



Pharming Group N.V.

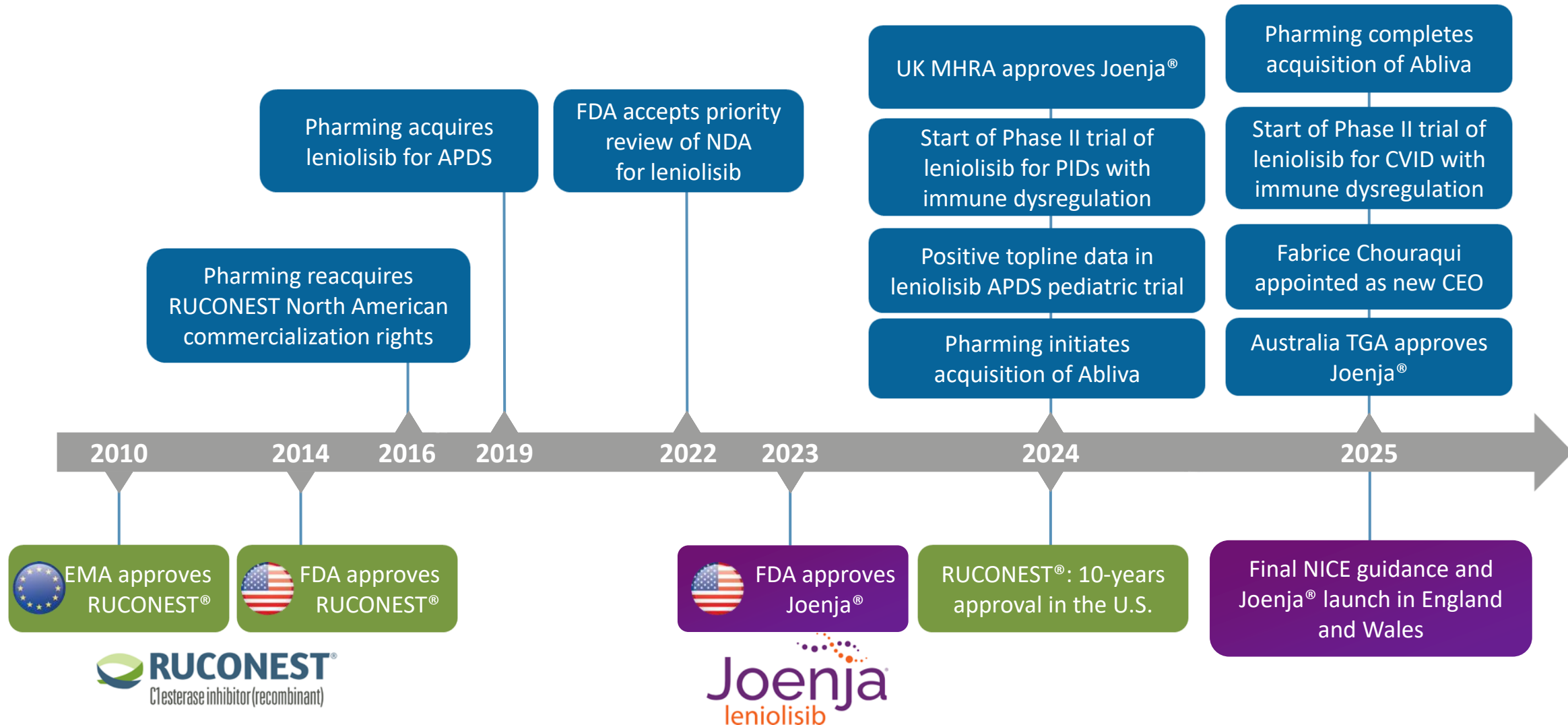
H.C. Wainwright 3rd Annual
BioConnect Investor Conference

May 20, 2025

NASDAQ: **PHAR** | EURONEXT Amsterdam: **PHARM**

This presentation may contain forward-looking statements. Forward-looking statements are statements of future expectations that are based on management's current expectations and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance, or events to differ materially from those expressed or implied in these statements. These forward-looking statements are identified by their use of terms and phrases such as "aim", "ambition", "anticipate", "believe", "could", "estimate", "expect", "goals", "intend", "may", "milestones", "objectives", "outlook", "plan", "probably", "project", "risks", "schedule", "seek", "should", "target", "will" and similar terms and phrases. Examples of forward-looking statements may include statements with respect to timing and progress of Pharming's preclinical studies and clinical trials of its product candidates, Pharming's clinical and commercial prospects, and Pharming's expectations regarding its projected working capital requirements and cash resources, which statements are subject to a number of risks, uncertainties and assumptions, including, but not limited to the scope, progress and expansion of Pharming's clinical trials and ramifications for the cost thereof; and clinical, scientific, regulatory, commercial, competitive and technical developments. In light of these risks and uncertainties, and other risks and uncertainties that are described in Pharming's 2024 Annual Report and the Annual Report on Form 20-F for the year ended December 31, 2024, filed with the U.S. Securities and Exchange Commission, the events and circumstances discussed in such forward-looking statements may not occur, and Pharming's actual results could differ materially and adversely from those anticipated or implied thereby. All forward-looking statements contained in this presentation are expressly qualified in their entirety by the cautionary statements contained or referred to in this section. Readers should not place undue reliance on forward-looking statements. Any forward-looking statements speak only as of the date of this presentation and are based on information available to Pharming as of the date of this presentation. Pharming does not undertake any obligation to publicly update or revise any forward-looking statement as a result of new information, future events or other information.

History of growth and innovation at Pharming



***Develop a leading global rare disease company
with a diverse portfolio and presence in large markets,
leveraging proven and efficient clinical development,
supply chain, and commercial infrastructure***

Strong start to 2025

- 1Q25 revenues up 42%
- Strong RUCONEST® growth and acceleration of Joenja® patient uptake
- Achieved operating profit (adjusted non-GAAP)
- Raising 2025 revenue guidance to US\$325-340M
- Optimize capital allocation through \$10M annual G&A reduction

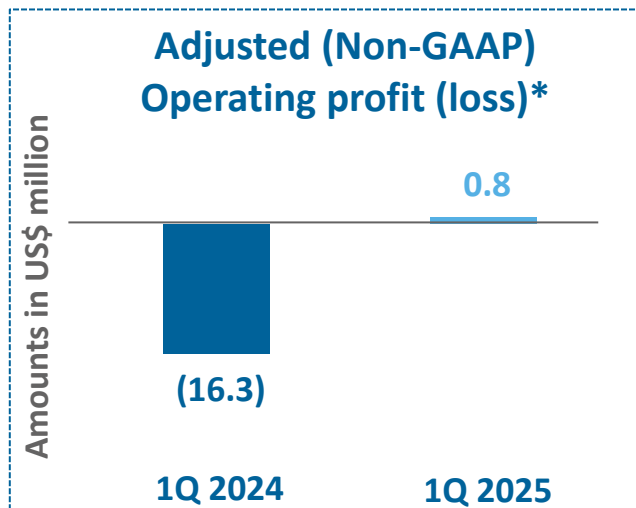
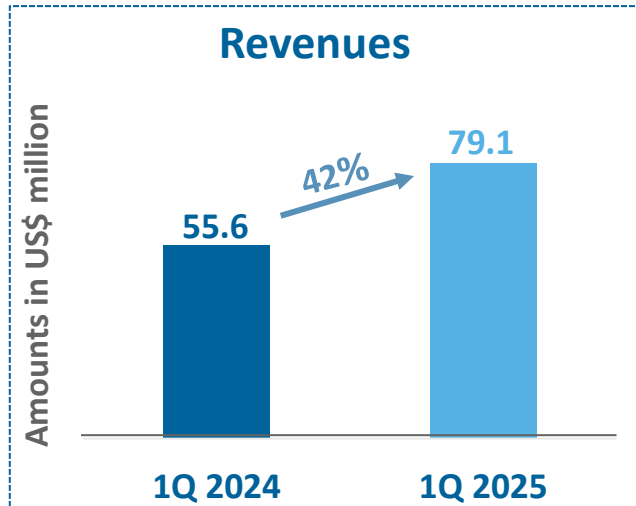
High value pipeline

- 2 assets with >\$1B sales potential each
- Joenja® (leniolisib) for PIDs with immune dysregulation
 - Genetic PIDs
 - CVID
- KL1333 for mtDNA mitochondrial disease
 - Registrational trial ongoing

Significant catalysts

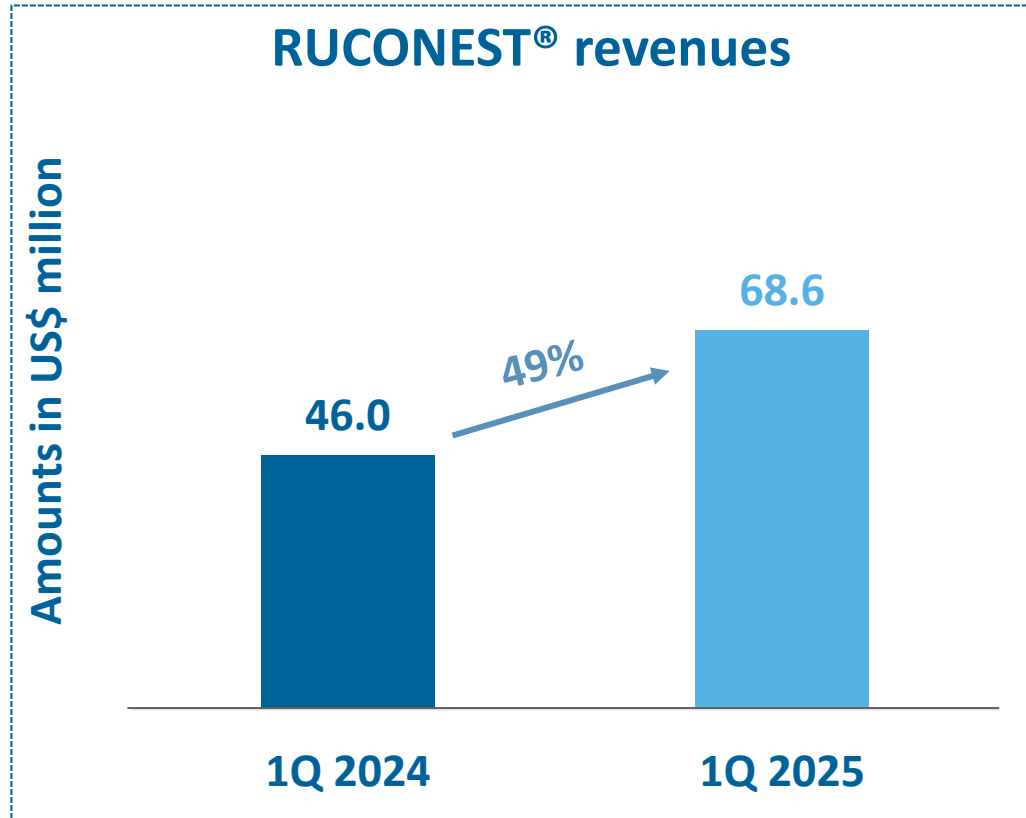
- Joenja® for APDS – VUSs reclassification, pediatric label, geo expansion (2025-27)
- Leniolisib for PIDs PhII readouts (2026)
- KL1333 pivotal study readout (2027)

Strong first quarter 2025 performance

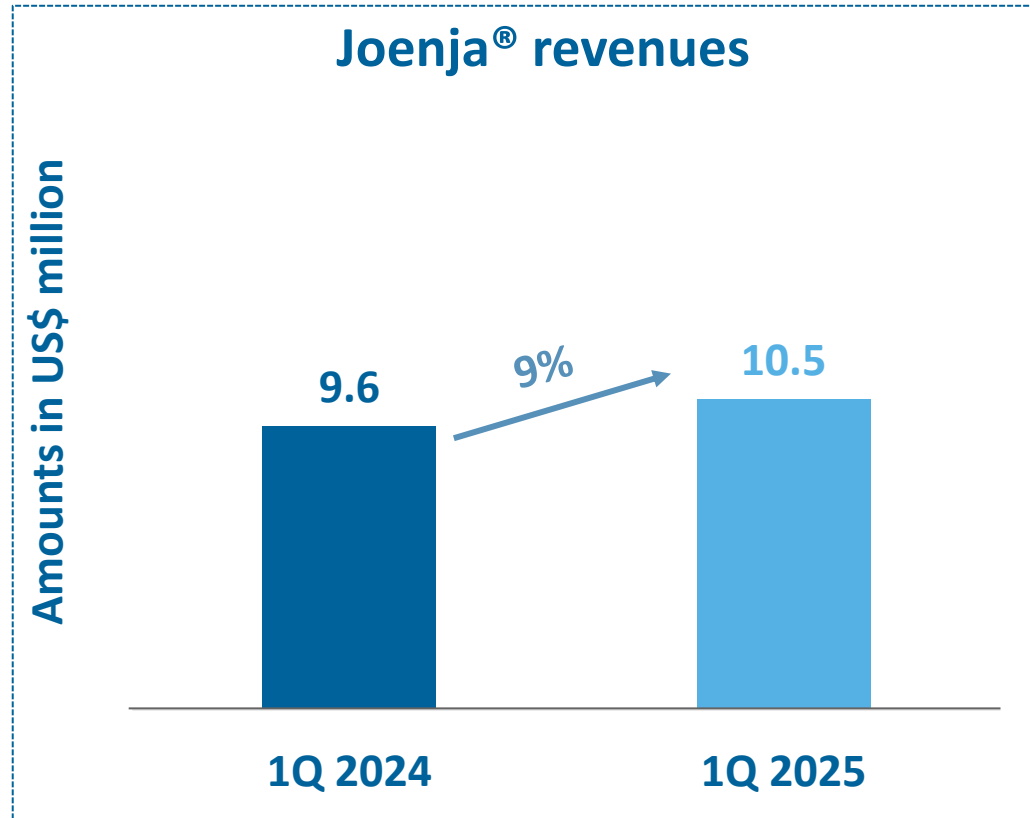


- Continued strong RUCONEST® growth
- Acceleration in Joenja® patient uptake
- Raised 2025 revenue guidance to US\$325-340 million
- Achieved operating profitability (adj. non-GAAP) and positive operating cash flow

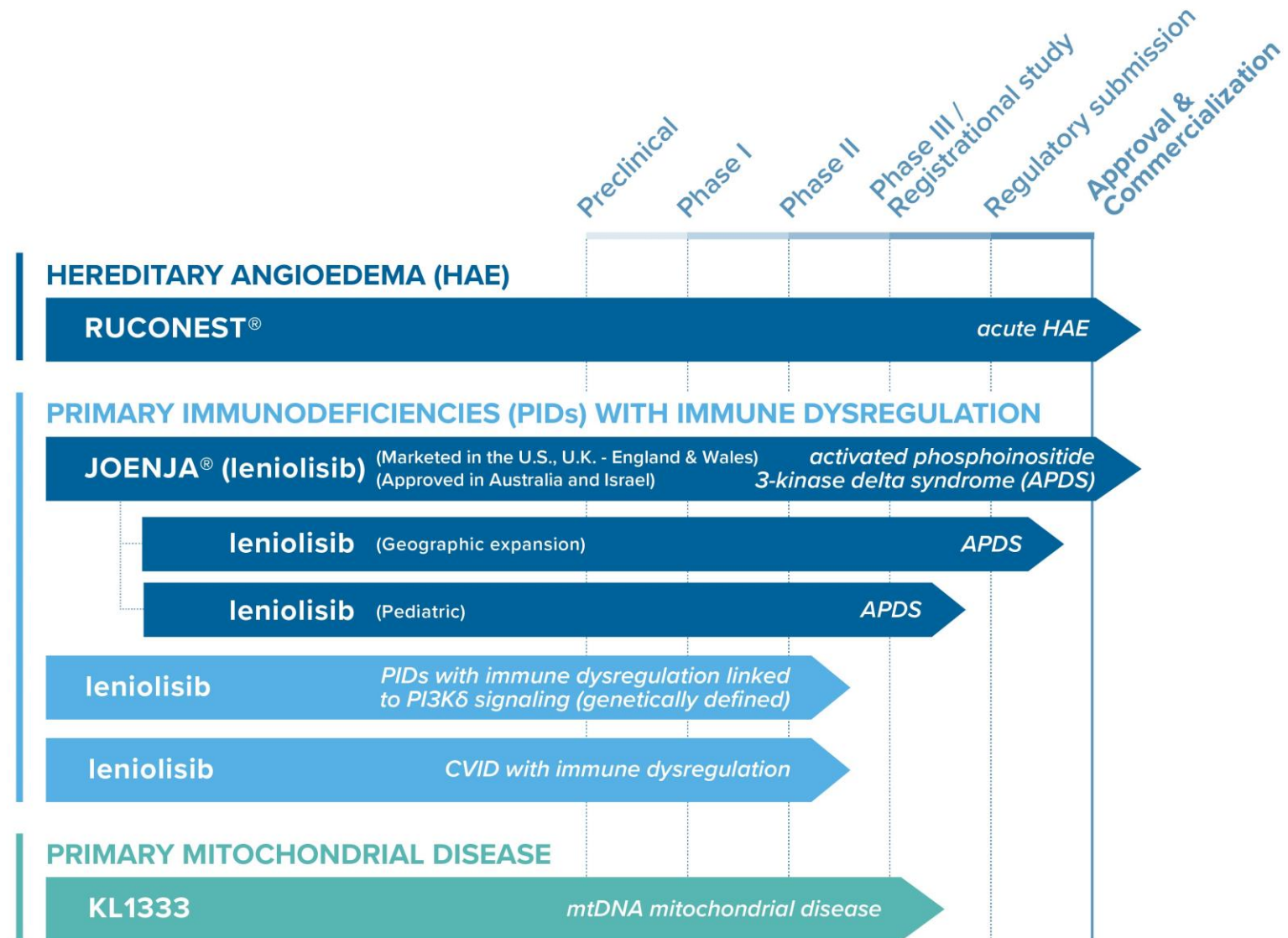
* Adjusted operating profit for 1Q 2025 excludes US\$7.8 million of non-recurring Abliva acquisition-related expenses.



