



# JP Morgan

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# Capital efficient translational engine

Maturing operating model with global access to science



## Unique origins

- First listed R&D company out of India
- Founders still own 70% and continue to invest
- Initial focus – Drug delivery systems



## Strategic pivot

- Shift from 505(b)(2) assets
- 3 NCEs in clinical development
- 10+ NCE/NBE programs in the R&D pipeline covering 3 TAs



## Operating model advantage

- Captive capability – Bench to bedside
- Plugged into global innovation ecosystem
- Strategic relationships – A key tenet of strategy

**Low cost of failure** offers more shots on goal

3 NDAs approved by USFDA and technology/product partnerships contributing significant **'non-dilutive' cash to support the portfolio build**

**USD 308m** non-dilutive capital out of a life-time spend of **USD 582m\***

\* As on March 2023

# Value drivers of the portfolio

Led by a potentially transformational program in neurodegenerative diseases

## Vodobatinib

- A selective, brain penetrant c-Abl kinase inhibitor moderating oxidative stress response
- Potential disease modifying therapy with applications in several neurodegenerative diseases

## Optionality

- 1 **Vodobatinib's** clinical PoC established in Chronic Mylogenous Leukaemia
- 2 **Vibozilimod**, a third generation, S1P R1 agonist in clinical PoC studies for multiple derma autoimmune diseases
- 3 **SCD-153** pursuing a novel mechanism in Alopecia Areata
- 4 **SBO-154** Antibody Drug Conjugate targeting a unique epitope of MUC-1



# Approaching important data events

2024 offers multiple clinical proof-of-concept readouts

| Asset/Program          | MoA  | Indication                      | Discovery | Preclinical | Phase 1    | Phase 2 | Upcoming Catalysts  |
|------------------------|--|---------------------------------|-----------|-------------|------------|---------|---|
| Vodobatinib (SCC-138)  | c-ABL Inhibitor  | Parkinson's Disease             |           |             |            |         | Interim analysis result in Q2 2024<br>Phase 2 data readout in Q3 2024 |
|                        |  | Lewy Body Dementia <sup>1</sup> |           |             |            |         | Phase 2 data readout in Q4 2024                                       |
|                        |  | Alzheimer's Disease             |           |             |            |         |   |
| Vodobatinib (SCO-088)  | BCR-ABL Inhibitor  | Refractory CML                  |           |             |            |         |   |
| SBO-154                | Anti-MUC-1 ADC   | Solid Tumors                    |           |             |            |         | IND filing in Q1 2025   |
| Vibozilimod* (SCD-044) | Selective S1PR1 agonist  | Psoriasis                       |           |             |            |         | Phase 2 Topline readout in Q4 2024                                    |
|                        |  | Atopic Dermatitis               |           |             |            |         |   |
| SCD-153                | Undisclosed  | Alopecia Areata                 |           |             |            |         | Phase 1 MAD study results in Q2 2025                                  |
| Preclinical Assets     | 10+ preclinical assets under development to ensure a robust pipeline for future growth |                                 |           |             |            |         |   |
|                        |  |                                 | Neurology | Oncology    | Immunology |         |   |

<sup>1</sup> Investigator Initiated Trial  
\* Vibozilimod licensed to Sun Pharmaceutical Industries Limited (SPIL)

# Vodobatinib targets a disease driver

Low promiscuity, Robust brain levels

## c-Abl – Key driver of neurodegeneration cascade

- c-Abl is activated in oxidative stress response
- Triggers toxic degenerative cascade through key substrates
- Crucial role in protein aggregation and compromise of its clearance

## Vodobatinib - An optimal agent to test the hypothesis

- Sub-nanomolar potency against human c-Abl with high selectivity
- Robust brain penetration facilitating target engagement

## Role of c-Abl in Parkinson's Disease

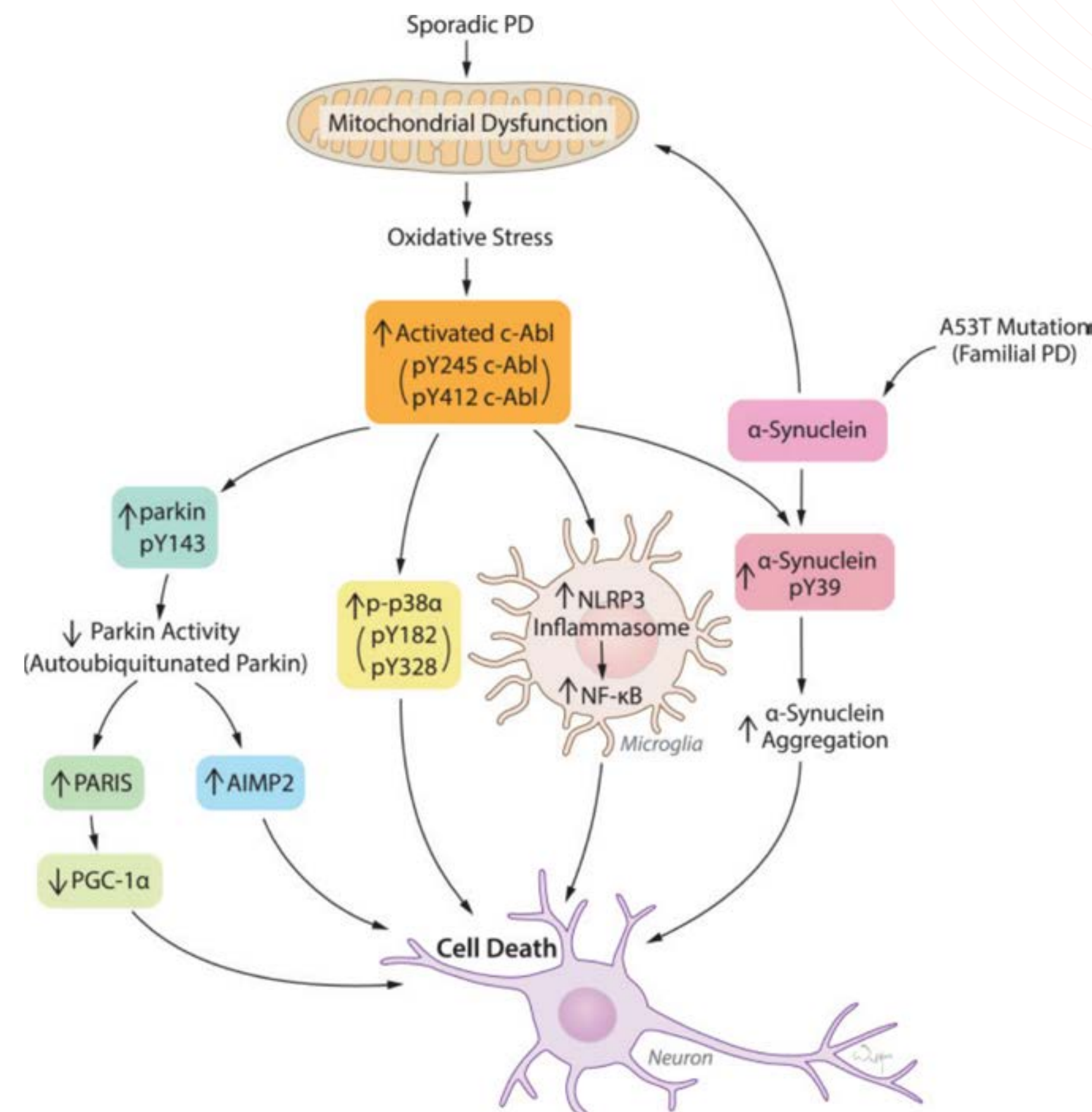
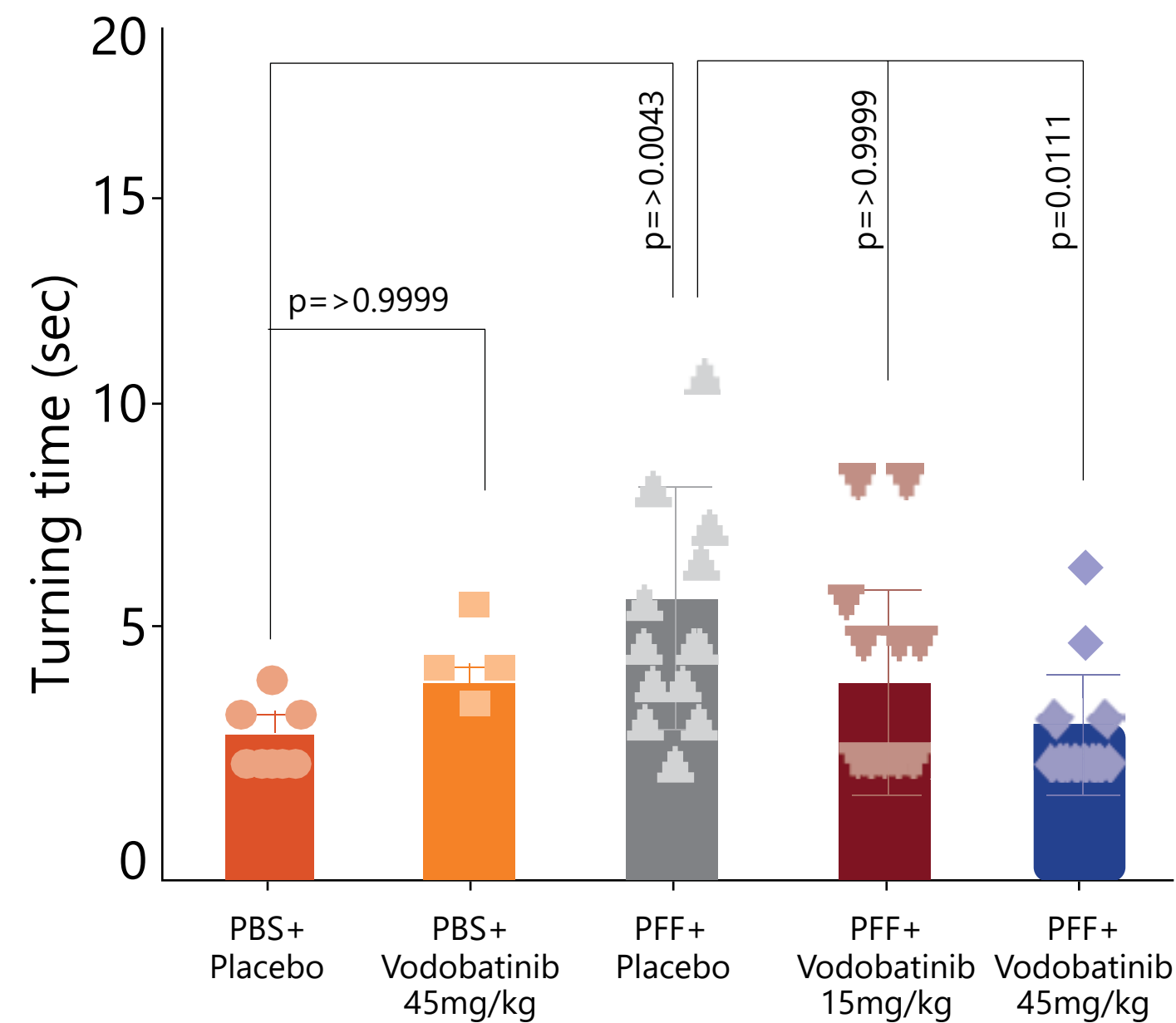


