

**UNITED STATES**  
**SECURITIES AND EXCHANGE COMMISSION**

WASHINGTON, D.C. 20549

**FORM 8-K**

**CURRENT REPORT**

**Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934**

Date of Report (Date of earliest event reported): **September 23, 2021**

**PTC THERAPEUTICS, INC.**

(Exact Name of Company as Specified in Charter)

**Delaware**  
(State or Other Jurisdiction  
of Incorporation)

**001-35969**  
(Commission  
File Number)

**04-3416587**  
(IRS Employer  
Identification No.)

**100 Corporate Court**  
**South Plainfield, NJ**  
(Address of Principal Executive Offices)

**07080**  
(Zip Code)

Registrant's telephone number, including area code: **(908) 222-7000**

**Not applicable**

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

**Securities registered pursuant to Section 12(b) of the Act:**

<b>Title of each class</b>	<b>Trading Symbol(s)</b>	<b>Name of each exchange on which registered</b>
Common Stock, \$0.001 par value per share	PTCT	Nasdaq Global Select Market

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

**Item 7.01. Regulation FD Disclosure.**

As previously announced, PTC Therapeutics, Inc. (the "Company") will host a conference call on September 23, 2021 at 8:00 a.m. eastern time. During this conference call, the Company expects to discuss the results from the PTC518 Phase 1 healthy volunteer study and provide an update on the PTC518 Phase 2 study, to be conducted in Huntington's disease patients. A copy of the slide deck that will be presented during the conference call is attached as Exhibit 99.1.

The information in this Report (including Item 7.01 and Exhibit 99.1) shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended, or the Exchange Act, except as expressly set forth by specific reference in such a filing. All website addresses given in this Report or incorporated herein by reference are for information only and are not intended to be an active link or to incorporate any website information into this Report.

**Item 9.01. Financial Statements and Exhibits.**

(d) Exhibits

<u>Exhibit No.</u>	<u>Description</u>
99.1	<a href="#">Corporate Presentation – PTC518 Huntington's Disease Program Update</a>
104	The cover page from this Current Report on Form 8-K, formatted in Inline XBRL

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**Signature**

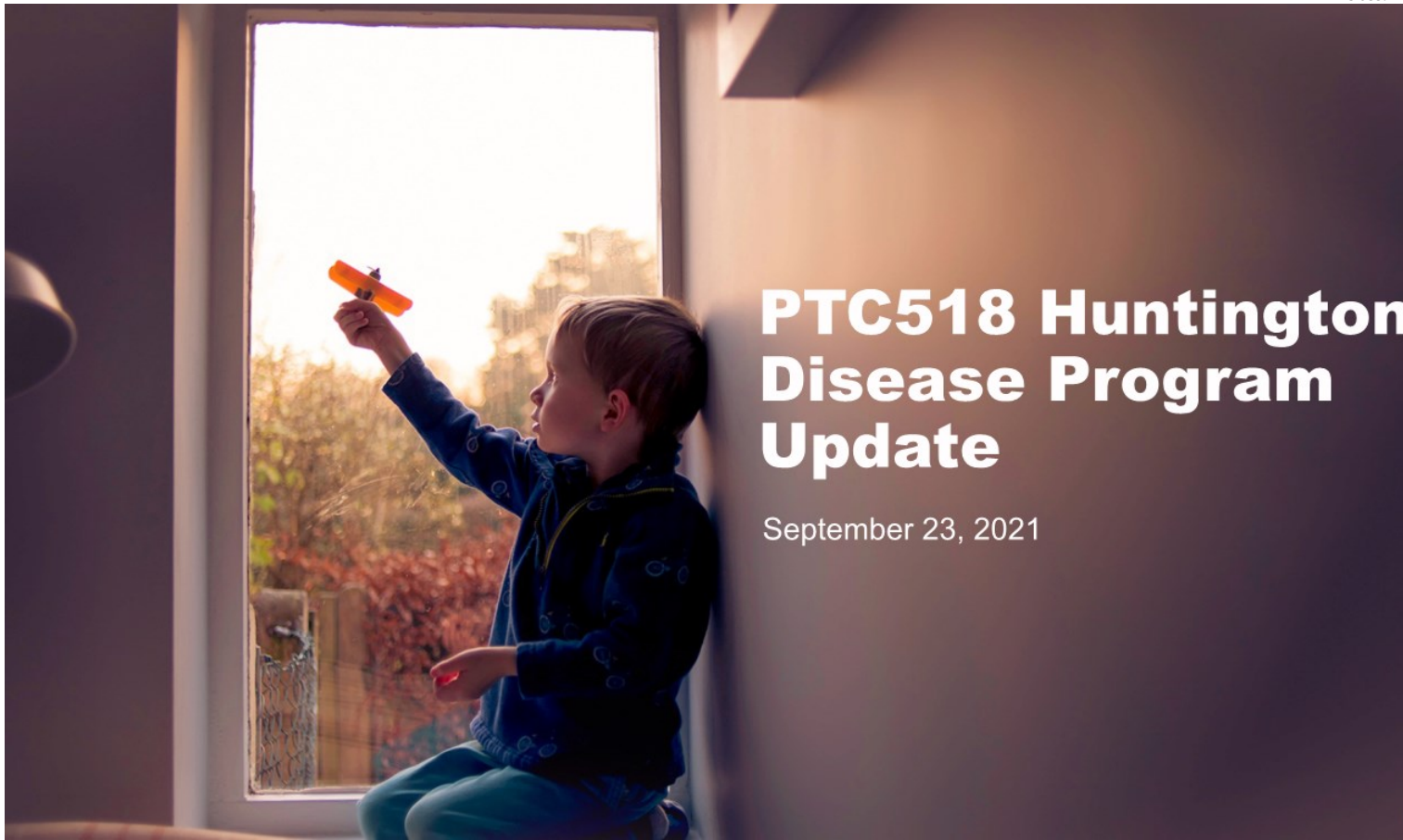
Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this Report to be signed on its behalf by the undersigned hereunto duly authorized.