- **Strong U.S. in-market demand**
 - Continuing to add prescribers and patients
 - New patient enrollments remain high (>90)
- **Continued robust U.S. volume growth**
 - Quarterly growth +37%
 - 1Q25 boosted by lower inventory at the SPs in 4Q24 & faster prior authorizations



- **Increasing APDS patients on therapy**
 - 102 U.S. patients (+23% vs 1Q24)
 - Acceleration in patient uptake (+6 in 1Q25, most since 2Q24)
- **18% volume growth**
- **Launched in U.K. (England and Wales) in April**
- **Additional 187 APDS patients globally (access programs and clinical studies)**

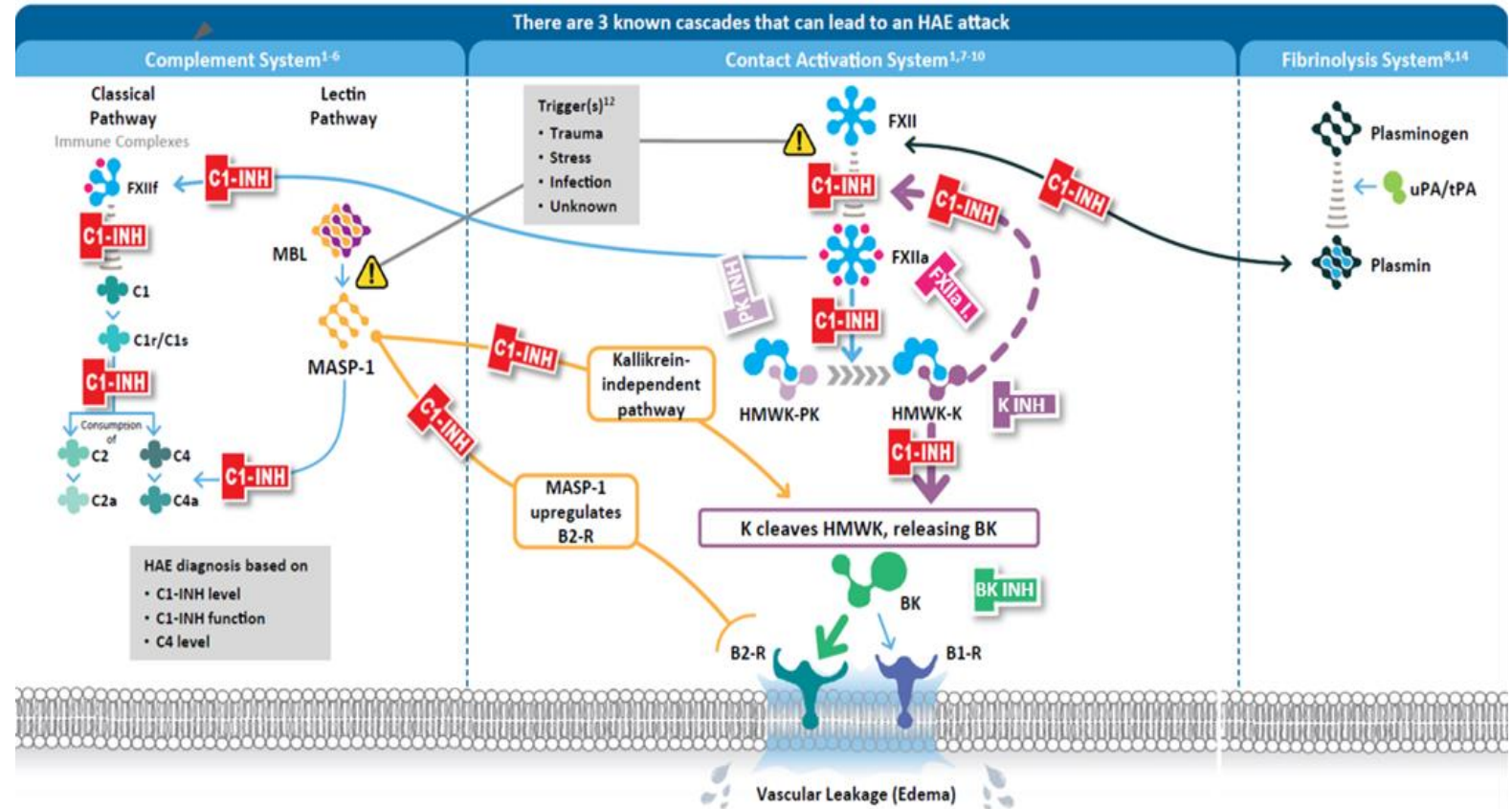




RUCONEST® for HAE

Only recombinant treatment that targets the root cause of HAE by replacing C1-INH

Only recombinant treatment that acts at multiple points in the cascades leading to HAE attacks



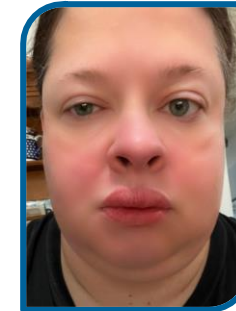
◆ Type 1, Type 2, and Normal C1-INH HAE patients rely on RUCONEST

◆ 97% patients needed just 1 dose¹

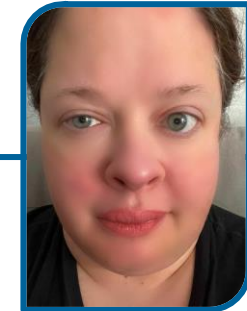
◆ 93% acute attacks stopped for at least 3 days²

◆ RUCONEST® mostly used by patients experiencing moderate to severe attacks, who attack more frequently

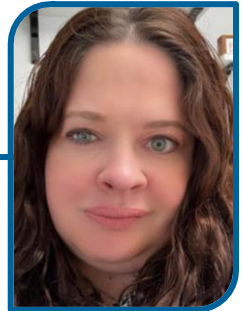
- Fail on icatibant and other acute therapies
- Need to re-dose with other treatments to resolve attacks



Time of taking
RUCONEST



4 hours after



24 hours after





Pharming[®]

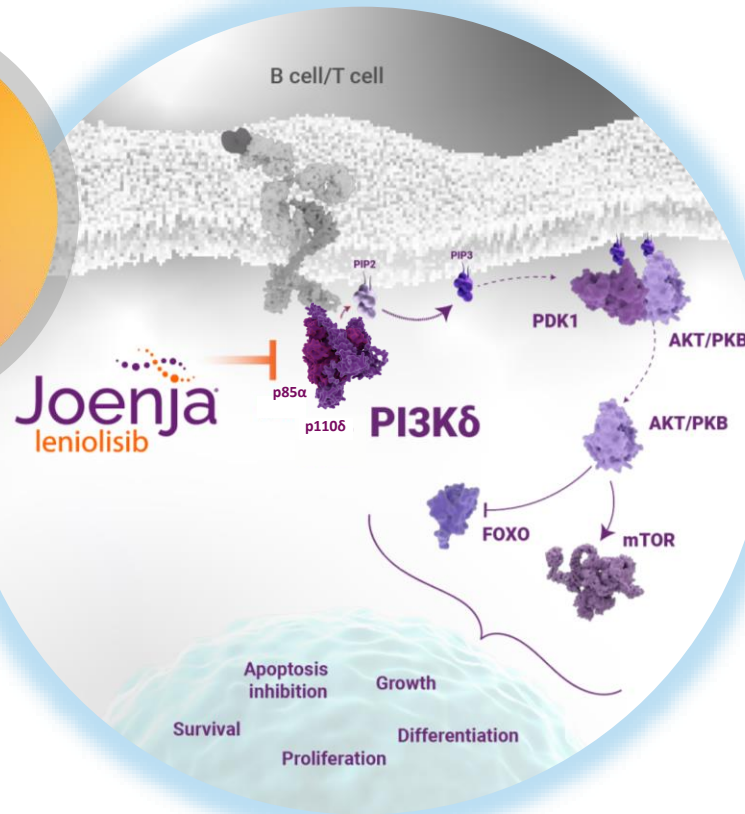
Joenja[®] (leniolisib) for APDS
leniolisib for PIDs with Immune
Dysregulation

Joenja[®]: immune modulator that targets the root cause of APDS Helps address immune deficiency and immune dysregulation

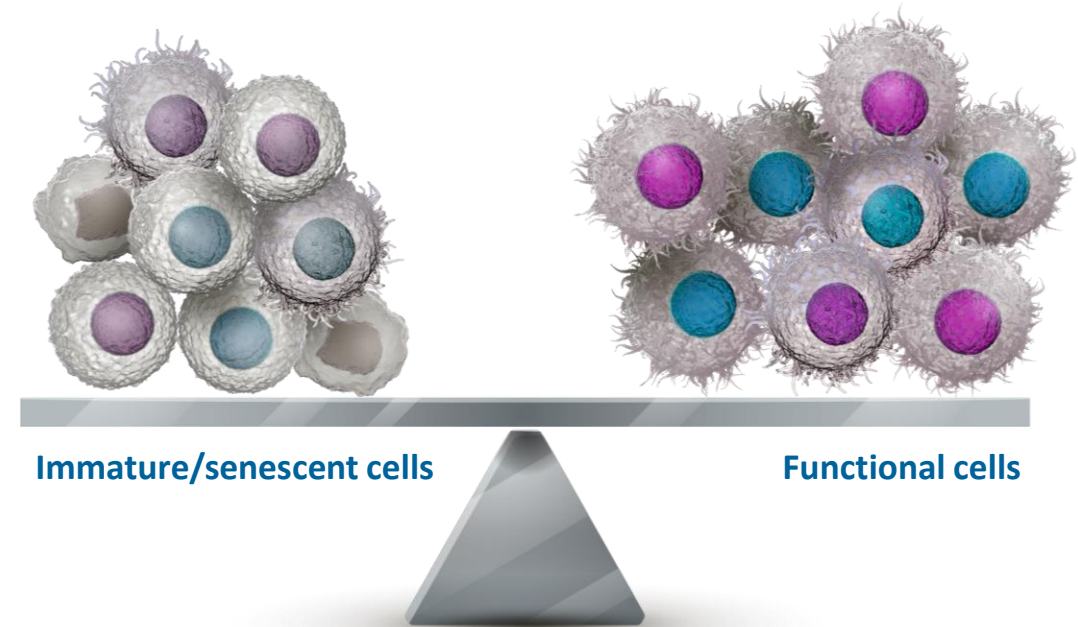


JOENJA WAS
DESIGNED TO
TARGET THE ROOT
CAUSE OF APDS
TO HELP NORMALIZE
THE HYPERACTIVE
PI3K δ PATHWAY¹⁻⁵

Note: Illustration does
not include all steps in
the signaling pathway.



Joenja[®] facilitates a balanced PI3K δ pathway
to support proper immune function⁶



This is a graphical representation of a complex biological process.

AKT/PKB, protein kinase B; FOXO, forkhead box O; mTOR, mammalian target of rapamycin; p85 α , the regulatory subunit of the PI3K δ enzyme; p110 δ , the catalytic subunit of the PI3K δ enzyme.

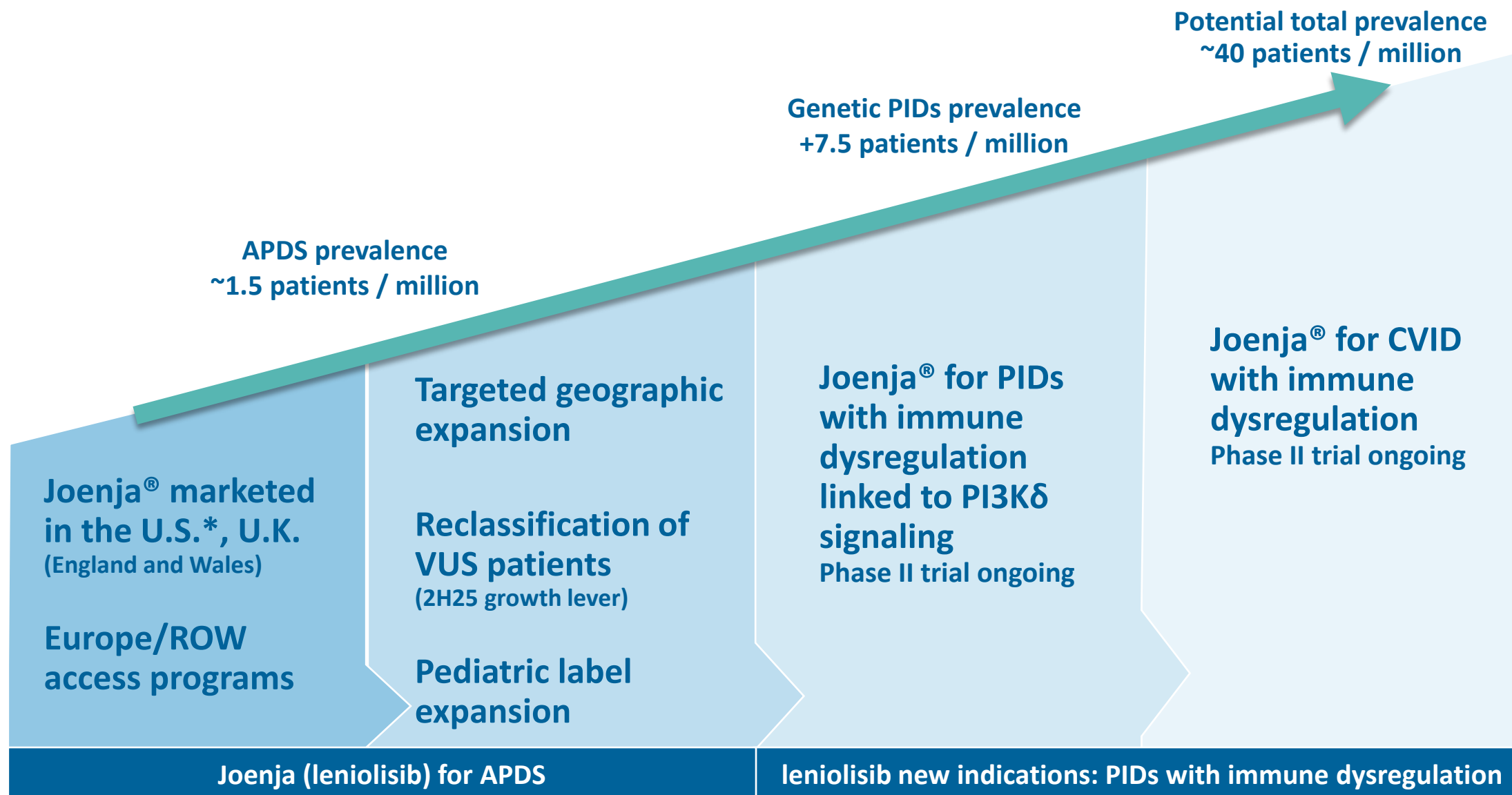
1. Fruman DA, et al. *Cell*. 2017;170(4):605-635. 2. Okkenhaug K, Vanhaesebroeck B. *Nat Rev Immunol*. 2003;3(4):317-330. 3. Hoegenauer K, et al. *ACS Med Chem Lett*. 2017;8(9):975-980. 4. Rao VK, et al. *Blood*. 2017;130(21):2307-2316. 5. Rao VK, et al. *Blood*. 2023;141(9):971-983. 6. Nunes-Santos CJ, et al. *J Allergy Clin Immunol*. 2019;143(5):1676-1687.