Image adapted from c-Abl and Parkinson's Disease: Mechanisms and Therapeutic Potential - J Parkinsons Dis. 2017; 7(4): 589–601

# Neuroprotection in classic PD models

Consistent validation in collaboration with global thought leaders

## PFF-induced mouse model<sup>1</sup>

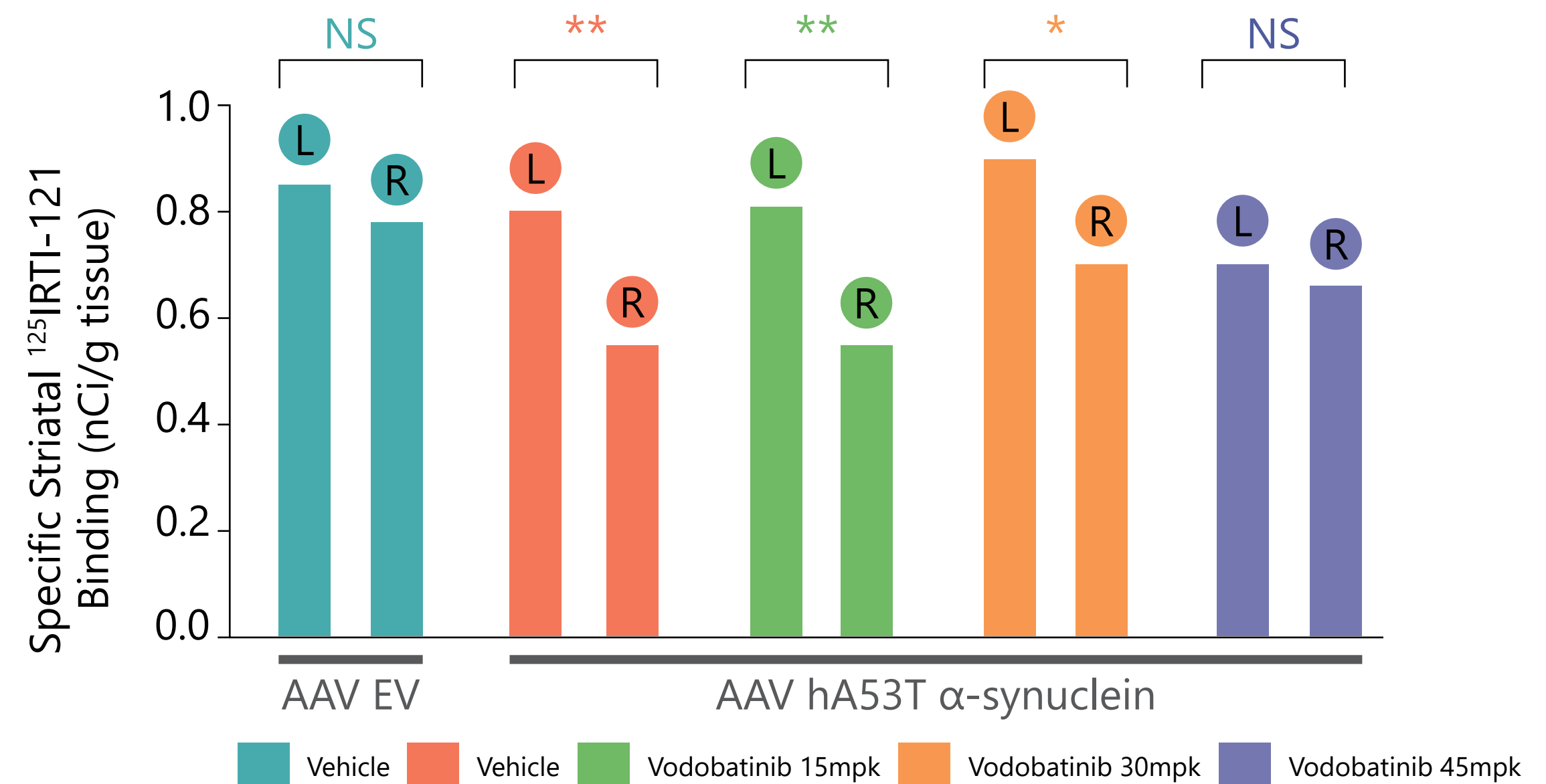


In the PFF-induced mouse model, Vodobatinib shows

- Functional improvement
- Target engagement in the brain
- Dopaminergic neuronal protection

