that is conceived or first reduced to practice by B&L employees, agents and/or third party contractors during the term of this Agreement, including all patent and other intellectual property rights thereto Controlled by B&L, but only to the extent the foregoing covers a compound that is a chemical modification of a Licensed Compound.

1.5 "Commercially Reasonable Efforts" means the efforts and resources normally used by an established pharmaceutical company for a pharmaceutical product owned exclusively by such company (i.e., without any royalty or similar obligation to another person or entity in respect of development or commercialization of such product) with a similar market potential at a similar stage in its development or commercialization, taking into account the competitiveness of the marketplace, its proprietary position with respect to such product, applicable regulatory circumstances, the profitability of such product, the likelihood of success of commercialization, and other relevant factors. Commercially Reasonable Efforts shall be deemed to have not occurred if B&L, an Affiliate of B&L or sublicensee of B&L has not, within three (3) years following the Effective Date, submitted an IND for a Licensed Product, commenced human clinical trials for a Licensed Product, received Registration Approval for a Licensed Product or made a commercial sale of a Licensed Product in a Major Territory.

1.6 "Confidential Information" means any information communicated by one party hereto to the other, which is identified as proprietary or confidential by the disclosing party, or which would be reasonably understood to be the type of information which should be treated as proprietary or confidential. All reports provided by B&L to PTC under this Agreement shall be deemed Confidential Information of B&L no matter how marked or disclosed.

1.7 "Controlled" means, with respect to any know-how or intellectual property right, possession by a party, directly or through an Affiliate controlled by such party, of the ability to grant the right to access or use, or to grant a license or a sublicense to, such know-how or intellectual property right as provided for herein under which such rights to access or use are obtained.

1.8 "FDA" means the United States Food and Drug Administration.

1.9 "Field" means the treatment, diagnosis or prevention of diseases of the eye.

1.10 "Fiscal Quarter" means B&L's fiscal quarters which are based on the Fiscal Year and are published annually by B&L's Corporate Finance Department.

1.11 "Fiscal Year" means the fiscal year of B&L, which is the 52 or 53 week period ending on the last Saturday in December of each calendar year.

1.12 "HSR Act" means the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended (15 U.S.C. Sec. 18a), and the rules and regulations promulgated thereunder.

1.13 "HSR Clearance Date" means the earlier of (a) the date on which the FTC or DOJ shall notify PTC and B&L of early termination of the applicable waiting period under the HSR Act or (b) the day after the date on which the applicable waiting period under the HSR Act expires.

1.14 "IND" means an Investigational New Drug Application filed by B&L with the FDA or any comparable application filed with a Regulatory Authority of a country other than the United States as may be required as a legal prerequisite to the commencement of human clinical trials of the Licensed Compound.

1.15 "Licensed Compound" means the compound known as [INSERT NAME OF LICENSED COMPOUND], as further described on Schedule 1.14, and equivalents thereof, including, but not limited to, analogs, homologs, derivatives, variants, conjugates, tautomers, isomers and prodrugs thereof, but expressly excluding the PTC Development Compounds (as defined in the Research Collaboration and Exclusive Option Agreement).

1.16 "Licensed Know-How" means any technical information, including all biological, chemical, pharmacological, toxicological, clinical and assay information, data, discoveries, inventions, improvements, know-how, materials, processes, formulae and trade secrets, whether patentable or unpatentable (but not patented), that at any time during the term of this Agreement prior to the first commercial sale in a Major Territory of a Licensed Product by B&L, or an Affiliate or sublicensee of B&L, are Controlled by PTC, and that relate to the Licensed Compound in the Field.

1.17 "Licensed Patents" means (a) all U.S. and international patents and U.S. and international patent applications that at any time during the term of this Agreement prior to the first commercial sale in a Major Territory of a Licensed Product by B&L, or an Affiliate or sublicensee of B&L, are Controlled by PTC, the claims of which may be infringed, absent a license, by the manufacture, use, sale, offer for sale or importation of the Licensed Compound in the Field, (b) all continuations, divisionals, substitutions, extensions, reissues and reexaminations thereof and, solely to the extent entirely supported by any of the foregoing, claims in continuations-in-part thereof, and (c) patents resulting from the foregoing.

1.18 "Licensed Product" means any prophylactic, diagnostic or therapeutic product composed of or including a Licensed Compound.

1.19 "Major Territory" means each of (i) the United States, (ii) Japan, and (iii) at least three of the following: France, the United Kingdom, Germany, Italy, and Spain.

1.20 "NDA" means a New Drug Application or similar application or submission filed with a Regulatory Authority of a country or group of countries by B&L or an Affiliate of B&L, approval of which by such Regulatory Authority would constitute Registration Approval.

1.21 "Net Sales" means the gross invoice price of Licensed Products sold or commercially disposed of for value by B&L or an Affiliate or sublicensee of B&L in an arm's length transaction with a third party (other than an Affiliate or sublicensee of B&L), less the following:

(a) discounts, charge backs, Medicare or other government rebates, and rebates taken or allowed;

(b) credits or allowances given or made for rejections or return of any previously sold Licensed Product taken or allowed;

(c) to the extent included in such gross invoice price any tax or government charge imposed on the production, import, export, sale, delivery or use of such Licensed Product, including, without limitation, any value added or similar tax or government charge, but not including any tax levied with respect to income; and

(d) to the extent included in such gross invoice price any reasonable and documented packaging and shipping charges.

Notwithstanding any other provision of this Section, Net Sales shall not include the transfer:

(i) without consideration of any Licensed Product for use in any clinical trial or in any pre-clinical or other research;

(ii) without consideration of any Licensed Product as samples or other use to promote additional Net Sales in commercially reasonable amounts consistent with the normal business practices of B&L; or

(iii) without consideration of any Licensed Product for compassionate use.

Such adjustments shall be consistent with customary accounting practices within B&L and in accordance with U.S. Generally Accepted Accounting Principles ("GAAP"), consistently applied.

If a Licensed Product is sold in the form of a combination product containing one or more active ingredients that are themselves not the Licensed Product (a "Combination Product"), then for the purpose of calculating royalties owed on sales of the Combination Product, Net Sales shall be calculated as follows: first, B&L shall determine the actual Net Sales of such Combination Product (calculated using the above described deductions) and then such amount shall be multiplied by the fraction A/(A+B), where A is the invoice price of the actual Licensed Product component of such Combination Product, and B is the total invoice price of the other active ingredient component(s) of such Combination Product. If the invoice price of either the Licensed Product or the other active ingredient component(s) of such Combination Product cannot be determined, Net Sales of such Combination Product shall be equitably determined by an independent third party selected by mutual agreement of the parties.

1.22 "New Active Ingredient" means a chemically modified Licensed Compound which is neither (i) [**] or efficacy of the first Licensed Compound, nor (ii) a regulatory equivalent of the first Licensed Compound, such as those delineated in 37 C.F.R. Section 1.710(b)(1).

1.23 "Phase I Clinical Trial" means an initial human clinical trial of the Licensed Compound conducted by B&L or an Affiliate or sublicensee of B&L in order to initially study the safety, absorption, distribution, metabolism and/or excretion of the Licensed Compound.

1.24 "Phase II Clinical Trial" means a human clinical trial of the Licensed Compound that is conducted by B&L or an Affiliate or sublicensee of B&L in order to initially study the efficacy of the Licensed Compound for a specific indication within the Field, which trial follows a Phase I Clinical Trial.

1.25 "Pivotal Clinical Trial" means a pivotal human clinical trial of the Licensed Compound that is conducted by B&L or an Affiliate of B&L in an extended patient population intended to support the filing of an NDA for such Licensed Compound within the Field.

1.26 "Registration Approval" means, with respect to any country or group of countries, all approvals by the appropriate Regulatory Authority necessary to permit commercial marketing and sales of the Licensed Product in the Field in such country or group of countries.

1.27 "Regulatory Authority" means the FDA in the United States or the equivalent of the FDA in any country other than the United States, or a successor agency to the foregoing in a given country.

1.28 "Successful Completion" means that the applicable Phase I Clinical Trial, Phase II Clinical Trial, or Pivotal Clinical Trial has been completed in essential accordance with the protocol for the trial and sufficient data have been obtained that satisfy the objectives and clinical endpoints specified in the protocol. With respect to a specific trial, "Successful Completion" shall be deemed to have occurred upon the subsequent commencement of any other trial that has objectives and/or clinical endpoints that are more advanced than those set forth in the protocol for the completed trial.

1.29 "Valid Claim" means any claim covering the Licensed Compound (i) of an issued and unexpired patent within the Licensed Patents, which has not lapsed, been revoked or abandoned or held permanently unenforceable or invalid by a decision of a court or other governmental agency of competent jurisdiction, or (ii) of a patent application within the Licensed Patents that has been pending for no more than seven years, or (iii) of an issued and unexpired patent within the B&L Improvements, which has not lapsed, been revoked or abandoned or held permanently unenforceable or invalid by a decision of a court or other governmental agency of competent jurisdiction, or (iv) of a patent application within the B&L Improvements that has been pending for no more than seven years. For the purpose of clarity, patent and patent applications within the B&L Improvements may be owned by B&L.

2. License Grant.

2.1 Grant. PTC hereby grants to B&L, and B&L hereby accepts, an exclusive, worldwide license, with the right to sublicense, under the Licensed Know-How and Licensed Patents to develop, make, have made, use, sell, offer for sale, promote and import Licensed Products, solely in the Field.

2.2 Sublicenses. B&L shall have the exclusive right to grant sublicenses under the license granted under Section 2.1 without the prior written approval of PTC, provided, however, that any such sublicense shall be subject in all respects to the restrictions, exceptions, royalty obligations, reports, termination provisions, development and commercialization diligence obligations, and other provisions contained in this Agreement. B&L shall pay PTC, or cause its Affiliates or sublicensees to pay PTC, royalties, as set forth in Section 3.2, on Net Sales of such Affiliates or sublicensees as if such Net Sales had been made by B&L. Each Affiliate and sublicensee shall report its Net Sales to PTC through B&L, which Net Sales shall be aggregated with any Net Sales of B&L for purposes of determining the Net Sales upon which royalties are to be paid to PTC. B&L and its Affiliates shall have the right to appoint resellers and distributors for the sale and distribution of the Licensed Product in the Field and B&L shall have the right to appoint third parties to promote or co-promote the Licensed Product in the Field subject to the terms of this Agreement, all without the consent of PTC.

2.3 Technology Transfer; Adverse Events. Upon execution of this Agreement and thereafter within [**] following request by B&L (provided that such requests may occur no more often than once [**]) until the first commercial sale in a Major Territory of a Licensed Product by B&L, PTC shall provide to B&L any update to the information provided by PTC to B&L pursuant to Section 2.1 of the Research Collaboration and Exclusive Option Agreement that is then known to PTC with respect to the Licensed Compound. In addition, each party shall promptly disclose to the other all safety information, technical complaints and adverse events regarding the Licensed Compound and any products containing such Licensed Compound in accordance with customary procedures for sharing such information between two entities in the pharmaceutical industry that each have obligations to report and/or act on such information.

2.4 License to B&L Improvements. B&L hereby grants to PTC, and PTC hereby accepts, a non-exclusive, royalty-free, worldwide license, with the right to sublicense, to B&L Improvements for use outside of the Field. At the request of PTC, B&L shall negotiate terms, including the payment of fees and royalties, under which such non-exclusive licenses may be converted to exclusive licenses.

3. Consideration.

3.1 Milestone Payments. B&L shall pay to PTC the following payments within thirty (30) days following the occurrence of each milestone event:

NO.	MILESTONE EVENT	PAYMENT
1	[**]	$[**]
2	[**]	$[**]
3	[**]	$[**]
4	[**]	$[**]
5	[**]	$[**]
6	[**]	$[**]

7	[**]	$[**]
8	[**]	$[**]
9	[**]	$[**]

In the event that any milestone event in the table above does not occur but then a subsequent milestone event in the table above does occur with respect to a Licensed Compound or Licensed Product, the milestone payment for the missed milestone event shall become payable concurrently with the milestone payment for the subsequently occurring milestone event, provided, however, that milestone number 6 and milestone number 7 shall not be payable unless they have actually occurred, milestone number 8 shall not be payable unless milestone number 6 has first occurred and milestone number 9 shall not be payable unless milestone number 7 has first occurred.

3.2 Royalties. B&L shall pay to PTC a royalty on Net Sales as follows:

(a) [**]% of that portion of Annual Net Sales that is less than or equal to $[**];

(b) [**]% of that portion of Annual Net Sales that exceeds $[**] but is less than or equal to $[**];

(c) [**]% of that portion of Annual Net Sales that exceeds $[**] but is less than or equal to $[**]; and

(d) [**]% of that portion of Annual Net Sales that exceeds $[**].

No more than one royalty payment shall be made with respect to any unit of a Licensed Product.

3.3 Lump Sum Payment. In addition, B&L shall pay to PTC a lump sum (one time) payment of $[**] within [**] following the end of the first Fiscal Year in which Annual Net Sales equals or exceeds $[**].

3.4 Quarterly Reporting and Payment. Within [**] following the end of each Fiscal Quarter during the term of this Agreement, B&L shall (a) calculate and report to PTC (i) the number of units of each Licensed Product sold during such Fiscal Quarter; (ii) B&L's calculation, based upon the books and records of B&L, of Net Sales during such Fiscal Quarter, including an itemization of gross amounts invoiced and amounts deducted in the calculation of such Net Sales; and (iii) B&L's calculation of amounts owed to PTC under Section 3.2 and Section 3.3 (if applicable) for such Fiscal Quarter, taking into account the cumulative Net Sales for any preceding Fiscal Quarters for the Fiscal Year in which such Fiscal Quarter falls; and (b) pay to PTC the amounts owed to PTC under Section 3.2 and Section 3.3 for such Fiscal Quarter.

3.5 Post-Termination Report. Within [**] days following any termination of this Agreement, B&L shall (a) calculate and report to PTC (i) the number of units of each Licensed Product sold prior to such termination and not previously reported; (ii) B&L's calculation, based

upon the books and records of B&L, of Net Sales for any portion of a Fiscal Quarter prior to such termination not previously reported, including an itemization of gross amounts invoiced and amounts deducted in the calculation of such Net Sales; and (iii) B&L's calculation of amounts owed to PTC under Section 3.2 and Section 3.3 (if applicable) for such portion of a Fiscal Quarter prior to such termination; and (b) pay to PTC the amounts owed to PTC under Section 3.2 and Section 3.3 (if applicable) for such period following termination and not yet paid.

3.6 Offsets for Adverse Patents. Should B&L determine in its reasonable discretion that in order to commercialize a Licensed Product it is necessary to obtain rights under one or more patents or patent applications owned or controlled by one or more third parties and that cover the Licensed Compound or its manufacture, use, sale, offering for sale or importation in the Field, then B&L shall be entitled to negotiate and enter into agreements with such third parties and [**]% of any amounts payable with respect to the Licensed Compound by B&L under such agreements shall be credited against royalties payable by B&L to PTC, with respect to Net Sales in the country(-ies) for which such third party agreements are necessary, under Section 3.2 of this Agreement, provided, however, that such amounts credited shall not exceed [**] percent ([**]%) of amounts otherwise due to PTC in any Fiscal Quarter with respect to Net Sales in any country(-ies) for which such third party agreements are necessary.

3.7 Reduction in Royalty Rate in Response to Generic Competition. Notwithstanding the foregoing Section 3.2, on a Fiscal Quarter-by-Fiscal Quarter basis and a country-by-country basis, in any country where there is a Competing Product (as defined below) sold in such country and (a) there exists no Valid Claim, or (b) after consultation with each other, PTC and B&L elect not to pursue individually or jointly action seeking to stop the sale of such Competing Product in such country, or (c) B&L and/or its Affiliates and/or sublicensees are not entitled to bring or able to initiate an action (whether in their own name or in the name of PTC) to, or otherwise able to, stop any person from selling a Competing Product in such country, the royalty payable under Section 3.2 (after giving effect to any reduction under Section 3.6) on Net Sales in such country shall be reduced (i) to [**] percent ([**]%) of the otherwise applicable royalty if the aggregate sales of Competing Products in such country exceed [**] percent ([**]%) but are less than [**] percent ([**]%) of the total market for sales of products in the same ophthalmic therapeutic class and of the same type in such country, and (ii) to [**] percent ([**]%) of the otherwise applicable royalty if the aggregate sales of Competing Products in such country exceed [**] percent ([**]%) in the same ophthalmic therapeutic class and of the same type in such country. For purposes of this provision, "Competing Product" shall mean any product that incorporates the Licensed Compound.

3.8 Determination of Otherwise Applicable Royalty for Purposes of Reduction Pursuant to Section 3.6 or 3.7. For any Fiscal Quarter in which (a) B&L's aggregate royalty obligation under Section 3.2 would, before any offset or reduction pursuant to Section 3.6 or 3.7, be calculated based on two or more applicable royalty rates pursuant to Section 3.2 and (b) an offset or reduction pursuant to Section 3.6 or 3.7 is applicable with respect to any country, the royalty payable on Net Sales in such country during such Fiscal Quarter, before any offset or reduction pursuant to Section 3.6 or 3.7, shall be determined by applying the royalty rate brackets to Net Sales in such country in the same proportion as the royalty rate brackets are applied to worldwide Net Sales during such Fiscal Quarter. By way of example, if, before any offset or reduction pursuant to Section 3.6 or 3.7, the royalty rate applicable to [**]% of

worldwide Net Sales during such Fiscal Quarter is [**]%, and the royalty rate applicable to [**]% of worldwide Net Sales during such Fiscal Quarter is [**]%, then the royalty rate applicable to [**]% of Net Sales in such country during such Fiscal Quarter shall be deemed [**]%, and the royalty rate applicable to [**]% of Net Sales in such country during such Fiscal Quarter shall be deemed [**]%.

3.9 Records and Audit Rights. B&L shall, in accordance with GAAP, keep full and accurate books and records with respect to the amounts payable hereunder for no less than three (3) calendar years after the end of the Fiscal Year in respect of which payment is to be made hereunder. B&L shall permit PTC to have such books and records examined by certified public accountants retained by PTC and reasonably acceptable to B&L, during regular business hours and upon reasonable advance written notice, but not later than three (3) calendar years following the rendering of any reports, accounting and payments under this Agreement and no more often than one (1) time per Fiscal Year. Such accountants shall keep confidential any information obtained during such examination and shall report only the amounts which the accountants believe to be due and payable hereunder. Any such information so reviewed and any such information reported shall be considered the Confidential Information of B&L. If the audit discloses an underpayment, B&L shall promptly remit to PTC any shortfall. If the audit discloses an underpayment that is in excess of 10% of the total amount due to PTC for any Fiscal Quarter, B&L shall pay PTC's reasonable out-of-pocket costs of the audit.

3.10 Currencies. Payments under this Agreement shall be made in United States dollars. Net Sales data for each country shall be converted into United States dollars using the applicable monthly exchange rate for converting such local currency to United States dollars in accordance with B&L's worldwide accounting systems.

3.11 Taxes. B&L may withhold the appropriate tax from any payment to be made to PTC under this Agreement provided that such withholding is required by Applicable Laws and B&L submits the amounts withheld to the applicable tax authorities. In such event B&L shall furnish PTC with proof of payment of such tax together with official or other appropriate evidence issued by the applicable government authority. B&L and PTC shall cooperate to take advantage of any applicable tax treaties pursuant to which the withholding of taxes can be legally avoided or minimized.

3.12 Duration of Royalty Obligations. The obligation of B&L to pay royalties under this Section 3 shall terminate on a country-by-country basis on the later of (i) the date on which there exists no Valid Claim in such country, or (ii) ten (10) years after the first commercial sale for monetary value for use or consumption by the general public of the Licensed Product by B&L or any of its Affiliates or sublicensees in such country following Registration Approval for the Licensed Product in such country. Following termination of B&L's obligation to pay royalties in a country pursuant to this Section 3.12, the license and rights granted to B&L hereunder with respect to such country shall become non-exclusive, fully paid-up, royalty-free, irrevocable and perpetual.

4. Obligations of B&L.

4.1 Control and Cooperation. B&L shall, at its own expense, solely control and be solely responsible for developing, manufacturing, registering and commercializing the Licensed Compound. All registration filings will be made in the name of B&L and shall be held by B&L. PTC shall cooperate, at B&L's expense (as mutually agreed by the parties in connection with any request by B&L for such assistance), to the extent reasonably necessary to assist B&L in such filings, in obtaining Registration Approvals and in complying with all ongoing regulatory requirements including analysis of technical complaints and adverse events.

4.2 Diligence. B&L shall use Commercially Reasonable Efforts to develop a Licensed Product, and to obtain Registration Approval for and market a Licensed Product in all Major Territories.

4.3 Joint Development Committee.

(a) Formation. Within sixty (60) days following the Effective Date, the parties shall form a committee (the "Joint Development Committee") comprising at least two representatives from each party of appropriate backgrounds and level.

(b) Responsibilities. The Joint Development Committee will be responsible for (i) reviewing and providing consultation regarding B&L's plans and progress in developing, manufacturing, registering and commercializing a Licensed Product and (ii) discussing other matters related to this Agreement referred to it by either party. Each party's representatives to the Joint Development Committee shall communicate with one another as necessary to perform the parties' respective obligations hereunder. B&L's representatives shall (a) provide to PTC's representatives quarterly written reports regarding the status of B&L's efforts in developing, manufacturing, registering and commercializing the Licensed Compound, including information regarding clinical planning and the progress of any clinical trials; (b) permit PTC's representatives to be present during clinical trial investigator calls and meetings; (c) permit PTC's representatives to review development and clinical data, minutes of project team meetings and regulatory correspondence (including drafts of material regulatory correspondence to be sent by B&L to Regulatory Authorities reasonably in advance of submission); and (d) provide PTC's representatives with access to such other information regarding B&L's plans and progress in developing, manufacturing, registering and commercializing a Licensed Product as PTC's representatives shall reasonably request.

(c) Meetings. The Joint Development Committee shall hold its first meeting in person within ninety (90) days following the Effective Date. Thereafter, the Joint Development Committee will meet on a quarterly basis either in person or by telephone at mutually acceptable times and locations. At each meeting, each party may bring one or more additional advisors, experts or vendors to participate in the meeting, provided that each such advisor, expert or vendor signs an appropriate nondisclosure agreement prohibiting disclosure of Confidential Information acquired in connection with such participation.

(d) Disagreements. Any matter of disagreement related to development, manufacture, registration and commercializing of the Licensed Compound shall be referred to a designated senior executive of each party for resolution. [**] any matter of disagreement that is not resolved by such referral if such senior executives are unable to resolve the dispute within a

reasonable time period after such referral. For the avoidance of doubt, nothing in this Section 4.3 shall be construed as giving either party the right to modify any provision of this Agreement.

5. Term and Termination.

5.1 Term. The term of this Agreement shall commence as of the Effective Date and unless terminated earlier as set forth below, shall continue until B&L has no further obligation to pay royalties pursuant to Section 3.

5.2 Termination by PTC. PTC may terminate this Agreement upon written notice to B&L in the event that:

(a) B&L has failed to pay any undisputed amounts when due hereunder within forty-five (45) days following receipt by B&L of written notice from PTC demanding the payment of such amount; or

(b) B&L has failed to use Commercially Reasonable Efforts to develop a Licensed Product in accordance with Section 4.2, above, and PTC has reviewed all information contained in the reports and other information provided by B&L pursuant to Section 4.3, above, has compared such information with the standards set forth in Section 4.2, above, and has provided written notice to B&L that specifically identifies how B&L has failed to comply with Section 4.2; provided that PTC's right of termination shall not become effective unless B&L has failed, within [**] following receipt of such written notice, to either begin or resume Commercially Reasonable Efforts to develop a Licensed Product in accordance with Section 4.2, which termination right shall be PTC's sole remedy for failure by B&L to use Commercially Reasonable Efforts to develop a Licensed Product in accordance with Section 4.2 and which termination, and the effect of termination under Section 5.4 below, shall apply only to the Major Territory in which B&L has failed to use Commercially Reasonable Efforts to develop a Licensed Product, provided that if such termination applies to all three of the Major Territories, such termination, and the effect of termination under Section 5.4 below, shall also apply to all countries and territories outside the Major Territories in which B&L, or an Affiliate or sublicensee of B&L, has not received Registration Approval for, or made a commercial sale as of, a Licensed Product prior to the effective date of such termination; or

(c) B&L has failed to perform any other material obligation under this Agreement, and has failed to cure such non-performance within [**] following receipt by B&L of written notice from PTC specifying in reasonable detail the nature of such failure.

5.3 Termination by B&L. B&L may terminate this Agreement without cause in B&L's sole discretion upon ninety (90) days written notice to PTC.

5.4 Effect of Termination.

(a) Termination of Licenses, Reversion of Rights, Etc. Upon any termination of this Agreement by PTC pursuant to Section 5.2 or by B&L pursuant to Section 5.3 (i) the licenses granted hereunder shall terminate; (ii) all rights granted hereunder to B&L shall revert to PTC for the benefit of PTC and B&L shall transfer to PTC all pre-clinical and clinical data, all regulatory filings, including drug master files, IND's, NDA's and Registration Approvals, and

the like regarding the Licensed Product; (iii) if requested by PTC, B&L will supply reasonable quantities of the Licensed Product to PTC, on a cost plus [**]% basis, for up to [**] (if B&L or any of its Affiliates are manufacturing Licensed Product as of such termination) or transition any third party supply arrangement for the Licensed Product to PTC that B&L has in force as of such termination to the extent permitted under such supply arrangement; and (iv) for the [**] immediately following termination B&L shall be entitled to sell any completed inventory of Licensed Product which remain on hand as of the date of the termination, and to sell new inventory to the extent necessary to satisfy its contractual and legal obligations, so long as B&L pays to PTC the royalties applicable to said subsequent sales in accordance with the terms and conditions as set forth in this Agreement. Neither termination nor expiration of this Agreement shall terminate or otherwise affect the Research Collaboration and Exclusive Option Agreement or any other licenses granted to B&L under any other agreements between B&L and PTC.

(b) Grant of License to PTC. B&L shall, and hereby does, grant to PTC a non-exclusive license, effective as of termination pursuant to Section 5.2 or Section 5.3, under all know-how Controlled by B&L prior to such termination and under all patent rights Controlled by B&L prior to such termination the claims of which may be infringed, absent such license, by the manufacture, use, sale, offer for sale or importation of the Licensed Compound, with the right to sublicense, to make, have made, use, offer for sale, sell and import the Licensed Compound, and only the Licensed Compound, in any country of the world. No other, further or different license is granted or implied pursuant to this Section 5.4(b). At the request of PTC, B&L shall negotiate terms, including the payment of fees and royalties, under which such non-exclusive license may be converted to an exclusive license, subject to any licenses that may have been granted by B&L to any third parties prior to such request.

5.5 Survival. Termination or expiration shall not relieve either party from any obligations accrued as of the date of such termination or expiration. The obligations of the parties under Sections 2.4, 3.5, 3.9, 3.12, 5.4, 5.5, 9, 10, 11, 12 and 13 shall survive termination or expiration of this Agreement.

6. Warranties, Representations and Covenants.

6.1 Representations, Warranties and Covenants of Each Party.

(a) Authority. Each party represents and warrants that it possesses all right, title, interest and authority necessary to enter into this Agreement, perform its obligations hereunder and grant the rights embodied herein and that it is not aware of any legal impediment that would inhibit its ability to perform its obligations under this Agreement.

(b) No Conflicts. Each party represents and warrants to the other that the execution, delivery and performance of this Agreement does not: (i) conflict with, or constitute a breach of, any order, judgment, agreement or instrument to which such party is a party or is otherwise bound; or (ii) require the consent of any person or entity.

6.2 Representations and Warranties of PTC.

(a) Compliance with Laws. PTC covenants, represents and warrants that it shall comply with all Applicable Laws.

(b) No Claims. PTC represents and warrants as of the Effective Date that, except as disclosed by PTC to B&L in writing prior to the Effective Date with respect to the Licensed Compound, which disclosure is also set forth on Schedule 6.2(b) attached hereto, (i) there have been no claims made against PTC asserting the invalidity, unenforceability, abuse or misuse of any of the Licensed Know-How and Licensed Patents specifically relating to the Licensed Compound; (ii) PTC has not made any claim of any violation or infringement or misappropriation by others of PTC's rights in the Licensed Compound, or the Licensed Know-How or Licensed Patents specifically relating to the Licensed Compound within the Field; and (iii) PTC has not received any notice that PTC is in conflict with or infringing upon the asserted rights of others in connection with the Licensed Compound, or the Licensed Know-How or Licensed Patents specifically relating to the Licensed Compound within the Field.

(c) Third Party Intellectual Property. PTC represents and warrants to its knowledge as of the Effective Date that, except as disclosed by PTC to B&L in writing prior to the Effective Date with respect to the Licensed Compound, which disclosure is set forth on Schedule 6.2(c) attached hereto, there are no patent or other intellectual property rights owned or controlled by any third party that would be infringed by the composition of matter of the Licensed Compound or use of the Licensed Compound in the Field that would prevent B&L from making, using, selling, offering for sale or importing the Licensed Compound in the Field pursuant to this Agreement.

(d) No Conflicting Licenses. PTC covenants, represents and warrants that, except as disclosed by PTC to B&L in writing prior to the Effective Date with respect to the Licensed Compound, which disclosure is set forth on Schedule 6.2(d) attached hereto, no licenses or covenants not to sue under the Licensed Know-How or Licensed Patents, and no rights to make, have made, use, sell, offer for sale, promote or import products containing the Licensed Compound, have been or shall be granted by PTC in the Field.

(e) U.S. Government Support. PTC represents and warrants as of the Effective Date that, except as disclosed by PTC to B&L in writing prior to the Effective Date with respect to the Licensed Compound, which disclosure is set forth on Schedule 6.2(e) attached hereto, no research support was received from the United States or any other government body relating to the research or development of the Licensed Compound and that none of the Licensed Patents or Licensed Know-How may be deemed a "subject invention" under 35 U.S.C. Section 201.

6.3 Representations, Warranties and Covenants of B&L. B&L covenants, represents and warrants that it shall comply with all Applicable Laws.

7. Patent Preparation, Filing, Prosecution and Maintenance.

7.1 Responsibility. PTC is responsible for preparing, filing, prosecuting and maintaining the Licensed Patents, including any interferences, oppositions, reissues or reexaminations. However, PTC shall provide, or cause its agent to provide, to B&L copies of relevant correspondence between PTC and the United States Patent Office or the various international patent offices and matters. Upon B&L's request, PTC shall be available to consult with B&L on matters relating to preparing, filing, prosecuting or maintaining any of the applications or patents that are part of the Licensed Patents. PTC shall implement all reasonable

requests made by B&L with regard to the preparation, filing, prosecution and maintenance of the patent applications and patents within the Licensed Patents.

7.2 Abandonment. If PTC desires to abandon any patent or patent application that is part of the Licensed Patents, it shall provide reasonable written notice to B&L and provide B&L the opportunity, at B&L's expense, to assume responsibility for preparing, filing, prosecuting and maintaining such patent application or patent in PTC's name. B&L shall have no obligation to pay royalties attributable to any such patents maintained by B&L; accordingly, patents maintained by B&L shall not be deemed Licensed Patents for the purpose of determining whether, under Section 3.7 or Section 3.12, a Valid Claim exists.

7.3 Cooperation. PTC and B&L shall cooperate in preparing, filing, prosecuting and maintaining the patent applications and patents that are part of the Licensed Patents.

8. Infringement of Intellectual Property.

8.1 Notice. If either party becomes aware of any misappropriation or infringement or threatened misappropriation or infringement of any the Licensed Know-How and the Licensed Patents in the Field, then such party shall give written notice to the other party within ten (10) days of becoming aware of such infringement or threat.

8.2 Enforcement Actions. B&L shall have the right, but not the obligation, to bring an enforcement action and take any other reasonable steps to defend the Licensed Know-How and the Licensed Patents against misappropriation or infringement in the Field at its own expense; which steps may include the negotiation of appropriate settlements and cross-licenses. PTC hereby agrees, in addition to its other obligations under this Section, to be joined as a party to any such action. If PTC is required to be joined as a party, PTC may retain its own counsel at its own expense or may elect to be represented in the enforcement action by B&L's counsel at B&L's expense. PTC shall also have the right to co-fund an enforcement action or defense. If B&L does not initiate a response to any infringement within ninety (90) days after it has received notice thereof, then PTC shall have the right to undertake such action itself at its own expense. Each party shall have the right to approve any settlement, cross-license, etc., such approval not to be unreasonably withheld or delayed.

8.3 Distribution of Amounts Paid by Third Parties. In any legal proceeding brought by a party and funded solely by that party, any damages or other amounts recovered as a result of the proceeding will be retained by that party. In any other legal proceeding, any damages or other amounts will be distributed as follows: the damages or other amounts will first be used to reimburse each party for the cost of the suit or action (including attorneys' fees and any other third-party costs) actually paid by each party, then split evenly. Damages or other amounts recovered as a result of the proceeding retained by B&L shall not be deemed Annual Net Sales or otherwise subject to royalties or other payment obligations to PTC under this Agreement.

9. Indemnification.

9.1 PTC Indemnification.

(a) Indemnity. PTC shall indemnify, defend and hold harmless B&L and its Affiliates, and their directors, officers, agents and employees (collectively, the "B&L Indemnified Parties") from and against all claims, demands, losses, liabilities, damages, costs and expenses (including reasonable attorneys' fees and any costs of settlement) incurred by the B&L Indemnified Parties resulting from or arising in connection with any claim, suit, action or proceeding brought by a third party (a "Third Party Claim") against any such B&L Indemnified Party based on:

(i) PTC's breach of any of PTC's covenants, representations or warranties hereunder; or

(ii) any act or omission constituting recklessness, gross negligence or willful misconduct on the part of PTC.

(b) Limitations on PTC Indemnification. PTC shall have no obligation to indemnify, defend or hold harmless the B&L Indemnified Parties in connection with any Third Party Claim to the extent such Third Party Claim is covered by B&L's obligations under Section 9.2, or arises from: (i) a B&L Indemnified Party's breach of any of B&L's covenants, representations or warranties hereunder; or (ii) any act or omission constituting recklessness, gross negligence or willful misconduct on the part of any of the B&L Indemnified Parties.

9.2 B&L Indemnification.

(a) Indemnity. B&L shall indemnify, defend and hold harmless PTC, its Affiliates, and their directors, officers, agents and employees (collectively, the "PTC Indemnified Parties") against all claims, demands, losses, liabilities, damages, costs and expenses (including reasonable attorneys' fees and any costs of settlement) incurred by the PTC Indemnified Parties resulting from or arising in connection with a Third Party Claim brought against any such PTC Indemnified Party based on:

(i) B&L's breach of any of B&L's covenants, representations or warranties hereunder;

(ii) the pre-clinical testing, clinical testing, manufacture, distribution, marketing, advertisement, promotion or sale of the Licensed Product by B&L, its Affiliates and sublicensees, including without limitation any Third Party Claim based on personal injury, death or infringement of patent or other intellectual property rights that relate to a Licensed Product (other than infringement resulting from a breach by PTC of its representations and warranties hereunder) resulting from such pre-clinical testing, clinical testing, manufacture, distribution, marketing, advertisement, promotion or sale of the Licensed Product; or

(iii) any act or omission constituting recklessness, gross negligence or willful misconduct on the part of B&L.

(b) Limitations on B&L Indemnification. B&L shall have no obligation to indemnify, defend or hold harmless the PTC Indemnified Parties in connection with any Third Party Claim to the extent such Third Party Claim is covered by PTC's obligations under Section 9.1, or arises from: (i) a PTC Indemnified Party's breach of any of PTC's covenants,

obligations, agreements, representations or warranties hereunder; or (ii) any act or omission constituting recklessness, gross negligence or willful misconduct on the part of any of the PTC Indemnified Parties.

9.3 Indemnification Procedure.

(a) Notification and Cooperation. The party seeking indemnification hereunder (the "Indemnified Party") shall: (i) promptly notify in writing the party obligated to indemnify (the "Indemnifying Party") of any claim, action or proceeding of a third party for which the Indemnified Party seeks indemnification; and (ii) cooperate fully with the Indemnifying Party and its legal representatives in the investigation of any such claim, action or proceeding. The Indemnified Party's failure to comply with its obligations under this Section shall not constitute a breach of this Agreement nor relieve the Indemnifying Party of its indemnification obligations hereunder, except to the extent, if any, that the Indemnifying Party's defense or settlement of the affected claim, action or proceeding was actually and materially impaired thereby.

(b) Defense. The Indemnifying Party shall conduct, at its own expense, the defense of any and all such claims, charges, suits or other actions by a third party, and the Indemnified Party may, at its own expense, assist in such defense if it so chooses, provided that the Indemnifying Party shall control such defense and all negotiations relative to the settlement of any such claim. Neither party shall settle or admit liability with respect to any such claims, charges, suits or other actions which could result in liability to the other party without the prior written consent of the other party, which consent shall not be unreasonably withheld or delayed.

10. Limitation of Liability. NOTWITHSTANDING ANYTHING IN THIS AGREEMENT TO THE CONTRARY, NEITHER PTC NOR B&L, NOR THEIR RESPECTIVE AFFILIATES, DIRECTORS, OFFICERS, EMPLOYEES OR AGENTS, SHALL HAVE ANY LIABILITY TO THE OTHER FOR ANY SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES, IN CONNECTION WITH OR ARISING OUT OF THIS AGREEMENT, EVEN IF SUCH DAMAGES WERE FORESEEABLE, EXCEPT TO THE EXTENT SUCH DAMAGES ARE OWED TO A THIRD PARTY BY A PARTY ENTITLED TO INDEMNIFICATION UNDER THIS AGREEMENT AND EXCEPT FOR ANY DAMAGES ARISING FROM BREACH OF A PARTY'S CONFIDENTIALITY OBLIGATIONS UNDER THIS AGREEMENT.

11. Confidentiality.

11.1 Nondisclosure and Nonuse Obligations. During the term of this Agreement, and thereafter after expiration or termination hereof, each party will maintain all Confidential Information of the other party in trust and confidence and will not disclose any Confidential Information of the other party to any third party or use any Confidential Information of the other party except to the extent required to enjoy its rights or comply with its obligations under this Agreement. Confidential Information shall be disclosed only to employees, agents, Affiliates and consultants who have a need for such information and who are bound by obligations of nondisclosure and non-use at least as restrictive as those set forth herein. Each party shall be responsible for any disclosure or use of the Confidential Information by such employees, agents,

Affiliates and consultants. Each party shall protect the other party's Confidential Information using not less than the same standard of care with which it treats its own Confidential Information, but at all times shall use at least reasonable care.

11.2 Exceptions. Confidential Information shall not include any information which:

(a) is now, or lawfully becomes, generally known or available to the public through no fault of the recipient;

(b) is known by the receiving party at the time of receiving such information;

(c) is hereafter lawfully furnished to the receiving party by a third party, as a matter of right and without restriction on disclosure;

(d) is independently developed by the receiving party without any breach of this Section as evidenced by its written records; or

(e) is the subject of a written permission to disclose provided by the disclosing party.

11.3 Authorized Disclosure. Notwithstanding any other provision of this Agreement, each party may disclose Confidential Information of the other party if such disclosure is required: (i) by an order of a court or other governmental body, or any political subdivision thereof or arbitral panel with jurisdiction over the disclosing party; or (ii) by law or regulation (including, without limitation, to comply with any applicable securities regulation, stock exchange or NASDAQ disclosure requirements), but only to the extent that any such disclosure is reasonably necessary. With respect to any order of a court or other governmental body, the disclosing party shall, if practicable, first have given written notice to the other party hereto and shall use reasonable efforts to limit the scope and content of such disclosure to the required scope and content. With respect to disclosure required by Applicable Laws or regulations (including, without limitation, any applicable securities regulation, stock exchange or NASDAQ disclosure requirements), the disclosing party shall, if practicable, first give written notice to the other party hereto and allow the other party a reasonable opportunity to comment on the content of such disclosure and shall consult with the other party with respect to the comments of such other party.

11.4 Obligations at End of Term. Each party agrees, at the request of the other party, upon expiration or termination of this Agreement to either: (i) return to the other party all originals and copies of the other party's Confidential Information; or (ii) at the other party's option, destroy all originals and copies of the other party's Confidential Information and to certify in writing such destruction to the other party; provided, however that the receiving party may keep one copy of the other party's Confidential Information in a secure location, solely for purposes of enforcing and determining such party's rights and obligations under this Agreement.

11.5 Injunctive Relief. The parties agree that any breach of the restrictions contained in this Section will cause irreparable harm to the non-breaching party entitling the non-breaching party to injunctive or other preliminary relief in addition to all other legal remedies.

12. Publicity. All publicity, press releases and other announcements regarding this Agreement or the transactions contemplated hereby shall be reviewed in advance by, and subject to the written approval of, both parties. Notwithstanding the foregoing, either party may, without the written consent of the other, disclose the terms of this Agreement insofar as reasonably required to comply with applicable securities laws (including, without limitation, any applicable stock exchange or NASDAQ disclosure requirements); provided, however, that where practicable the disclosing party shall provide advance notice and a reasonable opportunity to the other party to provide comments regarding any confidential treatment or similar request. The disclosing party shall if practicable reasonably consider any such comments from the other party. In addition, each party shall have the right to disclose, under obligations of confidentiality and as reasonably required, the terms of this Agreement to potential acquirers, investors, lenders, licensees, sublicensees, contractors and other third parties in connection with acquisition, financing, product development or commercialization activities..

13. Miscellaneous.

13.1 Bankruptcy. All licenses granted under this Agreement by PTC to B&L, for all purposes of Section 365(n) of Title XI of the United States Code ("Title XI"), are licenses of rights to "intellectual property" as defined in Title XI. If a bankruptcy proceeding is commenced by or against PTC under Title XI, B&L shall be entitled to a copy of any and all such intellectual property maintained by PTC, and the same, if not in the possession of B&L, shall be promptly delivered to it (a) upon B&L's written request following the commencement of such bankruptcy proceeding, unless PTC, or its trustee or receiver, elects within Thirty (30) days to continue to perform all of its obligations under this Agreement, or (b) if not delivered as provided under Section (a) above, upon B&L's request following the rejection of this Agreement by or on behalf of PTC. If B&L has taken possession of all applicable embodiments of the intellectual property of PTC pursuant to this Section and the trustee in bankruptcy of PTC does not reject this Agreement, B&L shall return such embodiments upon request. If PTC seeks or involuntarily is placed under Title XI and the trustee rejects this Agreement as contemplated under 11 U.S.C. 365(n)(1), B&L hereby elects pursuant to Section 365(n) to retain all rights granted to B&L under this Agreement to the extent permitted by law.

13.2 Notices. All notices required or permitted hereunder shall be given in writing and mailed postage prepaid, certified or registered mail, return receipt requested, or sent by a nationally recognized express courier service, or hand-delivered at the following addresses:

To PTC: PTC Therapeutics, Inc.
100 Corporate Court
South Plainfield, New Jersey 07080-2449
Attn.: Legal Dep't

Email copy to: legal@ptcbio.com

To B&L: Bausch & Lomb Incorporated
One Bausch & Lomb Place
Rochester, New York 14604-2701

Attn.: Senior Vice President - Research and Development and
Chief Scientific Officer

Copy to: Bausch & Lomb Incorporated
One Bausch & Lomb Place
Rochester, New York 14604-2701
Attn.: Senior Vice President and General Counsel

All notices shall be deemed made upon receipt by the addressee as evidenced by the applicable written receipt.

13.3 Captions and Section References. The titles, headings or captions in this Agreement do not define, limit, extend, explain or describe the scope or extent of this Agreement or any of its terms or conditions and therefore shall not be considered in the interpretations, construction or application of this Agreement.

13.4 Severability. If any term or provision of this Agreement shall be found to be invalid, illegal or otherwise unenforceable, such finding shall not affect the other terms or provisions of this Agreement, or the whole of this Agreement, but such term or provision shall be deemed modified to the extent necessary to render such term or provision enforceable, and the rights and obligations of the parties shall be construed and enforced accordingly, preserving to the fullest permissible extent the intent and agreements of the parties set forth in this Agreement.

13.5 Amendment. No amendment, change or modification of any of the terms, provisions or conditions of this Agreement shall be effective unless made in a writing that expressly references this Agreement and is signed on behalf of the parties hereto by their duly authorized representatives.

13.6 Waiver. No waiver of any term, provision or condition of this Agreement, whether by conduct or otherwise, in any one or more instances, shall be deemed to be or construed as a further or continuing waiver of any such or other term, provision or condition of this Agreement.

13.7 Force Majeure. Neither party shall be liable hereunder to the other party nor shall be in breach for failure to perform its obligations caused by circumstances beyond the control of either party, including, but not limited to: acts of nature; fires; earthquakes; floods; riots; wars; civil disturbances; sabotage; accidents; shortages or government actions. In the case of any such event, the affected party shall promptly notify the other party, and shall keep the other party informed of the event in writing specifying the extent to which its performance will likely be affected. The party affected shall exert reasonable diligent efforts to eliminate, cure or overcome any such cause and resume performance as soon as practicable.

13.8 Benefits and Binding Nature of Agreement. This Agreement shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and assigns permitted under this Agreement.

13.9 Assignment; Change in Control. The rights under this Agreement may not be assigned by either party (the "Assigning Party") without the written consent of the other party (the "Non-Assigning Party") except (i) to any Affiliate of the Assigning Party or (ii) to any party which acquires substantially all of the assets and business of the Assigning Party to which this Agreement relates.

13.10 Entire Agreement. This Agreement sets forth the entire agreement between the parties hereto pertaining to the subject matter hereof and supersedes all negotiations, preliminary agreements, memoranda or letters of proposal or intent, discussions and understandings of the parties hereto in connection with the subject matter hereof.

13.11 Governing Law and Forum. This Agreement and all claims related to it, its execution or the performance of the parties under it, shall be construed and governed in all respects according to the laws of the State of New York. The parties agree that all actions or proceedings arising in connection with this Agreement shall be tried and litigated exclusively in the courts located in the Borough of Manhattan, New York, New York. This choice of venue is intended by the parties to be mandatory and not permissive in nature, and to preclude the possibility of litigation between the parties with respect to, or arising out of, this Agreement in any jurisdiction other than that specified in this Section. Each party waives any right it may have to assert the doctrine of forum non-conveniens or similar doctrine or to object to venue with respect to any proceeding brought in accordance with this Section.

13.12 Counterparts. This Agreement may be executed in counterparts. For purposes hereof, a facsimile copy of this Agreement, including the signature page hereto, shall be deemed to be an original. Notwithstanding the foregoing, the parties shall deliver original execution copies of this Agreement to one another as soon as practicable following execution thereof.

[The remainder of this page is left intentionally blank.
Signature page follows.]

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed on the day and year first above written.

BAUSCH & LOMB INCORPORATED	PTC THERAPEUTICS, INC.
By:_____	By:_____
Name:_____	Name:_____
Title:_____	Title:_____

SCHEDULE 1.14

DESCRIPTION OF LICENSED COMPOUND SCAFFOLD

SCHEDULE 6.2(B)

CLAIMS

SCHEDULE 6.2(C)

THIRD PARTY INTELLECTUAL PROPERTY

SCHEDULE 6.2(D)

CONFLICTING LICENSES

SCHEDULE 6.2(E)

GOVERNMENT SUPPORT

Exhibit 10.5

Confidential Materials omitted and filed separately with the Securities and Exchange Commission. Asterisks denote omissions.

COLLABORATION AND LICENSE AGREEMENT

dated as of March 17, 2006

by and between

PTC THERAPEUTICS, INC.

and

ESSEX CHEMIE AG
(a wholly-owned subsidiary of Schering-Plough Corporation)

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COLLABORATION AND LICENSE AGREEMENT

THIS COLLABORATION AND LICENSE AGREEMENT (the "Agreement"), dated as of March 17, 2006 (the "Effective Date"), is entered into by and between PTC Therapeutics, Inc. with a principal place of business at 100 Corporate Court, South Plainfield, NJ 07080 ("PTC"), and Essex Chemie AG, a corporation organized under the laws of Switzerland and a wholly-owned subsidiary of Schering-Plough Corporation, with a place of business at Weystrasse 20, CH-6006 Lucerne 6, Switzerland ("Schering"). PTC and Schering are sometimes referred to herein individually as a "Party" and collectively as the "Parties".

BACKGROUND

WHEREAS, PTC and its Affiliates possess proprietary technology and know-how related to the discovery, identification and/or synthesis of small molecule drug candidates that inhibit the Hepatitis C virus ("HCV") by modulating (either directly or indirectly) the function of the HCV internal ribosome entry site ("HCV IRES"), and have identified certain chemical compounds that are inhibitors of HCV; and

WHEREAS, Schering and its Affiliates are engaged in the research, development and marketing of products for the treatment of, among other things, HCV and other viral diseases; and

WHEREAS, PTC and Schering desire to collaborate in the discovery, development and commercialization of Collaboration Compounds (defined below) for use in the treatment of diseases and conditions in humans and animals, all as set forth herein.

NOW, THEREFORE, PTC and Schering, intending to be legally bound, hereby agree as follows:

ARTICLE 1

DEFINITIONS

1.1 "Active Compound" means any compound that (x) [**] at a concentration of [**] and (y) does not cause more than [**] [**], or such other appropriate assay as may be mutually agreed by the Parties) at a concentration that is [**]. Active Compounds include Highly Active Compounds.

1.1A "Active Ingredient" means, with respect to any Collaboration Compound, such Collaboration Compound, or any metabolites, prodrugs, solvates (including without limitation hydrates), esters, salts, stereoisomers, racemates, tautomers and polymorphs, of any such Collaboration Compound.

1.2 "Affiliate" means, with respect to a specified Person, any Person that directly or indirectly controls, is controlled by, or is under common control with the specified Person. As used in this definition, the term "control" means the possession, directly or indirectly, of the

power to direct or cause the direction of the management and policies of a Person, whether through ownership of voting securities, by contract or otherwise. For purposes of this definition, "control" shall be presumed to exist if one of the following conditions are met: (a) in the case of corporate entities, direct or indirect ownership of more than fifty percent (50%) of the stock or shares having the right to vote for the election of directors, and (b) in the case of non-corporate entities, direct or indirect ownership of more than fifty percent (50%) of the equity interest with the power to direct the management and policies of such non-corporate entities.

1.3 "Back-up Development Candidate" means those Collaboration Compounds that Schering accepts as suitable for progression to pre-clinical Development as a Back-Up Development Candidate for use in the Viral Field in accordance with its then current internal decision-making processes. It is intended that the JSC develop criteria for a Back-Up Development Candidate that are based on knowledge gained as a result of the primary Development Candidate selection, and may reflect properties identified as desirable by the JSC given the strengths and weaknesses of a Development Candidate, including, for example, enhanced potency, better pharmacokinetics, structural distinctiveness, or patentably distinct chemical structure. It is understood that PTC or the JSC may propose, and Schering shall have the right to designate, Collaboration Compounds as Back-Up Development Candidates even if such compounds do not meet all of the criteria set forth in this Section 1.3 or on Schedule 1.14.

1.4 "Business Day" means any day that is not a Saturday, a Sunday or other day on which banks are required or authorized by Law to be closed in New York, New York.

1.5 "Collaboration Compound" means (i) the PTC Compounds, (ii) the Schering Compounds, and (iii) any compound that is an Active Compound and is either (x) first synthesized, or identified as a Viral IRES Inhibitor, by PTC or Schering, or any of their respective Affiliates, or any Third Party working in collaboration with or on behalf of PTC or Schering or any of their respective Affiliates, following the Effective Date in the course of performing work under the Research Program, or (y) claimed or covered in a Patent that claims a Program Invention, together in the case of both (x) and (y) with any metabolites and prodrugs, and any solvates (including without limitation hydrates), esters, salts, stereoisomers, racemates, tautomers and polymorphs, of any such compound that are themselves Active Compounds or are converted to an Active Compound in vivo.

1.6 "Combination Product" means any Licensed Product that contains or comprises a Collaboration Compound and one or more active ingredients that are not themselves Collaboration Compounds.

1.7 "Commercially Reasonable Efforts" means (i) with respect to Schering, that degree of skill, effort, expertise, and resources normally used by an established pharmaceutical company and (ii) with respect to PTC, that degree of skill, effort, expertise, and resources normally used by an established biotechnology company, in each case with respect to a pharmaceutical product which is of similar market potential at a similar stage in its product life, taking into account the safety and efficacy of the compound or product, the cost to Develop and Commercialize the product, the risks inherent in the Development and Commercialization of the product, the competitiveness of the marketplace, the proprietary position of the compound or product, the likelihood of obtaining Regulatory Approval for the product, the potential economic

return from the applicable product, and other technical, legal, scientific, medical or commercial factors that such Party deems in good faith to be relevant.

1.8 "Commercialization" and "Commercialize" shall refer to all activities undertaken relating to the pre-marketing, marketing, promotion, distribution and sale of a product, and the process of Commercialization, respectively.

1.9 "Competitor" means a Third Party or any of its Affiliates which, (a) together with its Affiliates, had worldwide annual revenues from the sale of pharmaceutical products in excess of [**] Dollars ($ [**]) during its most recently reported fiscal year, or (b) is engaged in the Research, Development or Commercialization of a product for the treatment of HCV (either alone or in collaboration with a Third Party).

1.10 "Compulsory License" means a compulsory license under PTC Patents or Schering Patents obtained by a Third Party through the order, decree, or grant of a competent governmental authority or court, authorizing such Third Party to Develop, make, have made, use, sell, offer to sell or import a Schering Viral Product in any country in the Territory.

1.11 "Confidential Information" means all data or other information regarding a Party's technology, products or business, or its activities related to Collaboration Compound or Licensed Product, which a Party considers proprietary or confidential and which is disclosed to the other Party pursuant to this Agreement. Disclosures of Confidential Information may be made by written, graphic, oral, or electronic means, or in any other form.

1.12 "Control" or "Controlled" means, with respect to any Patents or Know-How, possession (whether by ownership or license, other than pursuant to this Agreement) by a Party or its Affiliates of the ability to grant the licenses or sublicenses as provided for herein without violating the terms of any agreement or other arrangement with any Third Party. Patents or Know-How that are licensed or acquired by a Party following the Effective Date and that would otherwise be considered to be under the Control of a Party shall not be deemed to be under the Control of such Party if the application of such definition in the context of any license grants or sublicenses under this Agreement would require such Party to make any additional payments or royalties to a Third Party in connection with such license grants or sublicenses, unless the other Party agrees to cover the costs of such license grants or sublicenses.

1.13 "Development" means non-clinical (including, without limitation, pre-clinical) and clinical drug development activities and related research, including, among other things: conducting toxicology studies, statistical analysis and report writing, conducting clinical trials for the purpose of obtaining or maintaining Regulatory Approval (including, without limitation, post-marketing studies) and regulatory affairs related to all of the foregoing. Development shall not include Research or any study that is initiated after receipt of Regulatory Approval for a Licensed Product and is principally intended to support the Commercialization of the Licensed Product. When used as a verb, "Develop" means to engage in Development.

1.14 "Development Candidate" means those Collaboration Compounds that Schering accepts as suitable for progression to Development (starting with GLP toxicology studies) for use in the Viral Field in accordance with its then current internal decision making processes. It is

intended that Collaboration Compounds which are designated by Schering as Development Candidates will meet a significant majority of the criteria set forth in Schedule 1.14, as it may be amended from time to time by the JSC; provided, however, it is understood that Schering shall have the right to designate Collaboration Compounds as Development Candidates even if such compounds do not meet all of the criteria set forth on Schedule 1.14.

1.15 "Development Data" means all data and other information resulting from the Development of any Collaboration Compound or Licensed Product following the Effective Date, including without limitation, the results of any non-clinical and clinical studies involving a Collaboration Compound or Licensed Product.

