Pharming®

Pharming Group N.V.

Guggenheim Genomic Medicines and Rare Disease Days

April 3, 2023

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

Forward-looking statements

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 and technical developments. In light of these risks and uncertainties, and other risks and uncertainties that are described in Pharming's 2021 Annual Report and the Annual Report on Form 20-F for the year ended December 31, 2021, 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.

Building a sustainable rare disease business

Market RUCONEST® in all major international markets

Positive cash flow from RUCONEST® helps fund Joenja® (leniolisib) and pipeline development and management

Global approvals and commercialization of Joenja® (leniolisib)

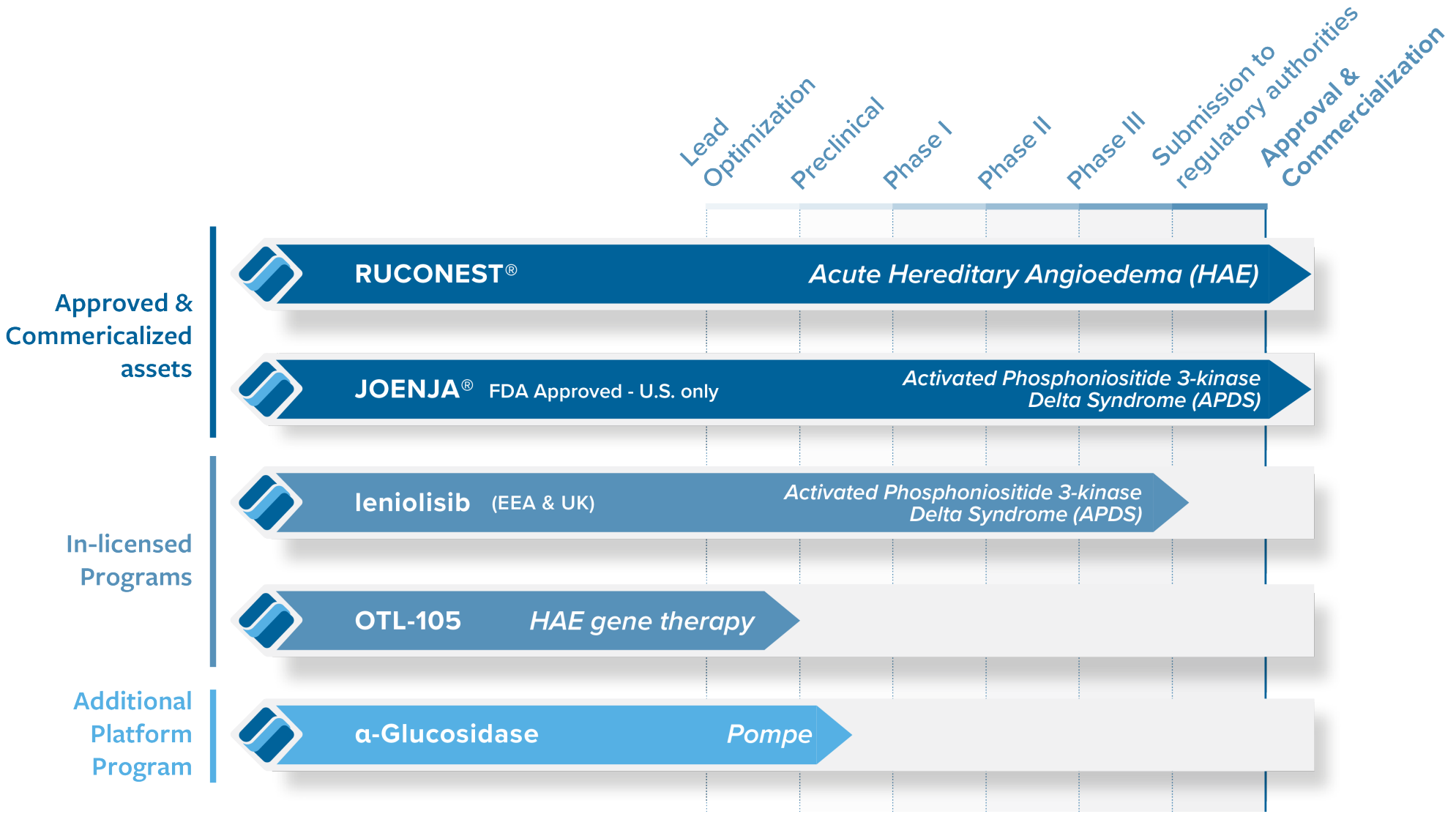
Successful commercialization of Joenja® (leniolisib) for APDS and additional rare disease indications

Ongoing pipeline development and management of rare disease assets

Advance internal projects and potential acquisitions of new, late-stage assets through in-licensing and M&A

Pharming is committed to transforming the lives of patients who suffer from rare diseases

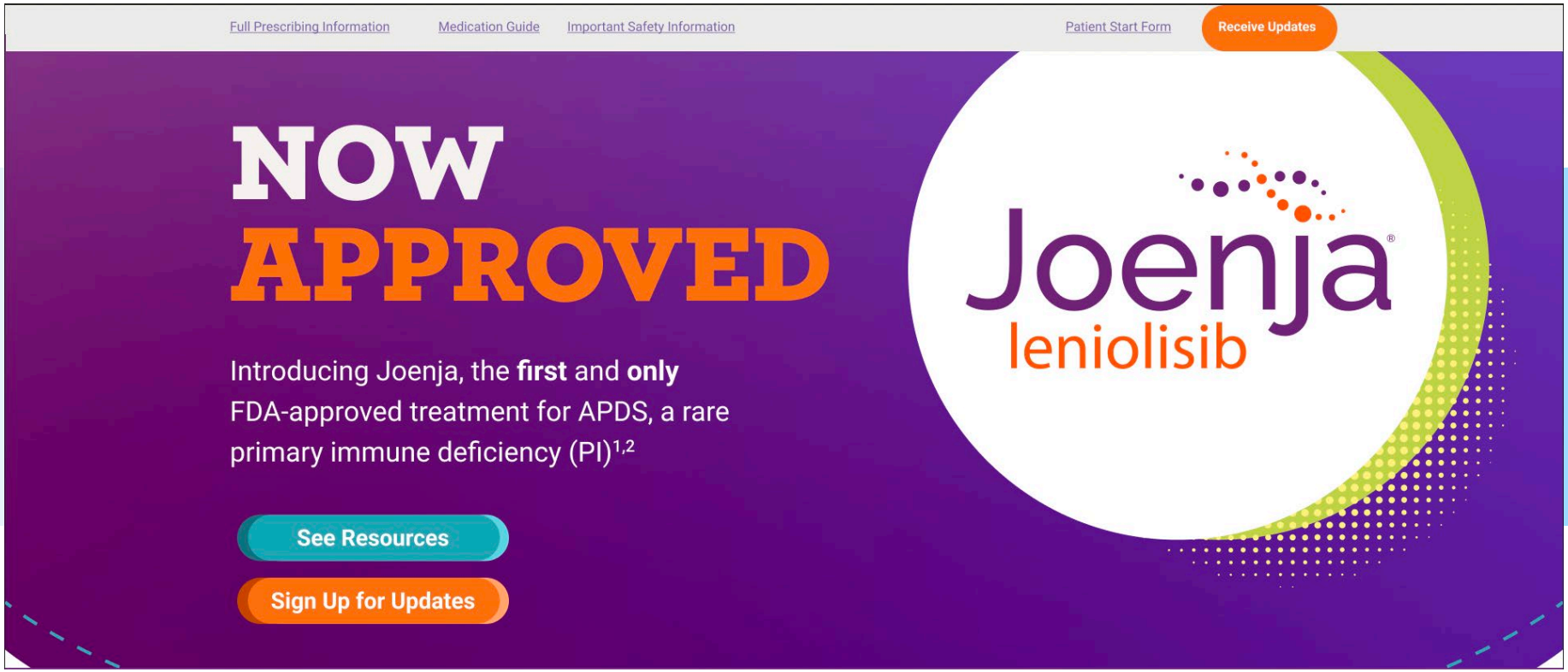
Pipeline – multiple commercial stage rare disease products