Study conducted at 1. Dr. Dawson's lab, JHU

## AAV mutant $\alpha$ -Synuclein (hA53T) rat model<sup>2</sup>



NS: p>0.05; \*p<0.05; \*\*p<0.001 versus the un-operated (contralateral) hemisphere. Two-way ANOVA with Fisher's LSD post-hoc test

In the AAV mutant  $\alpha$ -Synuclein model, Vodobatinib treatment protects against dopaminergic neuronal loss and compensates the functional deficits

Study conducted at 2. Atuka Canada

PFF: Preformed fibril, AAV: Adeno-Associated Virus

# Early clinical studies support translation

Vodobatinib confirmed target coverage in CSF at safe doses

- Phase 1 completed in healthy subjects and PD subjects with doses up to 384mg per day
- Overall well tolerated
- CSF PK suggests adequate brain penetration over 24 hours
- 192mg and 384mg doses proposed for Phase 2 PoC study
- Phase 2 PoC study (PROSEEEK) initiated in 2019

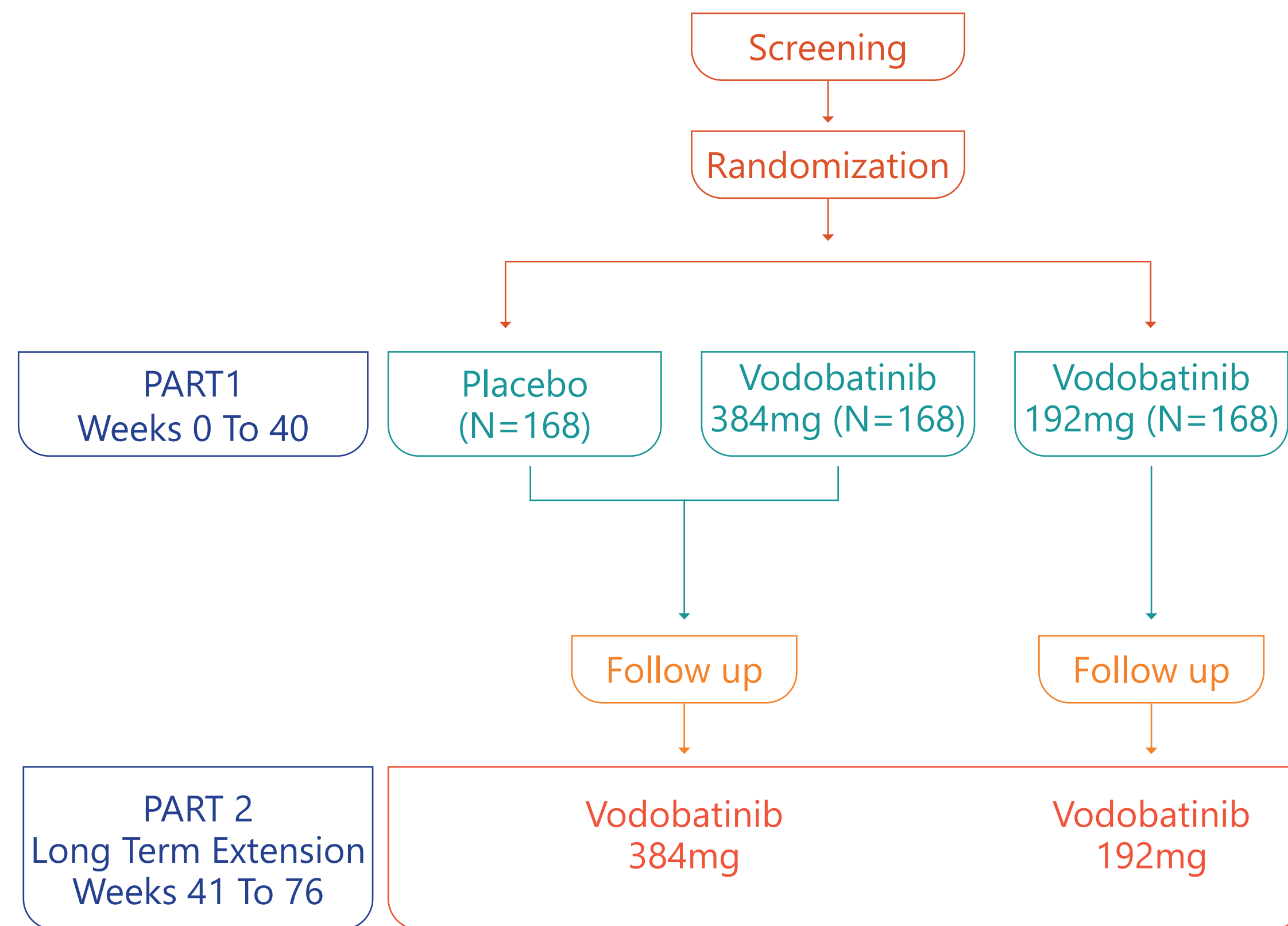
PROSEEEK: Phase 2 study in early Parkinson's disease patients evaluating the safety and efficacy of Abl tyrosine kinase inhibition using K0706



# PROSEEK aims a reproducible PoC

In L-Dopa naïve, DaT confirmed early PD patients

## PROSEEK study design



### Primary endpoint

- Change in MDS-UPDRS Part 3

### Key secondary endpoints

- Change in MDS-UPDRS Part 2+Part 3
- Time to the start of symptomatic medication
- Clinician global impression of severity

### Exploratory endpoints

- DaT SPECT at beginning and at the end
- Exploratory CSF markers
- Skin biopsy for synuclein deposition at baseline and at week 36
- Neurofilament light chain (NfL)
- Smartphone based measure of motor performance