24-year-old male with APDS whose progress was followed in the Joenja® open-label extension study for 6 years

	Before study enrollment	Since starting Joenja treatment
Infections and treatment burden	<ul style="list-style-type: none">• Experienced fatigue from IRT infusions, anxiety, and difficulty coping with treatment burden• Hospitalized yearly for infections• Frequently prescribed antibiotics	<ul style="list-style-type: none">• Stopped IRT infusions and fatigue got better• No hospitalizations• He had 7 infections, none of which returned• Only doctor he visits regularly is his immunologist
Clinical manifestations	<ul style="list-style-type: none">• Low blood platelet counts• Damaged lung airways• Gastrointestinal issues and migraines	<ul style="list-style-type: none">• Blood platelet count increased• Damaged lung airways did not get worse

Joenja[®] (leniolisib)

Lifecycle to realize \$1Bn+ sales potential



* 102 patients on paid therapy. U.S. Pricing: 30-day supply \$49,500, Annual cost (WAC) \$594,000



Variants of Uncertain Significance

- ◆ >1300 patients in the US with VUS test result
- ◆ VUSs: insufficient data to determine if variant is disease causing
- ◆ With additional data, up to 20% of VUS results could be reclassified as disease causing for APDS*



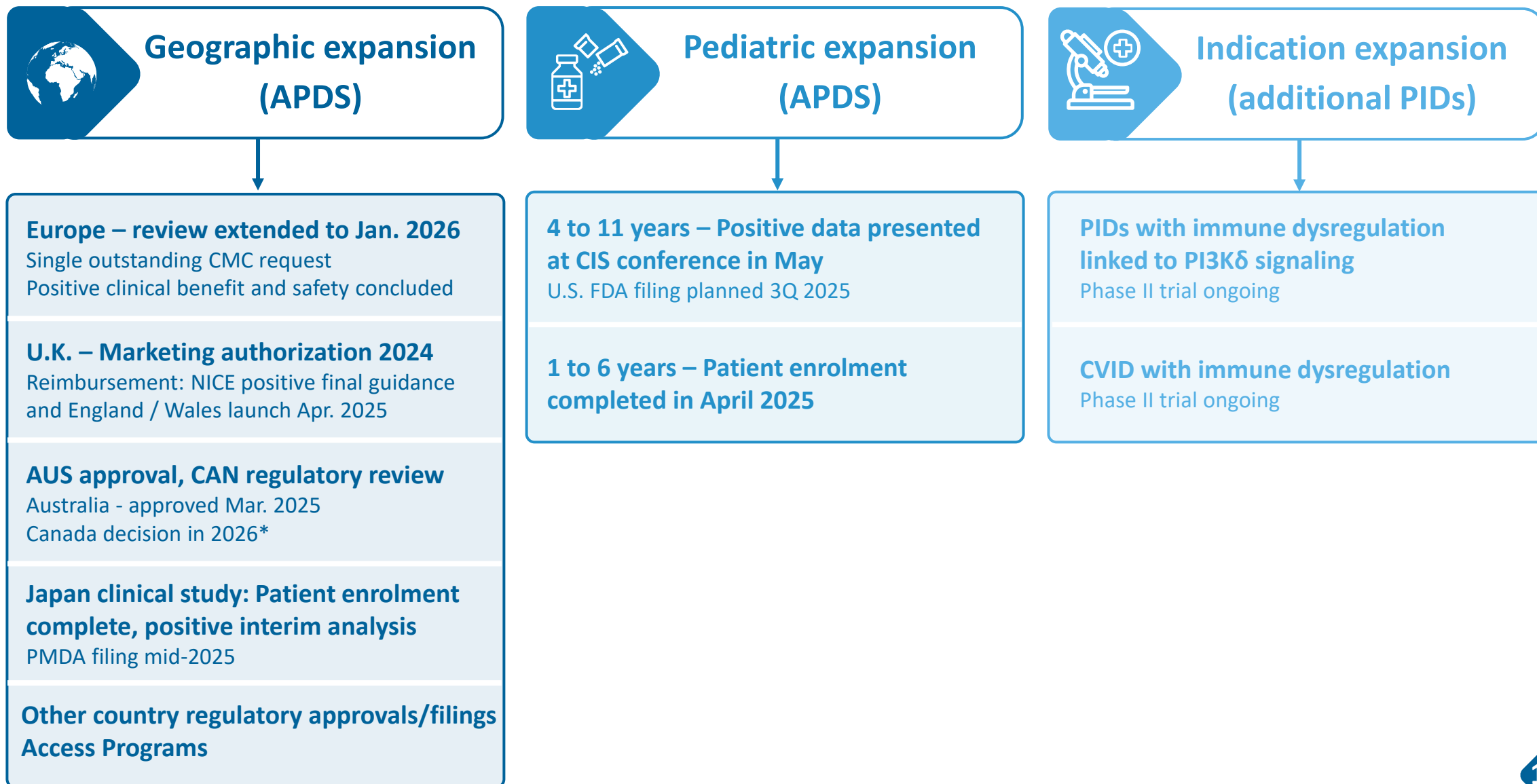
VUS Resolution Steps

- ◆ High throughput screening (MAVE) study completed, identifying many new variants causing PI3K δ hyperactivity
- ◆ Data to be published shortly (submitted and under review)
- ◆ Genetics testing labs will review study data, reclassify variants, and update test reports.
- ◆ Expected positive impact from reclassifications later this year

* As results become available, patients with validated variants could be diagnosed with APDS and be eligible for Joenna[®] treatment.

Joenja[®] development status

Expanding the addressable patient population



* Anticipate regulatory action in 2026 for Canada

Patient Population

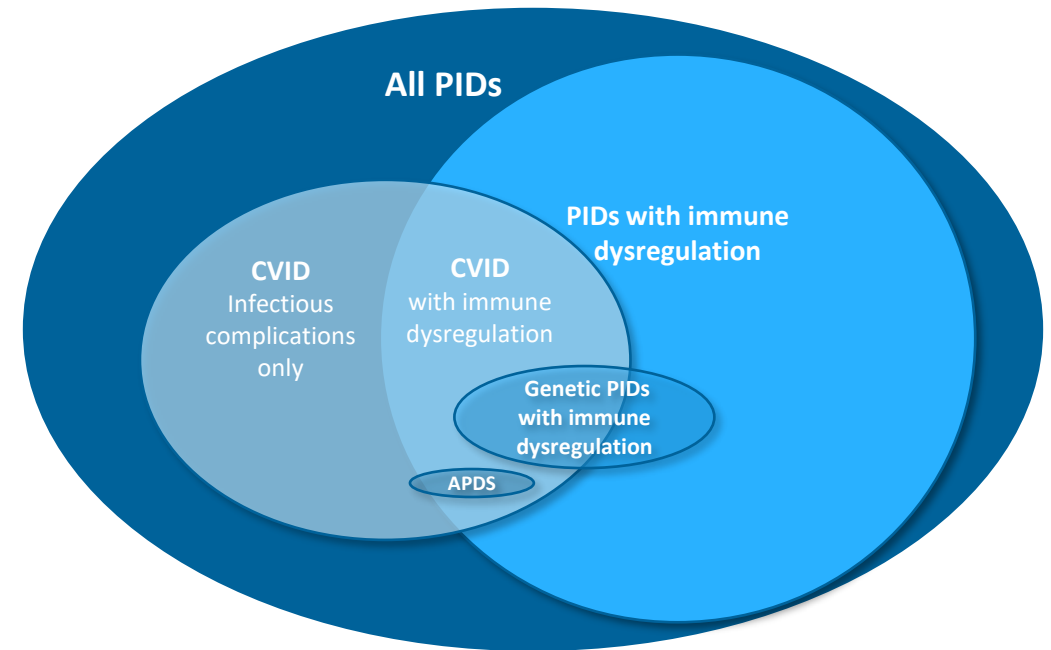
- PID patients with clinical manifestations similar to APDS, including early mortality
- Significant unmet clinical need, no approved therapies
- Large group: Prevalence 5-26x APDS

Rationale

- Critical role of PI3K δ in lymphocyte regulation, driving lymphoproliferation and autoimmunity
- Same therapeutic strategy as in APDS: modulate PI3K δ to address immune dysregulation
- Positive experience in compassionate use patients

Two Phase II studies underway

- Genetically defined PIDs with immune dysregulation¹
- Common variable immunodeficiency (CVID) with immune dysregulation²
- Topline results mid-2026



Not to scale with population sizes

1. PIDs include ALPS-FAS, CTLA4 haploinsufficiency, NFKB1 haploinsufficiency and PTEN deficiency, amongst others. Prevalence 7.5 patients / million

2. Prevalence 39 patients/million



Pharming®

KL1333 for mtDNA
Mitochondrial Disease

KL1333 for primary mitochondrial disease: Potential first standard of care

KL1333 targets underlying pathology of low NAD⁺ / NADH

- Normalizes NAD⁺/NADH ratio and mitochondrial function, with evidence from in vitro data, animal models, and in patients treated with KL1333
- >30,000 diagnosed patients with mitochondrial DNA disease potentially addressable by KL1333¹

Registrational clinical study underway

- Clinically-relevant endpoints, supported by FDA
- Positive interim analysis in pivotal study
- Patient recruitment for second wave started April 2025
- Expect readout in 2027 and FDA approval end of 2028

“The fatigue is almost impossible to describe because it seems other-worldly. It feels as though someone has taped cinder blocks to my eyelids some mornings and there is no way to keep them open.”²

1. In US, EU4 and UK. Diagnoses can include MELAS-MIDD and KSS-CPEO spectrum disorders as well as MERRF syndrome.
2. UNITED MITOCHONDRIAL DISEASE FOUNDATION, Voice of the Patient Report, 2019.

Pivotal FALCON Study

WAVE 1 – Fully enrolled

- ◆ 40 patients recruited across six countries (U.S., UK, France, Spain, Belgium, Denmark)
- ◆ 18 sites activated
- ◆ Interim analysis at 24 weeks conducted in Q3 2024

WAVE 2 – Expansion

- ◆ 180 total patients treated for 48 weeks
 - Wave 1 sites ready to start enrolling
 - Wave 2 sites undergoing activation
- ◆ Readout anticipated 2027

Interim Futility Analysis:

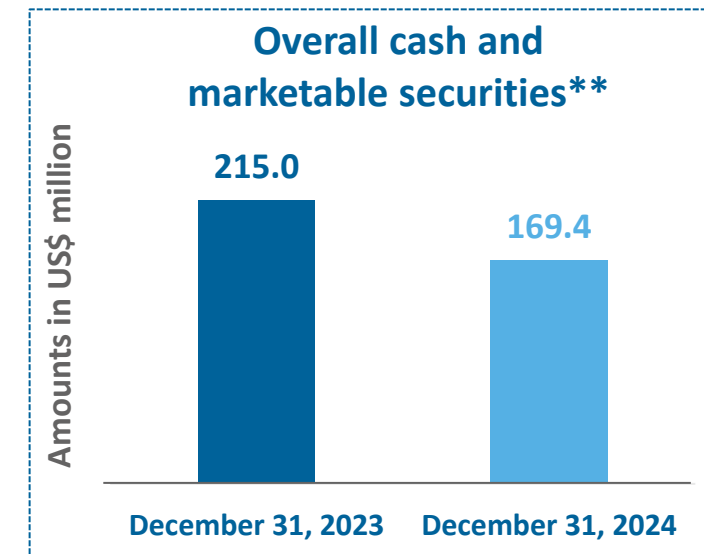
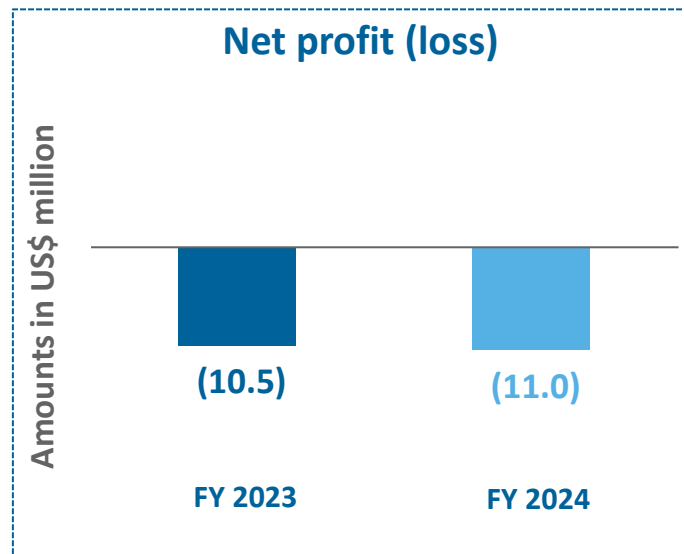
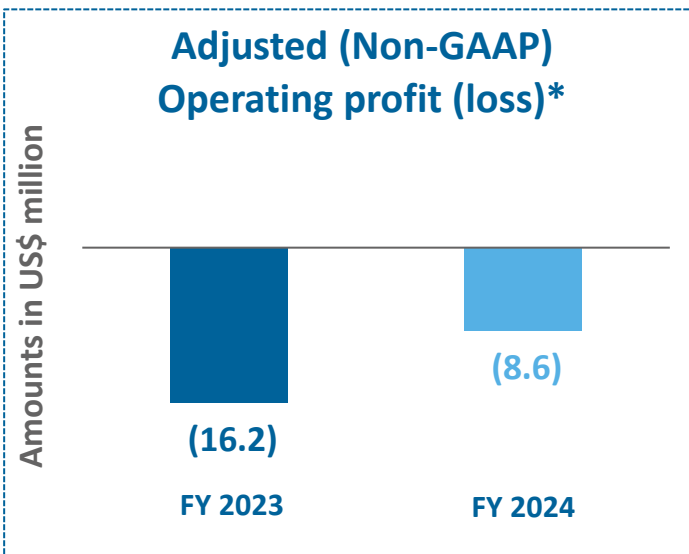
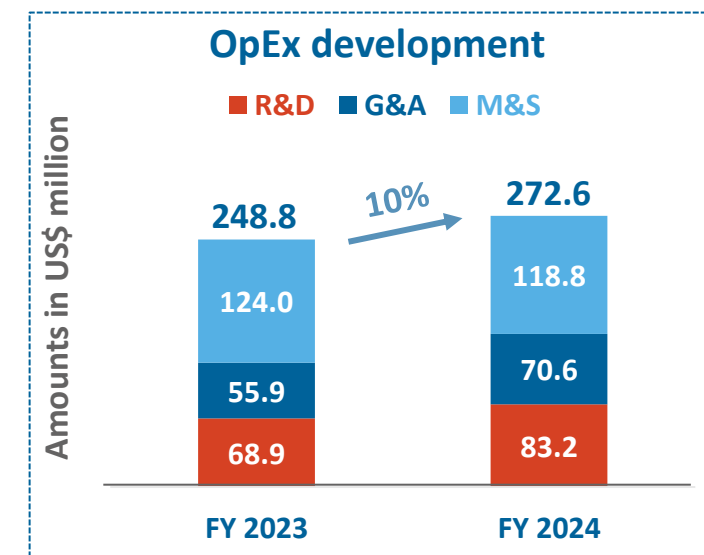
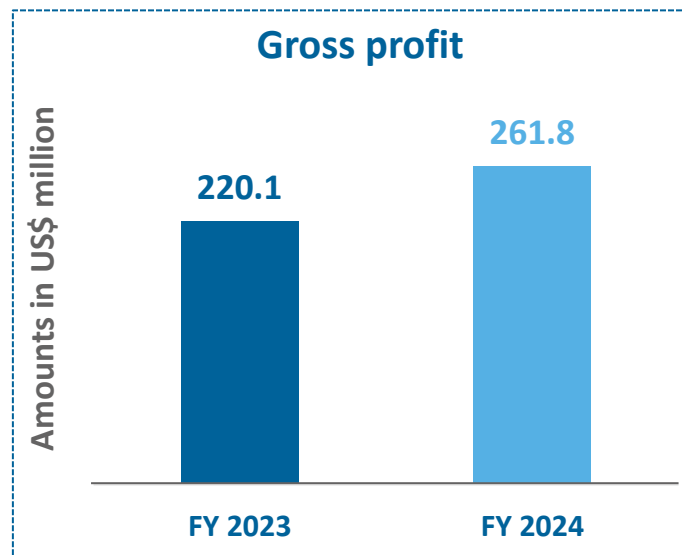
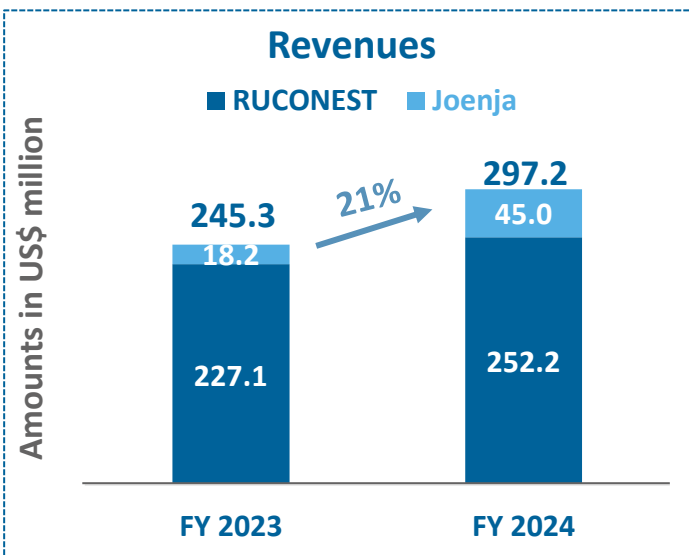
Positive outcome achieved, with both primary endpoints having passed futility