Strong rare disease product commercial infrastructure

- Dedicated sales force and marketing in US, EU, and MENA
- Market access teams
- Patient support and reimbursement teams
- Disease educators and specialists for APDS and HAE
- Medical Affairs teams
- High conference penetration & Support for educational KOL speaker programs

Joenja® is now approved



Joenja® – looking ahead

Joenja® (leniolisib) is the first and only FDA-approved treatment for APDS

- Targeted treatment of APDS (activated phosphoinositide 3-kinase delta (PI3Kδ) syndrome)
- PI3Kδ inhibitor with demonstrated efficacy, safety and tolerability in a 12-week randomized placebo-controlled trial for APDS in patients aged 12 years and older
- Development ongoing for pediatric patients 4 to 11 years old

We are prepared for Joenja® launch in early April

- Joenja® is Pharming's second commercial rare disease product
- Experienced and dedicated commercial and medical teams in place
- APDS Assist program to help patients with medication access, education, and support services

Europe – CHMP opinion on MAA expected 2H23
UK – MHRA filing expected 2H23
Initiation of Japan clinical study in 1H23 and second pediatric study in children 1-6 years in 3Q23

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APDS Overview

APDS is a rare, primary immunodeficiency (PI) first characterized in 2013

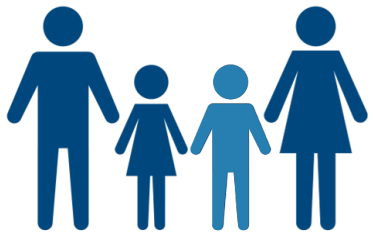
APDS affects ~1500 patients*

To date, Pharming has identified >500 of these patients

(as of December 2022 for US, Europe, UK, Japan, Canada, Australia)

Until now, treatments for APDS have addressed the symptoms of the disease which manifest early in childhood, but not the root cause of APDS

Without an indicated treatment specifically for APDS, physicians could only manage symptoms



The signs and symptoms of APDS vary widely, even among family members with the same genetic variant, resulting in potential delays in diagnosis and care

A genetic test can provide a definitive diagnosis of APDS

*Size based on population and available literature (1-2 patients per million) for US, Europe, UK, Japan, Canada and Australia

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 Burden[1-4]
- Frequent hospitalizations
- Surgeries
- Visiting multiple doctors
- Invasive or time-consuming treatments

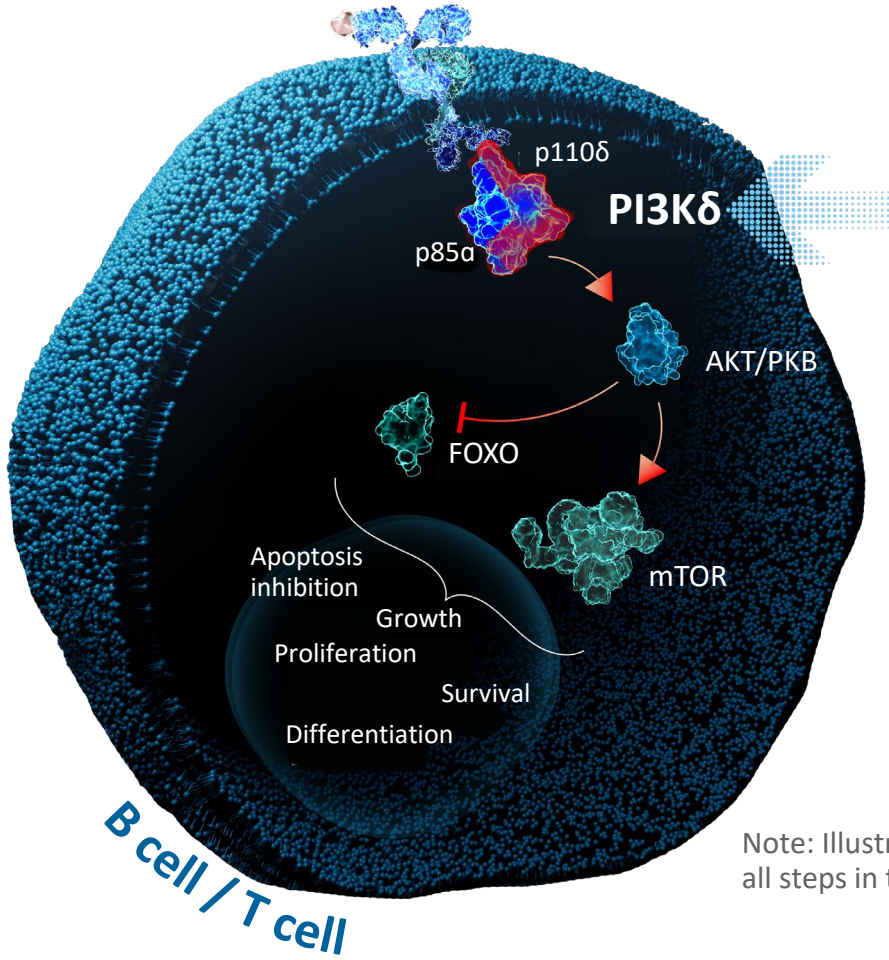
Mental[1,3-5]
- Anxiety
- Depression
- Stress

APDS, activated phosphoinositide 3-kinase δ syndrome.

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. Rider NL, et al. *J Clin Immunol*. 2017;37(5):461-475. 4. Jiang F, et al. *Allergy Asthma Clin Immunol*. 2015;11:27. 5. Kuburovic NB, et al. *Patient Prefer Adherence*. 2014;8:323-330.

Genetic defect leads to PI3Kδ hyperactivity, disrupting immune cell balance

Hyperactive PI3Kδ results in dysregulated B and T cell development[1-3]

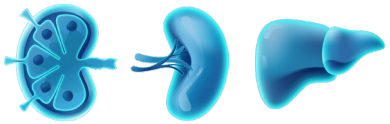


The PI3Kδ enzyme is at the beginning of a complex signaling pathway

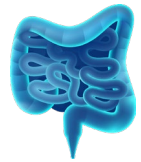
Note: Illustration does not include all steps in the signaling pathway.

Immune imbalance leads to diverse signs and symptoms[1,4-6]

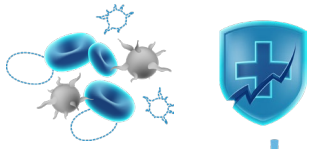
Severe, recurrent, persistent infections
- Sinopulmonary
- Herpesvirus (especially EBV and CMV)



Lymphoproliferation
- Lymphadenopathy
- Splenomegaly/hepatomegaly
- Nodular lymphoid hyperplasia



Enteropathy



Autoimmunity
- Cytopenias
- Autoimmune disorders
- Autoinflammatory disorders

Bronchiectasis

Lymphoma

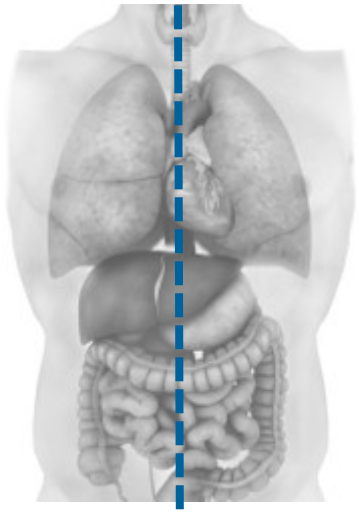
FOXO, forkhead box O; mTOR, mammalian target of rapamycin; PI3Kδ, phosphoinositide 3-kinase delta; PKB, protein kinase B.