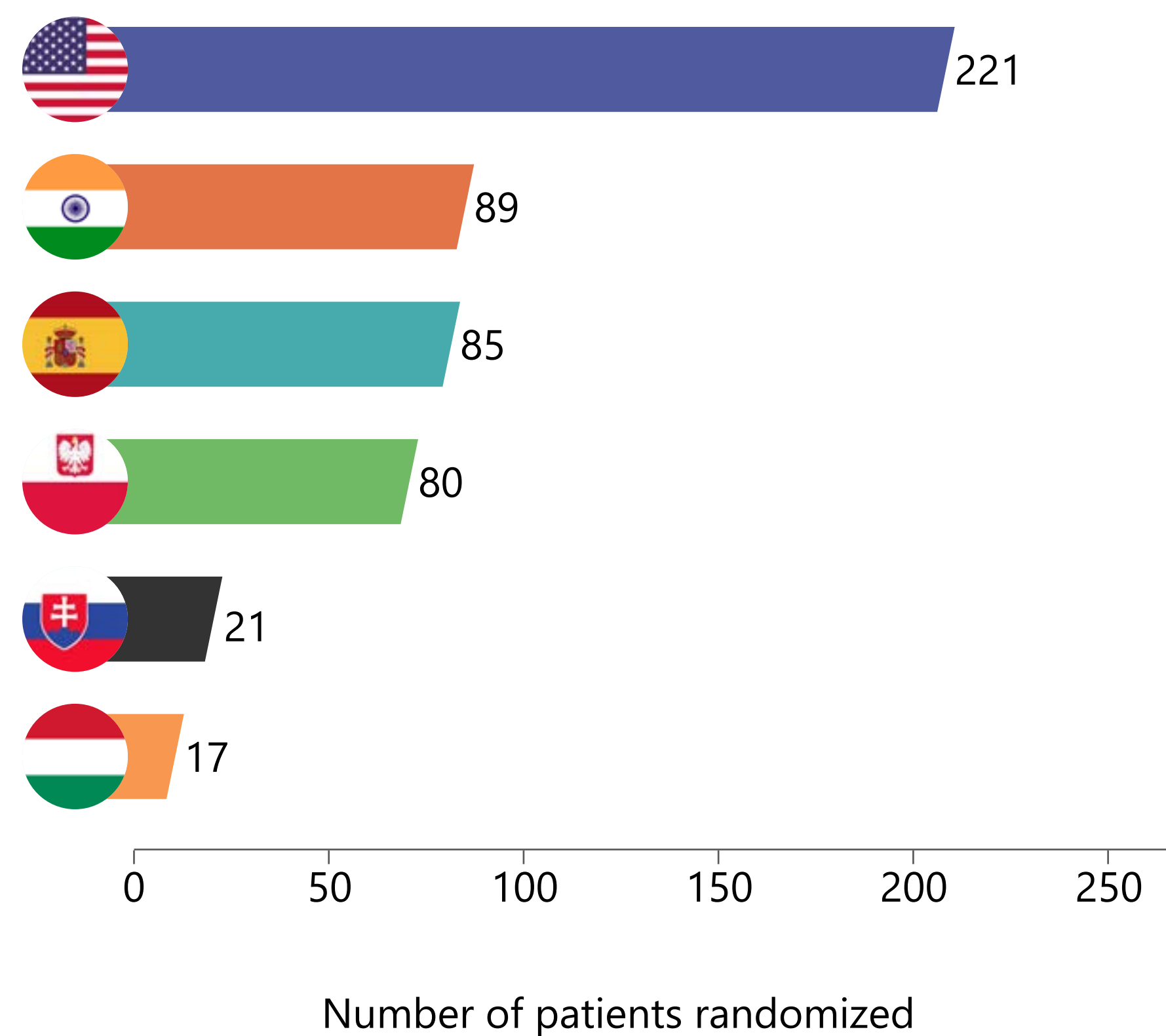
### Key milestones

- Administrative interim analysis in April 2024
- Topline data for the study in September 2024

# PROSEEK achieved enrolment target

Completed enrolment in October 2023

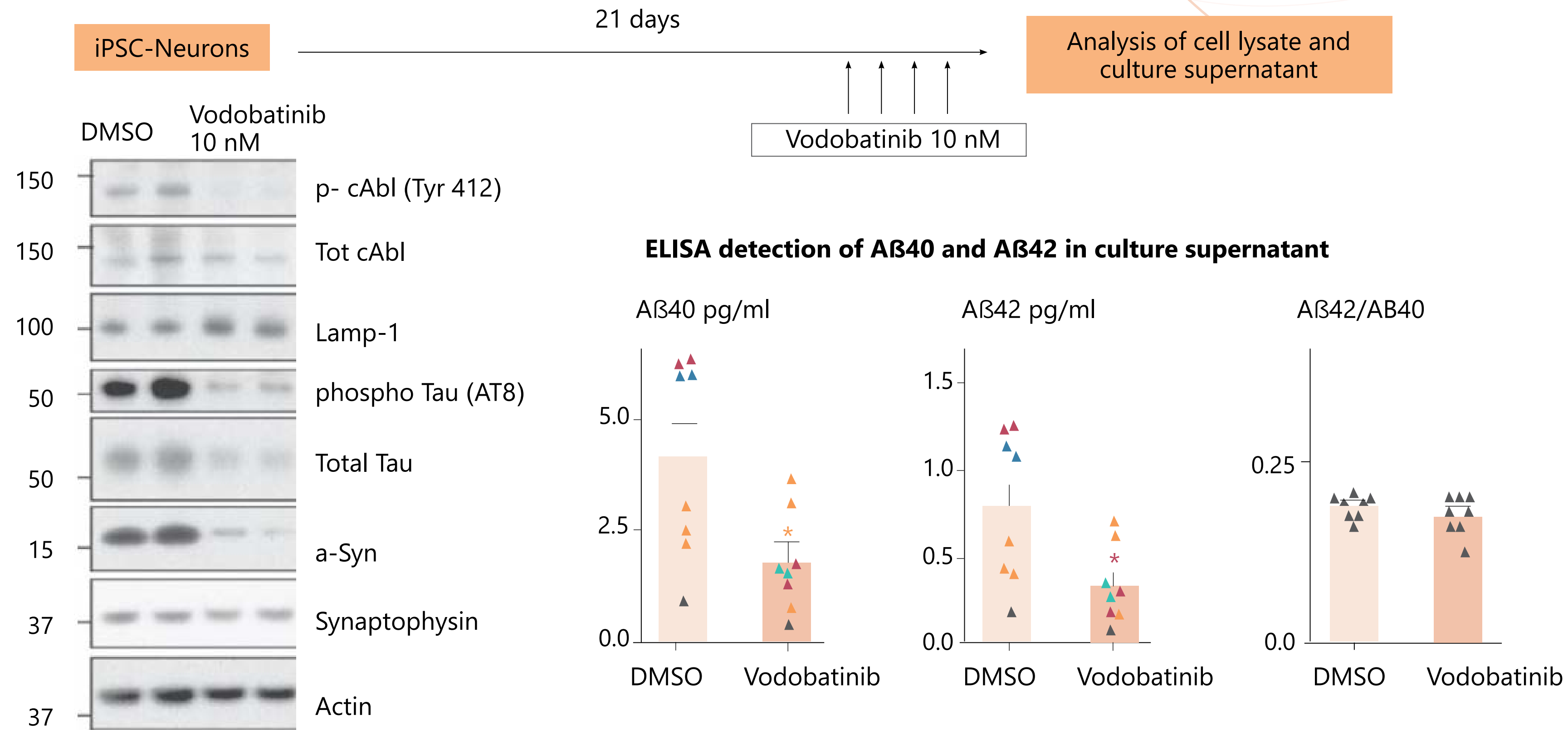
## PROSEEK – Global patient distribution



- Over 40% patients enrolled from the US
- Drug related SAEs reported in 1.2% patients
- No significant cardiac events reported
- GI and rash were the most common AEs reported
- No changes in study protocol recommended by DSMB throughout the conduct of the study