1.16 "EMEA" means the European Medicines Evaluation Agency, or any successor agency with responsibility for regulating the Development, Manufacture and Commercialization of human or veterinary pharmaceutical, diagnostic, or prophylactic products.

1.17 "EU" means the countries of the European Union, as they may exist from time to time during the Term.

1.18 "Exclusivity Term" means the period beginning on the Effective Date and ending on the one-year anniversary of the expiration or termination of the Research Term.

1.19 "FDA" means the United States Food and Drug Administration, or any successor agency with responsibility for regulating the Development, Manufacture and Commercialization of human or veterinary pharmaceutical, diagnostic, or prophylactic products.

1.20 "Field" means the prevention, treatment or diagnosis of all diseases or conditions in humans or animals. The Field consists of the Viral Field and the Non-Viral Field.

1.21 "First Commercial Sale" means (x) with respect to a Party, the first bona fide arms length sale of a Licensed Product sold to a Third Party on an arms' length basis in any country in the Territory by a Party, its Affiliates or Sublicensees after Regulatory Approval has been obtained for such Licensed Product in such country, and (y) with respect to a Third Party, the first bona fide arms length sale of a finished pharmaceutical or veterinary product (in each case in all formulations, dosage forms and packaging configurations, including, but not limited to, as part of a combination product) to another party (not an Affiliate or sublicensee of such Third Party) on an arms' length basis in any country in the Territory by such Third Party, its Affiliates or sublicensees after Regulatory Approval has been obtained for such finished pharmaceutical or veterinary product in such country. Sales for clinical trial purposes or compassionate or similar use shall not be considered to constitute a First Commercial Sale.

1.22 "FTE" means a full-time scientific or research/development person dedicated by Schering or PTC (or their Affiliates, as applicable) to the Research Program, or in the case of less than a full-time dedicated scientific or research/development person, a full-time, equivalent scientific or research/development person year, based upon a total of [**] hours per year.

1.23 "FTE Rate" means [**] per full twelve-month (12-month) period per FTE.

1.24 "Full Development" means the commencement of any clinical trial for a Schering Viral Product after (i) demonstration of Proof of Concept with respect to such Schering Viral Product or initiation of synthesis of clinical material for use in a Pivotal Trial of such Schering Viral Product, and (ii) completion of all GLP toxicity studies required to support the initiation of a Pivotal Trial for such Schering Viral Product.

1.25 "GLP" means the current good laboratory practices applicable to the Development of Licensed Products under applicable Law, to the extent that such standards are not less stringent than the United States current good laboratory practice, including but not limited to 21 C.F.R. Part 58.

1.26 "Highly Active Collaboration Compound" means any Collaboration Compound that is a Highly Active Compound.

1.27 "Highly Active Compound" means any compound that (x[**] at a concentration of [**] and (y) does not cause more than [**] (as measured by the MTS assay, or such other appropriate assay as may be mutually agreed by the Parties) at a concentration that is [**].

1.28 "IND" means (a) (i) in the United States, an Investigational New Drug Application, as defined in the federal Food, Drug and Cosmetic Act, as amended from time to time (the "FD&C Act"), and the regulations promulgated thereunder, as amended from time to time, that is required to be filed with the FDA before beginning clinical testing of a Licensed Product in human subjects, or any successor application or procedure, and (ii) any counterpart of such Investigational New Drug Application in any country other than the United States in the Territory (e.g., a CTX), and (b) all supplements and amendments that may be filed with respect to any of the foregoing.

1.29 "Initial Research Term" means the period commencing on the Effective Date and, subject to the provisions of Sections 2.12 and Article 11, terminating three (3) years from the Effective Date.

1.30 "Invent" or "Invented" means inventorship as determined by utilizing the standards for inventorship for patent applications under United States patent law.

1.31 "Joint Know-How" means all Know-How that was developed by one or more employees, agents or consultants of PTC or any of its Affiliates and one or more employees, agents or consultants of Schering or any of its Affiliates during the course of performing work under the Research Program. Joint Know-How shall exclude Joint Patents.

1.32 "Joint Patents" means all Patents that claim Joint Inventions.

1.33 "Know-How" means proprietary, non-public information and materials, whether patentable or not, including, but not limited to, (a) ideas, discoveries, inventions, improvements or trade secrets, (b) pharmaceutical, chemical and biological materials, products and compositions, (c) tests, assays, techniques, data, methods, procedures, formulas, and/or processes, (d) technical and non-technical data and other information relating to any of the foregoing, (e) drawings, plans, designs, diagrams, sketches, specifications and/or other

documents containing or relating to such information or materials, and (f) business processes, price data and information, marketing data and information, sales data and information, marketing plans and market research.

1.34 "Laws" means all laws, statutes, rules, regulations, ordinances and other pronouncements having the effect of law or similar binding effect of any federal, national, multinational, supranational, state, provincial, county, city or other political subdivision, or any agency, department or bureau thereof.

1.35 "Licensed Product" means a Schering Non-Viral Product, a Schering Viral Product or a PTC Product.

1.36 "Major Market" means each of the United States, Japan, Germany, France, the United Kingdom, Italy and Spain.

1.37 "Manufacture" means all activities related to the manufacturing of a pharmaceutical product, or any ingredient thereof, including but not limited to test method development and stability testing, formulation, process development, manufacturing scale-up, manufacturing for use in non-clinical and clinical studies, manufacturing for commercial sale, packaging, release of product, quality assurance/quality control development, quality control testing (including in-process, in-process release and stability testing) and release of product or any component or ingredient thereof, and regulatory activities related to all of the foregoing.

1.38 "Marketing Exclusivity" means, with respect to a Licensed Product, any data or market exclusivity periods, including (a) the marketing or data exclusivity afforded approved drug products pursuant to (i) Sections 505(c), 505(j), and 505A of the FD&C Act, and the regulations promulgated thereunder, as amended from time to time, or its equivalent in a country other than the United States, or (ii) the orphan drug exclusivity afforded approved drugs designated for rare diseases or conditions under Sections 526 and 527 of the FD&C Act, and the regulations promulgated thereunder, as amended from time to time, or its equivalent in a country other than the United States, and/or (iii) any other period of data or market exclusivity listed in FDA's Orange Book or a foreign equivalent for a Licensed Product, and/or (b) the coverage of such Licensed Product by a Law which precludes the Regulatory Authority in a country from granting Regulatory Approval or accepting an application for Regulatory Approval for another product because the application for the other product (i) references a Licensed Product, (ii) seeks approval of a product containing the same Active Ingredient as that which is contained in the applicable Licensed Product and/or (iii) seeks approval of a product for a use for which the applicable Licensed Product is approved.

1.39 "NDA" means (a) the single application or set of applications for approval and/or pre-market approval to make and sell commercially a pharmaceutical therapeutic, diagnostic, or prophylactic product or delivery systems or device filed with the FDA, including without limitation all information included in Drug Master Files related to such application(s), and any related registrations with or notifications to the FDA, and (b) any counterparts to such applications filed with any other national or supranational Regulatory Authority in the Territory, and (c) all supplements and amendments that may be filed with respect to any of the foregoing.

1.40 "Net Sales" means, with respect to any Licensed Product, the gross invoiced sales of such Licensed Product by a Party, its Affiliates and Sublicensees to Third Parties, less the following deductions to the extent included in the gross invoiced sales price for such Licensed Product or otherwise directly paid or incurred by such Party or its Affiliates or Sublicensees with respect to the sale of such Licensed Product:

(a) bad debts actually written off which are attributable to sales of the Licensed Product;

(b) trade, quantity and cash discounts, and any other adjustments, including, without limitation, those granted on account of price adjustments, billing errors, rejected goods, damaged goods, returns, rebates, chargeback rebates, fees, reimbursements or similar payments granted or given to wholesalers or other distributors, buying groups, health care insurance carriers or other institutions;

(c) freight and insurance charges to the extent that they are included in the price or otherwise paid by the purchaser;

(d) customs or excise taxes, including, without limitation, import duties, sales tax and other taxes (except income taxes) or duties relating to sales;

(e) any payment (other than a payment imposed as a result of violation of applicable Law) in respect of sales to any governmental authority in respect of any government-subsidized program, including, without limitation, Medicare and Medicaid rebates;

(f) [**];[**]distribution, packing, handling and transportation charges for Licensed Product to the extent that they are included in the price or otherwise paid by the customer;

(g) [**]; and

(h) [**].

The foregoing adjustments shall be consistent with customary accounting practices within the selling Party and its Affiliates (or their respective Sublicensees) and in accordance with U.S. Generally Accepted Accounting Principles ("GAAP"), consistently applied.

The Net Sales from any Combination Product shall be determined by multiplying the Net Sales of the Combination Product (as determined based on the definition of "Net Sales" excluding this paragraph) during the applicable royalty reporting period, by the fraction, A/(A+B), where A is the weighted (by sales volume) average sale price of the Licensed Product which includes the Collaboration Compound when sold separately in finished form and for the same indication in the country in which the Combination Product is sold (the "Monotherapy Licensed Product") and B is the weighted (by sales volume) average sale price of the other product(s) which contain the other active ingredient(s) included in the Combination Product when sold separately as a monotherapy and in finished form and for the same indication in the country in which the Combination Product is sold, in each case during the applicable royalty reporting period or, if sales of both the Monotherapy Licensed Product and the other product(s) did not occur in such

period, then in the most recent royalty reporting period in which sales of both occurred. In the event that such average sale price cannot be determined for both the Monotherapy Licensed Product and all other products(s) included in the Combination Product, then Net Sales for purposes of determining royalty payments [**].

It is understood, however, that in certain countries in the Territory, a Party or its Affiliates may Commercialize Licensed Products through a Third Party distributor or agent under an arrangement in which such Party or its Affiliates (x) transfer the Licensed Product to such distributor or agent at a fixed price that is not necessarily related to the final selling price of the distributor or agent, and (y) are not responsible for marketing and promoting such Licensed Product in such countries and receive no compensation from the sale of such Licensed Products by the distributor or agent. To the extent that such Third Party distributors or agents would be considered "Sublicensees", the Parties agree that the gross invoiced sales prices for the sale of the Licensed Product by the applicable Party or its Affiliates to such Third Parties shall be the price to be used for purposes of computing Net Sales in such countries.

1.41 "Non-Viral Field" means the prevention, treatment or diagnosis of all diseases or conditions in humans or animals, excluding the Viral Field.

1.42 "NV Compounds" means Collaboration Compounds that are not Highly Active Collaboration Compounds.

1.43 "Patent" means all existing patents and patent applications and all patent applications hereafter filed, including any continuations, continuations-in-part, divisions, provisionals or any substitute applications, any patent issued with respect to any such patent applications, any reissue, reexamination, renewal or extension (including any supplementary protection certificate) of any such patent, and any confirmation patent or registration patent or patent of addition based on any such patent, and all foreign counterparts of any of the foregoing.

1.44 "Person" means any natural person, corporation, general partnership, limited partnership, joint venture, proprietorship or other business organization.

1.45 "Pivotal Trial" means a human clinical trial that is designed to confirm with statistical significance the efficacy and safety of a drug in a given patient population, the results of which are intended to form the basis for approval of an NDA by a Regulatory Authority.

1.46 "Program Invention" means all inventions that are Invented by one or more employees, agents or consultants of PTC or any of its Affiliates and/or one or more employees, agents or consultants of Schering or any of its Affiliates in the course of performing work under the Research Program.

1.47 "Proof of Concept" means that the data from a randomized, placebo-controlled study sponsored by Schering or its Affiliates demonstrates that [**] In the event that Schering elects to initiate clinical Development for a Schering Viral Product in an indication other than the treatment of HCV, the Parties shall agree upon a corresponding definition of "Proof of Concept" for such indication. For the avoidance of doubt, Proof of Concept shall be deemed to have been met with respect to any Schering Viral Product for which Schering commences all of those GLP

toxicity studies referenced in Section 1.24(ii).

1.47A "PTC Background Patents" means the Patents within the Control of PTC either as of the Effective Date or thereafter during the Term, which are listed on Schedule 1.47A, as may be modified by mutual written agreement of the Parties.

1.48 "PTC Compounds" means (i) compounds that are synthesized by or on behalf of PTC or its Affiliates prior to the Effective Date and that are known to PTC to be Highly Active Compounds as of the Effective Date, (ii) Active Compounds that are either (x) synthesized prior to the Effective Date during the course of PTC's medicinal chemistry program directed at viral IRES inhibitors, or (y) synthesized or Invented by or on behalf of PTC or its Affiliates prior to the end of the Research Term and claimed in a Patent (including without limitation any patent application) Controlled by PTC as having activity as an antiviral compound that inhibits the HCV virus by modulating the function of the HCV IRES, or for which sufficient support exists in the written description of such Patent or patent application to support a claim and there is the ability to prosecute such claim, and (iii) any compound that is first synthesized by or on behalf of PTC or its Affiliates prior to the end of the Research Term and is both (a) identified by PTC or its Affiliates prior to the end of the Research Term as an Active Compound and (b) identified as a Viral IRES Inhibitor in accordance with the provisions of Section 2.13, together, in the case of each of (i), (ii) and (iii), with any metabolites and prodrugs, and any solvates (including without limitation hydrates), esters, salts, stereoisomers, racemates, tautomers and polymorphs of any such compounds that are themselves Active Compounds or are converted to an Active Compound in vivo. Attached hereto as Schedule 1.48 is a list of all PTC Compounds believed by PTC to exist as of the Effective Date; provided, however, it is understood that any compound that meets the criteria set forth in this Section 1.48 shall be deemed to be a PTC Compound regardless of whether such compound is identified on Schedule 1.48.

1.49 "PTC Intellectual Property" means PTC Patents and PTC Technology Platform.

1.50 "PTC Know-How" means Know-How within the Control of PTC, either as of the Effective Date or thereafter during the Term, which is proprietary to PTC or its Affiliates and either (i) relates to the HCV IRES, to compounds that are Viral IRES Inhibitors or that are Collaboration Compounds, methods of preparing or using Viral IRES Inhibitors or Collaboration Compounds or methods of treating, diagnosing or preventing any disease or condition using Viral IRES Inhibitors or Collaboration Compounds, or (ii) is necessary or useful for the Research, Development, Manufacture, use or sale of Collaboration Compounds or Licensed Products and is developed prior to the end of the Research Term. Notwithstanding anything herein to the contrary, PTC Know-How shall exclude PTC Patents but shall include Joint Know-How to the extent Controlled by PTC. Information within the PTC Know-How shall cease to be proprietary at such time as it becomes publicly available, or otherwise becomes known to Third Parties without an obligation of confidentiality, in each case other than through a breach by Schering, its Affiliates or Sublicensees of the obligations under Article 7. Furthermore, information within the PTC Know-How shall not be deemed proprietary to PTC if it is (x) known to Schering prior to disclosure under this Agreement, as shown by written evidence, or (y) is independently developed by Schering or its Affiliates without the use of or reliance on any proprietary, non-public information within the PTC Know-How, as shown by contemporaneous

written evidence.

1.51 "PTC NV Know-How" means, with respect to a Designated NV Compound designated by Schering, any PTC Know-How which (x) relates to such Designated NV Compound (or a Related Compound), methods of preparing or using such Designated NV Compound (or a Related Compound) in the Non-Viral Field or methods of treating, diagnosing or preventing any disease or condition in the Non-Viral Field using such Designated NV Compound (or a Related Compound), and (y) is developed prior to the date that Schering designated such NV Compound as a Designated NV Compound.

1.52 "PTC NV Patents" means, with respect to a Designated NV Compound designated by Schering, any Patents Controlled by PTC, either as of the Effective Date or thereafter during the Term, which (x) claim inventions that are Invented prior to the date that Schering designates such NV Compound as a Designated NV Compound, and (y) claim or cover (i) the composition of matter of such Designated NV Compound (or a Related Compound), (ii) the use of such Designated NV Compound (or a Related Compound) in the Non-Viral Field, (iii) a method of treating, diagnosing or preventing any disease or condition in the Non-Viral Field using such Designated NV Compound (or a Related Compound) or (iv) a method of Manufacturing such Designated NV Compound (or a Related Compound).

1.53 "PTC Patents" means the Patents within the Control of PTC, either as of the Effective Date or thereafter during the Term, which (i) relate to Licensed Products, HCV IRES, Viral IRES Inhibitors, or methods of preparing or using Licensed Products, Viral IRES Inhibitors, or methods of treating, diagnosing or preventing any disease or condition using Licensed Products or Viral IRES Inhibitors, or relate to methods or materials used for discovering, identifying, or assaying for Viral IRES Inhibitors or Licensed Products, (ii) contain claims that would be infringed by the Research, Development, Manufacture, use, import or sale of Collaboration Compounds or Licensed Products in the Field, and (iii) claim inventions Invented prior to the end of the Research Term. The PTC Patents shall include the PTC NV Patents, as well as the Joint Patents to the extent Controlled by PTC. The PTC Patents shall not include the PTC Background Patents. The PTC Patents existing as of the Effective Date are listed in Schedule 1.53.

1.54 "PTC Product" means any finished pharmaceutical or veterinary product containing a Designated NV Compound designated by PTC (or a Related Compound) that PTC or its Affiliates Develop and/or Commercialize (either alone or in collaboration with one or more Third Parties) in the Non-Viral Field in accordance with the provisions of Article 4A, in all formulations, dosage forms and package configurations, including, but not limited to, as part of a Combination Product. For the avoidance of doubt, a PTC Product may not include a Highly Active Collaboration Compound, a Schering Field NV Compound (unless such designation has lapsed pursuant to Section 4.1(a)), a Designated NV Compound designated by Schering (or a Related Compound), unless such designation has lapsed pursuant to Section 4A.1(c), or any Schering Compound.

1.55 "PTC Technology Platform" means (i) PTC Know-How, and (ii) any PTC Compounds.

1.56 "Regulatory Approval" means any approvals, licenses, registrations or authorizations of any federal, state, multinational, supranational or local regulatory agency, department, bureau or other governmental entity necessary or reasonably useful for the importation, commercial manufacture, use, sale or other Commercialization of a pharmaceutical product in a regulatory jurisdiction, including but not limited to pricing and/or reimbursement approvals.

1.57 "Regulatory Authority" means any governmental regulatory authority involved in granting Regulatory Approvals with respect to any Licensed Product in the Territory, including, without limitation, the FDA and the European Commission.

1.58 "Related Compound" means, with respect to a particular NV Compound, any Collaboration Compound that (i) has the same core structure as such NV Compound, and (ii) has an activity level against the same target that was utilized to designate the applicable NV Compound that is at least [**] percent ([**]%) of the activity level of such NV Compound when measured in the same assay that was utilized to designate such NV Compound as a Designated NV Compound (i.e., if the Designated NV Compound has [**] [**] against the same target). For purposes of this definition, "core structure" means the exact atom arrangement that makes up the original core structure present in the structure of the applicable NV Compound, minus any substituent R groups. Notwithstanding the foregoing, Related Compounds shall not encompass any compound whose activity against the given target is a result of general toxic properties or other nonspecific inhibitory properties, e.g. denaturing of a protein. Furthermore, Related Compounds shall not encompass any Highly Active Compounds, any Schering Compounds, any Schering Field NV Compounds or any Collaboration Compounds that are either NV Compounds previously designated by either Party pursuant to Section 4A.1, or Related Compounds to such other NV Compounds previously designated by either Party pursuant to Section 4A.1 (unless such designation has lapsed pursuant to Section 4A.1(c)).

1.59 "Research" means all activities relating to the identification and early pre-clinical testing of compounds, including synthesis and testing by in vitro assay of compounds, the further testing, including structural studies thereof and/or via animal model, leading up to, but not including, GLP toxicology testing. Research shall exclude Development.

1.60 "Research Plan" means the specific plan for conducting the Research Program, as described in Section 2.1 and attached hereto as Schedule 1.60, as such plan may be revised from time to time by the JSC in accordance with the provisions of Article 3.

1.61 "Research Program" means the collaborative research program undertaken by the Parties pursuant to Article 2 of this Agreement to discover, identify, synthesize and evaluate PTC Compounds and other Collaboration Compounds for use in the Viral Field.

1.62 "Research Technology" means all tangible and intangible know-how, trade secrets, inventions (whether or not patentable), discoveries, developments, data, information, and physical, chemical or biological material, and any replication of or any part of any of the foregoing, that was made by employees or agents of PTC, Schering, and/or any of their respective Affiliates, either alone or jointly, during the course of and in the conduct of the Research Program during the Research Term.

1.63 "Research Term" means the period during which the Parties shall conduct the Research Program pursuant to the provisions of Article 2. The Research Term shall include the Initial Research Term and the Extended Research Term. The Research Term will automatically terminate upon termination of the Research Program pursuant to Sections 2.12 or Article 11, or upon termination of this Agreement for any reason.

1.64 "Schering Background Know-How" means Know-How within the Control of Schering, either as of the Effective Date or thereafter during the Research Term, which is proprietary to Schering or its Affiliates and either (i) relates to the HCV IRES, to compounds that are Viral IRES Inhibitors, methods of preparing or using Viral IRES Inhibitors, or methods of treating, diagnosing or preventing any disease or condition using Viral IRES Inhibitors, or (ii) is necessary or useful for the Research to be performed under the Research Plan. Notwithstanding anything herein to the contrary, Schering Background Know-How shall not include Schering Background Patents. Information within the Schering Background Know-How shall cease to be proprietary at such time as it becomes publicly available, or otherwise becomes known to Third Parties without an obligation of confidentiality, in each case other than through a breach by PTC, its Affiliates or Sublicensees of the obligations under Article 7. Furthermore, information within the Schering Background Know-How shall not be deemed proprietary to Schering if it is (x) known to PTC prior to disclosure under this Agreement, as shown by written evidence, or (y) independently developed by PTC or its Affiliates without the use of or reliance on any proprietary, non-public information within the Schering Background Know-How, as shown by contemporaneous written evidence.

1.65 "Schering Background Patents" means Patents within the Control of Schering, either as of the Effective Date or thereafter during the Research Term, which (i) contain claims that would be infringed by the Research to be performed under the Research Plan, including but not limited to chemical optimization or initial biological characterization of Collaboration Compounds, or (ii) relate to methods or materials used for discovering, identifying, or assaying for Viral IRES Inhibitors. The Schering Background Patents existing as of the Effective Date are listed in Schedule 1.65.

1.66 "Schering Background Technology" means Schering Background Know-How and Schering Background Patents.

1.67 "Schering Compounds" means Active Compounds that are either (x) identified as Viral IRES Inhibitors by Schering prior to the Effective Date, or (y) first synthesized or identified by Schering or its Affiliates during the Term through the use of PTC Know-How that is proprietary to PTC at the time of first use for synthesis or identification of such Active Compounds by Schering or its Affiliates or through the use of Joint Know-How, together, in the case of both (x) and (y), with any metabolites and prodrugs, and any solvates (including without limitation hydrates), esters, salts, stereoisomers, racemates, tautomers and polymorphs of any such synthesized compounds that are themselves Active Compounds or are converted to an Active Compound in vivo. Attached hereto as Schedule 1.67 is a list of all Schering Compounds believed by Schering to exist as of the Effective Date; provided, however, it is understood that any compound that meets the criteria set forth in this Section 1.67 shall be deemed to be a

Schering Compound regardless of whether such compound is identified on Schedule 1.67.

1.68 "Schering Field NV Compounds" means any NV Compound that Schering elects to Develop as a Schering Viral Product in accordance with the provisions of Section 4.1, together with any Related Compounds.

1.69 "Schering Intellectual Property" means Schering Patents and Schering Technology.

1.70 "Schering Know-How" means Know-How within the Control of Schering that is developed by Schering or its Affiliates during the Term in the conduct of the Research, Development or Manufacture of Collaboration Compounds or Licensed Products, which is proprietary to Schering or its Affiliates. Notwithstanding anything herein to the contrary, Schering Know-How shall exclude Schering Patents but shall include Joint Know-How to the extent Controlled by Schering. Information within the Schering Know-How shall cease to be proprietary at such time as it becomes publicly available, or otherwise becomes known to Third Parties without an obligation of confidentiality, in each case other than through a breach by PTC, its Affiliates or Sublicensees of the obligations under Article 7. Furthermore, information within the Schering Know-How shall not be deemed proprietary to Schering if it is (x) known to PTC prior to disclosure under this Agreement, as shown by written evidence, or (y) is independently developed by PTC or its Affiliates without the use of or reliance on any proprietary, non-public information within the Schering Know-How, as shown by contemporaneous written evidence.

1.71 "Schering Licenses" means the licenses and other rights granted or to be granted to Schering pursuant to Sections 5.1(a), 5.1(b), 5.2, 5.3(a) and 5.4(a).

1.72 "Schering Non-Viral Product" means any finished pharmaceutical or veterinary product containing a Designated NV Compound designated by Schering (or a Related Compound) that Schering or its Affiliates Develop and/or Commercialize (either alone, or in collaboration with one or more Third Parties) in the Non-Viral Field in accordance with the provisions of Article 4A, or a Related Compound, in all formulations, dosage forms and packaging configurations, including, but not limited to, as part of a Combination Product. For the avoidance of doubt, a Schering Non-Viral Product may not include any Designated NV Compound designated by PTC (or a Related Compound), unless such designation has lapsed pursuant to Section 4A.1(c). Notwithstanding the foregoing, a product Developed by Schering that contains either (x) both an NV Compound and a Highly Active Collaboration Compound, or (y) an NV Compound that Schering elects to Develop as a Schering Viral Product in accordance with the provisions of Section 4.1, shall not be deemed a Schering Non-Viral Product and shall instead be deemed a Schering Viral Product.

1.73 "Schering NV Know-How" means, with respect to a Designated NV Compound designated by PTC, any Schering Know-How which (x) relates to such Designated NV Compound (or a Related Compound), methods of preparing or using such Designated NV Compound (or a Related Compound) in the Non-Viral Field or methods of treating, diagnosing or preventing any disease or condition in the Non-Viral Field using such Designated NV Compound (or a Related Compound), and (y) is developed prior to the date that PTC designated such NV Compound as a Designated NV Compound.

1.74 "Schering NV Patents" means, with respect to a Designated NV Compound designated by PTC, any Patents Controlled by Schering during the Term which (x) claim inventions that are Invented prior to the date that PTC designates such NV Compound as a Designated NV Compound, and (y) claim or cover (i) the composition of matter of such Designated NV Compound (or a Related Compound), (ii) the use of such Designated NV Compound (or a Related Compound) in the Non-Viral Field, (iii) a method of treating, diagnosing or preventing any disease or condition in the Non-Viral Field using such Designated NV Compound (or a Related Compound) or (iv) a method of Manufacturing such Designated NV Compound (or a Related Compound).

1.75 "Schering Patents" means those Patents Controlled by Schering during the Term which (i) claim Program Inventions, or other inventions Invented by Schering or its Affiliates during the Term in the conduct of Research, Development or Manufacture of Highly Active Collaboration Compounds (or, in the case of the license to be granted under Section 5.3(b), NV Compounds), Schering Field NV Compounds or Schering Viral Products, and (ii) contain claims that would be infringed by the Research, Development, Manufacture, use, import or sale of Highly Active Collaboration Compounds (or, in the case of the license to be granted under Section 5.3(b), NV Compounds), Schering Field NV Compounds or Schering Viral Products in the Field. The Schering Patents shall include the Joint Patents to the extent Controlled by Schering, but except as explicitly provided in this Section 1.75 do not include the Schering NV Patents.

1.76 "Schering Technology" means (i) Schering Know-How, and (ii) any Schering Compounds.

1.77 "Schering Viral Product" means any finished pharmaceutical or veterinary product containing either a Highly Active Collaboration Compound or Schering Field NV Compound, in each case in all formulations, dosage forms and packaging configurations, including, but not limited to, as part of a Combination Product. For the avoidance of doubt, a Schering Viral Product may not include any Designated NV Compound designated by PTC pursuant to Section 4A.1 (or any Related Compound), unless such designation has lapsed pursuant to Section 4A.1(c).

1.78 "Specified Third Party Patents" means any Patents owned or controlled by a Third Party (and not Controlled by a Party or its Affiliates) which claim the composition of matter of a Highly Active Collaboration Compound or Schering Field NV Compound, the use of a Highly Active Collaboration Compound or Schering Field NV Compound in the Field, a method of treating, diagnosing or preventing any disease or condition through the use of a Highly Active Collaboration Compound or Schering Field NV Compound, or a method of manufacturing a Highly Active Collaboration Compound or Schering Field NV Compound.

1.79 "Sublicensee" means a Third Party to whom a Party has granted a license or sublicense to make, have made, import, use, sell, or offer for sale Licensed Products pursuant to Section 5.5(b), 5.5(c) or 5.5(d). Third Parties that are permitted to distribute and resell Licensed Product purchased from Schering, its Affiliates or any entity designated by Schering or its Affiliates, or from PTC or its Affiliates, or any entity designated by PTC or its Affiliates, shall be

considered Sublicensees only if such Third Parties are also responsible for marketing and promoting the applicable Licensed Product in the applicable country. In addition, Third Parties that Manufacture Licensed Product on behalf of a Party for supply to a Party or its Affiliates or Sublicensees (and have no other rights to Develop or Commercialize such Licensed Product) are not Sublicensees.

1.80 "Territory" means all countries of the world.

1.81 "Third Party" means any entity other than PTC or Schering or any of their respective Affiliates.

1.82 "Third Party License Agreement" means any contract or agreement pursuant to which a Party or its Affiliates obtains or has obtained rights to or under any Third Party Patents or Third Party Know-How to Research, Develop, Manufacture or Commercialize Collaboration Compounds or Licensed Products in the Field. The Third Party License Agreements existing as of the Effective Date are set forth in Schedule 1.82

1.83 "Valid Claim" means a claim of any issued, unexpired Patent which has not been revoked, withdrawn, canceled, disclaimed or held unenforceable or invalid by a decision of a court or tribunal of competent jurisdiction from which no appeal can be taken, or with respect to which an appeal is not taken within the time allowed for appeal, and which has not been disclaimed, denied or admitted to be invalid or unenforceable through reissue, disclaimer or otherwise.

1.84 "Viral Field" means the prevention, treatment or diagnosis of all viral diseases or conditions in humans or animals.

1.85 "Viral IRES Inhibitor" means a compound which has as its primary mechanism of action the inhibition (either directly or indirectly) of viral replication by virtue of decreasing IRES-dependent translation of viral proteins. For clarity, a compound which broadly inhibits viral replication as a result of general toxic properties or other nonspecific inhibitory properties shall not be considered a Viral IRES Inhibitor.

ADDITIONAL DEFINITIONS. Each of the following definitions is set forth in the section of this Agreement indicated below:

DEFINITION	SECTION
AEs	4.10(d)
Agreement	Preamble
Blocking Patent	11.5(b)
Collaboration Patents	9.3(e)
Designated NV Compound	4A.1(a)
Designation Date	4A.1(a)
Development Milestones Group	6.2
Development Plan	4.3
Dollars or "$"	6.15

Effective Date	Preamble
Existing Third Party License Agreement	6.7(f)
Extended Research Plan	2.8(b)
Extended Research Term	2.8(a)
FD&C Act	1.28
GAAP	1.40
HCV	Recitals
HCV IRES	Recitals
Indemnitor	10.3
Invention Policy	9.1
IRES Research Program	2.10(a)
Joint Inventions	9.1(c)
JPT	9.3(e)
JSC	3.1
key internal Schering project team meetings	3.8
Liability	10.1
LIBOR	6.12
Materials	2.9
Monotherapy Licensed Product	1.40
Party; Parties	Preamble
Project Leaders	3.7
PTC	Preamble
PTC Licensed Compound Patents	9.3(b)
PTC Indemnitee	10.2
PTC Triggering Event	11.6(a)
Publishing Party	7.7
Reviewing Party	7.7
Schering	Preamble
Schering Indemnitee	10.1
Schering Triggering Event	4.12
Second Schering Viral Product	6.3
Term	11.1
Terminated Compound	11.7(b)(ii)
Termination Date	11.7(b)(iii)
Third Party Activity	2.10(e)
Unqualified Blocking Opinion	11.5(b)
Unqualified Opinion	6.7(a)
USPTO	8.4(i)

ARTICLE 2

RESEARCH PROGRAM

2.1 Collaborative Research. Commencing on the Effective Date, and subject to the terms and conditions herein, the Parties shall each use Commercially Reasonable Efforts to conduct the Research Program on a collaborative basis pursuant to the Research Plan. The Research Plan, among other things, shall specify the scientific direction of the program, the specific research objectives to be achieved during the Research Program, the specific responsibilities of each of the Parties under the Research Plan, and the specific number of FTEs to be provided by PTC (and funded by Schering pursuant to Section 2.5(a)) to support the Research Plan. The Parties agree that the goal of the Research Program is to identify one or more Highly Active Collaboration Compounds that are suitable for designation as potential Development Candidates, as well as to identify one or more Highly Active Collaboration Compounds that are suitable for designation as potential Back-Up Development Candidates. The Research Plan may be amended by the JSC from time to time in accordance with the provisions of Article 3.

2.2 Conduct of the Research; Allocation of Responsibilities.

(a) The Research Program will be managed and directed by the JSC, as provided in Article 3 hereof.

(b) Subject to the oversight of the JSC, PTC shall, with the advice and assistance of Schering, be primarily responsible for the chemical optimization activities and biological/pharmacological characterization activities as defined in the Research Plan, and Schering shall, with the advice and assistance of PTC, be responsible for all other aspects of the Research Plan that are necessary to determine whether or not a Highly Active Collaboration Compound is suitable for designation as a potential Development Candidate or a Back-Up Development Candidate.

(c) During the Research Term, (i) PTC shall disclose to Schering such of the PTC Know-How as Schering reasonably needs to perform its obligations and assigned tasks under the Research Plan, and (ii) Schering shall disclose to PTC such of the Schering Background Know-How as PTC reasonably needs to perform its obligations and assigned tasks under the Research Plan. Notwithstanding the foregoing, nothing in this Agreement shall require PTC to disclose to Schering its Know-How or Patents relating to its GEMS screening technology (other than the published or issued Patents listed on Schedule 1.47A).

(d) All work conducted by either Party in the course of the Research Program shall be completely and accurately recorded, in sufficient detail and in good scientific manner, in separate laboratory notebooks distinct from other work being conducted by such Party. On reasonable notice, and at reasonable intervals, each Party shall have the right to inspect and copy all such records of the other Party or its Affiliates reflecting Research Technology or work done under the Research Program.

(e) The Parties acknowledge and agree that neither Party guarantees the success of the Research Program tasks undertaken hereunder.

2.3 PTC Research Efforts. During the Research Term, PTC agrees to commit to the Research Program such number of FTEs in its or its Affiliates' employ as shall be specified in the Research Plan. In conducting the Research Program, PTC shall be responsible for the tasks allocated to it under the Research Plan. In the performance of such work, PTC shall maintain and utilize scientific and research/development staff, laboratories, offices and other facilities consistent with such undertaking. PTC shall use personnel with sufficient skills and experience as are required to accomplish efficiently and expeditiously the objectives of the Research Program as set forth in the Research Plan in good scientific manner and in compliance in all material respects with all applicable Laws.

2.4 Schering Research Efforts. During the Research Term, Schering shall commit to the Research Program sufficient FTEs in its or its Affiliates' employ to conduct Schering's obligations under the Research Plan, and shall report to the JSC the approximate number of Schering FTEs that are engaged in the Research Program. In conducting the Research Program, Schering shall be responsible for the tasks allocated to it under the Research Plan. In the performance of such work, Schering shall maintain and utilize scientific and research/development staff, laboratories, offices and other facilities consistent with such undertaking. Schering shall use personnel with sufficient skills and experience as are required to accomplish efficiently and expeditiously the objectives of the Research Program as set forth in the Research Plan in good scientific manner and in compliance in all material respects with all requirements of applicable Laws.

2.5 Research Funding; Responsibility for Costs of the Research Program.

(a) During the Initial Research Term, Schering agrees to provide PTC with funding (at the FTE Rate) for the number of FTEs set forth in the Research Plan, as it may be amended from time to time. The JSC shall have the discretion to adjust the number of FTEs to be provided by PTC and supported by Schering during the Initial Research Term consistent with changes in the Research Plan; provided that in the initial phase of the Research Plan (prior to Schering's acceptance of the first Development Candidate), the JSC shall not (i) increase the number of FTEs funded by Schering on an annualized basis to greater than [**], or (ii) decrease the number of FTEs funded by Schering on an annualized basis to fewer than [**]. Following Schering's acceptance of the first Development Candidate, the number of FTEs to be funded by Schering will be decreased by the JSC to reflect the decreased activities, if any, required under the Research Plan to identify a Back-up Development Candidate and support the accepted Development Candidate. It is currently expected that the number of FTEs to be funded by Schering during the second phase of the Research Plan (following Schering's acceptance of the first Development Candidate) will be approximately [**] of the number that is funded by Schering during the initial phase of the Research Plan; provided, however, that in no case will the number of FTEs funded by Schering during this second phase of the Research Plan exceed [**] or be fewer than [**] on an annualized basis. Following designation of a Back-Up Development Candidate by Schering, the number of FTEs to be funded by Schering will be

decreased by the JSC to reflect the decreased activities required under the Research Plan to support the accepted Back-up Development Candidate and accepted Development Candidate. Funding of any PTC FTEs by Schering during the Extended Research Term shall be as provided in Section 2.8.

(b) The amounts due to PTC under this Section 2.5 shall be payable in equal installments on a quarterly basis, on the fifteenth (15th) day of each January, April, July and October of each year during the Research Term.

(c) Except for the FTE funding to be provided by Schering pursuant to Sections 2.5(a) and 2.8, each Party shall be solely responsible for all costs and expenses incurred by it in performing activities assigned to it under the Research Plan. Notwithstanding the foregoing, to the extent that PTC agrees to undertake any activities that are not related to the chemical optimization or biological or pharmacological characterization of Collaboration Compounds, Schering shall be responsible for any PTC internal costs (such costs to be calculated by multiplying the number of PTC FTEs by the FTE Rate), as well as any external costs incurred by PTC in performing such activities (but only to the extent such external costs have been approved by Schering in advance).

2.6 Disclosure of Facilitating Research Technology. Each Party will disclose to the other all Research Technology discovered, Invented, or otherwise made by such Party that is necessary to enable the other Party to perform its obligations under the Research Plan or to exercise its rights under this Agreement, including, without limitation, information regarding Collaboration Compounds, activities of Collaboration Compounds, and results of in vitro and in vivo studies, assay techniques and new assays. Such Research Technology will be promptly disclosed to the other Party, with meaningful discoveries or advances being communicated as promptly as practicable after such information is obtained or its significance is appreciated.

2.7 Information Regarding Collaboration Compounds. PTC shall inform Schering and the JSC in writing on a quarterly basis and otherwise reasonably promptly in response to Schering's written request of its discovery, synthesis, or biological characterization of Collaboration Compounds during the Research Term. In addition, the Project Leaders shall implement procedures for the prompt sharing between them of information and materials generated under the Research Plan relating to the discovery, synthesis, or biological characterization of Collaboration Compounds. Without limiting PTC's obligations pursuant to Sections 2.6, 2.14 or 3.9, PTC will provide Schering with such information regarding such Collaboration Compounds as Schering shall reasonably request in writing, including without limitation the structures of Collaboration Compounds and the results of PTC's testing of such compounds, and will provide Schering with samples of such Collaboration Compounds in amounts to be agreed upon by the Parties but which are sufficient to enable Schering to complete its responsibilities to characterize such Collaboration Compounds according to the Research Plan. Without limiting Schering's obligations pursuant to Sections 2.6, 2.14 or 3.9, results of studies performed by Schering on such Collaboration Compounds will be communicated to PTC and the JSC on a quarterly basis during the Research Term.

2.8 Extension of Research Term.

(a) By written notice to PTC given at least [**] prior to the expiration of the Initial Research Term, Schering may extend the Research Term for an additional year. In the event that Schering has elected to extend the Research Term for an additional year, then, by written notice to PTC given at least [**] prior to the then scheduled expiration of the Research Term, Schering may extend the Research Term for a further additional year, subject to PTC's written consent within [**] of receipt of Schering's notice, such consent not to be unreasonably withheld or delayed. Any period during which the Research Term has been extended beyond the Initial Research Term pursuant to this Section 2.8 is referred to herein as the "Extended Research Term".

(b) During the Extended Research Term, the JSC shall propose a revised Research Plan (the "Extended Research Plan"), which shall specify the number of FTEs to be contributed by PTC and funded by Schering and the specific Research activities to be performed by PTC during such period; provided, however, that (i) PTC shall not be required to perform a level of chemical optimization or biological or pharmacological characterization activities that cannot reasonably be accomplished by the number of FTEs to be funded by Schering, and (ii) PTC shall not be required to perform activities that are not related to chemical optimization or biological/pharmacological characterization of Collaboration Compounds without PTC's consent.

2.9 Material Transfer. In order to facilitate the Research Program, either Party may provide to the other Party certain biological materials or chemical compounds including, but not limited to Collaboration Compounds, receptors, reagents and screens (collectively, "Materials") owned by or licensed to the supplying Party (other than under this Agreement) for use by the other Party in furtherance of the Research Program. Except as otherwise provided under this Agreement, all such Materials delivered to the other Party shall, subject to the licenses granted the other Party pursuant to Article 5, remain the sole property of the supplying Party, shall be used only in furtherance of the Research Program and solely under the control of the other Party and its Affiliates, shall not be used or delivered to or for the benefit of any Third Party without the prior written consent of the supplying Party, and shall not be used in research or testing involving human subjects. The Materials supplied under this Section 2.9 must be used with prudence and appropriate caution in any experimental work, since not all of their characteristics may be known. Each Party represents and warrants to the other that it has the right to provide the Materials to the other Party for the uses contemplated herein. EXCEPT AS EXPRESSLY SET FORTH IN THIS SECTION 2.9 OR IN SECTION 8.4, THE MATERIALS ARE PROVIDED "AS IS" AND WITHOUT ANY REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR ANY PARTICULAR PURPOSE OR ANY WARRANTY THAT THE USE OF THE MATERIALS WILL NOT INFRINGE OR VIOLATE ANY PATENT OR OTHER PROPRIETARY RIGHTS OF ANY THIRD PARTY.

2.10 Exclusivity.

(a) During the Exclusivity Term, each Party agrees not to, and agrees to cause its Affiliates not to, (i) conduct any activity, either on its own, or for the benefit of, sponsored by, or pursuant to any type of corporate partnership, licensing arrangement or joint venture with, any Third Party, that has as its goal or intent discovering, identifying or otherwise Researching Viral IRES Inhibitors except pursuant to this Agreement (an "IRES Research Program"), (ii) Develop, either on its own, or for the benefit of, sponsored by, or pursuant to any type of corporate partnership, licensing arrangement or joint venture with, any Third Party, any compound resulting from an IRES Research Program, except pursuant to this Agreement, or (iii) grant any license, either express or implied, or any option to license, to any Third Party to utilize any intellectual property Controlled by such Party or its Affiliates for the purpose of discovering, identifying or otherwise Researching Viral IRES Inhibitors except pursuant to this Agreement. Each Party acknowledges that the other Party is in the business of developing products in the Viral Field and that, except as explicitly provided to the contrary in this Agreement, but subject to the licenses granted to Schering pursuant to Section 5.2, each Party has and will have programs related to the Research and Development of products for the treatment of viral diseases or conditions. For the avoidance of doubt, nothing in this Section 2.10 shall preclude either Party from (x) entering into collaborations with academic or government entities in support of the Research Program that are consistent with the other provisions of this Agreement (including without limitation the licenses granted to Schering pursuant to Sections 5.1(a) and 5.1(b)), or (y) Developing or Commercializing outside of the scope of this Agreement any compound or product that is not a Collaboration Compound (subject to the restriction set forth in subsection (ii) above). Without limiting the generality of the foregoing, it is expressly understood that Schering and its Affiliates shall have the right to conduct Development during the Exclusivity Term with respect to compounds or products that are Viral IRES Inhibitors that are acquired or in-licensed following the Effective Date if such compounds or products have initiated human clinical trials as of the time they were in-licensed or acquired by Schering or its Affiliates.

(b) In the event of a breach of the provisions of Section 2.10(a) by a Party or its Affiliates, the non-breaching Party may, as one of its remedies and not to the exclusion of any other remedy such Party may have, (i) terminate this Agreement pursuant to Section 11.3, and/or (ii) terminate the provisions of Section 2.10(a) as it applies to such non-breaching Party.

(c) In the event this Agreement is terminated pursuant to Section 11.4 or 11.5(a), or Schering terminates this Agreement pursuant to Section 11.2 or 11.5(b), the restrictions set forth in this Section 2.10 shall automatically terminate. Furthermore, in the event that a Party terminates this Agreement pursuant to Section 11.3, the restrictions set forth in this Section 2.10 shall automatically terminate with respect to such Party (but shall remain in effect with respect to the breaching Party).

(d) The Parties agree that, given the high costs and significant risks involved in discovering and developing pharmaceutical products, and given that the Parties will be exchanging Confidential Information in order to perform the Research Program, the exclusive relationship between them which is reflected in this Section 2.10 is a fair and efficient means to reach a satisfactory conclusion from their cooperative efforts.

(e) The provisions of Section 2.10(a) are not intended to apply to any activity otherwise prohibited by Section 2.10(a) if a Party's involvement in such activity results from such Party's acquisition by or of a Third Party (by merger or otherwise), but only if (i) such Third Party, prior to such acquisition or merger, was already engaged in such prohibited activity (the "Third Party Activity"), (ii) such Third Party Activity remains separate from the activities contemplated by this Agreement, and no Patent rights or Know-How of the other Party are used in connection with such Third Party Activities, and (iii) in the case of an acquisition of a Third Party by a Party, such Party does not significantly expand the scope of, or financial commitment to, such Third Party Activity.

2.11 Subcontractors. PTC may not perform any of its obligations under the Research Program through a subcontractor without first obtaining Schering's prior written consent, such consent not to be unreasonably withheld or delayed. The subcontractors identified on Schedule 2.11 as currently used, or planned to be used, by PTC are hereby deemed to be approved for the purposes of this Section 2.11. It is understood that as part of the approval process, any subcontractors must undertake in writing obligations of confidentiality and non-use regarding Schering's and PTC's Confidential Information which are substantially the same as those undertaken by PTC pursuant to Article 7 hereof (either directly with Schering, or through their agreements with PTC). In the event PTC is authorized to perform one or more of its obligations under the Research Program through a subcontractor, then PTC shall at all times be responsible for the performance of such subcontractor.

2.12 Termination of Research Program.

(a) In the event that Schering has not accepted a Development Candidate within two years of the Effective Date, Schering shall have the right to terminate the Research Program upon [**] prior written notice to PTC.

(b) At any time following designation of a Back-Up Development Candidate by Schering, Schering shall have the right to terminate the Research Program upon [**] prior written notice to PTC.

(c) At the end of the Research Term, whether extended or not pursuant to the provisions of Section 2.8, all obligations of the Parties to conduct any further activities under the Research Plan shall terminate, but the other rights and obligations under this Agreement shall not otherwise be affected, except to the extent otherwise provided herein.

2.13 Testing of Active Compounds Identified by PTC Outside of the Research Program. In the event that any compound synthesized by or on behalf of PTC or its Affiliates prior to the end of the Research Term and outside of any activities conducted under the Research Program is identified by PTC or its Affiliates prior to the end of the Research Term as an Active Compound, PTC shall promptly undertake appropriate steps to determine whether such Active Compound is a Viral IRES Inhibitor. Any such compound that is identified as a Viral IRES Inhibitor shall be deemed a PTC Compound pursuant to the provisions of Section 1.48(iii).

2.14 Allocation of Certain Collaboration Compounds. Reasonably promptly following the Effective Date, the Parties shall establish appropriate provisions for transferring to Schering (i) an amount of PTC's existing inventory of each of the NV Compounds to be determined as follows: the [**] the [**], and any remaining PTC inventory [**] and (ii) in addition to any shipments of Highly Active Collaboration Compounds required elsewhere in this Agreement, all of PTC's remaining inventory of Highly Active Collaboration Compounds within [**] after the end of the Research Term. With respect to any quantities of NV Compounds that are synthesized following the Effective Date and prior to the end of the Research Term, the Parties shall share the inventory of each such compound equally.

ARTICLE 3

JOINT STEERING COMMITTEE

3.1 Creation and Structure of the JSC. The Parties shall create a joint steering committee (the "JSC") to facilitate the Parties' collaboration called for herein. The JSC shall consist of three representatives designated by each Party, or such other number as the Parties may mutually agree. As soon as practicable following the Effective Date (but in no event more than thirty (30) days following the Effective Date), each Party shall designate their initial representatives on the JSC. Schering shall designate one of its representatives as the Chairperson of the JSC. Each Party shall be free to change its representatives on notice to the other or to send a substitute representative to any JSC meeting; provided, however, that each Party will ensure that at all times during the existence of the JSC, their representatives on the JSC are appropriate in terms of expertise and seniority (including at least one member of senior management) for the then current stage of Research and Development of Collaboration Compounds or Schering Viral Products. The JSC shall continue to function until such date as Schering has received the first Regulatory Approval for a Schering Viral Product in each of the United States, in three Major Markets in the European Union, and in Japan; provided, however, that once Schering receives the first Regulatory Approval for a Schering Viral Product in the United States, in three Major Markets in the European Union, or in Japan, then the JSC's activities shall cease to exist with respect to the United States, the European Union or Japan, respectively.

3.2 Meetings. During the Research Term, the JSC shall meet on a quarterly basis, or at such other frequency as the Parties shall agree. Following the Research Term, the JSC shall meet semi-annually, or at such other frequency as the Parties shall agree. During the Research Term, meetings of the JSC shall alternate between the offices of PTC and Schering. Following the end of the Research Term, meetings of the JSC shall occur at the offices of Schering, or at such other location as Schering and PTC shall agree. A JSC member of the Party hosting the meeting shall serve as Secretary of that meeting, who shall be responsible for preparing the minutes of the meeting. Such minutes shall provide a description in reasonable detail of the discussions held at the meeting and a list of any actions, decisions or determinations approved by the JSC. The Parties agree that they shall endeavor to ensure that draft minutes of each meeting shall be distributed within fifteen (15) days of the meeting, and final minutes shall be approved by both Parties within forty-five (45) days of the meeting. Final minutes of each meeting shall be distributed to the members of the JSC by the Chairperson. The JSC may also convene, or be polled or consulted, from time to time by means of telecommunications, video conferencing or

written correspondence, as deemed necessary or appropriate. Each Party shall disclose to the other proposed agenda items in advance of each meeting of the JSC. The JSC may invite other representatives of the Parties with special skills or knowledge to attend meetings where appropriate. The JSC shall adopt such other rules as shall be necessary or convenient for its work. Each Party shall be responsible for all travel and other costs for its representatives to attend meetings of, and otherwise participate on, the JSC.

3.3 Responsibilities of the JSC. The JSC shall be the primary vehicle for interaction between the Parties with respect to the Research Program and the Development of Schering Viral Products, and shall function as a forum for the Parties to inform and consult with one another concerning progress of the Research Program and make decisions regarding the Research Program, as well as for Schering to inform and consult with PTC concerning the Development of Schering Viral Products. Without limiting the foregoing, the JSC shall be responsible for:

(i) directing, managing and monitoring the progress of the Research Program;

(ii) making any modifications to the Research Plan as the JSC deems appropriate;

(iii) developing and approving a charter for a joint project team, which shall include participation of appropriate representatives from both Parties and shall be responsible for drafting recommendations with respect to the Research Plan;

(iv) identifying to the Parties that the criteria set forth in Schedule 1.14 as guidelines for Development Candidates have been reasonably met with respect to a particular Collaboration Compound, and making recommendations to Schering that one or more Collaboration Compounds be designated by Schering as a Development Candidate;

(v) reviewing and approving any changes to Schedule 1.14, and developing and approving criteria for the Back-Up Development Candidate referenced in Section 1.3;

(vi) making recommendations to Schering that one or more Collaboration Compounds be designated by Schering as a Back-Up Development Candidate;

(vii) reviewing and approving Schering's initial Development Plans for the first Development Candidate or first Back-Up Development Candidate, as well as reviewing and commenting upon (but not approving) any changes to such Development Plans which Schering determines are necessary or appropriate (for clarity, if the Development of a Development Candidate or Back-Up Development Candidate is terminated for any reason prior to the first Regulatory Approval of such Development Candidate or Back-Up Development Candidate, and Schering subsequently continues to Develop one or more other Schering Viral Products, then the next most advanced Development Candidate (and, if any exist, the next most advanced Back-Up Development Candidate) shall be deemed "first" for the purposes of this Section 3.3(vii));

(viii) reviewing the progress under such Development Plans;

(ix) reviewing and commenting upon the patent filing and prosecution strategies of the Parties as provided in Article 9, including directing, managing and monitoring the activities of the Joint Patent Team pursuant to Section 9.3(e); and

(x) reviewing and coordinating each Party's internal approval of any publications by the Parties to the extent required pursuant to Section 7.7.

3.4 Subcommittees of the JSC. From time to time, the JSC may establish one or more subcommittees to oversee particular projects or activities related to the Research Program, and such subcommittees will be constituted as the JSC agrees.

3.5 Decisions of the JSC. At least two JSC representatives from each Party must participate in a meeting of the JSC in order for there to be a quorum for such meeting. Subject to the remainder of this Section 3.5, all decisions of the JSC shall be made by the unanimous vote of the Parties, with the JSC representatives of each Party collectively having one vote. The Parties shall use reasonable good faith efforts to reach consensus on all issues within the responsibility of the JSC. In the event that the members of the JSC cannot agree with respect to a particular issue within the responsibility of the JSC, then:

(a) if the issue relates to the Research Program, or activities to be conducted under the Research Plan, or the approval of either of the initial Development Plans within the scope of Section 3.3(vii), such issue shall be referred to the Vice-President, Discovery of the Schering-Plough Research Institute division of Schering Corporation and the Senior Vice President, Drug Discovery Technologies of PTC, who shall meet in a good faith effort to resolve the dispute within [**]. In the event such individuals cannot agree on a resolution of the dispute within such [**] period, such issue shall be referred to the CEO of PTC and the Senior Vice-President, Research & Development of Schering-Plough Corporation, who shall meet in a good faith effort to resolve the dispute within [**]. In the event such individuals cannot agree on a resolution of the dispute within such [**] period, Schering's decision shall control; provided, however, in no event [**] [**] pursuant to this Section 3.5(a) in order to modify the Research Plan in a manner that would (i) be inconsistent with the provisions of Section 2.5(a), (ii) require PTC to perform a level of chemical optimization or biological/pharmacological characterization activities that cannot reasonably be accomplished by the number of FTEs to be funded by Schering, (iii) require PTC to perform activities that are not related to chemical optimization or biological/pharmacological characterization of Collaboration Compounds without PTC's consent, or (iv) prevent PTC from presenting for designation a Development Candidate or Back-Up Development Candidate.

(b) if the issue relates to the Development of a Schering Viral Product (other than the approval of the initial Development Plans within the scope of Section 3.3(vii)), or any activities conducted under a Development Plan, or relates to any other matter within the responsibility of the JSC, then Schering's decision shall control.

3.6 Limitation on JSC Authority. Notwithstanding the creation of the JSC, each Party shall retain the rights, powers and discretions granted to it hereunder, and the JSC shall not be delegated or vested with any such rights, powers or discretion unless such delegation or vesting

is expressly provided for herein or the Parties expressly so agree in writing. The JSC shall not have the power to make any decisions other than those set forth in Section 3.3 or otherwise expressly set forth in this Agreement. Without limiting the generality of the foregoing, the JSC may not amend or modify this Agreement, which may be amended or modified only as provided in Section 13.10. Furthermore, it is understood that the JSC shall not have any responsibilities related to the Research or Development of Schering Non-Viral Products or PTC Products.