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.

Current Management for APDS[1,2]

Immune Deficiency

- Antimicrobial prophylaxis
- Immunoglobulin replacement therapy



Immune Dysregulation

- Corticosteroids
- Other immunosuppressants
- mTOR inhibitors

None of these therapies are FDA-approved for APDS treatment

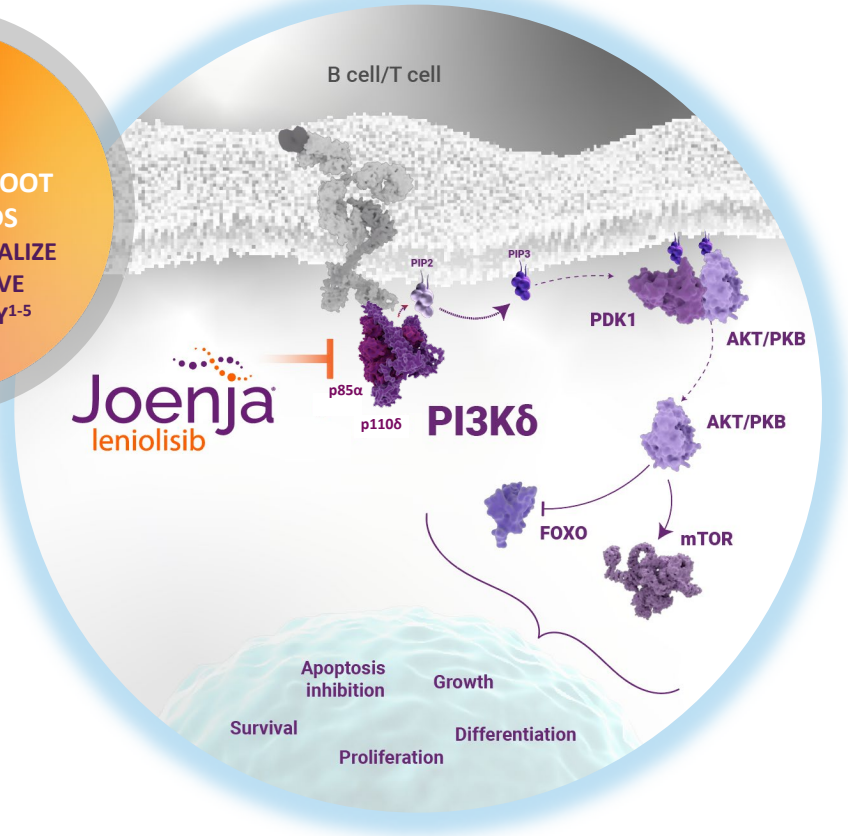
Hematopoietic stem cell transplant

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.

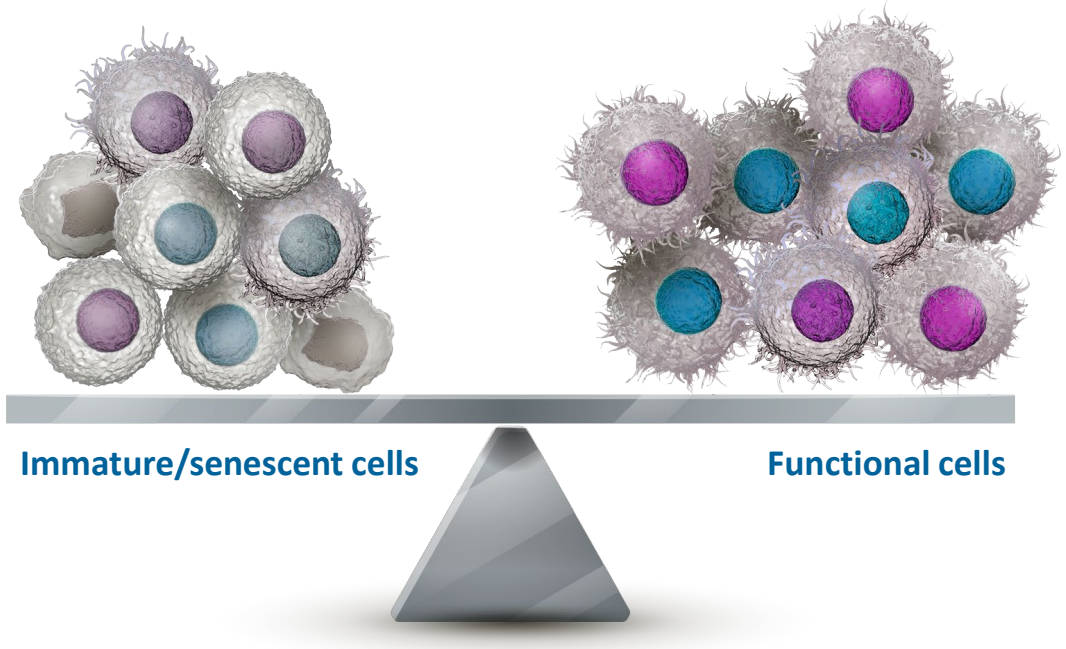
Joenja®: immune modulator that targets the root cause of APDS

JOENJA WAS DESIGNED TO TARGET THE ROOT CAUSE OF APDS TO HELP NORMALIZE THE HYPERACTIVE PI3Kδ PATHWAY[1-5]



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

Joenja® facilitates a balanced PI3Kδ pathway to support proper immune function[6]



This is a graphical representation of a complex biological process.

AKT/PKB, protein kinase B; FOXO, forkhead box O; mTOR, mammalian target of rapamycin; p85α, the regulatory subunit of the PI3Kδ enzyme; p110δ, the catalytic subunit of the PI3Kδ 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.

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Joenja® (leniolisib)

FDA approval of Joenja®: another win for Pharming and a much-needed treatment for patients with APDS

Joenja® (leniolisib) is a prescription medicine that is used to treat activated phosphoinositide 3-kinase delta (PI3Kδ) syndrome (APDS) in adults and pediatric patients 12 years of age and older

In a randomized placebo-controlled trial of patients with APDS

- Joenja® met both primary end points with significant efficacy results
- Demonstrated significant improvement in other secondary and exploratory parameters

There were no drug-related serious adverse events or study withdrawals in Joenja® trials

Joenja® reported additional findings from an ongoing long-term open-label extension study interim analysis: reductions/discontinuations in IRT and reduction in infection rates

Extension study interim analysis demonstrated safety consistent with the randomized, controlled trial. We continue to collect observational long-term data on lymphadenopathy, naive B cells and IgM

Pharming is well-positioned to hit the ground running with Joenja®

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

Rao VK, et al. Blood. 2023;141(9):971-983
Rao VK, et al. Poster presented at: 64th Annual American Society of Hematology Annual Meeting; December 10-13, 2022; New Orleans, LA.