# c-Abl inhibition promises broad impact

Reduces toxic proteins implicated in multiple diseases



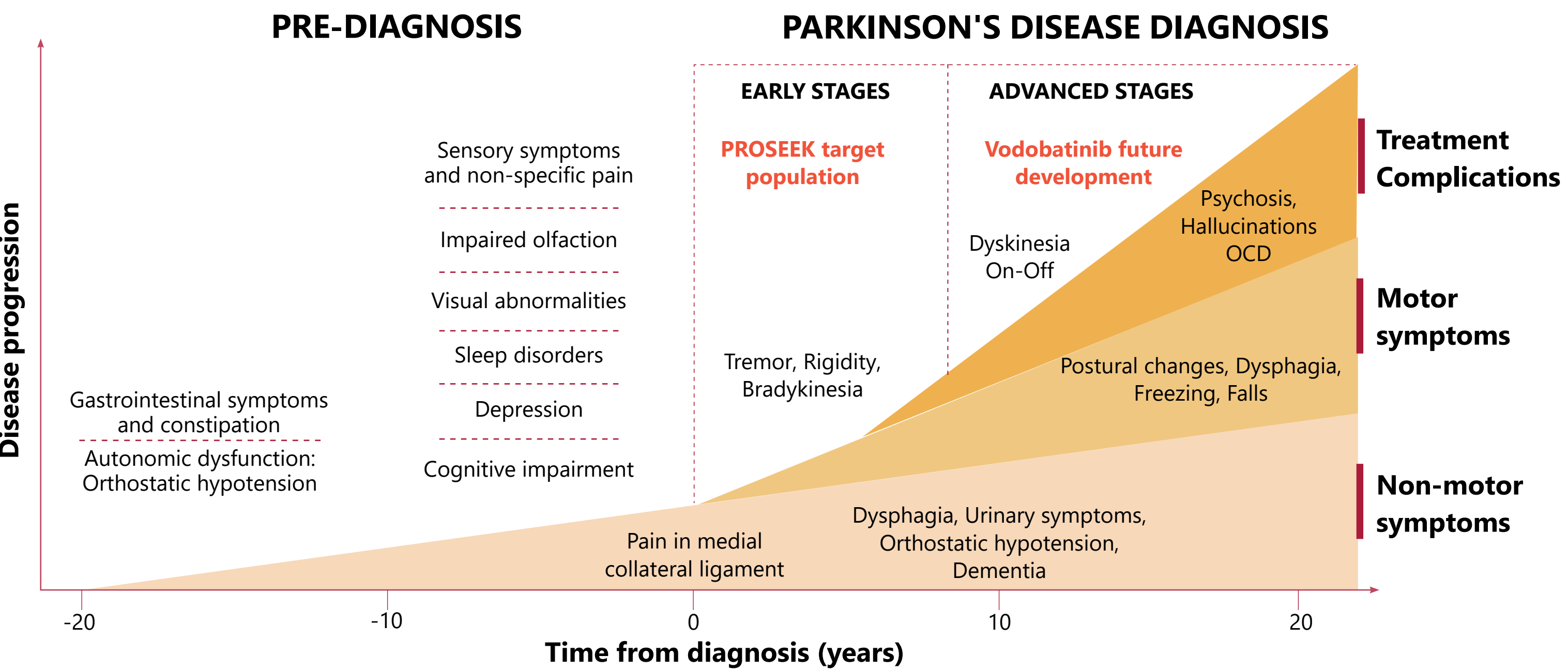
Augments autophagic flux and reduces levels of α-Synuclein (Parkinson’s disease), and Tau, phospho Tau and Aβ peptides (Alzheimer’s disease)

Study conducted at Brigham Women’s Hospital, Harvard Medical School



# PROSEEK validates a key mechanism

Vodobatinib as a backbone to SoC across the continuum of care



## Vodobatinib's opportunity spectrum

- Parkinson's Disease – All stages
- α synucleinopathies (Lewy Body Dementia & Multi System Atrophy)
- Diseases driven by other proteins activated by c-Abl (AD, ALS)

- 70% of PD patients are DMT eligible at diagnosis to delay symptomatic treatment\*
- Physicians expect Vodobatinib to be used across all PD patients, including familial PD\*

\*Based on independent 3rd party research

# Vibozilimod: best-in-class S1PR1 agonist

Safe oral alternative to JAK inhibitors in derma autoimmune disorders

## S1P functional activity using GTPγS assay

| S1PR1 agonists | EC <sub>50</sub> GTPγS (nM) |         |       |
|----------------|-----------------------------|---------|-------|
|                | S1PR1                       | S1PR3   | S1PR5 |
| Vibozilimod    | 0.2                         | >10,000 | 9     |
| Fingolimod     | 0.4                         | 7.7     | 2.2   |
| Ozanimod       | 1.9                         | >10,000 | 3.5   |
| Ponesimod      | ~1                          | NA      | 10.7  |
| Etrasimod      | 1.5                         | ~1000   | 0.7   |

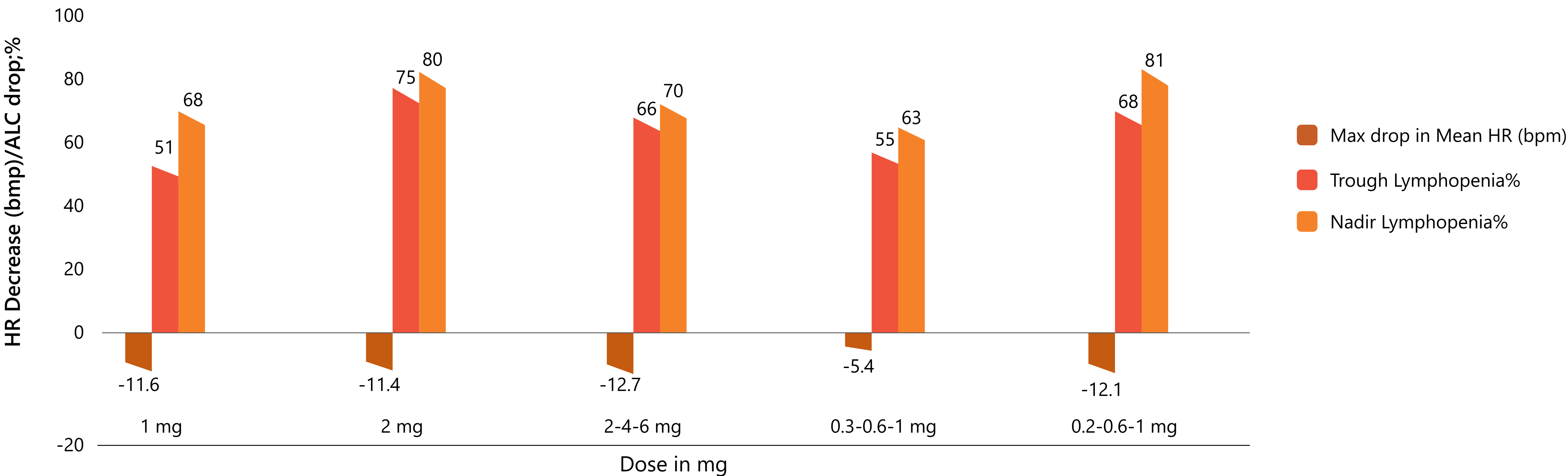
Potential to lead the S1P R1 class in derma autoimmune diseases

- Highly-selective **S1PR1 agonist** over other S1P receptors
- Established preclinical and early clinical validation
- Potential synergy with other mechanisms in IBD – like IL-23 blockade
- Developed in collaboration with a French biotech company, Bioprojet
- SPARC in-licensed Bioprojet’s share of IP

# PK-PD validation from early clinical studies

Therapeutically relevant lymphopenia at safe doses

## Heart rate & lymphocyte reduction following Multiple Doses



- ~60% lymphopenia observed at 1mg titrated dose with max HR drop 5.4bpm
- Lymphopenia at therapeutic dose compares favourably to competing programs