3.7 Project Leaders. Schering and PTC shall each appoint one or more persons to coordinate their respective activities under the Research Program (the "Project Leaders"). Such individuals shall be responsible for, among other things, ensuring the appropriate level of information exchange between the Parties regarding Collaboration Compounds and Schering Viral Products, as contemplated by Section 3.9, as well as scheduling the JSC meetings.

3.8 Project Team Access. Until Schering pays the milestone payment set forth in Section 6.2(e), (i) [**] and as are reasonably acceptable [**], shall have the right [**], and (ii) Schering shall provide [**]. For purposes of this Section 3.8, [**] relating to such products.

3.9 Reports to JSC. During the Exclusivity Term, each Party shall provide the JSC on a quarterly basis with reports regarding the activities performed by such Party under the Research Plan. Each report shall summarize in reasonable detail the major activities undertaken by such Party during the prior quarter, as well as the results of such activities. Such reports will be accurate and, where appropriate, will contain raw data from studies carried out by or on behalf of such Party. Following the Exclusivity Term, with respect to any Schering Viral Products within the scope of Section 3.3(vii), Schering shall also provide semi-annual progress reports to the JSC regarding the Development of such products under the applicable Development Plans.

ARTICLE 4

DEVELOPMENT AND COMMERCIALIZATION OF LICENSED PRODUCTS

4.1 Responsibility for Development; Diligence.

(a) Selection of Development Candidates and Back-Up Development Candidates. Based upon the criteria set forth in Schedule 1.14 and the criteria it develops under Section 1.3, the JSC shall review all data relating to the Collaboration Compounds and shall identify appropriate Collaboration Compounds for recommendation to Schering for selection as Development Candidates and Back-Up Development Candidates. It is understood and agreed that, subject to the provisions of Section 4.1(d), all decisions regarding the designation of Development Candidates and Back-Up Development Candidates shall be made by Schering in its sole discretion; provided, however, Schering agrees to make such decisions in good faith based upon its then-current internal decision-making standards and processes. Upon the designation of any Collaboration Compound by Schering as a Development Candidate or Back-Up Development Candidate, Schering shall promptly notify PTC in writing. In addition, for the avoidance of doubt, the first Highly Active Collaboration Compound

(or NV Compound designated as a Schering Field NV Compound pursuant to this Section 4.1(a)) for which Schering commences GLP toxicology studies intended to support submission of an IND shall be deemed to be a Development Candidate, and the second Highly Active Collaboration Compound (or NV Compound designated as a Schering Field NV Compound pursuant to this Section 4.1(a)) for which Schering commences GLP toxicology studies intended to support submission of an IND shall be deemed to be a Back-Up Development Candidate. In addition to selecting Highly Active Collaboration Compounds for Development as Schering Viral Products, it is understood that Schering shall also have the right at any time to designate one or more NV Compounds for Development as Schering Viral Products in the Viral Field; provided that Schering shall not make any such designation unless it (1) has a good faith intention to Develop and Commercialize such NV Compound in the Viral Field, and (2) has provided PTC with data supporting its designation, together with a written research plan describing Schering's planned initial Research regarding such compound, which research plan is consistent with a commitment by Schering to initiate [**] (or a later downstream Research or Development activity) with respect to such compound (or a Related Compound) within [**] of the date of such designation by Schering. For clarity, Schering may not designate a particular NV Compound for Development as a Schering Viral Product if either (x) PTC has previously designated such compound as a Designated NV Compound pursuant to Section 4A.1, or (y) such NV Compound is a Related Compound for another NV Compound previously designated by PTC as a Designated NV Compound pursuant to Section 4A.1. If, with respect to any NV Compound designated by Schering for Development as a Schering Viral Product, Schering fails to initiate [**] (or later downstream activities) with respect to such compound, or any Related Compound, within the [**] period described above in this Section 4.1(a), then Schering's exclusive license to such NV Compound (and any Related Compounds) shall terminate, PTC shall have the right to designate such compound as a PTC Designated NV Compound in accordance with the provisions of Section 4A.1, and Schering shall have no right to re-designate such NV Compound as a compound for Development as a Schering Viral Product or Schering Non-Viral Product for a period of [**] following the end of the [**] period described above in this Section 4.1(a).

(b) Responsibility for Development. Following the Effective Date, [**] Development of Schering Viral Products in the Field, and shall [**] make decisions relating thereto, subject in each case to Schering's obligations under Section 4.1(d) and the provisions of Article 3. Without limiting the generality of the foregoing, [**] shall be responsible for (a) determining which Highly Active Collaboration Compounds and Schering Field NV Compounds will be Developed as Schering Viral Products in the Field, (b) determining the Development strategy for all Schering Viral Products, (c) preparing the Development Plans and, to the extent set forth in Section 3.3, reviewing the same with the JSC, (d) developing protocols for all pre-clinical and clinical studies to be conducted for Schering Viral Products, and (e) conducting any pre-clinical and clinical studies regarding Highly Active Collaboration Compounds and Schering Viral Products.

(c) PTC's Participation in Early Development Activities. Schering may request that PTC perform certain Development activities related to pre-clinical or Phase I clinical studies for any Schering Viral Product following the Effective Date. PTC may agree to perform such services, subject to the provisions of Section 4.2, but is not obligated to do so.

(d) Diligence. Schering and its Affiliates shall use Commercially Reasonable Efforts to Develop at least one Schering Viral Product in each of the Major Markets. It is understood that Schering shall have no obligation to Develop any particular Schering Viral Product, and Schering's failure to Develop any particular Schering Viral Product shall in no way

be considered a breach of Schering's obligations under this Section 4.1(d) or provide any basis for PTC to seek termination of this Agreement.

(e) Development Benchmarks. In the event that Schering has not (i) [**] following its acceptance of the first Development Candidate, or (ii) has not [**] of acceptance of the applicable Development Candidate, then PTC shall have the right to request that the Parties meet to discuss in good faith any concerns that PTC may have regarding Schering's satisfaction of its diligence obligations set forth in Section 4.1(d). During such discussions, Schering shall provide a reasonable explanation as to why it believes either of the foregoing specified events has not occurred by the applicable date.

(i) If (A) after good faith discussions PTC still reasonably believes that Schering's failure to achieve either of the events specified in Section 4.1(e) by the dates specified therein demonstrates that Schering has breached its diligence obligation pursuant to Section 4.1(d), or (B) such good faith discussions have not been initiated within [**] of PTC's request therefor or completed within [**] (or in either case such longer time period as the Parties may mutually agree), then PTC shall have the right to initiate dispute resolution proceedings pursuant to Article 12. In such proceedings, [**].

(ii) For the avoidance of doubt, nothing in Section 4.1(d) is intended to limit the ability of PTC to bring claims in good faith against Schering at any time regarding Schering's alleged breaches of Section 4.1(d); provided, however, it is understood that [**] shall apply solely with respect to the specific issue described in such section and only with respect to those proceedings (including litigation) related to such specific issue and not to any other allegations of PTC regarding lack of diligence (whether such allegations are raised in a dispute resolution proceeding initiated pursuant to Section 4.1(e)(i) or otherwise).

(iii) The Parties acknowledge that there are numerous reasons that are beyond the control of Schering that might impact Schering's ability to achieve either of the events specified in Section 4.1(e) by the dates specified therein (e.g., safety concerns which arise during testing of the Development Candidate), and it is understood that the failure by Schering to achieve either of such events by such dates shall not, in and of itself, be deemed a breach of Schering's diligence obligations under Section 4.1(d) or create any inference that Schering has breached its obligations under Section 4.1(d).

(f) Development Deadlines. In the event that [**] following acceptance of the first Development Candidate, then PTC shall have the right to terminate this Agreement upon written notice to Schering. Any termination by PTC pursuant to this Section 4.1(f) shall have the same effect as if Schering terminated this Agreement pursuant to Section 11.2.

4.2 Responsibility for Development Costs. Schering shall be responsible for all costs and expenses related to its Development of Schering Viral Products.

4.3 Development Plans. For each Schering Viral Product for which Schering elects to initiate human clinical trials, Schering shall prepare a development plan outlining the major

Development activities that Schering expects to undertake, including anticipated timescales, relating to the product up to the submission of the initial NDA for the applicable product, which plan shall reflect a level of diligence consistent with Schering's obligations under Section 4.1(d) (each, a "Development Plan"). It is understood that each Development Plan is intended to be a fluid document and is subject to change by Schering based on, among other things, changes in the market, discussions with investigators and Regulatory Authorities and the results of studies undertaken; provided that in no event shall any changes made by Schering to a Development Plan reflect a level of diligence that is less than that required by Section 4.1(d). Subject to the provisions of Article 7, during the Term, Schering shall provide PTC with access to copies of [**]. The Development Plans will be created, approved, and amended according to Schering's then-current internal standards and processes for such plans.

4.4 Ownership of Development Data and Other Know-How.

(a) PTC shall own (i) all data, results and other Know-How generated or developed by it prior to the Effective Date and (ii) all data, results and other Know-How generated or developed in the performance of any activities conducted by PTC or any of its Affiliates under the Research Plan, subject in the case of both (i) and (ii) to the Schering Licenses. All such data, results and other Know-How shall be considered PTC Confidential Information.

(b) Schering shall own (i) all data, results and other Know-How generated or developed by it prior to the Effective Date and (ii) all data, results and other Know-How generated or developed in the performance of any activities conducted by Schering or any of its Affiliates under the Research Plan, subject, in the case of both (i) and (ii) to the licenses granted or to be granted to PTC pursuant to Sections 5.1(c), 5.3(b), 5.4(b) and 11.7. All such data, results and other Know-How shall be considered Schering Confidential Information.

(c) Schering shall own Development Data and other Know-How generated or developed in the performance of Development, Commercialization or Manufacturing activities performed by or on behalf of it relating to Highly Active Collaboration Compounds, Schering Field NV Compounds, or Schering Viral Products, including without limitation all data accumulated from all clinical trials conducted under any Development Plan, subject to the licenses to be granted to PTC pursuant to Section 11.7.

(d) Schering shall own Development Data and other Know-How generated or developed in the performance of Research, Development, Commercialization or Manufacturing activities performed by or on behalf of it relating to NV Compounds or Schering Non-Viral Products, including without limitation all data accumulated from all clinical trials conducted by it with respect to such products, subject to the licenses granted to PTC pursuant to Sections 5.3(b) and 5.4(b).

(e) PTC shall own Development Data and other Know-How generated or developed in the performance of Research, Development, Commercialization or Manufacturing activities performed by or on behalf of it relating to NV Compounds or PTC Products, including

without limitation all data accumulated from all clinical trials conducted by it with respect to such products, subject to the licenses granted to Schering pursuant to Sections 5.3(a) and 5.4(a).

4.5 Access [**]. Subject to PTC's obligations under Article 7, during the Term and promptly upon their availability, Schering shall provide PTC with [**] Schering Viral Products.

4.6 [**]. During the term of the JSC, PTC shall have the right to [**]. For purposes of clarity, it is understood that the foregoing provisions are intended to apply to [**], and not to [**].

4.7 Responsibility for Commercialization. Schering shall have full responsibility for the Commercialization of Schering Viral Products in the Field. Schering agrees to use Commercially Reasonable Efforts to Commercialize at least one Schering Viral Product in the Field in each of the Major Markets.

4.8 Meetings to Discuss Schering's [**]. Following the date that Schering [**], representatives from the Parties' respective marketing organizations shall meet to discuss Schering's [**]. Thereafter, until [**] any Schering Viral Product [**], the Parties' representatives shall continue to meet for the purpose of (i) [**] with [**], and (ii) discussions with respect thereto between Schering and PTC. For clarity, the Parties' obligations pursuant to this Section 4.8 shall terminate at such time [**].

4.9 Manufacturing and Supply Responsibilities. Schering shall be responsible for Manufacturing or having Manufactured all quantities of Highly Active Collaboration Compound, Schering Field NV Compound and Schering Viral Product necessary for its Development and Commercialization throughout the Territory, as well as all activities related to process development and scale-up of the manufacturing process, all at its sole costs and expense. Following the Effective Date and during the Research Term, PTC shall provide Schering on a quarterly basis, or reasonably promptly in response to Schering's written request, with any Know-How or other information related to synthesis methods for Highly Active Collaboration Compounds or Schering Field NV Compounds developed by or on behalf of PTC and Controlled by PTC, either prior to or during the Research Term.

4.10 Regulatory Matters Related to Schering Viral Products. Schering, its Affiliates and Sublicensees shall be responsible for all regulatory matters related to Schering Viral Products, and shall be responsible for all costs and expenses incurred in performing its regulatory responsibilities. All INDs regarding Schering Viral Product in the Territory, and all NDAs, shall be filed in the name of and owned by Schering, its Affiliates and Sublicensees, and Schering, its Affiliates and Sublicensees shall hold all Regulatory Approvals for Schering Viral Product throughout the Territory.

(a) Regulatory Submissions. Schering, its Affiliates and Sublicensees shall oversee, monitor and coordinate all regulatory actions, communications and filings with, and submissions to, the FDA and other Regulatory Authorities in the Territory with respect to all Schering Viral Products.

(b) Regulatory Meetings and Correspondence. Schering, its Affiliates and Sublicensees shall be responsible for interfacing, corresponding and meeting with the FDA and other Regulatory Authorities throughout the Territory with respect to Schering Viral Products. Until the completion of any pre-IND meetings with FDA and EMEA for the initial Development Candidate, PTC shall have the right to have [**], or another senior, experienced employee of PTC reasonably acceptable to Schering, participate as an observer in such pre-IND meetings, as well as participate in internal Schering meetings or discussions occurring immediately before or after, and related to, such pre-IND meetings, and shall be provided with advance access to Schering materials prepared for such meetings. PTC shall also have the right to review and comment upon any correspondence with FDA or EMEA related to such meetings. With respect to any meetings with FDA or EMEA beyond the pre-IND meetings (e.g., end of Phase I meetings, end of Phase II meetings), PTC shall have the right to request that one of its representatives be permitted to participate as an observer in such meetings, and Schering shall consider such requests in good faith.

(c) Additional Information Regarding Regulatory Activities in the Territory. Schering shall provide PTC [**], and respond within a reasonable time frame to all reasonable inquiries by PTC with respect thereto. Schering shall also provide PTC in a timely manner [**] concerning the same.

(d) Pharmacovigilance. Schering shall be responsible for the collection, review, assessment, tracking and filing of information related to adverse events ("AEs") associated with Schering Viral Products, in accordance with US 21 C.F.R. 312.32, 314.80 and comparable regulations, guidance, directives and the like governing AEs associated with Schering Viral Products that are applicable outside of the United States.

4.11 Regulatory Matters Related to Other Licensed Products. Schering shall be responsible for all regulatory matters related to Schering Non-Viral Products, and shall be responsible for all costs and expenses incurred in performing its regulatory responsibilities. PTC shall be responsible for all regulatory matters related to PTC Products, and shall be responsible for all costs and expenses incurred in performing its regulatory responsibilities.

4.12 Impact of Change of Control of Schering. In the event that a Third Party, either alone or together with its Affiliates, acquires, directly or indirectly, fifty percent (50%) or more of the voting stock of Schering or Schering-Plough Corporation, or all or substantially all of the assets of Schering or its Affiliates related to the Schering antiviral business, whether through merger, consolidation, acquisition or otherwise (a "Schering Triggering Event"), then such Third Party (or the applicable Affiliate of such Third Party) shall, within [**] of such Schering Triggering Event, confirm in writing to PTC its intentions to continue to meet its obligations under this Agreement, and offer to meet with PTC to discuss any initial plans it may have to revise the applicable Development Plans in effect immediately prior to the effective date of the Schering Triggering Event (it being understood that nothing in this Section 4.12 is intended to

limit in any way Schering's right to make subsequent changes to the Development Plans in accordance with the provisions of Section 4.1(b)).

4.13 Additional Reports and Information to be Provided Following Termination of the JSC. Following the termination of the JSC pursuant to Section 3.1, Schering shall (x) provide PTC with annual written reports summarizing the progress of its Development of any Schering Viral Products during the prior year, and (y) at the request of PTC, meet on a semi-annual basis for informal discussions regarding its Development activities with respect to Schering Viral Products.

4.14 Certain Expenses of PTC. PTC shall be solely responsible for any expenses incurred by it in connection with any activities undertaken by it pursuant to Sections 4.6, 4.8, 4.12 and 4.13.

ARTICLE 4A

DEVELOPMENT AND COMMERCIALIZATION OF DESIGNATED NV COMPOUNDS BY EITHER PARTY

4A.1 Designation of Designated NV Compounds.

(a) At any time following the Research Term, either Party shall have the right to designate one or more NV Compounds as candidates for Development and Commercialization in the Non-Viral Field according to the provisions set forth in this Section 4A.1. In order to designate an NV Compound as a Designated NV Compound (as defined below) for Development and Commercialization in the Non-Viral Field, the designating Party must provide a written notice to the other Party which identifies the specific structure of the NV Compound, and either (x) provides data which demonstrates that the NV Compound has [**] against a given target in the Non-Viral Field, and includes a commitment [**] (or later downstream Research or Development activity) with respect to the NV Compound (or a Related Compound) within [**] of the Designation Date (as defined below) for such NV Compound, or (y) in cases where [**] provides a description of the assay or methods used to measure activity in the Non-Viral Field and a description of the activity observed, and includes a commitment [**] with respect to the NV Compound (or a Related Compound) within [**] of the Designation Date for such NV Compound. As used in this Agreement, "Designation Date" means the date on which a written notice is received by the non-designating Party complying with the foregoing requirements. For purposes of designating an NV Compound, activity against a given target must be measured using either (x) a published assay that is generally accepted in the scientific community as a valid measure of activity against such target, or (y) an assay that is proprietary to the designating Party and that would be considered by one of ordinary skill in the art as a valid measure of activity against the given target. Each Party agrees that it shall not designate an NV Compound under this Section 4A.1(a) unless it has a good faith intention to Develop and Commercialize the NV Compound (or a Related Compound) for at least one indication in the Non-Viral Field. An NV Compound designated pursuant to and in compliance with the provisions of this Section 4A.1(a) shall be referred to as a "Designated NV Compound."

(b) If a Party validly designates an NV Compound as a Designated NV Compound pursuant to the provisions of Section 4A.1(a), then it shall receive those licenses with respect to such Designated NV Compound and any Related Compounds specified in Section 5.4.

(c) If a Party fails [**], as applicable under Section 4A.1(a) above (or later downstream Development or Commercialization activity) with respect to a Designated NV Compound (or Related Compound) designated by it within [**] of the Designation Date for such Designated NV Compound, then the following provisions shall be applicable:

(i) The designating Party's designation of such NV Compound as a Designated NV Compound shall be null and void, and the license granted to it pursuant to Section 5.4 with respect to such Designated NV Compound and Related Compounds shall automatically terminate;

(ii) The designating Party shall thereafter be precluded from designating such Designated NV Compound and Related Compounds as a Designated NV Compound for a period of [**] from the end of the applicable [**] period under Section 4A.1(a); and

(iii) The other Party shall have the right to designate such NV Compound and Related Compounds as a Designated NV Compound, subject to the satisfaction of the conditions of Section 4A.1(a) and without use of any Confidential Information of the other Party with respect to such NV Compound, provided, however, that it is understood that the mere fact that an NV Compound has been designated without reference to any data provided by the other Party in connection with such designation shall not constitute Confidential Information of the other Party solely for the purposes of this Subsection 4A.1(c)(iii).

(d) The Parties further agree that, in the event a Party designates an NV Compound pursuant to this Section 4A.1, the non-designating Party shall not be required to remove such Designated NV Compound (or compound known by it to be a Related Compound) from its screening library, so long as the non-designating Party does not utilize any data it has generated, or may in the future generate, with respect to the screening of such Designated NV Compound (or compound known by it to be a Related Compound) unless such designation has lapsed pursuant to Section 4A.1(c).

(e) For clarity, (x) PTC may not designate any Schering Compound, any Schering Field NV Compound or any Designated NV Compound (or any Related Compound thereof) previously designated by Schering (unless such designation has lapsed pursuant to Section 4A.1(c)), and (y) Schering may not designate as a Designated NV Compound any Designated NV Compound (or any Related Compound thereof) previously designated by PTC (unless such designation has lapsed pursuant to Section 4A.1(c)).

4A.2 Development of NV Compounds by Schering. Following the expiration or termination of the Research Term, Schering and its Affiliates shall not conduct any clinical development work, or license any Third Party to conduct any clinical development work, on any

NV Compound until either (x) such NV Compound has been designated by Schering as a Designated NV Compound as provided in Section 4A.1, or (y) such NV Compound has been designated by Schering for Development for use in the Viral Field in accordance with the provisions of Section 4.1(a).

4A.3 Development of NV Compounds by PTC. PTC and its Affiliates shall not conduct any clinical development work, or license any Third Party to conduct any clinical development work, on any NV Compound until such NV Compound has been designated by PTC as a Designated NV Compound as provided in Section 4A.1.

4A.4 No Development or Commercialization of Collaboration Compounds in the Viral Field by PTC. PTC agrees that during the Term neither it nor any of its Affiliates shall (A) conduct, cause any Third Party to conduct, or authorize any licensee of PTC (excluding Schering) to conduct, a human clinical trial or an animal study within the Viral Field with respect to any Collaboration Compound or PTC Product, or knowingly provide financial support to, or furnish a Collaboration Compound or PTC Product to, any Third Party for any such purpose, (B) publish or authorize any licensee to publish any data from any human clinical trial or animal study which would promote a Collaboration Compound or PTC Product for use in the Viral Field, or (C) market or promote, or authorize a Third Party to market or promote, a Collaboration Compound or PTC Product for use in the Viral Field through advertising, promotion or the like. PTC shall impose the restrictions set forth in this Section 4A.4 on all its licensees/sublicensees and distributors of PTC Products.

4A.5 No Development or Commercialization of NV Compounds in the Viral Field by Schering. Schering agrees that, except to the extent Schering has designated a particular NV Compound for Development in the Viral Field pursuant to the provisions of Section 4.1(a), during the Term neither it nor any of its Affiliates shall (A) conduct, cause any Third Party to conduct, or authorize any licensee of Schering to conduct, a human clinical trial or an animal study within the Viral Field with respect to any NV Compound or Schering Non-Viral Product, or knowingly provide financial support to, or furnish a NV Compound or Schering Non-Viral Product to, any Third Party for any such purpose, (B) publish or authorize any licensee to publish any data from any human clinical trial or animal study which would promote a NV Compound or Schering Non-Viral Product for use in the Viral Field, or (C) market or promote, or authorize a Third Party to market or promote, a NV Compound or Schering Non-Viral Product for use in the Viral Field through advertising, promotion or the like. Schering shall impose the restrictions set forth in this Section 4A.5 on all its licensees/sublicensees and distributors of Schering Non-Viral Products.

4A.6 Applicability of Restrictions. Each Party acknowledges that the restrictions set forth in Sections 4A.2 through 4A.5 that are applicable to it shall apply regardless of whether any license under the other Party's Patents or Know-How is required in order to enable it to Develop or Commercialize the applicable compound or the applicable Licensed Product containing such compound.

ARTICLE 5

LICENSES

5.1 Research Licenses.

(a) Subject to the other provisions of this Agreement, PTC hereby grants to Schering and its Affiliates an exclusive (even as to PTC and its Affiliates) worldwide, paid-up right and license under the PTC Intellectual Property to perform Schering's obligations under the Research Plan during the Research Term and to otherwise conduct Research with respect to Collaboration Compounds during the Research Term; provided, however, that PTC shall retain the right to practice the PTC Intellectual Property in order to enable it to perform its obligations under the Research Plan during the Research Term.

(b) Subject to the other provisions of this Agreement, PTC hereby grants to Schering and its Affiliates a non-exclusive worldwide, paid-up right and license under the PTC Background Patents solely for the purpose of enabling Schering to perform its obligations under the Research Plan during the Research Term and to otherwise conduct Research with respect to Collaboration Compounds during the Research Term.

(c) Subject to the other provisions of this Agreement, Schering hereby grants to PTC and its Affiliates a non-exclusive worldwide, paid-up right and license under the Schering Background Technology solely for the purpose of enabling PTC to perform its obligations under the Research Plan during the Research Term.

5.2 Exclusive Development and Commercialization License to Schering. In addition to the rights granted to Schering pursuant to Section 5.1(a) and 5.1(b), and subject to the other provisions of this Agreement, PTC hereby grants to Schering (x) an exclusive (even as to PTC and its Affiliates), worldwide, royalty-bearing right and license, with the right to grant sublicenses (in accordance with the provisions of Section 5.5(b) below), under the PTC Intellectual Property to Develop, make, have made, use, and import Highly Active Collaboration Compound(s) and Schering Field NV Compounds in the Field and to Develop, make, have made, use, sell, offer to sell and import Schering Viral Product(s) in the Field, and (y) a non-exclusive, worldwide, right and license under the PTC Intellectual Property to use Collaboration Compounds for Research purposes.

5.3 Co-Exclusive Research Licenses to Both Parties.

(a) Effective as of the expiration or termination of the Research Term, PTC hereby grants to Schering a co-exclusive (together with PTC and its Affiliates), world-wide right and license, with the right to grant sublicenses (in accordance with the provisions of Section 5.5(c) below), under the PTC Intellectual Property to Research, make, have made, use, and import NV Compound(s) (excluding any Schering Field NV Compounds) in the Non-Viral Field.

(b) Effective as of the expiration or termination of the Research Term, Schering hereby grants to PTC a co-exclusive (together with Schering and its Affiliates), world-

wide right and license, with the right to grant sublicenses (in accordance with the provisions of Section 5.5(c) below), under the Schering Patents, Schering NV Know-How, and Schering Know-How existing as of the end of the Research Term to Research, make, have made, use and import NV Compound(s) (excluding Schering Compounds and Schering Field NV Compounds) in the Non-Viral Field.

5.4 Exclusive Licenses to Develop and Commercialize Designated NV Compounds.

(a) Effective automatically upon valid designation of a NV Compound as a Designated NV Compound by Schering pursuant to the provisions of Section 4A.1, (x) PTC hereby grants to Schering an exclusive, world-wide, royalty-bearing right and license, with the right to grant sublicenses (in accordance with the provisions of Section 5.5(d) below), under the PTC NV Patents and PTC NV Know-How to Research, Develop, make, have made, use, and import the Designated NV Compound and any Related Compounds in the Non-Viral Field and to Research, Develop, make, have made, use, sell, offer to sell and import Schering Non-Viral Product(s) which contain such Designated NV Compound or any Related Compound in the Non-Viral Field, and (y) the license granted by Schering to PTC pursuant to the provisions of Section 5.3(b) shall automatically terminate with respect to (but only with respect to) such Designated NV Compound and any Related Compounds.

(b) Effective automatically upon valid designation of a NV Compound as a Designated NV Compound by PTC pursuant to the provisions of Section 4A.1, (x) Schering hereby grants to PTC an exclusive, worldwide, royalty-bearing right and license, with the right to grant sublicenses (in accordance with the provisions of Section 5.5(d) below), under the Schering NV Patents and Schering NV Know-How to Research, Develop, make, have made, use, and import the applicable Designated NV Compound and any Related Compounds in the Non-Viral Field and to Research Develop, make, have made, use, sell, offer to sell and import PTC Product containing such Designated NV Compound or any Related Compounds in the Non-Viral Field, and (y) the license granted by PTC to Schering pursuant to the provisions of Section 5.3(a) shall automatically terminate with respect to (but only with respect to) such Designated NV Compound and any Related Compounds.

5.5 Right to Sublicense.

(a) Neither Party shall have the right to grant sublicenses under the rights granted to it in Section 5.1, except to the extent required for use of approved subcontractors pursuant to Section 2.11.

(b) Subject to the terms and conditions of this Agreement, Schering shall have the right to grant sublicenses under the rights granted to it in Section 5.2 to its Affiliates. Schering shall also have the right to grant sublicenses under the rights granted to it in Section 5.2 to Third Parties; provided, however, that in the case of any sublicense that is granted to a Third Party with respect to a Major Market in which Schering grants the Sublicensee the right to Develop any Licensed Product, such sublicense shall be subject to the prior written consent of PTC, which consent shall not be unreasonably withheld or delayed. Each such sublicense shall be consistent with all the terms and conditions of this Agreement, and Schering shall guarantee

the performance of its Affiliates and Sublicensees with respect to any sublicense granted pursuant to this Section 5.5(b). Upon granting any sublicense to a Third Party pursuant to this Section 5.5(b), Schering shall promptly inform PTC and shall provide the relevant details regarding such sublicense (i.e., name of Sublicensee, product involved and territory involved).

(c) Either Party shall have the right to grant sublicenses to its Affiliates under the rights granted to it pursuant to Section 5.3. Neither Party shall have the right to grant to a Third Party any sublicense under the rights granted to it pursuant to such Section 5.3 without the prior written consent of the other Party, such consent not to be unreasonably withheld or delayed. Each such sublicense shall be consistent with all the terms and conditions of this Agreement, and the sublicensing Party shall guarantee the performance of its Affiliates and Sublicensees with respect to any sublicense granted pursuant to this Section 5.5(c). Upon granting any sublicense to a Third Party pursuant to this Section 5.5(c), the Party granting such sublicense shall promptly inform the other Party and shall provide the relevant details regarding such sublicense (i.e., name of Sublicensee, product involved and territory involved).

(d) Either Party shall have the right to grant sublicenses under the rights granted to it under Section 5.4, subject to the restrictions set forth in Section 4A.4 (in the case of PTC) and Section 4A.5 (in the case of Schering). Each such sublicense shall be consistent with all the terms and conditions of this Agreement, and the sublicensing Party shall guarantee the performance of its Affiliates and Sublicensees with respect to any sublicense granted pursuant to this Section 5.5(d). Upon granting any sublicense pursuant to this Section 5.5(d), the sublicensing Party shall (x) promptly inform the other Party and shall provide the relevant details regarding such sublicense (i.e., name of Sublicensee, product involved and territory involved), and (y) provide sufficient evidence to the other Party to demonstrate that it has complied with the undertakings set forth in Section 4A.4 or 4A.5, as applicable.

(e) The right to grant sublicenses provided in this Section 5.5 shall survive any termination or expiration of this Agreement, but only to the extent that the underlying license so survives; provided, however, that the restriction set forth in Section 5.5(c) with respect to Third Party sublicenses shall terminate in the event that the other Party's underlying co-exclusive license terminates.

5.6 No Further Rights. Only the licenses granted pursuant to the express terms of this Agreement shall be of any legal force or effect. No other license rights shall be granted or created by implication, estoppel or otherwise.

5.7 Section 365(n) of the Bankruptcy Code. All rights and licenses granted under or pursuant to any section of this Agreement are, and shall otherwise be deemed to be, for purposes of Section 365(n) of the Bankruptcy Code, licenses of rights to "intellectual property" as defined under Section 101(35A) of the Bankruptcy Code. Each Party shall retain and may fully exercise all of its rights and elections under the Bankruptcy Code or equivalent legislation in any other jurisdiction. Upon the bankruptcy of either Party, the other Party shall further be entitled to a complete duplicate of (or complete access to, as appropriate) any such intellectual property, and such, if not already in its possession, shall be promptly delivered to such other Party, unless the

Party in bankruptcy elects to continue, and continues, to perform all of its obligations under this Agreement.

5.8 No Rights to Other Compounds. Each Party acknowledges that the other Party is in the business of developing products in the Viral Field and that the other Party has or will have extensive programs related to the Research and Development of products for the treatment of HCV and other viral diseases or conditions. Each Party expressly acknowledges and agrees that, except as set forth in Sections 5.3 and 5.4 (as such sections relate to Related Compounds), it shall have no rights of any kind under this Agreement to any compounds or products (or intellectual property related thereto) that are synthesized, discovered, Developed or Commercialized by the other Party or its Affiliates during the Term that are not Collaboration Compounds or Licensed Products.

ARTICLE 6

CONSIDERATION

6.1 Up-front Payment. In partial consideration of the rights granted to it by PTC under the Schering Licenses, Schering shall pay to PTC an upfront fee of twelve million Dollars ($12,000,000) within ten (10) Business Days from the Effective Date. The upfront payment will be unconditional and as such shall not be subject to any offset, credit, reduction or repayment for any reason whatsoever.

6.2 Development Milestone Payments for Schering Viral Products. As further consideration for the rights granted to it by PTC under the Schering Licenses, within [**] following the first occurrence of the relevant events specified below, Schering shall pay to PTC the following amounts:

	MILESTONE	AMOUNT
(a)	[**]	[**] Dollars ($ [**])
	[**]	[**] Dollars ($ [**])
	[**]	[**] Dollars ($ [**])
(b)	[**]	[**] Dollars ($ [**])
(c)	[**]	[**] Dollars ($ [**])
(d)	[**]	[**] Dollars ($ [**])
(e)	[**]	[**] Dollars ($ [**])

(f) [**] [**] Dollars ($ [**])

(g) [**] [**] Dollars ($ [**])

(h) [**] [**] Dollars ($ [**])

(i) [**] [**] Dollars ($ [**])

(j) [**] [**] Dollars ($ [**])

(k) [**] [**] Dollars ($ [**])

(l) [**] [**] Dollars ($ [**])

(m) [**] [**] Dollars ($ [**])

(n) [**] [**] Dollars ($ [**])

It is understood that each of the above milestone payments shall be payable only once (upon the first achievement of such milestone event by any Schering Viral Product), regardless of the number of Schering Viral Products that achieve such milestones. For purposes of clarity, if the Development of a Schering Viral Product is terminated for any reason prior to the first Regulatory Approval of such Schering Viral Product, and Schering subsequently continues to Develop one or more other Schering Viral Products, the above milestones will be paid only when a Schering Viral Product reaches a milestone beyond the last milestone achieved by any previous Schering Viral Product. Furthermore, for the milestones payable under Sections 6.2(a), (c), (e), and (f) (the "Development Milestones Group"), payment of a milestone within the Development Milestone Group with respect to a Schering Viral Product shall trigger payment of any earlier unpaid milestones within the Development Milestone Group for such Schering Viral Product, and payment of any milestone with respect to such Schering Viral Product under Sections 6.2(g), (h), and (i) shall trigger payment of all earlier unpaid milestones within the Development Milestone Group for such Schering Viral Products. Similar principles shall apply to payment of milestones for an indication in the Field other than for HCV under Sections 6.2(j)-(n).

For the purposes of Section 6.2(a), a Collaboration Compound will be considered to have been [**] at such time as PTC has (i) completed all biological characterization activities for such compound that are required to be performed by PTC under the Research Plan, (ii) presented the specific chemical structure of such Collaboration Compound to Schering, and (iii) provided Schering with sufficient quantities (as determined by the JSC) of such Collaboration Compound for Schering to commence its evaluation pursuant to the Research Plan.

For purposes of Section 6.2(d), the potential for [**] shall be deemed to have been demonstrated if either (x) the clinical study results indicate [**], or (y) Schering or its Affiliates or Sublicensees commence a Pivotal Trial for a Schering Viral Product that includes a [**] for such product.

For purposes of this Section 6.2, (xx) a clinical trial will be deemed to have commenced upon administration of the first dose to the first patient enrolled in the trial, and (yy) in the United States, an NDA shall be deemed to have been "filed" on the earlier of (i) receipt by Schering of written notice from the FDA of acceptance for filing of the applicable NDA, or (ii) [**] following the filing of such NDA submission without the receipt by Schering during such [**] period of a "Notice of Refusal to File" from the FDA with respect to such NDA.

Milestone payments pursuant to this Section 6.2 will not be subject to any offset, credit, reduction or repayment for any reason whatsoever.

6.3 Approval Milestone Payments for a Second Schering Viral Product. As further consideration for the rights granted to it by PTC under the Schering Licenses, within [**] following the first occurrence of the relevant events specified below, Schering shall pay to PTC the following amounts:

MILESTONE	AMOUNT
[**]	[**] Dollars ($ [**])
[**]	[**] Dollars ($ [**])
[**]	[**] Dollars ($ [**])

For purposes of this Section 6.3, a "Second Schering Viral Product" means a Schering Viral Product that contains a different Collaboration Compound from the first Schering Viral Product to achieve Regulatory Approval for the treatment of HCV in the relevant market. For the avoidance of doubt, it is understood that the milestone payments set forth in this Section 6.3 shall be payable only once, regardless of the number of Schering Viral Products that achieve Regulatory Approval for the treatment of HCV and shall not be payable with respect to Regulatory Approvals for any indication other than the treatment of HCV. Furthermore, [**] percent ([**]%) of any milestone payments that are paid by Schering pursuant to this Section 6.3 shall be fully creditable against any future royalties that are payable by it pursuant to Section 6.5 with respect to the Second Schering Viral Product.

Except as explicitly provided in the foregoing paragraph, milestone payments pursuant to this Section 6.3 will not be subject to any offset, credit, reduction or repayment for any reason whatsoever.

6.4 Sales Milestones. As further consideration for the rights granted to Schering under the Schering Licenses, Schering shall pay PTC each of the amounts specified below within [**] after the end of the calendar quarter in which any of the following thresholds are achieved:

SALES THRESHOLDS	AMOUNT
[**]	[**] Dollars ($ [**])
[**]	[**] Dollars ($ [**])

It is understood that each of the above sales milestones shall be payable only once, regardless of the number of Schering Viral Products that achieve the applicable sales thresholds. Milestone payments pursuant to this Section 6.4 will not be subject to any offset, credit, reduction or repayment for any reason whatsoever.

6.5 Royalties Payable by Schering on Sales of Schering Viral Products.

(a) Royalty on Net Sales. As further consideration for the rights granted to Schering under the Schering Licenses, Schering shall pay to PTC, on a Schering Viral Product-by-Schering Viral Product basis, the following incremental royalties based on Net Sales of such Schering Viral Product:

Net Sales	Rate
On the first [**] Dollars ($ [**]) in worldwide Net Sales of such Schering Viral Product in a calendar year	[**] percent ([**]%)
On worldwide Net Sales of the Schering Viral Product in excess of [**] Dollars ($ [**]) but less than [**] Dollars ($ [**]) in a calendar year	[**] percent ([**]%)
On worldwide Net Sales of the Schering Viral Product in excess of [**] Dollars ($ [**]) but less than [**] Dollars ($ [**]) in a calendar year	[**] percent ([**]%)
On worldwide Net Sales of the Schering Viral Product in excess of [**] Dollars ($ [**]) but less than [**] Dollars ($ [**]) in a calendar year	[**] percent ([**]%)
On worldwide Net Sales of the Schering Viral Product in excess of [**] Dollars ($ [**]) in a calendar year	[**] percent ([**]%)

The royalty rates set forth in this Section 6.5(a) are subject to adjustment as set forth in Sections 6.5(b), 6.5(e) and 6.6, and are subject to any credit offset to which Schering is entitled pursuant to Section 6.3, 6.7 and 9.7(a), subject to the overall limits on certain adjustments and credits set forth in Section 6.8.

(b) Know-How Royalty. In a country where (x) the sale of a Schering Viral Product would not infringe a Valid Claim of a PTC Patent or Joint Patent, Schering shall pay royalties at a rate that is [**]percent ([**]%) of the applicable royalty rate determined in accordance with Section 6.5(a); provided, however, the foregoing reduction shall not apply so long as the Schering Viral Product is entitled to Marketing Exclusivity in such country, and there

are no other products on the market in such country that contains, as one of its active ingredients, the same Active Ingredient that is contained in the Schering Viral Product.

(c) Duration of Obligation to Pay Royalties.

(i) Schering's obligation to pay royalties for any Schering Viral Product pursuant to Section 6.5(a) shall remain in effect on a country-by-country basis until the later of (A) the expiration of the last to expire PTC Patent (including any Joint Patent) in such country which contains a Valid Claim which claims such Schering Viral Product or its use in the Viral Field or for the approved indication, or (B) the expiration of any Marketing Exclusivity for such Schering Viral Product in such country (or, if earlier, the date of the First Commercial Sale of a Third Party product in such country that contains, as one of its active ingredients, the same Active Ingredient that is contained in the Schering Viral Product).[**]

(ii) Schering's obligation to pay royalties for any Schering Viral Product pursuant to Section 6.5(b) shall remain in effect until [**] after the First Commercial Sale of any Schering Viral Product in such country which contains the same Collaboration Compound as that which is contained in the Schering Viral Product.

(iii) The obligation to pay royalties pursuant to Section 6.5 is imposed only once with respect to the same unit of a Schering Viral Product, and there are no circumstances under which royalties are payable pursuant to both Sections 6.5(a) and 6.5(b) with respect to the sale of the same unit.

(d) Paid-up License. Upon expiration of the royalty term for a Schering Viral Product in a country as described in Section 6.5(c)(i) or 6.5(c)(ii), whichever is later, Schering shall thereafter have a fully paid-up, non-exclusive license to PTC Know-How to make, have made, use, sell, offer for sale, and import such Schering Viral Product in that country in the Field.

(e) Adjustment to Royalty Rates. With respect to each country in the Territory, on a country-by-country basis, the royalty payable pursuant to Section 6.5(a) (but not Section 6.5(b)) with respect to any Schering Viral Product shall be reduced by [**] percent ([**]%) the first time that Third Party total unit sales of any products having the same Collaboration Compound as that which is contained in such Schering Viral Product in such country exceed [**] percent ([**]%) of the total unit sales of such Schering Viral Product by Schering, its Affiliates and Sublicensees in that country during two consecutive calendar quarters (calculated on an equivalent per kilogram of Collaboration Compound basis). Thereafter, such royalties would be further reduced by an additional [**] percent ([**]%) for each additional [**] percent ([**]%) increase in the unit sales of such products by Third Parties in such country compared to the unit sales of Schering, its Affiliates and Sublicensees, so that upon such Third Party products reaching [**]% of total unit sales such royalty will reach (and be subject to) the [**]% limit set forth in Section 6.8. Notwithstanding the foregoing, this Section 6.5(e) shall not apply with respect to any country in which royalties on Net Sales of a Schering Viral Product are determined under Section 6.6.

6.6 Compulsory License. Schering and PTC shall use reasonable efforts to prevent any Third Party from obtaining or being granted a Compulsory License, and to the extent that a Third Party obtains or is granted such a Compulsory License, Schering and PTC will use reasonable efforts to limit or reduce the scope or applicability of such Compulsory License. If, notwithstanding Schering's and PTC's use of reasonable efforts, any Third Party obtains a Compulsory License, then PTC or Schering (whoever has first notice) shall promptly notify the other Party. If the royalty rate payable by the grantee of the Compulsory License is less than the effective royalty rates payable to PTC pursuant to Section 6.5 with respect to the applicable country (as such rates are adjusted by the other provisions of this Agreement), then the royalty rate payable by Schering with respect to such country shall automatically be reduced to [**]. For the avoidance of doubt, for purposes of determining the royalties due PTC under Section 6.5 with respect to sales of a product by any compulsory licensee, Schering's Net Sales from such sales shall be calculated based solely on the actual royalty payments, if any, paid by the compulsory licensee to Schering under the Compulsory License.

6.7 Responsibility for Third Party Royalties.

(a) In the event that, following the Effective Date, Schering believes that it is necessary or appropriate to obtain a license to one or more Specified Third Party Patents, it shall notify PTC and the Parties shall meet to discuss in good faith the basis for Schering's conclusion. In the event that the Parties are unable to agree on whether to enter into a Third Party License Agreement related to a Specified Third Party Patent, the Parties shall confer [**]. If, following such consultation, the Parties are still unable to agree upon whether to enter into such Third Party License Agreement, Schering shall [**] provided, that, if, within [**] of Schering notifying PTC in writing of such decision, PTC notifies Schering in writing [**], then Schering shall not enter into such Third Party License Agreement until the earlier of (i) [**] from the date of PTC's notice, or (b) the date PTC informs Schering [**]. If [**] within such [**] period, and Schering enters into such Third Party License Agreement, then any royalties, fees or other payments owing under such Third Party License Agreement that are in consideration for a Patent [**] and which claims the composition of matter of the relevant Highly Active Collaboration Compound or Schering Field NV Compound shall be credited at the rate set forth in Subsection 6.7(b)(y) of this Agreement rather than the rate that is set forth in Subsection 6.7(b)(x) of this Agreement; provided, however, that [**] pursuant to this Section 6.7(a), if as a result of any judgment in favor of, or settlement with, a Third Party pursuant to Section 9.7(a), Schering is required to pay to such Third Party royalties or other consideration related to such Third Party's Patents which claim the composition of matter of a Highly Active Collaboration Compound or Schering Field NV Compound, Schering shall be entitled to treat such payments pursuant to Section 6.7(b)(x). For the purposes of this Agreement, [**] pursuant to this Agreement with respect to a Highly Active Collaboration Compound (or, for the purposes of this Section 6.7(a) only, a Schering Field NV Compound) [**]. Schering, with the participation of PTC, shall be responsible for negotiating any Third Party License Agreements related to any Specified Third Party Patent. The Parties shall endeavor to agree upon all of the key financial and other terms of such Third Party License Agreements; [**].

(b) In the event that Schering, or its Affiliates or Sublicensees enters into any Third Party License Agreement following the Effective Date related to any Specified Third Party Patents, Schering shall be entitled to credit against any royalties that are due PTC pursuant to Section 6.5 (x) [**] percent ([**]%) of the amount of any royalties, fees or other payments due under such Third Party License Agreement to the extent such payments are in consideration for a Patent that claims the composition of matter of a Highly Active Collaboration Compound or Schering Field NV Compound (except as provided above in Section 6.7(a)), and (y) [**] percent ([**]%) of the amount of any royalties, fees or other payments due under such Third Party License Agreement to the extent such payments are in consideration for a Patent that claims (i) the use of a Highly Active Collaboration Compound or Schering Field NV Compound in the Viral Field, (ii) a method of treating, diagnosing or preventing any disease or condition in the Viral Field through the use of a Highly Active Collaboration Compound or Schering Field NV Compound, or (iii) a method of manufacturing a Highly Active Collaboration Compound or Schering Field NV Compound, in all cases subject to the limits set forth in Section 6.8.

(c) With the exception of any Third Party License Agreements within the scope of Section 6.7(a), Schering shall be solely responsible for negotiating and entering into any other Third Party License Agreements related to any Schering Viral Product, and shall be solely responsible for any fees, royalties or other payments due to Third Parties under such agreement.

(d) Schering shall be solely responsible for negotiating any Third Party License Agreements that relate to a Schering Non-Viral Product, and shall be solely responsible for any fees, royalties or other payments due to Third Parties under such agreement.

(e) PTC shall be solely responsible for negotiating any Third Party License Agreements that relate to a PTC Product, and shall be solely responsible for any fees, royalties or other payments due to Third Parties under such agreement.

(f) Each Party shall be solely responsible for any fees, royalties or other payments due to Third Parties under Third Party License Agreements to which it or its Affiliates are a Party as of the Effective Date (each, an "Existing Third Party License Agreement").

6.8 Limit on Adjustments. Notwithstanding anything in this Agreement to the contrary, in no event shall the aggregate of all adjustments and credits applicable under Sections 6.5(e) or 6.7(b) with respect to any Schering Viral Product for any calendar quarter cause the royalties payable by Schering under Section 6.5(a) and (b) in such calendar quarter to be reduced by more than [**] percent ([**]%) of the amounts that would otherwise be due under such Sections (after taking into consideration any credits to which Schering shall be entitled pursuant to Section 6.3) for such Schering Viral Product in such calendar quarter; provided, however, that any unused credits or adjustments shall be carried over to future calendar quarters throughout the Term.

6.9 Royalties Payable by Schering on Sales of Schering Non-Viral Products.

(a) Royalty on Net Sales. As further consideration for the rights granted to Schering pursuant to Section 5.4(a), Schering shall pay to PTC, on a Schering Non-Viral

Product-by-Schering Non-Viral Product basis, a royalty in the amount of [**] percent ([**]%) of Net Sales of such Schering Non-Viral Product.

(b) Schering's obligation to pay royalties for any Schering Non-Viral Product pursuant to Section 6.9(a) shall remain in effect on a country-by-country basis until the later of (i) the expiration of the last to expire PTC NV Patent or Joint Patent in such country which contains a Valid Claim which claims such Schering Non-Viral Product or its use in the Non-Viral Field, (ii) the expiration of any Marketing Exclusivity for such Schering Non-Viral Product in such country (or, if earlier, the date of the First Commercial Sale of a Third Party product in such country that contains, as one of its active ingredients, the same Active Ingredient that is contained in the Schering Non-Viral Product), or (iii) [**] following First Commercial Sale of any Schering Non-Viral Product in such country which contains, as one of its active ingredients, the same Active Ingredient as that which is contained in the Schering Non-Viral Product.

(c) Upon expiration of the royalty term for a Schering Non-Viral Product in a country as described in Section 6.9(b), Schering shall thereafter have a fully paid-up, non-exclusive license to PTC NV Know-How to make, have made, use, sell, offer for sale, and import such Schering Non-Viral Product in that country in the Non-Viral Field.

6.10 Royalties Payable by PTC on Sales of PTC Products.

(a) Royalty on Net Sales. As partial consideration for the rights granted to PTC pursuant to Section 5.4(b), PTC shall pay to Schering, on a PTC Product-by-PTC Product basis, a royalty in the amount of [**] percent ([**]%) of Net Sales of such PTC Product. Notwithstanding the foregoing, PTC shall not be required to pay Schering any royalties pursuant to this Section 6.10(a) with respect to a PTC Product that contains a PTC Compound that is set forth in Schedule 1.48 attached hereto but does not contain any other Collaboration Compound.

(b) PTC's obligation to pay royalties for any PTC Product pursuant to Section 6.10(a) shall remain in effect on a country-by-country basis until the later of (i) the expiration of the last to expire Schering NV Patent (including any Joint Patent) in such country which contains a Valid Claim which claims such PTC Product or its use in the Non-Viral Field, (ii) the expiration of any Marketing Exclusivity for such PTC Product in such country (or, if earlier, the date of the First Commercial Sale of a Third Party product in such country that contains, as one of its active ingredients, the same Active Ingredient that is contained in the PTC Product), or (iii) [**] following First Commercial Sale of any PTC Product in such country which contains, as one of its active ingredients, the same Active Ingredient as that which is contained in the PTC Product.

(c) Upon expiration of the royalty term for a PTC Product in a country as described in Section 6.10(b), PTC shall thereafter have a fully paid-up, non-exclusive license to Schering NV Know-How to make, have made, use, sell, offer for sale, and import such PTC Product in that country in the Non-Viral Field.

6.11 Royalty Reports and Payments. Each Party shall make royalty payments due the other under this Article 6 within [**] after the end of each calendar quarter in which Net Sales

occurred. A report summarizing the Net Sales of each Licensed Product during the relevant quarter on a country-by-country basis shall be delivered to the other Party within [**] following the end of each calendar quarter for which royalties are due.

6.12 Payments; Interest. Any payments due a Party under this Agreement shall be due on such date as is specified in this Agreement and, in the event such date is not a Business Day, then the next succeeding Business Day; provided, however, that any expenses for which a Party is to be reimbursed under this Agreement shall be payable within forty-five (45) days of the reimbursing Party's receipt of an invoice detailing such expenses from the invoicing Party. Any failure by a Party to make a payment within ten (10) Business Days after the date when due shall obligate such Party to pay interest, the interest period commencing on the due date and ending on the payment date. The applicable interest rate shall be two percent (2%) above the average rate of the one (1) month London Inter-Bank Offering Rate ("LIBOR") for Dollars, as quoted on the British Banker's Association's website currently located at www.bba.org.uk (or such other source as may be mutually agreed by the Parties) from time to time, effective for the applicable days of the period of default. For clarity, it is understood that the calculation of Net Sales will require an ongoing reconciliation process, and no interest shall be payable under this Section 6.12 with respect to any adjustments that are made from the initial statement of Net Sales, as applicable, for a particular calendar quarter so long as the calculation of Net Sales that was reflected in the initial royalty statement for such calendar quarter was made in good faith, and such adjustment is made on or before the later of (x) twelve (12) months from the date of the initial statement, and (y) three (3) months from the date that the applicable invoice or statement underlying the adjustment is received by Schering or PTC or each of their respective Affiliates or Sublicensees from the relevant Third Party (e.g., a Third Party payor in the case of a rebate).

6.13 Taxes. Each Party shall pay any and all taxes levied on account of all payments it receives under this Agreement. If laws or regulations require that taxes be withheld, the paying Party will (a) deduct those taxes from the remittable payment, (b) timely pay the taxes to the proper taxing authority, and (c) send proof of payment to the other Party within thirty (30) days of receipt of confirmation of payment from the relevant taxing authority. The paying Party will reasonably cooperate with the other Party to obtain the benefit of any applicable tax law or treaty, including the pursuit of any refund or credit of such tax to the Party to whom payment is due.

6.14 Additional Tax Matters. Each Party shall be entitled to all tax benefits, including in particular, tax credits and/or tax deductions attributable to amounts that such Party has funded regarding the Development of Licensed Products. Each Party shall file any applicable national, regional, and local tax returns on a basis consistent with this Agreement, and shall not take any action inconsistent with the other Party's entitlement to such tax benefits. In the event that a Party, in its reasonable judgment, determines that it must obtain information and verification regarding the use or application of such expenditures in order to prepare its tax returns or to respond to any inquiry during a tax audit or any other inquiry relating to such treatment of its tax return, or to defend its tax position in any proceeding including litigation, the other Party shall reasonably cooperate with the requesting Party and furnish it with such information as it may reasonably require at the requesting Party's request and expense.

6.15 Payment Currency. Except as otherwise noted, or as mutually agreed in writing by the Parties from time to time, all payments due hereunder will be paid in Dollars. All payments shall be paid by wire transfer of immediately available funds to an account at a commercial bank designated by the Party to whom payment is due at least ten (10) Business Days before payment is due. For the purposes of this Agreement, "Dollars" or "$" means United States Dollars. Where Licensed Product is sold in a currency other than Dollars, conversion of sales recorded in local currencies to Dollars will be performed in a manner consistent with a Party's (or its Sublicensee's) normal practices used to prepare its or their audited financial statements for internal and external reporting purposes in accordance with GAAP.

6.16 Schering' Records of Net Sales and Audits of the Same. Schering shall maintain, and cause its Affiliates and Sublicensees to maintain, complete and accurate records of all Net Sales of Schering Viral Products and Schering Non-Viral Products. PTC shall have the right, through an internationally recognized certified public accountant reasonably acceptable to Schering, and following reasonable notice, to examine such records during regular business hours; provided, however, that such examination shall not (i) be of records for more than the prior three (3) years, (ii) take place more often than once in any calendar year, and (iii) cover any records which date prior to the date of the last examination. The sole purpose of such examination shall be to verify the correctness of the calculations of Net Sales under this Agreement. PTC shall bear its own costs related to such audit; provided, that if any examination results in a finding of underpayments greater than five percent (5%) by Schering for the period audited (or any one-year sub-period thereof), Schering shall pay PTC the amount of the underpayment, interest at the rate specified in Section 6.12 from the time the amount was due, and PTC's out-of-pocket expenses incurred in conducting the audit (provided, however, in no event shall Schering be obligated to reimburse any expenses in excess of the amount of the underpayment). For any underpayments less than five percent (5%) by Schering for the period audited, Schering shall pay PTC the amount of such underpayment and interest at the rate specified in Section 6.12 from the time the amount was due. Any overpayments by Schering will be credited to future royalties due PTC under this Agreement. Any records or accounting information received from Schering or otherwise obtained during the audit process shall be part of Schering's Confidential Information. Results of any audit carried out hereunder (including without limitation any audit reports) shall be promptly provided to both Parties and shall also be part of Schering's Confidential Information.