Joenja® (leniolisib) US label/packaging

Overview of Prescribing Information	
Indication Statement	JOENJA is a kinase inhibitor indicated for the treatment of activated phosphoinositide 3-kinase delta (PI3Kδ) syndrome (APDS) in adult and pediatric patients 12 years of age and older.
Contraindications	None
Boxed Warning	None
Risk Evaluation and Mitigation Strategy	None
Dosing and Administration	Verify pregnancy status in females of reproductive potential prior to initiating treatment. Recommended dosage: 70 mg administered orally twice daily approximately 12 hours apart, with or without food, in adult and pediatric patients 12 years of age and older and weighing ≥45 kg
Warnings and Precautions	Embryo-Fetal Toxicity: JOENJA may cause fetal harm. Advise patients of the potential risk to a fetus and to use effective contraception. Vaccinations: Live, attenuated vaccinations may be less effective if administered during JOENJA treatment.
Adverse Reactions	Most common adverse reactions (incidence >10%) were headache, sinusitis, and atopic dermatitis.

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

Joenja® clinical trial designs

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 Evaluation[3]

- 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 log^{10}-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.

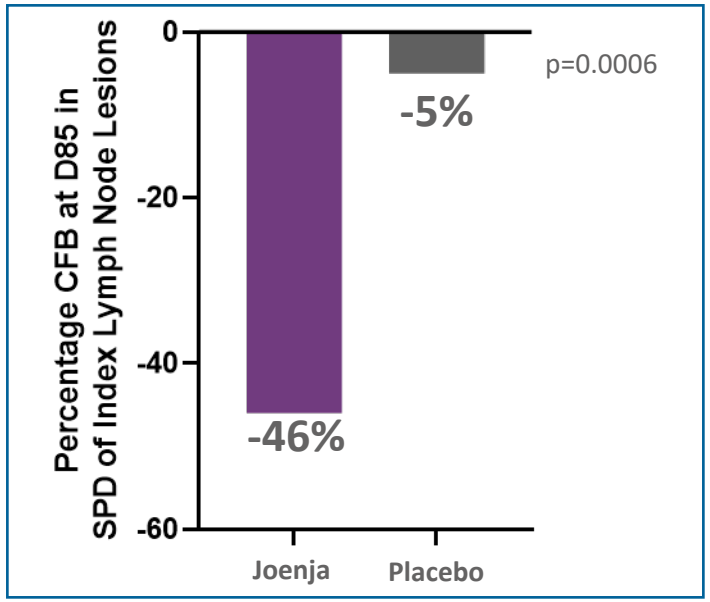
Joenja® addresses the underlying cause of APDS to help restore immune balance – Phase 3 co-primary endpoints

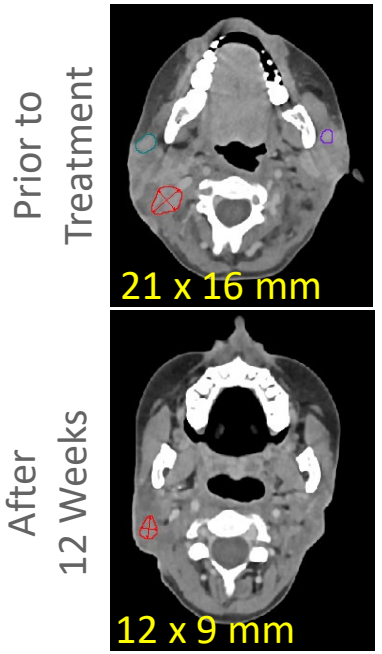
At 12 weeks Joenja® decreased lymphadenopathy and increased naïve B cells

Immune Dysregulation

Change from baseline in index nodes*

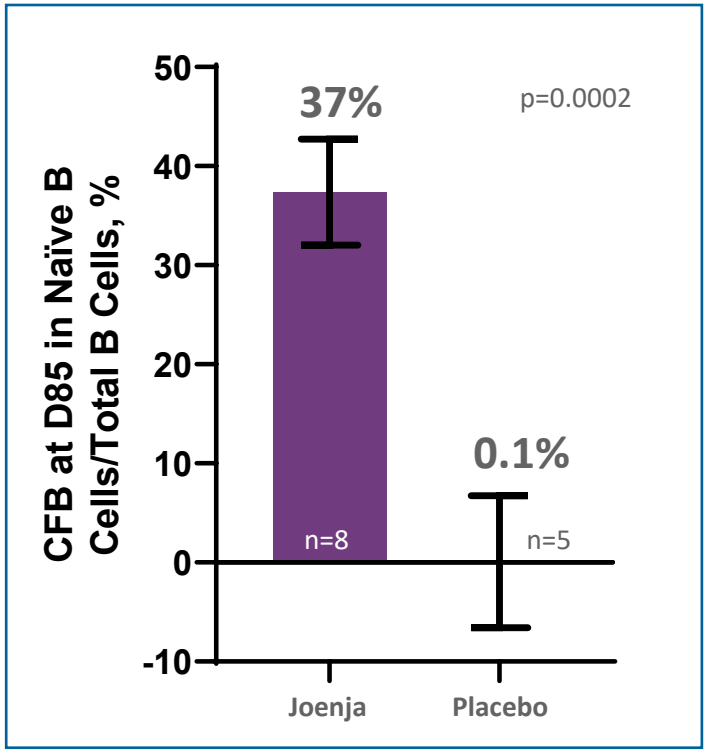
Log_{10}-transformed SPD of index lesions	Joenja (n=18)	Placebo (n=8)
Baseline mean (SD)	3.03 (0.42)	3.05 (0.39)
Change from baseline, LS mean (SE)	-0.27 (0.04)	-0.02 (0.05)
Difference vs placebo (95% CI)		-0.25 (-0.38, -0.12)





Immune Deficiency

Change from baseline in naïve B cells†



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 Joenja 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.

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

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

Joenja® safety profile

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

Open-label Extension Study[3]

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 trials[2]

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

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

Joenja® commercial launch strategy

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SI 1: Identify

Continue to identify HCPs and patients to expand networks with the support of patient **advocacy partners**

SI 2: Educate

Build knowledge of APDS and belief in PI3Kδ inhibitor benefits by **defining the disease, journey, and unmet needs**

SI 3: Differentiate Joenja®

Differentiate Joenja® as **a well-tolerated and efficacious treatment for APDS** that targets the root cause of the disease

SI 4: Establish Access

Establish **access** that enables genetic testing and optimizes the Joenja® benefits and value proposition

navigateAPDS by Pharming

~1500 APDS patients*

(as of December 2022 for Australia, Canada, Europe, Japan, US, UK)

>500 patients identified by Pharming to date

All about APDS
Activated PI3K Delta Syndrome

Jeffrey Modell Foundation

Global Genes® Allies in Rare Disease

Immune Deficiency Foundation

EAACI European Academy of Allergy and Clinical Immunology

CIS Clinical Immunology Society

American Society of Hematology

EHA European Hematology Association

Joenja leniolisib

APDS Assist

Joenja® set up for commercial success

Commercial Field Team

Rare Disease Team of 27 focused on Allergy/Immunology

Institutional Team of 27 focused on multiple specialties

Patient Identification

- Work with HCPs to further identify patients and get them tested
- APDS clinical educators assist with family mapping

navigateAPDS by Pharming

All about APDS
Activated PI3K Delta Syndrome

Support Services

- Dedicated support, education and resources for patients and caregivers through the APDS Assist patient support program
- APDS Care Coordinators provide support for onboarding, coverage assistance and financial support resources