- ◆ Promising differences favoring the active arm vs. placebo for both primary efficacy endpoints; if trends continue consistently, we expect a successful result at the completion of this trial
- ◆ Data monitoring committee (DMC) recommended continuing with Wave 2:
 - Safety and tolerability profile acceptable
 - No changes to study design
 - 180 total patients confirmed in the study



Financials and Outlook

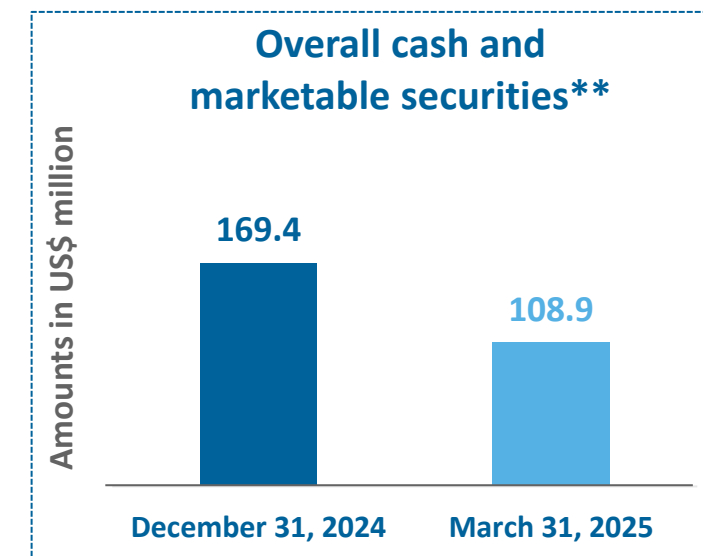
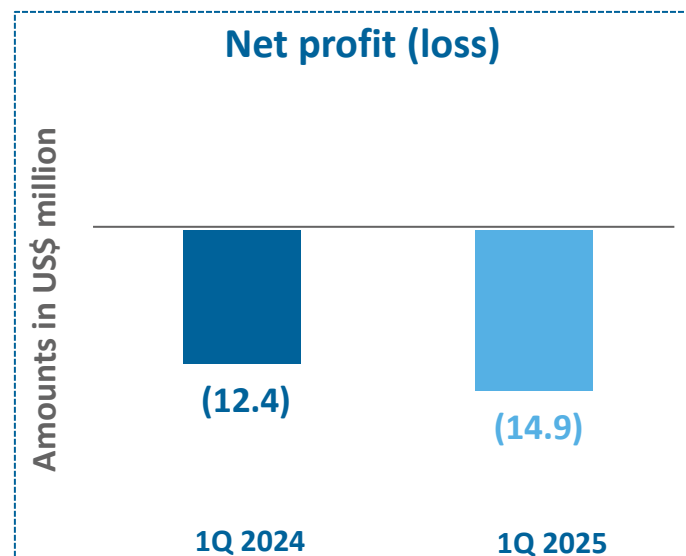
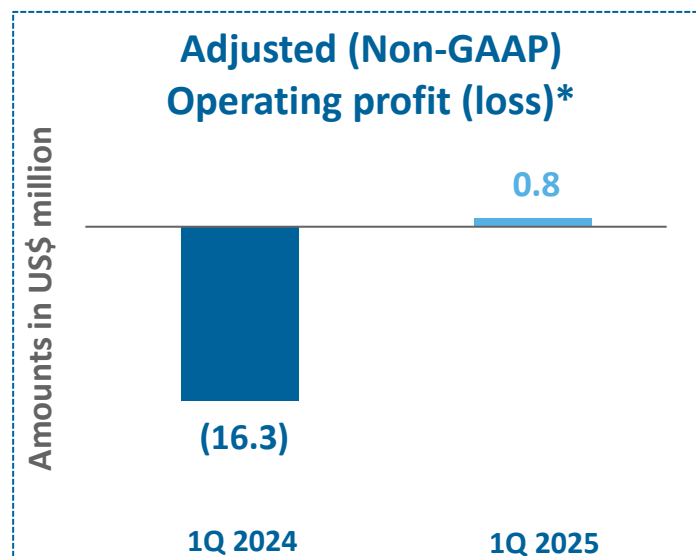
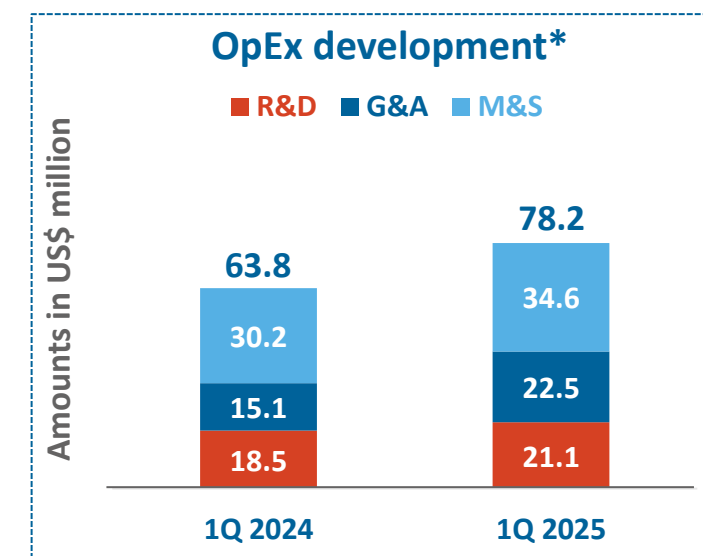
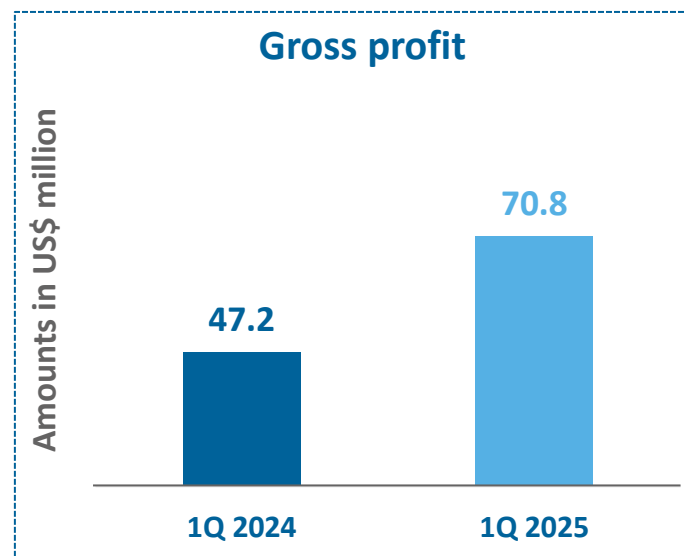
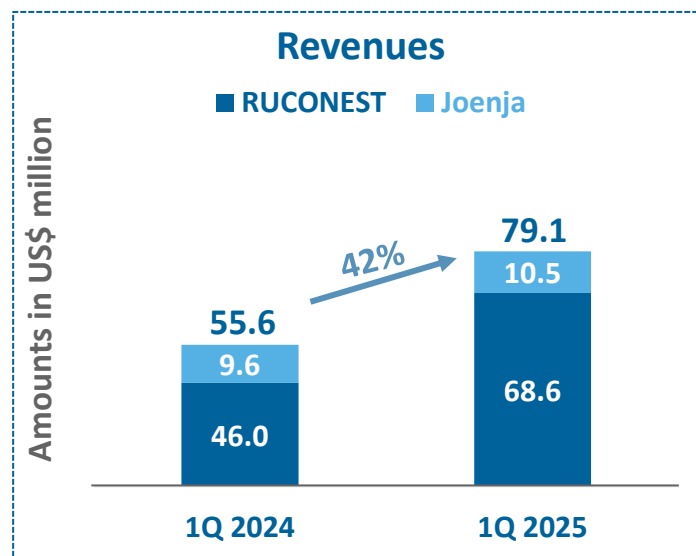
Financial highlights: FY 2024 vs FY 2023



* Operating profit (loss) for 2023 excludes milestone payments for Joenja® (US\$10.5 million) and gain on sale of Priority Review Voucher to Novartis (US\$21.3 million).

** US\$30.4 million of the US\$45.6 million decrease in overall cash and marketable securities is due to convertible bond refinancing.

Financial highlights: 1Q 2025 vs 1Q 2024



* Adjusted operating profit for 1Q 2025 excludes US\$7.8 million of non-recurring Abliva acquisition-related expenses (US\$5.7 million in G&A, \$2.1 million in R&D).

** Decrease in cash primarily driven by purchases of Abliva shares totaling US\$66.1 million.

◆ Revenue and operating expenses:

	FY 2025 Guidance	Notes
Total Revenues	US\$325 - 340 million	9 - 14% growth
Operating Expenses (pre-Abliva impact)	Flat vs. FY 2024	
Operating Expenses (Abliva-related)	~US\$30 million	Includes R&D and non-recurring transaction and integration costs

◆ Available cash and future cash flows expected to cover current pipeline investments and pre-launch costs

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Significant catalysts

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- Leniolisib for PIDs PhII readouts (2026)
- KL1333 pivotal study readout (2027)



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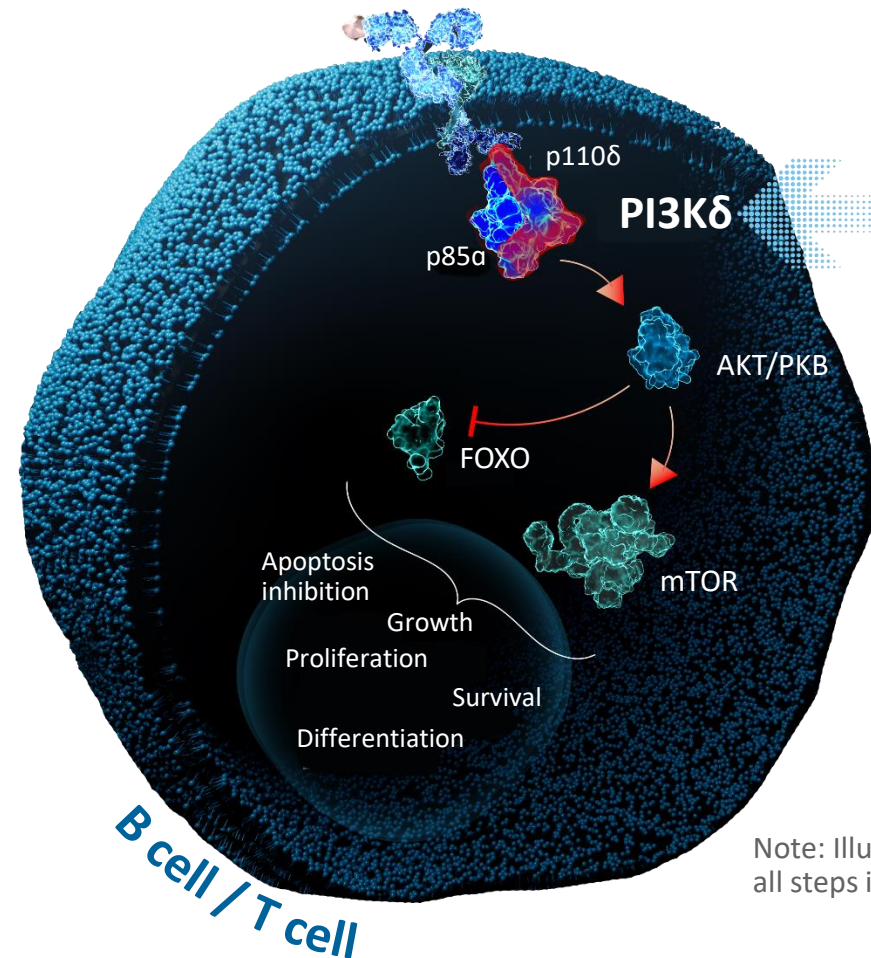
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Appendix

APDS is a rare primary immunodeficiency (PID)

Genetic defect leads to PI3K δ hyperactivity

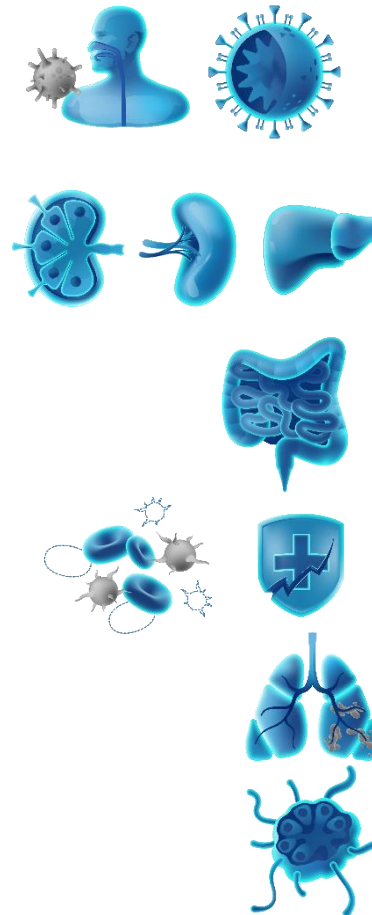
Hyperactive PI3K δ results in dysregulated B and T cell development¹⁻³



The PI3K δ enzyme is at the beginning of a complex signaling pathway

Note: Illustration does not include all steps in the signaling pathway.

Immune imbalance leads to diverse signs and symptoms^{1,4-6}



Severe, recurrent, persistent infections

- Sinopulmonary
- Herpesvirus (especially EBV and CMV)

Lymphoproliferation

- Lymphadenopathy
- Splenomegaly/hepatomegaly
- Nodular lymphoid hyperplasia

Enteropathy

Autoimmunity

- Cytopenias
- Autoimmune disorders
- Autoinflammatory disorders

Bronchiectasis

Lymphoma

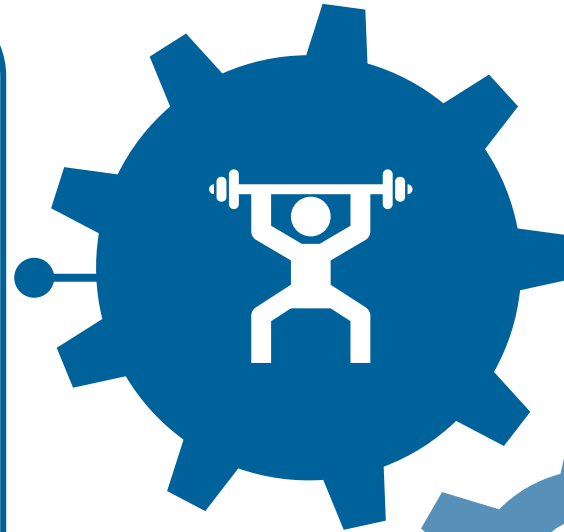
FOXO, forkhead box O; mTOR, mammalian target of rapamycin; PI3K δ , phosphoinositide 3-kinase delta; PKB, protein kinase B.

1. Lucas CL, et al. *Nat Immunol*. 2014;15(1):88-97. 2. Fruman DA, et al. *Cell*. 2017;170(4):605-635. 3. Okkenhaug K, Vanhaesebroeck B. *Nat Rev Immunol*. 2003;3(4):317-330. 4. Coulter TI, et al. *J Allergy Clin Immunol*. 2017;139(2):597-606. 5. Elkaim E, et al. *J Allergy Clin Immunol*. 2016;138(1):210-218. 6. Jamee M, et al. *Clin Rev Allergy Immunol*. 2020;59(3):323-333.