6.17 PTC's Records of Net Sales and Audits of the Same. PTC shall maintain, and cause its Affiliates and Sublicensees to maintain, complete and accurate records of all Net Sales of PTC Products. Schering shall have the right, through an internationally recognized certified public accountant reasonably acceptable to PTC, and following reasonable notice, to examine such records during regular business hours; provided, however, that such examination shall not (i) be of records for more than the prior three (3) years, (ii) take place more often than once in any calendar year, and (iii) cover any records which date prior to the date of the last examination. The sole purpose of such examination shall be to verify the correctness of the calculations of Net Sales under this Agreement. Schering shall bear its own costs related to such audit; provided, that if any examination results in a finding of underpayments greater than five percent (5%) by PTC for the period audited (or any one-year sub-period thereof), PTC shall pay Schering the amount of the underpayment, interest at the rate specified in Section 6.12 from the time the amount was due, and Schering's out-of-pocket expenses incurred in conducting the audit

(provided, however, in no event shall PTC be obligated to reimburse any expenses in excess of the amount of the underpayment). For any underpayments less than five percent (5%) by PTC for the period audited, PTC shall pay Schering the amount of such underpayment and interest at the rate specified in Section 6.12 from the time the amount was due. Any overpayments by PTC will be credited to future royalties due Schering under this Agreement. Any records or accounting information received from PTC or otherwise obtained during the audit process shall be part of PTC's Confidential Information. Results of any audit carried out hereunder (including without limitation any audit reports) shall be promptly provided to both Parties and shall also be part of PTC's Confidential Information.

ARTICLE 7

CONFIDENTIALITY

7.1 Confidential Information. Except as expressly provided herein, the Parties agree that, from the Effective Date until the fifth anniversary of the expiration or termination of this Agreement, or for a period of [**] from the Effective Date, whichever is the longer, the receiving Party shall keep confidential and shall not publish or otherwise disclose to any Third Party and shall not use for any purpose except for the purposes contemplated by this Agreement any Confidential Information of the other Party which it receives or learns pursuant to this Agreement, except to the extent that it can be established by the receiving Party by competent proof that such Confidential Information:

(a) is or becomes public or available to the general public otherwise than through the act or default of the receiving Party or its Affiliates;

(b) is obtained by the receiving Party or its Affiliates from a Third Party who is lawfully in possession of such Confidential Information and is not subject to an obligation of confidentiality or non-use regarding the Confidential Information owed to the disclosing Party or its Affiliates;

(c) is previously known to the receiving Party or its Affiliates prior to disclosure under this Agreement, as shown by written evidence; or

(d) is independently developed by the receiving Party or its Affiliates without the use of or reliance on any Confidential Information provided by the disclosing Party hereunder, as shown by contemporaneous written evidence.

7.2 Public Domain. For the purposes of this Agreement, specific information disclosed as part of the Confidential Information shall not be deemed to be in the public domain or in the prior possession of the receiving Party merely because it is embraced by more general information in the public domain or by more general information in the prior possession of the receiving Party.

7.3 Legal Disclosure. If the receiving Party becomes legally required to disclose any Confidential Information of the disclosing Party (whether in response to a valid order of a court

or any governmental or regulatory body or otherwise required by Law), the receiving Party will give the disclosing Party prompt notice of such fact so that the disclosing Party may have an opportunity to obtain a protective order or other appropriate remedy concerning such disclosure. The receiving Party will reasonably cooperate with the disclosing Party in connection with the disclosing Party's efforts to obtain any such order or other remedy, at the expense of the disclosing Party. If any such order or other remedy does not fully preclude disclosure, the receiving Party will make such disclosure only to the extent that such disclosure is legally required and will use reasonable efforts to have confidential treatment accorded to the disclosed Confidential Information.

7.4 Permitted Use and Disclosures. Notwithstanding the provisions of Section 7.1, each Party may disclose Confidential Information of the other Party to its Affiliates, Sublicensees, consultants and outside contractors, on a need-to-know basis and on the condition that such entities or persons agree to confidentiality and non-use obligations with respect to the Confidential Information that are substantially the same as those undertaken by the receiving Party under this Article 7. In addition, either Party may disclose to Third Parties Confidential Information disclosed to it by the other Party to the extent such disclosure is (x) reasonably necessary in complying with applicable governmental regulations, including submitting information to tax or other governmental authorities, (y) reasonably necessary or useful in conducting Development or Commercialization of Collaboration Compounds or Licensed Products in accordance with the terms of this Agreement, or (z) reasonably necessary in otherwise exercising its rights hereunder.

7.5 Public Disclosure. In connection with the execution of this Agreement, the Parties shall jointly issue one or more press releases, the contents of which shall be substantially similar to Schedule 7.5, with such other contents and changes as may be mutually agreed. Except as otherwise required by Law, neither Party shall issue any additional press release or make any other public disclosure concerning this Agreement or the subject matter hereof without first providing the other Party with a copy of the proposed release or public disclosure for review and comment, provided that such right of review and comment shall only apply for the first time that specific information is to be disclosed, and shall not apply to the subsequent disclosure of substantially similar information that has previously been disclosed. The Party proposing to make the press release or other public disclosure shall give due consideration to any reasonable comments by the other Party relating to such proposed press release or other public disclosure. The principles to be observed by Schering and PTC in press releases or other public disclosures with respect to this Agreement shall be: accuracy, compliance with applicable legal requirements, the requirements of confidentiality under this Article 7 and normal business practice in the pharmaceutical industry for disclosures by companies comparable to Schering and PTC. For the avoidance of doubt, either Party may issue such press releases as it determines, based on advice of counsel, are reasonably necessary to comply with Law or for appropriate market disclosure. It is understood, however, that unless required by Law, the Parties shall not disclose the specific financial terms and conditions of this Agreement in any press release or other public disclosure. In addition, if a public disclosure is required by Law, including without limitation in a filing with the United States Securities and Exchange Commission, the disclosing Party shall provide copies of the proposed disclosure reasonably in advance of such filing or other disclosure for the non-disclosing Party's prior review and comment and shall give due

consideration to any reasonable comments by the non-filing Party relating to such filing, including without limitation the provisions of this Agreement for which confidential treatment should be sought.

7.6 Termination of Prior Agreement. The Parties agree that as of the Effective Date, all previously executed confidentiality agreements between the Parties or any of their respective Affiliates, including without limitation the Secrecy Agreement, dated July 18, 2003, as amended prior to the Effective Date, and the Confidentiality Agreement, dated May 27, 2005, as amended prior to the Effective Date, are hereby terminated and superseded by the provisions of this Agreement, and any disclosures made by PTC under the terms of such prior confidentiality agreements shall be deemed to have been made under, and governed solely by, the confidentiality terms of this Agreement.

7.7 Publications. Each Party recognizes the mutual interest of the Parties in obtaining valid patent protection and, to the extent practicable, providing the other Party with advance notice of any publications relating to Collaboration Compounds and Licensed Products. Consequently, if a Party or its Affiliates wishes to publish (including any oral disclosure made in a public forum without obligation of confidentiality) any data or other information related to Collaboration Compounds or Licensed Products developed by or on behalf of such Party or its Affiliates (the "Publishing Party"), it shall transmit to the other Party (the "Reviewing Party") a copy of the proposed written publication and/or a written summary of the proposed oral disclosure at least thirty (30) days prior to submission of the publication or abstract or oral disclosure. The Reviewing Party shall have the right to (a) request a delay in submission of the publication or presentation in order to protect patentable information, and (b) propose modifications to the publication for patent reasons. With respect to publications or disclosures by investigators or other Third Parties, such publications and disclosures shall be subject to review by the Reviewing Party under this Section 7.7 only to the extent that the Publishing Party has the right to do so. The provisions of this Section 7.7 shall not be applicable to any publications by a Party regarding a particular Licensed Product being Developed by it following such Party's election to initiate clinical Development for such Licensed Product under this Agreement. It is understood that in no event shall a Party disclose the structures of any Collaboration Compound being Developed by the other Party in any publication or other public forum without the prior written consent of the Developing Party; provided, however, the foregoing shall not preclude a Party from including such structures in any patent applications that are filed and prosecuted in accordance with the provisions of Article 9. In addition, each Party shall acknowledge the scientific contributions of the other Party in any written publication with respect to a Collaboration Compound or a Licensed Product.

7.8 Delay. If the Reviewing Party requests a delay as described in Section 7.7 above, the Publishing Party shall delay submission or presentation of the publication for a period of forty-five (45) days from the date of such request to enable patent applications protecting each Party's rights in such information to be filed. Upon the expiration of forty-five (45) days from transmission of such proposed disclosures to the Reviewing Party, the Publishing Party shall be free to proceed with the written publication or the oral presentation unless the Reviewing Party has requested the delay described above. If a trade secret that is the subject of a request made

under Section 7.7 cannot be otherwise protected without unreasonable expense to the Reviewing Party, such information shall be omitted from the publication.

7.9 Confidential Terms. Except as otherwise required by Law, the terms of this Agreement shall be considered Confidential Information of each Party. Notwithstanding the provisions of Section 7.1, each Party shall be entitled to disclose the terms of this Agreement to a Party's or its Affiliates' accountants, attorneys and other professional advisors, and any existing or potential bona fide investors, lenders, or acquirors, on the condition that such entities or persons agree to keep such terms confidential for the same time periods and to the same extent as such Party is required to keep such terms confidential.

ARTICLE 8

REPRESENTATIONS AND WARRANTIES

8.1 PTC. PTC represents and warrants that: (i) it is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware; (ii) the execution, delivery and performance of this Agreement have been duly authorized by all necessary corporate action on the part of PTC; (iii) it has the right to grant the rights and licenses granted to Schering herein (including without limitation the Schering Licenses); (iv) none of the execution, delivery or performance of this Agreement will conflict with, or result in a breach under any agreement, instrument or understanding, oral or written, to which it or its Affiliates is a party or by which it or its Affiliates may be bound; (v) this Agreement constitutes a legal, valid and binding obligation of PTC, enforceable in accordance with its terms; and (vi) PTC has obtained all necessary consents, approvals and authorizations of all government authorities and other Third Parties required to be obtained by PTC or its Affiliates in connection with the execution, delivery and performance of this Agreement.

8.2 Schering. Schering represents and warrants that: (i) it is a corporation duly organized, validly existing and in good standing under the laws of Switzerland; (ii) the execution, delivery and performance of this Agreement have been duly authorized by all necessary corporate action on the part of Schering; (iii) it has the right to grant the rights and licenses granted to PTC herein; (iv) none of the execution, delivery or performance of this Agreement will conflict with, or result in a breach under any agreement, instrument or understanding, oral or written, to which it or its Affiliates is a party or by which it or its Affiliates may be bound; (v) this Agreement constitutes a legal, valid and binding obligation of Schering, enforceable in accordance with its terms; and (vi) Schering has obtained all necessary consents, approvals and authorizations of all government authorities and other Third Parties required to be obtained by Schering or its Affiliates in connection with the execution, delivery and performance of this Agreement.

8.3 Knowledge of Pending Litigation. Each Party represents and warrants to the other Party as of the Effective Date that, to its knowledge, there is no claim, investigation, suit, action or proceeding pending or threatened against it before or by any court, governmental entity or arbitrator that, individually or in the aggregate, could reasonably be expected to materially impair the ability of such Party to perform any obligation under this Agreement.

8.4 Additional Representations and Warranties of PTC. PTC further represents and warrants to Schering, as of the Effective Date, as follows:

(a) To the best of its knowledge, Schedule 1.48 contains a complete and accurate list of all PTC Compounds.

(b) Taken together, Schedule 1.47A and Schedule 1.53 contain a complete and accurate list of all Patents that are Controlled by PTC or any of its Affiliates that are relevant to the Research of a Viral IRES Inhibitor. Except as disclosed on Schedule 1.47A the Patents listed on Schedule 1.47A are owned by PTC free and clear of any liens, charges, claims and encumbrances, and no other person, corporate or other private entity, or governmental or university entity or subdivision thereof has any claim of ownership or right to obtain compensation with respect to such Patents.

(c) Schedule 1.53 contains a complete and accurate list of all Patents that are Controlled by PTC or any of its Affiliates that are relevant to the Development, Manufacture, use or Commercialization of Collaboration Compounds in the Field. Schedule 8.4(c) is a list of all agreements between PTC or its Affiliates and any Third Party relating to any of the PTC Compounds listed on Schedule 1.48. The Patents listed on Schedule 1.53 are owned by PTC free and clear of any liens, charges, claims and encumbrances, and no other person, corporate or other private entity, or governmental or university entity or subdivision thereof has any claim of ownership or right to obtain compensation with respect to such Patents.

(d) Except as disclosed on Schedule 1.47A, there are no Patents or Know-How owned or licensed by PTC or its Affiliates as of the Effective Date that may be relevant to the Research of a Viral IRES Inhibitor that are not Controlled by PTC.

(e) There are no Patents or Know-How owned or licensed by PTC or its Affiliates as of the Effective Date that may be relevant to the Development, Manufacture, use or Commercialization of Collaboration Compounds in the Field that are not Controlled by PTC.

(f) To the best of PTC's knowledge, the conception, development and reduction to practice of the PTC Intellectual Property, and the identification and synthesis of the PTC Compounds, has not constituted or involved the misappropriation of trade secrets of any Third Party.

(g) To the best of PTC's knowledge, the importation, manufacture, use and sale of PTC Compounds in the Field does not and will not infringe the Patent rights or other intellectual property rights of any Third Party.

(h) To the best of PTC's knowledge, none of the PTC Patents is invalid or

unenforceable. No claim has been made against PTC or its Affiliates asserting the invalidity, misuse, unregisterability, unenforceability or non-infringement of any of the PTC Patents or challenging its or its Affiliates' rights to use or ownership of any of the PTC Patents or making any adverse claim of ownership thereof. It is understood, however, that PTC does not warrant that any PTC Patent will be granted or upheld if its validity or enforceability is contested.

(i) PTC has maintained the PTC Patents in full force and effect, including without limitation by paying all maintenance fees associated with such patents. PTC has complied in all material respects with all applicable laws, rules and regulations during the course of its filing and prosecution of the PTC Patents in the Territory, including without limitation all rules of the United States Patent and Trademark Office ("USPTO") and any regulations applicable to the filing and prosecution of Patent rights before the USPTO.

(j) Prior to the date hereof, PTC has not conducted any Research with the intent of synthesizing or identifying Active Compounds except as part of its medicinal chemistry program directed at viral IRES inhibitors.

8.5 Additional Representations and Warranties of Schering. To the best of its knowledge, Schedule 1.67 contains a complete and accurate list of all Schering Compounds existing as of the Effective Date.

8.6 Disclaimer. EXCEPT AS EXPRESSLY STATED IN THIS AGREEMENT NOTHING IN THIS AGREEMENT IS OR SHALL BE CONSTRUED AS A WARRANTY OR REPRESENTATION BY EITHER PARTY AS TO THE VALIDITY OR SCOPE OF ANY PTC PATENT OR SCHERING PATENT OR A REPRESENTATION OR WARRANTY BY EITHER PARTY OF THE ACCURACY, SAFETY, OR USEFULNESS FOR ANY PURPOSE OF ANY INTELLECTUAL PROPERTY AT ANY TIME MADE AVAILABLE TO THE OTHER PARTY.

ARTICLE 9

INTELLECTUAL PROPERTY

9.1 Ownership and Disclosure of Program Inventions. All right, title and interest in all Program Inventions shall be owned as follows:

(a) PTC shall own all Program Inventions that are Invented solely by one or more employees, agents or consultants of PTC or its Affiliates;

(b) Schering shall own all Program Inventions that are Invented solely by one or more employees, agents or consultants of Schering or its Affiliates; and

(c) PTC and Schering shall jointly own all Program Inventions that are Invented by one or more employees, agents or consultants of PTC or its Affiliates, together with one or more employees, agents or consultants of Schering or its Affiliates (together, the "Joint Inventions").

In the event of a dispute regarding inventorship, the Parties shall resolve such dispute through referral to binding arbitration by a single arbitrator mutually agreed by the Parties under the Commercial Arbitration Rules of the American Arbitration Association (or such other arbitral body and rules as the Parties may mutually agree), and the arbitrator's judgment on inventorship shall be binding on the Parties and may be enforced by application to any governmental entity or court having jurisdiction thereof. The Parties acknowledge that the ownership rights set out in this Section 9.1 are subject to the licenses and other rights granted to and obligations of each Party pursuant to Article 4A, Article 5, Article 6 and Section 11.7 of this Agreement. Subject to the licenses and other rights granted to and obligations of each Party pursuant to Article 4A, Article 5, Article 6 and Section 11.7 and the provisions of Section 2.10, each Party shall be free to use and exploit (which shall include the right to grant licenses under such Parties' interest therein) the Joint Patents, without any duty of accounting to the other Party except with respect to the payment obligations under Article 6 and Section 11.7.

In order to protect the Parties' patent rights under U.S. law in any inventions Invented in the performance of the Research Program, each Party agrees to maintain a policy which requires its employees or others acting on behalf of such Party or its Affiliates or licensees to record and maintain all data and information developed during the Research Program in such a manner as to enable the Parties to use such records to establish the earliest date of invention and/or diligence to reduction to practice (an "Invention Policy"). Such Invention Policy shall, among other things, provide that such individuals are (i) to record all inventions generated by them in standard laboratory notebooks (or electronic equivalents that meet the requirements of applicable Law) that are dated and corroborated by non-inventors on a regular, contemporaneous basis, and (ii) to complete invention disclosure memorandums or similar documents with respect to any invention first identified, discovered, conceived, developed, or reduced to practice by them. At regularly scheduled meetings of the Joint Patent Team and promptly in response to a written request from the other Party, each Party shall disclose to the other Party all Program Inventions disclosed to it and its Affiliates pursuant to such Invention Policy, as well as any other Program Inventions that come to its attention and that are Invented by employees or others acting on its behalf or its Affiliates.

9.2 Assignment of Program Inventions by Employees, Agents or Independent Contractors. Each Party agrees that all of its employees or its Affiliates employees acting on its or its Affiliates' behalf in conducting Research under the Research Plan, or Development, Manufacturing, or Commercialization activities with respect to Licensed Products, shall be obligated to assign to such Party, or as such Party shall direct, all Program Inventions Invented by such employees. In the case of non-employees working on behalf of a Party or its Affiliates in connection with the Research Plan, that Party shall endeavor to obtain either an assignment or license establishing its Control of all Program Inventions Invented by such non-employees. Each Party agrees that it will use reasonable efforts to ensure that any employees, agents, or independent contractors in their employ or who are hired or retained by it to perform or manage performance of any activities required pursuant to this Agreement will comply with the applicable Invention Policy and promptly disclose to it any Program Inventions.

9.3 Patent Prosecution and Related Activities.

(a) Schering Patents. Schering shall be responsible, at its sole expense, for preparing, filing, prosecuting, handling any interferences, and maintaining Schering Patents (excluding Joint Patents). PTC shall have full rights of consultation with Schering and the patent counsel selected by Schering in all matters related to the Schering NV Patents. Schering shall use reasonably diligent efforts to implement all reasonable requests made by PTC with regard to the preparation, filing, prosecution and/or maintenance of such Schering NV Patents.

(b) PTC Patents. PTC shall be primarily responsible for preparing, filing, prosecuting, handling any interferences, and maintaining those PTC Patents (excluding Joint Patents) that are relevant to the Development, Manufacturing or Commercialization of Highly Active Collaboration Compounds, Schering Field NV Compounds or Schering Viral Products in the Field (the "PTC Licensed Compound Patents"). Schering shall have full rights of consultation with PTC and the patent counsel selected by PTC in all matters related to the PTC Licensed Compound Patents. All strategic decisions related to the preparation, filing, prosecuting, handling of any interferences and maintaining such PTC Licensed Compound Patents shall be subject to the mutual agreement of the Parties. The reasonable out-of-pocket costs and expenses incurred following the Effective Date in connection with the preparation, filing, prosecuting, handling any interferences and maintaining such PTC Licensed Compound Patents [**]. PTC shall be responsible, at its sole expense, for preparing, filing, prosecuting, handling any interferences, and maintaining any PTC Patents (excluding Joint Patents) that are not PTC Licensed Compound Patents. Schering shall have full rights of consultation with PTC and the patent counsel selected by PTC in all matters related to the PTC NV Patents. PTC shall use reasonable diligent efforts to implement all reasonable requests made by Schering with regard to the preparation, filing, prosecution and/or maintenance of such PTC NV Patents.

(c) Joint Patents. Schering shall be primarily responsible for preparing, filing, prosecuting, handling any interferences, and maintaining Joint Patents. PTC shall have full rights of consultation with Schering and the patent counsel selected by Schering in all matters that are related to the prosecution of the Joint Patents. All strategic decisions related to the preparation, filing, prosecuting, handling of any interferences and maintaining such Joint Patents shall be subject to the mutual agreement of the Parties. The reasonable out-of-pocket costs and expenses incurred in filing, prosecuting, handling any interferences with respect to, and maintaining any Joint Patents shall be shared equally by the Parties on an ongoing basis.

(d) Permitted Disclosures. Subject to the prior consent of the other Party, not to be unreasonably withheld, a Party shall be entitled to disclose in the specification of a patent application filed by it pursuant to this Agreement any Know-How owned by the other Party to the extent reasonably necessary to support and enable claims in such Patent applications.

(e) Joint Patent Team; Related Matters. Following the Effective Date, the Parties shall form a joint team consisting of at least one representative from each Party's patent or legal department in order to oversee the filing, prosecution, any interferences, and maintenance of the PTC Licensed Compound Patents, PTC NV Patents, Joint Patents, and Schering NV Patents (collectively, "Collaboration Patents") as contemplated by this Article 9 (the "JPT"). The JPT shall meet as needed during the Term, but no less than semi-annually

(unless otherwise agreed by the Parties), and shall participate in and report to regular meetings of the JSC as requested by the JSC. Following a termination of this Agreement under Article 11, the JPT shall survive until there are no further actual prosecutions or potential prosecutions of any Collaboration Patents, at which time the JPT shall automatically terminate.

9.4 Cooperation; Request to Responsible Party. Each of PTC and Schering shall keep the other Party fully informed as to the filing and prosecution of the Collaboration Patents for which it is the responsible prosecuting Party, including, without limitation, by providing the other Party with the opportunity to fully review and comment on any documents which will be filed in any patent office as far in advance of the applicable filing date as feasible, and providing the other Party with copies of any documents that such Party receives from such patent offices promptly after receipt, including notice of all interferences, reissues, re-examinations, oppositions or requests for patent term extensions. PTC and Schering shall each reasonably cooperate with and assist the other at its own expense in connection with such activities, at the other Party's request. Notwithstanding anything in this Section 9.4 to the contrary, but subject to the provisions of Section 9.3, each Party shall always be entitled to proceed with any submission or other contemplated action if it determines time is of the essence, provided that it makes reasonable efforts to inform the other Party as early as practicable and to consider in good faith its comments where applicable.

9.5 Election Not to Prosecute. Upon sixty (60) days prior written notice to the other Party, the Party that is responsible for prosecuting a particular Collaboration Patent pursuant to the provisions of Section 9.3 may elect to discontinue the prosecution of any Patent applications relating to such Collaboration Patent and/or not to file or conduct any further activities with respect to such Collaboration Patent. In the event the responsible Party declines to file or, having filed, fails to further prosecute or maintain any Collaboration Patent filed pursuant to Section 9.3(a), 9.3(b) or 9.3(c) or to conduct any interferences, re-examinations, reissues, or oppositions with respect thereto, the other Party shall have the right to prepare, file, prosecute and maintain such Collaboration Patent in such countries as it deems appropriate, and conduct any interferences, re-examinations, reissues or oppositions related thereto at its sole expense. The Party that elected to discontinue patent prosecution activities pursuant to this Section 9.5 agrees to cooperate in any manner reasonably requested in connection with any such actions by such Party, at the expense of the requesting Party, and shall assign all right, title and interest in and to such Patent to the Party continuing such activities.

9.6 Third Party Infringement.

(a) Notification of Infringement. Should any Third Party infringe, or reasonably appear to be infringing, any Collaboration Patent, the Party learning of such infringement or potential infringement shall promptly notify the other Party upon learning of the same.

(b) Right to Enforce Collaboration Patents. Schering shall have the primary right, at its expense, to initiate and direct legal action to enforce the Collaboration Patents (excluding Schering NV Patents) against infringement or misappropriation by Third Parties, as well as to defend any action or proceeding relating to the invalidity or unenforceability of such

Patents. PTC shall have the primary right, at its expense, to initiate and direct legal action to enforce the Schering NV Patents against infringement or misappropriation by Third Parties, as well as to defend any action or proceeding relating to the invalidity or unenforceability of such Patents.

(c) Right to Enforce Other Patents. Except as provided in Section 11.7(c)(iv), Schering shall have the sole right to initiate and direct legal action to enforce the Schering Patents (to the extent they are not Collaboration Patents) and the Schering Background Patents against infringement or misappropriation by Third Parties, as well as to defend any action or proceeding relating to the invalidity or unenforceability of such Patents. PTC shall have the sole right to initiate and direct legal action to enforce the PTC Patents (to the extent they are not Collaboration Patents) and the PTC Background Patents against infringement or misappropriation by Third Parties, as well as to defend any action or proceeding relating to the invalidity or unenforceability of such Patents.

(d) Failure to Enforce Collaboration Patents. If within forty-five (45) days (or such shorter period as is required to enable a Party to comply with deadlines provided by applicable Law) following receipt of written notice of an infringement of a Collaboration Patent (or written notice of an action or proceeding alleging invalidity or unenforceability of such Collaboration Patent), the Party that has the primary right to prosecute infringers of such Patent pursuant to Section 9.6(b) fails to take action to halt such alleged infringement by filing suit against the alleged infringer or taking other appropriate action (e.g., initiating discussions with the infringing Third Party) or to defend such an action or proceeding, the other Party may, at its expense, take such legal action as it deems appropriate, in its own name, to halt such an alleged infringement or defend such an action or proceeding. Each Party agrees to render such reasonable assistance as the prosecuting Party may request, including without limitation joining as a party if necessary for the maintenance of the legal action. The prosecuting Party shall retain its rights under Section 9.6(b) to initiate patent infringement litigation with respect to an infringer of a Collaboration Patent if it places such infringer on proper legal notice that such infringer's infringing activities will be addressed in a legal action initiated subsequent to the resolution of another infringement action involving a Collaboration Patent.

(e) No Settlement Without Consent. Neither Party shall enter into any settlement of any claim, suit or proceeding under Sections 9.6(b) or 9.6(d) which admits or concedes that any aspect of the Collaboration Patents are invalid or unenforceable without the prior written consent of the other Party.

(f) Cooperation. Each Party shall keep the other reasonably informed of the progress of any claim, suit or proceeding subject to Sections 9.6(b) or 9.6(d) and cooperate reasonably in connection with such activities at the request and expense of the Party involved in such claim, suit or proceeding. Each Party may be represented by counsel of its own selection at its own expense in any suit or proceeding brought by the other Party to restrain or obtain monetary damages for infringement by any Third Party of any Patents owned (solely or jointly) by it; provided, however, the foregoing shall not affect the right to control such litigation by the Party which has instituted it.

(g) Retention of Recoveries. All amounts recovered from a Third Party pursuant to this Section 9.6 shall be used first to reimburse the reasonable costs and expenses (including reasonable attorney's fees and costs) of the Party prosecuting or defending such action (including any settlement negotiation or proceeding). With respect to any recovery for infringement of a Collaboration Patent (i) if Schering initiated and prosecuted the action pursuant to Section 9.6(b) or (d), Schering shall receive [**] percent ([**]%) of the remaining amount and PTC shall receive the balance of such remaining amount, and (ii) if PTC initiated and prosecuted the action pursuant to Section 9.6(b) or (d), PTC shall receive [**] percent ([**]%) of the remaining amount and Schering shall receive the balance of such remaining amount. With respect to any recovery for infringement of a Patent that is not a Collaboration Patent, except as provided in Section 11.7(c)(iv), the Party which owns such Patent shall receive [**] percent ([**]%) of such remaining amount.

9.7 Infringement Claims by Third Parties.

(a) Infringement Claims Related to Schering Viral Products. In the event that a Third Party sues PTC, Schering, or any of their Affiliates or any Sublicensee alleging that Schering's or its Affiliates' or Sublicensees' making, using, importing, selling or offering to sell a Highly Active Collaboration Compound, Schering Field NV Compound, or Schering Viral Product during the Term infringes or will infringe claims in said Third Party's Patents, Schering shall be responsible for defending such claim, suit or proceeding in accordance with the provisions of Section 10.2(ii) and 10.3. If, as a result of a judgment in the litigation or settlement with the Third Party, Schering or its Affiliates or Sublicensees is required to pay to such Third Party royalties or other consideration related to such Third Party's Patents which claim the composition of matter of a Highly Active Collaboration Compound or Schering Field NV Compound, the use of a Highly Active Collaboration Compound or Schering Field NV Compound in the Field, or a method of treating, diagnosing or preventing any disease or condition through the use of a Highly Active Collaboration Compound or Schering Field NV Compound, or a method of manufacturing a Highly Active Collaboration Compound or Schering Field NV Compound, Schering may treat such payments as royalties payable under Third Party License Agreements for purposes of Section 6.7(b), subject to the limits set forth in Section 6.8.

(b) Infringement Claims Related to Schering Non-Viral Products. In the event that a Third Party sues PTC, Schering, or any of their Affiliates or any Sublicensee of Schering alleging that Schering's or its Affiliates' or Sublicensees' making, using, importing, selling or offering to sell a Schering Non-Viral Product, or a NV Compound contained therein, infringes or will infringe claims in said Third Party's Patents, Schering shall be responsible for defending any such claim, suit or proceeding in accordance with the provisions of Section 10.2(ii) and Section 10.3.

(c) Infringement Claims Related to PTC Products. In the event that a Third Party sues Schering, PTC, or any of their Affiliates or any Sublicensee of PTC alleging that PTC's or its Affiliates' or Sublicensees' making, using, importing, selling or offering to sell a PTC Product, or a NV Compound contained therein, infringes or will infringe claims in said Third Party's Patents, PTC shall be responsible for defending any such claim, suit or proceeding in accordance with the provisions of Section 10.1(ii) and Section 10.3.

9.8 Certification Under Drug Price Competition and Patent Restoration Act. Each Party shall immediately give written notice to the other Party of any certification of which they become aware filed pursuant to 21 U.S.C. Section 355(b)(2)(A) (or any amendment or successor statute thereto) claiming that any Collaboration Patent is invalid or unenforceable, or that infringement will not arise from the manufacture, use, importation or sale of a product containing a Collaboration Compound by a Third Party.

9.9 Listing of Patents. With respect to any Schering Viral Products or Schering Non-Viral Products, Schering shall have the sole right to determine which of the PTC Patents, PTC NV Patents, Joint Patents, and Schering Patents, if any, shall be listed for inclusion in the Approved Drug Products with Therapeutic Equivalence Evaluations pursuant to 21 U.S.C. Section 355, or any successor law in the United States, together with any comparable laws or regulations in any other country in the Territory. With respect to any PTC Products, PTC shall have the sole right to determine which of the PTC Patents, Joint Patents, Schering NV Patents, and Schering Patents, if any, shall be listed pursuant to such Laws.

9.10 Diligence With Respect to Marketing Exclusivity and Patent Term Extensions. Each Party shall use Commercially Reasonable Efforts to secure any available forms of Marketing Exclusivity and extensions of patent term as may be available in a particular country or region for any Licensed Product that is being Commercialized by it or its Affiliates or Sublicensees.

ARTICLE 10

INDEMNIFICATION

10.1 PTC. PTC shall indemnify, defend and hold harmless Schering, its Affiliates, and each of their respective directors, officers, employees and agents (each a "Schering Indemnitee") from and against any and all liabilities, damages, losses, costs and expenses (including reasonable attorneys' and professional fees and other expenses of litigation and/or arbitration) (a "Liability") resulting from a claim, suit or proceeding made or brought by a Third Party against a Schering Indemnitee arising from or occurring as a result of (i) any breach of the representations and warranties of PTC set forth in Article 8, (ii) the practice by PTC of any rights granted pursuant to Section 5.4(b) or 11.7(b) (including, without limitation, claims arising from or occurring as a result of PTC's or any Third Party's Development, testing, Manufacture, importation, use, offer for sale, sale or other distribution of a PTC Product or a Schering Viral Product pursuant to the exercise of such licenses), (iii) the use by PTC or any of its Affiliates of any Materials provided by Schering, or (iv) the negligence or willful misconduct of PTC, except, (A) in the case of Subsections 10.1(i) and 10.1(iv), to the extent such Liability results from the negligence or willful misconduct of Schering, and (B) in the case of Subsection 10.1(iii), to the extent such Liability results from the breach of any warranty provided by Schering pursuant to Section 2.9.

10.2 Schering. Schering shall indemnify, defend and hold harmless PTC, its Affiliates

and each of their respective directors, officers, employees and agents (each a "PTC Indemnitee") from and against any and all Liability resulting from a claim, suit or proceeding made or brought by a Third Party against a PTC Indemnitee arising from or occurring as a result of (i) any breach of the representations and warranties of Schering set forth in Article 8, (ii) any Development, testing, Manufacture, importation, use, offer for sale, sale or other distribution of any Licensed Product by Schering or its Affiliates and Sublicensees (including, without limitation, product liability claims), (iii) the use by Schering, its Affiliates or Sublicensees of any Materials provided by PTC, or (iv) the negligence or willful misconduct of Schering, except, (A) in the case of Subsections 10.2(i) or 10.2(iv), to the extent such Liability results from the negligence or willful misconduct of PTC, and (B) in the case of Subsection 10.2(iii), to the extent such Liability results from the breach of any warranty provided by PTC pursuant to Section 2.9.

10.3 Procedure. In the event that any Indemnitee intends to claim indemnification under this Article 10 it shall promptly notify the other Party (the "Indemnitor") in writing of the claim, suit or proceeding. The Indemnitor shall have the sole right to control the defense and settlement thereof; provided, however, the indemnifying Party will not, absent the consent of the indemnified Party (which consent will not be unreasonably withheld or delayed), consent to the entry of any judgment or enter into any settlement (x) that provides for any relief other than the payment of monetary damages for which the indemnifying Party shall be solely liable, or (y) where the claimant or plaintiff does not release the indemnified Party from all liability in respect thereof. The Indemnitee shall cooperate with the Indemnitor and its legal representatives in the investigation and defense of any action, claim or liability covered by this Article 10. The Indemnitee shall not, except at its own cost, voluntarily make any payment or incur any expense with respect to any claim or suit without the prior written consent of the Indemnitor, which the Indemnitor shall not be required to give. In no event shall a Party be liable pursuant to this Article 10 for any claims that are compromised or settled without its prior written consent.

ARTICLE 11

TERM AND TERMINATION

11.1 Term. The term of this Agreement (the "Term") shall commence on the Effective Date and, unless earlier terminated as provided in this Article 11, shall continue in full force and effect on a country-by-country and Licensed Product-by-Licensed Product basis until there are no remaining royalty payment obligations in such country with respect to such Licensed Product, at which time the Agreement shall expire in its entirety with respect to such Licensed Product in such country. The Term shall expire on the date the Agreement has expired with respect to all Licensed Products in all countries in the Territory.

11.2 Schering's Unilateral Termination Right. At any time following the date that is three (3) years after the Effective Date, Schering shall have the right to terminate this Agreement, at any time and for any reason, upon [**] prior written notice to PTC; provided, however, in the event that Schering has not designated a Development Candidate within two (2) years following the Effective Date, then Schering shall have the right to terminate this

Agreement pursuant to this Section 11.2 at any time after the date that is two (2) years after the Effective Date. In the event that Schering terminates this Agreement pursuant to the provisions of this Section 11.2, the provisions of Section 11.7 shall be applicable.

11.3 Termination for Cause. In the event of a material breach of this Agreement by a Party, the other Party shall be entitled to give the Party in default notice requiring it to cure such default. If such material breach is not cured within sixty (60) days after receipt of such notice, the notifying Party shall be entitled (without prejudice to any of its other rights conferred on it by this Agreement) to terminate this Agreement by giving written notice to the defaulting Party, with such termination to take effect immediately. Notwithstanding the foregoing, in the event of a default which is curable, if the material breach is not reasonably capable of being cured within the sixty (60) day cure period and the defaulting Party is making a good faith effort to cure such default, the notifying Party may not terminate this Agreement for so long as the defaulting Party is diligently pursuing a cure; provided, however, that the breaching Party shall lose its right to continue to cure pursuant to this sentence if at any time such Party ceases to make a good faith effort to cure such default. The right of either Party to terminate this Agreement as herein above provided shall not be affected in any way by its waiver of, or failure to take action with respect to, any previous default. Notwithstanding the foregoing, if the material breach relates only to a specific Licensed Product in a specific country or group of countries, then any termination pursuant to this Section 11.3 shall apply only to the affected Licensed Products or countries. Termination of this Agreement pursuant to this Section 11.3 shall automatically be stayed pending the outcome of any dispute resolution proceedings initiated pursuant to Article 12 that relate to the subject matter of such termination. In the event of a termination under this Section 11.3 by PTC, the provisions of Section 11.7 shall be applicable, and in the event of a termination under this Section 11.3 by Schering, the provisions of Section 11.8 shall be applicable.

11.4 Termination for Insolvency. This Agreement may be terminated by a Party upon written notice to the other Party in the event that (i) the other Party shall make an assignment for the benefit of its creditors, file a petition in bankruptcy, petition or apply to any tribunal for the appointment of custodian, receiver, or any trustee for it or a substantial part of its assets, or shall commence any proceeding under any bankruptcy, reorganization, arrangement, readjustment of debt, dissolution or liquidation law or statute of any jurisdiction, whether now or hereafter in effect; or (ii) if there shall have been filed against the other Party any such bona fide petition or application, or any such proceeding shall have been commenced against it, in which an order for relief is entered or which remains undismissed or unstayed for a period of ninety (90) days or more; or (iii) if the other Party by any act or omission shall indicate its consent to, approval of or acquiescence in any such petition, application or proceeding or order for relief or the appointment of a custodian, receiver or trustee for it or any substantial part of its assets, or shall suffer any such custodianship, receivership or trusteeship to continue undischarged or unstayed for a period of ninety (90) days or more; or (iv) anything analogous to any of the foregoing occurs in any applicable jurisdiction. Termination shall be effective upon the date specified in such notice. In the event of a termination under this Section 11.4 by PTC, the provisions of Sections 5.7 and 11.7 shall be applicable, and in the event of a termination under this Section 11.4 by Schering, the provisions of Section 5.7 and 11.8 shall be applicable.

11.5 Additional Terminations.

(a) Termination for Futility. If during the Research Term, the Parties mutually determine, in good faith, that the pursuit of Viral IRES Inhibitors for use in the Viral Field is impracticable for scientific or commercial reasons, or that the Research Program is not likely to lead to a Development Candidate, then upon such determination the Parties shall terminate this Agreement. Upon termination of this Agreement pursuant to this Section 11.5(a), each Party shall as promptly as practicable provide to the other Party all copies of all data, reports, records and materials in its possession or control which relate to Collaboration Compounds or the Research Program and which have not previously been disclosed to the other Party (provided that the provision to a Party of the foregoing copies shall not be deemed to create any additional rights or licenses in any such copies or the intellectual property embodied therein, and such Party's rights to use or exploit such information and rights shall be solely as expressly granted by the disclosing Party to the other Party elsewhere in the Agreement and, with respect to Joint Know-How or Joint Patents, those rights of the receiving Party as a joint owner). In the event of a termination pursuant to this Section 11.5(a), (i) Schering's rights under the licenses granted to it pursuant to Sections 5.1(a), 5.1(b) and 5.2 shall terminate, (ii) all Highly Active Collaboration Compounds shall thereafter be deemed to be NV Compounds, (iii) the Parties' licenses under the rights granted to each of them pursuant to Article 4A and Sections 5.3, 5.4 and 5.5(c) and 5.5(d) shall survive termination, and (iv) in addition to the provisions set forth in Section 11.10, the provisions of Sections 6.7(d), 6.7(e), 6.7(f), and 6.9 through and including 6.17 shall continue to apply with respect to Schering's Development and Commercialization of Schering NV Products and PTC's Development and Commercialization of PTC Products.

(b) Termination due to Publication of Third Party Patent Rights. In the event that, during the Research Term, a Patent (including without limitation a patent application) owned by a Third Party is either granted or published in a Major Market and such Patent claims (A) the composition of matter of, or pharmaceutical preparations containing, a substantial portion of the Highly Active Collaboration Compounds, or (B) the use of Highly Active Collaboration Compounds or pharmaceutical preparations containing Highly Active Collaboration Compounds in the Viral Field (a "Blocking Patent"), then the Parties shall confer in good faith and endeavor to agree upon an appropriate course of action. As part of such activities, the Parties shall, upon the request of either Party, seek the advice of an independent Third Party patent counsel mutually acceptable to the Parties. If the Parties are unable to agree upon an appropriate course of action within ninety (90) days of conferring regarding the same, then Schering shall have the right to terminate this Agreement upon written notice to PTC; provided, that, if, within ten (10) days of receiving such written notice PTC notifies Schering in writing that it intends to obtain an Unqualified Blocking Opinion with respect to such Blocking Patent, then such written notice of termination by Schering shall not be effective until the earlier of (i) ninety (90) days from the date of PTC's notice, or (ii) the date PTC informs Schering it is unable to obtain such Unqualified Blocking Opinion; and provided, further, if PTC obtains an Unqualified Blocking Opinion within such ninety (90) day period, then Schering shall have no right to terminate this Agreement pursuant to this Section 11.5(b). In the event of a termination under this Section 11.5(b), the provisions of Section 11.7 shall be applicable. For the purposes of this Agreement, "Unqualified Blocking Opinion" means an opinion concluding that there is not [**] would find that the activities of the Parties pursuant to this Agreement with respect to a Highly Active Collaboration Compound would infringe [**], and such opinion [**].

11.6 Early Termination of Research Program.

(a) Termination of Certain Provisions for Triggering Event. In the event that a Competitor, either alone or together with its Affiliates, acquires, directly or indirectly, fifty percent (50%) or more of the voting stock of PTC or any of its Affiliates, or all or substantially all of the assets of PTC or its Affiliates related to the PTC Patents and PTC Know-How, whether through merger, consolidation, acquisition or otherwise, or in the event that PTC or any of its Affiliates engages in the Research, Development or Commercialization of a product for the treatment of HCV (either alone or in collaboration with a Third Party) other than pursuant to this Agreement (a "PTC Triggering Event"), Schering shall have the right to terminate the provisions of Article 3 upon written notice to PTC; provided, however, in the event that such PTC Triggering Event occurs prior to the end of the Research Term, then the termination of Article 3 pursuant to this Section 11.6(a) shall not apply to the JSC's oversight and direction of the Research Program unless, following such Triggering Event, PTC or its Affiliates continues to engage in the Research, Development or Commercialization of a product for the treatment of HCV (either alone or in collaboration with a Third Party). In the event that Schering exercises its right to terminate the provisions of Article 3, then the following additional provisions shall also terminate: Sections 4.3, 4.5, 4.6, 4.8, 4.10(c), PTC's participation rights under Sections 4.10(b) and Section 4.13. In addition, should the PTC Triggering Event occur at any time prior to the expiration of the Research Term, Schering shall also have the right to terminate the Research Program upon sixty (60) days prior written notice to PTC. Notwithstanding anything in this Section 11.6(a) to the contrary, a PTC Triggering Event shall not include any internal PTC Research efforts not undertaken through, or as part of, a collaboration or licensing arrangement with a Third Party. For the avoidance of doubt, subcontracting to perform aspects of PTC's internal Research efforts on behalf of PTC shall not be deemed to be a collaboration or licensing arrangement with a Third Party.

(b) Effect of Terminating the Research Program. Upon termination of the Research Program by Schering pursuant to Section 11.6(a), PTC shall promptly provide to Schering copies of all data, reports, records and materials in PTC's or its Affiliates possession or Control that relate to Collaboration Compounds or the Research Program to the extent not previously provided to Schering. The provision to Schering of the foregoing copies shall not be deemed to create any additional rights or licenses in any such copies or the intellectual property embodied therein, and Schering's rights to use or exploit such information and rights shall be solely as expressly granted by PTC to Schering in Article 5 and, with respect to Joint Know-How or Joint Patents, those rights of Schering as a joint owner. Upon such termination, (x) all of PTC's obligations under Article 2 (excluding Sections 2.6, 2.7 and 2.10) shall immediately terminate, (y) the following provisions shall terminate: Article 3, and Sections 4.3, 4.5, 4.6, 4.8, 4.10(c), and PTC's participation rights under Sections 4.10(b), and (z) the Research Term shall terminate. For clarity, Schering's exercise of its rights under this Section 11.6 shall not terminate any other rights (including without limitation the licenses granted to Schering or PTC or their respective Affiliates pursuant to Sections 5.2, 5.3, 5.4 and 5.5 hereof) or obligations of the Parties (including without limitation either Party's obligations pursuant to Article 6 hereof) under this Agreement.

11.7 Consequences of Certain Terminations by the Parties. In the event this

Agreement is terminated by Schering pursuant to Section 11.2 or 11.5(b), or by PTC pursuant to Section 11.3 or 11.4, then:

(a) Schering's rights under the licenses granted to it pursuant to Sections 5.1(a), 5.1(b) and 5.2 shall terminate. In the case of a termination by PTC pursuant to Section 11.3 that does not relate to a Schering Non-Viral Product, Schering's license under Section 5.3 shall terminate, but Schering's licenses under Section 5.4 shall survive for any Designated NV Compounds as of the termination date. In the case of a termination by PTC pursuant to Section 11.3 that relates to a Schering Non-Viral Product, Schering's licenses under Sections 5.3 and 5.4 shall terminate;

(b) Schering shall, at the election of PTC, grant PTC the following rights and licenses:

(i) an exclusive, worldwide license, with the right to grant sublicenses, under any Schering Patents and Schering Know-How existing at the time of termination which claim or constitute Program Inventions, or for which sufficient support exists in the written descriptions of such Schering Patents to support such a claim and there is an ability to prosecute such a claim (the "Schering Termination IP"), solely to Develop, make, have made, use, import, offer to sell and sell Schering Viral Products in the Field;

(ii) an exclusive, worldwide license, with the right to grant sublicenses, under any Schering Patents existing at the time of termination (excluding Schering Termination IP) which claim the composition of matter or method of using a Highly Active Collaboration Compound or Schering Field NV Compound that is being Developed in humans or Commercialized by Schering or its Affiliates as of the Termination Date (a "Terminated Compound") solely to Develop, make, have made, use, import, offer to sell and sell Schering Viral Product in the Field; and

(iii) an exclusive, worldwide license, with the right to grant sublicenses, under any Schering Patents and Schering Know-How existing at the time of termination (excluding Schering Termination IP) which (a) is being utilized for a Terminated Compound, and (b) is not within the scope of the license grant in Section 11.7(b)(ii), solely to Develop, make, have made, use, import, offer to sell and sell in the Field: (A) the specific formulations of Schering Viral Products that are then in clinical Development or are being Manufactured or Commercialized by Schering and its Affiliates as of the effective date of the termination (the "Termination Date"), and (B) any other formulations of such Schering Viral Products which differ from the foregoing specific formulations only with respect to the quantity or concentration of active ingredient contained therein or the quantity or concentration of any of the excipients contained in such specific formulations; provided, however, it is understood that the provisions of this Section 11.7(b)(iii)(B) shall not apply to any Schering Viral Product which includes different excipients or active ingredients from those contained in the foregoing specific formulations or which utilizes any proprietary Schering drug delivery or formulation technology that has not been applied to the foregoing specific

formulations. For the avoidance of doubt, the license granted pursuant to this Section 11.7(b)(iii) shall not include (x) except as expressly provided in Section 11.7(b)(iii)(B), the right to utilize any Schering Patents or Schering Know-How to Develop or Commercialize any formulations of Schering Viral Products that differ from the specific formulations that are then in clinical Development or are being Manufactured or Commercialized by Schering and its Affiliates as of the Termination Date, or (y) the right to utilize any Patents that are Controlled by Schering that are not part of the Schering Patents.

In the event a termination is limited to a specific country or group of countries, then the licenses granted to PTC pursuant to this Section 11.7 shall be limited to such country or group of countries. PTC may specify which portions of the Schering Intellectual Property it wishes to license under this Section 11.7(b).

(c) Schering shall reasonably cooperate with PTC in order to enable PTC to assume the Development, Manufacture and/or Commercialization of all Schering Viral Products then being Manufactured, Commercialized or in clinical Development by Schering. Such cooperation and assistance shall be provided in a timely manner (having regard to the nature of the cooperation or assistance requested) and shall include without limitation:

(i) Schering shall transfer to PTC (or its nominee) all INDs and NDAs made or obtained by Schering or its Affiliates to the extent relating to the Terminated Compounds. Furthermore, Schering agrees that it will not thereafter exercise any rights under an agreement with a Third Party for the purpose of precluding PTC from referencing a Drug Master File controlled by such Third Party that is related to such a Terminated Compound and, to the extent Schering's consent is required in order to reference such Drug Master File, Schering hereby agrees to provide PTC with such consent.

(ii) Schering shall transfer to PTC (or its nominee), to the extent not previously provided, a copy of all Development Data in its possession or under its control relating to any Schering Viral Product then being Commercialized or in clinical Development by Schering and reasonably necessary or useful for its continued Development and/or Commercialization, including without limitation all such information contained in Schering's regulatory and/or safety databases, all in the format then currently maintained by Schering; provided, however, nothing in this Section 11.7(c)(ii) shall be deemed to expand the scope of the licenses or other rights granted to PTC pursuant to Section 11.7(b).

(iii) Schering shall grant a worldwide, royalty-free exclusive license to PTC, at PTC's request, to all trademarks and associated trade names and trade dress (together with the goodwill associated therewith) then being used on or in connection with the Schering Viral Products, provided that Schering shall not be obligated to license any trademarks, trade names or trade dress that include the words "Schering" or the name of any other Schering Affiliate, or any other words or marks used in connection with other drug products sold by Schering or its Affiliates; provided further that such license shall be limited solely for use in connection with Schering Viral Products.

(iv) (1) Schering's rights under Section 9.3(b) shall terminate (except, in the case of a termination pursuant to Section 11.2 or 11.4, the last two sentences of Section 9.3(b)), (2) PTC shall assume primary responsibility for preparing, filing, prosecuting, handling of interferences and maintaining Joint Patents under Section 9.3(c), and Schering shall have the same right of consultation related to Joint Patents as PTC has under Section 9.3(c), (3) PTC shall thereafter be solely responsible for all costs and expenses related to the preparation, filing, prosecution, handling of interferences and maintaining of the PTC Patents (excluding Joint Patents), (4) Schering's right to enforce Third Party infringement of certain Collaboration Patents under Section 9.6(b) shall terminate (excluding, in the case of a termination pursuant to Section 11.2 or 11.4, the PTC NV Patents), (5) Schering's rights and obligations with respect to infringement claims by Third Parties under Section 9.7(a) shall terminate, (6) Schering's rights with respect to the listing of Patents relating to Schering Viral Products under Section 9.9 shall terminate, and PTC shall have equivalent rights with respect to such listings, (7) PTC shall have a right to consult with Schering with respect the prosecution of any Schering Patents that are licensed to PTC pursuant to Section 11.7(b), (8) PTC shall have "march-in" rights with respect to the enforcement of the Schering Patents that are licensed to PTC pursuant to Section 11.7(b)(i) or (ii) against Third Party infringers that are comparable in scope to the rights it has with respect to the Collaboration Patents pursuant to Section 9.6(d), and Schering shall have the obligations of the non-prosecuting Party, but only to the extent that the alleged Third Party infringer is Commercializing a product that competes with a Schering Viral Product that is licensed to PTC pursuant to Section 11.7(b), and (9) to the extent that PTC exercises its "march-in" rights pursuant to Section 11.7(c)(iv)(8), the provisions of Section 9.6(g)(ii) shall be applicable, but only to the extent such recovery relates to an infringer that is Commercializing a product that competes with a Schering Viral Product that is licensed to PTC pursuant to Section 11.7(b), (10) PTC shall have "march-in" rights with respect to the enforcement of the Schering Patents that are licensed to PTC pursuant to Section 11.7(b)(iii) against Third Party infringers that are comparable in scope to the rights it has with respect to the Collaboration Patents pursuant to Section 9.6(d), but only to the extent that the alleged Third Party infringer is Commercializing a product that competes with a Schering Viral Product that is licensed to PTC pursuant to Section 11.7(b); provided, however, that such right shall not be applicable with respect to any such Schering Patent which also claims the composition of matter or method of use of any compound that is the subject of an active Research, Development or Commercialization program by Schering or its Affiliates or licensees.

(v) Schering shall grant PTC a worldwide, royalty-free non-exclusive license, including the right to grant sublicenses, to Patents and Know-How Controlled by Schering or its Affiliates which are necessary or useful for the Manufacture of a Terminated Compound, solely for the purpose of Manufacturing (or having Manufactured) such Terminated Compound.

(vi) If, as of the Termination Date, Schering its Affiliates or Sublicensee is engaged in the Manufacture of any Schering Viral Product that is then in clinical Development or is being Commercialized, then Schering, its Affiliates or Sublicensees must, as requested by PTC, use commercially reasonable efforts to

Manufacture and supply PTC's requirements for the Schering Viral Product until the earlier of (i) such time as PTC can secure an alternative Manufacturing source reasonably satisfactory to PTC, or (ii) [**] from the Termination Date. In addition, at PTC's option, as of the Termination Date (A) Schering shall permit PTC to purchase all or any part of Schering's worldwide unsold inventory of raw materials and work-in-process for Schering Viral Products, and (B) at PTC's request and expense, but only to the extent within Schering's control, Schering shall transfer to PTC, or PTC's designee, or arrange to have transferred, any methods, standards, or other Manufacturing related data and information for Schering Viral Products, and (C) Schering shall use its commercially reasonable efforts to assign to PTC any Third Party Manufacturing contract relating to the Schering Viral Products to which Schering or any of its Affiliates is a party; provided, however, it is understood that Schering shall not be obligated to pay any compensation to the Third Party, or incur any unreimbursed expenses, in order to obtain such assignment; provided, further that, if Schering is unable to assign to PTC any such Third Party Manufacturing contract, the obligation to use commercially reasonable efforts to assign such contract shall be deemed to be satisfied if Schering notifies PTC of such non-assignability and continues to supply PTC's requirements for Schering Viral Product for [**] from the Termination Date. All Schering Viral Product supplied to PTC by Schering shall be supplied at a price equal to Schering's fully absorbed cost of Manufacture, plus a markup of [**] percent ([**]%).

(d) With respect to any Third Party License Agreements related to Schering Viral Products to which Schering is a party, Schering shall provide PTC with copies of such agreements (subject to any applicable confidentiality restrictions) and PTC shall notify Schering in writing within [**] of receipt of such copies whether it wishes Schering to attempt to obtain an assignment or sublicense to PTC of Schering's rights under the applicable Third Party License Agreements. In the event PTC wishes Schering to attempt to obtain such an assignment or sublicense, then Schering shall use reasonable and diligent efforts to effect the same (it being understood that Schering shall have no obligation to pay any compensation to the Third Party, or to incur any unreimbursed expense, in order to obtain such assignment or sublicense and shall have no liability to PTC in the event such assignment or sublicense is not obtained despite such efforts) and PTC shall thereafter be responsible for paying any royalties, fees or other consideration due to the Third Party following the Termination Date under the applicable Third Party License Agreements. In the event PTC does not so notify Schering within the applicable [**] period, then Schering shall have no further obligations to PTC with respect to such Third Party License Agreements.