Patient Access

- Partnered exclusively with PANTHERx Specialty Pharmacy
- Starter and Bridge program enables rapid access while navigating coverage
- Copay Assistance and Patient Assistance Programs for eligible patients ensure affordability to care

Joenja® value proposition

- **Precision medicine targeting rare and genetically-defined patient population**
- **First and only treatment indicated for APDS addressing high unmet need**
- **Demonstrated efficacy and safety profile**
- **Significant burden of disease**

- **Innovation:**
  - Pharming is committed to providing patients with rare disease the solutions they need
- **Value:**
  - APDS is a progressive disease
  - Joenja® designed to treat the root cause of APDS treating both immune deficiency and dysregulation
- **Patient Access:**
  - Dedicated support and education resources through the APDS Assist patient support program
  - APDS Assist to help patients navigate coverage to ensure all eligible patients receive access to treatment
- **Support:**
  - Pharming is committed to the APDS community through active grassroots engagement with advocacy groups such as the IDF and Jeffrey Modell Foundation

Annual Cost (WAC) - $547,500

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RUCONEST®

RUCONEST® (rhC1INH): durable commercialized asset

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RUCONEST® sales US$205.6 million

Return to growth in 2022, +3% over 2021

The only recombinant treatment that targets the root cause of HAE by replacing missing or dysfunctional C1-INH

Well-tolerated and effective treatment option for acute hereditary angioedema (HAE) - including breakthrough attacks

Second most prescribed product detailed for acute attacks

97% of acute attacks needed just one dose of RUCONEST®[1]

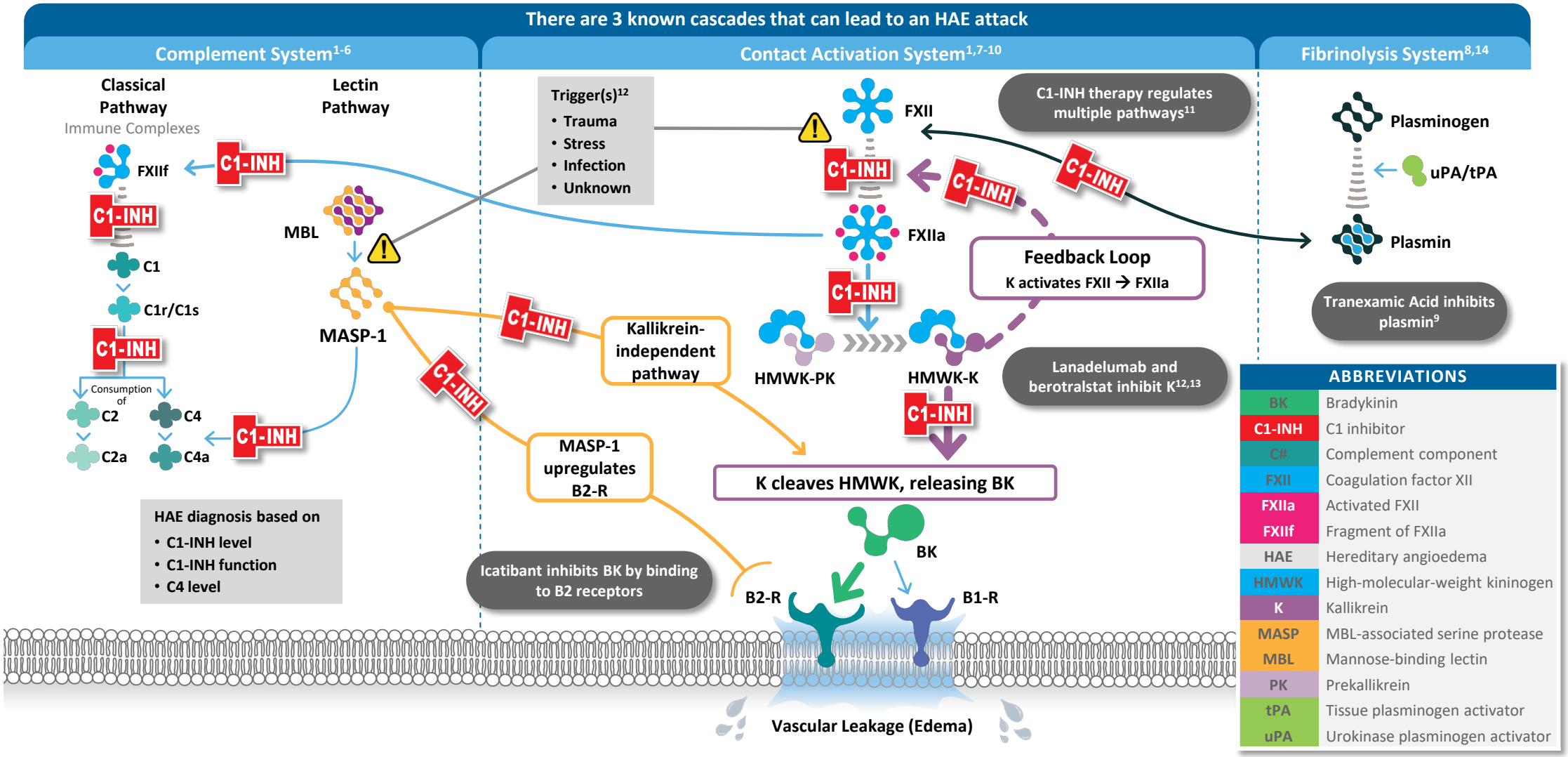
93% of attacks were stopped with RUCONEST® for at least three days[2]

Patients are well managed and feel confident to administer treatment themselves[3]

References: 1. RUCONEST®. Prescribing information. Pharming Healthcare Inc; 2020. 2. Bernstein JA, et al. *Ann Allergy Asthma Immunol.* 2017;118(4):452-453. 3. Data on file. Pharming Healthcare Inc; 2019

The most common adverse reactions (incidence ≥2%) were headache, nausea and diarrhea. The most serious adverse reaction reported in clinical trials was anaphylaxis.

C1-INH targets the root cause of HAE



Adapted from a clinical cascade developed in partnership with Dr. Allen Kaplan. This is a current scientific understanding of the cascades. Clinical implications are unknown.

Strong commitment to HAE community

- Strong patient organization support since 2000
- Over 700 physicians have prescribed RUCONEST® since 2014
- >2,000 patients with HAE have been prescribed RUCONEST®

US HEREDITARY ANGIOEDEMA ASSOCIATION

HAEi HAE International

HAE gene therapy (OTL-105) & Pompe disease programs

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Progress continues in preclinical studies

OTL-105

Good progress on developing the lentiviral vector to enhance C1-inhibitor expression, now testing in preclinical HAE disease models

Anticipate providing further updates as we move towards preparing an Investigational New Drug (IND) filing

POMPE

Study into the development of a next-generation alpha-glucosidase therapy for the treatment of Pompe disease is ongoing

Evaluating potential differentiating features in preclinical studies. Market updates expected 2Q 2023