**PTC Therapeutics, Inc.**

Date: September 23, 2021

By: /s/ Emily Hill  
Name: Emily Hill  
Title: Chief Financial Officer

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# PTC518 Huntington Disease Program Update

September 23, 2021

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## Forward Looking Statements:

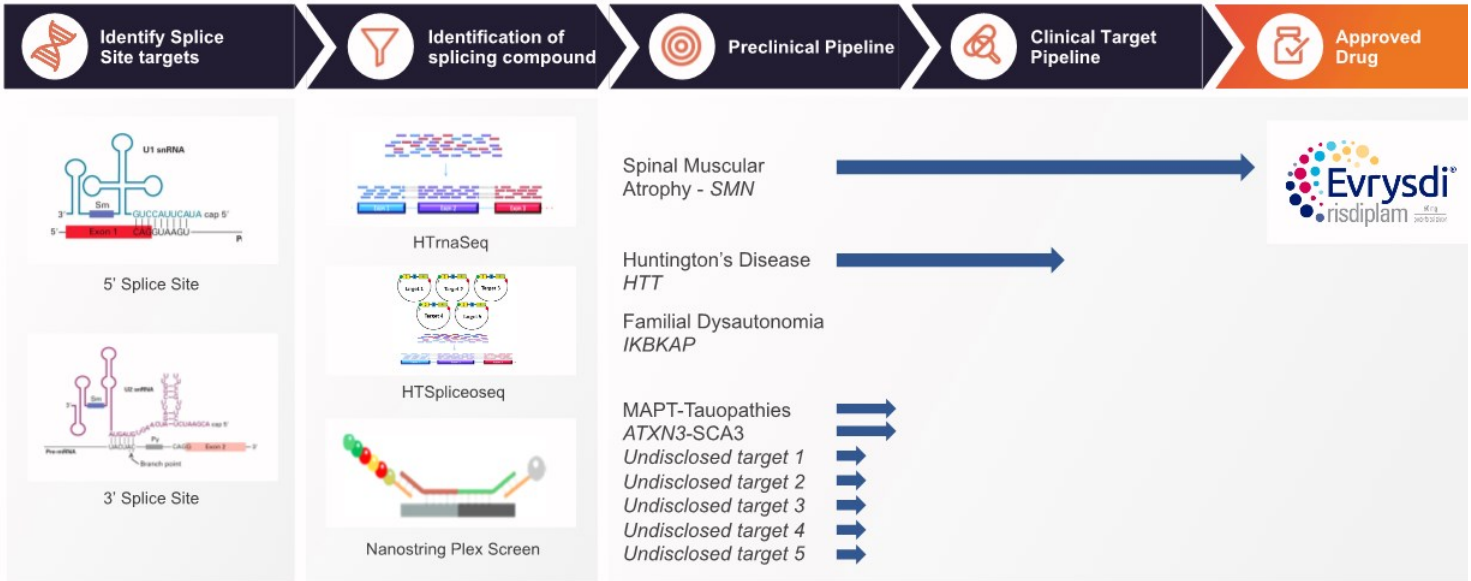
This press release contains forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995. All statements contained in this release, other than statements of historic fact, are forward-looking statements, including statements regarding: the future expectations, plans and prospects for PTC, including with respect to the expected timing of clinical trials and studies, availability of data and clinical matters; PTC's strategy, future operations, future financial position, future revenues, projected costs; and the objectives of management. Other forward-looking statements may be identified by the words "guidance", "plan", "anticipate", "believe", "estimate", "expect", "intend", "may", "target", "potential", "will", "would", "could", "should", "continue," and similar expressions.

PTC's actual results, performance or achievements could differ materially from those expressed or implied by forward-looking statements it makes as a result of a variety of risks and uncertainties, including those related to: the outcome of pricing, coverage and reimbursement negotiations with third party payors for PTC's products or product candidates that PTC commercializes or may commercialize in the future; the enrollment, completion and results of PTC518 clinical studies for HD; significant business effects, including the effects of industry, market, economic, political or regulatory conditions; changes in tax and other laws, regulations, rates and policies; the eligible patient base and commercial potential of PTC's product candidates; PTC's scientific approach and general development progress; and the factors discussed in the "Risk Factors" section of PTC's most recent Annual Report on Form 10-K, as well as any updates to these risk factors filed from time to time in PTC's other filings with the SEC. Investors are urged to carefully consider all such factors.

As with any pharmaceutical under development, there are significant risks in the development, regulatory approval and commercialization of PTC's products. There are no guarantees that any product will receive or maintain regulatory approval in any territory, or prove to be commercially successful.

The forward-looking statements contained herein represent PTC's views only as of the date of this presentation and PTC does not undertake to update or revise any such forward-looking statements to reflect actual results or changes in plans, prospects, assumptions, estimates or projections, or other circumstances occurring after the date of this presentation except as required by law.