bmp = beats per minute  
 HR = Heart rate  
 ALC = Absolute lymphocyte count



# Vibozilimod clinical PoC studies ongoing

Therapeutically relevant lymphopenia at safe doses

## SOLARES-AD-1

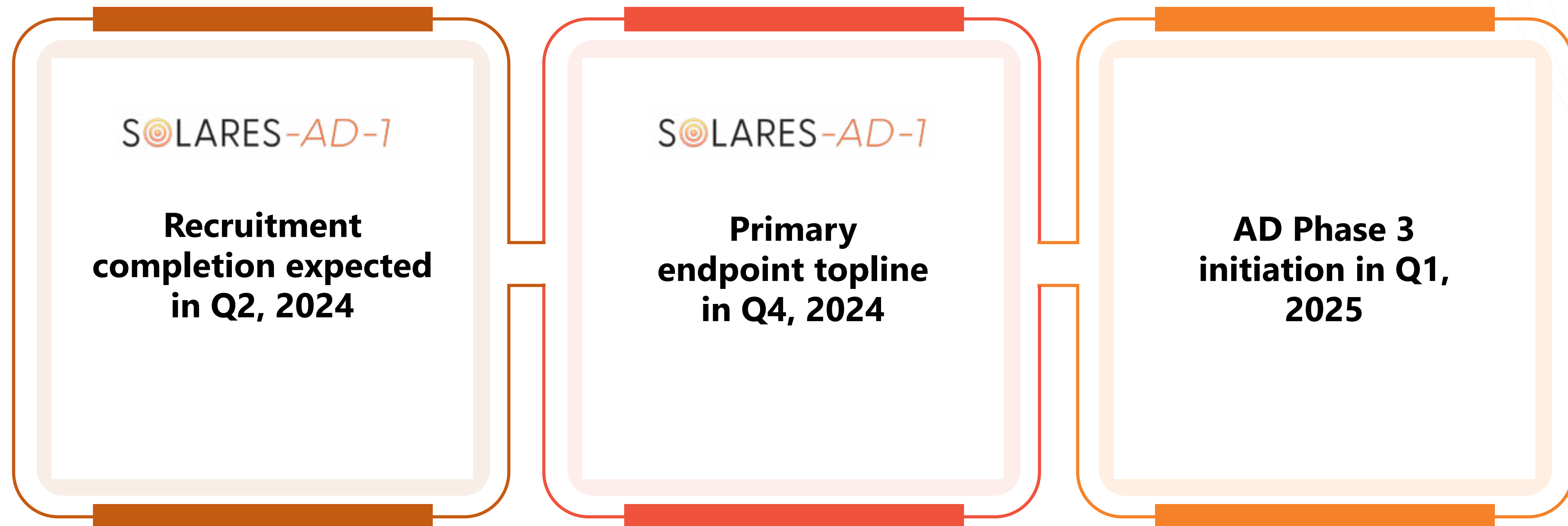
- A randomized, double-blind, placebo-controlled study to assess the efficacy and safety of Vibozilimod in the treatment of moderate-to-severe Atopic Dermatitis [NCT04684485]
- 240 patients in four arms, study open in 40 sites across US, Europe and Latin America
- Primary endpoint – Proportion of patients achieving EASI-75 response at week-16

## SOLARES-PsO-1

- A randomized, double-blind, placebo-controlled study to assess the efficacy and safety of Vibozilimod in the treatment of moderate-to-severe Plaque Psoriasis [NCT04566666]
- 240 patients in four arms, study open in 40 sites across US, Europe and Latin America
- Primary endpoint – Proportion of patients achieving PASI-75 response at week-16

# Vibozilimod clinical PoC studies ongoing

Program poised for significant data events in 2024

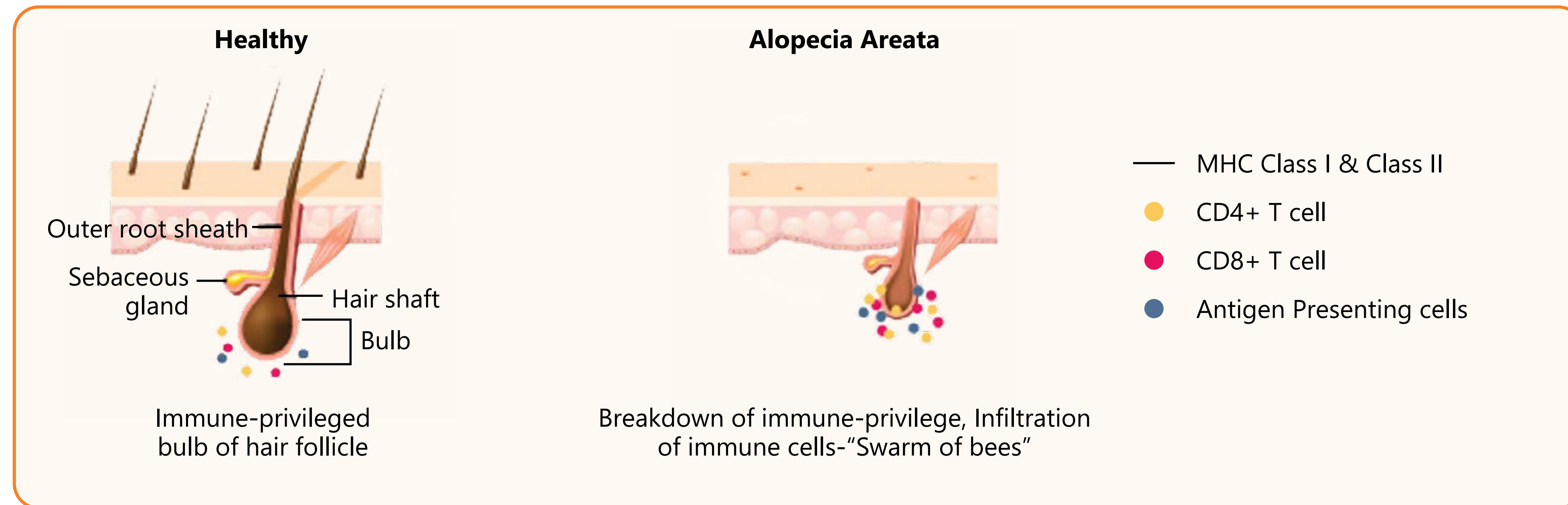


- Vibozilimod is partnered with Sun Pharma with ~50% economics retained with SPARC