APDS can impact many facets of life

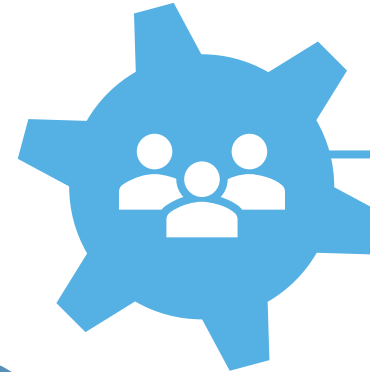
Physical^{1,2}

Frequent infections
Swollen glands
Shortness of breath
Coughing/wheezing
Chest or joint pain
Fatigue
Inability to exercise
Hearing loss
Diarrhea
Skin problems



Social^{3,4}

Missing school, work, or daily activities



Treatment Burden¹⁻⁴

Frequent hospitalizations
Surgeries
Visiting multiple doctors
Invasive or time-consuming treatments



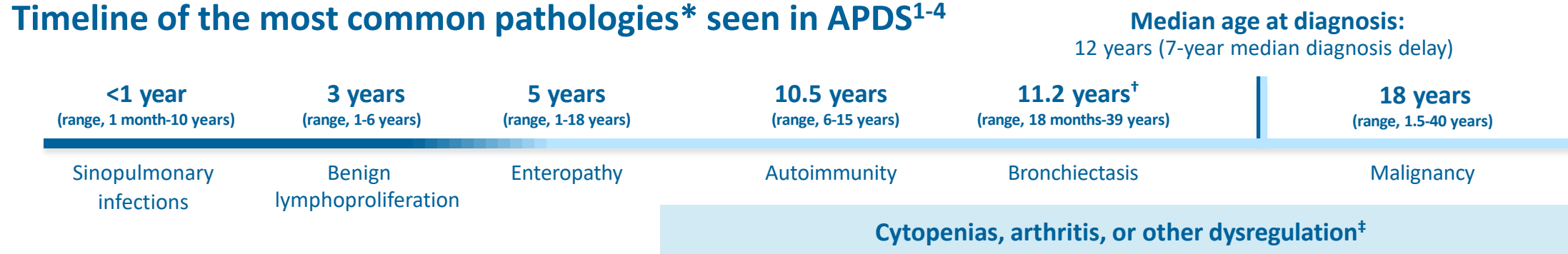
Mental^{1,3-5}

Anxiety
Depression
Stress

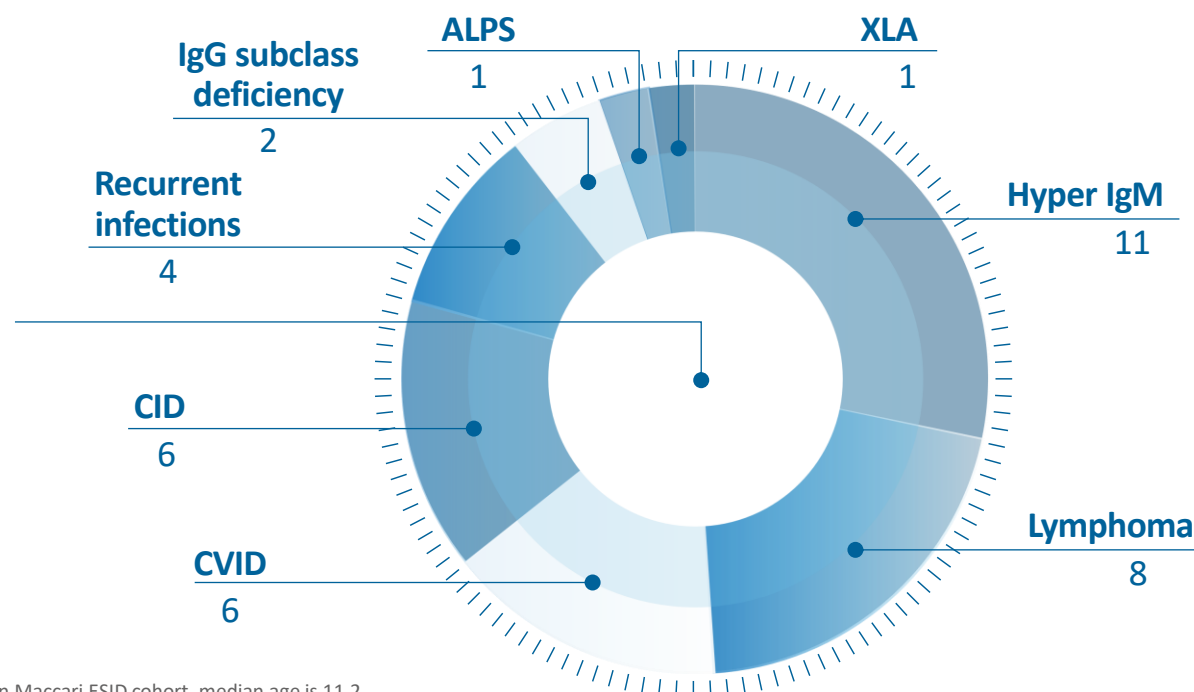


Heterogeneous, evolving symptomology can often lead to missed diagnoses

Timeline of the most common pathologies* seen in APDS¹⁻⁴



APDS has often been diagnosed as another PI or condition, causing delays in diagnosis¹



Improved identification of symptoms, increased genetic testing, and earlier diagnosis are needed

*Pathologies can occur at any time.

[†]In Elkaim APDS2 cohort, median age of bronchiectasis is 13; in Maccari ESID cohort, median age is 11.2.

[‡]No median ages are available for these manifestations.

ALPS, autoimmune lymphoproliferative syndrome; CID, combined immunodeficiency; CVID, common variable immune deficiency; ESID, European Society for Immunodeficiencies; HIGM, hyper immunoglobulin M syndrome; IgG, immunoglobulin G; PI3Kδ, phosphoinositide 3-kinase delta; XLA, X-linked agammaglobulinemia.

1. Jamee M, et al. *Clin Rev Allergy Immunol*. 2020;59(3):323-333. 2. Maccari ME, et al. *Front Immunol*. 2018;9:543. 3. Elkaim E, et al. *J Allergy Clin Immunol*. 2016;138(1):210-218.e9. 4. Coulter TI, et al. *J Allergy Clin Immunol*. 2017;139(2):597-606.

Joenja[®]: First and only approved therapy for APDS

Joenja[®] (leniolisib) is an oral medication used to treat activated phosphoinositide 3-kinase delta (PI3K δ) syndrome (APDS) in adult and pediatric patients 12 years of age and older

Joenja[®] targets the root cause of APDS

- Normalizes the hyperactive PI3K δ pathway to correct the underlying immune defect in APDS patients
- Helps address both immune deficiency and immune dysregulation



No drug-related serious adverse events or study withdrawals in Joenja[®] trials
Clinical data and tolerability for long term treatment

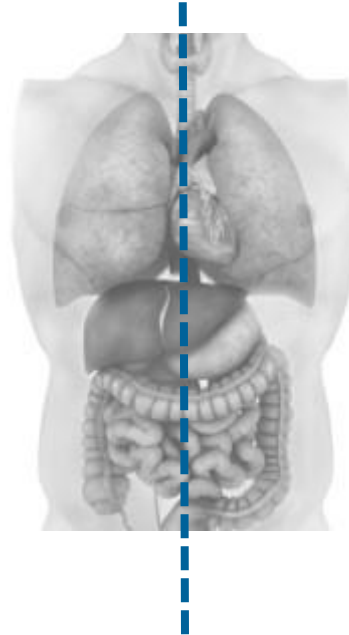
Approved in the US (Mar 2023), Israel (Apr 2024), UK (Sept 2024), Australia (Mar 2025)

Regulatory reviews on-going in the EU, Canada and several other countries

Submission planned in Japan in 2025

Immune Deficiency

- Antimicrobial prophylaxis
- Immunoglobulin replacement therapy



Immune Dysregulation

- Corticosteroids
- Other immunosuppressants
- mTOR inhibitors

None of these therapies are FDA-approved for APDS treatment

Hematopoietic stem cell transplant

APDS, activated phosphatidylinositol 3-kinase δ syndrome; IRT, immunoglobulin replacement therapy; mTOR, mammalian target of rapamycin; PI, primary immunodeficiency; PIRD, primary immune regulatory disorder.

1. Coulter TI, et al. *J Allergy Clin Immunol.* 2017;139(2):597-606. 2. Elkaim E, et al. *J Allergy Clin Immunol.* 2016;138(1):210-218. 3. Chan AY, et al. *Front Immunol.* 2020;11:239. 4. Chinn IK, et al. *J Allergy Clin Immunol.* 2020;145(1):46-69.

Pivotal Trial - Part 1: Dose- finding^{1,2}



Nonrandomized, open-label,
dose-escalating



6 patients with APDS



12 weeks



10 mg, 30 mg, 70 mg bid
(4 weeks each dose)



70 mg bid selected for Part 2

Pivotal Trial - Part 2: Efficacy & Safety Evaluation³



Randomized, triple-blinded,
placebo-controlled



31 patients with APDS
(21 Joenja[®], 10 placebo)



12 weeks



70 mg bid



Co-primary efficacy end points

- Change from baseline in log¹⁰-transformed SPD of index lesions
 - Also assessed as % change
- Change from baseline in percentage of naïve B cells out of total B cells

Secondary and exploratory end points
Safety

Open-label extension study^{4,5}



Nonrandomized, open-label,
long-term study



• 35 patients with APDS from
Parts 1 and 2

• 2 patients with APDS previously
treated with investigational
PI3Kδ inhibitors



Ongoing



70 mg bid



Long-term safety, tolerability,
efficacy, and pharmacokinetics

bid, twice a day; PI3Kδ, phosphoinositide 3-kinase delta; SPD, sum of product diameters

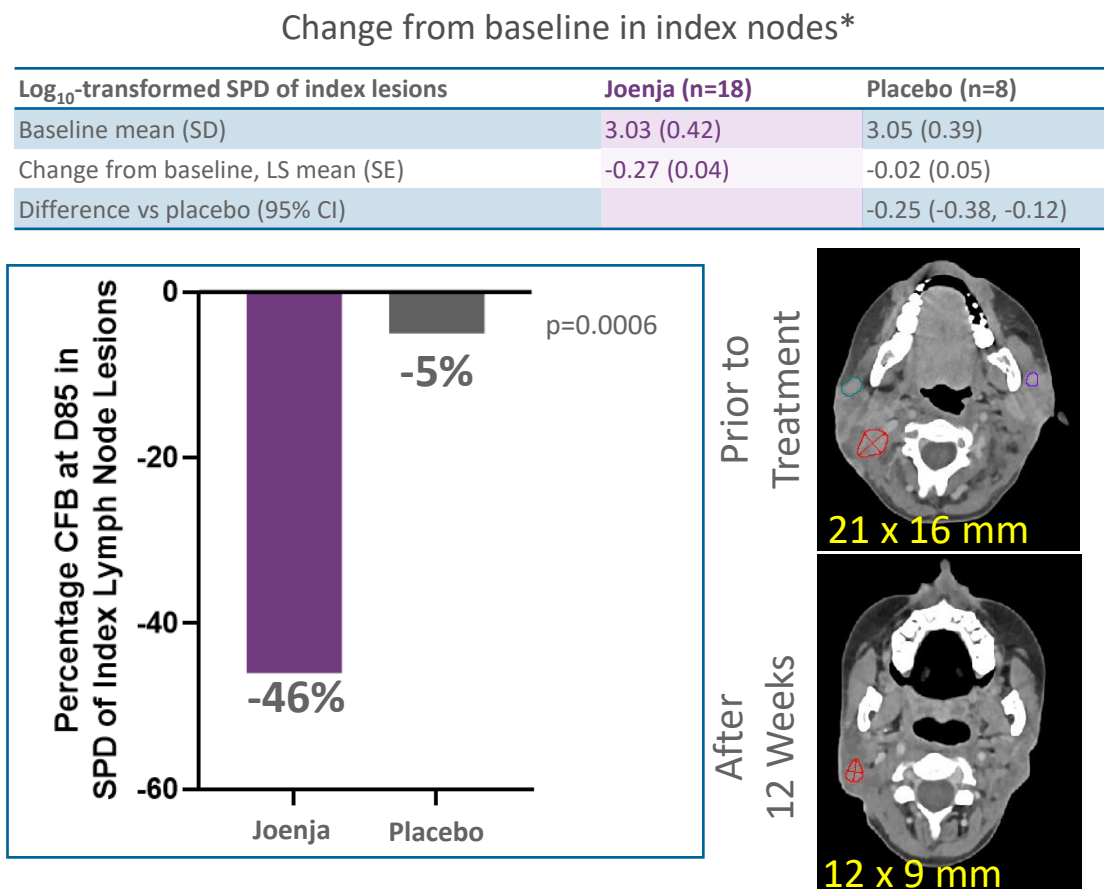
1. Rao VK, et al. *Blood*. 2017;130(21):2307-2316. 2. NCT02435173. ClinicalTrials.gov. <https://clinicaltrials.gov/ct2/show/NCT02435173>. Updated May 6, 2015. Accessed March 13, 2023. 3. Rao VK, et al. *Blood*. 2023;141(9):971-983.

4. NCT02859727. ClinicalTrials.gov. <https://clinicaltrials.gov/ct2/show/NCT02859727>. Updated October 31, 2022. Accessed March 3, 2023. 5. Data on file. Pharming Healthcare Inc; 2022.

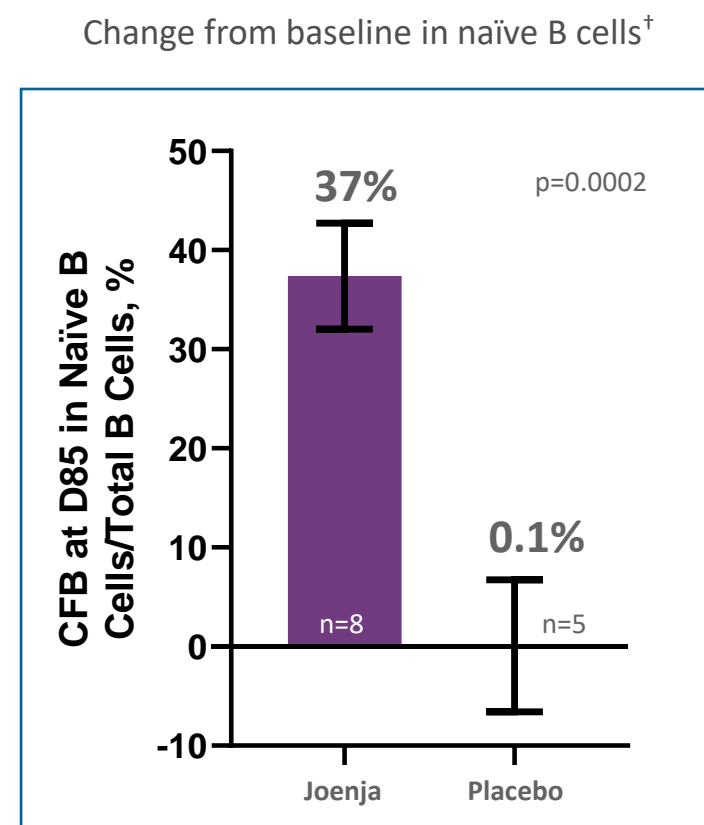
Joenia® addresses the underlying cause of APDS to help restore immune balance – Phase 3 co-primary endpoints

At 12 weeks Joenia® decreased lymphadenopathy and increased naïve B cells

Immune Dysregulation



Immune Deficiency



Data were analyzed using an ANCOVA model with treatment as a fixed effect and baseline as a covariate. Use of glucocorticoids and IRT at baseline were both included as categorical (Yes/No) covariates. Baseline is defined as the arithmetic mean of the baseline and D1 values when both are available, and if either baseline or the D1 value is missing, the existing value is used. P-value is 2-sided. Least square means are graphed. Error bars are standard error of the mean.

*The analysis excluded 2 patients from each treatment group due to protocol deviations and 1 Joenia patient having complete resolution of the index lesion identified at baseline.

†Out of 27 patients in the PD analysis set, 13 patients met the analysis requirements, including having a percentage of <48% of naïve B cells at baseline, to form the B-PD analysis set.

Joenia [package insert]. Leiden, The Netherlands: Pharming Technologies B.V.; 2023.