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Financials and Outlook

Pharming grew sales & investments in leniolisib

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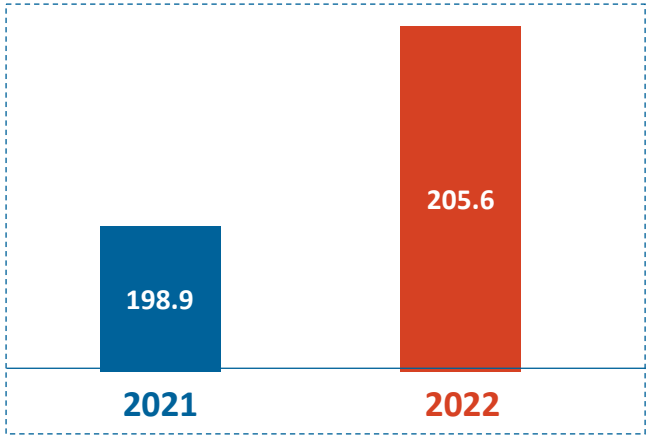
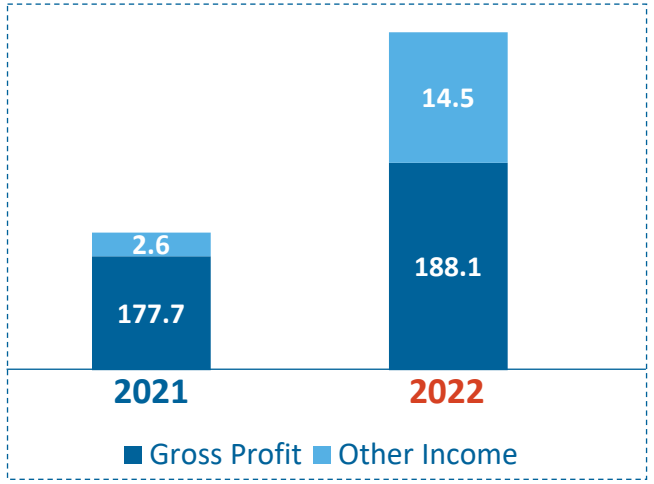
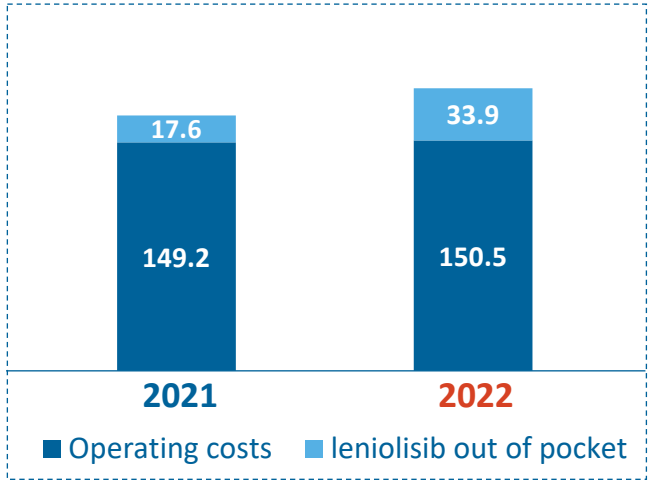
Revenue in US$ million



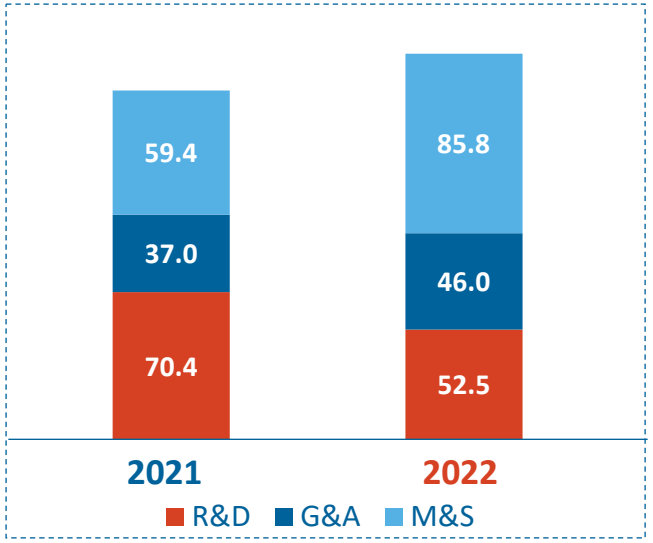
Gross Profit and Other Income in US$ million



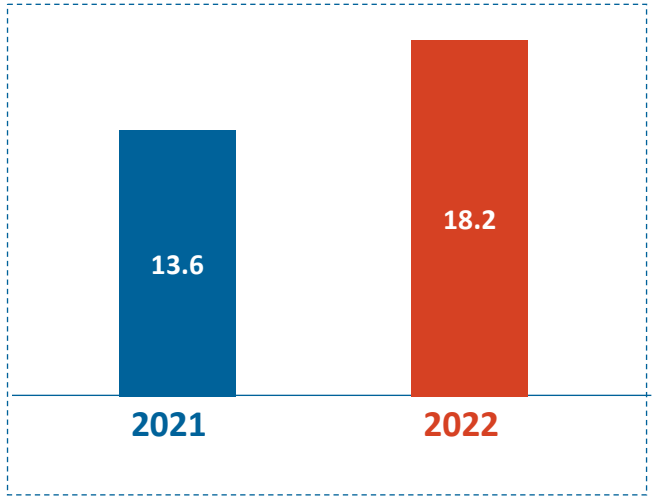
Operating costs in US$ million



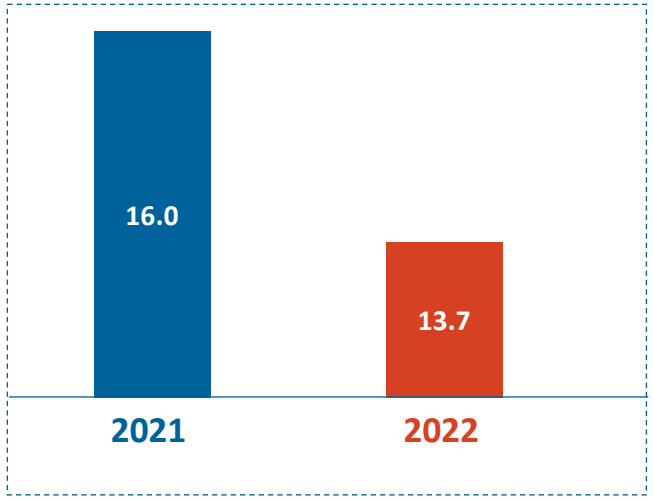
Cost category development in US$ million



Operating Profit in US$ million



Net Profit in US$ million



Outlook 2023

- Continued low single-digit growth in RUCONEST® revenues
- Joenja® approved by US FDA March 24, 2023, launch and commercialization April 2023
- Positive CHMP opinion in 2H 2023, marketing authorization in Europe ~2 months later*
- File leniolisib with UK's MHRA following ECDRP route*
- Continued operating cost investments to accelerate future growth
- Further details on our plans to develop leniolisib in additional indications to be provided in 2H 2023
- Investment and continued focus on potential acquisitions and in-licensing of late-stage opportunities in rare diseases

*Subject to positive outcomes of the EMA CHMP review.