# SCD-153 targeting novel pathway in AA

Built on an endogenous immunosuppressive metabolite

## SCD-153 blocks key inflammatory cytokines implicated in AA

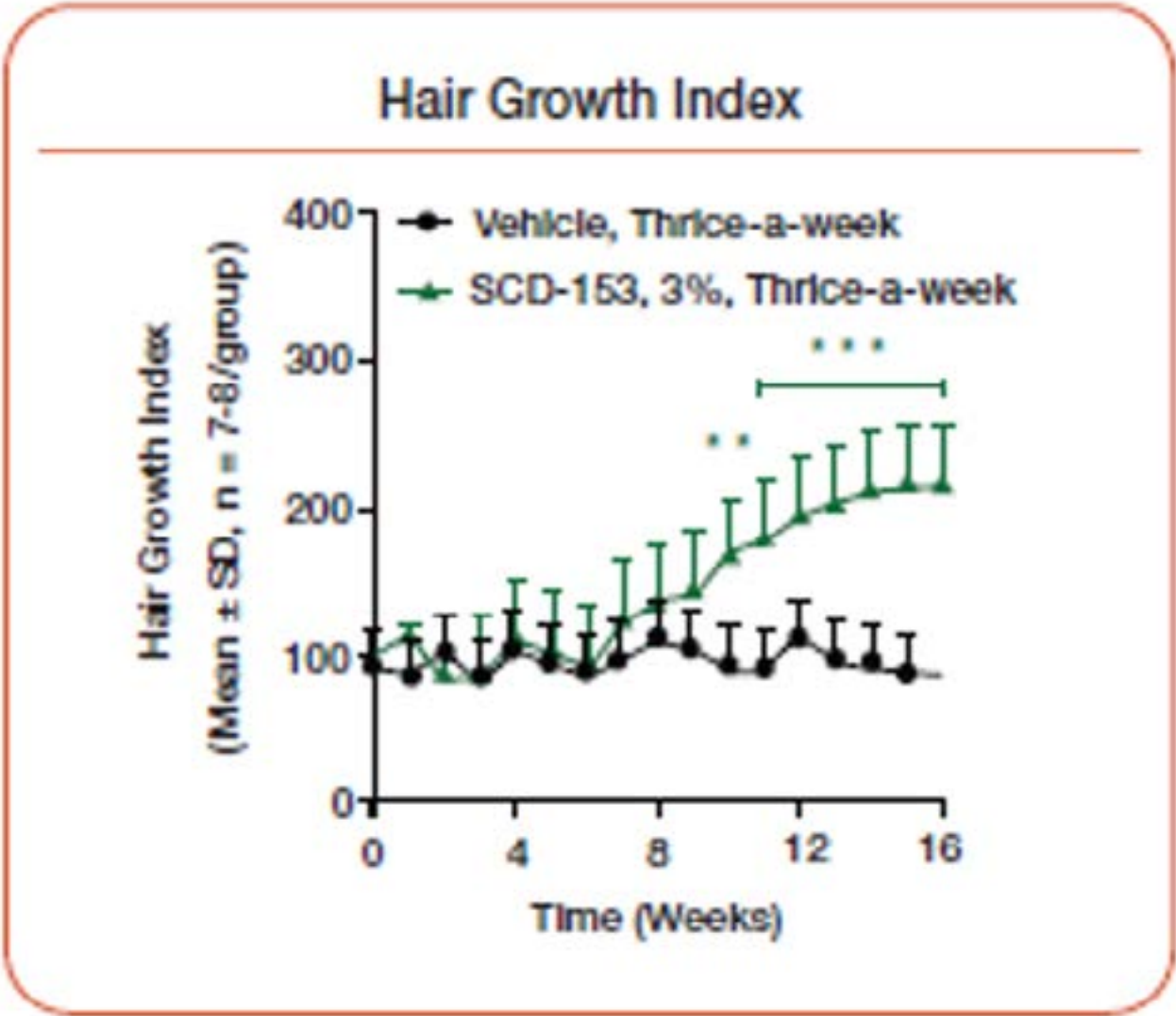


- SCD-153, novel pro-drug of a natural metabolite that restores immune privilege at hair follicle
- Topical formulation targets to reduce systemic exposure and potential side effects



# Promising preclinical data

SCD-153 demonstrated robust hair growth in multiple AA models



n=7; 85-100% alopecia; >45 weeks age Spontaneous severe C3H/HeJ AA mouse model  
Data are represented as mean + SD; two-way ANOVA followed by Bonferroni's multiple comparisons test (\*p<0.05 vs Vehicle)

| Week#                                 | Week 0<br>(Before treatment) |  |  |  | Week 16# |  |  |  |
|---------------------------------------|------------------------------|--|--|--|----------|--|--|--|
| Vehicle<br>thrice-a-<br>week          |                              |  |  |  |          |  |  |  |
| SCD-153<br>at 3%<br>thrice-a-<br>week |                              |  |  |  |          |  |  |  |

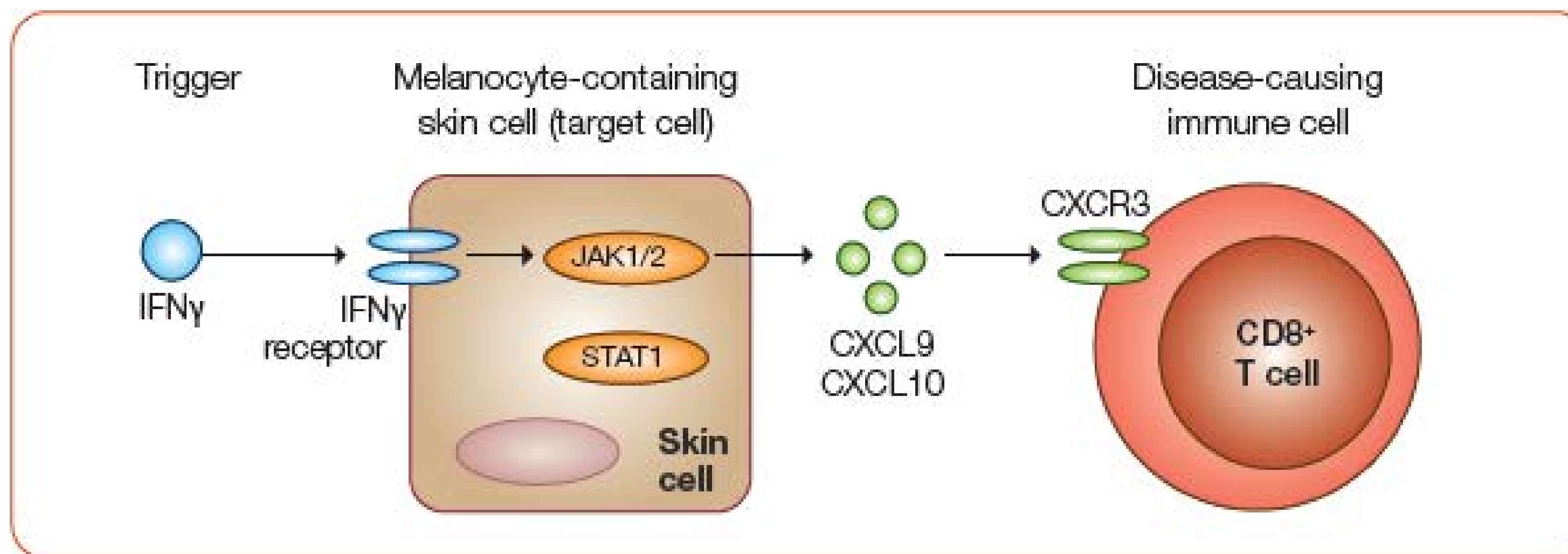
n=4

#n=1 from each group has completed Week 14

- SCD-153 demonstrates **single agent activity** at different doses/regimens
- The drug-treated mice showed significant decrease in the cytotoxic CD8+ T cells in the diseased skin
- Drug treatment also caused significant reduction in IFN signature gene expression (CXCL-9, -10 and -11, IFN-g, MX-1 and STAT-1)
- Potential to use in combination** with other agents

# Portable to other epidermal diseases

High cross over potential to diseases with similar pathophysiology



- IFN induces CXCL9, CXCL10 & CXCL11 in vitiliginous skin. These chemokines recruit pathogenic CD8+ T cells to the pigment-containing melanocyte in the epidermis
- CD8+ T cells release cytokines that destroy the melanocytes causing depigmentation