Please see Important Safety Information and full Prescribing Information available at joenia.com

Secondary endpoint: Significant reductions in spleen size by 2D and 3D analysis compared to placebo

- The adjusted mean difference in bidimensional spleen size between Joenia[®] (n=19) and placebo (n=9) was -13.5 cm^2 (95% CI: $-24.1, -2.91$), $P=0.0148$
- The adjusted mean difference in 3D spleen volume between Joenia[®] (n=19) and placebo (n=9) was -186 cm^3 (95% CI: $-297, -76.2$), $P=0.0020$

at week 12

27%

reduction in 3D spleen volume*

Secondary measure: spleen volume scan results of actual patient illustrate average improvement documented for patients taking Joenia[®]

Prior to treatment:
491 mL



At week 12:
314 mL



Actual patient images of a 17-year-old male. As individual results vary, images may not be representative of all patients.

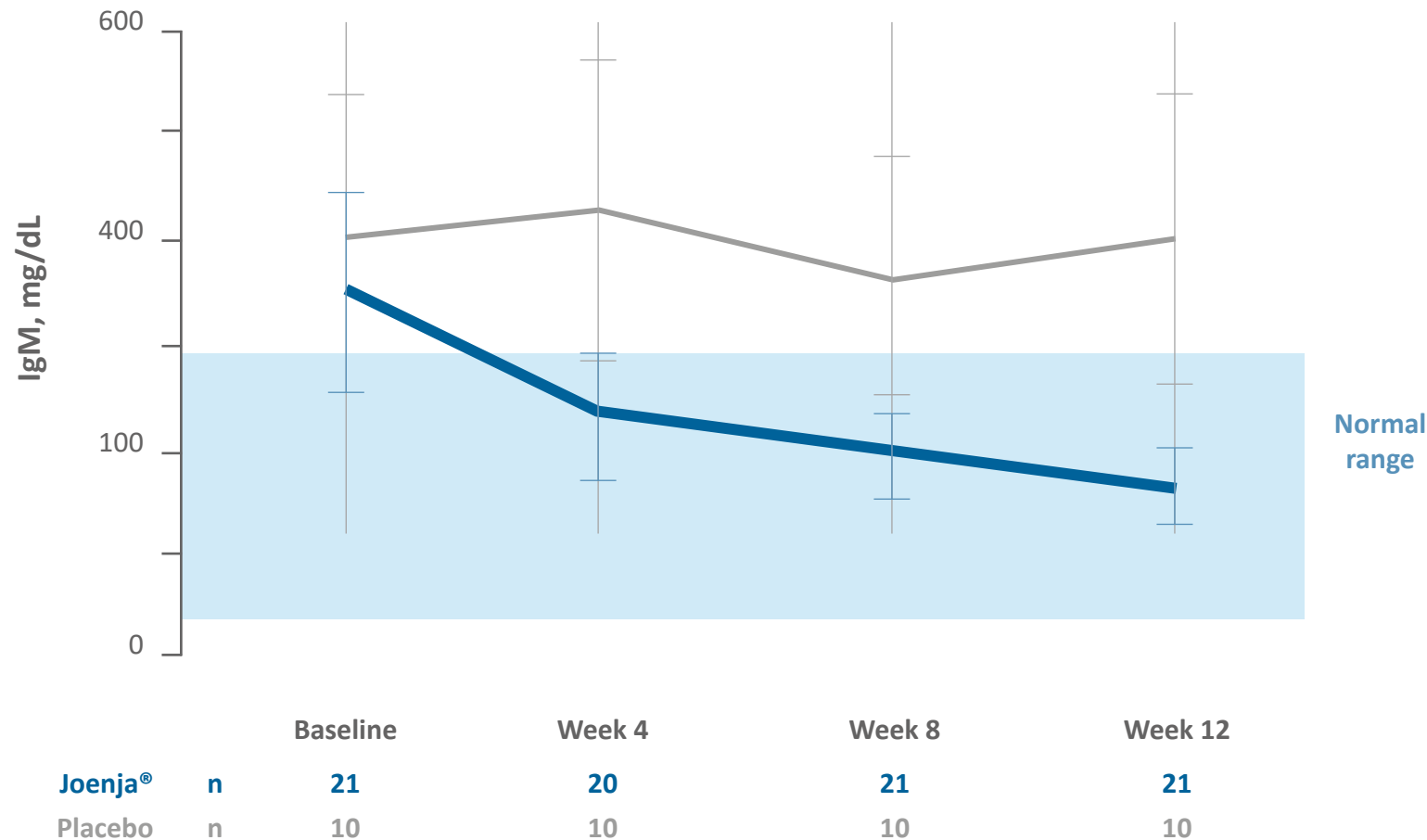
Rao VK, et al. Blood. 2023;141(9):971-983.

*In the PD analysis set, the mean (SD) percentage change from baseline to week 12 in 3D spleen volume (mm^3) was -26.68% (12.137) with Joenia[®] (n=19) and -1.37% (24.238) with placebo (n=9). The ANCOVA model was used with treatment as a fixed effect and \log_{10} -transformed baseline as a covariate for index and non-index lesions. The use of both glucocorticoids and IV Ig at baseline was included as categorical (yes/no) covariates.

This analysis excluded 2 patients in each treatment group. In the Joenia[®] group, 1 patient with a complete index lesion response was excluded, and 3 patients were excluded for no non-index lesion at baseline. PD, pharmacodynamics.

An exploratory endpoint showed Joenja® reduced IgM levels

Mean serum IgM rapidly reduced to within normal limits



- In the Joenja® arm, IgM was elevated above normal limits in 6 patients at baseline, and by week 12 was reduced in all, with 50% returning to within normal limits
- In contrast, IgM was elevated above normal limits at baseline in 4 patients in the placebo arm, and by week 12 levels remained stable or elevated, with 0% returning to within normal limits

Error bars are standard error of the mean. Safety analysis set (N=31) shown. Blue box indicates IgM normal range.

Soluble biomarkers, including IgM, were prespecified exploratory endpoints in the protocol. Although an observational decrease in IgM was noted in some patients, no statistical significance can be made from this analysis, and no conclusions should be drawn.

Rao VK, et al. Blood. 2023;141(9):971-983

Phase 3 Trial^{1,2}

Adverse reactions reported by ≥2 patients treated with Joenja and more frequently than placebo

	Joenja (n=21) n (%)	Placebo (n=10) n (%)
Headache	5 (24)	2 (20)
Sinusitis	4 (19)	0
Dermatitis atopic*	3 (14)	0
Tachycardia [†]	2 (10)	0
Diarrhea	2 (10)	0
Fatigue	2 (10)	1 (10)
Pyrexia	2 (10)	0
Back pain	2 (10)	0
Neck pain	2 (10)	0
Alopecia	2 (10)	0

- Study drug-related AEs occurred in 8 patients; the incidence was lower in the Joenja arm (23.8%) than in the placebo arm (30.0%)
- No AEs led to discontinuation of study treatment

A patient with multiple occurrences of an AE is counted only once in the AE category. Only AEs occurring at or after first drug intake are included.

*Includes dermatitis atopic and eczema. [†]Includes tachycardia and sinus tachycardia.

AEs, adverse events; ALT, alanine aminotransferase; AST, aspartate aminotransferase; SAE, serious adverse event.

1. Rao VK, et al. Blood. 2023;141(9):971-983. 2. Joenja [package insert]. Leiden, The Netherlands: Pharming Technologies B.V.; 2023. 3. Data on file. Pharming Healthcare Inc; 2022.

Please see Important Safety Information and full Prescribing Information available at joenja.com

Open-label Extension Study³

Data cutoff for interim analysis: December 13, 2021

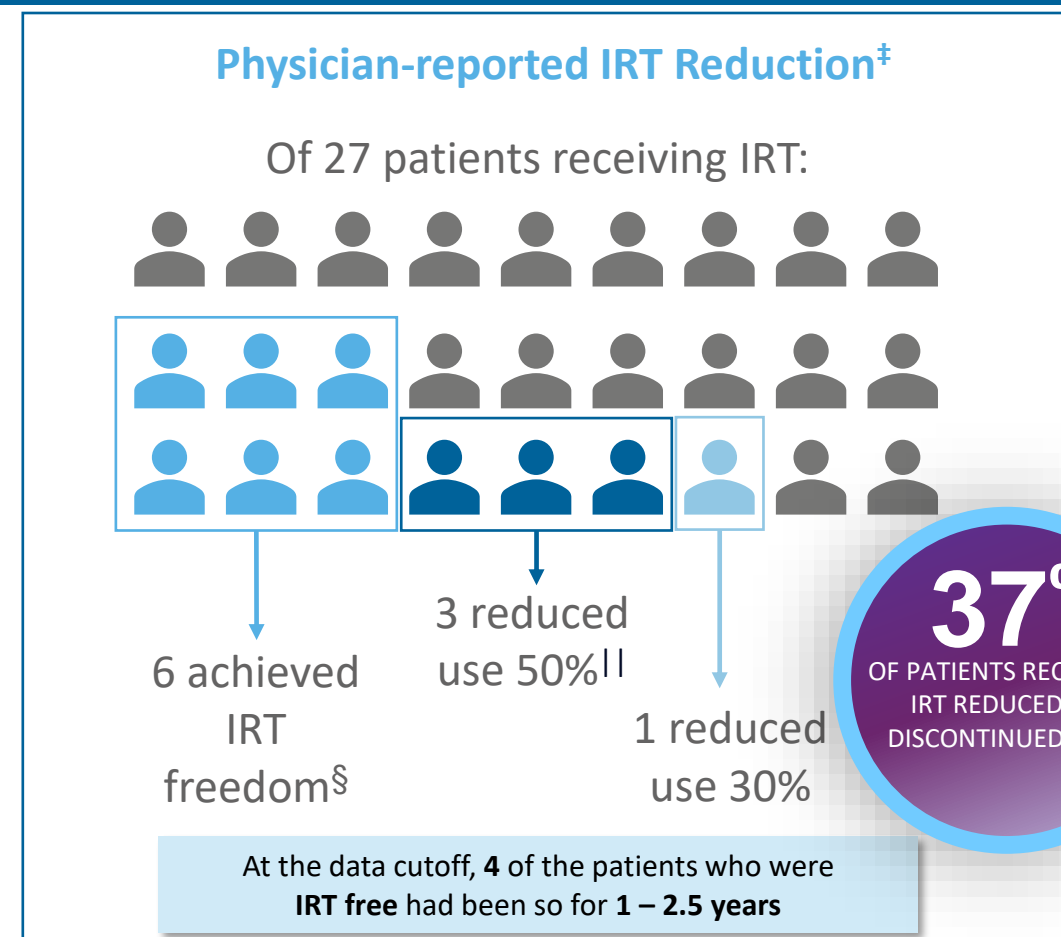
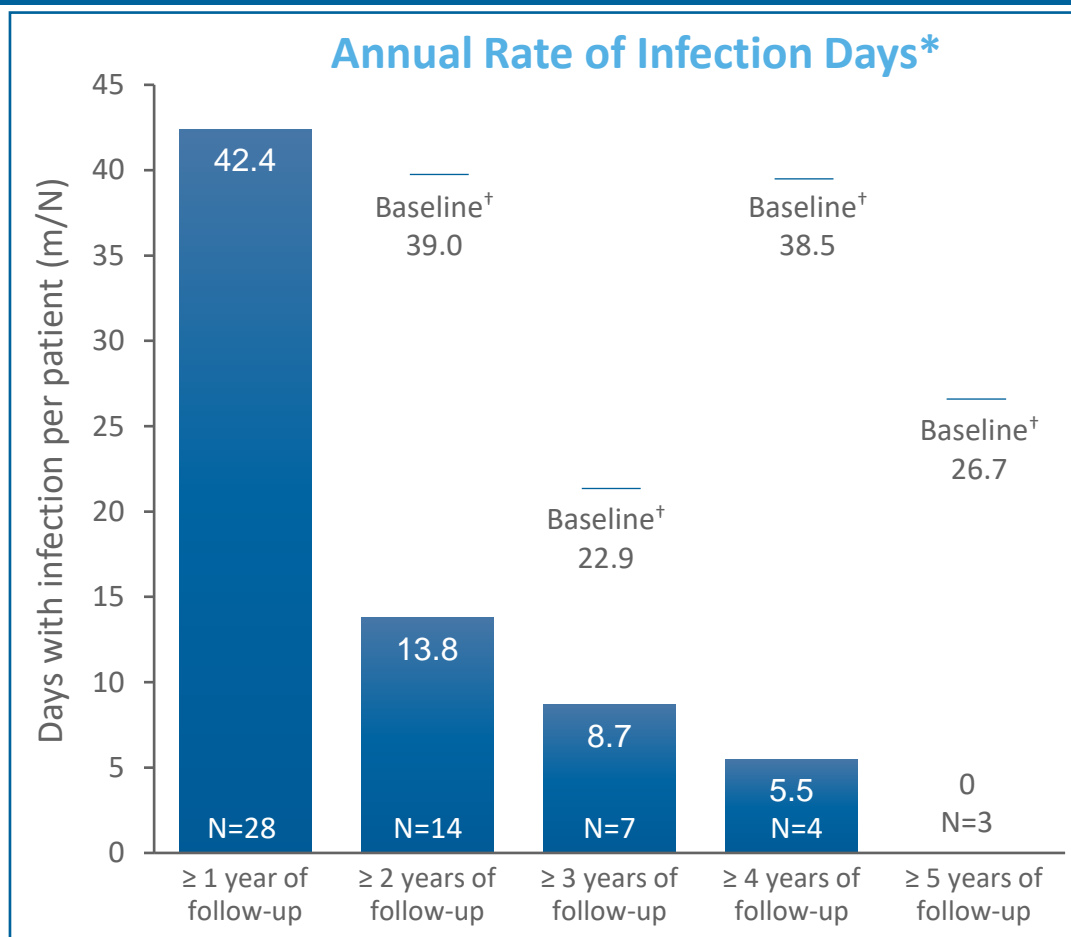
- 32/37 patients reported ≥1 AE
- 78.4% of AEs were grade 1, 48.6% grade 2, 27.0% grade 3, 0% grade 4
- No SAEs related to Joenja

Most common AEs	n
Upper respiratory tract infection	8
Headache	6
Pyrexia	6
Otitis externa	5
Weight increase	5
COVID-19, positive/negative	5/14

One patient with significant baseline cardiovascular comorbidities suffered cardiac arrest resulting in death at extension Day 879; determined by investigator not to be related to study drug

- Across all trials²**
- 38 patients had a **median exposure of ~2 years**
 - 4 patients had **>5 years of exposure**

Open-label extension interim analysis of days spent with infections and IRT reduction



Although safety was the primary objective of the open-label study, this post hoc analysis from the open-label study was not powered to provide any statistical significance of efficacy and therefore no conclusions should be drawn.

*Infections that developed during the study were reported as adverse events. Investigators were requested to inquire about signs and symptoms of infections at each visit, with a particular focus on bacterial enterocolitis. Patients were not provided an infection diary to document infections occurring between visits. One patient was excluded from the analysis due to an incorrect year that was recorded for an infection.

[†]Baseline infections are each group's year 1 annual rate of infections. N values changed because patients were in the OLE for different lengths of time. [‡]Data on concomitant medication usage was reported at each patient visit.

[§]One patient had a subsequent one-time dose. ^{||}One patient achieved IRT freedom for 3 months but subsequently restarted IRT. IRT, immunoglobulin replacement therapy; m, number of infection days; N, number of patients in follow-up category.

Rao VK, et al. Poster presented at: 64th Annual American Society of Hematology Annual Meeting; December 10-13, 2022; New Orleans, LA.