# Small Molecule Splicing Modulation Platform



# Evrysdi™ (risdiplam) Roadmap to Success

Orally bioavailable  
and penetrates  
blood brain barrier

Broad tissue  
distribution in  
animal models

Proof of splicing  
mechanism  
demonstrated  
in P1 HV

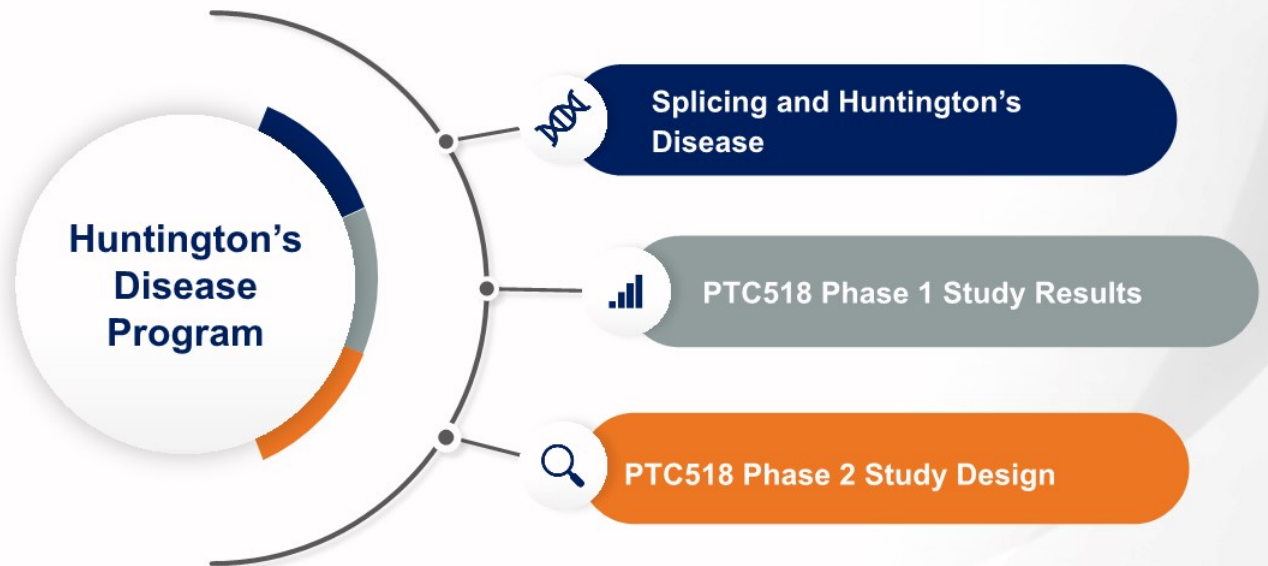


Highly selective

Defined blood  
to brain  
exposure ratio

Evrysdi™  
clinical benefit  
established

# PTC518 Huntington's Disease Program Update Agenda





# Huntington's Disease Is a Debilitating Neurodegenerative Disorder with No Available Disease Modifying Treatments



## Huntington's Disease

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- Caused by a monogenic defect; autosomal dominant inheritance
- Leads to movement, psychiatric and cognitive disorders
- 135,000 patients worldwide

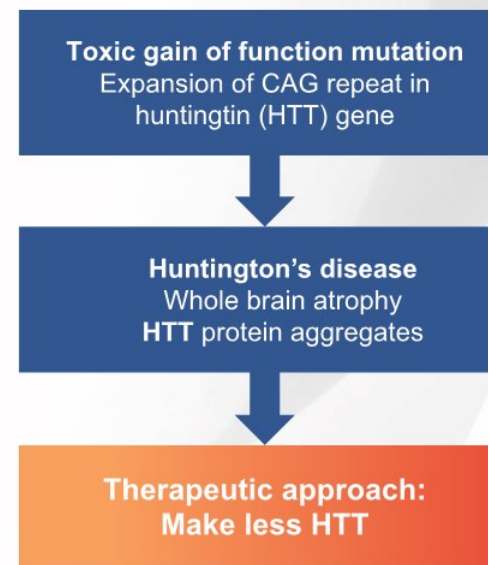
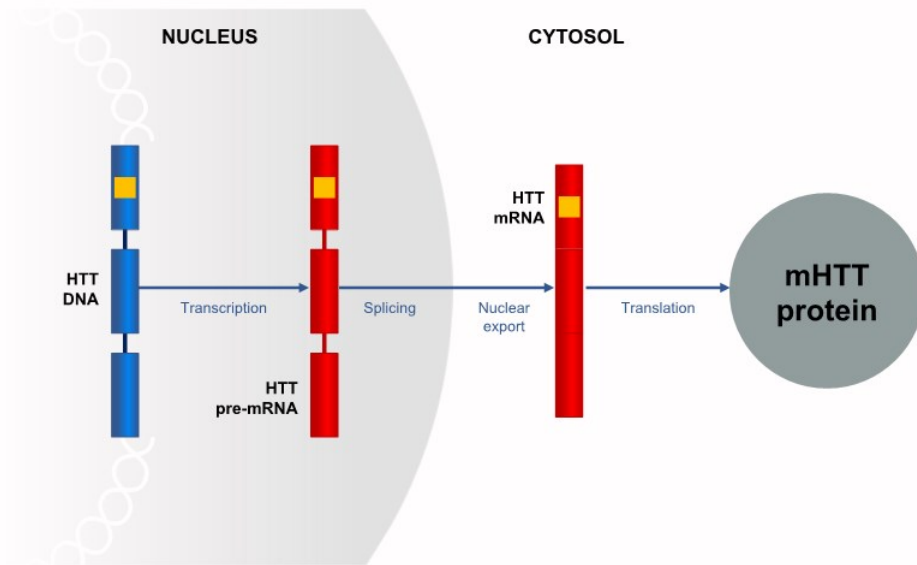
## Current Treatments

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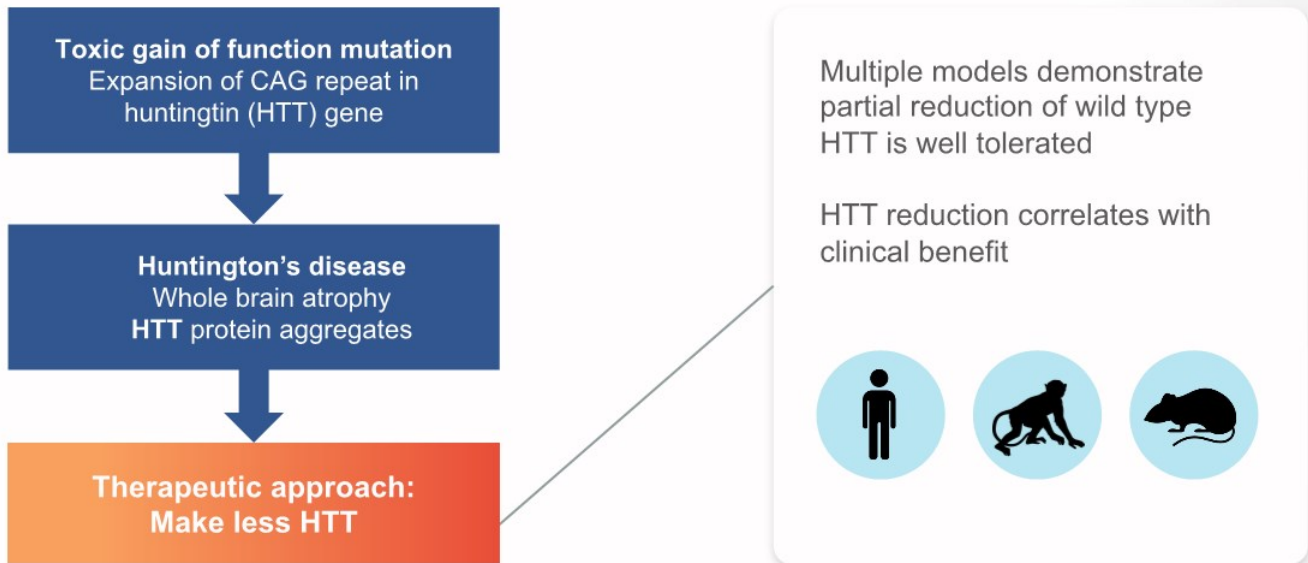
- No approved disease modifying therapies