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Appendix

leniolisib clinical trial data

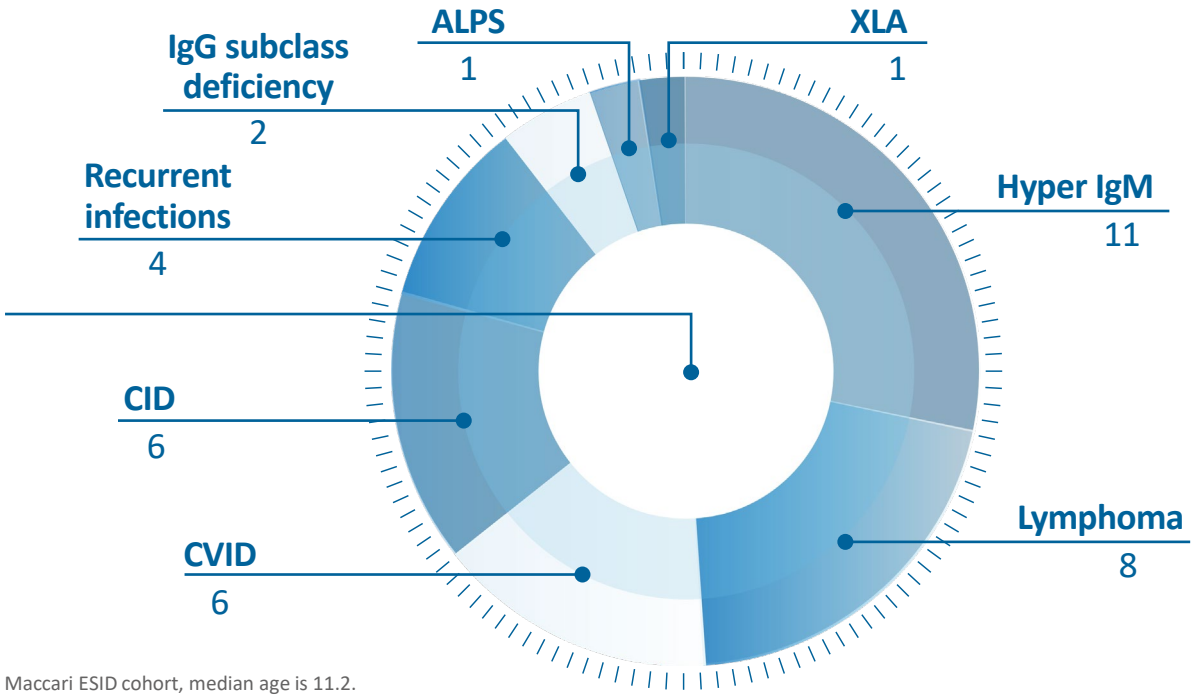
Heterogeneous, evolving symptomology can often lead to missed diagnoses

Timeline of the most common pathologies* seen in APDS[1-4]

Median age at diagnosis:
12 years (7-year median diagnosis delay)

<1 year (range, 1 month-10 years)	3 years (range, 1-6 years)	5 years (range, 1-18 years)	10.5 years (range, 6-15 years)	11.2 years† (range, 18 months-39 years)	18 years (range, 1.5-40 years)
Sinopulmonary infections	Benign lymphoproliferation	Enteropathy	Autoimmunity	Bronchiectasis	Malignancy
			Cytopenias, arthritis, or other dysregulation‡		

APDS has often been diagnosed as another PI or condition, causing delays in diagnosis[1]



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® significantly reduced splenomegaly

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

- The adjusted mean difference in bidimensional spleen size between Joenja® (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 Joenja® (n=19) and placebo (n=9) was -186 cm^3 (95% CI: -297, -76.2), *P*=0.0020

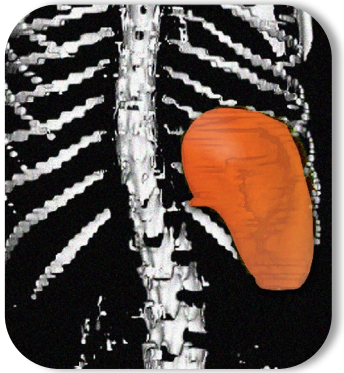
at week 12

27%

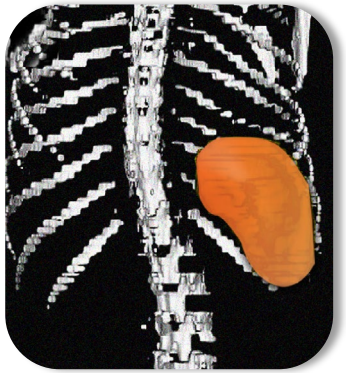
reduction in 3D spleen volume*

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

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.

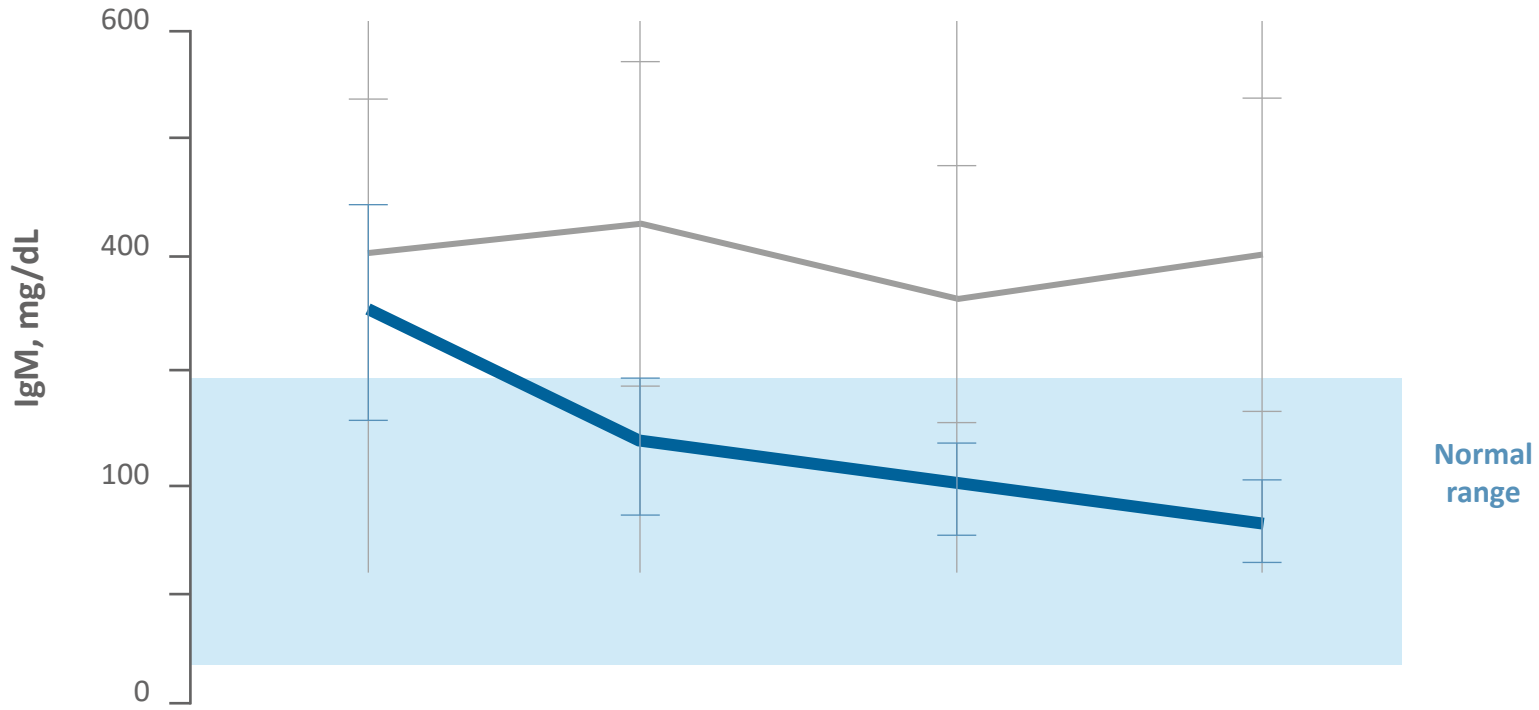
*In the PD analysis set, the mean (SD) percentage change from baseline to week 12 in 3D spleen volume (mm^3) was -26.68% (12.137) with Joenja® (n=19) and -1.37% (24.238) with placebo (n=9). The ANCOVA model was used with treatment as a fixed effect and log_{10}-transformed baseline as a covariate for 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 Joenja® 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 end point showed Joenja® reduced IgM levels