Please see Important Safety Information and full Prescribing Information available at joenja.com

Pediatric

Phase III trial for children 4-11 years old with APDS

Positive topline data announced December 2024

- ◆ 21 patients enrolled in U.S., Europe, and Japan
- ◆ Both co-primary endpoints show improvement consistent with the RCT in adolescents and adults
- ◆ Benefits seen across the four tested dose levels
- ◆ No deaths/discontinuations due to AEs. No new safety findings
- ◆ Data to be presented at CIS conference in May
- ◆ Regulatory filings beginning with the U.S. in second half 2025

VUSs frustrate patients and doctors, limiting diagnosis of genetic diseases such as APDS



Pharming is aware of **~1,300 US patients** harboring *PIK3CD/R1* VUSs

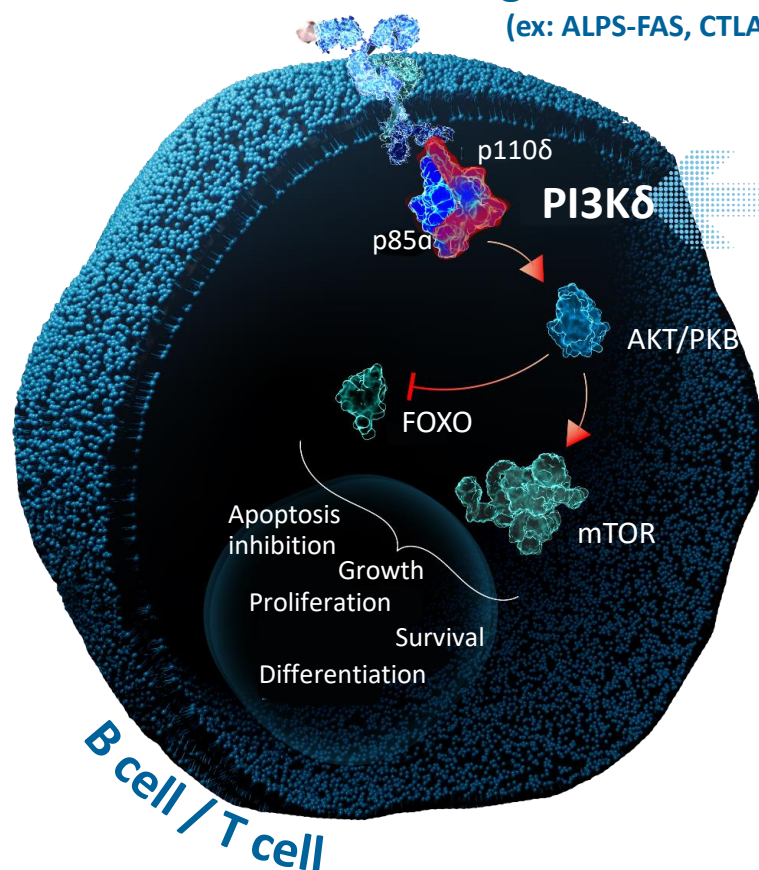
- This figure will continue to grow over time
- VUS are identified at ~4x the rate of likely pathogenic/pathogenic (LP/P) variants
- Similar VUS frequencies expected worldwide
- Published literature, which includes more than 1.5 million patients, showed that 20% of reclassified VUSs are upgraded to LP/P
- Pilot study in 25 VUS patient samples - findings consistent with APDS identified in 5 patients (20%) including patient preparing for enrollment

No systemic initiatives exist to resolve *PIK3CD/R1* VUSs, yet these patients remain a significant opportunity to identify incremental patients with APDS

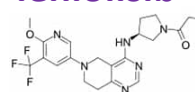
Given importance of PI3K δ in B & T cells, immune dysregulation in PIDs can occur via alterations in PI3K δ signaling

Altered PI3K δ signaling can occur in multiple PID genetic disorders beyond APDS

(ex: ALPS-FAS, CTLA4, NFKB1, PTEN)¹⁻⁴



leniolisib



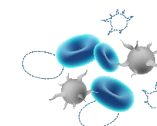
High unmet medical need
- no approved therapies other than Joenja[®] (leniolisib) for APDS:
SOC immunosuppressives (e.g. rapamycin) have limited efficacy and significant tolerability concerns

Clinical manifestations, disease onset and severity similar to APDS⁵⁻¹⁰



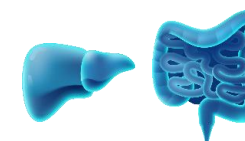
Lymphoproliferation

- Lymphadenopathy
- Splenomegaly/hepatomegaly
- Nodular lymphoid hyperplasia



Autoimmunity

- Cytopenias
- Autoimmune disorders
- Autoinflammation



GI Disease

- Autoimmune enteropathy
- Nodular regenerative hyperplasia



Pulmonary Disease

- GLILD
- Bronchiectasis



Infections

- Sinopulmonary
- Herpesvirus



Lymphoma

Note: Illustration does not include all steps in the signaling pathway.

FOXO, forkhead box O; mTOR, mammalian target of rapamycin; PI3K δ , phosphoinositide 3-kinase delta; PKB, protein kinase B.

1. Volkl et al. Blood 2016; 128(2):227-238. 2. Tsujita, et al. J Allergy Clin Immunol. 2016;138(6):1872-80. 3. Rowshanravan B, et al. Blood. 2018;131(1):58-67. 4. Additional unpublished collaborator data. 5. Bride K & Teachey D. F1000Res. 2017;6:1928

6. Kuehn HS, et al. Science 2014; 345:1623-27. 7. Lorenzini T, et al. J Allergy Clin Immunol. 2020;146:901-11. 8. Eissing, et al. Transl Oncol. 2019;12(2):361-3672. 9. Coulter TI, et al. J Allergy Clin Immunol. 2017;139(2):597-606. 10. Schwab C, et al. J

Allergy Clin Immunol. 2018;142(6):1932-1946.

Genetically defined PIDs with immune dysregulation linked to PI3K δ

- Single arm, open-label, dose range-finding (N=12)
- Patients with PIDs linked to PI3K δ signaling, e.g. ALPS-FAS¹, CTLA4 haploinsufficiency², NFKB1 haploinsufficiency³, PTEN deficiency⁴
- Primary: Safety & Tolerability
- Secondary/Exploratory: PK/PD, efficacy measures
- 10/30/70 mg BID: 4/4/12 wks treatment, respectively
- Lead investigator: Gulbu Uzel, M.D., Senior Research Physician, Co-Investigator: V. Koneti Rao, M.D., FRCPA, Senior Research Physician, Primary Immune Deficiency Clinic (ALPS Clinic) (NIH)



Common variable immunodeficiency (CVID) with immune dysregulation

- Single arm, open-label, dose range-finding (N=20)
- Patients with a CVID diagnosis, evidence of lymphoproliferation, and at least one additional clinical manifestation of immune dysregulation
- Primary: Safety & Tolerability
- Secondary/Exploratory: PK/PD, efficacy measures
- 10/30/70 mg BID: 4/4/16 wks treatment, respectively
- Multi-center study (US, UK, EU)
- Lead investigator: Jocelyn Farmer, MD, PhD, Director of the Clinical Immunodeficiency Program (Beth Israel Lahey Health)

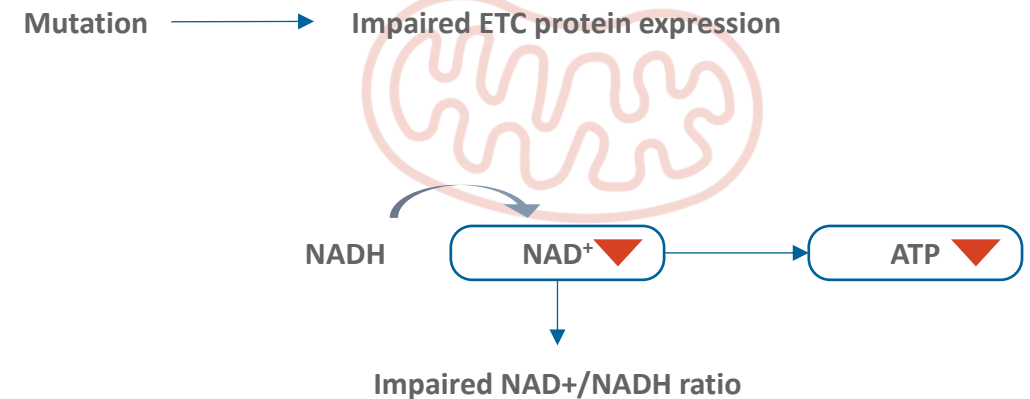


1. Bride K & Teachey D. F1000Res. 2017;6:1928. ; Rao VK & Oliveria JB. Blood 2011; 118(22):5741-51.
2. Kuehn HS, et al. Science 2014; 345:1623-27. ; Schwab C, et al. J Allergy Clin Immunol. 2018;142(6):1932-1946.
3. Lorenzini T, et al. J Allergy Clin Immunol. 2020;146:901-11.
4. Eissing M, et al. Transl Oncol. 2019;12(2):361-367. ; Tsujita, et al. J Allergy Clin Immunol. 2016;138(6):1872-80.

Primary Mitochondrial Disease (PMD)

- ❖ Mitochondria, often described as the “powerhouses” of cells, are crucial for energy production
- ❖ Mitochondrial diseases are a group of genetic disorders characterized by dysfunctional mitochondria due to mutations in mitochondrial (mtDNA) or nuclear DNA
- ❖ The abnormal NAD^+/NADH ratio results in decreased ATP production, contributing to organ dysfunction and disease deterioration
- ❖ For patients this means symptoms of severe fatigue and muscle weakness – symptoms which patients report as the most troublesome*

Dysfunctional Mitochondria



- ↓ Decreased energy production
- ↓ Decreased mitochondria biogenesis

*Voice of the Patient Report, United Mitochondrial Disease Foundation, 2019.

NAD: Nicotinamide adenine dinucleotide; NADH: Nicotinamide adenine dinucleotide + hydrogen; ETC: Electron transport chain.

Presentation and Diagnosis

- ◆ Patients present to their primary care doctor and then often get referred to a neurologist for musculoskeletal issues
- ◆ Either the neurologist or a referral to a metabolic geneticist will result in a diagnosis
- ◆ Many patients are diagnosed at academic centers specializing in mitochondrial disease
- ◆ A combination of routine lab tests and genetic testing available from major testing labs help to diagnose patients

Impact

- ◆ Patients heavily burdened in their daily lives including symptoms like severe fatigue, myopathy, and metabolic dysfunction
- ◆ Impact on QoL including loss of job, loss of independence, depression/anxiety
- ◆ Primary mitochondrial diseases lead to a three-to-four-decade reduction in life-expectancy

Treatment

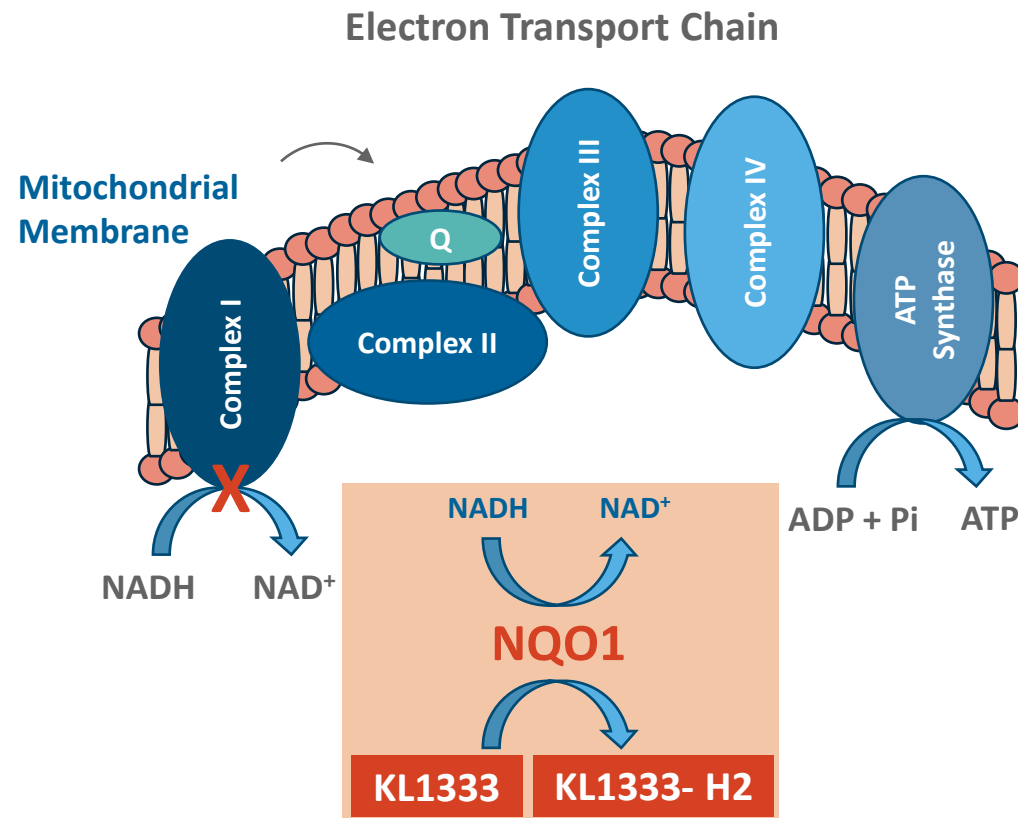
- ◆ No approved treatment options
- ◆ Patients are limited to using vitamins, supplements, and physical therapy

“On the worst days I will be crying in frustration because going to the kitchen seems equivalent to climbing a mountain and just trying to process what others are saying to me involves all the energy and concentration that I have.”

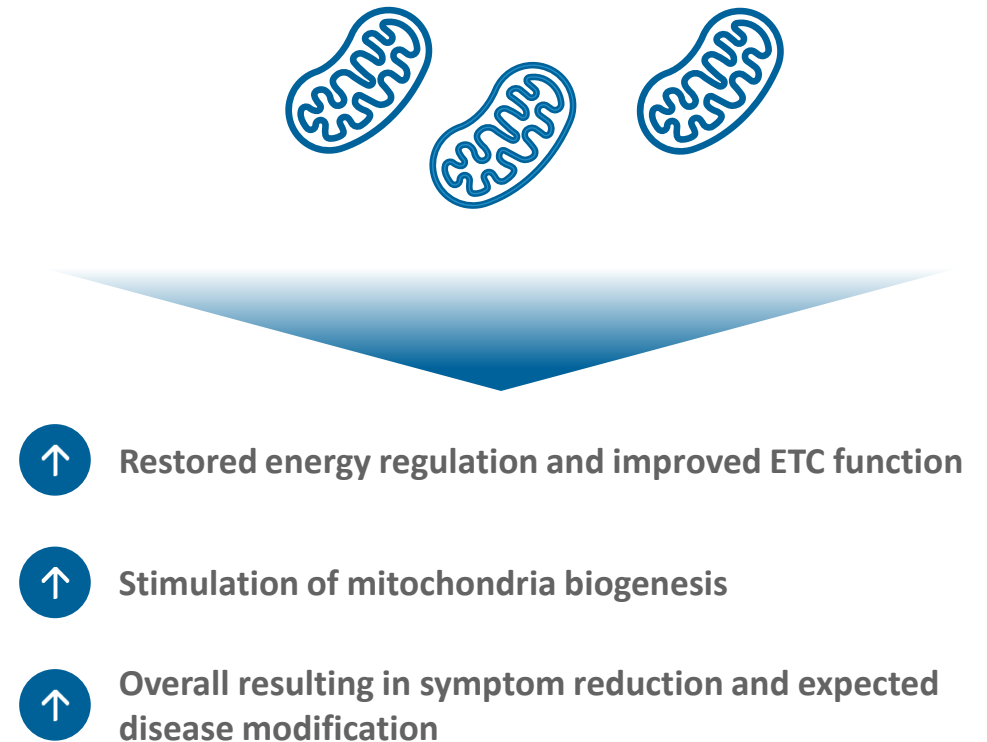
United Mitochondrial Disease Foundation, Voice of the Patient Conference, 2019

KL1333 normalizes conversation of NADH to NAD⁺ via NQO1

Normalizes the NAD⁺/NADH Ratio



Restored Energy Metabolism



Attributes

- ◆ Directly increases the NAD⁺/NADH ratio via NQO1
- ◆ Unique MoA works upstream from all competing MoA in PMD
- ◆ Oral, small molecule, BID dosing
- ◆ Favourable safety profile
- ◆ Favourable IP protection
- ◆ Orphan Drug Designation in US & EU and FDA Fast Track
- ◆ Potential first-in-disease with registrational clinical study

