



### **Pharming Group N.V.**

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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 and technical developments. In light of these risks and uncertainties, and other risks and uncertainties that are described in Pharming's 2022 Annual Report and the Annual Report on Form 20-F for the year ended December 31, 2022, 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 gualified 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 forwardlooking 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**





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

## Pipeline – multiple commercial stage rare disease products *Pharming* 35









## **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.

![](_page_6_Picture_4.jpeg)

## **RUCONEST®** (rhC1INH): durable commercialized asset

![](_page_7_Picture_1.jpeg)

![](_page_7_Figure_2.jpeg)

References: 1. RUCONEST<sup>®</sup>. 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.

![](_page_8_Picture_1.jpeg)

![](_page_8_Figure_2.jpeg)

**Over 700 physicians have prescribed RUCONEST® since 2014** 

![](_page_8_Picture_4.jpeg)

>2,000 patients with HAE have been prescribed RUCONEST®

![](_page_8_Picture_6.jpeg)

![](_page_8_Picture_7.jpeg)

![](_page_9_Picture_0.jpeg)

## **APDS Overview**

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

![](_page_10_Picture_1.jpeg)

![](_page_10_Picture_2.jpeg)

Activated phosphoinositide 3-kinase delta (PI3Kδ) syndrome (APDS) affects >1500 patients\*

To date, Pharming has identified >500 of these patients

![](_page_10_Picture_5.jpeg)

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

![](_page_10_Picture_8.jpeg)

![](_page_10_Picture_9.jpeg)

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

![](_page_10_Picture_11.jpeg)

A genetic test can provide a definitive diagnosis of APDS

![](_page_10_Picture_14.jpeg)

## **APDS can impact many facets of life**

![](_page_11_Picture_1.jpeg)

![](_page_11_Figure_2.jpeg)

APDS, activated phosphoinositide 3-kinase  $\delta$  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

![](_page_12_Picture_1.jpeg)

![](_page_12_Figure_2.jpeg)

FOXO, forkhead box O; mTOR, mammalian target of rapamycin; PI3K\delta, 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.

## Management for APDS<sup>1,2</sup> prior to Joenja<sup>®</sup>

![](_page_13_Picture_1.jpeg)

### **Immune Deficiency**

- Antimicrobial prophylaxis
- Immunoglobulin replacement therapy

![](_page_13_Picture_5.jpeg)

### **Immune Dysregulation**

- Corticosteroids
- Other immunosuppressants
- mTOR inhibitors

None of these therapies are FDAapproved 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<sup>®</sup>: immune modulator that targets the root cause of APDS

![](_page_14_Figure_1.jpeg)

![](_page_14_Figure_2.jpeg)

#### Joenja<sup>®</sup> facilitates a balanced PI3Kδ pathway to support proper immune function<sup>6</sup>

![](_page_14_Picture_4.jpeg)

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*. 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. Pharming<sup>®</sup> 35<sup>§</sup>
Joenja<sup>®</sup> (leniolisib)

# FDA approval of Joenja<sup>®</sup>: a much-needed treatment for patients with APDS and another win for Pharming

![](_page_16_Picture_1.jpeg)

Joenja<sup>®</sup> (leniolisib) is a prescription medicine that is used to treat activated phosphoinositide 3-kinase delta (PI3K $\delta$ ) syndrome (APDS) in adults and pediatric patients 12 years of age and older

In a randomized placebocontrolled trial of patients with APDS

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

Joenja Ieniolisib

Joenja<sup>®</sup> reported additional findings from an ongoing long-term openlabel 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

## There were no drug-related serious adverse events or study withdrawals in Joenja<sup>®</sup> trials

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. Pharming is well-positioned to hit the ground running with Joenja<sup>®</sup>

![](_page_16_Picture_12.jpeg)

![](_page_17_Picture_1.jpeg)

#### At 12 weeks Joenja<sup>®</sup> decreased lymphadenopathy and increased naïve B cells

![](_page_17_Figure_3.jpeg)

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

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

![](_page_18_Picture_1.jpeg)

![](_page_18_Figure_2.jpeg)

### 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. <sup>†</sup>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. <sup>‡</sup>Data on concomitant medication usage was reported at each patient visit. <sup>§</sup>One patient had a subsequent one-time dose. <sup>||</sup>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: *64<sup>th</sup> 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

![](_page_18_Picture_5.jpeg)

## Joenja<sup>®</sup> – looking ahead

![](_page_19_Picture_1.jpeg)

![](_page_19_Picture_2.jpeg)

## Joenja® set up for commercial success

![](_page_20_Picture_1.jpeg)

![](_page_20_Picture_2.jpeg)

#### **Commercial Field Team**

Rare Disease Team of 27 focused on Allergy/Immunology

Institutional Team of 27 focused on multiple specialties

![](_page_20_Picture_6.jpeg)

#### **Patient Identification**

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

![](_page_20_Picture_10.jpeg)

All about APDS Activated PI3K Delta Syndrome

![](_page_20_Picture_12.jpeg)