# HD Is a Monogenic Gain of Function Disorder and Lowering HTT Targets The Root Cause of Pathogenesis



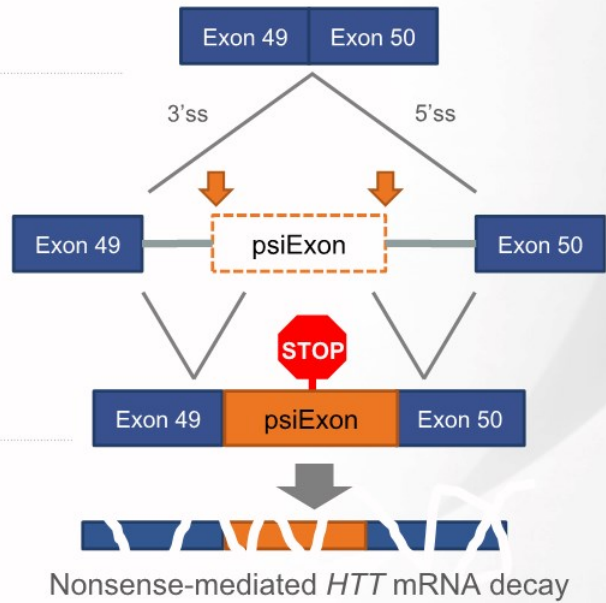
# HD Is a Monogenic Gain of Function Disorder and Lowering HTT Targets The Root Cause of Pathogenesis