Mean serum IgM rapidly reduced to within normal limits



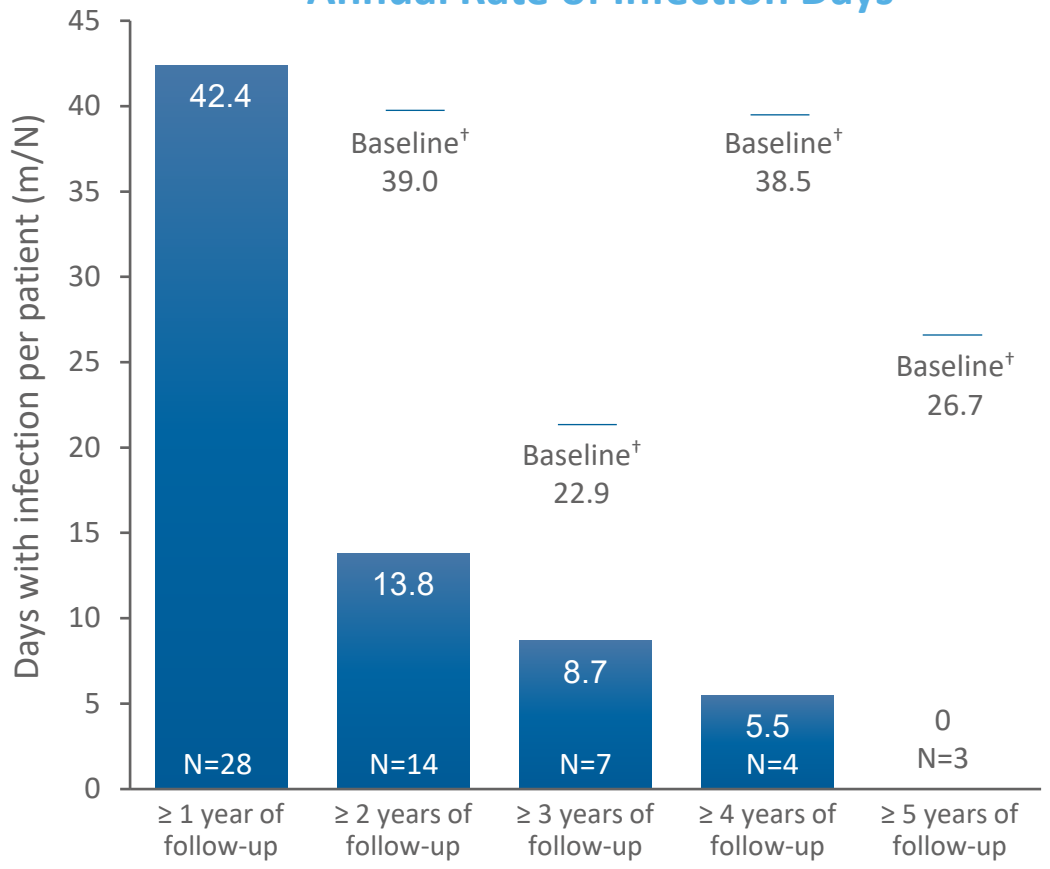
		Baseline	Week 4	Week 8	Week 12
Joenja®	n	21	20	21	21
Placebo	n	10	10	10	10

- 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

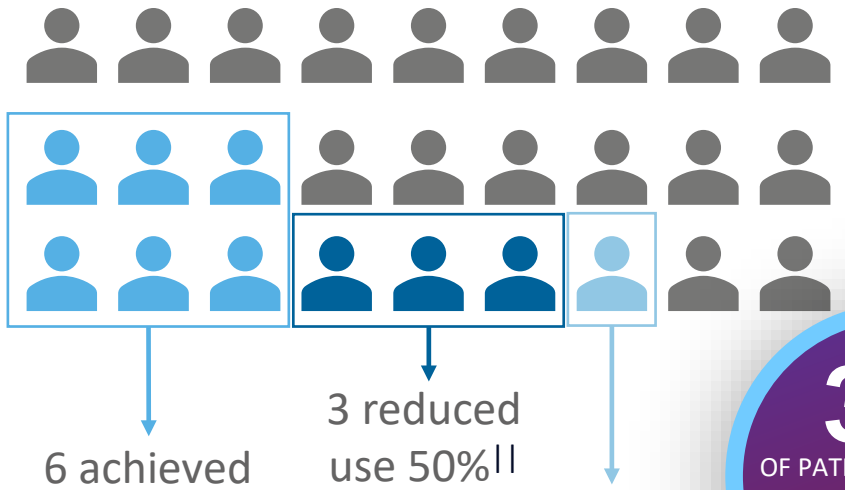
Open-label extension interim analysis of days spent with infections and IRT reduction

Annual Rate of Infection Days*



Physician-reported IRT Reduction‡

Of 27 patients receiving IRT:



6 achieved IRT freedom§

3 reduced use 50%‖

1 reduced use 30%

37% OF PATIENTS RECEIVING IRT REDUCED OR DISCONTINUED DOSE

At the data cutoff, **4** of the patients who were **IRT free** had been so for **1 – 2.5 years**

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

Facilitating access through APDS Assist

Program Offerings

Cost & insurance
Providing insurance coverage assistance and financial support resources

Filling prescriptions
Coordinates prescription details with patient families/caregivers and HCP through single point of contact to assist in getting Joenja® dispensed on time

Support & education
Regularly touches base to help patient families/caregivers with their insurance, provides appropriate financial assistance options for eligible patients, and assists with prescription delivery

Dedicated, Experienced Support Team

APDS Assist Care Coordinators
Welcomes patient families/caregivers to APDS Assist and helps navigate coverage, access, and support options

APDS Clinical Educators (ACE)
Provides one-on-one education, support and resources for patients, caregivers and family members

Exclusive Specialty Pharmacy Model

Partnered exclusively with PANTHERx, specializing in rare and ultra-rare therapeutic areas

Process and fill Joenja® prescriptions with clinical pharmacists, available 24/7, to:

- Answer questions and offer treatment support for Joenja®
- Provide information about potential side effects and offer information support when appropriate

APDS Assist offers personalized coverage assistance, financial resources and prescription support to patients and caregivers starting and continuing Joenja® therapy

Commitment to rapid access for eligible patients

Starter Program

- Available to all newly enrolled patients
- Up to 30-day supply within one week of enrollment for most patients

Bridge Program

- Available for patients in which insurance has been verified
- Provides continuation of therapy when there is a gap in coverage while seeking payer approval

Copay Assistance

- Eligible patients with commercial insurance may pay as little as $0 per month
- Assists with deductible, copay/co-insurance and out of pockets costs for Joenja®

Patient Assistance Program

- Continuation of coverage may be provided for uninsured patients or situations in which Joenja® is not covered by their insurance plan

Beginning treatment with JOENJA®

Commercial Product Available mid-April 2023

APDS Assist patient support services now active	
APDS Assist	www.joenja-hcp.com/APDSAssist 1-877-796-2737 (APDS)
Joenja® NDC	71274-170-60
Supplied as	60-count bottle (30-day supply)
Wholesale acquisition cost (WAC)	
Per tablet	$750.00
Per mg	$10.71
Per bottle	$45,000.00