(e) In partial consideration for the licenses granted to PTC pursuant to Section 11.7(b) and 11.7(c), PTC shall pay to Schering on a country-by-country and Schering Viral Product-by-Schering Viral Product basis, royalties on the Net Sales of any Schering Viral Product by PTC, its Affiliates or any Sublicensee. The applicable royalty rate shall be based on the stage of Development at the time of the Termination Date and shall be determined as follows:

(i) [**]:

Rate --- - Net Sales -- -------	
On the first [**] Dollars ($ [**]) in worldwide Net Sales of [**] such Schering Viral Product in a calendar year	[**] percent ([**]%)
On worldwide Net Sales of such Schering Viral Product in [**] excess of [**] Dollars ($ [**]) but less than [**] Dollars ($	[**] percent ([**]%)
On worldwide Net Sales of such Schering Viral Product in [**] excess of [**] Dollars ($ [**]) but less than [**] Dollars ($	[**] percent ([**]%)
On worldwide Net Sales of such Schering Viral Product in [**] excess	

of [**] Dollars ($ [**]) but less than [**] Dollars ($ [**]) in a calendar year

([**]%) On worldwide Net Sales of such Schering Viral Product in [**] excess of [**] Dollars ($ [**]) but less than one [**] [**] Dollars ($ [**]) in a calendar year

percent ([**]%) On worldwide Net Sales of such Schering Viral Product in [**] excess of [**] Dollars ($ [**]) in a calendar year

percent ([**]%)

(ii) [**]:

Rate ---- Net Sales ----------	
On the first [**] Dollars ($ [**]) in worldwide Net Sales of [**] such Schering Viral Product in a calendar year	[**]%
On worldwide	

Net Sales of such Schering Viral Product in [**] excess of [**] Dollars ($ [**]) but less than [**] Dollars ($ [**]) in a calendar year ([**]%) On worldwide Net Sales of such Schering Viral Product in [**] excess of [**] Dollars ($ [**]) but less than [**] Dollars ($ [**]) in a calendar year ([**]%) On worldwide Net Sales of such Schering Viral Product in [**] excess of [**] Dollars ($ [**]) but less than [**] Dollars ($ [**]) in a calendar year ([**]%) On worldwide Net Sales of such Schering Viral Product in [**] excess of [**] Dollars ($ [**]) but less than

[**] Dollars ($ percent [**]) in a calendar year ([**]%) On worldwide Net Sales of such Schering Viral Product in [**] excess of [**] Dollars ($ [**]) in a calendar year percent ([**]%)

provided, however, (x) in the event the Agreement is terminated by PTC pursuant to Section 11.3, the royalties payable by PTC pursuant to this Section 11.7(e) shall be at a rate which is [**] percent ([**]%) of the rate that would otherwise be payable by PTC pursuant to the royalty schedule specified above, and (y) in the event PTC terminates this Agreement due to a breach by

Schering of Section 2.10 then no royalty shall be payable by PTC pursuant to this Section 11.7(e).

Any royalties payable pursuant to this Section 11.7(e) shall be payable for a period from the date of First Commercial Sale of such Schering Viral Product by PTC or its Affiliates or licenses in the applicable country until the later of (i) expiration of the last to expire PTC Patent (including any Joint Patent) which claims an invention Invented prior to the Termination Date or Schering Patent in such country which contains a Valid Claim which claims such Schering Viral Product or its use in the Field, or (ii) the expiration of any Marketing Exclusivity for such Schering Viral Product in such country (or, if earlier, the date of the First Commercial Sale of a Third Party product in such country that contains, as one of its active ingredients, the same Active Ingredient that is contained in the Schering Viral Product). The provisions of Sections 6.5(e), 6.6, 6.7(b), 6.8, and 9.7(a) shall apply, mutatis mutandis, to the payment of royalties under this Subsection 11.7(e).

(f) (i) In the event of a termination by PTC pursuant to Section 11.3, (A) the license granted to PTC pursuant to Section 5.1(c) shall terminate; (B) the licenses granted or to be granted to PTC pursuant to Section 5.4(b) shall survive, (C) the license granted to PTC pursuant to Section 5.3(b) shall convert from a co-exclusive license to an exclusive (even as to Schering) license, and (D) the provisions of Sections 6.7(d), 6.7(e), 6.7(f), and 6.9 through and including 6.17 shall continue to apply with respect to PTC's Development and Commercialization of PTC Products and Schering's Development and Commercialization of Schering Non-Viral Products.

(ii) In the event of a termination by Schering pursuant to Section 11.2 or 11.5(b), or by PTC pursuant to Section 11.4, (A) the license granted to PTC pursuant to Section 5.1(c) shall terminate, (B) the licenses granted or to be granted to PTC pursuant to Sections 5.3(b) and 5.4(b) shall survive; (C) the licenses granted or to be granted to Schering pursuant to Sections 5.3(a) and 5.4(a) shall survive, and (D) the provisions of Sections 6.7(d), 6.7(e), 6.7(f), and 6.9 through and including 6.17 shall continue to apply with respect to PTC's Development and Commercialization of PTC Products and Schering's Development and Commercialization of Schering Non-Viral Products.

11.8 Consequences of Certain Terminations by Schering.

(a) In the event Schering terminates this Agreement pursuant to Section 11.3, then (i) PTC's rights under the licenses granted to it pursuant to Section 5.1(c), 5.3(b) and 5.4(b) shall terminate (except for existing licenses under Section 5.4(b) for PTC Designated NV Compounds unrelated to any PTC breach) and the licenses granted to Schering pursuant to Section 5.3(a) shall convert from co-exclusive licenses to exclusive (even as to PTC) licenses, (ii) Schering's rights under Article 5 (including, without limitation, its rights under the Schering Licenses) shall survive termination, (iii) the provisions of Article 6 and Sections 4.1(d) and 4.7 shall continue to apply with respect to Schering's Development and Commercialization of Licensed Products, and the provisions of Sections 6.7(e), 6.7(f), and 6.10 through and including 6.17 shall apply to PTC's Development and Commercialization of PTC Products, subject to Section 11.9(a); provided, however in the case where Schering terminates pursuant to Section

11.3 and it has not accepted a Development Candidate by the Termination Date or within six (6) months thereafter, (A) no Milestones shall be payable by Schering pursuant to Sections 6.2(a) and 6.2(b), (B) the Milestones payable pursuant to Sections 6.2(c), 6.2(d), 6.2(e) and 6.2(f) shall be reduced by [**] percent ([**]%), and (C) the royalty rates specified in Sections 6.5(a) and 6.5(b) shall automatically be reduced by [**] percent ([**]%); provided further, in the event Schering terminates this Agreement due to a breach by PTC of Section 2.10 then no further payments shall be payable by Schering pursuant to Section 6.5.

(b) In the event Schering terminates this Agreement pursuant to Section 11.4, then (i) PTC's rights under the licenses granted to it pursuant to Section 5.1(c) shall terminate, (ii) Schering's rights under Article 5 (including, without limitation, its rights under the Schering Licenses) shall survive termination, (iii) the provisions of Article 6 and Sections 4.1(d) and 4.7 shall continue to apply with respect to Schering's Development and Commercialization of Licensed Products, subject to Section 11.9(a), (iv) the licenses granted to PTC pursuant to Sections 5.3(b) and 5.4(b) shall survive and the provisions of Sections 6.7(e), 6.7(f), and 6.10 through and including 6.17 shall continue to apply with respect to PTC's Development and Commercialization of PTC Products.

11.9 Effect of Termination and Expiration.

(a) Accrued Rights and Obligations. Termination of this Agreement for any reason shall not release either Party hereto from any liability which, at the time of such termination, has already accrued or which is attributable to a period prior to such termination nor preclude either Party from pursuing any rights and remedies it may have hereunder or at Law or in equity with respect to any breach of this Agreement. It is understood and agreed that monetary damages may not be a sufficient remedy for any breach of this Agreement and that the non-breaching Party may be entitled to seek injunctive relief as a remedy for any such breach.

(b) Stock on Hand. In the event this Agreement is terminated for any reason, Schering or PTC, as the case may be, shall have the right to sell or otherwise dispose of the stock of any Licensed Product then on hand or in process until the first anniversary of the effective date of such termination. Sales made pursuant to this Section 11.9(b) shall be treated as Net Sales and any royalty otherwise payable on such Net Sales absent such termination thereon shall be paid to the applicable Party.

11.10 Survival.

(i) The rights and obligations set forth in this Agreement shall extend beyond the term or termination of this Agreement only to the extent expressly provided for herein, or to the extent that the survival of such rights or obligations are necessary to permit their complete fulfillment or discharge. Without limiting the generality of the foregoing, it is agreed that the provisions of Sections 4.4, 5.7, 5.8, 6.12 through 6.17, as well as Articles 1, 7, 10, 11, 12 and 13, shall survive expiration or termination of this Agreement for any reason.

(ii) In addition, the following Sections will explicitly survive as follows:

(A) Article 9 shall survive expiration or termination of this Agreement for any reason, subject to the restrictions and modifications set forth in Section 11.7;

(B) Article 4A shall survive expiration or termination of this Agreement for any reason, except that a Party's right to continue to designate NV Compounds under Section 4A.1 will terminate in the event that such Party's co-exclusive Research license under Section 5.3 terminates;

(C) Section 2.14 shall survive expiration or termination of this Agreement for any reason, except that (1) Section 2.14 shall terminate in the event that the Parties agree to terminate the Agreement pursuant to Section 11.5(a) or Schering's co-exclusive Research license under Section 5.3 terminates, and (2) Section 2.14(ii) shall terminate in the event that Schering's exclusive Development and Commercialization license under Section 5.2 terminates.

(iii) Further, each of Sections 11.2, 11.3, 11.4, 11.5, 11.7 and 11.8 set forth specific additional provisions in this Agreement that will survive in the event of a termination under Section 11.2, 11.3, 11.4 or 11.5.

ARTICLE 12

DISPUTE RESOLUTION

In the event of any controversy or claim arising out of or relating to this Agreement, or the rights or obligations of the Parties hereunder (other than those to be resolved pursuant to the provisions of Sections 1.40, 3.5 and 9.1), the Parties shall first try to settle their differences amicably between themselves. Either Party may initiate such informal dispute resolution by sending written notice of the dispute to the other Party, and within thirty (30) days after such notice appropriate representatives of the Parties shall meet for attempted resolution by good faith negotiations. If such representatives are unable to resolve promptly such disputed matter within the said thirty (30) days, either Party may refer the matter by written notice to the Senior Vice-President, Research and Development of Schering-Plough Corporation or his or her designee and the Senior Vice President, Drug Discovery Technologies of PTC or his or her designee for discussion and resolution. If such individuals or their designees are unable to resolve such dispute within thirty (30) days of such written notice, either Party may refer the matter by written notice to the President, Global Prescription Business of Schering-Plough Corporation and the CEO of PTC. If such individuals are unable to resolve such dispute within thirty (30) days of such written notice, either Party may initiate litigation in accordance with the provisions of Section 13.1.

ARTICLE 13

MISCELLANEOUS

13.1 Governing Law. This Agreement and any dispute arising from the performance or breach hereof shall be governed by and construed and enforced in accordance with the laws of State of New York, without regard for its conflicts of laws rules; provided that the Parties' rights and obligations under Section 9.1 shall be governed by the intellectual property laws of the United States and provided further with respect to matters involving enforcement of intellectual property rights, the Laws of the applicable country in question shall be applicable. The provisions of the United Nations Convention on Contracts for the International Sale of Goods shall not apply to this Agreement or any subject matter hereof or thereof.

13.2 Independent Contractors. The relationship of the Parties hereto is that of independent contractors. It is expressly agreed that for tax, legal or other purposes (i) this Agreement or any portion of this Agreement shall not be considered to be a partnership agreement, and (ii) the relationship between the two Parties shall not constitute a partnership, joint venture or agency. Neither PTC nor Schering shall have the authority to make any statements, representations or commitments of any kind, or to take any action, which shall be binding on the other, without the prior consent of the other Party to do so.

13.3 Assignment. Either PTC or Schering may assign its rights and obligations under this Agreement to any Affiliate, provided such interest shall be retransferred to the assigning Party if such entity ceases to be an Affiliate of such Party, and provided further that the assigning Party shall guarantee the performance of such Affiliate. Neither Party may assign this Agreement to any Third Party hereto without the written consent of the other Party, which consent shall not be unreasonably withheld or delayed; except either Party may assign this Agreement, without such consent, to an entity that acquires all or substantially all of its assets relating to its antiviral business, whether by merger, reorganization, acquisition, sale, or otherwise. This Agreement shall be binding upon and inure to the benefit of the Parties and their successors and assigns.

13.4 Notices. All notices, requests and other communications hereunder shall be in writing and shall be personally delivered or sent by telecopy or other electronic facsimile transmission or by registered or certified mail, return receipt requested, postage prepaid, in each case to the respective address specified below, or such other address as may be specified in writing to the other Party hereto:

If to PTC:	If to Schering:
PTC Therapeutics, Inc.	Essex Chemie AG
100 Corporate Court	Topferstrasse 5
South Plainfield, New Jersey 07080	6000 Lucern 6
USA	Switzerland
Attention: Legal Department	Attention: General Manager
Facsimile No.: 1-908-222-1128	Facsimile No.: 011 41 418 16 26

and an email copy to:

legal@ptcbio.com

With a copy to:	With a copy to:
Wilmer Cutler Pickering Hale & Dorr LLP 60 State Street Boston, Massachusetts 02109 USA Attention: Steven D. Singer, Esq. Facsimile No. 1-617-526-6000	Schering Corporation 2000 Galloping Hill Road Kenilworth, New Jersey 07033-0530 USA Attention: Law Department, Senior Legal Director, Licensing Facsimile No.: 1-908-298-5310

13.5 Force Majeure. Neither Party shall lose any rights hereunder or be liable to the other Party for damages or losses (except for payment obligations) on account of failure of performance to the extent such failure or delay is caused by or results from causes beyond the reasonable control of the affected Party and is not caused by the negligence, or willful misconduct of the non-performing Party; provided, however, the non-performing Party has exerted all reasonable efforts to avoid or remedy, and minimize the duration of, such event of force majeure; provided, further that in no event shall a Party be required to settle any labor dispute or disturbance. Each Party shall provide the other Parties with prompt written notice of any delay or failure to perform that occurs by reason of force majeure.

13.6 Advice of Counsel. PTC and Schering have each consulted counsel of their choice regarding this Agreement, and each acknowledges and agrees that this Agreement shall not be deemed to have been drafted by one Party or another and will be construed accordingly.

13.7 Further Assurances. At any time or from time to time on and after the date of this Agreement, either Party shall at the request of the other Party hereto (i) deliver to the requesting Party any records, data or other documents, (ii) execute, and deliver or cause to be delivered, all such consents, documents or further instruments of transfer or license, and (iii) take or cause to be taken all such actions, as the requesting Party may reasonably deem necessary in order for the requesting Party to obtain the full benefits of this Agreement and the transactions contemplated hereby; in each case, consistent with the provisions of this Agreement.

13.8 Severability. When possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under applicable Law, but if any provision of this Agreement is held to be prohibited by or invalid under applicable Law, such provision will be ineffective only to the extent of such prohibition or invalidity, without invalidating the remainder of this Agreement. The Parties shall make a good faith effort to replace the invalid or unenforceable provision with a valid one that in its economic effect is most consistent with the invalid or unenforceable provision.

13.9 Waiver. It is agreed that no waiver by either Party hereto of any breach of default of any of the covenants or agreements herein set forth shall be deemed a waiver as to any subsequent and/or similar breach or default.

13.10 Complete Agreement. The Parties agree that this Agreement, with its Schedules, constitutes the entire agreement, both written and oral, between the Parties with respect to the

subject matter hereof, and that all prior agreements respecting the subject matter hereof, including the confidentiality agreements referenced in Section 7.6, either written or oral, expressed or implied, are merged and canceled, and are null and void and of no effect. No amendment or change hereof or addition hereto shall be effective or binding on either of the Parties hereto unless reduced to writing and duly executed on behalf of both Parties.

13.11 Use of Name. Neither Party shall use the name or trademarks of the other Party without the prior written consent of such other Party except in connection with the disclosure of the existence of this Agreement.

13.12 Headings. The captions to the several Sections and Articles hereof are not a part of this Agreement, but are included merely for convenience of reference only and shall not affect its meaning or interpretation.

13.13 Third Party Beneficiaries. No person or entity other than PTC, Schering or their respective Affiliates and permitted assignees hereunder shall be deemed an intended beneficiary hereunder or have any right to enforce any obligation of this Agreement.

13.14 Consequential Damages. UNLESS RESULTING FROM A PARTY'S WILLFUL MISCONDUCT, NEITHER PARTY WILL BE LIABLE TO THE OTHER FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THIS AGREEMENT OR THE EXERCISE OF ITS RIGHTS OR PERFORMANCE OF ITS OBLIGATIONS HEREUNDER, INCLUDING WITHOUT LIMITATION LOST PROFITS, ANTICIPATED PROFITS, LOST GOODWILL, LOST REVENUE, LOST PRODUCTION, LOST CONTRACTS AND LOST OPPORTUNITY, ARISING FROM OR RELATING TO ANY BREACH OF THIS AGREEMENT, REGARDLESS OF ANY NOTICE OF SUCH DAMAGES. NOTHING IN THIS SECTION 13.14, HOWEVER, IS INTENDED TO LIMIT OR RESTRICT ANY PAYMENT OBLIGATION OR THE INDEMNIFICATION RIGHTS OR OBLIGATIONS OF EITHER PARTY. NOTWITHSTANDING THE FOREGOING, NOTHING IN THIS AGREEMENT LIMITS OR EXCLUDES ANY PARTY'S LIABILITY FOR FRAUD OR FOR DEATH OR PERSONAL INJURY CAUSED BY THAT PARTY'S OWN NEGLIGENCE OR WILLFUL MISCONDUCT.

13.15 Counterparts. This Agreement may be executed in two counterparts, each of which shall be deemed an original and which together shall constitute one instrument.

[Remainder of this page intentionally left blank]

IN WITNESS WHEREOF PTC and Schering have executed this Agreement by their respective duly authorized representatives.

PTC THERAPEUTICS, INC.	ESSEX CHEMIE AG
By: /s/ Stuart Peltz	By: /s/ P. Th. Klaassen
Print Name: Stuart Peltz	Print Name: P. Th. Klaassen
Title: President & CEO	Title: Director

EXECUTION VERSION

SCHEDULE 1.14

CRITERIA FOR DEVELOPMENT CANDIDATES

Assay	Result
[**]	[**]
[**]	[**]
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[**]	[**]
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Assay	Result
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[**]	[**]
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[**]	

EXECUTION VERSION

SCHEDULE 1.47A

PTC BACKGROUND PATENTS AS OF THE EFFECTIVE DATE

[**]

UNITED STATES
US Application No. [**]

INTERNATIONAL

PCT Publication No. [**] Canadian Application No. [**]
European Application No. [**]

[**]

UNITED STATES
US Publication No. [**]INTERNATIONAL
PCT Application No. [**]

*See also Schedule 1.82 for Third Party License Agreements.

SCHEDULE 1.48

PTC COMPOUNDS AS OF THE EFFECTIVE DATE

[Attached]

SCHEDULE 1.53

PTC PATENTS AS OF THE EFFECTIVE DATE

[**]
UNITED STATES
US Application No. [**]INTERNATIONAL
PCT Application No. [**]

[**]
UNITED STATES
US Application No. [**]
US Provisional Application No. [**]
US CIP Application No. [**]

INTERNATIONAL
PCT Application No. [**]

EXECUTION VERSION

SCHEDULE 1.60

RESEARCH PLAN

OVERVIEW

[**]
PTC THERAPEUTICS ACTIVITIES:

AREA	FTE	ACTIVITIES
[**]	[**]	[**]
[**]	[**]	[**]
[**]	[**]	[**]
Total	[**]	

SCHERING-PLOUGH ACTIVITIES

[**]
[**]

APPENDIX
[**]

[Chart describing screening tier studies]

EXECUTION VERSION

SCHEDULE 1.65

SCHERING BACKGROUND PATENTS AS OF THE EFFECTIVE DATE

[**]

SCHEDULE 1.67

SCHERING COMPOUNDS AS OF THE EFFECTIVE DATE

[**]

EXECUTION VERSION

SCHEDULE 1.82

EXISTING THIRD PARTY LICENSE AGREEMENTS

Schering's Existing Third Party License Agreements

[**]

PTC's Existing Third Party License Agreements

[**]

EXECUTION VERSION

SCHEDULE 2.11

APPROVED SUBCONTRACTORS

THE FOLLOWING WILL ONLY BE DEEMED APPROVED SUBCONTRACTORS FOR A PERIOD OF THREE (3) MONTHS FOLLOWING THE EFFECTIVE DATE, TO ALLOW FOR TRANSITION OF THEIR ASSIGNED WORK TO PTC FTES:

[**]

SCHEDULE 7.5

CONTENTS OF EXECUTION ANNOUNCEMENT PRESS RELEASE

EXECUTION VERSION

SCHEDULE 8.4(C)

PTC AGREEMENTS RELATED TO THE PTC COMPOUNDS

[**]

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OF LEASE BETWEEN 46.24 ASSOCIATES L.P., AS LANDLORD, AND PTC THERAPEUTICS, INC., AS TENANT, FOR PREMISES LOCATED IN 100 CORPORATE COURT, MIDDLESEX BUSINESS CENTER, SOUTH PLAINFIELD, NEW JERSEY

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(continued)

THIS LEASE, made as of the 11th day of July 2000, by and between 46.24 ASSOCIATES L.P., a Delaware limited partnership, having a mailing address c/o National Realty & Development Corp., 3 Manhattanville Road, Purchase, New York 10577 (hereinafter referred to as "Landlord") and PTC THERAPEUTICS, INC., a Massachusetts corporation, having its principal office at 2 Chestnut Street, Grafton, Massachusetts 01519 (hereinafter referred to as "Tenant").

WITNESSETH:

WHEREAS, the Landlord has constructed a building (hereinafter referred to as "Building") for the purposes of office use, known as Building No. 100 located within the area designated as Lot No. 46.24 (hereinafter referred to as "Lot No. 46.24") on the attached plot plan (hereinafter referred to as "Plot Plan") which is annexed hereto as Exhibit "A" and made a part hereof; and

WHEREAS, Landlord and the owner of the area designated as Lot Not 46.25 (hereinafter referred to as "Lot No. 46.25") on the Plot Plan each has the right to operate and use the Common Areas (as hereinafter defined) within Lots 46.24 and 46.25; and

WHEREAS, Tenant is desirous of leasing from Landlord and Landlord is desirous of leasing to Tenant certain premises in the Building which is situated within MIDDLESEX BUSINESS CENTER (hereafter referred to as "Center") hereinafter described, upon and subject to the provisions, agreements, covenants and conditions set forth herein;

NOW, THEREFORE, it is mutually agreed as follows:

ARTICLE 1. DEMISED PREMISES AND TERM

Section 1.01.

(a) In consideration of the rents and additional rents hereinafter reserved and all of the provisions, agreements, covenants and conditions hereinafter contained, Landlord hereby leases and demises to Tenant, and Tenant hereby hires, leases and takes from Landlord approximately 21,700 square feet of floor space ("Floor Space") in the Building, more particularly indicated and described by cross-hatching on the Plot Plan (such Floor Space being hereinafter referred to as the "Demised Premises") located on Lot No. 46.24 in the Center located in the BOROUGH OF SOUTH PLAINFIELD, COUNTY OF MIDDLESEX and STATE OF NEW JERSEY, together with all improvements to be constructed thereon by the Landlord for the use of the Tenant, and all easements, tenements and appurtenances thereto.

(b) The parties acknowledge that the Landlord intends to erect or has erected other buildings on Lot No. 46.24 (which may be different in design and construction from the Building) which buildings may be constructed at the sole option of Landlord. Landlord shall have sole control and discretion in connection with the scope, design and aesthetics of any such additional construction. Notwithstanding the foregoing, any such other buildings and improvements associated therewith shall not unreasonably interfere with access to the Demised Premises or the loading area thereof, nor reduce the number of parking spaces below the number required by municipal code.

(c) The Demised Premises are demised and let subject to (i) the existing state of the title thereof; (ii) any state of facts which an accurate survey or physical inspection thereof might disclose; (iii) all zoning regulations, restrictions, rules and ordinances now in effect or hereafter adopted by any governmental authority having jurisdiction; and (iv) any utility, sewer or drainage easements or agreements and the installations made pursuant thereto now existing or hereafter granted or installed; all without representation or warranty by Landlord, except as expressly set forth herein. Notwithstanding the foregoing, Landlord hereby represents, that, to the best of Landlord's knowledge: (a) the Building is presently zoned to permit the use of the Demised Premises for typical office/laboratory purposes; and (b) any existing utility, sewer or drainage easements or agreements and the installations made pursuant thereto will not unreasonably interfere with Tenant's use and occupancy of the Demised Premises. Landlord further represents to Tenant that Landlord is presently the fee owner of the Building and is authorized and empowered to enter into this Lease as Landlord and to perform the obligations of Landlord hereunder.

Section 1.02. As long as Tenant occupies the Demised Premises, Tenant, together with its employees, customers, invitees and business guests, shall have the right to use, in common with Landlord, its successors, assigns, tenants, subtenants, designees, concessionaires, licensees and any of their customers, invitees, and business guests, all of the Common Areas (as such term is defined in Section 12.01 hereof) at any time and from time to time existing within Lot No. 46.24, except for areas reserved for the exclusive use of other tenants, occupants, or designees and except for periods of time during which the Common Areas are being repaired, altered or reconstructed. Neither Landlord nor Tenant nor anyone holding under or through either of them shall make any charge for the use of the Common Areas to the other or to the employees, customers, invitees or business guests of Landlord or Tenant or of anyone else hereinbefore granted the right to use the Common Areas, except as provided in Article 12 of this Lease.

Section 1.03. The term ("Term") of this Lease shall commence on that date ("the Commencement Date") which is the first to occur of: (a) the date upon which the Demised Premises are first occupied by Tenant for the conduct of business operations at the Demised Premises, or (b) the date which is thirty (30) days following the date upon which the Landlord's Work (as hereinafter defined) shall be duly certified by Landlord or Landlord's agent as being substantially completed, except for those items the completion of which will not unreasonably interfere with Tenant's use and occupancy of the Demised Premises as provided herein, and shall expire on the date which is the FIVE (5) years following the last day of the calendar month in which the Rent Commencement Date (as hereinafter defined) shall occur ("Expiration Date"). Landlord represents to Tenant that Landlord's Work shall be performed in accordance with all applicable codes so as to enable Tenant to apply for and obtain a certificate of occupancy for the Demised Premises upon completion of Tenant's improvements and Tenant's fixturing and equipping of the Demised Premises. Tenant may, at any time after execution of this Lease and prior to the Commencement Date, without incurring any liability for payment of annual minimum rental or additional rent, measure the Demised Premises, design and layout of the tenant improvements and Tenant's Property (hereinafter defined), and place and install its personal property, furniture, furnishings, signs, telecommunication equipment, equipment and trade fixtures ("Tenant's Property"), in the Demised Premises at Tenant's risk and expense. In exercising the foregoing rights, Tenant shall not cause any material interference with or delay to

Landlord, and Tenant's indemnity provided for in this Lease shall apply to Tenant's entry under this Section.

Section 1.04. The parties shall, within ten (10) days following request of the other, execute a written document, in recordable form, expressing the Commencement Date and Expiration Date of the Term hereof, as such have been determined in accordance with the provisions of this Lease.

Section 1.05. The term "Lease Year" is defined to mean twelve (12) consecutive calendar months; the first Lease Year to commence on the first day of the succeeding calendar month following the Commencement Date and each succeeding Lease Year to commence on the anniversary date of the commencement of the first Lease Year. The portion of the Term prior to the first Lease Year shall be deemed a "Partial Lease Year" and any obligations of Tenant for such Partial Lease Year shall be prorated on a per diem basis.

ARTICLE 2. USE AND OPERATION

Section 2.01. Subject to the other provisions of this Lease, Tenant shall occupy and use the Demised Premises solely for office and laboratory purposes and incidental uses normally associated therewith, and for no other use. Tenant hereby covenants and agrees that it, its successors and assigns, or anyone holding by, through or under them, shall not use, nor permit the use of the Demised Premises for any other use or purpose. Immediately following certification under Section 1.03 above, Tenant shall fixture, furnish and equip the Demised Premises for Tenant's intended business purpose and upon the Commencement Date, Tenant shall occupy and open for business in the Demised Premises.

ARTICLE 3. RENT

Section 3.01. The annual minimum rental during the Term shall be as follows:

(A) During the FIRST (1st) and SECOND (2nd) years following the Rent Commencement Date: ONE HUNDRED EIGHT FOUR THOUSAND FOUR HUNDRED FIFTY AND 00/100 ($184,450.00) DOLLARS per annum - FIFTEEN THOUSAND THREE HUNDRED SEVENTY AND 00/100 ($15,370.00) DOLLARS per month;

(B) During the THIRD (3rd) year following the Rent Commencement Date: ONE HUNDRED NINETY FIVE THOUSAND THREE HUNDRED AND 00/100 ($195,300.00) DOLLARS per annum - SIXTEEN THOUSAND TWO HUNDRED SEVENTY FIVE AND 00/100 ($16,275.00) DOLLARS per month; and

(C) During the balance of the Term of this Lease: TWO HUNDRED SIX THOUSAND ONE HUNDRED FIFTY AND 00/100 ($206,150.00) per annum - SEVENTEEN THOUSAND ONE HUNDRED SEVENTY NINE AND 17/100 ($17,179.17) DOLLARS per month.

The "Rent Commencement Date" shall be the sixty-first day occurring following the expiration of the "Rent Concession Period", in accordance with the provisions hereinafter set

forth in Section 5.05 of this Lease, or as otherwise determined in accordance with said Section 5.05.

All annual minimum rental payable under this Lease during the Term hereof shall be paid to the Landlord in advance, on the first day of each calendar month during the Term hereof at the office of Landlord or such other place or to such other person or party as Landlord may designate, without prior demand therefor and without any setoff or deduction whatsoever, except as herein provided. Annual minimum rent and additional rent shall be prorated for a fraction of a month, if any, based on the number of days within such fractional month. Unless and until otherwise designated by Landlord in writing all annual minimum rent and additional rent payable under this Lease shall be paid to National Realty & Development Corp., at 3 Manhattanville Road, Purchase, New York 10577.

Section 3.02. All taxes, charges, costs and expenses which Tenant assumes or agrees to pay under any provision of this Lease, together with any and all other sums and legal fees which may become due, by reason of any default of Tenant or failure on Tenant's part to comply with the provisions, covenants and conditions of this Lease on Tenant's part to be performed, and each or any of them, shall be collectible and recoverable as additional rent, and, in the event of nonpayment thereof, Landlord shall have all the rights and remedies herein provided as in the case of nonpayment of annual minimum rent.

ARTICLE 4. SUBORDINATION

Section 4.01. This Lease and all rights of Tenant hereunder are, and shall be, subject and subordinate to any mortgages, deeds of trust (including blanket mortgages or deeds of trust covering the Demised Premises and/or the Center and/or other properties) or any other security interest which has been or which hereinafter may affect the Demised Premises, and to any ground or underlying leases of all or part of the Center, and to any renewals, modifications, consolidations, replacements and extensions thereof (hereinafter collectively referred to as "Landlord's Financing"). Landlord represents that, as of the date hereof, the sole holder of Landlord's Financing is The Travelers Life and Annuity Company, One Tower Square, 2 SHS, Hartford, Connecticut 06183. Tenant acknowledges that the interest of Landlord under this Lease may be assigned by Landlord as collateral security to any of the foregoing parties holding interests to which this Lease is subject and subordinate. In the event of foreclosure of any such interest, or termination of any such ground of underlying lease, or in the event of an exercise of the power of sale under any mortgage or other security interest made by Landlord covering the premises of which the Demised Premises forms a part, Tenant shall, at the sole option and direction of any such party, recognize the rights of any such party under and pursuant to the provisions of such collateral assignment and/or attorn to and recognize any purchaser at a foreclosure sale of any mortgage or deed of trust or any such purchaser at a sale exercised in connection with the mortgagee's or trustee's remedy of power of sale pursuant to any mortgage or deed of trust affecting the Demised Premises and/or Center or any transferee who acquires the Demised Premises and/or Center by deed in lieu of foreclosure, and the successors and/or assigns of such transferee or purchaser. Notwithstanding anything to the contrary contained herein, this Lease shall not be subject and subordinate to the lien of Landlord's Financing, unless an instrument, duly executed by the holder(s) of Landlord's Financing, shall be delivered to Tenant which instrument shall contain an agreement in substance, to be effective only so long as Tenant

shall not be in default under the provisions of this Lease, that such holder shall recognize Tenant's rights under this Lease, shall not cut off or terminate this Lease through foreclosure of the documents securing Landlord's Financing, and Tenant shall not be disturbed in its possession of the Demised Premises or the exercise of any of its rights under the Lease, which agreement may also contains such provisions as are typically included therein by commercial lenders (such agreement hereinafter referred to as the "Subordination, Non-Disturbance and Attornment Agreement"). The Subordination, Non-Disturbance and Attornment Agreement shall be in recordable form and in substance reasonably satisfactory to Tenant, Landlord and the holder(s) of Landlord's Financing. Tenant acknowledges that the form annexed hereto as Exhibit D is satisfactory to Tenant.

Section 4.02. The provisions of Section 4.01 shall be self-operative, but Tenant covenants and agrees that it shall, within ten (10) days following request, at any time or times, execute, acknowledge and deliver to Landlord any instruments in order to subordinate this Lease and Tenant's rights hereunder, as aforesaid, said instruments to be in the form required by any mortgagee, ground lessor or other secured party.

Section 4.03. If Tenant shall fail or neglect to execute, acknowledge and deliver any documents required by this Article, Landlord, in addition to any other remedies, may, as agent or attorney-in-fact of Tenant, execute, acknowledge and deliver same on behalf of Tenant, and Tenant hereby irrevocably nominates, constitutes and appoints Landlord as Tenant's proper and legal attorney-in-fact for such purpose, hereby ratifying all such acts that Landlord may do as attorney-in-fact of Tenant.

Section 4.04. Tenant shall, at any time and from time to time, upon not less than ten (10) days prior notice, execute, acknowledge and deliver to Landlord a statement in writing certifying that this Lease is unmodified and in full force and effect (or, if there have been modifications, that the same is in full force and effect, as modified, and stating the modifications) and the dates to which the rent and other charges have been paid in advance, if any, and stating whether or not Landlord is in default in the performance of any provision, covenant or condition contained in this Lease, and if so, specifying each such default, and containing any other statements or certifications required by a mortgagee, and/or ground lessor and/or other secured party, it being intended that any statement or certification delivered pursuant to this Section may be relied upon by any party to whom it may be delivered by Landlord.

Section 4.05. The ground and underlying leases and mortgages referred to in this Article 4 to which this Lease is subject and subordinate are hereinafter sometimes called "superior leases" and "superior mortgages", respectively, and the lessor of a superior lease, or its successor in interest at the time, is hereinafter sometimes called the "lessor" of such superior lease. No pre-payment of more than one month's rent shall be valid or binding upon the holder of a superior mortgage or the lessor of a superior lease unless expressly approved in writing by such holder or lessor or by any of its predecessors in interest.

Section 4.06. Tenant agrees not to look to the mortgagee, as mortgagee, mortgagee in possession, or successor in title to the Demised Premises and/or the Center, for accountability for any security deposit required by Landlord hereunder, unless said sums have actually been received by said mortgagee as security for Tenant's performance of this Lease.

ARTICLE 5. AS-IS; LANDLORD'S WORK; TENANT'S WORK

Section 5.01. Tenant has examined the Demised Premises and has made a complete inspection of same and is familiar with the physical condition thereof. Landlord has not made and does not make any representation as to the physical condition or any other matter affecting or relating to the Demised Premises, except as is in this Lease specifically set forth, and Tenant specifically acknowledges that no such representation has been made, except that Landlord represents, to the best of its knowledge and except as disclosed in the Phase I Environmental Assessment prepared by Environmental Management Services dated June 19, 2000, there are no environmental hazards present within the Demised Premises. Tenant further acknowledges that Landlord has afforded Tenant the opportunity for a full and complete investigation, examination, and inspection of the Demised Premises and Tenant agrees to accept the Demised Premises "as is", except that Tenant shall replace non-functioning horns, strobes and pullboxes in the Demised Premises, provided, however, Landlord shall reimburse Tenant for the one-half of the cost of replacing non-functioning horns, strobes and pullboxes in the Demised Premises (Landlord reimbursement not to exceed $3,000), subject to Landlord's receipt and approval of the estimates for such work, which approval shall not be unreasonably withheld or delayed, and receipt by Landlord of satisfactory documentation evidencing the payment and lien-free completion of such work.

Section 5.02. Landlord or Landlord's contractor may give Tenant notice that the Landlord's Work is substantially complete to the extent that it is practicable for Tenant to enter therein for the performance of work by Tenant necessary to occupy the Demised Premises and open for business, and if such notice shall be given, Tenant shall promptly thereafter commence all work that is necessary to open the Demised Premises for business. Subject to the foregoing provisions of this Section, Tenant shall have the right to install its fixtures and equipment during construction, provided Tenant does not interfere with the construction of the Demised Premises or Building, and, further, provided, that insurance meeting the requirements of Section 7.02 is furnished to Landlord prior to any such entry. Such entry into the Demised Premises by Tenant prior to the Commencement Date is and shall be at the Tenant's sole cost and risk, and the provisions of Section 7.01 and Section 7.02 shall be applicable during any such period prior to the Commencement Date. Prior to commencing any work, Tenant shall give Landlord prior written notice of the date on which Tenant intends to commence such work, which notice shall describe the type of labor (i.e. union or non-union labor) Tenant intends to hire for its work. Notwithstanding anything herein to the contrary, Landlord may require Tenant to use union labor for all work performed in the Demised Premises, the Building and/or in the Center if, in Landlord's reasonable judgment, the use of non-union labor would delay or interfere with the progress of any construction within the Building and/or Center and/or the operation of any business in the Building and/or Center. In the event that Landlord does not initially require Tenant to use union labor and a labor dispute subsequently arises due to Tenant's use of non-union labor, then Tenant shall, within twenty-four (24) hours following notice from Landlord (which may be oral or written), cause each conflicting labor to leave the Demised Premises, the Building and Center, and thereafter Tenant shall prosecute its work only with local union labor. All fixturing and/or other work to be performed by or on behalf of Tenant (other than Landlord's work hereunder) shall be done in accordance with plans and specifications therefor submitted to and approved by Landlord prior to the commencement of such fixturing and/or other work, which approval shall not be unreasonably withheld, and in accordance with and subject to the

provisions of Article 19 hereof. No changes shall be made in said plans and specifications nor shall there be any deviation in the prosecution of the work in accordance with said plans and specifications without Landlord's prior written approval.

Section 5.03. If Tenant claims that some or all of the construction requirements imposed upon Landlord pursuant to the provisions of this Lease have not been complied with by Landlord upon delivery of notice of substantial completion of Landlord's Work, as provided herein, Tenant shall, within ten (10) days of said date (or ten days following the date Tenant opens for the transaction of business, whichever date is sooner), submit to Landlord a written list of the work Tenant claims remains to be performed by Landlord, and Landlord shall have ninety (90) days thereafter to complete such work. If Landlord fails to complete such work, the sole remedy of Tenant shall be to complete such work and Tenant shall have the right to set off the cost thereof from the rent due Landlord in order to reimburse Tenant for the cost and expense of completion of the work. Upon written request of Landlord, Tenant will, within five (5) days following request (but not sooner than the date required by the first sentence of this Section), furnish to Landlord a written statement that Tenant is in occupancy of the Demised Premises, that the construction of the Demised Premises has been completed in accordance with Landlord's obligations or in lieu thereof, a list of the work Tenant claims to be incomplete. Notwithstanding the foregoing, the aforesaid time period shall not be applicable to latent defects in the Landlord's Work for which notice may be given to Landlord promptly following the date upon which Tenant discovers, or reasonably could have discovered, any such latent defects. Landlord agrees to assign to Tenant all warranties relating to the Landlord's Work, provided, however, the Landlord reserves the right to enforce same, jointly with, or independently of Tenant.

Section 5.04. Landlord shall substantially complete the construction of the Landlord's Work on or prior to that date which is one hundred twenty (120) days following the date of issuance of a building permit for the Landlord's Work to be performed at the Demised Premises.

If possession of the substantially completed Demised Premises shall not be delivered to Tenant on or prior to such date, Tenant shall have the right to cancel this Lease upon notice to Landlord to be given within fifteen (15) days following such date, unless the substantially completed Demised Premises shall be delivered to Tenant prior thereto. If Tenant shall not exercise such right of cancellation, the date by which Landlord is obligated to deliver possession of the Demised Premises shall be deemed to be automatically extended for an additional period of ninety (90) days. If possession of the substantially completed Demised Premises is not delivered to Tenant prior to the expiration of such extension period, or if Tenant shall cancel this Lease pursuant to the first sentence of this paragraph, this Lease shall automatically terminate and be null and void and of no further force and effect, and the parties shall be mutually released of and from all rights and obligations hereunder. Tenant's right to cancel this Lease, as provided herein, shall be Tenant's sole remedy for Landlord's failure to deliver possession on or before the required date.

If the substantial completion of the Landlord's Work is delayed by reason of: (i) any act or omission of Tenant or any of its employees, agents or contractors; or (ii) any failure (not due to any act or omission of Landlord or any of its employees, agents or contractors) to plan or execute Tenant's work necessary for Tenant's occupancy of the Demised Premises with reasonable speed and diligence, or (iii) any changes by Tenant in the plans or specifications for

the construction of the Demised Premises or any changes or substitutions requested by Tenant; or (iv) Tenant's failure to furnish plans and specifications required to be furnished by Tenant, or subsequent changes thereto; or (v) Tenant's request for materials, finishes or installations other than Landlord's typical building standard; or (vi) the performance or incompletion of work by a party employed or retained by Tenant; then the Landlord's Work shall be deemed substantially completed on the date when the same would have been substantially completed but for such delay and, in addition, Tenant shall pay to Landlord all costs and damages which Landlord may sustain by reason of such delay.

Section 5.05.

(a) Tenant, at Tenant's sole cost and expense, subject to the Tenant Allowance (as hereinafter defined), shall perform all work necessary to renovate, fixture and equip the Demised Premises for Tenant's use in accordance with the provisions of Section 2.01 of this Lease (the "Tenant Improvements"). Tenant covenants and agrees that Tenant shall commence the performance of the Tenant Improvements within fifteen (15) days following the issuance of a building permit, and thereafter Tenant shall diligently prosecute such Tenant Improvements and complete same as soon as possible, but in no event more than three (3) months from and after the date that the building permit shall have been issued ("Tenant Improvement Completion Date"). Tenant agrees to apply for the building permit immediately following Tenant's receipt of notice from Landlord that Landlord has approved the plans and specifications for the performance of the Tenant Improvements.

(b) Subject to completion of Tenant Improvements in accordance with Tenant's Plans (as hereinafter defined) and the provisions set forth below in this Section 5.05(B), Landlord shall reimburse Tenant for amounts actually expended by Tenant for a portion of the construction of the Tenant Improvements, in an amount not to exceed the sum of $217,000.00 (the "Tenant Allowance"). Such reimbursement shall be in the form of a credit to be taken by Tenant against the first payments of annual minimum rental payable hereunder. The portion of the Tenant Improvements for which the Tenant Allowance shall be paid shall be only that portion thereof that is office installation work (e.g. partitioning, doors, electrical, etc., including, without limitation, upgrading and replacing of existing mechanical systems in the Demised Premises) and in no event shall the Tenant Allowance be used for any work related to Tenant's trade fixtures or equipment (such portion of the Tenant Improvements for which Tenant may receive the Tenant Allowance is hereinafter called the "Tenant Allowance Work"). Supplementing the foregoing, Landlord acknowledges and agrees that the work described in Exhibit E annexed hereto shall be deemed to be Tenant Allowance Work. Pending the completion of the Tenant Allowance Work (which "completion" shall be deemed to include the delivery to Landlord of the documentation required pursuant to Subparagraph (C) of this Section 5.05, the annual minimum rental payable pursuant to Section 3.01 of this Lease shall be abated (the period for which annual minimum rental is abated is referred to herein as the "Rent Concession Period"). Notwithstanding anything to the contrary set forth herein, in the event that the Tenant Improvements have not been completed and the documentation required pursuant to Subparagraph (C) of this Section 5.05 have not been delivered to Landlord on or before the Tenant Improvement Completion Date, Tenant shall make immediate payment to Landlord of any monthly minimum rental payments that have been abated during the Rent Concession Period, the Rent Commencement Date shall be deemed to be the Commencement Date of this

Lease and Tenant will immediately commence payment of annual minimum rental amounts as set forth in 3.01. Landlord shall be entitled to draw upon the letter of credit for the purpose of collecting such unpaid minimum rental payments. Notwithstanding the foregoing, in the event that the completion of the Tenant Improvements and the delivery to Landlord of the documentation required pursuant to Subparagraph (C) of this Section 5.05 has not occurred by the Tenant Improvement Completion Date by reason of the causes set forth in Section 5.06 below, then the Tenant Improvement Completion Date shall be extended for such period of delay, but in no event shall any such delay extend for more than an additional three (3) months following the Tenant Improvement Completion Date. It is further acknowledged and agreed by Tenant that in the event that the monies expended by Tenant for the completion of the Tenant Allowance Work are less than the amount of the Tenant Allowance, Tenant shall not be entitled to any credit for the unused portion thereof, nor is Tenant entitled to any additional sums from Landlord in the event that the monies expended by Tenant in connection with the completion of the Tenant Allowance Work or the Tenant Improvements exceeds the amount of the Tenant Allowance.

(c) The Tenant Improvements shall be effected solely in accordance with the plans and specifications approved by Landlord (such plans and specifications hereinafter referred to as "Tenant's Plans"). The Tenant Improvements shall be performed in accordance with the foregoing and the following provisions of this Article 5:

1. All work shall be done in a good and workmanlike manner.

2. Tenant and its contractor and any subcontractor shall agree to employ only such labor as will not result in jurisdictional disputes or strikes or result in causing disharmony with other workers employed at the Building. Tenant will inform Landlord in writing of the names of any contractor or subcontractor Tenant proposes to use in the Demised Premises within a reasonable time prior to the beginning of work by such contractor or subcontractor. A copy of any contract or subcontract affecting Tenant Improvements, the Demised Premises or the Building shall be submitted to Landlord prior to commencement of the work provided for therein.

3. The Tenant Improvements shall be effected in compliance with all applicable laws, ordinances, rules and regulations of governmental bodies having or asserting jurisdiction thereover and Tenant shall procure and furnish to Landlord copies of all governmental permits and authorizations which may be required in connection with such work, prior to the commencement thereof.

4. Tenant, at its expense, and with diligence and dispatch, shall procure the cancellation or discharge of all notices of violation arising from or otherwise connected with work performed or alleged to have been performed by its contractor(s) or subcontractor(s) and which shall be issued by the Borough of South Plainfield or any other public authority having or asserting jurisdiction. Tenant shall defend, indemnify and save harmless Landlord against any and all mechanic's and other liens and financing or title retention devices filed in connection therewith and against all costs, expenses and liabilities (including reasonable attorney's fees) incurred in connection with any such lien, financing statement, conditional bill of sale, chattel mortgage or other financing or title retention devices, or any action or proceeding brought

thereon. Tenant shall keep the Land, the Building and the Demised Premises free and clear of all liens for any work or material claimed to have been furnished to Tenant or to the Demised Premises on Tenant's behalf, and all work to be performed by Tenant shall be done in a manner which will not interfere with or disturb other tenants or occupants of the Building. All notices of intention, mechanic's liens, financing statements, conditional bills of sale, chattel mortgages and other financing or title retention devices filed against Tenant, the Demised Premises, or the Building for work claimed to have been done for or materials claimed to have been furnished to Tenant shall be cancelled and discharged of record by Tenant at its expense within ten (10) days after such filing, by payment or filing of the bond required by law.

Neither Tenant nor any of its agents, employees, representatives, contractors or subcontractors shall have any power or authority to do any act or thing or to make any contract or agreement which will bind Landlord or which may create or be the foundation for any mechanic's lien or other lien or claim upon or against Landlord or Landlord's interest in the Real Property; and further, Landlord shall have no responsibility to Tenant or to any architect, engineer, contractor, subcontractor, supplier, material man, workman or other person, firm or corporation who shall engage in or participate in the performance of Tenant Improvements, any additional work or any installation, alteration or improvement to be performed or made by Tenant under any of the terms of this Lease, or otherwise, unless Landlord shall expressly undertake such obligation by an agreement in writing, signed by Landlord, and made between Tenant and Landlord or such other party. Notice is hereby given that Landlord shall not be liable for any labor or materials furnished or to be furnished to Tenant upon credit and that no mechanic's or other lien for any such labor or materials shall attach to or affect the reversion or other estate or interest of Landlord in and to the Demised Premises, the Land and/or the Building. A copy of the foregoing provisions of this paragraph shall be included in any contract entered into by or on behalf of Tenant for the performance of or the furnishing or installation of Tenant Work, any additional work, or any installation, alteration or improvement to the Demised Premises.

5. During the progress of the work to be done by Tenant, said work shall be subject to inspection by representatives of Landlord, which shall be permitted access and the opportunity to inspect at all reasonable times, but this provision shall not in any way whatsoever create any obligation on Landlord to conduct an inspection or impose any liability on Landlord for the failure of any such work.

6. Prior to commencement of any Tenant Work, Tenant or Tenant's contractor shall furnish to Landlord policies of insurance or certificates thereof evidencing the existence of the insurance coverages required by Section 7.02 hereof, including without limitation comprehensive general liability and builder's risk insurance. Upon request by Landlord, Tenant's contractors and/or subcontractors shall furnish to Landlord Performance Bonds and/or Completion Bonds, in form and substance reasonably satisfactory to Landlord.

7. Upon completion of the work, Tenant shall, at its sole cost and expense, remove all debris from the Demised Premises and the Building, and clean the same. If it is necessary for Landlord to do any work to clean the Building and/or the Center or any part thereof, Tenant shall reimburse Landlord, upon demand therefor, Landlord's cost of cleaning same, plus Landlord supervision charges of fifteen (15%) percent.

8. Upon completion of Tenant Improvements, Tenant shall submit to Landlord in form and substance satisfactory to Landlord and counsel for Landlord the following:

(a) A Certificate of Completion by a licensed architect or engineer, which Certificate shall certify that all Tenant Improvements has been completed in accordance with the approved plans and specifications;

(b) A certificate by Tenant, or if Tenant is a corporation by an executive officer of Tenant, that the entire cost of Tenant Improvements has been paid and the amount thereof, that all those who furnished work or materials have been paid in full, and that no party has filed any lien or possesses any claim which is unpaid or remains undischarged;

(c) A Certificate of Occupancy, or an equivalent permit or certificate, required by any governmental authorities prior to opening for business within the Demised Premises;

(d) A final release and lien waiver signed by Tenant's general contractor and all subcontractors and materialmen, together with a certificate by the general contractor to the effect that all those who furnished work or materials to the Demised Premises have been paid in full and that the release and waiver has been signed by all those who furnished work or materials to the Demised Premises; and

(e) Final and complete "as-built" plans (architectural and mechanical) for the Demised Premises.

Section 5.06. If there shall be a delay in the completion of the Landlord's Work or repair or restoration of the Demised Premises or Center or any portion thereof caused by strikes, riots, acts of God, shortages of labor or materials, national emergency, governmental restrictions, laws or regulations, the act or failure to act of Tenant, including without limitation, delays in delivering construction criteria and plan approval, or for any other cause or causes beyond Landlord's control, at Landlord's option such delay shall not be a violation of this Lease, and the time periods set forth in this Lease for any such work shall, at Landlord's option, be extended for a period of time equal to the period of delay.

Section 5.07. The Plot Plan shows the approximate location of existing buildings, buildings under construction, proposed buildings and certain areas reserved for related site improvements and future construction at the option of Landlord. Landlord shall have the right to develop the Center in the manner it sees fit and in the sole and absolute discretion of Landlord: to construct or not construct any buildings other than the Building, to change the nature or identity of the occupants of any such buildings, and to vary the floor areas, stories and heights, sizes, shapes and design of any such buildings and the divisions or portions thereof.

ARTICLE 6. ALTERATIONS AND REPAIRS

Section 6.01. No alterations or additions shall at any time be made by or at the instance of Tenant without Landlord's prior written consent, except that Tenant may make alterations, the cost or value of which is not greater than $10,000.00, without Landlord's consent, provided such alterations do not affect the exterior or load bearing structural integrity of the Building or materially or adversely affect the building systems serving the Demised Premises. All work,

repairs, and/or alterations made by or at the instance of Tenant shall be done in a good and workmanlike manner, with first class materials, in compliance with any applicable governmental rules and regulations, and subject to Article 19 hereof, and the cost thereof shall be paid by Tenant in cash or its equivalent, so that the Demised Premises shall at all times be free of liens for labor or materials supplied or claimed to have been supplied to the Demised Premises. Any alterations, installations, repairs, additions or improvements (inclusive of paneling and other wall coverings), except Tenant's trade fixtures, shall, at the option of Landlord, become the property of Landlord and shall remain upon and be surrendered with the Demised Premises, as part thereof, at the expiration or sooner termination of the Term. If Tenant is in default hereunder or is dispossessed, or vacates the premises, voluntarily or otherwise, and fails to remove any property, equipment and fixtures within ten (10) days following notice by Landlord, then and in that event, the said property, equipment and fixtures shall be deemed, at the option of Landlord, to be abandoned; or in lieu thereof, at the Landlord's option, Landlord may remove and store or dispose of such property and charge the cost and expense of removal, storage and disposal to Tenant, provided, however, Landlord's option to elect that such alterations either remain with the Demised Premises or be removed at the Tenant's expense, and the Landlord's determination as to whether any particular fixtures are "trade fixtures", shall be made within thirty days (30) following Tenant's written request to Landlord to make such determination with respect to any particular installation of any of such alterations or fixtures. Trade fixtures shall be defined as fixtures and equipment used by Tenant in the operation of its business, but not including any fixtures and equipment which are part of the operation of the Demised Premises or the Building.

Section 6.02. Anything to the contrary contained herein notwithstanding, it is expressly understood and agreed that Tenant may install, connect and operate such machinery, fixtures and equipment as may be deemed necessary by the Tenant for its business, subject to compliance with applicable rules and regulations of governmental bodies and bureaus having jurisdiction thereover. Subject to the terms and conditions of this Lease, the machinery, fixtures and equipment belonging to Tenant shall, at all times, be considered and intended to be personal property of Tenant, and not part of the realty, and subject to removal by Tenant, provided, at the time of such removal, that Tenant is not in default pursuant to any of the terms, covenants, provisions or conditions of this Lease. Tenant, at its own cost and expense, shall pay for any damage to the Demised Premises or Building caused by the installation thereof or such removal, and this obligation shall survive the expiration or sooner termination of the Term.

Section 6.03. Landlord shall, following reasonable notice from Tenant, make all necessary repairs and replacements to the exterior structural portions of the Demised Premises, including the roof and foundations thereof, provided, however, Landlord shall not be required to make any repairs or replacements caused by any act, omission, or negligence of Tenant, any subtenant, or concessionaire, or their respective employees, agents, invitees, licensees or contractors, including any repairs to the roof necessitated by roof penetrations made by Tenant, it being understood that Landlord shall be responsible for any roof repairs arising out of Landlord's Work. Tenant shall make all other repairs and replacements to the Demised Premises. Tenant shall maintain throughout the Term, including any extension term hereof, a protective service maintenance contract with a contractor approved by Landlord, which approval shall not be unreasonably withheld, providing for periodic maintenance of the H.V.A.C. system serving the Demised Premises, including without limitation periodic changing of any and all filters, changing of belts, lubricating of equipment and maintenance of operating levels of freon in

accordance with manufacturers specifications. Said contract shall provide for maintenance inspection and service not less than two (2) times per year. A copy of any such maintenance contract shall be delivered to Landlord on a yearly basis or more often if required by Landlord. Tenant shall keep all glass clean and in good condition, and Tenant shall replace any glass which may be damaged or broken with glass of the same quality. Tenant shall keep the sidewalk, if any, adjacent to the Demised Premises free and clear of trash, litter and rubbish.