# Identification of a Novel Splicing Mechanism that Leads to Degradation of Mutant HTT mRNA

## No compound

Pseudoexon is not spliced in;  
full length HTT protein is produced



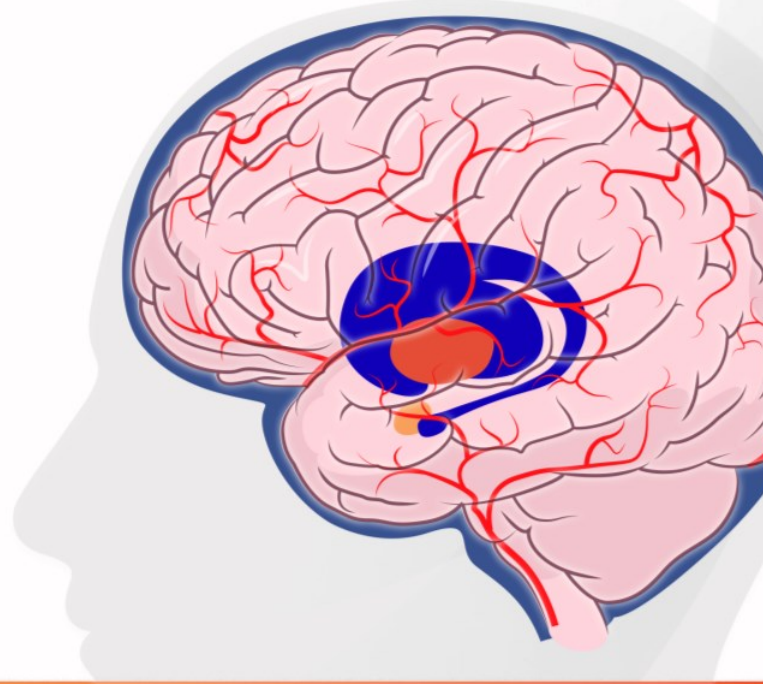
## With PTC518

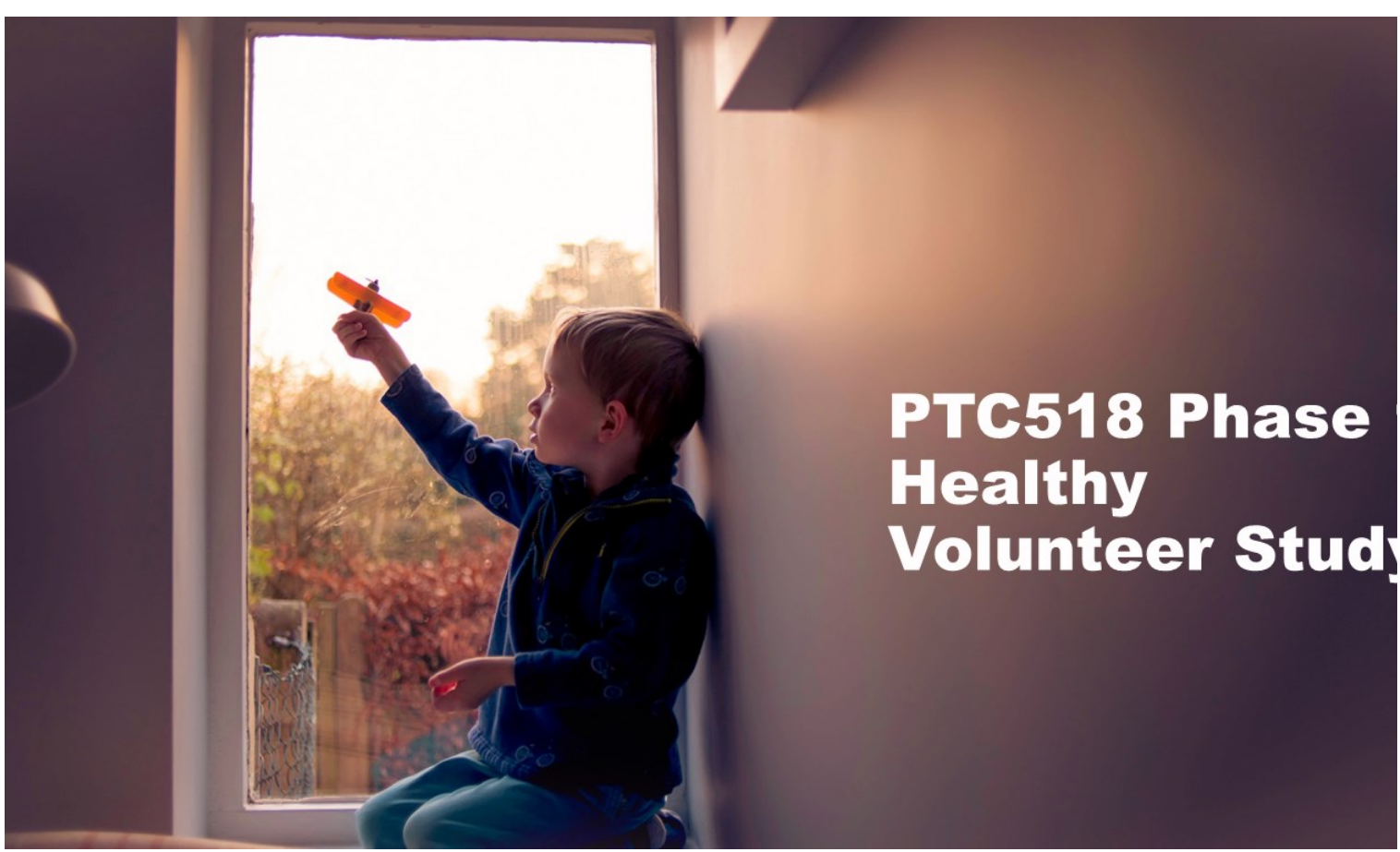
Pseudoexon is spliced in;  
Nonsense mutation leads  
to mRNA degradation

Nonsense-mediated *HTT* mRNA decay

# Characteristics of PTC518 Were Demonstrated in Preclinical Studies

- ✓ Orally bioavailable and penetrates blood brain barrier
- ✓ Reduces HTT mRNA and protein in the CNS and periphery
- ✓ Reversible and titratable
- ✓ Uniform lowering in key regions of the brain
- ✓ Not effluxed
- ✓ Highly selective





**PTC518 Phase  
Healthy  
Volunteer Study**

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# The PTC518 Phase 1 Trial Was a 4-Part Study

Phase 1 trial  
in healthy  
volunteers

## Preliminary Results:

### Single and multiple ascending dose:

Evaluate safety & tolerability; HTT mRNA splicing



## Multiple ascending dose longer duration:

HTT mRNA splicing & protein lowering



## CSF sampling:

Evaluate pharmacokinetics of PTC518 in the CSF

Compare drug levels in CSF with plasma compartment



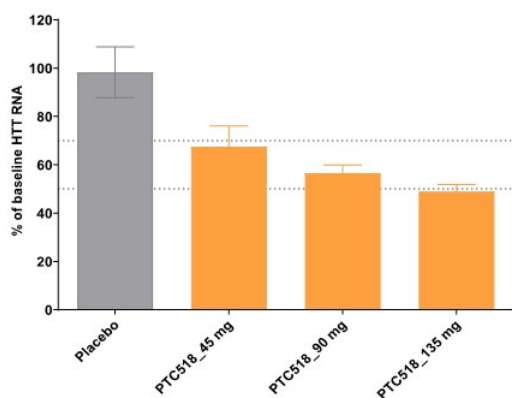
## Food effect:

Evaluate the effects of food on PTC518 pharmacokinetics



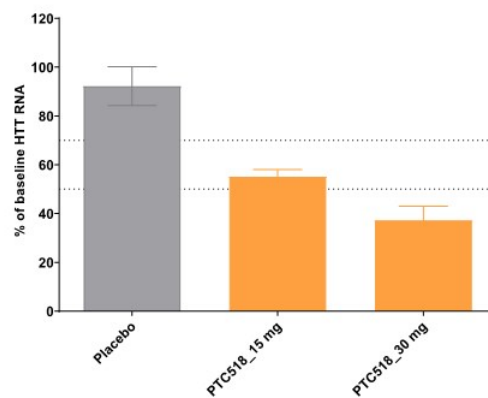
# Proof of Mechanism of PTC518 Was Confirmed By Dose-Dependent *HTT* mRNA Splicing in Healthy Volunteers

## SAD Study



- Whole blood *HTT* splicing in humans
  - Doses evaluated = 5mg, 15mg, 45 mg, 90 mg, and 135 mg
  - Time – one day; single dose; splicing evaluated 24h post dose

## MAD Study



- Whole blood *HTT* splicing in humans
  - Doses evaluated = 15 mg and 30 mg
  - Time – Day 14; multiple doses; splicing evaluated 6h post dose on day 14