## In-vitro studies have shown that SCD-153 inhibits:

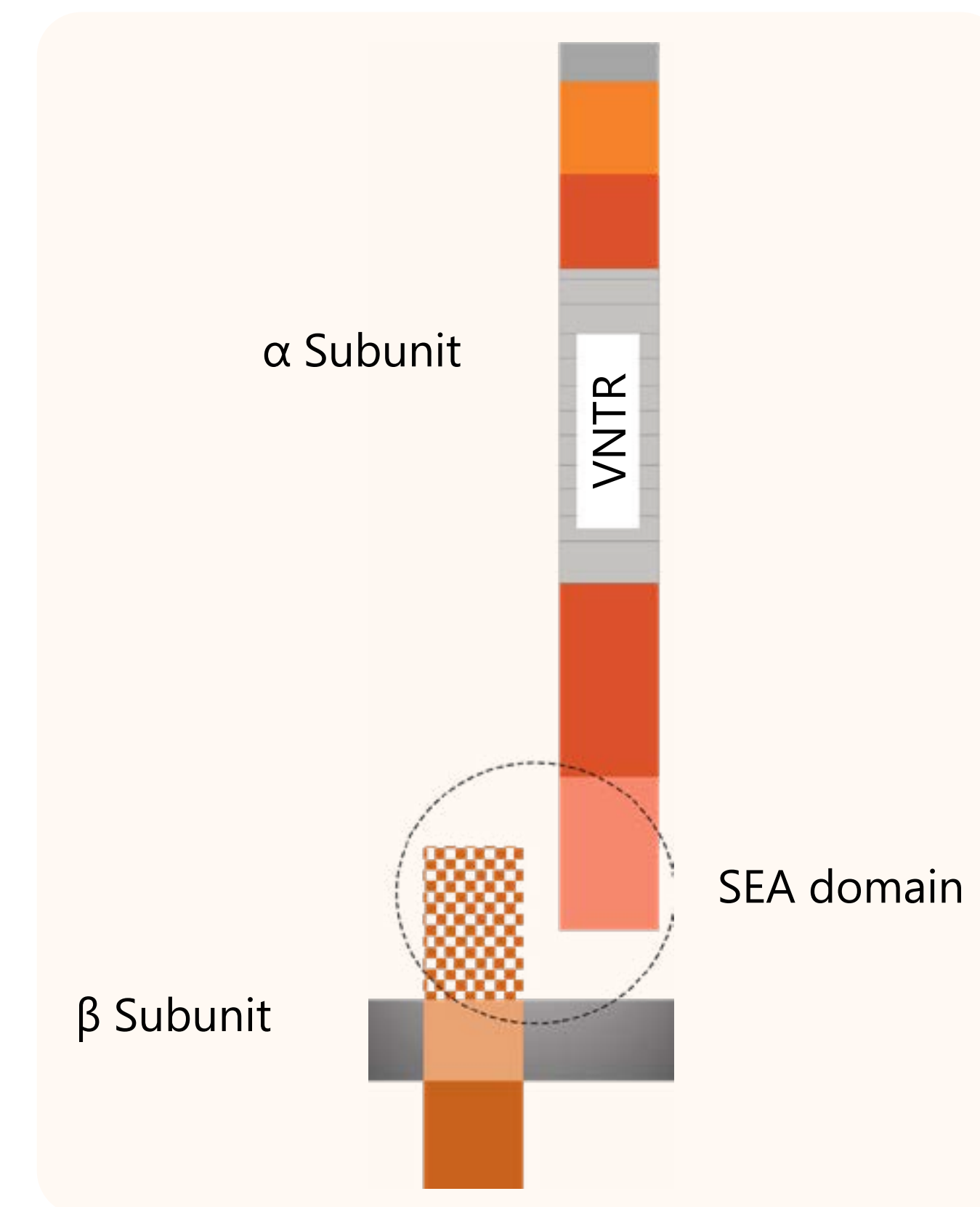
- Expression of CXCL9, 10 and 11 in stimulated human keratinocytes
- IFN secretion from stimulated murine CD8+ T cells

**SCD-153 early clinical studies started in November, 2023. MAD study results expected in 2025**

# SBO-154 targeting novel epitope of MUC-1

First product from a platform leveraging the SEA domain of MUC-1

- Licensed antibodies targeting MUC-1 **SEA ( $\alpha$ - $\beta$  combinatorial epitope)** developed at Tel-Aviv university
- Circulating MUC-1 $\alpha$  in plasma and in peritumoral space blocks meaningful tumor targeting by MUC1 $\alpha$ -targeted therapies
- **Preclinical PoC established** for anti-tumour efficacy of anti-MUC-1 SEA targeted ADC
- Platform potential - **Follow-up programs delivering immune activators**, possibility to explore multi-specificity and bi-functional payload systems

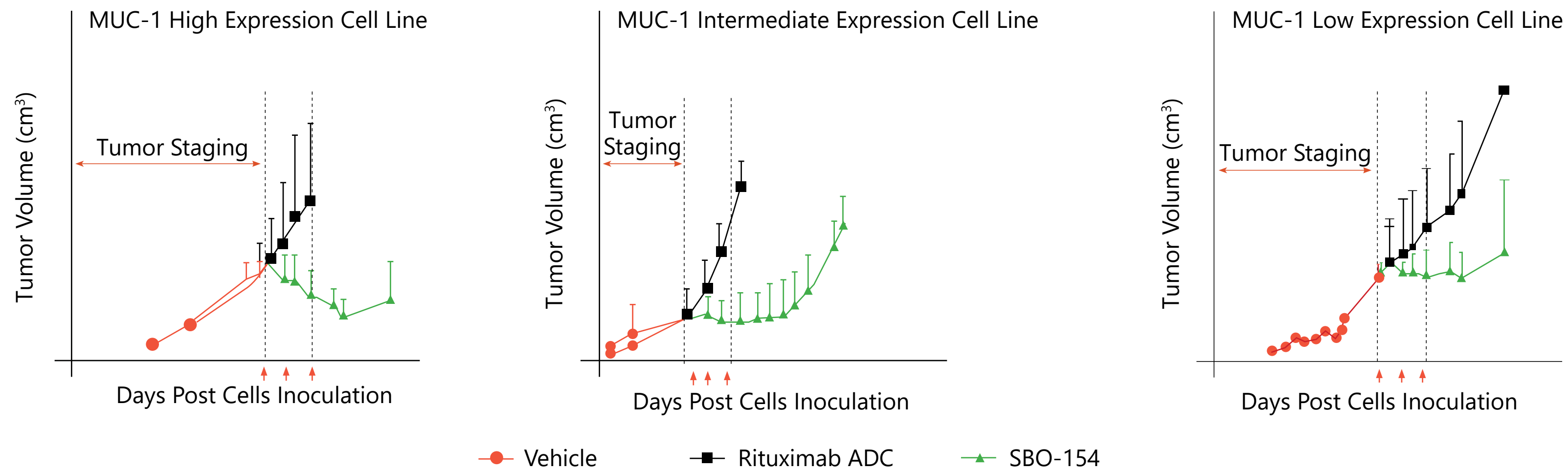


SEA: Sea urchin sperm protein, enterokinase and agrin



# Hypothesis validated in multiple models

SBO-154 causes regression of large established tumors with high MUC-1 SEA expression



- High cell surface expression of **MUC-1** in NSCLC, HR+ BC, PDAC & Ovarian cancer
- Very **low circulating MUC-1 SEA** in patient plasma samples
- First product to **enter clinic in Q1, 2025**

# Preclinical programs

10+ discovery/pre-clinical programs promising pipeline enrichment

## Key themes driving portfolio growth

- 1 Novel molecular pathways in neurodegeneration
- 2 Antibody mediated, multi-modal tumour targeting
- 3 Synthetic lethality
- 4 Novel pathways in unaddressed autoimmune disorders

# SPARC value proposition summary

## 3 Clinical stage programs targeting areas of high unmet need

- Targeting unmet medical needs with USD20Bn+ combined peak sales potential in 6 indications

## Discovery & development across validated & novel biology in order to balance the risk

- Multi-modal portfolio; 10+ preclinical programs including an Antibody Drug Conjugate program

## Proven high quality R&D organization with capital-efficient global operations

- 350+ scientists across 4 research centers with USD 500Mn+ invested to date
- 3 USFDA approvals for internally developed assets

## Flexible model to maximize shareholder value

- Partnerships to maximize large commercial potential and provide non-dilutive capital
- Optionality to explore other commercial models for key assets preserved

## Marquee founder, experienced management team and scientific advisory board with globally recongnized scientific leaders





# SPARC upcoming catalysts

NSE/BSE Mumbai India - SPARC



- Raised ~USD150m in 2021-22 @INR 178/share
- Cash runway covers currently projected milestones
- Net cash burn - ~USD 30-35m annually

## Upcoming catalysts

**PROSEEK interim analysis – April 2024**

**PROSEEK topline – September 2024**

**Vodobatinib partnering**

**SOLARES-AD-01 interim analysis Q4 2024**

**SCD-153 MAD outcome – Q2 2025**

**SBO-154 IND – Q1 2025**



## Balanced portfolio approaching value inflection

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