Section 6.04. To the extent permitted by law, nothing contained in this Lease shall authorize Tenant to do any act which may create or be the foundation for any lien, mortgage or other encumbrance upon the reversion or other estate of Landlord, or of any interest of Landlord in the Demised Premises, or upon or in the Building or Center of which the same form a part; it being agreed that should Tenant cause any alterations, changes, additions, installations, improvements or repairs to be made to the Demised Premises, or cause materials to be furnished or labor to be performed therein or thereon, neither Landlord nor the Demised Premises shall, under any circumstances, be liable for the payment of any expense incurred or for the value of any work done or materials furnished to the Demised Premises or any part thereof. Tenant shall, upon request of Landlord, deliver such documents as may be required by Landlord in order to effectuate the lien protection required by this paragraph and Section 6.01 hereof, including without limitation, waivers of lien in advance from all contractors. All such alterations, changes, additions, improvements, repairs, materials and labor shall be at Tenant's sole expense and Tenant shall be solely and wholly responsible to contractors, subcontractors, laborers and materialmen furnishing labor and material to the Demised Premises and Building or any part thereof. If, because of any act or omission of Tenant, any mechanic's or other lien or order for the payment of money shall be filed against the Demised Premises or the Building or improvements thereon or therein, or upon the Center, or against Landlord (whether or not such lien or order is valid or enforceable as such), Tenant shall, at Tenant's own cost and expense, within ten (10) days after notice of the filing thereof, cause the same to be canceled and discharged of record, or furnish Landlord with a surety bond issued by a surety company reasonably satisfactory to Landlord, protecting Landlord from any loss because of nonpayment of such lien or claim, and Tenant hereby indemnifies and saves harmless Landlord from and against any and all costs, expenses, claims, losses or damages, including reasonable counsel fees, resulting therefrom or by reason thereof.

Section 6.05. Except for the repair obligations of Landlord under Section 6.03 above and the restoration obligations of Landlord under and as set forth in Articles 8 and 10 hereof, the Tenant shall take good care of the Demised Premises and, at its cost and expense, keep and maintain in good repair the interior and exterior of the Demised Premises, including, but not limited to the air conditioning and heating plant, the plumbing pipes and fixtures belonging thereto; and shall repair or replace all mechanical and working parts used in connection with the air conditioning, electrical, heating and plumbing plants, fixtures and systems; and shall keep the water and sewer pipes and connections, including the gutters, leaders, and roof drains, free from other obstructions; and shall generally maintain and repair the interior and exterior of the Demised Premises and shall, at the end or the expiration of the Term (or Extension Term, whichever is applicable), deliver up the Demised Premises in good order and condition, damages by the elements, ordinary wear and tear excepted. Tenant covenants and agrees that it shall not cause or permit any waste (other than reasonable wear and tear), damage or disfigurement to the Demised Premises, or any overloading of the floors of the Building.

Section 6.06. Landlord hereby acknowledges that Tenant may obtain financing for its laboratory and/or office equipment, and that in such event, Tenant may grant a security interest to such lender or equipment lessor in connection with such financing and/or leasing. Landlord further acknowledges that such financing or leasing by Tenant shall not be deemed to be a violation of the provisions of Section 6.04 so long as the lien of such lender or equipment lessor extends solely to the trade fixtures or other property of the Tenant located at the Demised Premises, and does not attach to, affect in any manner whatsoever, the building or property of the Landlord located at the Building, including, without limitation, the building fixtures and equipment located in the Demised Premises.

ARTICLE 7. INDEMNITY AND INSURANCE

Section 7.01.

(a) To the extent not covered by the insurance required to be maintained by Landlord hereunder, Tenant hereby indemnifies and saves harmless Landlord from and against any claims and all loss, cost, liability, damage and/or expense, including, but not limited to reasonable counsel fees, penalties and fines, incurred in connection with or arising from (i) any default by Tenant in the observance or performance of any of the provisions, covenants or conditions of this Lease on Tenant's part to be observed or performed, (ii) the use or occupancy or manner of use or occupancy of the Demised Premises by Tenant or any person claiming through or under Tenant, or (iii) any acts, omissions, or negligence of Tenant or any such person, or any contractor, agent, servant, employee, visitor or licensee of Tenant, or any such person, in or about the Demised Premises. If any action or proceeding shall be brought against Landlord based upon any such claim, Tenant, upon notice from Landlord, shall cause such action or proceeding to be defended, at Tenant's expense, by counsel acting for Tenant's insurance carriers in connection with such defense or by other counsel reasonably satisfactory to Landlord.

(b) To the extent not covered by insurance required to be maintained by Tenant hereunder, Landlord hereby indemnifies and saves harmless Tenant from and against any claims and all loss, cost, liability, damage and/or expense, including, but not limited to reasonable counsel fees, penalties and fines, incurred in connection with or arising from (i) any default by Landlord in the observance or performance of any of the provisions, covenants or conditions of this Lease on Landlord's part to be observed or performed, or (ii) any acts, omissions, or negligence of Landlord or any such person, or any contractor, agent, servant, employee, visitor or licensee of Landlord, or any such person, in or about the Demised Premises. If any action or proceeding shall be brought against Tenant based upon any such claim, Landlord, upon notice from Tenant, shall cause such action or proceeding to be defended, at Landlord's expense, by counsel acting for Landlord's insurance carriers in connection with such defense or by other counsel reasonably satisfactory to Tenant.

Section 7.02. Tenant shall, during the Term (including any extension term) and during any period prior to the commencement of the Term during which Tenant or anyone acting by or on behalf of Tenant enters the Demised Premises, at Tenant's own cost and expense, maintain and provide: (a) comprehensive general liability insurance for the benefit and protection of Landlord and Tenant (said policy to name Landlord, ground lessor, if any, and any other parties designated by Landlord, as co-insureds) in an amount not less than $1,000,000 for injuries or

death to any one person, and not less than $3,000,000 for injuries or death to more than one person in any one accident or occurrence and for damage to property in an amount not less than $500,000 arising out of any one accident or occurrence; (b) plate glass insurance covering all plate glass in the Demised Premises; (c) worker's compensation insurance covering all persons employed in connection with Tenant's use and occupancy of the Demised Premises or any construction or alteration work therein; (d) insurance against loss or damage to Tenant's contents, including without limitation, trade fixtures and equipment, by fire, lightning, and other risks from time to time included under standard "extended coverage" policies, and vandalism and malicious mischief, in amounts sufficient to prevent Landlord and Tenant from becoming co-insurers of any loss under such policy, but in any event, not less than 100 percent of the full insurable value of such property; (e) boiler and pressure vessel insurance on all of Tenant's equipment, parts thereof and appurtenances attached or connected to the Demised Premises which by reason of their use or existence are capable of bursting, erupting, collapsing or exploding, in the minimum amount of Five Hundred Thousand ($500,000.00) Dollars for damage to property resulting from such perils; and (f) insurance covering such other risks as may be reasonably requested by Landlord occasioned by or attributable to the use or occupancy or manner of use or occupancy of the Demised Premises by Tenant. Said policies shall be issued by companies satisfactory to Landlord and licensed to do business in the state in which the Demised Premises is located. Said policies or certificates thereof shall be delivered to Landlord at the commencement of the Term (or prior thereto in the event of earlier entry by Tenant upon the Demised Premises), together with proof of payment of premium therefor, and renewal policies or certificates therefor shall be delivered to Landlord not less than twenty (20) days prior to the expiration dates thereof. Said policies and/or certificates shall contain an undertaking by the insurer to give Landlord not less than twenty (20) days written notice of any cancellation or change in scope or amount of coverage of said policies.

Section 7.03.

(a) Landlord shall, during the Term, maintain and provide general hazard insurance during the course of construction (including "builder's risk endorsements") against loss or damage to the Building by fire, lightning and other risks from time to time included under standard "Extended Coverage" policies, vandalism and malicious mischief, in amounts not less than 100 percent of the full replacement value of the Building and any other building or portion thereof covered by such insurance and rent loss insurance covering all minimum and additional rental payable hereunder. Tenant shall pay its proportionate share of the cost of maintaining and providing such insurance, which proportionate share shall be a fraction having as its numerator the number of square feet of floor area within the Demised Premises and as its denominator, the total number of square feet of floor area of all buildings within Lot 46.24.

(b) Such payment shall be made to Landlord, at Landlord's Option, either annually within thirty (30) days of demand therefor or in monthly installments on or before the first day of each calendar month, in advance, in an amount estimated by Landlord. Periodically, Landlord shall furnish Tenant with a written statement of the actual amount of Tenant's proportionate share of said insurance costs. If the total amount paid by Tenant under this section for any period during the Lease Term shall be less than the actual amount due from Tenant for such period, as shown on such statement, Tenant shall pay to Landlord the difference between the amount paid by Tenant and the actual amount due, such deficiency to be paid within ten (10)

days after demand therefor by Landlord; and if the total amount paid by Tenant hereunder for any such period shall exceed the actual amount due from Tenant for such period, the excess shall promptly be applied by Landlord to the next accruing monthly installments thereof or, at Landlord's option, to any other charges payable by Tenant. For the calendar years in which this Lease commences and terminates, the provisions of this section shall apply and Tenant's liability for its proportionate share thereof for such years shall be subject to a pro rata adjustment based on the number of days of said calendar years during the Lease Term. Prior to or at the commencement of the Lease Term and from time to time thereafter throughout the Lease Term, Landlord will notify Tenant in writing of Landlord's estimate of Tenant's monthly installments due hereunder. Tenant's obligations under this section shall survive the expiration of the Lease Term.

Section 7.04. Insurance coverages required of Tenant hereunder shall be reviewed on an annual basis and Landlord may require that said coverages shall be updated in accordance with the provisions hereinabove set forth as to amounts and scope of coverage.

Section 7.05. In the event of any insured loss covered under the terms and conditions of this Lease, and for which Tenant is obligated to maintain insurance coverage, all insurance carriers' checks in satisfaction of the same shall be made payable to the Landlord and the holder of the first mortgage covering the Building and Tenant waives any and all rights to be designated a payee on such loss payment, except as to losses under the coverage in Section 7.02(d) above.

ARTICLE 8. FIRE DAMAGE

Section 8.01. If the Demised Premises shall be partially damaged by fire or other insured casualty, the damages shall be repaired by and at the expense of Landlord and the annual minimum rental until such repairs shall be made shall abate equitably according to the part of the Demised Premises which is unusable by Tenant or, if by reason thereof, the Demised Premises are rendered untenantable, said rental shall totally abate until such repairs shall be made. Notwithstanding the foregoing, if the Demised Premises or the Building shall be damaged to such extent that Landlord shall decide to demolish same, or not to rebuild same, then, and in such event, Landlord may terminate this Lease upon notice to Tenant given within ninety (90) days following such event, and upon the date specified in such notice, which date shall not be less than thirty (30) days nor more than sixty (60) days following the giving of said notice, this Lease shall terminate and Tenant shall vacate and surrender the Demised Premises to Landlord. Any annual minimum rental prepaid by Tenant beyond said date shall be promptly refunded to Tenant. Notwithstanding any of the foregoing provisions of this Article, if Landlord or the holder of any superior mortgage shall be unable to collect all of the insurance proceeds (including rent insurance proceeds) applicable to damage or destruction of the Demised Premises or the Building by fire or other cause, by reason of some action or inaction on the part of the Tenant or any of its employees, agents or contractors, then, without prejudice to any other remedies which may be available against Tenant, the abatement of Tenant's rents provided for in this Article shall not be effective to the extent of the uncollected insurance proceeds.

Section 8.02. If this Lease shall not be terminated as provided above in this Article, Landlord shall, at its expense, proceed with the restoration of the Demised Premises, provided, Landlord's obligations hereunder shall not exceed the scope of Landlord's initial construction

obligations under this Lease and further provided, that Landlord's restoration obligations shall be subject to building and zoning laws then in effect. No penalty shall accrue for reasonable delay which may arise by reason of adjustment of insurance on the part of Landlord. Landlord shall use diligent efforts to adjust insurance promptly. If Landlord shall so restore the Demised Premises, Tenant shall repair, restore and redecorate the Demised Premises and reoccupy and reopen the Demised Premises, within fifteen (15) days following notice of restoration, in a manner and to the condition existing prior to the event of damage, except to the extent that Landlord is obligated above, and Tenant shall hold in trust the proceeds of all insurance carried by Tenant on its property for the purpose of such repair and restoration.

Section 8.03. Nothing hereinabove contained with respect to Tenant's right to abate the rent under proper conditions shall be construed to limit or affect Landlord's right to payment under the rental loss coverage to be provided pursuant to Section 7.03 hereof.

ARTICLE 9. WAIVER OF SUBROGATION

Section 9.01. Landlord, its officers, agents, employees, subsidiaries and affiliated entities and corporations shall not be liable for any damage to or destruction of any of Tenant's goods, merchandise, fixtures, furniture or property of whatsoever nature, caused by fire or any other cause whatsoever, including, without limitation, the negligence of any such parties, and Tenant hereby releases and waives any right of recovery against Landlord, its officers, agents, employees, subsidiaries and affiliated entities and corporations for any such loss. Tenant shall procure a waiver of subrogation on the part of the insurer against such parties by an endorsement to all insurance policies whereby the insurer recognizes the provisions of this Article.

Section 9.02. Tenant, its officers, agents, employees, subsidiaries and affiliated entities and corporations shall not be liable for any damage to or destruction of any of Landlord's goods, merchandise, fixtures, furniture or property of whatsoever nature, caused by fire or any other cause whatsoever, including, without limitation, the negligence of any such parties, and Landlord hereby releases and waives any right of recovery against Tenant, its officers, agents, employees, subsidiaries and affiliated entities and corporations for any such loss. Landlord shall procure a waiver of subrogation on the part of the insurer against such parties by an endorsement to all insurance policies whereby the insurer recognizes the provisions of this Article.

ARTICLE 10. CONDEMNATION

Section 10.01. If the whole of the Demised Premises shall be taken by any governmental authority under the power of condemnation, eminent domain, or expropriation, or in the event of a conveyance in lieu thereof, the Term shall cease as of the day possession shall be taken by such governmental authority. If more than 25 percent of the Demised Premises shall be so taken or conveyed, either Landlord or Tenant shall have the right to terminate this Lease upon notice to the other party, effective as of the day possession shall be taken by such governmental authority. If this Lease is so terminated, annual minimum rental shall be prorated as of the date that possession must be surrendered to the condemning authority.

Section 10.02. If this Lease continues after a partial taking, the annual minimum rental shall abate equitably as to the part of the Demised Premises which is taken. If this Lease

continues after any such taking or conveyance, Landlord shall make all necessary repairs and restorations so as to restore the remainder of the Demised Premises to a complete architectural unit. Landlord's reconstruction obligations shall not exceed the amount of the award or compensation for the taking, shall not exceed the scope of Landlord's initial construction obligations hereunder, and shall be subject to building and zoning laws then in effect.

Section 10.03. If so much of the Center, Common Areas or Building shall be so taken or conveyed so that in the reasonable exercise of Landlord's judgment, the continued operation of the Building for use by its tenants is unfeasible, then, in such event, Landlord may, by notice to Tenant, delivered not later than thirty (30) days following the date that possession of the premises taken or conveyed is delivered to the governmental authority, terminate this Lease, and rent shall be pro rated as of the date that possession must be surrendered to the condemning authority.

Section 10.04. Tenant and not Landlord shall be entitled to any portion of the award made to Tenant for the value of Tenant's removable trade fixtures and equipment other than equipment necessary for the operation of the Building. All compensation awarded for the taking of the Building, the fee and the leasehold shall belong to and be the property of Landlord, and Tenant shall not be entitled to and hereby waives any damages for the unexpired portion of the Term, or injury to its leasehold interest.

ARTICLE 11. ASSIGNMENT AND SUBLETTING

Section 11.01. Tenant, for itself, its heirs, distributees, executors, administrators, legal representatives, successors and assigns, as the case may be, expressly covenants that it shall not assign, mortgage or encumber this agreement, nor sublet or underlet nor suffer or permit the Demised Premises or any part thereof to be used by others without the prior written consent of Landlord in each instance. If, with consent of Landlord, this Lease may be assigned, or the Demised Premises or any part thereof be underlet or occupied by anybody other than Tenant, Landlord may collect rent from the assignee, undertenant or occupant and apply the amount collected to the rent herein reserved, but no such assignment, underletting, occupancy or collecting shall be deemed to relieve Tenant or any guarantor of this Lease or guarantor of the obligations of Tenant hereunder of any of its or their obligations hereunder nor be deemed a waiver of this covenant, or the acceptance of the assignee, undertenant or occupant as tenant; or a release of Tenant or any guarantor of this Lease or any guarantor of the obligations of Tenant hereunder from its or their obligations under the covenants, provisions and conditions hereof; it being understood and agreed that Tenant and any guarantor of this Lease or any guarantor of the obligations of Tenant hereunder shall at all times, including during any extension term, remain obligated as primary obligors under this Lease. The consent by Landlord to an assignment or underletting shall not in any wise be construed to relieve Tenant or any other Tenant, assignee, undertenant, or occupant of the Demised Premises from obtaining the express consent in writing of Landlord to any further assignment or underletting, and no such assignment or subletting shall be made to anyone who shall occupy the Demised Premises for any use other than as specifically permitted by the terms of this Lease. Notwithstanding anything contained in this Lease to the contrary, in the event that it shall be found by a court of competent jurisdiction that Landlord was unreasonable in withholding its consent to the assignment of this Lease or the subletting of all or any portion of the Demised Premises, Tenant's sole remedy shall be limited to specific

performance and Tenant shall not be entitled to damages or any other affirmative relief or remedy as a result thereof. In the event of a leveraged buy-out or other take-over of Tenant, Landlord's consent to an assignment of this Lease or subletting of the Demised Premises to the successor entity shall not be deemed to have been unreasonably withheld if said successor entity shall not have a net worth (in the event of a corporate entity, on a market value basis) as certified to by a certified public accountant at least equal to the net worth of Tenant upon the date of execution of this Lease.

Section 11.02. Supplementing the provisions of Section 11.01 of this Lease, provided Tenant is not in default under any of the terms, covenants, conditions and provisions of the Lease, Landlord shall not unreasonably withhold or delay or condition its consent to any proposed assignment of this Lease, or subletting of all or any portion(s) of Demised Premises. Any assignment or transfer of this Lease and any subletting of all or a portion of the Demised Premises shall be subject to Landlord's prior written consent and subject to the terms of all of the sections of this Article 11 and shall be made only if, and shall not be effective until, the assignee or subtenant shall execute, acknowledge and deliver to Landlord a recordable agreement, in form and substance satisfactory to Landlord and counsel for Landlord, whereby the assignee or subtenant shall assume for the benefit of Landlord the obligations and performance of this Lease and agree to be personally bound by and upon all of the covenants, agreements, terms, provisions and conditions hereof on the part of Tenant to be performed or observed, and whereby Tenant (and any guarantor of this Lease or of the Tenant's obligations hereunder) covenants and agrees to remain liable as a primary obligor for the due performance of all of the covenants, agreements, terms, provisions and conditions of this Lease on the part of Tenant to be performed or observed. In the event of any assignment of this Lease or any subletting of all or any portion of the Demised Premises, the obligations of Tenant and any guarantor of this Lease or any guarantor of the obligations of Tenant under this Lease as a primary obligor shall be unaffected and shall remain in full force and effect.

Section 11.03. In the event that Tenant desires to assign this Lease or sublet all or a portion of the Demised Premises, Tenant shall first notify Landlord in writing of its intention, and such notice shall include the information described in the last sentence of Section 11.04 hereof and state the name of the proposed assignee or subtenant, together with its full address and a description of its proposed use (but nothing contained herein shall permit, nor obligate Landlord to permit, a use other than the use permitted by Section 2.01 of this Lease, it being understood that any change in use shall be subject to Landlord's consent, which Tenant agrees may, notwithstanding anything contained herein to the contrary, be unreasonably withheld). Tenant shall include therewith such financial information as may be available concerning the proposed assignee or subtenant, including without limitation current updated financial statements (which financial information Tenant, and/or the proposed assignee or subtenant shall supplement on demand if required by Landlord). In addition, Tenant shall simultaneously tender a duplicate original of the instrument of assignment or sublease and a termination and surrender agreement in proper form, reasonably satisfactory to counsel for Landlord ("Surrender Agreement") executed in and on behalf of Tenant. Thereafter, Landlord shall have sixty (60) days in which to decide whether to accept a surrender of the Demised Premises or to respond to the notification above, it being understood that during such sixty (60) day period Landlord shall have the right to negotiate with such assignee and/or subtenant, without Landlord incurring any obligation whatsoever to Tenant, for all or a portion of the Demised Premises or such other or greater or

lesser area of the Center as Landlord shall determine in its sole discretion. In the event that Landlord shall accept the Surrender Agreement, Landlord shall execute the Surrender Agreement and this Lease shall terminate as of the sixtieth day following the day that Landlord received Tenant's notification ("Surrender Date"), with the same force and effect as if such date were the Expiration Date. Upon the termination of this Lease pursuant hereto, Tenant shall pay all annual minimum rent and additional rent on a pro rata basis for each day prior to the Surrender Date. In the event that any item of additional rent cannot be calculated as of the Surrender Date, Tenant hereby covenants to pay its pro rata share promptly upon being billed therefor and this obligation shall survive the Surrender Date.

Section 11.04. Tenant hereby covenants and agrees to tender to Landlord upon receipt fifty (50%) percent of any annual minimum rent or additional rent or lump sum or installment payment or sum which Tenant shall receive from or on behalf of any assignee(s) or subtenant(s) or any occupant by, through or under Tenant, which is in excess of the annual minimum rent or additional rent payable by Tenant in accordance with the provisions of this Lease (or in the event of a subletting of less than the whole of the Demised Premises, the annual minimum rent or additional rent allocable to that portion of the Demised Premises affected by such sublease) less the actual bona-fide expenses paid by Tenant in connection with such subletting or assignment (e.g. cost of alterations, and brokerage, legal and architectural and engineering fees). At the time of submission of the proposed assignment or sublease to Landlord, Tenant shall certify to Landlord in writing whether or not the assignee or subtenant has agreed to pay any such monies to Tenant or any designee of Tenant other than as specified and set forth in such instruments, and if so Tenant shall certify the amounts and time of payment thereof in reasonable detail.

Section 11.05. Notwithstanding anything to the contrary contained in this Article, Tenant may assign this Lease or sublet any portion of the Demised Premises at any time during the term of this lease, without obtaining Landlord's consent, upon Tenant giving Landlord prior written notice, to (a) another corporation succeeding to substantially all of the assets of Tenant as a result of a consolidation or merger or to a corporation to which all or substantially all of the assets of Tenant have been sold; (b) a wholly-owned subsidiary corporation; or (c) an affiliated corporation (defined as any corporation whose majority of shares are owned or controlled by the same persons owning or controlling the majority of shares of Tenant); provided: (i) documentation in compliance with Section 11.02 above shall be delivered to Landlord prior to the effective date of such assignment or sublease, and (ii) Tenant shall remain primarily liable under all terms and conditions of this Lease (unless Tenant's corporate existence ends as a matter of law pursuant to such consolidation or merger).

ARTICLE 12. COMMON AREA MAINTENANCE

Section 12.01. As used in this Lease, the term "Common Area Operating Costs" shall include the total cost and expense incurred by Landlord in operating, lighting, striping, maintaining, cleaning, landscaping, repairing (including replacement and resurfacing) managing, signing, equipping and insuring the Common Areas within Lot Nos. 46.24 and 46.25 plus ten (10%) percent of the foregoing costs to cover Landlord's administrative and overhead costs. Such costs and expenses shall include, without limitation (including appropriate reserves): cleaning; fire and police protection and general security (Landlord not incurring or assuming any obligation to provide such protection or security or any liability for the failure of the same);

repairing and replacing paving; keeping the Common Areas supervised, drained, reasonably free of snow, ice, rubbish and other obstructions, and in a neat, clean, orderly and sanitary condition; the charges for rubbish containers and removal (except that at Landlord's option, Tenant shall be directly responsible for contracting for and for providing (subject to Landlord's approval of the provisions and conditions of the agreement therefor) rubbish containers and removal); the maintenance of any and all fire protection systems servicing Lot Nos. 46.24 and 46.25; the cost of public liability insurance; keeping the Common Areas suitably lighted; maintaining signs (other than Tenant's signs), markers, painted lines delineating parking spaces, and other means and methods of pedestrian and vehicular traffic control; constructing, maintaining and repairing of onsite and offsite traffic controls; maintaining adequate roadways, entrances and exits; maintaining any plantings and landscaped areas; Lot Nos. 46.24 and 46.25 management fees incurred by Landlord, including management fees payable to parties or entities owned or controlled by Landlord or any of them; maintenance and repair of all utilities, utility conduits and storm drainage systems situated within or servicing Lot Nos. 46.24 and 46.25; fees for required licenses and permits; and depreciation of machinery and equipment used in the operation and maintenance of the Common Areas and personal property taxes and other charges incurred in connection with such equipment. The term "Common Areas" shall be defined as all paved areas, driveways, truckways, walkways, and landscaped and planted areas within Lot Nos. 46.24 and 46.25. Landlord shall maintain, light, clean and repair (including snow removal) the Common Areas so that such Common Areas may be used for their intended purposes, and in order to enable Landlord to perform its obligations as aforesaid, Landlord may incur such Common Area Operating Costs as Landlord, in its sole discretion, may determine, in the performance of Landlord's obligations hereunder to maintain the Common Areas.

Section 12.02. During the initial term of this Lease and during any extension term hereof, Tenant shall pay Landlord Tenant's proportionate share of Common Area Operating Costs incurred or expended by Landlord as aforesaid. Such payment shall be made to Landlord in monthly installments on or before the first day of each calendar month, in advance, in an amount estimated by Landlord. Following the expiration of each calendar year during the Term hereof, Landlord shall furnish Tenant with a written statement of the actual amount of Tenant's proportionate share of the Common Area Operating Costs for such year. If the total amount paid by Tenant under this section for any calendar year during the Term shall be less than the actual amount due from Tenant for such year, as shown on such statement, Tenant shall pay to Landlord the difference between the amount paid by Tenant and the actual amount due, such deficiency to be paid within ten (10) days after demand therefor by Landlord; and if the total amount paid by Tenant hereunder for any such calendar year shall exceed such actual amount due from Tenant for such calendar year, such excess shall promptly be applied by Landlord to the next accruing monthly installments of Tenant's proportionate share of Common Area Operating Costs or, at Landlord's option, to any other charges payable by Tenant. For the calendar years in which this Lease commences and terminates, the provisions of this section shall apply, and Tenant's liability for its proportionate share of any Common Area Operating Costs for such years shall be subject to a pro rata adjustment based on the number of days of said calendar years during the Term. Prior to or at the commencement of the Term and from time to time thereafter throughout the Term, Landlord will notify Tenant in writing of Landlord's estimate of Tenant's monthly installments due hereunder. Landlord shall have the right to make special assessments from time to time for extraordinary Common Area Operating Costs and Tenant shall pay any such special assessment within ten (10) days following Landlord's billing therefor.

Extraordinary Common Area Operating Costs shall include, without limitation, any charge not anticipated by Landlord in determining Landlord's estimate of Tenant's proportionate share of Common Area Operating Costs for the year in question and any charges, costs and expenses incurred by Landlord which might cause the amounts paid by Tenant pursuant to Landlord's estimate of Tenant's proportionate share of Common Area Operating Costs for the year in question to be less than the amount actually due from Tenant for such year pursuant to this Section 12.02. Tenant's obligations under this section shall survive the expiration of the Term. Tenant's proportionate share of Common Area Operating Costs shall be a fraction, having as its numerator, the number of square feet of floor area within the Demised Premises and as its denominator, the total number of square feet of floor area of all buildings within Lot Nos. 46.24 and 46.25 or, at Landlord's option, the portion thereof affected by such cost, including the Demised Premises. Notwithstanding the foregoing provisions of this Article, in the event the obligations of Tenant under this Article 12 are specifically identifiable separate charges relating to Tenant and/or the Demised Premises, then, and in such event, the obligations of Tenant under this Article 12 may, at Landlord's option, be measured and payable in accordance with such separate and specifically identifiable charge and not by the provisions of the preceding sentence.

Section 12.03. Tenant, its concessionaires, officers, employees, and agents may use the Common Areas, subject to such reasonable rules and regulations as Landlord may from time to time impose, including the designation of specific areas in which vehicles owned or operated by Tenant, its concessionaires, officers, employees and agents must be parked. Tenant shall abide by such rules and regulations and cause its concessionaires, officers, employees, agents, customers and invitees to conform thereto. Landlord may, at any time, close temporarily any Common Areas to make repairs or changes therein or to effect construction repairs or changes within Lot Nos. 46.24 and 46.25, and Landlord may do such other acts in and to the Common Areas as in its reasonable judgment may be desirable to improve the convenience thereof. In the event that any such temporary closures of the Common Areas shall exceed two (2) business days, Landlord shall use diligent efforts to arrange for appropriate alternate parking for Tenant.

Section 12.04. Notwithstanding anything to the contrary herein contained, Landlord hereby reserves the right (and Tenant hereby consents thereto) to construct or permit the construction, use and maintenance within the Common Areas of Lot Nos. 46.24 and 46.25 including without limitation, the parking areas, of various commercial type buildings, structures, and appurtenances, and equipment incidental thereto, subject, however, to the provisions of the last sentence of Section 1.01(b).

ARTICLE 13. UTILITIES

Section 13.01. Tenant shall pay, as and when they shall be due and payable, all water charges, taxes, water rates and/or meter charges, sprinkler charges (standby or otherwise), sewer taxes, sewer charges, sewer fees, and sewer rental taxes and charges for utilities, including, without limitation, the charges for gas, electricity, and other utilities furnished to Tenant and consumed in the Demised Premises. Tenant shall heat the Demised Premises whenever the weather shall require. If Landlord, or any property of Landlord, shall be held responsible for any expense covered by this Article, Tenant shall pay Landlord the amount thereof within five (5) days following written request. Landlord shall not be responsible to Tenant for any failure or

interruption of any such services, irrespective of the cause thereof, except the negligence or misconduct of Landlord, or Landlord's employees agents, or contractors.

ARTICLE 14. TAXES

Section 14.01.

(a) Subject to the reimbursement obligations of Tenant hereinafter set forth, Landlord shall pay during the Term of this Lease, all real estate taxes assessed or imposed upon or respecting the land and improvements within and upon Lot No. 46.24. The term "real estate taxes" for purposes of this Lease shall exclude income, franchise, estate or inheritance taxes levied against Landlord or taxes based upon rental receipts, but shall include any taxes levied in lieu of or as a substitute for real estate taxes. Tenant shall pay to Landlord, as additional rent, at the time and in the manner set forth in Section 14.01 (b), Tenant's proportionate share of such taxes, which proportionate share shall be a fraction having as its numerator the number of square feet of floor area within the Demised Premises and as its denominator, the total number of square feet of floor area of all buildings within Lot 46.24. Notwithstanding the foregoing, if the improvements within the Demised Premises and/or the balance of the improvements or any part thereof upon Lot No. 46.24 shall receive a separate assessment based upon the certification of the Tax Assessor, then the taxes payable by Tenant for such improvements may, at Landlord's option, be based thereon.

(b) All amounts payable by Tenant pursuant to this Article shall be paid to Landlord in monthly installments on or before the first day of each calendar month, in advance, in an amount estimated by Landlord; provided, that in the event Landlord is required under any mortgage encumbering Lot No. 46.24 to escrow real estate taxes, Landlord may, but shall not be obligated to, use the amount required to be so escrowed as a basis for its estimate of the monthly installments due from Tenant hereunder. As soon as shall be reasonably practicable following the expiration of each calendar year during the Term, Landlord shall furnish Tenant with a written statement of the actual amount of Tenant's share of the taxes for such year. If the total amount paid by Tenant under this Section for any calendar year during the Term shall be less than the actual amount due from Tenant for such year, as shown on such statement, Tenant shall pay to Landlord the difference between the amount paid by Tenant and the actual amount due, such deficiency to be paid within ten (10) days after demand therefor by Landlord; and if the total amount paid by Tenant hereunder for any such calendar year shall exceed such actual amount due from Tenant for such calendar year, such excess shall be applied by Landlord to the next accruing monthly installments of taxes due from Tenant or, at Landlord's option, to any other charges payable by Tenant. For the calendar years in which this Lease commences and terminates the provisions of this Section shall apply, and Tenant's liability for its share of taxes for such years shall be subject to a pro rata adjustment based on the number of days of said calendar years during the Term. Prior to or at the commencement of the Term and from time to time thereafter throughout the Term, Landlord may notify Tenant in writing of Landlord's estimate of Tenant's monthly installments due hereunder. Landlord shall have the right to make special assessments from time to time for extraordinary real estate taxes and Tenant shall pay any such special assessment within ten (10) days following Landlord's billing therefor. Extraordinary real estate taxes shall include, without limitation, any charge not anticipated by Landlord in determining Landlord's estimate of Tenant's proportionate share of real estate taxes

for the year in question and any real estate taxes incurred by Landlord which might cause the amounts paid by Tenant pursuant to Landlord's estimate of Tenant's proportionate share of real estate taxes for the year in question to be less than the amount actually due from Tenant for such year pursuant to this Section 14.01(b). Tenant's obligations under this Section shall survive the expiration of the Term.

Section 14.02. Tenant shall be liable for all taxes on or against property and trade fixtures and equipment placed by Tenant in or about the Demised Premises, and all taxes on Tenant's right to occupy the Demised Premises. If any such taxes are levied against Landlord or Landlord's property, and if Landlord pays same, or if the assessed valuation of Landlord's property is increased by the inclusion therein of a value placed upon such property, and if the Landlord pays the taxes based on such increased assessment, Tenant, upon demand, shall repay to Landlord the taxes so paid by Landlord or the portion of such taxes resulting from such increase in assessment.

ARTICLE 15. REMEDIES OF LANDLORD

Section 15.01.

(a) If Tenant shall default in the payment of the annual minimum rental reserved herein, or in the payment of any item of additional rent or other monies due hereunder, or any part of same, and any such default shall continue for more than five (5) days after written notice of such default; or

(b) If Tenant shall default in the observance of any of the provisions, covenants and conditions of this Lease (other than a default covered by subsection (a) above and other than sections hereof which provide a specific period or date for performance), and such default shall continue for more than twenty (20) days after written notice of such default, or for such other period provided in the relevant section hereof provided, however, that Tenant shall not be in default if Tenant commences to cure such default within said twenty (20) day period and thereafter diligently pursues said cure; or

(c) If Tenant shall fail to occupy the Demised Premises and open for business at the commencement of the Term of this Lease, as above provided, or if the Demised Premises shall be abandoned, deserted or vacated for a period exceeding three (3) consecutive months, or if Tenant shall sublet the Demised Premises or assign this Lease, except as herein provided, or if Tenant shall be in default under any other obligations of Tenant to Landlord of any nature whatsoever, including in connection with any other lease between Tenant and any of the Landlords or between Tenant and any entity in which any partner of Landlord holds an interest; or

(d) If Tenant or any guarantor of Tenant's obligations hereunder shall make an assignment for the benefit of creditors, or if any such party shall file or have filed against it a petition in bankruptcy, or be adjudicated a bankrupt by any court and such adjudication shall not be vacated within thirty (30) days, or if Tenant or any guarantor of Tenant's obligations hereunder takes the benefit of any insolvency act, or if Tenant or any guarantor of Tenant's obligations hereunder be dissolved voluntarily or involuntarily or have a receiver of its property

appointed in any proceedings other than bankruptcy proceedings and such appointment shall not be vacated within thirty (30) days after it has been made, or if any levy, sale or execution of any kind is made upon or of any property of Tenant in the Demised Premises; or

(e) If, within any period of three hundred and sixty-five consecutive days: (i) Tenant shall default (the "First Default") in any of its obligations under this Lease and notice thereof shall be given to Tenant as provided above; and (ii) Tenant shall default under this Lease for a second time (the "Second Default") (notwithstanding that Tenant may have cured the First Default) and notice thereof shall be given to Tenant as provided above, and (iii) Tenant shall default under this Lease for a third time (the "Third Default") (notwithstanding that Tenant may have cured the First Default and/or the Second Default) and notice thereof shall be given to Tenant as provided above, and the First Default, Second Default and Third Default shall be similar (without limiting the definition of the term "similar", with respect to non-monetary defaults, all monetary defaults shall be deemed to be similar to each other);

then, upon the happening of any one or more of the defaults or events specified above, at the option of Landlord: (1) this Lease and the Term hereof shall wholly cease and terminate, with the same force and effect as though such termination was the date of the expiration of the Term of this Lease, and thereupon, or at any time thereafter, Landlord may re-enter said premises either by force, or otherwise, and have possession of the same and/or may recover possession thereof by summary proceeding, or otherwise (but Tenant shall remain liable to Landlord as hereinafter provided); or (2) Landlord may, without further notice, exercise any remedy available at law or in equity.

Section 15.02. In case of any default, event, re-entry, expiration, termination and/or dispossession by summary proceedings, or otherwise, Tenant shall, nevertheless, remain and continue liable to Landlord in a sum equal to all annual minimum rental and additional rent herein reserved for the balance of the Term herein demised as the same may become due and payable pursuant to the provisions of this Lease. Landlord may repair or alter the Demised Premises in such manner as to Landlord may seem necessary or advisable, and/or let or relet the Demised Premises and any and all parts thereof for the whole or any part of the remainder of the original Term hereof or for a longer period, in Landlord's name, or as the agent of Tenant, and, out of any rent so collected or received, Landlord shall, first, pay to itself, the expense and cost of retaking, repossessing, repairing and/or altering the Demised Premises, and the expense of removing all persons and property therefrom, second, pay to itself, any cost or expense sustained in securing any new tenant or tenants, and third, pay to itself, any balance remaining on account of the liability of Tenant to Landlord for the sum equal to the annual minimum rental and additional rent reserved herein and unpaid by Tenant for the remainder of the Term herein demised. Any entry or re-entry by Landlord, whether had or taken under summary proceedings or otherwise, shall not absolve or discharge Tenant from liability hereunder.

Section 15.03. Should any rent so collected by Landlord after the payment aforesaid be insufficient fully to pay to Landlord a sum equal to all annual minimum rental and additional rent herein reserved, the balance or deficiency shall be paid by Tenant on the rent days herein specified; that is, upon each of such rent days Tenant shall pay to Landlord the amount of the deficiency then existing and Tenant shall be and remain liable for any such deficiency, and the right of Landlord to recover from Tenant the amount thereof, or a sum equal to the amount of all

annual minimum rental and additional rent herein reserved if there shall be no reletting, shall survive the issuance of any dispossessory warrant or other termination hereof.

Section 15.04. Suit or suits for the recovery of such deficiency or damage, or for a sum equal to any installment or installments of annual minimum rental or additional rent hereunder, may be brought by Landlord from time to time at Landlord's election, and nothing herein contained shall be deemed to require Landlord to await the date on which this Lease or the Term hereof would have expired by limitation had there been no such default by Tenant or no such termination or cancellation.

Section 15.05. Tenant hereby expressly waives service of any notice of intention to re-enter subsequent to the giving of the aforesaid notices under Section 15.01 above. Tenant hereby expressly waives any and all right to recover or regain possession of the Demised Premises or to reinstate or to redeem this tenancy or this Lease as is permitted or provided by or under any statute, law, or decision now or hereafter in force and effect.

Section 15.06. Tenant shall reimburse Landlord, within five (5) days following written demand, for any reasonable counsel fees or collection charges actually incurred or expended by Landlord by reason of Tenant's default in the performance of any provision, covenant, or condition of this Lease and any such amounts, at the option of Landlord, may be recovered in the same action or proceeding forming the basis of the default or in another action or proceeding.

Section 15.07. Notwithstanding any other remedy provided for hereunder and without the requirement of notice, except as provided in this Section, if Tenant shall not comply with any of its obligations hereunder, Landlord shall have the right, at Landlord's sole option, at anytime in the event of an emergency or otherwise after ten (10) days notice to Tenant, to cure such breach at Tenant's expense. Tenant shall reimburse Landlord, within ten (10) days following demand, as additional rent, for all costs and expenses incurred by Landlord in curing such breach, together with interest computed thereon at the rate of eighteen (18%) percent per annum or the maximum rate permitted by law, whichever shall be the lesser.

Section 15.08. Notwithstanding anything to the contrary contained in this Lease, if Tenant fails to pay any rent, additional rent or any other money item due hereunder within thirty (30) days after same are due and payable, Landlord shall have the right (in addition to any other rights or remedies of Landlord and without the requirement of any notice) to commence immediate legal proceedings or action for dispossession and damages or Landlord may avail itself of any other remedies at law or in equity and include in such action or proceeding any amounts then due and payable as of the date of the commencement of such action or proceeding. Notwithstanding anything contained in this Lease, if Tenant fails to pay any monetary items due hereunder on the date on which the same are due and payable, a late charge of four ($.04) cents for each ONE ($1.00) DOLLAR so overdue shall become immediately due and payable to the Landlord as damages for failure to make prompt payment and the same shall be considered as additional rent hereunder payable together with the next installment of monthly rent. In addition, all such unpaid monetary items shall bear interest at the maximum rate permitted by law from the date such monies were due until the date on which Landlord shall receive payment.

Section 15.09. The rights and remedies whether herein or elsewhere provided in this Lease shall be cumulative and the exercise of any one right or remedy shall not preclude the exercise of or act as a waiver of any other right or remedy of Landlord hereunder, or which may be existing at law, or in equity, by statute or otherwise.

Section 15.10. Tenant covenants and agrees to give any mortgagee and/or ground lessor of the Center or any portion thereof notice of any default by Landlord under this Lease and such mortgagee and/or ground lessor shall be afforded the right (but shall not have the obligation) to cure any default by Landlord within such reasonable period of time as may be required by such mortgagee and/or ground lessor.

ARTICLE 16. WAIVER OF TRIAL BY JURY

Section 16.01. It is mutually agreed by and among Landlord, Tenant and any guarantor of the obligations of Tenant hereunder, that the respective parties hereto shall and they hereby do waive trial by jury in any action, proceeding, or counterclaim brought by the parties hereto on any matters whatsoever arising out of or in any way connected with this Lease, the relationship of Landlord and Tenant, Tenant's use or occupancy of the Demised Premises, and/or any claim of injury or damage, and any emergency, summary or statutory remedy. If Landlord commences any summary proceeding, or any other action for collection of rent or additional rent hereunder, Tenant shall not interpose any counterclaim or cross claim of any nature in any such proceeding or action, nor shall Tenant move to consolidate any such claim with any claim being maintained by Landlord.

ARTICLE 17. ACCESS TO PREMISES

Section 17.01. Landlord and its designees shall have the right to enter upon the Demised Premises at all times during normal business hours and upon twenty four (24) hours telephonic notice to Tenant's designated representation at the Demised Premises (except in emergency situations) to inspect and examine same, to make repairs, additions, alterations, or improvements to the Demised Premises, the Building within which the Demised Premises are located or any property owned or controlled by Landlord within such Building. In the case of emergency situations, Landlord may have access to the Demised Premises but shall still be required to give telephonic notice to Tenant's designated representative at the Demised Premises within a reasonable time following Landlord's gaining access to the Demised Premises. Any work performed by Landlord shall be performed in such a manner so as not to interfere with any ongoing experiments being conducted by Tenant at the Demised Premises. Landlord's rights of entry as aforesaid, and the taking of all property into and upon the Demised Premises that may be required in connection therewith, shall not be considered an eviction of Tenant, in whole or in part, constructive or otherwise, and Landlord shall not be liable to Tenant for any expense, damage, or loss or interruption of the business of Tenant by reason thereof, and the rent reserved hereunder shall continue without abatement during the period of any such entry and while such repairs, alterations, improvements or additions are being made. Landlord or Landlord's designees shall have the right to enter the Demised Premises at all times to show the Demised Premises to prospective purchasers, mortgagees or lessees of the Demised Premises, the Building or the Center. During the six month period prior to the expiration of the Term hereof, Landlord may exhibit the Demised Premises to prospective tenants and Landlord may place upon the

Demised Premises notices reading, "To Let" or "For Rent", which notices Tenant shall allow to be posted conspicuously without molestation.

ARTICLE 18. NO WAIVER

Section 18.01. No delay or omission of the exercise of any right by either party hereto shall impair any such right or shall be construed as a waiver of any default or as acquiescence therein. One or more waivers of any provision, covenant, or condition of this Lease by either party shall not be construed by the other party as a waiver of a subsequent breach of any other or the same provisions, covenant, or condition. No requirements whatsoever of this Lease shall be deemed waived or varied because of either party's failure or delay in taking advantage of any default, and Landlord's acceptance of any payment from Tenant with actual or constructive knowledge of any default shall not constitute a waiver of Landlord's rights in respect to such default, nor of any subsequent or continued breach of any such default or any other requirement of this Lease.

Section 18.02. No payment by Tenant or receipt and acceptance by Landlord of a lesser amount than the rent or other sum stipulated to be paid or reserved shall be deemed an accord and satisfaction or a modification or waiver of any rights or obligations or liabilities hereunder notwithstanding any statement, written or oral, accompanying such payment, or by way of endorsement or otherwise; and Landlord may accept any such payment whether by check, draft or other means whatsoever without prejudice to Landlord's right to recover the balance owing, or to pursue any other remedy in this Lease or at law or in equity provided. Landlord may apply such payment to any sums then due and payable by Tenant to Landlord as Landlord shall determine in its sole discretion. Landlord may, at Landlord's option, accept payment of rent or any other charge hereunder from any person or entity other than the Tenant named herein and the same shall not constitute a recognition by Landlord of, or vest in said person or entity, any rights hereunder.

ARTICLE 19. REQUIREMENTS OF LAW; INSURANCE REQUIREMENTS

Section 19.01. In Tenant's performance of its rights and obligations under this Lease, including without limitation, any pre-term right, obligation or entry into the Demised Premises, Tenant covenants and agrees to comply with all laws, orders, and regulations of federal, state, city, county, governmental and municipal authorities, fire insurance rating organizations and fire insurance underwriters, and insurance companies issuing coverage respecting the Demised Premises and Tenant shall make all alterations or installations necessary to comply therewith. Tenant shall secure all permits or approvals necessary to operate its business within the Demised Premises and shall only operate its business within the Demised Premises in compliance with all laws, orders and regulations of federal, state, city and county, governmental and municipal authorities, fire insurance rating organizations and fire insurance underwriters, and insurance companies issuing coverage respecting the Demised Premises.

Section 19.02. Tenant shall not use or occupy the Demised Premises or do or permit anything to be done therein in any manner which shall make it impossible for Landlord and/or Tenant to obtain at standard rates any insurance required or desired, or which will invalidate or increase the cost to Landlord of any insurance. Landlord hereby acknowledges that Tenant shall

be permitted to use and occupy the Demised Premises for the chemical and biological laboratory research contemplated to be conducted in the Demised Premises, provide same is conducted in accordance with industry standards and the requirements of all applicable governmental authorities.

Section 19.03. If, by reason of Tenant's failure to comply with the provisions of Section 19.01 above, or if, by reason of any act or failure to act of Tenant, its agents, servants, contractors, employees or licensees, or if, by reason of the use of the Demised Premises, the fire insurance rates applicable to the Demised Premises, or of the Building or any other premises in said Building, shall be increased above the rate applicable to the occupancy permitted hereunder, Tenant shall pay to Landlord, within three (3) days following demand, the amount of additional premium for fire insurance payable by reason thereof.

Section 19.04. No abatement, diminution, or reduction in annual minimum rental or any sums constituting additional rent shall be claimed by or allowed to Tenant for any inconvenience or interruption, cessation or loss of business caused directly or indirectly, by any present or future laws, ordinances, rules or regulations, requirements or orders of federal, state, county, township or municipal governments or any other lawful authority whatsoever, or by priorities, rationing, or curtailment of labor or materials, or by war, civil commotion, strikes or riots, or any manner or thing resulting therefrom, or by any other cause or causes beyond the control of Landlord, nor shall this Lease be affected by any such causes.

ARTICLE 20. SIGNS

Section 20.01. Tenant shall not place, install or maintain any sign upon or outside the Demised Premises or in the Center until approved by Landlord, nor shall Tenant place, install or maintain any sign within one-half mile of the Center; nor shall Tenant place, install or maintain any awning, canopy, aerial, antenna or the like in or upon the Demised Premises, the Building or the Center. Landlord's approval of Tenant's signs shall not be unreasonably withheld, conditioned or delayed. Any sign must conform to all applicable rules, regulations, codes and directives of governmental agencies having jurisdiction, and Tenant shall, at its expense, apply for and obtain all permits necessary in connection therewith. If Landlord shall submit to Tenant a general sign criteria or specification, Tenant shall comply therewith. Tenant shall be solely responsible for all maintenance and repairs respecting its signs.

ARTICLE 21. TENANT'S ADDITIONAL COVENANTS

Section 21.01. Tenant covenants and agrees for itself, its officers, employees, contractors, agents, servants, licensees, invitees, subtenants, concessionaires, and all others doing business with Tenant (hereinafter for the purposes of this Article, collectively referred to as "Tenant") that:

(a) Tenant shall execute such further assurances and/or guarantees which are stated by Landlord as intended to be necessary to secure the approval of Tenant's credit rating;

(b) Tenant shall not encumber or obstruct the Center or sidewalks in and about the Demised Premises;

(c) Tenant shall not display, advertise or sell its products or goods in the Common Areas of the Center or sidewalk in and about the Demised Premises;

(d) Intentionally omitted.

(e) Tenant shall not cause or permit trash, refuse, dirt or other rubbish to accumulate on the Demised Premises or in the Center and shall cause same to be promptly removed;

(f) Tenant shall not injure, overload, deface, commit waste or otherwise harm the Demised Premises or any part thereof;

(g) Tenant shall not commit any nuisance;

(h) Tenant shall not permit the emission from the Demised Premises of any objectionable noise or odor. Normal laboratory practices conducted in accordance with industry standards and the requirements of governmental authorities shall be excepted from the foregoing;

(i) Tenant shall not burn any trash, rubbish, dirt or refuse within the Center;

(j) Tenant shall use the Demised Premises only for business and commercial purposes (subject to the provisions of Article 2 hereof) and Tenant shall not use, allow or permit any industrial, manufacturing or processing activities within the Demised Premises, except as may be expressly permitted by Section 2.01 of this Lease;

(k) Tenant shall conform and comply with all nondiscriminatory and uniformly applicable rules and regulations which Landlord may promulgate for the management and use of the Center;

(l) Tenant shall not use any advertising medium that may constitute a nuisance, such as loudspeakers, sound amplifiers or phonographs, in a manner to be heard outside the Demised Premises;

(m) Intentionally omitted.

(n) Tenant shall not place a load on any floor of the Demised Premises exceeding the floor load per square foot which such floor was designed to carry;

(o) Tenant shall not install, operate or maintain in the Demised Premises any electrical equipment which will overload the electrical system therein or any part thereof beyond the capacity for proper and safe operation, as determined by Landlord, in relation to the overall system and requirements for electricity in the Building;

(p) Tenant shall not install, operate, or maintain any electrical equipment in the Demised Premises which does not bear underwriters approval; and

(q) No portion of the Demised Premises shall be used or occupied for the sale, dispensing, storage or display of food, foodstuffs, or food products for consumption on or off the

Demised Premises, provided that the foregoing shall not prohibit the use and occupancy of the Demised Premises as permitted by Section 2.01 hereof, and further provided that the foregoing shall not prohibit vending machines, refrigerators, microwave ovens or other food service areas maintained by Tenant for the use of Tenant's employees and visitors.

ARTICLE 22. EASEMENTS FOR UTILITIES

Section 22.01. Landlord or its designee shall have the right and Tenant shall permit Landlord or its designee to erect, use, maintain and repair pipes, cables, conduits, plumbing, vents and wires in, to and through the Demised Premises as and to the extent that Landlord may now or hereafter deem necessary or appropriate for the use or proper operation and maintenance of the Demised Premises, or the Building or any other portion of the Center. Landlord's rights under this Article shall be exercised, as far as practicable, in such manner as to avoid unreasonable interference with Tenant's occupancy of the Demised Premises.

ARTICLE 23. CONSENTS AND APPROVALS

Section 23.01. With respect to any provision of this Lease providing that Landlord shall not unreasonably withhold or unreasonably delay any consent or any approval, Tenant, in no event, shall be entitled to make, nor shall Tenant make, any claim for, and Tenant hereby waives any claim for money damages; nor shall Tenant claim any money damages by way of setoff, counterclaim or defense, based upon any claim or assertion by Tenant that Landlord has unreasonably withheld or unreasonably delayed any consent or approval; but Tenant's sole remedy shall be an action or proceeding to enforce any such provision, or for specific performance, injunction or declaratory judgment.

ARTICLE 24. CONTROL OF TENANT

Section 24.01. If Tenant hereunder is a corporation (other than a corporation whose shares are regularly and publicly traded on a duly recognized stock exchange), Tenant represents that ownership and power to vote its entire outstanding capital stock is vested in the officers executing this Lease or the members of their immediate families. If there shall be any change in the ownership of and/or power to vote the majority of said outstanding capital stock, without the prior written consent of Landlord, then, and in such event, Landlord shall have the option to terminate this Lease upon not less than thirty (30) days notice to Tenant.

ARTICLE 25. END OF TERM HOLDOVER

Section 25.01. If the last day of the Term falls on a Sunday, or legal holiday, this Lease shall expire on the business day immediately following. Upon the expiration or other termination of the Term of this Lease, Tenant shall quit and surrender to Landlord the Demised Premises, together with all buildings and improvements thereon, "broom-clean" and in good order and condition, ordinary wear and tear and damage by the elements excepted, and Tenant shall thereupon remove all property of Tenant which shall be deemed to include, without limitation, the removal of all of Tenant's laboratory equipment and fixtures such as laboratory hoods and benches, including the capping of all utilities for such equipment, but shall not include the removal of the acid neutralization pit and tank. In the event Tenant fails to remove such property, Landlord may cause all of the said property to be removed, stored and/or disposed of at

the expense of Tenant. Tenant shall pay all costs and expenses thereby incurred. Any property not so removed shall be deemed to have been abandoned by Tenant and may be retained or disposed of by Landlord as Landlord, in its sole discretion, shall determine and Tenant hereby releases Landlord from all claims for loss or damage to such property arising out of such retention or disposition thereof. Tenant's obligations under this Article shall survive the expiration or other termination of the Term.

Section 25.02. If Tenant remains in possession of the Demised Premises at the expiration or earlier termination of the Term hereof, Tenant, at Landlord's option, shall be deemed to be occupying the Demised Premises as a tenant from month to month, at a monthly rental equal to the greater of (i) one and one-half times the sum of the monthly installment of annual minimum rent payable during the last month of the Term hereof or (ii) twice the sum of the then prevailing market rate rent, as determined by Landlord at its sole and absolute discretion, plus all additional rent coming due hereunder. Acceptance by Landlord of rent after the expiration or earlier termination of the Term hereof shall not constitute a consent to a month-to-month tenancy or result in a renewal. In the event of such holdover, Tenant's occupancy of the Demised Premises, except as aforesaid, shall be subject to all other conditions, provisions and obligations of this Lease, but only insofar as the same are applicable to a month to month tenancy. Such month to month tenancy shall be terminable by Landlord upon one (1) month's notice to Tenant, and if Landlord shall give such notice, Tenant shall quit and surrender the Demised Premises to Landlord as above provided. In the event that (a) Tenant shall remain in possession of the Demised Premises at the expiration or earlier termination of the Term hereof and Landlord shall not have elected to deem Tenant to be occupying the Demised Premises as a tenant from month-to-month or (b) Landlord shall terminate any month-to-month tenancy of the Demised Premises and Tenant shall fail to quit and surrender the Demised Premises to Landlord upon the termination date as above provided, then, in either such event, Tenant shall be liable to Landlord for all losses, damages, claims, costs and/or expenses incurred by Landlord by reason of Tenant's failure to deliver timely possession of the Demised Premises to Landlord, including, without limitation, any consequential and incidental damages so incurred by Landlord, including, without limitation, any losses, damages, claims, costs and/or expenses incurred in connection with or arising from the inability of Landlord to lease and deliver possession of the Demised Premises, or any portion thereof, to any third party and/or the termination or cancellation of any lease of the Demised Premises, or any portion thereof to any third party.