# Phase 1 SAD & MAD Interim Results Showed That PTC51 Reduced HTT mRNA in a Dose-Dependent Manner



Well tolerated



Predictable  
pharmacology

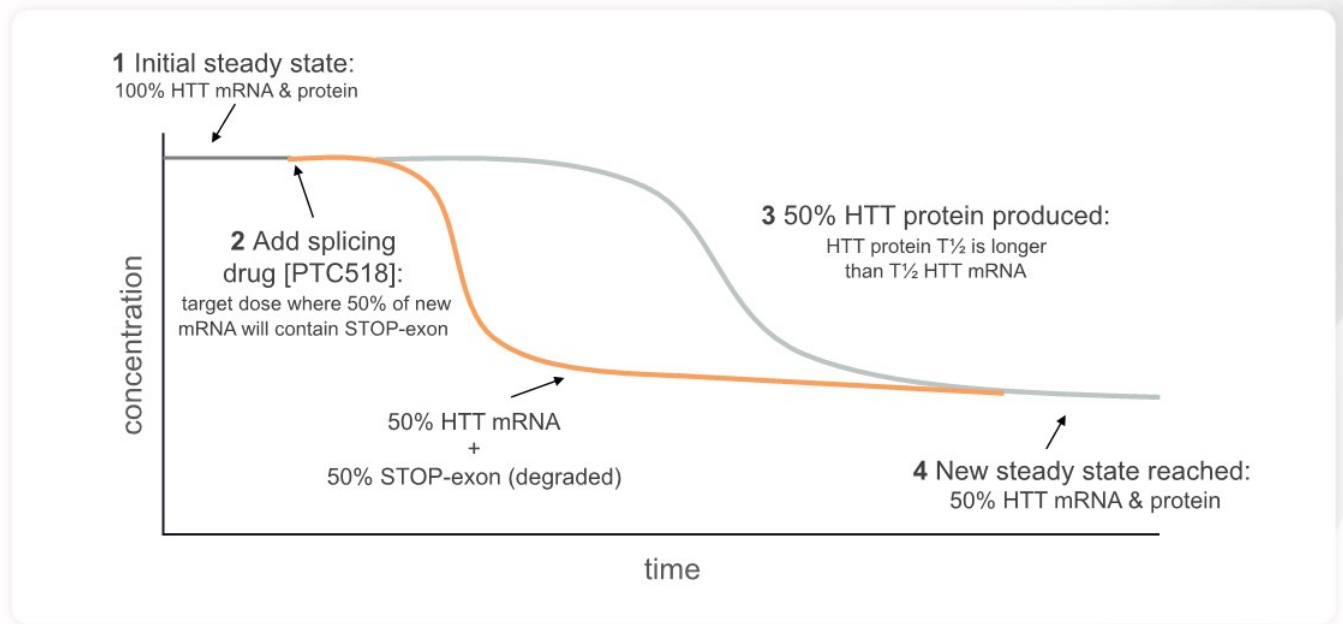


Dose-dependent  
splicing of  
HTT mRNA



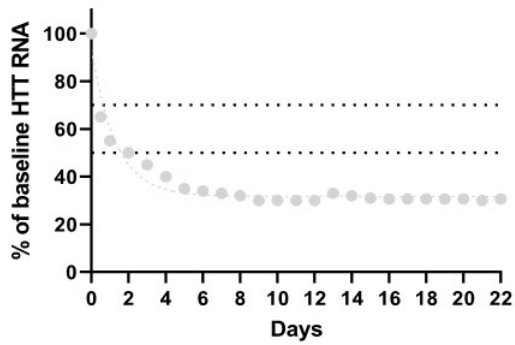
MAD showed long  
drug half-life with  
maintenance of  
splicing up to 72 hours  
following last dose

# Decay Rates Can Be Modeled To Predict Drug-Dependent Decrease in mRNA and Protein Concentration Over Time

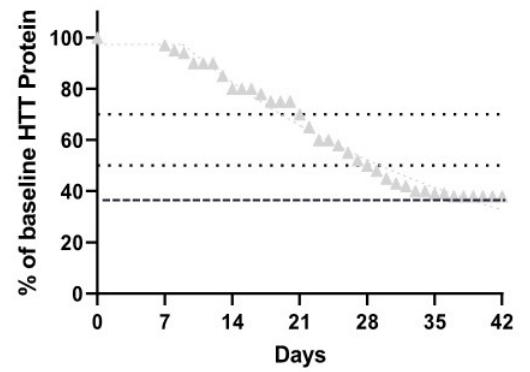


# PTC518 Is Predicted to Achieve Equivalent HTT mRNA and Protein Reduction at Steady-State

**HTT mRNA abundance**  
Steady state lowering should reach within 1 week

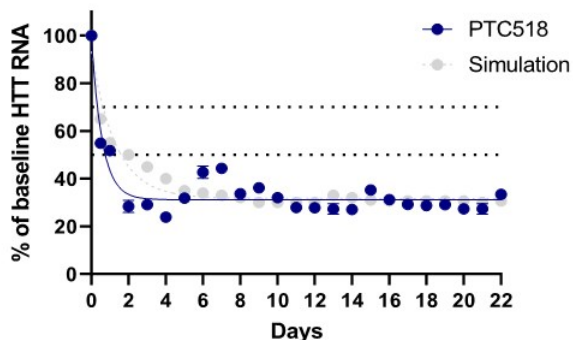


**HTT protein abundance**  
Steady state lowering should take  $\geq 6$  weeks

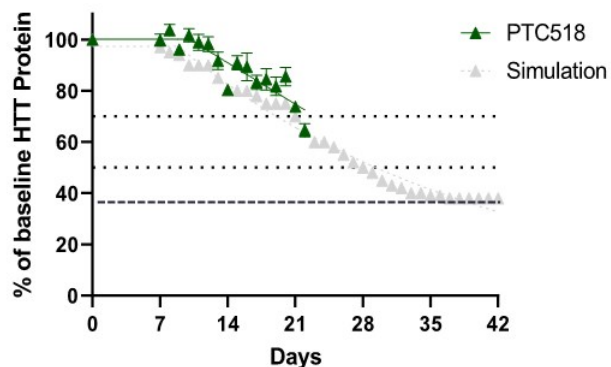


# PTC518 Is Predicted to Achieve Equivalent HTT mRNA and Protein Reduction at Steady-State

HTT mRNA abundance  
Steady state lowering reached within 1 week



HTT protein abundance  
Steady state lowering should take  $\geq 6$  weeks



# The PTC518 Phase 1 Trial Was a 4-Part Study

Phase 1 trial  
in healthy  
volunteers

## Preliminary Results:

### Single and multiple ascending dose:

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## Multiple ascending dose longer duration:

HTT mRNA splicing & protein lowering



## CSF sampling:

Evaluate pharmacokinetics of PTC518 in the CSF

Compare drug levels in CSF with plasma compartment



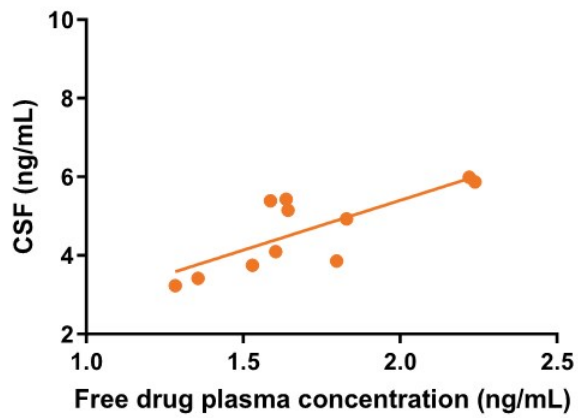
## Food effect:

Evaluate the effects of food on PTC518 pharmacokinetics

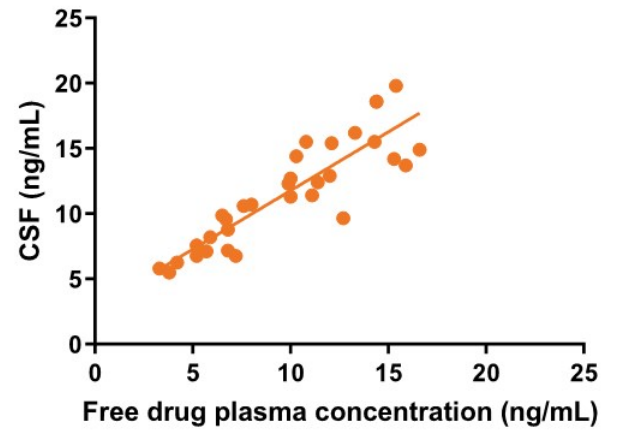


# PTC518 Crosses the Blood Brain Barrier in Non-Human Primates and Humans

Human plasma-CSF correlation



Monkey plasma-CSF correlation



# The PTC518 Phase 1 Trial Was a 4-Part Study

Phase 1 trial  
in healthy  
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# The PTC518 Phase 1 Trial Was a 4-Part Study

Phase 1 trial  
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## Preliminary Results:

### Single and multiple ascending dose:

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HTT mRNA splicing & protein lowering



### CSF sampling:

Evaluate pharmacokinetics of PTC518 in the CSF

Compare drug levels in CSF with plasma compartment



### Food effect:

Evaluate the effects of food on PTC518 pharmacokinetics





# Phase 1 Results Showed That PTC518 Reduced HTT mRNA and Protein in a Dose-Dependent Manner and Passed the Blood Brain Barrier



Well tolerated



Predictable  
pharmacology



Dose-dependent  
reduction of  
HTT mRNA  
and Protein



PTC518 levels in the  
CSF are equal to or  
greater than levels  
observed in blood

# Results Confirm Exposure of PTC518 Can Lead to Clinically Meaningful HTT Reduction mRNA and Protein





**PTC518  
Phase 2 Study  
Design**

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# Phase 2 study objectives

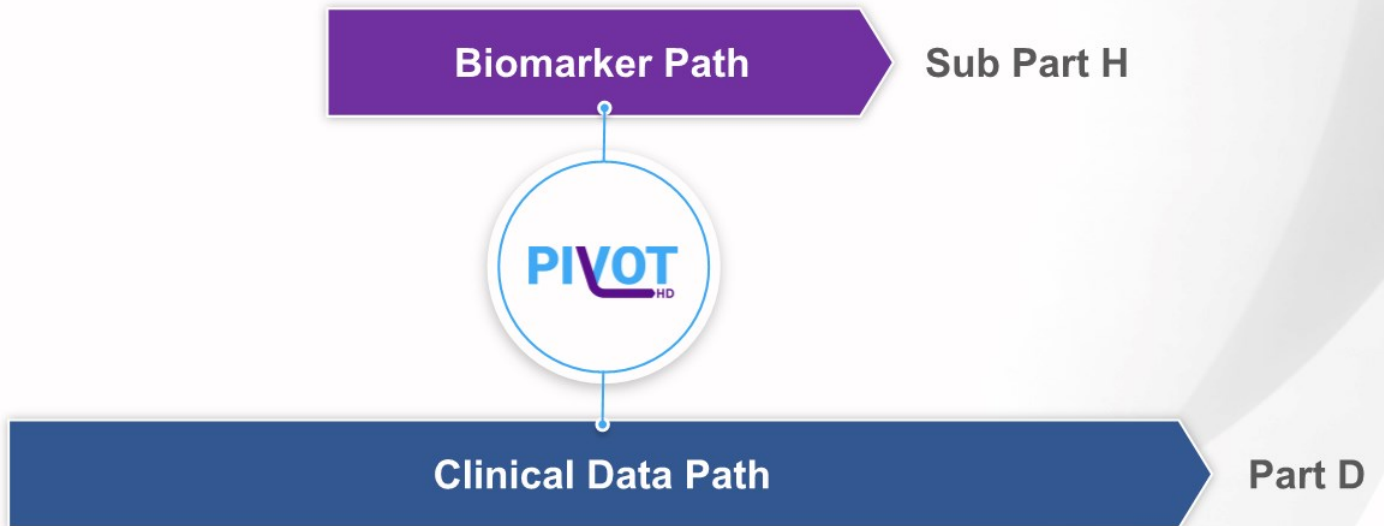
Demonstrate safety, tolerability and pharmacology of PTC518 and HTT mRNA and protein reduction in HD patients