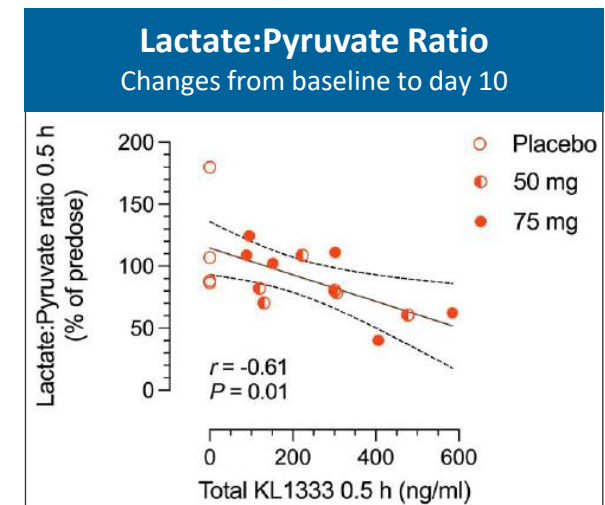
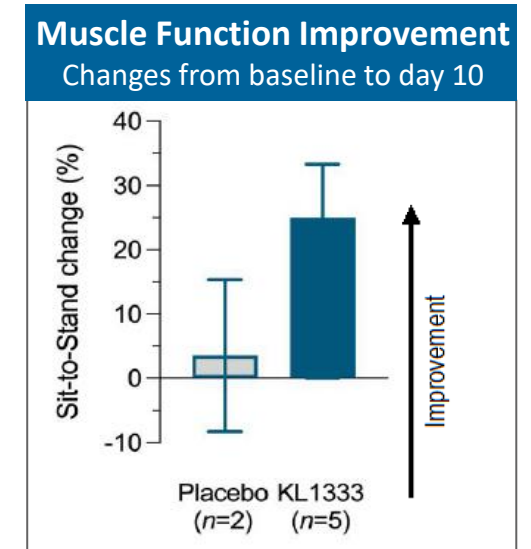
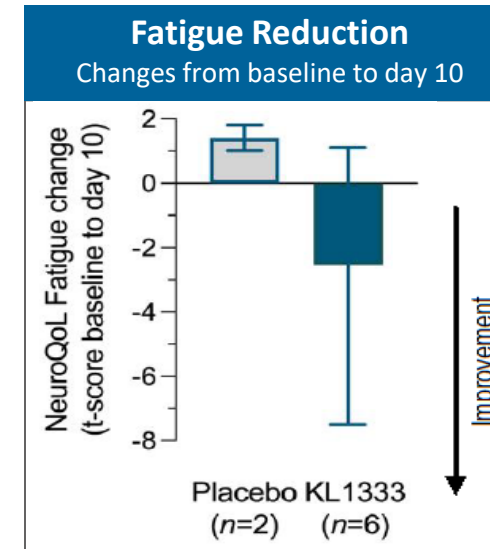
Outcomes

- ◆ Improved energy regulation and ETC function
- ◆ Stimulation of mitochondria biogenesis
- ◆ Fatigue reduction
- ◆ Increased exercise capacity

Phase 1b demonstrated significant activity vs. placebo

The placebo-controlled Phase 1b study demonstrated that KL1333 reduced patients' fatigue and myopathy after only 10 days, 50 mg/day

- ◆ KL1333 demonstrated efficacy in the phase 1b placebo-controlled portion with patients diagnosed with mtDNA mitochondrial disease
 - Fatigue reduction (NeuroQoL fatigue change)
 - Muscle function improvement (30 seconds sit-to-stand)
- ◆ KL1333 showed efficacy signals after 10 days using 50 mg/day
- ◆ Mitochondrial patients have increased lactate levels and increasing the concentration of KL1333 resulted in an improved lactate/pyruvate ratio, reflecting target engagement
- ◆ No serious adverse events reported



Regulatory Feedback

- ◆ Both FDA and EMA accepted study as registrational
- ◆ FDA said achieving one of the two endpoints would be sufficient for filing
- ◆ Conducted regular and detailed discussions with the FDA to facilitate alignment

Study Design

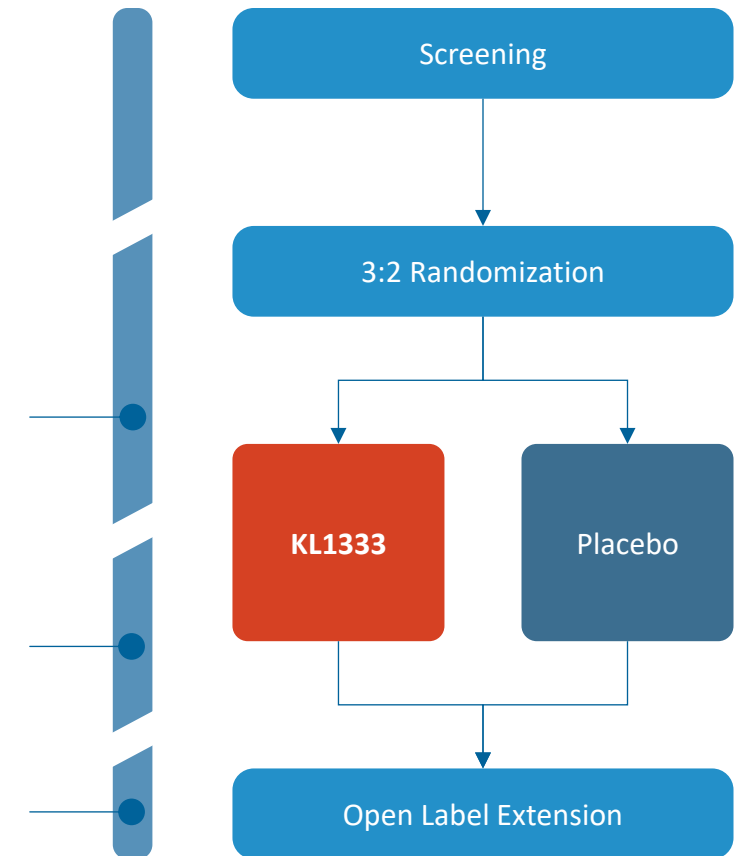
- ◆ **Methodology**
 - Randomized, double-blind, parallel-group, placebo-controlled pivotal study
- ◆ **Patients Included**
 - Adult PMD patients with mtDNA mutations* with fatigue and myopathy
- ◆ **Primary Endpoints**
 - Fatigue using the PROMIS Fatigue Mitochondrial Disease Short Form
 - Muscle weakness using the 30 second Sit-to-Stand test

Week 24
Interim futility analysis
(Wave 1 only)

Week 48
Primary efficacy analysis

Week 53
Safety follow-up

Study Schematic



*Most prevalent mtDNA disorders include m.3243A>G associated MELAS-MIDD spectrum disorders, single large scale mtDNA deletion associated KSS-CPEO spectrum disorders, other multisystemic mtDNA-related disease (including MERRF)

Pivotal FALCON Study

WAVE 1 – Fully enrolled

- ◆ 40 patients recruited across six countries (U.S., UK, France, Spain, Belgium, Denmark)
- ◆ 18 sites activated
- ◆ Interim analysis at 24 weeks conducted in Q3 2024

WAVE 2 – Expansion

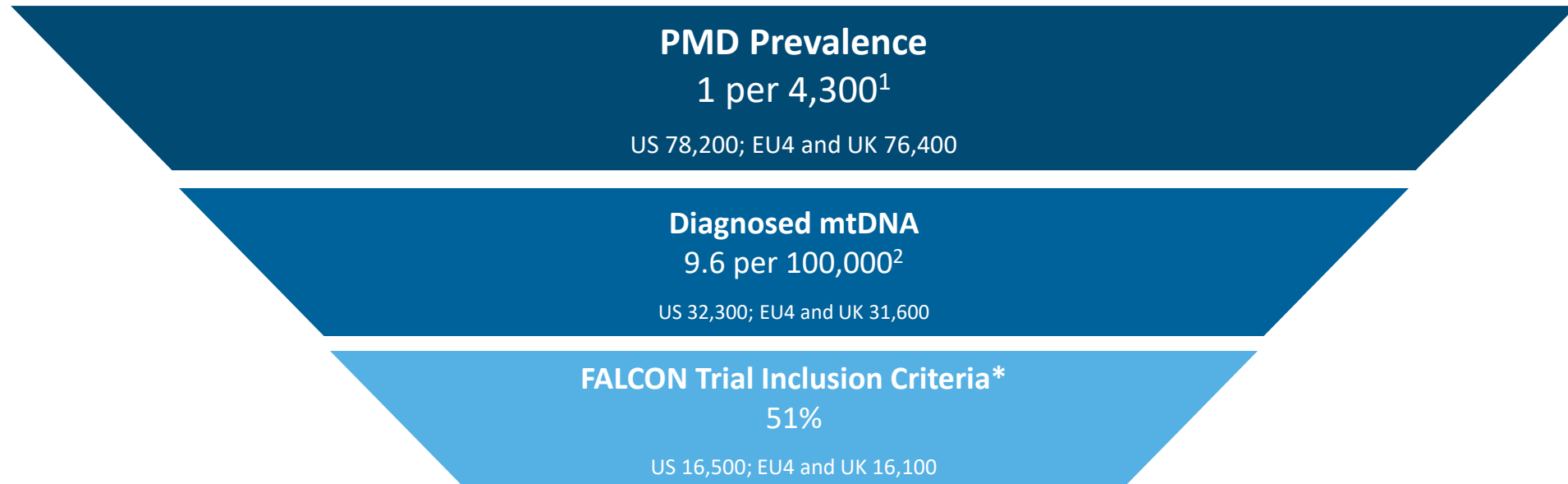
- ◆ 180 total patients treated for 48 weeks
 - Wave 1 sites ready to start enrolling
 - Wave 2 sites undergoing activation
- ◆ Readout anticipated 2027

Interim Futility Analysis:

Positive outcome achieved, with both primary endpoints having passed futility

- ◆ Promising differences favoring the active arm vs. placebo for both primary efficacy endpoints; if trends continue consistently, we expect a successful result at the completion of this trial
- ◆ Data monitoring committee (DMC) recommended continuing with Wave 2:
 - Safety and tolerability profile acceptable
 - No changes to study design
 - 180 total patients confirmed in the study

Significant revenue opportunity for KL1333



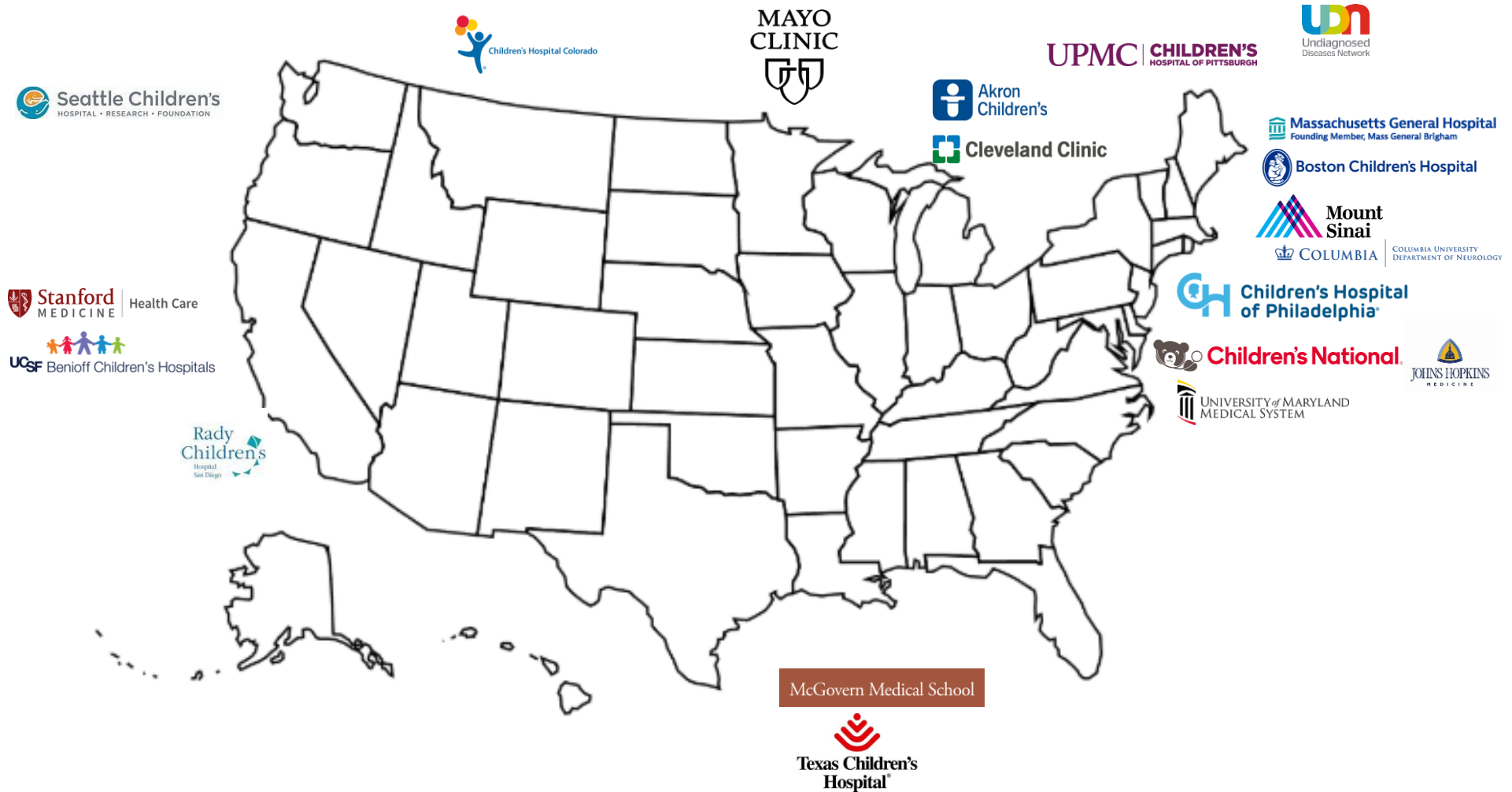
>30,000 diagnosed mtDNA mitochondrial disease patients addressable in the US, EU4 and UK

*mtDNA mutations including m.8344A>G MELAS-MIDD, MERRF, KSS-CEPO, large scale mtDNA deletions

¹Gorman, G.S. et al. Prevalence of nuclear and mitochondrial DNA mutations related to adult mitochondrial disease. Ann Neurol 2015 May;77(5):753-9.







²Gorman, G.S. et al. Mitochondrial Diseases. Nat. Rev. Vol 2, 1-22 (2016).

Majority of patients diagnosed and treated in US Centers of Excellence or academic institutions



Other programs focus on different patient population or failed with different MOA

Previous programs failed due to old mechanisms of action or evaluating the wrong endpoints

Asset	Type	MOA / ROA	Stage	Patient Group	Comments
 KL1333	Small molecule	NAD ⁺ /NADH modulator Oral	Pivotal	mtDNA mutations (e.g., mtDNA deletion, m.8344A>G, MELAS-MIDD, MERRF, KSS-CEPO)	<ul style="list-style-type: none"> ▪ Ongoing potentially registrational phase 2 study ▪ FALCON pivotal study reported positive 24w interim analysis
 Elamipretide	Peptide	Cardiolipin stabilizer Subcutaneous	Phase 3	nDNA mutations	<ul style="list-style-type: none"> ▪ nDNA represents about 20% of PMD patients ▪ In discussions with FDA for ultra rare Barth syndrome
 Zagociguat	Small molecule	Guanylate cyclase stimulator Oral	Phase 2b ready	MELAS	<ul style="list-style-type: none"> ▪ Completed open-label MELAS phase 2a ▪ Phase 2b trial planned with focus on fatigue, myopathy and cognition
 Sonlicromanol	Small molecule	Redox modulator Oral	Phase 3 ready	mtDNA mutation (MELAS-MIDD)	<ul style="list-style-type: none"> ▪ Phase 2a study in m.3243A>G patients showed predominantly neutral results across multiple endpoints ▪ Phase 2b study failed primary endpoint, positive changes in post-hoc analyses and open-label extension
 Mavodelpar	Small molecule	PPAR δ agonist Oral	NA	mtDNA in the interventional trial and extended to include nDNA in the OLE	Phase 3 failed to achieve primary endpoint of 12-minute walk test
 Boicedelpar	Small molecule	PPAR δ agonist Oral	NA	Mixed population of mtDNA and nDNA	Phase 2 program using 6-minute walk test terminated

Abliva acquisition – first quarter financial impact

Income statement

Amounts in US\$m	1Q 2025	1Q 2024
Revenues	79.1	55.6
Cost of Sales	(8.3)	(8.4)
Gross profit	70.8	47.2
Other income	0.4	0.3
Research and development*	(21.1)	(18.5)
General and administrative*	(22.5)	(15.1)
Marketing and sales	(34.6)	(30.2)
GAAP operating profit (loss)	(7.0)	(16.3)
+ non-recurring Abliva acquisition-related expenses*	7.8	-
Adjusted (Non-GAAP) operating profit (loss)	0.8	(16.3)

Balance sheet

- Cash purchases of Abliva shares totaling US\$66.1 million
- Recognized intangible asset related to KL1333 (US\$63.1 million), goodwill (US\$13.4 million) and deferred tax liabilities (US\$12.8 million)
- Other net identifiable assets were not significant and were recognized at fair value

* US\$7.8 million of non-recurring Abliva acquisition-related expenses in 1Q 2025 (US\$5.7 million in General and administrative and US\$2.1 million in Research and development expenses).