Section 25.03. Notwithstanding anything to the contrary contained in this Lease, if Landlord shall be unable to provide possession of the Demised Premises because of the holding-over or retention of possession of any prior tenant, undertenant or occupants, or for any other reason whatsoever, Landlord shall not be subject to any liability for the failure to give possession on the date herein provided, if any, and the validity of this Lease shall not be impaired under such circumstances, but the Term shall be extended proportionately until after Landlord shall have given Tenant written notice that the Demised Premises are ready for Tenant's occupancy. If permission is given to Tenant to enter into possession of the Demised Premises or to occupy premises other than the Demised Premises prior to the date specified as the commencement of the Term, Tenant covenants and agrees that such occupancy shall be deemed to be under all of the terms, covenants, conditions and provisions of this Lease.

ARTICLE 26. AUTHORITY TO EXECUTE

Section 26.01. Landlord and Tenant do hereby respectively represent to the other that it has the capacity to enter into this Agreement.

ARTICLE 27. NOTICES

Section 27.01. All notices to be given pursuant to this Lease shall be in writing and sent by prepaid certified or registered U.S. mail, return receipt requested, or by a recognized overnight courier service which requires acknowledgment of receipt of delivery from addressee, to the address of the parties below specified or at such other address as may be given by written notice in the manner prescribed in this paragraph. Landlord's address for notice shall be c/o National Realty & Development Corp., 3 Manhattanville Road, Purchase, New York 10577. Tenant's address for notices given prior to the Commencement Date shall be the address first set forth above for Tenant. Tenant's address for notices given on or subsequent to the Commencement Date shall be the address of the Demised Premises. Notice shall be deemed to be given upon delivery to the U.S. Postal Service or recognized overnight courier service. Unless Landlord shall otherwise inform Tenant in writing to the contrary, any notice given to Tenant by National Realty & Development Corp. shall, for the purposes of this Lease, be deemed to be a notice given to Tenant by Landlord.

ARTICLE 28. BROKER

Section 28.01. Tenant covenants, warrants and represents that it has dealt with no broker except Colliers Houston & Co., 200 Cottontail Lane, Somerset, New Jersey 08873 ("Colliers/Houston") respecting this Lease and that no conversations, correspondence or negotiations were had with any broker except with said Colliers/Houston concerning the renting or leasing of the Demised Premises. Tenant shall hold Landlord and National Realty & Development Corp. harmless and defend (by counsel satisfactory to Landlord) said parties against any claims for a brokerage commission arising out of any conversations, correspondence or negotiations with any broker except said Colliers/Houston. Landlord shall pay any commissions owing to said Colliers/Houston in accordance with separate agreement.

ARTICLE 29. MEMORANDUM OF LEASE

Section 29.01. Tenant agrees not to record this Lease. The parties agree, upon request of either, to execute, in recordable form, a short form lease entitled "Memorandum of Lease", it being the intention of the parties that this Lease will not be recorded, but only a memorandum thereof. Such short form lease shall contain those provisions of this Lease as shall be desired in the reasonable discretion of counsel for the parties hereto, provided that in no event shall such short form lease contain any provisions relevant to the annual minimum rent and/or additional rent payable under this Lease.

ARTICLE 30. AIR AND WATER POLLUTION

Section 30.01.

(a) Tenant hereby indemnifies and saves Landlord harmless against any claim, damage, liability, costs, penalties or fines which the Landlord may suffer as a result of air, land or water pollution caused by Tenant in its use or occupancy or manner of use or occupancy of the Demised Premises or in its storage, handling, possession, transportation and/or disposal of any Hazardous Waste or Hazardous Substance (as such terms are hereafter defined) within or about the Demised Premises. Tenant covenants and agrees to notify Landlord immediately of any claim or notice served upon it with respect to any such claim that Tenant is causing air, land or water pollution; and Tenant, in any event, will take immediate steps to halt, remedy and cure any pollution of air, land or water caused by Tenant by its use of the Demised Premises, at its sole cost and expense.

(b) Landlord hereby represents to Tenant that Landlord has not received any notice or directive, and is not aware of any claim, from any environmental agency having jurisdiction over the Demised Premises regarding any violation of the Environmental Statutes at the Demised Premises. Landlord agrees to indemnify and hold the Tenant harmless from and against any and all claims brought by any such environmental agency relating to the Demised Premises proven to have arisen prior to the date that Landlord delivers possession of the Demised Premises to Tenant. In no event shall Tenant be held responsible for the actions of the prior occupant of the Demised Premises.

Section 30.02.

(a) Tenant shall comply with all state and federal environmental laws, including the Spill Compensation and Control Act ("SCCA") (N.J.S.A. 58:10-23.11 et seq.) and Industrial Site Recovery Act ("ISRA") (N.J.S.A. 13:1K-6 et seq.) as the same may have been or may hereafter be amended (collectively, the "Environmental Statutes") as the same may relate to Tenant's use and occupancy or manner of use and occupancy of the Demised Premises or any act or failure to act of Tenant. Tenant shall supply Landlord on demand with any information Landlord may require in order to enable Landlord to comply with the Environmental Statutes, including, without limitation, ISRA, whether upon the transfer of title or closing of operations at the Demised Premises, or for any reason whatsoever.

(b) Tenant shall not use the Demised Premises for the purpose of refining, producing, storing, handling, transferring, processing or transporting said "Hazardous Substances", as such term is defined in N.J.S.A. 5B:10-23.llb(k) of the New Jersey Spill Compensation and Control Act (N.J.S.A. 58:10-23.11 et seq.), except in de minimus quantities in strict compliance with the requirements of all applicable governmental authorities.

(c) Tenant shall not use the Demised Premises to generate, manufacture, refine, transport, treat, store, handle or dispose of "Hazardous Substances", or "Hazardous Wastes", as such terms are defined in N.J.A.C. 7:1-3.3.

(d) Tenant shall not cause or permit to exist, as a result of an intentional or unintentional action or omission on its part, a releasing, spilling, leaking, pumping, emitting, pouring, emptying or dumping of a "Hazardous Substance", as such term is defined in N.J.S.A. 58:10-23.llb(k) into waters of the State of New Jersey or onto the lands from which it might flow or drain into said waters, or into waters outside the jurisdiction of the State of New Jersey where

damage may result to the lands, waters, fish, shellfish, wildlife, biota, air and other resources owned, managed, held in trust or otherwise controlled by the State of New Jersey. Landlord acknowledges that proper disposal of a Hazardous Substance in accordance with the requirements of all applicable governmental authorities shall not be a violation of this Section 30.02 (d).

(e) Tenant shall not use the Demised Premises as a "Major Facility", as such term is defined in N.J.S.A. 58:10-23.lb(1).

(f) Tenant shall not install nor permit to be installed in the Demised Premises friable asbestos or any substance containing asbestos and deemed hazardous by federal or state regulations respecting such material. Landlord acknowledges that the Demised Premises contains asbestos and Tenant shall not be responsible in any manner therefor.

Section 30.03. Tenant represents that Tenant has not received a summons, citation, directive, letter or other communication, written or oral, from the New Jersey Department of Environmental Protection concerning any intentional or unintentional action or omission on Tenant's part resulting in the releasing, spilling, leaking, pumping, pouring, emitting, emptying or dumping of "Hazardous Substances", as such term is defined in N.J.S.A. 58:10-23.llb(k), into the waters or onto the lands of the State of New Jersey, or into the waters outside the jurisdiction of the State of New Jersey resulting in damage to the lands, waters, fish, shellfish, wildlife, biota, air and other resources owned, managed, held in trust or otherwise controlled by the State of New Jersey.

Section 30.04.

(a) In the event that Tenant does not expeditiously proceed with any compliance required by any State or Federal authority under the Environmental Statutes, Landlord may elect to undertake such compliance in order to protect its interest in the Demised Premises. Any monies expended by Landlord in efforts to comply with any environmental statute (including but not limited to: the costs of hiring consultants, undertaking sampling and testing, performing any cleanup necessary or useful in the compliance process and attorney's fees), together with interest at the maximum rate permitted by law, will be added to and payable with the next payment of annual minimum rental due from Tenant, or will be payable on demand of Landlord.

(b) Tenant will provide Landlord with all information as to the use or manner of use of the Demised Premises by Tenant, and an environmental audit of the Demised Premises which is designed to describe any materials on the Demised Premises which would require a filing and/or any disclosure under the Environmental Statutes in the event of any transfer or closure, or which would require remedial action under any other Environmental Statutes.

(c) In the event that Tenant receives notice from the Department of Environmental Protection or any other governmental authority or bureau having or asserting jurisdiction thereover under SCCA of a discharge on or about the Demised Premises, or any other notice of violation of the Environmental Statutes or any alleged or claimed violation thereof, Tenant will immediately send a copy of such notice to Landlord and Tenant will

promptly proceed to remedy the condition described in the notice. Tenant shall take all action necessary to ensure that the SCCA administrator does not spend Spill Fund monies to clean up the site. In the event that the SCCA administrator should spend money cleaning up property owned by Landlord due to Tenant's use or occupancy or manner of use or occupancy of the Demised Premises or the act or failure to act of Tenant, and/or a lien is imposed on the Demised Premises or any portion of the parcel of which it forms a part or any property of Landlord, Landlord may take such actions as it deems necessary to remove such lien, including satisfaction thereof, or may require it to be bonded by Tenant, and Tenant agrees to defend, indemnify and hold Landlord free and harmless from and against all loss, costs, damage and expense (including attorney's fees and costs) Landlord may sustain by reason of the assertion against Landlord by any party of any claim in connection therewith. Landlord may demand such security, in amounts and types which it deems appropriate in its sole discretion, for the purpose of protecting its property from any such lien or to guarantee cleanup.

ARTICLE 31. SUBDIVISION

Section 31.01. Landlord shall have the right at any time during the Term or any extension term hereof, and Tenant hereby consents thereto, to subdivide Lot No. 46.24 into such additional lot or lots as Landlord may in its sole discretion elect and/or to expand Lot No. 46.24 as Landlord may in its sole discretion elect, provided that the whole of the Building shall remain entirely within one such subdivision. Notwithstanding anything contained in this Lease to the contrary, in the event of any such subdivision or expansion of Lot No. 46.24 by Landlord then, at Landlord's option, (i) references in this Lease to Lot No. 46.24 may be deemed to be to the original (pre-subdivision or pre-expansion) Lot No. 46.24 or any portion(s) thereof of which the Demised Premises forms a part, and (ii) in calculating Tenant's proportionate share(s), Landlord may use as the denominator of the fraction(s) representing Tenant's proportionate share(s) the building(s) or portions thereof within said original Lot No. 46.24 or any portion(s) thereof of which the Demised Premises forms a part. In the event of such subdivision or expansion, Tenant agrees to execute an agreement in recordable form setting forth the description of Lot No. 46.24 as so subdivided or expanded and as renamed and/or renumbered.

ARTICLE 32. THERE IS NO ARTICLE 32 IN THIS LEASE

ARTICLE 33. FINANCING REQUIREMENTS

Section 33.01. Landlord intends to procure the funds for construction of the Center from one or more lenders. If any such lender disapproves the credit rating of Tenant for purposes of such financing, or if any such lender shall require or suggest changes in this Lease as a condition of its approval of this Lease for such financing and if within ten (10) days following notice from Landlord (a) Tenant fails to execute such further assurances and/or guarantees which are stated by Landlord as intended to be necessary to secure the approval of Tenant's credit rating, or (b) if Tenant fails to execute, acknowledge and deliver any amendments to this Lease setting forth the changes which are stated by Landlord to be needed in connection with the approval of this Lease for purposes of such financing, or if, for any reason, other than Landlord's willful default, such financing in amount and interest rate satisfactory to Landlord cannot be obtained, Landlord may terminate this Lease at any time prior to Landlord's giving of notice of substantial completion. If this Lease be terminated, it shall become null and void and the parties shall be automatically

released, as of the date of termination, from any and all liability, rights or obligations hereunder, except that Landlord shall return any security deposited by Tenant hereunder.

ARTICLE 34. RELATIONSHIP OF PARTIES

Section 34.01. Nothing herein contained shall be deemed or construed by the parties hereto, nor by any third party, as constituting the Landlord a partner of Tenant in the conduct of Tenant's business, or as creating the relationship of principal and agent or joint venturers between the parties hereto, it being the intention of the parties hereto that the relationship between them is and shall at all times be and remain that of Landlord and Tenant only. Tenant agrees upon the demand of Landlord to deliver to Landlord and any mortgagee of Landlord the most recently available financial statements of Tenant and any guarantor of this Lease, certified to by a certified public accountant, and updated to the extent reasonably requested by Landlord or any such mortgagee.

ARTICLE 35. CAPTIONS

Section 35.01. The Article captions contained herein are for convenience only and do not define, limit, or construe the contents of such Articles and are in no way to be construed as a part of this Lease.

ARTICLE 36. DEFINITIONS

Section 36.01. Words of any gender used in this Lease shall be held to include any other gender, and words in the singular number shall be held to include the plural, when the sense requires.

Section 36.02. If any provision of this Lease or the application thereof to any person or circumstances shall, to any extent, be invalid or unenforceable, the remainder of this Lease, or the application of such provision to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby and each provision of this Lease shall be valid and be enforced to the fullest extent permitted by law.

ARTICLE 37. ENTIRE AGREEMENT

Section 37.01. This instrument of Lease contains the entire and only agreement between the parties concerning the Demised Premises. No prior oral or written statements or representation, if any, of any party hereto or any representative of a party hereto, not contained in this instrument, shall have any force or effect. This Lease shall not be modified in any way, except by a writing executed by Landlord and Tenant. No oral agreement or representations shall be deemed to constitute a lease other than this agreement. This agreement shall not be binding until it shall have been executed and delivered by Landlord and Tenant. The submission of this Lease to Tenant prior to its execution by Landlord shall not be an offer to lease.

ARTICLE 38. SUCCESSORS IN INTEREST

Section 38.01. All provisions herein contained shall bind and inure to the benefit of the respective parties hereto, their heirs, personal representatives, successors and assigns, as the case

may be. In the event Landlord or any successor-lessor (owner) of the Demised Premises shall convey or otherwise dispose of the Demised Premises and/or the Center and/or the Tax Lot of which the Demised Premises forms a part, all liabilities and obligations of Landlord or such successor-lessor (owner), as Landlord under this Lease shall terminate upon such conveyance or disposal.

Section 38.02. If Landlord, or any successor in interest to Landlord, shall be an individual, joint venture, tenancy-in-common, trustee, trust, estate, executor, conservator, personal representative, limited liability company, limited liability partnership, partnership, general or limited, firm, company or corporation, there shall be no personal liability on the part of such individual, trustee, executor, conservator or personal representative or on the part of any members, managers, partners, directors, officers and/or shareholders of such joint venture, tenancy-in-common, trustee, trust, estate, executor, conservator, personal representative, limited liability company, limited liability partnership, partnership, general or limited, firm, company or corporation or on the part of such joint venture, tenancy-in-common, trustee, trust, estate, executor, personal representative, limited liability company, limited liability partnership, partnership, general or limited, firm, company, or corporation as to any of the provisions, covenants or conditions of this Lease. Tenant hereby acknowledges that it shall look solely to the real property interest of Landlord in Lot No. 46.24 (or, in the event of a subdivision of said Lot, such subdivided portion thereof which includes the Demised Premises) for the satisfaction or assertion of any claims, rights and remedies of Tenant against Landlord, in the event of breach by Landlord of any of the terms, provisions, covenants or conditions of this Lease.

ARTICLE 39. SECURITY

Section 39.01. Tenant has delivered to Landlord a letter of credit in the amount of TWO HUNDRED SEVENTEEN THOUSAND AND 00/100 ($217,000.00) DOLLARS as security for the faithful performance and observance by Tenant of the terms, provisions, covenants and conditions of this Lease, including without limitation the completion of the Tenant Allowance Work and the Tenant Improvements pursuant to the provisions of Article 5 of this Lease. Landlord and Tenant acknowledge and agree that upon completion of the Tenant Improvements and delivery to Landlord of the documentation required pursuant to Subparagraph (C) of Section 5.05 of this Lease, said $217,000.00 Letter of Credit shall be reduced to the amount of $46,110.00, which amount shall thereafter serve as the security deposit under this Lease. At any time during which Landlord shall be holding a letter of credit as the security deposit under this Lease, Tenant shall have the right to substitute a cash deposit for said letter of credit by delivering to Landlord a check in the amount of the letter of credit then being held by the Landlord. Upon receipt and clearance of the funds, Landlord shall return the letter of credit to Tenant for cancellation. Thereafter, all references herein to the security deposit herein shall be deemed to refer to such cash security deposit.

Upon delivery of this Lease to Landlord as executed by Tenant, Tenant shall deliver to Landlord an irrevocable, unconditional Letter of Credit from Fleet Bank (or another money center bank reasonably acceptable to Landlord), in the form annexed hereto as Exhibit C in the amount of $217,000.00, which letter of credit shall serve as security for the faithful performance and observance by Tenant of the terms, provisions, covenants and conditions of this Lease. Said letter of credit shall name National Realty & Development Corp. as sole beneficiary and shall

expire on the Expiration Date hereof; provided, however, said letter of credit may provide that it will expire prior to the Expiration Date (but in no event prior to the one (1) year anniversary of the Commencement Date) if said letter of credit is renewed by Tenant, without amendment, and evidence of such renewal is delivered to Landlord prior to that date which is thirty (30) days prior to the expiration date thereof. The letter of credit shall provide that partial drawings shall be permitted. If, for any reason, such letter of credit shall expire without National Realty & Development Corp. (as agent of Landlord) having drawn thereon for any reason, including, without limitation, the inadvertent failure to do so by National Realty & Development Corp., then Tenant shall deliver to National Realty & Development Corp. a replacement of such letter of credit or a cash deposit to bring the security deposit required hereunder to the appropriate balance. Said letter of credit shall specifically provide that Landlord and National Realty & Development Corp. will receive not less than forty-five (45) days written notice of the election of the issuing bank to not renew the same. Whether or not Landlord or National Realty & Development Corp. shall receive notice of cancellation or non-renewal of the letter of credit, Tenant shall deliver to National Realty & Development Corp. a replacement of such letter of credit prior to that date which is thirty (30) days prior to the cancellation date, expiration date or non-renewal date of the letter of credit. Tenant's failure to deliver evidence of the renewal of the letter of credit or a replacement letter of credit as aforesaid shall, in either case, be deemed a default under this Lease, and without further notice, National Realty & Development Corp. shall be entitled to draw upon the expiring letter of credit in the entire amount thereof.

In the event Tenant defaults in respect of any of the provisions, covenants or conditions of this Lease, including, but not limited to, defaults in the payment of annual minimum rent or additional rent, beyond the applicable notice and cure periods provided for herein, or in the event that that Tenant has vacated, abandoned or deserted the performance of the Tenant Improvements or is not diligently pursuing the same to completion or Tenant has failed to pay for the furnishings, installation or construction of Tenant Improvements (including the Tenant Allowance Work) or any portion thereof, or in the event that Tenant has failed to complete the Tenant Improvements by the Tenant Improvements Completion Date, then National Realty & Development Corp. may, on Landlord's behalf, from time to time draw upon the security deposit and use, apply, or retain the whole or any part thereof to the extent required for the payment of any annual minimum rent (including payment of annual minimum rental previously abated as set forth in Section 5.05 of this Lease) and additional rent or any other sum as to which Tenant is in default or for any sum which Landlord may expend or may be required to expend by reason of Tenant's default, beyond the applicable notice and cure periods provided herein, in respect of any of the provisions, covenants and conditions of this Lease, including, but not limited to, reasonable counsel fees and other collection charges, or with respect to any damages or deficiency in the re-letting, repairing or altering of the Demised Premises, whether such damages or deficiency accrued before or after summary proceedings or re-entry by Landlord, or in connection with the removal of the Installations (hereinafter defined) (the amount which National Realty & Development Corp. may draw determined as set forth in this sentence is hereinafter referred to as the "default amount").

In the event National Realty & Development Corp. (as agent of Landlord) shall draw upon a letter of credit deposited as a security deposit hereunder and the amount drawn by National Realty & Development Corp. shall be in excess of the default amount, the excess shall be held by in a non-interest-bearing account at a commercial bank or financial institution as a

security deposit hereunder to be used for the purposes set forth herein. After the expiration of the Lease, and after delivery of entire possession of the Demised Premises to Landlord, and after applying or retaining any portion of the security required to cure any and all defaults by Tenant under this Lease, the letter of credit and the cash security deposit, if any, then held by Landlord shall be returned to Tenant without interest. If, due to Tenant's default hereunder, Landlord shall be entitled to apply or retain any portion of said security, Tenant shall, within five (5) days following demand, secure for the sole benefit of Landlord, a new or additional letter of credit naming Tenant as beneficiary and complying with the requirements set forth herein or deliver to Landlord a cash security deposit sufficient to comply with this Section, including the required amount. Tenant shall not assign or encumber the security deposited hereunder and neither Landlord or its successors or assigns shall be bound by any such assignment or encumbrance. In the absence of evidence satisfactory to Landlord of any assignment of the right to receive the security, or the remaining portion thereof, Landlord may return the security to the original tenant regardless of any number of assignments of the Lease itself. In the event of a sale of the Demised Premises or larger premises of which the Demised Premises form a part, Landlord shall have the right to transfer the cash security and the beneficiary rights under any letter of credit to the purchaser who shall hold the same for the benefit of Tenant in accordance with the terms of this Lease, and Landlord and National Realty & Development Corp., after giving notice to Tenant, shall be deemed released by Tenant from all liability for the return of such security and Tenant shall look solely to the new owner for the release or the return thereof. Tenant shall, upon request, deliver confirmation of said transfer of beneficiary rights and a replacement letter of credit naming the transferee as beneficiary if necessary or if requested. Landlord agrees to return any letter of credit it is then holding with respect to this Lease to the issuing bank if required by the issuing bank to receive a replacement letter of credit. No holder of any mortgage upon the Demised Premises or the larger property of which the Demised Premises forms a part shall be responsible in connection with the security deposited hereunder unless such mortgagee shall have in fact received such security or be named beneficiary thereof and acknowledged such receipt or beneficiary status in writing to Tenant. In the event of a foreclosure of the Demised Premises, or the larger property of which the Demised Premises forms a part, Tenant shall, on demand of mortgagee, reissue the letter of credit in compliance with this Section, naming the mortgagee, or such other party as may be designated by mortgagee, as the sole beneficiary. Tenant acknowledges that Tenant is to perform certain obligations under this Lease prior to the Commencement Date of the term of this Lease and that the security deposit may be applied by Landlord (or by National Realty & Development Corp. on behalf of Landlord) in the event Tenant shall default under any such obligations beyond any applicable notice and cure periods notwithstanding that the Commencement Date may not yet have occurred.

ARTICLE 40. EXTENSION OPTION(S)

Section 40.01. Tenant shall have the option, provided it is not in default hereunder, to extend the Term for TWO (2) successive additional term of FIVE (5) years each, upon the same terms and conditions as provided herein, except that the annual minimum rental during said extension period shall be as provided below, and except that Tenant shall have no further extension options. Tenant shall give written notice to Landlord not less than twelve (12) months prior to the last day of the prior term of its election to extend the Term hereof, or such option shall be deemed waived. If Tenant shall exercise such extension option(s), the parties will, at the request of either, execute an agreement in form for recording, evidencing such extension. If

Tenant shall exercise such extension option(s), all references in this Lease to the Term hereof shall be deemed to mean the term as so extended, except where expressly otherwise provided.

Section 40.02. As of the first day of each extension term ("adjustment date"), the annual minimum rental shall be adjusted by multiplying the annual minimum rental payable hereunder during the last Lease Year of the prior Term, times a fraction having as its numerator the "Index" (hereinbelow defined) as of the adjustment date and as its denominator the Index in effect upon the commencement date of the initial term hereof; provided, however, the annual minimum rental payable subsequent to the adjustment date shall not be less than twenty-five (25%) percent greater than the annual minimum rental payable during the last preceding Lease Year of the prior Term.

Section 40.03. The "Index" shall be defined as the United States Department of Labor, Bureau of Labor Statistics, "Consumer Price Index-All Urban Consumers - - (CPI-U) N.Y., N.Y. - Northeastern N.J. (1982-84=100)". If publication of such Index shall be discontinued, the adjustments in the annual minimum rental provided for in this Lease shall thereafter be computed on the basis of such other official price index as shall be most nearly comparable thereto, and conversion tables, if any, issued upon the promulgation of such other official index, are to be used where applicable in making the computation hereunder.

IN WITNESS WHEREOF, the parties have hereunto set their hands and seals the day and year first above written.

ATTEST:

46.24 ASSOCIATES L.P.

By: MIDDLESEX REALTY CORP.,
General Partner

By: /s/ Robert C. Baker

Title: President

(LANDLORD)

PTC THERAPEUTICS, INC.

By: /s/ Stuart Peltz

Title: PRESIDENT

(TENANT)

EXHIBIT B

WORK LETTER TO BE ATTACHED TO
LEASE WITH PTC THERAPEUTICS, INC.
100 CORPORATE COURT
MIDDLESEX BUSINESS CENTER
SOUTH PLAINFIELD, NEW JERSEY

Landlord agrees to perform the Landlord's Work set forth in this Exhibit B. Any work not expressly specified herein and any work necessary to comply with codes attributable to Tenant's use shall be furnished and installed at the sole cost and expense of Tenant. Except as specifically set forth below, any existing construction within the Demised Premises shall be accepted by Tenant in "as is" condition in accordance with the provisions of Section 5.01 of this Lease. Landlord shall:

1. Provide a watertight roof and windows.

2. INTENTIONALLY OMITTED.

3. Replace stained or damaged ceiling tiles.

4. Repair exterior fence enclosure.

5. Provide a canopy over the side entrance.

6. Replace broken windows and glass doors.

7. Provide HVAC in good working order.

8. Relamp light fixtures as needed.

9. The blue or brown mesh remaining along the window line in the lab and in the cooler will be removed.

10. The Landlord will clean or replace all HVAC distribution supply or return duct (flexible pipes), VAV boxes and registers, diffusers or grills.

11. Landlord shall remove the asbestos linings present in the fume hoods located in the Demised Premises.

12. The existing acid neutralization tank will be put by Landlord into clean operating condition consistent with all applicable governmental regulations;

MISCELLANEOUS

A. All "Tenant Extras" furnished by Landlord as may be hereafter agreed to, shall be computed at Landlord's cost, plus a twenty-one (21%) percent administrative fee.

B. Credits to Tenant based upon deletions and reductions below Building standard set forth above, shall be computed based upon Landlord's unit cost therefor, without factor of overhead and profit.

C. All prices, if any, set forth in this Work Letter are predicated upon quotations now in the hands of Landlord. Such quotations, by their terms, expire at various intervals and accordingly these prices are subject to variation based upon market conditions following the expiration of such quotations.

D. All prices are subject to inclusion of applicable taxes, but Landlord's overhead and profit shall be computed without regard to such taxes.

E. Landlord shall furnish Tenant with a statement(s) computing the net Tenant extras or credits due to Landlord or Tenant, as the case may be. Any amount due to Landlord shall be due and payable in full simultaneously with the delivery by Tenant to Landlord of the authorization for such work. Any credit due Tenant shall give rise to a reduction in the first installments of minimum rent and additional rent until such credit has been exhausted.

F. Prior to or promptly after execution of this Lease, Tenant shall furnish Landlord with design criteria and specifications necessary to enable Landlord to comply with its obligations above. All authorizations, deletions and implementations of the foregoing Work Letter shall be in writing and confirmed by authorized representatives of Landlord and Tenant.

G. If there shall be any conflict between the provisions of this Work Letter and the final approved Plans, the final approved Plans shall govern and control.

H. Landlord reserves the right to substitute for any materials and equipment specified herein, materials and equipment of substantially equal quality, provided Tenant's architect approves of the same, which approval shall not be unreasonably withheld or delayed.

I. Unless specifically stated in this Exhibit B or this Lease to the contrary, and notwithstanding anything contained on any plans or drawings, Tenant, and not Landlord, shall be responsible for furnishing and installing at its sole cost and expense any and all furniture, Tenant fixtures, appliances, shelving, cabinetry, phone systems, computer wiring and the like for the Demised Premises in accordance with the provisions of this Lease.

EXHIBIT C

[BANK]

[NAME ALL LANDLORDS]
c/o National Realty & Development Corp.
3 Manhattanville Road
Purchase, New York 10577

RE: Irrevocable Letter of Credit No. _____

Accountee: [Name of Tenant]

Gentlemen:

We hereby issue our Irrevocable Letter of Credit No. _____ in favor of [Name All Landlords] at the request of [Name of Tenant] whose address is _____ _____, for an aggregate amount of [Amount as required by Lease] and _____/100 Dollars (U.S. $___) effective immediately.

Funds are available against your signed draft(s) drawn on [Name of Bank] signed by an authorized representative of National Realty & Development Corp. mentioning this Letter of Credit No. _____ accompanied by a written statement signed by an authorized representative of National Realty & Development Corp. requesting to draw upon a specified dollar amount on Letter of Credit No. _____ as follows:

> "This drawing in the amount of $_____ is pursuant to Lease dated _____, 2000 between [Name All Landlords], as Landlord, and [Name of Tenant], as Tenant."

This Letter of Credit shall expire on [Expiration Date of the Lease].

The beneficiaries named above shall be given not less than thirty (30) days written notice of the cancellation or non-renewal of the Letter of Credit. The beneficiaries of this Letter of Credit may draw upon the entire amount of the Letter of Credit if they shall receive notice of its cancellation or non-renewal or if it shall expire prior to the Expiration Date (as defined in the Lease) of the Lease. Partial drawings are permitted under this Letter of Credit.

[BANK]

EXHIBIT D

SUBORDINATION, NONDISTURBANCE AND
ATTORNMENT AGREEMENT

by and among

PTC THERAPEUTICS, INC., as Tenant

and

46.24 ASSOCIATES, L.P., as Mortgagor

and

THE TRAVELERS LIFE AND ANNUITY COMPANY, as Mortgagee

Dated: June, 2000

Record and Return to: Windels, Marx, Davies & Ives
120 Albany Street Plaza
New Brunswick, New Jersey 08901
Attn: Howard P. Lakind, Esq.

SUBORDINATION, NONDISTURBANCE AND ATTORNMENT AGREEMENT

THIS SUBORDINATION, NONDISTURBANCE AND ATTORNMENT AGREEMENT, made this ___ day of April, 2000 by and among

PTC THERAPEUTICS, INC., a Massachusetts corporation, having its principal office at 2 Chestnut Street, Grafton, Massachusetts 01519 (the "Tenant"),

46.24 ASSOCIATES, L.P., a Delaware limited partnership with its principal office located 3 Manhattanville Road, Purchase, New York 10577 (the "Mortgagor"),

and

THE TRAVELERS LIFE AND ANNUITY COMPANY, having an office located at One Tower Square, 2 SHS, Hartford, Connecticut 06183 (the "Mortgagee").

WITNESSETH:

WHEREAS, the Tenant has entered into a certain Lease dated _____, 2000 (the "Lease"), with Mortgagor as landlord, covering all or a portion of those premises (the "Leasehold Premises") in the Borough of South Plainfield, County of Middlesex, State of New Jersey, all as more particularly described in SCHEDULE "A" attached hereto and made a part hereof (the "Mortgaged Premises"); and

WHEREAS, the Mortgagee has agreed to make or has made a mortgage loan in the aggregate principal amount of $4,609,851.06 to the Mortgagor (the "Loan"), which Loan is secured by a certain First Mortgage and Security Agreement dated May 16, 1984, as modified by certain Note and Mortgage Modification Agreement, dated as of February 14, 1995 but effective as of May 1, 1994 and modified by that certain Mortgage Modification Agreement dated as of April 30, 1999 granted by the Mortgagor to the Mortgagee upon the Mortgaged Premises (the "Mortgage"); and

WHEREAS, the execution and delivery of this Subordination, Nondisturbance and Attornment Agreement is a condition to the making of the Loan.

NOW, THEREFORE, in consideration of the sum of One Dollar ($1.00) by each party in hand paid to the other, receipt of which is hereby acknowledged, and in consideration of the premises and. the mutual covenants and agreements hereinafter contained, the parties hereto, intending to be legally bound hereby, hereby agree as follows:

1. The Tenant hereby covenants and agrees:

(a) subject to this Agreement, the Lease and the Tenant's leasehold estate and any and all estates, options, liens and charges therein contained or created thereby are, and shall b, and remain, subject and subordinate in all respects to the lien and effects of the Mortgage and to all of the terms, conditions, and provisions thereof, with the same force and effect as if the Mortgage had been executed, delivered and duly recorded prior to the execution and delivery of the Lease;

(b) from time to time, upon request by the Mortgagee, it shall forthwith provide the Mortgagee within ten (10) business days of such request with an estoppel certificate certifying that, to the best of its knowledge, no defaults, claims, offsets or events, or situations which, with the passage of time, could become a default or the basis for a claim or offset against the Mortgagor by the Tenant, exist under the Lease or, if the same exist, certifying and describing such items as are in existence;

(c) it will forward to the Mortgagee copies of any notice, claim or demand given or made by the Tenant to or on the Mortgagor, in all cases concurrently with forwarding same to the Mortgagor, such copies to be provided to the Mortgagee by the same method of sending or mailing as the statement, notice, claim or demand was made or given to or on the Mortgagor;

(d) without the prior written consent of the Mortgagee (i) no rent or other sums due under the Lease shall be paid more than thirty (30) days in advance of the due date therefor established by the Lease, except the security deposit, if any, (ii) no modifications shall be made in the provisions of the Lease nor shall the term be extended or renewed, except as provided therein, (iii) the Lease shall not be terminated except as provided therein and in this agreement nor shall the Tenant tender or accept a surrender of the Lease, (iv) it shall only sublet the Leasehold Premises or assign the Tenant's interest in the Lease in accordance with the provisions of said Lease, and (v) it shall not subordinate the Lease except to the Mortgage;

(e) in the event of any act or omission by the Mortgagor which would give the Tenant the right to terminate the Lease or to claim a partial or total eviction, reduce rents or to credit or offset any amounts against future rents, the Tenant will not exercise such right (i) until it shall have given written notice of such act or omission to the Mortgagee, and (ii) until a reasonable time for remedying such act or omission shall have elapsed following such giving of notice, and if it so elects, the Mortgagee shall have the right to cure any default by the Mortgagor under the Lease, including, if necessary to cure any such default, the right of access to the Leasehold Premises in accordance with the terms of the Lease;

(f) notices required to be given to the Mortgagee under this Agreement will be given to any successor-in-interest of the Mortgagee under the Mortgage provided that, prior to the event for which notice is required to be given to the Mortgagee, such successor-in-interest of the Mortgagee shall have given written notice to the Tenant of its acquisition of the Mortgagee's interest therein, and designated the address to which such notice is to be directed;

(g) if the holder of the Mortgage (as now or hereafter constituted), or anyone claiming from or through any such holder, shall enter into and lawfully become possessed of the Mortgaged Premises, or shall succeed to the rights of the Mortgagor under the Lease, either through foreclosure of said Mortgage or otherwise howsoever, (i) the Tenant shall attorn to, and recognize, such holder or

anyone claiming from or through such holder as its landlord under the Lease for the unexpired balance of the term of the Lease and any extension or renewal thereof, subject to all of the terms and conditions of the Lease provided such successor landlord recognizes Tenant's rights under the Lease, and (ii) the Tenant shall make all payments payable by the Tenant under the Lease directly to the holder of the Mortgage upon such holder's written instructions to the Tenant; and if, by operation of law, tie institution of any action or other proceedings by the Mortgagee under the Mortgage or the entry into and taking possession of the Mortgaged Premises shall result in the cancellation or termination of the Lease or the Tenant's obligations thereunder, the Tenant shall, upon request, execute and deliver a new lease of the Leasehold Premises pursuant to the Lease, containing the same terms and conditions as the Lease, except that the term and any extension thereof shall be the unexpired term and unexpired extended term or terms of the Lease as of the date of execution and delivery of said new lease;

(h) the Mortgagee shall have no responsibility, liability or obligation to cure any defaults by the Mortgagor under the Lease, nor be subject to claims, defenses or offsets under the Lease or against the Mortgagor possessed by the Tenant and which arose or existed prior to actual foreclosure of the Mortgage or recording of a deed in lieu of foreclosure or entry under and taking possession of the Mortgaged Premises by the Mortgagee except to the extent such claim, defense or offset is continuing as of the date of Mortgagee takes possession of the Mortgaged Premises. If the Mortgagee forecloses the Mortgage or takes title to the Mortgaged Premises pursuant to a deed in lieu of foreclosure or enters upon and takes actual possession of the Mortgaged Premises, the Mortgagee or any other purchaser at such foreclosure sale shall do so free and clear of all prior defaults, claims, defenses or offsets which the Tenant might have against any prior landlord (including the Mortgagor), and shall not be liable or responsible to the Tenant for any act or omission of any prior landlord (including the Mortgagor) except to the extent such act is continuing as of the date the Mortgagee succeeds to the interest of Landlord under the Lease, or be responsible or liable far any deposit or security which was delivered by the Tenant to any prior landlord (including the Mortgagor) but which was not subsequently delivered to the Mortgagee, or be bound by any rent or additional rent which the Tenant might have paid for more than the current month to any prior landlord (including the Mortgagor) but which was not subsequently delivered to the Mortgagee, or be obligated or liable to the Tenant with respect to the construction and completion of any improvements on the Mortgaged Premises for the Tenant's use, enjoyment or occupancy, or be bound by any restriction on competition beyond the Mortgaged Premises contained in the Lease, or be bound by any amendment or modification of the Lease made without the Mortgagee's prior written consent;

(i) the institution of any action or other proceedings by the Mortgagee under the Mortgage in order to realize upon the Mortgagor's interest in the Mortgaged Premises shall not, by operation of law or otherwise, result in the cancellation or termination of the Lease or the Tenant's obligations thereunder;

(j) any right of Tenant to make any claim or receive any proceeds arising out of taking by eminent domain shall be subject and subordinate to the rights of the Mortgagee; and

(k) Tenant hereby indemnifies and saves Mortgagee harmless against any claim, damage, liability, costs, penalties or fines which the Mortgagee may suffer as a result of air, land or water pollution caused by Tenant in its use or occupancy or manner of use or occupancy of the Mortgaged Premises or in its storage, handling, possession, transportation and or disposal of any hazardous or toxic substances, waste or materials (including, without limitation, PCB's or asbestos) within the Mortgaged Premises.

2. The Mortgagee hereby agrees:

(a) so long as the Tenant is not in default (beyond all applicable periods given the Tenant under the Lease to cure such default) and shall pay the rents and additional rents thereunder, and shall fully comply with and perform all the terms, covenants, conditions and provisions of the Lease on the part of the Tenant thereunder to be complied with and performed (i) the Tenant's possession and occupancy of the Leasehold Premises and the Tenant's rights and privileges under the Lease, or any extension or renewal thereof which may be effected in accordance with the terms of the Lease, shall not be disturbed by the Mortgagee or any successor-in-interest to the Mortgagee; (ii) the Mortgagee shall not join the Tenant as party to any action or proceeding brought as a result of a default under the Mortgage for the purposes of terminating the Tenant's interest and estate under the Lease, and subject further to the condition that the Mortgagee shall not be bound by any rent or other payment which the Tenant might have paid more than thirty (30) days in advance of the time stipulated for payment under the Lease or by any amendment or modification of the Lease made without its written consent; and

(b) if the interest of the Mortgagor shall vest in the Mortgagee by reason of foreclosure or any other procedures brought by it, or in any other manner, the Mortgagee and its successors-in-interest shall have the option, but not the obligation to cure any defaults of the Mortgagor, and, upon such vesting, agrees to be bound by all of the undischarged obligations of Mortgagor under the Lease occurring after such foreclosure or other action.

3. The Tenant hereby represents and warrants that:

(a) the Lease is in full force and effect;

(b) neither the Tenant nor, to the best knowledge of the Tenant, the Mortgagor is in default in the performance of or compliance with any provision of the Lease;

(c) the Tenant has not received any notice of default or termination of the Lease;

(d) the Lease is a complete statement of the agreement of the parties thereto with respect to the leasing of the Leasehold Premises;

(e) the Tenant has no option under the Lease to purchase all or any portion of the Mortgaged Premises; and

(f) the Tenant is the sole owner of the leasehold estate created thereby.

4. The Tenant acknowledges that Mortgagor has executed or will execute an Absolute Assignment of Leases and Rents to the Mortgagee. The Mortgagor hereby irrevocably authorizes and directs the Tenant, upon receipt from the Mortgagee of written notice to do so, to pay all rents and other monies payable by the Tenant under the Lease to or at the direction of the Mortgagee. The Mortgagor irrevocably releases the Tenant from any liability to the Mortgagor for all payments so made, and the Mortgagor agrees to defend, indemnify and hold the Tenant harmless from and against any and all claims, demands, losses, or liabilities asserted by, through, or under the Mortgagor (except by the Mortgagee) for any and all payments so made. The Tenant agrees that upon receipt of such notice it will pay all monies then due and becoming due from the Tenant under the Lease to or at the direction of the Mortgagee notwithstanding any provision of the Lease to the contrary. Such payments shall continue until the Mortgagee directs the Tenant otherwise in writing. The Tenant agrees that neither the Mortgagee's demanding or receiving any such payments, nor the Mortgagee's exercising any other right, remedy, privilege, power or immunity granted by the Lease or this Agreement will operate to impose any liability upon the Mortgagee for the performance of any obligation of the Mortgagee under the Lease unless and until the Mortgagee elects otherwise in writing or unless the Mortgagee takes possession of the Mortgaged Premises and assumes the functions of a landlord.

5. Any notice, demand or consent hereunder shall be in writing any may be given, sent by a nationally recognized overnight courier service that provides a receipt for delivery, sent by facsimile, or mailed by registered or certified mail, return receipt requested, addressed, to the Mortgagee at the address set forth on the first page of this Agreement. Any party may designate a new address by notice in writing to the other party. Any notice given in accordance herewith shall be effective upon delivery, sending or deposit in the United States mails in accordance herewith.

6. This Agreement shall be binding upon and inure to the benefit of the successors and assigns of each of parties hereto. The term "Mortgagee" shall include the respective holders from time to time of the Mortgage (as now or hereafter constituted), the term "Mortgagor' shall be synonymous with the term "Landlord" during the term of the Mortgage and the terms "Landlord" and "Tenant" shall include the holder from time to time of the lessor's interest, and the holder from time to time of the lessee's interest, respectively, in the Lease.

7. Any claim by the Tenant against the Mortgagee under the Lease or this Agreement shall be satisfied solely out of the interest of the Mortgagee in the Mortgaged Premises and the

proceeds thereof and the Tenant shall not seek recovery against or out of any other assets of the Mortgagee.

8. This Agreement shall be governed by and construed under the laws of the State of New Jersey.

9. This Agreement may be executed in separate counterparts, all of which shall constitute a single instrument.

IN WITNESS WHEREOF, the Tenant, the Mortgagor and the Mortgagee have caused this Subordination, Nondisturbance and Attornment Agreement to be duly executed and delivered, all as of the day and year above written.

[Attest:] [WITNESS:]

By: _____
Name and Title: _____

TENANT:

PTC THERAPEUTICS, INC.

By: _____
Name and Title: _____

MORTGAGOR:

46.24 ASSOCIATES, L.P.

- ---
*** Attest/Witness ***

By: _____
*** Attestor/Witness Name ***

By: _____
Middlesex Realty Corp., President

MORTGAGEE:

THE TRAVELERS LIFE AND ANNUITY COMPANY

By: _____
Name: William P. Geary
Title: _____

SCHEDULE "A"

ATTACHED TO AND MADE A PART OF THAT CERTAIN SUBORDINATION, NONDISTURBANCE AND ATTORNMENT AGREEMENT, DATED AS OF _____, 2000

Description of the Mortgaged Premises

EXHIBIT E

PTC TENANT FIT UP LIST

6/21/2000 SCOPE OF WORK

DEMOLITION	CEILING TILE REMOVAL WALL REMOVAL OBSOLETE SYSTEMS AND WIRING REMOVAL DISPOSAL AND CLEAN UP
CONSTRUCTION	FLOOR PLAN CHANGES: 5-7 OFFICES CEILING REPLACEMENT NMR ROOM CONSTRUCTION INSTALL SHOWERS CONSTRUCT RECEPTION AREA ADDITIONAL EXECUTIVE OFFICE RENOVATE or REPLACE WINDOW TREATMENTS UPGRADE LUNCHROOM FACILITIES, DISHWASHER ETC.
PAINTING	ENTIRE INTERIOR
CARPET	ENTIRE ADMINISTRATIVE AREA SELECTED OUTER OFFICES
PHONE SYSTEM	NEW SYSTEM AND WIRING
WIRING	COMPLETE NEW WIRING FOR VOICE/DATA SYSTEMCHECK, RENOVATE A-V SYSTEM FOR LARGER MEETING ROOM
SECURITY	NEW KEY CARD ENTRY SYSTEM UPGRADE FIRM ALARM UPGRADE INTERNAL SECURITY SYSTEM
CASEWORK	RENOVATE/REPLACE 10 (MIN) ISLANDS FOR CASE WORK AND THE INSTALLATION OF WORKSPACE CARRELS FOR TECHNICAL ST 12/15
FUME HOODS	REPLACE EXISTING FUME HOODS WITH LARGER MODELS BENCH TOP WITH 2 FLAMMABLE CABINETS BELOW EACH INSTALL ADDITIONAL HOODS UPGRADE PLUMBING AND WIRING FOR EACH HOOD UPGRADE EXHAUST SYSTEMS, DUCTS, FANS etc.

	"MAKE-UP" AIR SYSTEM FOR HOODS INSTALLED (NEEDED TO BALANCE HVAC)
ARCHITECTURAL & ENGINEERING	BUILDING DRAWNINGS FOR FLOOR PLAN AND "AS BUILT" MECHANICALS
WATER TREATMENT	RE-COMMISSION, UPGRADE DEIONIZED WATER SYSTEM REPLACE MILLIPORE WATER FILTRATION SYSTEM (OBSOLETE REPLACE MONITORING AND CHEMICAL DELIVERY SYSTEM FOR ACID TANK
FIRE PROTECTION	HORNS/STROBE SYSTEM BROUGHT TO CODE (SPLIT WITH NATIONAL) 15-20 NEW FIRE EXTINGUISHERS
BUILDING SYSTEMS	COMPRESSOR UPGRADE REPAIR GENERATOR (DOOR), START-UP INSPECTION, LOAD TESTING AND MAINTENANCE CONTRACT INSTALL VACUUM SYSTEM FOR LAB USE
ELECTRICAL	WIRING FOR NEW CONSTRUCTION SYSTEM TRACE FOR ALL CIRCUITS AND PANEL RE-LABELING SYSTEM UPGRADE FOR "UPS"
PLUMBING	SYSTEM TRACE AND INTEGRITY CHECK FOR LAB WATER SYSTEM SHOWER INSTALLATION SAFETY STATION (SHOWERS, EYEWASH) UPGRADE SYSTEM TRACE AND INTEGRITY CHECK FOR SPECIALIZED GA
GLASSWARE CLEANING	REPLACE STEAM GENERATOR REPLACE STERILIZER (RECONDITIONED UNIT) REPLACE WASHER
COLD ROOM	SYSTEM CHECK AND RE-COMMISSION, INCLUDING CONTROL SYSTEMS

FIRST MODIFICATION AND EXTENSION OF LEASE

This FIRST MODIFICATION and EXTENSION OF LEASE (this "Modification") is made as of the 1st day of December, 2003 (the "Building 200 Premises Commencement Date") by and between 46.24 ASSOCIATES L.P., a Delaware limited partnership, for the purposes of this Modification, having its office and P.O. Address c/o National Realty & Development Corp., 3 Manhattanville Road, Purchase, New York 10577 (hereinafter referred to as "Landlord"), and PTC THERAPEUTICS, INC. a Delaware corporation, having an office at 100 Corporate Court, Middlesex Business Center, South Plainfield, NJ 07080 (hereinafter referred to as "Tenant").

W I T N E S S E T H:

WHEREAS, Landlord, and Tenant entered into that certain lease (herein referred to as the "Lease") dated as of July 11, 2000, as amended by letter agreements dated July 10, 2000 and December 14, 2000, by which Tenant leased from Landlord, and Landlord leased to Tenant, certain premises in building #100 (the "Building") of the Middlesex Business Center (the "Center") in the BOROUGH OF SOUTH PLAINFIELD, COUNTY OF MIDDLESEX, and STATE OF NEW JERSEY, which premises consist of approximately 21,700 square feet and are more particularly described in the Lease (such premises are herein referred to as the "Existing Premises"); and

WHEREAS, Tenant is currently occupying certain space (the "Additional Premises"), also located in building #100 of the Center, which premises are directly adjacent to the Existing Premises, which Tenant initially occupied pursuant to a Sub-Tenancy Agreement dated June 1, 2001, between Catalyst Communications, Inc. ("Catalyst") as sublessor, and Tenant as Sublessee. (The Existing Premises, together with the Additional Premises, constitute the total leasable area of the Building, 30,000 square feet.)

WHEREAS, Landlord and Tenant now desire to modify the Lease in certain respects;

NOW, THEREFORE, for TEN and 00/100 ($10.00) DOLLARS and other good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, the parties hereto agree as follows:

1. Tenant hereby leases from Landlord, and Landlord hereby leases to Tenant, for a term commencing on January 1, 2003 (the "Effective Date") and ending on the Revised Expiration Date (as hereinafter defined) (or that date on which the Lease shall be sooner terminated) approximately 8,300 square feet of floor space in the Building more particularly indicated and described by hatching on the left (\\\) on the plot plan annexed hereto as "Exhibit A" and hereby made a part hereof (such 8,300 square feet of floor space is hereinafter referred to as the "Additional Premises"). From and after the Effective Date, the Additional Premises shall be deemed to be part of the Demised Premises, as if the same was included within the Demised Premises as the same is defined by the Lease (so that from and after the Effective Date the Demised Premises shall consist of approximately 30,000 square feet). From and after the Effective Date, the plot plan attached to the Lease as Exhibit A thereto shall be deemed

deleted from the Lease and the plot plan attached as Exhibit A to this Modification shall be deemed substituted therefore.

2. Tenant has examined the Additional Premises and has made a complete inspection of same and is familiar with the physical condition thereof. Landlord has not made and does not make any representation as to the physical condition or any other matter affecting or relating to the Additional Premises, except as is in this Modification specifically set forth, and Tenant specifically acknowledges that no such representation has been made, except that Landlord represents, to its knowledge, without independent investigation, that except as disclosed in the Phase I Environmental Assessment prepared by Environmental Management Services dated June 19th, 2000, there were no environmental hazards present within the Additional Premises prior to Tenant's occupancy thereof. Tenant further acknowledges that Landlord has afforded Tenant the opportunity for a full and complete investigation, examination, and inspection of the Additional Premises and Tenant accepts the Additional Premises "as is".

3. Tenant hereby leases from Landlord, and Landlord hereby leases to Tenant, for a term commencing on December 1, 2003 and ending on the Revised Expiration Date (or that date on which the Lease shall be sooner terminated) approximately 11,500 square feet of floor space in the building known as 200 Corporate Court in the Center, which floor space is more particularly indicated and described by cross hatching on the plot plan annexed hereto as "Exhibit A" and hereby made a part hereof (such 11,500 square feet of floor space is hereinafter referred to as the "Building 200 Premises"). From and after December 1, 2003 the Building 200 Premises shall be deemed to be part of the Demised Premises, as if the same was included within the Demised Premises as the same is defined by the Lease (so that from and after the Building 200 Premises Commencement Date the Demised Premises shall consist of approximately 41,500 square feet).

4. A. Tenant has examined the Building 200 Premises and has made a complete inspection of same and is familiar with the physical condition thereof. Landlord has not made and does not make any representation as to the physical condition or any other matter affecting or relating to the Building 200 Premises, except as is in this Modification specifically set forth, and Tenant specifically acknowledges that no such representation has been made, except that Landlord represents, to its knowledge, without independent investigation, except as disclosed in the Phase I Environmental Assessment prepared by Environmental Management Services dated June 19th, 2000, there were no environmental hazards present within the Building 200 Premises prior to Tenant's occupancy thereof. Tenant further acknowledges that Landlord has afforded Tenant the opportunity for a full and complete investigation, examination, and inspection of the Building 200 Premises and Tenant accepts the Building 200 Premises "as is" except as otherwise set forth herein.

B. Tenant, at Tenant's expense, shall pursuant to plans and specifications prepared by Tenant and approved by Landlord and otherwise subject to provisions of the law, including without limitation the provisions of the Lease: (i) perform such work as is needed so that the Building 200 Premises are demised separately from the remainder of the building of which such premises are a part, (ii) install demising walls with respect to the Building 200 Premises in the locations shown on the plan attached hereto as Exhibit A-1 which is hereby made a part hereof, (iii) paint such demising walls a color of Tenant's choosing from Landlord's standard paint

selections, and (iv) separate the utilities currently servicing the Building 200 Premises so that such premises are separately metered and that such meters measure only the consumption for the Building 200 Premises.

C. Tenant shall be responsible for performing such work as is needed so that the interior portion of the Additional Premises and Building 200 Premises are compliant with the ADA. Landlord represents that it has performed such work as is needed so that the exterior portion of the Additional Premises and the exterior of the Building 200 Premises are compliant with the Americans with Disabilities Act (the "ADA").

5. Landlord and Tenant agree that the Term of the Lease shall expire, notwithstanding anything to the contrary in Section 1.03 of the Lease, on July 31, 2009 (the "Revised Expiration Date").

6. Effective as of the Effective Date, the annual minimum rental payable under Section 3.01 of the Lease shall be as follows, notwithstanding anything in Section 3.01 of the Lease to the contrary,

(A) From the Rent Commencement Date (as defined in the Lease) through December 31, 2002 (inclusive): ONE HUNDRED EIGHTY FOUR THOUSAND FOUR HUNDRED FIFTY AND 00/100 ($184,450.00) DOLLARS PER ANNUM - FIFTEEN THOUSAND THREE HUNDRED SEVENTY AND 83/100 ($15,370.83) DOLLARS PER MONTH; and

(B) From and including January 1, 2003 until March 31, 2004: TWO HUNDRED FIFTY SEVEN THOUSAND SEVEN HUNDRED THIRTY AND 04/100 ($257,730.04) DOLLARS PER ANNUM - TWENTY ONE THOUSAND FOUR HUNDRED SEVENTY SEVEN AND 50/100 ($21,477.50) DOLLARS PER MONTH.

(C) From April 1, 2004 (the "Building 200 Rent Commencement Date") through July 31, 2009: THREE HUNDRED SEVENTY THREE THOUSAND FIVE HUNDRED AND 00/100 ($373,500.00) DOLLARS PER ANNUM - THIRTY ONE THOUSAND ONE HUNDRED TWENTY FIVE AND 50/100 ($31,125.00) DOLLARS PER MONTH;

7. Provided that (i) Tenant is in compliance with the provisions of that certain License Agreement dated September 22, 2003 by and between Landlord and Tenant (the "License Agreement") with respect to Renovations Work, and (ii) Tenant has complied with the provisions of Section 5.05(c) of the Lease as same apply to the Renovations Work pursuant to said License Agreement and (iii) Tenant has completed all work necessary to renovate, fixture and equip the Additional Premises and Building 200 Premises for use in accordance with the provisions of Article 2 of the Lease (the "Additional Tenant Improvements"), and (iv) Tenant complies with the requirements of Section 5.05(C) of the Lease, and provided further that the Lease shall not be terminated prior to the dates Tenant is entitled to such credits, Tenant shall be entitled to a credit of $31,125.00 against the payment of the monthly installments of annual minimum rent due under the Lease for the months of July 2004 and August 2004, and a credit of

$31,125.00 against the payment of annual minimum rent due under the Lease for the months of June 2009 and July 2009 (and such credits shall be in lieu of the rent abatement set forth in that certain letter agreement dated December 14, 2000 between Landlord and Tenant.)