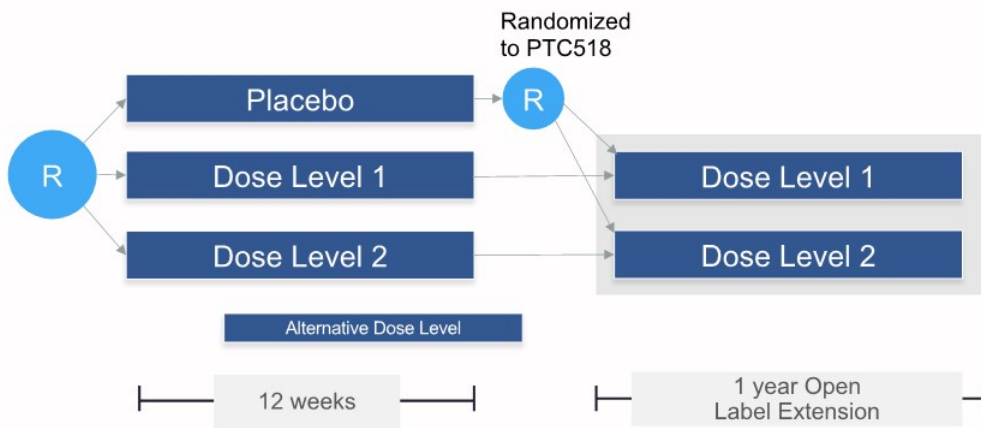
Demonstrate PTC518 effect on blood based, CSF-based and radiographic biomarkers of Huntington's disease to support potential accelerated approval



# Strategies For Potential FDA Approval



# PTC518 Phase 2 Study – PIVOT HD Planned Study Design



- Double blind, multiple dose, 12-week placebo-controlled study with a long-term open label extension
- Global clinical trial
- N~100-150 patients
- Trial to initiate by YE2021

## Primary endpoints

- Safety and tolerability of PTC518 in Huntington's disease patients
- Percent reduction in HTT mRNA and protein in blood

## Biomarker endpoints

- Percent reduction in HTT protein in CSF
- Changes in neurofilament light chain (NfL) in plasma and CSF
- Change in caudate, putamenal, ventricular volume on volumetric MRI imaging

## Clinical endpoints

- Changes in clinical scales of motor and cognitive function

# Identifying Optimal Clinical Trial Population

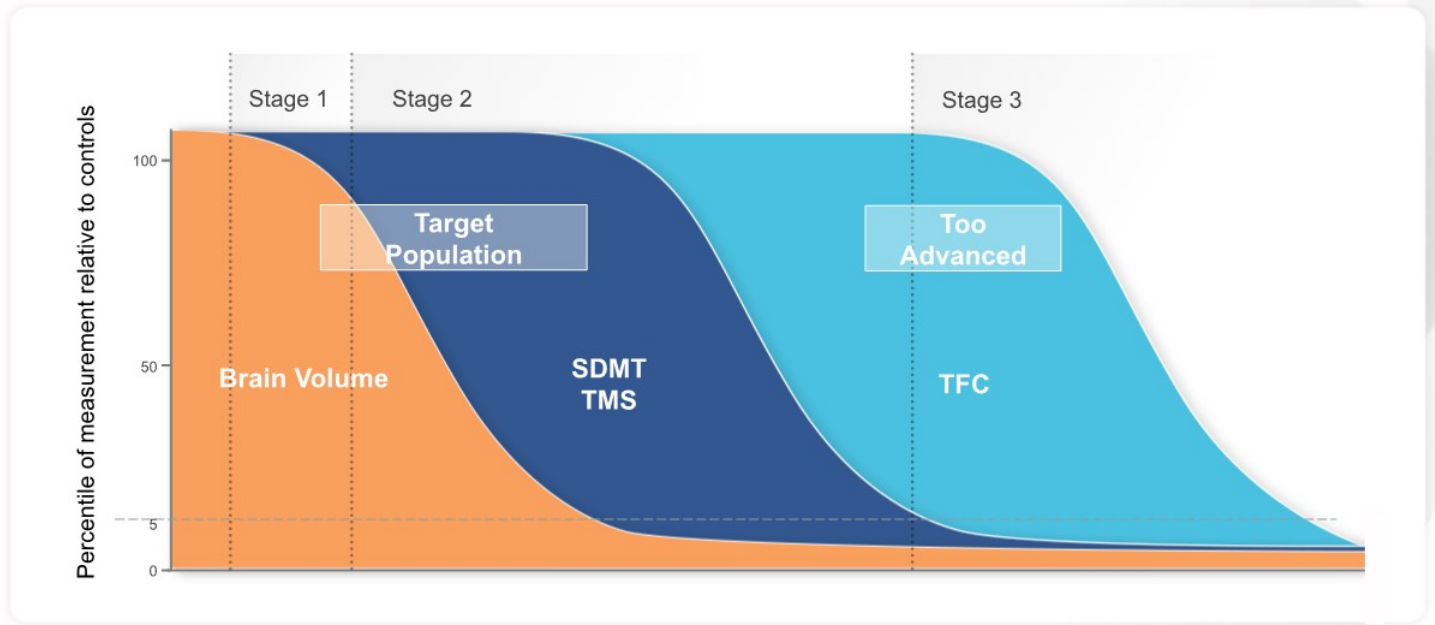
## *Finding the Goldilocks Population*



- Use natural history to analyze markers of disease progression
- Identify best indicators of earlier stage/modifiable disease
- Determine target patient population
- Select endpoints to capture meaningful clinical benefit



# Optimal Endpoints Vary by Disease Stage



- Age 25 years and older
- Ambulatory
- CAG repeat 42-50 inclusive
- Specific clinical and radiographic parameters
  - Brain volumetric MRI values
  - Total motor score (TMS)
  - Cognitive score
  - Prognostic index of Huntington's disease (PIN<sub>HD</sub>)

# Summary

**Phase 1** completed with achievement of all study objectives including protein reduction and projected CSF exposure



**Phase 2** trial to be initiated by YE 2021

- Multiple dose placebo-controlled trial of PTC518 in HD patients
- Study designed to capture biomarker effects that could potentially support accelerated approval
- Inclusion criteria optimized based on extensive natural history data analyses





# Questions

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