8. Section 5.05(B) of the Lease is hereby amended in its entirety to read as follows:

"Subject to completion of the Additional Tenant Improvements in accordance with Tenant's plans and specifications which shall be approved by Landlord in advance, and the provisions set forth in Section 5.05(C) of the Lease, Landlord shall reimburse Tenant for amounts actually expended by Tenant for a portion of the construction of the Additional Tenant Improvements, in an amount not to exceed the sum of $159,700.00, and for partitioning and installation of separate HVAC systems (the "HVAC Improvements") in an amount not to exceed $6,000 (both amounts together, the "Tenant Allowance"). Such reimbursement shall be in the form of a credit to be taken by Tenant against the first payments of annual minimum rental payable hereunder which accrue subsequent to the completion of the Additional Tenant Improvements and the HVAC Improvements, which shall be credited starting no earlier than August 31, 2004 until exhausted.

The portion of the Additional Tenant Improvements for which the Tenant Allowance shall be paid shall be only that portion thereof that is office installation work (e.g. partitioning, doors, electrical, etc., including, without limitation, upgrading and replacing of existing mechanical systems in the Demised Premises) and in no event shall the Tenant Allowance be used for any work related to Tenant's trade fixtures or equipment (such portion of the Additional Tenant Improvements for which Tenant may receive the Tenant Allowance is hereinafter called the "Tenant Allowance Work"). It is acknowledged and agreed by Tenant that in the event that the monies expended by Tenant for the completion of the Tenant Allowance Work and the HVAC Improvements are less than the amount of the Tenant Allowance, Tenant shall not be entitled to any credit for the unused portion thereof, nor is Tenant entitled to any additional sums from Landlord in the event that the monies expended by Tenant in connection with the completion of the Tenant Allowance Work, the HVAC Improvements or the Additional Tenant Improvements exceeds the amount of the Tenant Allowance."

9. Tenant and Landlord acknowledge that Tenant has held annual minimum rent and additional rent accruing with respect to the Additional Premises for the period of time from and after January 1, 2003 in escrow pending resolution of the status of the Catalyst Lease and the Catalyst Sublease (as defined herein). Upon execution of this Modification by Tenant, Tenant shall pay to Landlord annual minimum rent and additional rent for the Additional Premises for the period from January 1, 2003 through the last day of January 2004 in the amount of ONE HUNDRED SIXTEEN THOUSAND NINETY FIVE AND 57/100 ($116,095.57) DOLLARS (which together with rent previously paid by Tenant with respect to the Existing Premises, the Landlord accepts in full satisfaction of the amount owed pursuant to Section 6(B), above, for the period from January 1, 2003 through February 29 , 2004, subject to year end reconciliation for additional rent.). As between Landlord and Tenant, Landlord hereby waives any rights or remedies it may have (either under the Lease, the Catalyst Lease, or the Catalyst Sublease) with respect to such payments, the underlying rent or costs to which the payments relate, or the timing of such payments.

10. Landlord represents and warrants, and Tenant acknowledges, that the lease by and between Landlord and Catalyst Communications, Inc. ("Catalyst") by which Catalyst leased the Additional Premises (the "Catalyst Lease") was terminated as to the Additional Premises effective as of December 31, 2002 and that, accordingly, that certain sublease by and between Catalyst and Tenant by which Tenant subleased the Additional Premises from Catalyst also terminated as of December 31, 2002 (the "Catalyst Sublease"). In recognition of Tenant's payments hereunder, Landlord hereby indemnifies and saves harmless Tenant from and against any claims and all loss, cost, liability, damage and/or expense, including but not limited to reasonable counsel's fees, penalties and fines, incurred in connection with or arising from the payment of annual minimum rent or additional rent from January 1, 2003 forward under the Catalyst Lease or the Catalyst Sublease, Tenant's good faith efforts to preserve rents on the Additional Premises in an escrow account pending resolution of issues between Landlord and Catalyst, or any other financial issues regarding the payment of rent or additional rent to Landlord by Catalyst or to Catalyst by Tenant.

11. Article 40 of the Lease is hereby deleted and replaced with the following quoted language:

"ARTICLE 40. OPTIONS FOR EXTENSION AND ADDITIONAL SPACE

Section 40.01. Tenant shall have the option, provided it is not in default hereunder, to extend the term of this Lease for ONE (1) successive additional term of FIVE (5) years, from August 1, 2009 through July 31, 2014, upon the same terms and conditions as provided herein, except that the fixed annual rent during said extension period shall be as provided below, and except that Tenant shall have no further extension options. Tenant shall give written notice to Landlord prior to November 1, 2008 of its election to extend the term hereof, or such option shall be deemed waived. If Tenant shall exercise such extension option, the parties will, at the request of either, execute an agreement in form for recording, evidencing such extension. If Tenant shall exercise such extension option, all references in this Lease to the term hereof shall be deemed to mean the term as so extended, except where expressly otherwise provided.

Section 40.02. If Tenant shall duly elect to extend the term of this Lease as herein provided, the fixed annual rent payable by Tenant during said extension term shall be FOUR HUNDRED TWENTY NINE THOUSAND FIVE HUNDRED TWENTY FIVE AND 00/100 ($429,525.00) DOLLARS per annum- THIRTY FIVE THOUSAND SEVEN HUNDRED NINETY THREE AND 001/000 ($35,793.75) DOLLARS per month.

Section 40.03. If at any time Landlord proposes to lease space within the building known as 200 Corporate Court in the Center, or enters into discussions with a potential tenant(s) for some or all of such space, Landlord shall give Tenant notice thereof (the "Start Notice") in order to provide Tenant with a reasonable right of first negotiation with respect to such additional space upon substantially similar terms and conditions as provided herein, except that the fixed annual rent applicable to such space shall be as negotiated in good faith by the parties. In the event that Landlord and Tenant do not enter into a lease for such space within thirty (30) days of the Start Notice, then Tenant

shall, at its expense, within thirty (30) days of Landlord's request, undertake all actions necessary so that the utilities serving the Building 200 Premises are located solely within the Building 200 Premises, and not otherwise in Building 200, and shall also take all actions necessary so that no utilities serving the portion of Building 200 not within the Building 200 Premises are located within the Building 200 Premises, such that the Building 200 Premises and the other portions of Building 200 can be used by two (2) (or more) unrelated tenants without any utilities located other than within the particular tenant's demised premises."

12. Tenant covenants, warrants and represents that it has dealt with no broker other than Colliers Houston & Co. respecting this Modification and that no conversations, correspondence or negotiations were had with any broker (except with Colliers Houston & Co. concerning the negotiation of the Lease) concerning the renting or leasing of the Additional Premises or Building 200 Premises. Tenant shall hold Landlord and National Realty & Development Corp. harmless and defend (by counsel satisfactory to Landlord) said parties against any claims for a brokerage commission arising out of any conversations, correspondence or negotiations with any broker except said Colliers Houston & Co. regarding the Lease. Landlord shall pay any commissions owing to said Colliers Houston & Co. with respect to this Modification in accordance with separate agreement.

13. Upon execution of this Modification by Tenant, Tenant shall deliver to Landlord adequate and proper insurance policies with respect to the Additional Premises and the Building 200 Premises including, without limitation, comprehensive general liability insurance in the amounts specified in and in accordance with the provisions of Article 7 of this Lease.

14. Section 24.01 of the Lease is hereby deleted and replaced with the following quoted language:

"Tenant represents that its officer(s) executing this lease have been duly authorized to do so by formal action of a duly-elected Board of Directors. Until such time as Tenant is a corporation whose shares are regularly and publicly traded on a recognized stock exchange, Tenant shall upon written request provide to Landlord a capitalization table showing ownership (by class and entity) of Tenant's capital stock prepared or reviewed by a certified public accountant."

Landlord hereby waives any right of termination of the Lease that may have accrued to Landlord pursuant to the former language of Section 24.01 of the Lease.

15. Except as expressly modified herein, all of the terms and conditions of the Lease shall continue unmodified and in full force and effect. Capitalized terms used herein without definition shall have the meaning given to such terms in the Lease. Obligations under this Agreement shall be deemed obligations under the Lease and that a default hereunder shall constitute a default under the Lease.

IN WITNESS WHEREOF, the parties have hereunto set their hands and seals as of the day and year first above written.

WITNESS:

/s/ Jennifer H. Lawrence
- ----------

- ----------

46.24 ASSOCIATES L.P., a Delaware limited partnership

By: Middlesex Realty Corp., general partner

By: /s/ Robert C. Baker

Name: Robert C. Baker
Title: President

(LANDLORD)

PTC THERAPEUTICS, INC., a Delaware corporation

By: /s/ Mark E. Boulding

Name: Mark E. Boulding
Title: Secretary of the Corporation

(TENANT)

State of New York
} SS:
County of Westchester

On the 17th day of February in the year 2004 before me, the undersigned, a Notary Public in and for said State, personally appeared Robert C. Baker, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity as President of MIDDLESEX REALTY CORP., general partner of 46.24 ASSOCIATES, INC., and that by his signature on the instrument, the individual or the corporation upon behalf of which the individual acted, executed the instrument.

Notary Public

STATE OF NEW JERSEY)
} SS.:
COUNTY OF MIDDLESEX)

On the 9th day of February in the year 2004 before me, the undersigned, a Notary Public in and for said State, personally appeared Mark E. Boulding, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity as Secretary of PTC THERAPEUTICS, and that by his signature on the instrument, the individual or the corporation upon behalf of which the individual acted, executed the instrument..

Notary Public

EXHIBIT A

[GRAPHIC OMITTED][MAP]

EXHIBIT A

EXHIBIT A-1

[GRAPHIC OMITTED] [FLOOR PLAN]

MASTER SECURITY AGREEMENT
NO. 4081064
Dated as of JULY 30, 2004 ("AGREEMENT")

THIS AGREEMENT (this "Agreement") is between OXFORD FINANCE CORPORATION (together with its successors and assigns, if any, "SECURED PARTY") and PTC Therapeutics, Inc. ("DEBTOR"). Secured Party has an office at 133 N. Fairfax Street, Alexandria, VA 22314. Debtor is a corporation organized and existing under the laws of the state of Delaware. Debtor's mailing address and chief place of business is 100 Corporate Court, South Plainfield, NJ 07080.

1. CREATION OF SECURITY INTEREST.

Debtor grants to Secured Party, its successors and assigns, a security interest in and against all property listed on any collateral schedule now or in the future annexed to or made a part of this Agreement ("COLLATERAL SCHEDULE"), and in and against all additions, attachments, accessories and accessions to such property, all substitutions, replacements or exchanges therefore, and all insurance and/or other proceeds thereof (all such property is individually and collectively called the "COLLATERAL"). This security interest is given to secure the payment and performance of certain Promissory Notes from time to time identified on any Collateral Schedule (collectively "NOTES" and each a "NOTE"), the "Debt Documents" (as defined below), and any renewals, extensions and modifications of such debts, obligations and liabilities (such Notes, debts, obligations and liabilities are called the "INDEBTEDNESS"). Debtor acknowledges that, notwithstanding that the Note(s) may be paid in full, this Security Agreement shall continue to secure the payment and performance of any remaining Indebtedness of Debtor to Secured Party, now existing or arising in the future, and that Secured Party shall be under no obligation to release the Collateral unless and until all Indebtedness of Debtor to Secured Party has been paid and satisfied; provided, however, Secured Party, in its sole and exclusive discretion, may elect to release some of the Collateral without prejudice to Secured Party's security interest in the remaining Collateral. Unless otherwise provided by applicable law, notwithstanding anything to the contrary contained in this Agreement, to the extent that Secured Party asserts a purchase money security interest in any items of Collateral ("PMSI COLLATERAL"): (i) the PMSI Collateral shall secure only that portion of the Indebtedness which has been advanced by Secured Party to enable Debtor to purchase, or acquire rights in or the use of such PMSI Collateral (the "PMSI INDEBTEDNESS"), and (ii) no other Collateral shall secure the PMSI Indebtedness.

2. REPRESENTATIONS, WARRANTIES AND COVENANTS OF DEBTOR.

Debtor represents, warrants and covenants as of the date of this Agreement and as of the date of each Collateral Schedule that:

(a) Debtor's exact legal name is as set forth in the preamble of this Agreement (or, upon any change thereto, Debtor will notify Secured Party in accordance with the terms of this Agreement) and Debtor is, and will remain, duly organized, existing and in good standing under the laws of the State set forth in the preamble of this Agreement, has its chief executive offices at the location specified in the preamble (or, upon any change thereto, Debtor will notify Secured Party in accordance with the terms of this Agreement), and is, and will remain, duly qualified and licensed in every jurisdiction wherever necessary to carry on its business and operations;

(b) Debtor has adequate power and capacity to enter into, and to perform its obligations under this Agreement, each Note and any other documents evidencing, or given in connection with, any of the Indebtedness (all of the foregoing are called the "DEBT DOCUMENTS");

(c) This Agreement and the other Debt Documents have been duly authorized, executed and delivered by Debtor and constitute legal, valid and binding agreements enforceable in accordance with their terms, except to the extent that the enforcement of remedies may be limited under applicable bankruptcy and insolvency laws;

(d) No approval, consent or withholding of objections is required from any governmental authority or instrumentality with respect to the entry into, or performance by Debtor of any of the Debt Documents, except any already obtained;

(e) The entry into, and performance by, Debtor of the Debt Documents will not (i) violate any of the organizational documents of Debtor or any judgment, order, law or regulation applicable to Debtor, or (ii) result in any breach of or constitute a default under any contract to which Debtor is a party, or result in the creation of any lien, claim or encumbrance on any of Debtor's property (except for liens in favor of Secured Party) pursuant to any indenture, mortgage, deed of trust, bank loan, credit agreement, or other agreement or instrument to which Debtor is a party;

(f) Except as otherwise disclosed to Secured Party, there are no suits or proceedings pending in court or before any commission, board or other administrative agency against or affecting Debtor which could, in the aggregate, have a material adverse effect on Debtor, its business or operations, or its ability to perform its obligations under the Debt Documents, nor does Debtor have reason to believe that any such suits or proceedings are threatened;

(g) All financial statements delivered to Secured Party in connection with the Indebtedness have been prepared in accordance with generally accepted accounting principles, and since the date of the most recent financial statement, there has been no material adverse change in Debtors financial condition;

(h) The Collateral is not, and will not be, used by Debtor for personal, family or household purposes;

(i) The Collateral is, and will remain, in good condition and repair and Debtor will not be negligent in its care and use;

(j) All of the tangible Collateral is located at the locations set forth on each Collateral Schedule. Debtor shall give the Secured Party 30 days prior written notice of any relocation of any Collateral (other than between such locations);

(k) Debtor is, and will remain, the sole and lawful owner, and in possession of, the Collateral, and has the sole right and lawful authority to grant the security interest described in this Agreement;

(l) The Collateral is, and will remain, free and clear of all liens, claims and encumbrances of any kind whatsoever, except for (i) liens in favor of Secured Party, (ii) liens for taxes not yet due or for taxes being contested in good faith and which do not involve, in the reasonable judgment of Secured Party, any risk of the sale, forfeiture or loss of any of the Collateral, and (iii) inchoate material men's, mechanic's, repairmen's and similar liens arising by operation of law in the normal course of business for amounts which are not delinquent (all of such liens are called "PERMITTED LIENS");

(m) All federal, state and local tax returns required to be filed by Debtor have been filed with the appropriate governmental agencies and all taxes due and payable by Debtor have been timely paid. Debtor will pay when due all taxes, assessments and other liabilities except as contested in good faith and by appropriate proceedings and for which adequate reserves have been established; provided, however, the omission to file and/or pay any related fine in connection with any employee benefit plan for the calendar years ending in 2002 and 2003 shall not be deemed a breach of this Subsection 2(m);

(n) No event or condition exists under any material agreement, instrument or document to which Debtor is a party or may be subject, or by which Debtor or any of its properties are bound, which constitutes a default or an event of default thereunder;

(o) All reports, certificates, schedules, notices and financial information submitted by Debtor to the Secured Party pursuant to this Agreement shall be certified as true and correct by the president or chief financial officer of Debtor; provided, however, if and to the extent that Secured Party accepts reports, certificates, schedules, notices and financial information without the required certification or fails to provide an objection to the omission to provide the required certification, the omission to certify shall not be deemed a breach of this Subsection 2(o);

(p) Debtor shall give the Secured Party prompt written notice of any event, occurrence or other matter which has resulted or may result in a material adverse change in its financial condition, business operations, prospects, product development, technology, or business or contractual relations with third parties of Debtor which would impair the ability of Debtor to perform its obligations hereunderor under any of the other material financing agreements to which it is a party or of Secured Party to enforce the Indebtedness or realize upon the Collateral; and

(q) Debtor has previously delivered to the Secured Party a certificate signed by the Debtor and entitled "Perfection Certificate" (the "PERFECTION CERTIFICATE"). The Debtor represents and warrants to the Secured Party as follows: (a) the Debtor's exact legal name is that indicated on the Perfection Certificate and on the signature page hereof, (b) the Debtor is an organization of the type, and is organized in the jurisdiction set forth in the Perfection Certificate, (c) the Perfection Certificate accurately sets forth the Debtor's organizational identification number or accurately states that the Debtor has none, (d) the Perfection Certificate accurately sets forth the Debtor's place of business or, if more than one, its chief executive office, as well as the Debtor's mailing address, if different, (e) all other information set forth on the Perfection Certificate pertaining to the Debtor is accurate

and complete, and (f) that there has been no change in any information provided in the Perfection Certificate since the date on which it was executed by the Debtor other than any change of which Debtor has notified Secured Party in accordance with the terms of this Agreement.

3. COLLATERAL.

(a) Until the declaration of any default, Debtor shall remain in possession of the Collateral; except that Secured Party shall have the right to possess (i) any chattel paper or instrument that constitutes a part of the Collateral, and (ii) any other Collateral in which Secured Party's security interest may be perfected only by possession. Secured Party may inspect any of the Collateral during normal business hours after giving Debtor reasonable prior notice.

(b) Debtor shall (i) use the Collateral only in its trade or business, (ii) maintain all of the Collateral in good operating order and repair, normal wear and tear excepted, (iii) use and maintain the Collateral only in compliance with manufacturers recommendations and all applicable laws, and (iv) keep all of the Collateral free and clear of all liens, claims and encumbrances (except for Permitted Liens).

(c) Secured Party does not authorize and Debtor agrees it shall not (i) part with possession of any of the Collateral (except to Secured Party or for maintenance and repair), (ii) remove any of the Collateral from the continental United States, or (iii) sell, rent, lease, mortgage, license, grant a security interest in or otherwise transfer or encumber (except for Permitted Liens) any of the Collateral.

(d) Debtor shall pay promptly when due all taxes, license fees, assessments and public and private charges levied or assessed on any of the Collateral, on its use, or on this Agreement or any of the other Debt Documents. At its option, Secured Party may discharge taxes, liens, security interests or other encumbrances at any time levied or placed on the Collateral and may pay for the maintenance, insurance and preservation of the Collateral and effect compliance with the terms of this Agreement or any of the other Debt Documents, provided that, Secured Party shall not take any of such actions unless and until Debtor has failed to do so in a timely manner, Secured Party has delivered to Debtor written notice of any such failure, and Debtor has not cured such failure within ten days after receipt of such written notice. Debtor agrees to reimburse Secured Party, on demand, all costs and expenses incurred by Secured Party in connection with such payment or performance and agrees that such reimbursement obligation shall constitute Indebtedness.

(e) Debtor shall, at all times, keep accurate and complete records of the Collateral, and Secured Party shall have the right to inspect and make copies of all of Debtor's books and records relating to the Collateral during normal business hours, after giving Debtor reasonable prior notice.

(f) Debtor agrees and acknowledges that any third person who may at any time possess all or any portion of the Collateral shall be deemed to hold, and shall hold, the Collateral as the agent of, and as pledge holder for, Secured Party. Secured Party may at any time give notice to any third person described in the preceding sentence that such third person is holding the Collateral as the agent of, and as pledge holder for, the Secured Party.

4. INSURANCE.

(a) Debtor shall at all times bear the entire risk of any loss, theft, damage to, or destruction of, any of the Collateral from any cause whatsoever, subject to the limitations set forth in Section 6(c).

(b) Debtor agrees to keep the Collateral insured against loss or damage by fire and extended coverage perils, theft, burglary, and for any or all Collateral, which are vehicles, for risk of loss by collision, and if requested by Secured Party, against such other risks as Secured Party may reasonably require. The insurance coverage shall be in an amount no less than the full replacement value of the Collateral, and deductible amounts, insurers and policies shall be acceptable to Secured Party. Debtor shall deliver to Secured Party policies or certificates of insurance evidencing such coverage. Each such policy or certificate shall name Secured Party as a loss payee, shall not be subject to co-insurance, and shall provide that if coverage is canceled or lowered, the insurer shall give thirty (30) days prior written notice to Secured Party. Debtor appoints Secured Party as its attorney-in-fact to make proof of loss, claim for insurance and adjustments with insurers, and to receive payment of and execute or endorse all documents, checks or drafts in connection with insurance payments. Secured Party shall not act as Debtor's attorney-in-fact unless Debtor is in default under the Debt Documents. Proceeds of insurance shall be applied, at the option of Secured Party, to repair or replace the Collateral or to reduce any of the Indebtedness.

5. REPORTS.

(a) Debtor shall promptly notify Secured Party of (i) any change in the name of Debtor, (ii) any change in the state of its incorporation or registration, (iii) any relocation of its chief executive offices, (iv) any of the Collateral being lost, stolen, missing, destroyed, materially damaged or worn out, or (v) any lien, claim or

encumbrance other than Permitted Liens attaching to or being made against any of the Collateral.

(b) Debtor will deliver to Secured Party within one hundred twenty (120) days of the close of each fiscal year of Debtor, a copy of the annual audit report of Debtor, including a balance sheet, income statement, statement of shareholders' equity and statement of cash flows, each prepared in accordance with generally accepted accounting principles consistently applied, certified by a recognized firm of certified public accountants. Debtor will deliver to Secured Party copies of Debtor's balance sheet, income statement and statement of cash flows, each prepared by Debtor in accordance with generally accepted accounting principles consistently applied by Debtor and certified (subject to year-end audit adjustments) by Debtor's chief financial officer, within ninety (90) days after the close of each of the first three quarters of each fiscal year of Debtor. Debtor will deliver to Secured Party copies of all Forms 10-K and 10-Q, if any, within 30 days after the dates on which they are filed with the Securities and Exchange Commission. Debtor will deliver to Secured Party copies of monthly bank account statements or other statements provided with respect to Debtor's cash management activities within forty-five (45) days after the close of each month.

(c) Secured Party promptly upon request of Secured Party, in form satisfactory to Secured Party, such other and additional information as Secured Party may reasonably request from time to time, provided that,

i. Such additional information exists or could be created without significant additional cost on the part of Debtor;

ii. If Debtor indicates such additional information is confidential or proprietary, Secured Party will provide written assurances of confidential treatment upon Debtor's request, ensure limited access to such additional information, and guarantee no improper use or transfer thereof; and

iii. Such additional information will not violate any law, regulation or contractual or other obligation by which Debtor is bound.

6. FURTHER ASSURANCES.

(a) Debtor shall, upon request of Secured Party, furnish to Secured Party such further information, execute and deliver to Secured Party such documents and instruments (including, without limitation, Uniform Commercial Code financing statements) and shall do such other acts and things as Secured Party may at any time reasonably request to perfect or protect the security interest created by this Agreement or for the purpose of carrying out the intent of this Agreement. Without limiting the foregoing, Debtor shall cooperate and do all acts reasonably deemed necessary or advisable by Secured Party to continue in Secured Party a perfected first security interest in the Collateral, and shall use its best efforts under the circumstances to obtain and furnish to Secured Party any subordinations, releases, landlord waivers, lessor waivers, mortgagee waivers, or control agreements, and similar documents as may be from time to time reasonably requested by, and in form and substance reasonably satisfactory to, Secured Party.

(b) Debtor shall use its best efforts under the circumstances to perform any and all acts requested by the Secured Party to establish, maintain and continue the Secured Party's security interest and liens in the Collateral, including but not limited to, executing or authenticating financing statements and such other instruments and documents when and as reasonably requested by the Secured Party. Debtor hereby authorizes Secured Party through any of Secured Party's employees, agents or attorneys to file any and all financing statements, including, without limitation, any original filings, continuations, transfers or amendments thereof required to perfect Secured Party's security interest and liens in the Collateral under the UCC without authentication or execution by Debtor. Debtor hereby irrevocably authorizes the Secured Party at any time and from time to time to file in any filing office in any Uniform Commercial Code jurisdiction any initial financing statement(s) and amendments thereto that (a) indicate the Collateral (i) is subject to the Secured Party's security interest, regardless of whether any particular asset comprised in the Collateral falls within the scope of Article 9 of the Uniform Commercial Code of the State or such jurisdiction, or (ii) as being of an equal or lesser scope or with greater detail, and (b) provide any other information required by part 5 of Article 9 of the Uniform Commercial Code of the State or such other jurisdiction for the sufficiency or filing office acceptance of any financing statement or amendment, including (i) whether the Debtor is an organization, the type of organization and any organization identification number issued to the Debtor, and (ii) in the case of a financing statement filed as a fixture filing, a sufficient description of real property to which the Collateral relates. The Debtor agrees to furnish any such information to the Secured Party promptly upon the Secured Party's request.

(c) Debtor shall indemnify and defend the Secured Party, its successors and assigns, and their respective directors, officers and employees, from and against all claims, actions and suits (including, without limitation, related attorneys' fees) of any kind whatsoever arising, directly or indirectly, in connection with any of the Collateral, provided that, Debtor shall have no such obligation to indemnify or defend Secured Party or any such entities or persons from and against any such claims, actions or suits (including without limitation attorneys' fees) arising, directly or indirectly, in connection with any of the following:

(i) Secured Party's or its agents' failure to comply with any applicable laws, rules or regulations in relation to its handling, use or transport of the Collateral;

(ii) Secured Party's or its agents' failure to utilize properly trained or experienced personnel for the handling, use or transport of any materials or other items of Collateral which constitute or contain hazards or dangers known or identified to Secured Party as

such; or

(iii) Secured Party's or its agents' gross negligence or willful misconduct.

7. DEFAULT AND REMEDIES.

(a) Debtor shall be in default under this Agreement and each of the other Debt Documents if:

(i) Debtor breaches its obligation to pay when due any installment or other amount due or coming due under any of the Debt Documents and fails to cure such breach within five (5) days of when due;

(ii) Debtor, without the prior written consent of Secured Party, attempts to or does sell, rent, lease, license, mortgage, grant a security interest in, or otherwise transfer or encumber (except for Permitted Liens) any of the Collateral;

(iii) Debtor breaches any of its insurance obligations under Section 4;

(iv) Debtor breaches any of its other non-payment obligations under any of the Debt Documents and fails to cure that breach within thirty (30) days after written notice from Secured Party;

(v) Any material warranty, representation or statement made by Debtor in any of the Debt Documentsor otherwise in connection with any of the Indebtedness shall be false or misleading in any material respect as of the date made;

(vi) Any of the Collateral is subjected to attachment, execution, levy, seizure or confiscation in any legal proceeding or otherwise, or if any legal or administrative proceeding is commenced against Debtor or any of the Collateral, which in the good faithreasonable judgment of Secured Party subjects any of the Collateral to a material risk of attachment, execution, levy, seizure or confiscation and no bond is posted or protective order obtained to negate such risk;

(vii) Debtor breaches or is in default under any other agreement between Debtor and Secured Party;

(viii) Debtor or any guarantor or other obligor for any of the Indebtedness (collectively "GUARANTOR") dissolves, terminates its existence, becomes insolvent or ceases to do business as a going concern;

(ix) With respect to any Debtor or any Guarantor who is a natural person, Debtor or any such Guarantor dies or becomes incompetent;

(x) A receiver is appointed for all or of any part of the property of Debtor or any Guarantor, or Debtor or any Guarantor makes any assignment for the benefit of creditors;

(xi) Debtor or any Guarantor files a petition under any bankruptcy, insolvency or similar law, or any such petition is filed against Debtor or any Guarantor and is not dismissed within forty-five (45) days;

(xii) Debtor's improper filing of an amendment or termination statement relating to a filed financing statement describing the Collateral.

(xiii) Except with the Secured Party's prior written consent which shall not be unreasonably withheld, conditioned or delayed, Debtor shall merge with or consolidate into any other entity or sell all or substantially all of its assets or in any manner terminate its existence;

(xiv) Except with the Secured Party's prior written consent which shall not be unreasonably withheld, conditioned or delayed, Debtor is a privately held corporation, more than 50% of Debtor's voting capital stock, or effective control of Debtor's voting capital stock, issued and outstanding from time to time, is not retained by the holders of such stock on the date the Agreement is executed;

(xv) Except with the Secured Party's prior written consent which shall not be unreasonably withheld, conditioned or delayed, Debtor is a publicly held corporation, there shall be a change in the ownership of Debtor's stock such that Debtor is no longer subject to the reporting requirements of the Securities Exchange Act of 1934 or no longer has a class of equity securities registered under Section 12 of the Securities Act of 1933;

(xvi) Debtor defaults under any other material financing arrangement between Debtor and a third party; and

(xvii) A change or event shall have occurred which would impair the ability of Debtor to perform its material obligations hereunder or of Secured Party to enforce the Indebtedness or realize upon the Collateral;

(b) If Debtor is in default, the Secured Party, at its option, may declare any or all of the Indebtedness to be immediately due and payable, without demand or notice to Debtor or any Guarantor. The accelerated obligations and liabilities shall bear interest (both before and after any judgment) until paid in full at the lower of thirteen percent (13%) per annum or the maximum rate not prohibited by applicable law.

(c) Upon a default of this Agreement by Debtor or the occurrence of an event which would constitute a default, Secured Party shall have all of the rights and remedies of a Secured Party under the Uniform Commercial Code, and under any other applicable law. Without limiting the foregoing, Secured Party shall have the right in such circumstances to (i) notify any account debtor of Debtor or any obligor on any instrument which constitutes part of the Collateral to make payment to the Secured Party, (ii) with or without legal process, enter any premises where the Collateral may be and take

possession of and remove the Collateral from the premises or store it on the premises, (iii) sell the Collateral at public or private sale, in whole or in part, and have the right to bid and purchase at said sale, or (iv) lease or otherwise dispose of all or part of the Collateral, applying proceeds from such disposition to the obligations then in default. Upon a default of this Agreement by Debtor or the occurrence of an event that would constitute a default, if requested by Secured Party, Debtor shall promptly assemble the Collateral and make it available to Secured Party at a place to be designated by Secured Party, which is reasonably convenient to both parties. Upon a default of this Agreement by Debtor or the occurrence of an event which would constitute a default, Secured Party may also render any or all of the Collateral unusable at the Debtor's premises and may dispose of such Collateral on such premises without liability for rent or costs. Any notice that Secured Party is required to give to Debtor under the Uniform Commercial Code of the time and place of any public sale or the time after which any private sale or other intended disposition of the Collateral is to be made shall be deemed to constitute reasonable notice if such notice is given to the last known address of Debtor at least five (5) days prior to such action. Upon a default of this Agreement by Debtor or the occurrence of an event of default and during the continuation of such default or event, Debtor hereby appoints Secured Party as Debtor's attorney-in-fact, with full authority in Debtor's place and stead and in Debtor's name or otherwise, from time to time in Secured Party's sole and arbitrary discretion, to take any action and to execute any instrument which Secured Party reasonably deems necessary or advisable to accomplish the purpose of this Agreement.

(d) Proceeds from any sale or lease or other disposition shall be applied: first, to all costs of repossession, storage, and disposition including without limitation attorneys', appraisers', and auctioneers' fees; second, to discharge the obligations then in default; third, to discharge any other Indebtedness of Debtor to Secured Party, whether as obligor, endorser, guarantor, surety or indemnitor; fourth, to expenses incurred in paying or settling liens and claims against the Collateral; and lastly, to Debtor, if there exists any surplus. Debtor shall remain fully liable for any deficiency.

(e) Upon a default of this Agreement by Debtor or the occurrence of an event which with the passage of time or the giving of notice would constitute a default, Debtor agrees to pay all reasonable attorneys' fees and other costs incurred by Secured Party in connection with the enforcement, assertion, defense or preservation of Secured Party's rights and remedies under this Agreement, or if prohibited by law, such lesser sum as may be permitted. Debtor further agrees that such fees and costs shall constitute Indebtedness.

(f) Secured Party's rights and remedies under this Agreement or otherwise arising are cumulative and may be exercised singularly or concurrently. Neither the failure nor any delay on the part of the Secured Party to exercise any right, power or privilege under this Agreement shall operate as a waiver, nor shall any single or partial exercise of any right, power or privilege preclude any other or further exercise of that or any other right, power or privilege. SECURED PARTY SHALL NOT BE DEEMED TO HAVE WAIVED ANY OF ITS RIGHTS UNDER THIS AGREEMENT OR UNDER ANY OTHER AGREEMENT, INSTRUMENT OR PAPER SIGNED BY DEBTOR UNLESS SUCH WAIVER IS EXPRESSED IN WRITING AND SIGNED BY SECURED PARTY. A waiver on any one occasion shall not be construed as a bar to or waiver of any right or remedy on any future occasion.

(g) DEBTOR AND SECURED PARTY UNCONDITIONALLY WAIVE THEIR RIGHTS TO A JURY TRIAL OF ANY CLAIM OR CAUSE OF ACTION BASED UPON OR ARISING OUT OF THIS AGREEMENT, ANY OF THE OTHER DEBT DOCUMENTS, ANY OF THE INDEBTEDNESS SECURED HEREBY, ANY DEALINGS BETWEEN DEBTOR AND SECURED PARTY RELATING TO THE SUBJECT MATTER OF THIS TRANSACTION OR ANY RELATED TRANSACTIONS, AND/OR THE RELATIONSHIP THAT IS BEING ESTABLISHED BETWEEN DEBTOR AND SECURED PARTY. THE SCOPE OF THIS WAIVER IS INTENDED TO BE ALL ENCOMPASSING OF ANY AND ALL DISPUTES THAT MAY BE FILED IN ANY COURT. THIS WAIVER IS IRREVOCABLE. THIS WAIVER MAY NOT BE MODIFIED EITHER ORALLY OR IN WRITING. THE WAIVER ALSO SHALL APPLY TO ANY SUBSEQUENT AMENDMENTS, RENEWALS, SUPPLEMENTS OR MODIFICATIONS TO THIS AGREEMENT, ANY OTHER DEBT DOCUMENTS, OR TO ANY OTHER DOCUMENTS OR AGREEMENTS RELATING TO THIS TRANSACTION OR ANY RELATED TRANSACTION. THIS AGREEMENT MAY BE FILED AS A WRITTEN CONSENT TO A TRIAL BY THE COURT.

8. MISCELLANEOUS.

(a) This Agreement, any Note and/or any of the other Debt Documents may be assigned, in whole or in part, by Secured Party without notice to Debtor, and Debtor agrees not to assert against any such assignee, or assignee's assigns, any set-off, recoupment claim or counterclaim which Debtor has or may at any time have against Secured Party for any reason whatsoever, except in any case of the defense of payment. Debtor agrees that if Debtor receives written notice of an assignment from Secured Party, Debtor will pay all amounts payable under any assigned Debt Documents to such assignee or as instructed by Secured Party. Debtor also agrees to confirm in writing receipt of the notice of assignment as may be reasonably requested by Secured Party or assignee.

(b) All notices to be given in connection with this Agreement shall be in writing, shall be addressed to the parties at their respective addresses set forth in this Agreement (unless and until a different address may be specified in a written notice to the other party), and, in the case of all such notices to Debtor, a copy shall be sent by email to legal@ptcbio.com, and shall be deemed given (i) on the date of receipt if delivered in hand or by facsimile transmission, (ii) on the next business day after being sent by express mail, and (iii) on the fourth business day after being sent by regular, registered or certified mail. As used herein, the term "business day" shall mean and include any day other than Saturdays, Sundays, or other days on which commercial banks in New York, New York are required or authorized to be closed.

(c) Upon notice to Debtor, Secured Party may fill in all blanks in any Collateral Schedule consistent with the agreement of the parties. With the consent of Debtor, Secured Party may correct patent errors and fill in all blanks in this Agreement consistent with the terms hereof, provided that, consistent with the agreement of the parties, Secured Party may fill in the date in any Note or this Agreement without further notice to or consent of Debtor.

(d) Time is of the essence of this Agreement. This Agreement shall be binding, jointly and severally, upon all parties described as the "Debtor" and their respective heirs, executors,

representatives, successors and assigns, and shall inure to the benefit of Secured Party, its successors and assigns.

(e) This Agreement and its Collateral Schedules constitute the entire agreement between the parties with respect to the subject matter of this Agreement and supersede all prior understandings (whether written, verbal or implied) with respect to such subject matter. THIS AGREEMENT AND ITS COLLATERAL SCHEDULES SHALL NOT BE CHANGED OR TERMINATED ORALLY OR BY COURSE OF CONDUCT, BUT ONLY BY A WRITING SIGNED BY BOTH PARTIES. Section headings contained in this Agreement have been included for convenience only, and shall not affect the construction or interpretation of this Agreement.

(f) This Agreement shall continue in full force and effect until all of the Indebtedness has been indefeasibly paid in full to Secured Party or its assignee. The surrender, upon payment or otherwise, of any Note or any of the other documents evidencing any of the Indebtedness shall not affect the right of Secured Party to retain the Collateral for such other Indebtedness as may then exist or as it may be reasonably contemplated will exist in the future. This Agreement shall automatically be reinstated if Secured Party is ever required to return or restore the payment of all or any portion of the Indebtedness (all as though such payment had never been made).

DEBTOR AGREES THAT SECURED PARTY AND/OR ITS SUCCESSORS AND ASSIGNS SHALL HAVE THE OPTION BY WHICH STATE LAWS THIS AGREEMENT SHALL BE GOVERNED AND CONSTRUED: (A) THE LAWS OF THE COMMONWEALTH OF VIRGINIA; OR (B) IF COLLATERAL HAS BEEN PLEDGED TO SECURE THE LIABILITIES, THEN BY THE LAWS OF THE STATE OR STATES WHERE THE COLLATERAL IS LOCATED, AT SECURED PARTY'S OPTION. THIS CHOICE OF STATE LAWS IS EXCLUSIVE TO THE SECURED PARTY. DEBTOR SHALL NOT HAVE ANY OPTION TO CHOOSE THE LAWS BY WHICH THIS AGREEMENT SHALL BE GOVERNED. DEBTOR ACKNOWLEDGES THAT THIS AGREEMENT IS BEING SIGNED BY THE SECURED PARTY IN PARTIAL CONSIDERATION OF SECURED PARTY'S RIGHT TO ENFORCE IN THE JURISDICTION STATED ABOVE. DEBTOR CONSENTS TO JURISDICTION IN THE COMMONWEALTH OF VIRGINIA OR THE STATE IN WHICH ANY COLLATERAL IS LOCATED AND VENUE IN ANY FEDERAL OR STATE COURT IN THE COMMONWEALTH OF VIRGINIA OR THE STATE IN WHICH COLLATERAL IS LOCATED FOR SUCH PURPOSES AND WAIVES ANY AND ALL RIGHTS TO CONTEST SAID JURISDICTION AND VENUE AND ANY OBJECTION THAT SAID COUNTY IS NOT CONVENIENT. DEBTOR WAIVES ANY RIGHTS TO COMMENCE ANY ACTION AGAINST SECURED PARTY IN ANY JURISDICTION EXCEPT VIRGINIA, OR IF SECURED PARTY CHOOSES TO LITIGATE IN A STATE WHERE COLLATERAL IS LOCTAED THEN IN SUCH COUNTY AND STATE.

IN WITNESS WHEREOF, Debtor and Secured Party, intending to be legally bound hereby, have duly executed this Agreement in one or more counterparts, each of which shall be deemed to be an original, as of the day and year first aforesaid.

SECURED PARTY:	DEBTOR:
OXFORD FINANCE CORPORATION	PTC THERAPEUTICS, INC.
By: /S/ MICHAEL J. ALTENBURGER	By: /S/ WILLAIM BAIRD
Name: Michael J. Altenburger	Name: William Baird III
Title: Chief Financial Officer	Title: Vice President Finance

PROMISSORY NOTE

TO MASTER SECURITY AGREEMENT NO. _____

_____
(DATE)

FOR VALUE RECEIVED, PTC Therapeutics, Inc., a Delaware corporation, located at the address stated below ("MAKER") promises, jointly and severally if more than one, to pay to the order of OXFORD FINANCE CORPORATION or any subsequent holder hereof (each, a "PAYEE") at its office located at 133 N. FAIRFAX STREET, ALEXANDRIA, VA 22314 or at such other place as Payee or the holder hereof may designate, the principal sum of _____ DOLLARS ($_____), with interest on the unpaid principal balance, from the date hereof through and including the dates of payment, at a fixed interest rate of _____ and _____ hundredths percent (____%) per annum, in _____ consecutive monthly installments of principal and interest as follows:

Periodic Installment	Amount
	$

each ("PERIODIC INSTALLMENT") and a final installment which shall be in the amount of the total outstanding principal and interest. The first Periodic Installment shall be due and payable on _____ and the following Periodic Installments and the final installment shall be due and payable on the same day of each succeeding _____ (each, a "PAYMENT DATE"). Such installments have been calculated on the basis of a 360-day year of twelve 30-day months. Each payment may, at the option of the Payee, be calculated and applied on an assumption that such payment would be made on its due date. Maker agrees to pay any initial partial month interest payment from the date of this Note to the first day of the following month ("Interim Interest").

The acceptance by Payee of any payment which is less than payment in full of all amounts due and owing at such time shall not constitute a waiver of Payee's right to receive payment in full at such time or at any prior or subsequent time.

The Maker hereby expressly authorizes the Payee to insert the date value is actually given in the blank space on the face hereof and on all related documents pertaining hereto.

This Note may be secured by a security agreement, chattel mortgage, pledge agreement or like instrument (each of which is hereinafter called a "SECURITY AGREEMENT" AND ANY SECURITY AGREEMENT, THIS NOTE AND ANY OTHER DOCUMENT EVIDENCING OR SECURING THIS LOAN IS HEREINAFTER CALLED A "DEBT DOCUMENT").

Time is of the essence hereof. If any installment or any other sum (not including any accelerated amount) due under this Note or any Security Agreement is not received when due, or within five (5) days thereafter, the Maker agrees to pay, in addition to the amount of each such installment or other sum, a late payment charge of five percent (5%) of the amount of said installment or other sum, but not exceeding any lawful maximum. If (i) Maker fails to make payment of any amount due hereunder within five (5) days after the due date; or (ii) Maker is in default under any Security Agreement, then the entire principal sum remaining unpaid, together with all accrued interest thereon and any other sum payable under this Note or any Security Agreement, at the election of Payee, shall immediately become due and payable, with interest thereon at the lesser of (x) two and one-half percent (2.5%) per annum plus the applicable non-default rate per annum under the Debt Documents; and (y) the maximum rate not prohibited by applicable law from the date of such accelerated maturity until paid (both before and after any judgment).

Maker may prepay in full any indebtedness hereunder upon 5 days' notice to the Payee. The repayment shall be accompanied by payment of (i) all accrued and unpaid interest on the principal and the outstanding principal balance of this Note and (ii) a premium of 8% of the principal prepaid if such prepayment shall occur in Year 1, a premium of 6% of the principal prepaid if such prepayment shall occur in Year 2 and a premium of 4% of the principal prepaid if such prepayment shall occur in Year 3. There shall be no prepayment premium in Year 4 or thereafter. Year 1 will mean the period consisting of the 1st through the 12th installments under this Note and subsequent years will refer to the subsequent twelve monthly payment periods.

The Maker and all sureties, endorsers, guarantors or any others (each such person, other than the Maker, an "OBLIGOR") who may at any time become liable for the payment hereof jointly and severally consent hereby to any and all extensions of time, renewals, waivers or modifications of, and all substitutions or releases of, security or of any party primarily or secondarily liable on this Note or any Security Agreement or any term and provision of either, which may be made, granted or consented to by Payee, and agree that suit may be brought and maintained against any one or more of them, at the election of Payee without joinder of

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any other as a party thereto, and that Payee shall not be required first to foreclose, proceed against, or exhaust any security hereof in order to enforce payment of this Note. The Maker and each Obligor hereby waives presentment, demand for payment, notice of nonpayment, protest, notice of protest, notice of dishonor, and all other notices in connection herewith, as well as filing of suit (if permitted by law) and diligence in collecting this Note or enforcing any of the security hereof, and agrees to pay (if and to the extent permitted by law) all reasonable expenses incurred in collection, including Payee's reasonable actual attorneys' fees. Maker and each Obligor agrees that fees not in excess of twenty percent (20%) of the amount then due shall be deemed reasonable.

Maker and Payee intend to strictly comply with all applicable federal and Virginia laws, including applicable usury laws (or the usury laws of any jurisdiction whose usury laws are deemed to apply to the Note or any other Debt Document despite the intention and desire of the parties to apply the usury laws of the Commonwealth of Virginia). Accordingly, the provisions of this paragraph shall govern and control over every other provision of this Note or any other Debt Document which conflicts or is inconsistent with this Section, even if such provision declares that it controls. As used in this paragraph, the term "INTEREST" includes the aggregate of all charges, fees, benefits or other compensation which constitute interest under applicable law, provided that, to the maximum extent permitted by applicable law, (a) any non-principal payment shall be characterized as an expense or as compensation for something other than the use, forbearance or detention of money and not as interest, and (b) all interest at any time contracted for, reserved, charged or received shall be amortized, prorated, allocated and spread, in equal parts during the full term of the obligations. In no event shall Maker or any other person be obligated to pay, or Payee have any right or privilege to reserve, receive or retain, (a) any interest in excess of the maximum amount of non-usurious interest permitted under the laws of the Commonwealth of Virginia or the applicable laws (if any) of the United States or of any other state, or (b) total interest in excess of the amount which Payee could lawfully have contracted for, reserved, received, retained or charged had the interest been calculated for the full term of the obligations. On each day, if any, that the interest rate (the "Stated Rate") called for under this Note or any other Debt Document exceeds the maximum non-usurious rate, the rate at which interest shall accrue shall automatically be fixed by operation of this sentence at the maximum non-usurious rate for that day. Thereafter, interest shall accrue at the Stated Rate unless and until the Stated Rate again exceeds the maximum non-usurious rate, in which case, the provisions of the immediately preceding sentence shall again automatically operate to limit the interest accrual rate to the maximum non-usurious rate. The daily interest rates to be used in calculating interest at the maximum non-usurious rate shall be determined by dividing the applicable maximum non-usurious rate by the number of days in the calendar year for which such calculation is being made. None of the terms and provisions contained in this Note or in any other Debt Document which directly or indirectly relate to interest shall ever be construed without reference to this paragraph, or be construed to create a contract to pay for the use, forbearance or detention of money at an interest rate in excess of the maximum non-usurious rate. If the term of any obligation is shortened by reason of acceleration of maturity as a result of any Default or by any other cause, or by reason of any required or permitted prepayment, and if for that (or any other) reason Payee at any time, including but not limited to, the stated maturity, is owed or receives (and/or has received) interest in excess of interest calculated at the maximum non-usurious rate, then and in any such event all of any such excess interest shall be canceled automatically as of the date of such acceleration, prepayment or other event which produces the excess, and, if such excess interest has been paid to Payee, it shall be credited pro tanto against the then-outstanding principal balance of Maker's obligations to Payee, effective as of the date or dates when the event occurs which causes it to be excess interest, until such excess is exhausted or all of such principal has been fully paid and satisfied, whichever occurs first, and any remaining balance of such excess shall be promptly refunded to its payor.

THE MAKER HEREBY UNCONDITIONALLY WAIVES ITS RIGHTS TO A JURY TRIAL OF ANY CLAIM OR CAUSE OF ACTION BASED UPON OR ARISING OUT OF, DIRECTLY OR INDIRECTLY, THIS NOTE, ANY OF THE RELATED DOCUMENTS, ANY DEALINGS BETWEEN MAKER AND PAYEE RELATING TO THE SUBJECT MATTER OF THIS TRANSACTION OR ANY RELATED TRANSACTIONS, AND/OR THE RELATIONSHIP THAT IS BEING ESTABLISHED BETWEEN MAKER AND PAYEE. THE SCOPE OF THIS WAIVER IS INTENDED TO BE ALL ENCOMPASSING OF ANY AND ALL DISPUTES THAT MAY BE FILED IN ANY COURT (INCLUDING, WITHOUT LIMITATION, CONTRACT CLAIMS, TORT CLAIMS, BREACH OF DUTY CLAIMS, AND ALL OTHER COMMON LAW AND STATUTORY CLAIMS.) THIS WAIVER IS IRREVOCABLE, MEANING THAT IT MAY NOT BE MODIFIED EITHER ORALLY OR IN WRITING, AND THE WAIVER SHALL APPLY TO ANY SUBSEQUENT AMENDMENTS, RENEWALS, SUPPLEMENTS OR MODIFICATIONS TO THIS NOTE, ANY RELATED DOCUMENTS, OR TO ANY OTHER DOCUMENTS OR AGREEMENTS RELATING TO THIS TRANSACTION OR ANY RELATED TRANSACTION. IN THE EVENT OF LITIGATION, THIS NOTE MAY BE FILED AS A WRITTEN CONSENT TO A TRIAL BY THE COURT.

This Note, any Security Agreement and all other Debt Documents constitute the entire agreement of the Maker and Payee with respect to the subject matter

hereof and supersedes all prior understandings, agreements and representations, express or implied.

No variation or modification of this Note, or any waiver of any of its provisions or conditions, shall be valid unless in writing and signed by an authorized representative of Maker and Payee. Any such waiver, consent, modification or change shall be effective only in the specific instance and for the specific purpose given.

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Any provision in this Note or any Security Agreement which is in conflict with any statute, law or applicable rule shall be deemed omitted, modified or altered to conform thereto.

Upon receipt of an affidavit of an officer of Payee as to the loss, theft, destruction or mutilation of this Note or any Debt Document which is not of public record, and, in the case of any such loss, theft, destruction or mutilation, upon surrender and cancellation of such Note or other Debt Document, Maker will issue, in lieu thereof, a replacement Note or other Debt Document in the same principal amount thereof and otherwise of like tenor.

It is understood and agreed that this Note and all of the Debt Documents were negotiated and have been or will be delivered to Payee in the Commonwealth of Virginia, which State the parties agree has a substantial relationship to the parties and to the underlying transactions embodied by this Note and the Debt Documents. Maker agrees to furnish to Payee at Payee's office in Alexandria, VA, all further instruments, certifications and documents to be furnished hereunder. The parties also agree that if collateral is pledged to secure the debt evidenced by this Note, that the state or states in which such collateral is located each have a substantial relationship to the parties and to the underlying transaction embodied by this Note and the Debt Documents.

MAKER AGREES THAT THE PAYEE OF THIS NOTE SHALL HAVE THE OPTION BY WHICH STATE LAWS THIS NOTE SHALL BE GOVERNED AND CONSTRUED: (A) THE LAWS OF THE COMMONWEALTH OF VIRGINIA; OR (B) IF COLLATERAL HAS BEEN PLEDGED TO SECURE THE DEBT EVIDENCED BY THIS NOTE, THEN BY THE LAWS OF THE STATE OR STATES WHERE THE COLLATERAL IS LOCATED, AT PAYEE'S OPTION. THIS CHOICE OF STATE LAWS IS EXCLUSIVE TO THE PAYEE OF THIS NOTE. MAKER SHALL NOT HAVE ANY OPTION TO CHOOSE THE LAWS BY WHICH THIS NOTE SHALL BE GOVERNED. MAKER AND GUARANTORS HEREBY CONSENT TO THE EXERCISE OF JURISDICTION OVER IT BY ANY FEDERAL COURT SITTING IN VIRGINIA OR ANY VIRGINIA COURT SELECTED BY PAYEE, FOR THE PURPOSES OF ANY AND ALL LEGAL PROCEEDINGS ARISING OUT OF OR RELATING TO THE NOTE, THE LOAN AGREEMENT AND ALL OTHER DOCUMENTS. MAKER AND GUARANTORS IRREVOCABLY WAIVE, TO THE FULLEST EXTENT PERMITTED BY LAW, ANY OBJECTION WHICH IT MAY NOW OR HEREAFTER HAVE TO THE LAYING OF VENUE OF ANY SUCH PROCEEDING BROUGHT IN ANY SUCH COURT, ANY CLAIM BASED ON THE CONSOLIDATION OF PROCEEDINGS IN SUCH COURTS IN WHICH PROPER VENUE MAY LIE IN DIVERGENT JURISDICTIONS, AND ANY CLAIM THAT ANY SUCH PROCEEDING BROUGHT IN ANY SUCH COURT HAS BEEN BROUGHT IN AN INCONVENIENT FORUM. MAKER AND GUARANTORS HEREBY IRREVOCABLY WAIVE, TO THE FULLEST EXTENT PERMITTED BY LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATING TO THIS NOTE, THE OTHER DOCUMENTS OR THE TRANSACTIONS CONTEMPLATED THEREBY.

Confession of Judgment. In the event that this Note or any installment under this Note is not paid when due or within five days thereafter, whether by maturity or acceleration, Maker hereby appoints and constitutes Cindi E. Cohen and Lauri E. Cleary, either of whom may act (a Virginia attorney) as Maker's duly constituted attorney-in-fact to confess judgment pursuant to the provisions of Section 8.01-431 et seq. of the Code of Virginia of 1950, as amended, against Maker for all principal and interest due and payable under this Note, together with reasonable attorneys' fees and collection fees as provided in this Note (to the extent permitted by law), which judgment shall be confessed in the Clerk's Office of the Circuit Court of the City of Alexandria and/or Fairfax and/or Arlington Counties, Virginia. Maker shall, upon Payee's request, name such additional or alternative persons designated by Payee as Maker's duly constituted attorney-in-fact to confess judgment against Maker pursuant to the above Section. Upon request of Payee, Maker also shall agree to the designation of any additional circuit courts in the Commonwealth of Virginia in which judgment may be confessed against Maker. No single exercise of the power to confess judgment shall be deemed to exhaust the power and no judgment against fewer than all the persons constituting Maker shall bar any subsequent action or judgment against any one or more of such persons against whom judgment has not been obtained on this Note.

PTC Therapeutics, Inc.

_____
(Witness)

By: _____

_____
(Print name)

Name:_____

_____
(Address)

Title:_____

Federal Tax ID #: 04-3416587

Address: 100 Corporate Court
South Plainfield, NJ 07080

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EXHIBIT 23.1

Consent of Independent Registered Public Accounting Firm

The Board of Directors
PTC Therapeutics, Inc:

We consent to the use of our report dated March 31, 2006 with respect to the balance sheets of PTC Therapeutics, Inc. as of December 31, 2004 and 2005, and the related statements of operations, stockholders' equity (deficit) and comprehensive loss, and cash flows for each of the years for the three-year period ended December 31, 2005 and for the period from March 31, 1998 (inception) to December 31, 2005, included herein and to the reference to our firm under the headings "Selected Financial Data" and "Experts" in the prospectus.

/s/ KPMG LLP

Philadelphia, Pennsylvania
March 31, 2006