#### **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

![](_page_20_Picture_16.jpeg)

#### **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

![](_page_20_Picture_21.jpeg)

![](_page_21_Picture_1.jpeg)

- PA

Precision medicine targeting rare and genetically-defined patient population

![](_page_21_Picture_4.jpeg)

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<sup>®</sup> 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) – US \$547,500

![](_page_21_Picture_19.jpeg)

![](_page_22_Picture_0.jpeg)

## **Financials and Outlook**

## **RUCONEST<sup>®</sup> commercial update – 1Q 2023 report**

![](_page_23_Picture_1.jpeg)

Strong underlying in-market demand for RUCONEST<sup>®</sup> including high, double digit, new patient enrollments in 1Q23

![](_page_23_Picture_3.jpeg)

Disruptions have since resolved, but impacted February sales

![](_page_23_Picture_5.jpeg)

Disruptions in reimbursement for some patients on U.S. government insurance programs impacted the entire HAE market in 1Q23

![](_page_23_Picture_7.jpeg)

Pharming has since seen a recovery in sales

![](_page_23_Picture_9.jpeg)

These market-wide factors caused a delay in shipments to patients We are maintaining our outlook for low single digit RUCONEST<sup>®</sup> revenue growth in 2023

![](_page_24_Picture_1.jpeg)

![](_page_24_Figure_2.jpeg)

Strong start to our early April product launch

![](_page_24_Picture_4.jpeg)

Pharming continues to engage with both national and regional payers

![](_page_24_Picture_6.jpeg)

First commercial shipment of Joenja<sup>®</sup>, with full reimbursement, ~two weeks after FDA approval

![](_page_24_Picture_8.jpeg)

23 U.S. patients on paid therapy with Joenja® (through May 11, 2023)

![](_page_24_Picture_10.jpeg)

The sales team continue to drive new patient enrollments

![](_page_24_Picture_12.jpeg)

Good progress moving EAP and OLE patients to commercial drug

![](_page_24_Picture_14.jpeg)

First revenues will be seen in the second quarter

![](_page_24_Picture_16.jpeg)

2Q 2023: \$10M commercial milestone payment and ~\$21.1M sale of PRV to Novartis

![](_page_24_Picture_18.jpeg)

![](_page_25_Picture_1.jpeg)

26

![](_page_25_Figure_2.jpeg)

Cash & Cash Equivalents (March 31, 2023): US\$184.8 million

## **Continued investment in the launch of Joenja**

![](_page_26_Picture_1.jpeg)

![](_page_26_Figure_2.jpeg)

![](_page_27_Picture_0.jpeg)

![](_page_27_Picture_1.jpeg)

![](_page_27_Figure_2.jpeg)

![](_page_28_Picture_0.jpeg)

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![](_page_29_Picture_0.jpeg)

## Pharming Group N.V. Appendix

![](_page_29_Picture_2.jpeg)

![](_page_30_Picture_1.jpeg)

![](_page_30_Figure_2.jpeg)

PI3K6, 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<sup>®</sup> clinical trial designs

![](_page_31_Picture_1.jpeg)

![](_page_31_Figure_2.jpeg)

bid, twice a day; PI3K $\delta$ , 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® significantly reduced splenomegaly

![](_page_32_Picture_1.jpeg)

#### 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<sup>®</sup> (n=19) and placebo (n=9) was -13.5 cm<sup>2</sup> (95% Cl: -24.1, -2.91), P=0.0148
- The adjusted mean difference in 3D spleen volume between Joenja<sup>®</sup> (n=19) and placebo (n=9) was -186 cm<sup>3</sup> (95% CI: -297, -76.2), P=0.0020

![](_page_32_Figure_5.jpeg)

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

#### Prior to treatment: 491 mL

![](_page_32_Picture_8.jpeg)

![](_page_32_Picture_9.jpeg)

At week 12:

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<sup>3</sup>) 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<sub>10</sub>-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<sup>®</sup> reduced IgM levels

![](_page_33_Picture_1.jpeg)

![](_page_33_Figure_2.jpeg)

Mean serum IgM rapidly reduced to within normal limits

- In the Joenja<sup>®</sup> 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

range

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.

![](_page_33_Picture_8.jpeg)

![](_page_33_Picture_9.jpeg)

## Joenja® safety profile

![](_page_34_Picture_1.jpeg)

#### Phase 3 Trial<sup>1,2</sup>

Adverse reactions reported by  $\geq 2$  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 <sup>†</sup>	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<sup>3</sup>**

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 • 38 patients had a median exposure of ~2 years trials<sup>2</sup> • 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. <sup>†</sup>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

![](_page_34_Picture_19.jpeg)

## Joenja® commercial launch strategy

![](_page_35_Picture_1.jpeg)

![](_page_35_Figure_2.jpeg)

## **Facilitating access through APDS Assist**

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![](_page_36_Figure_2.jpeg)

patients and caregivers starting and continuing Joenja® therapy

### **Commitment to rapid access for eligible patients**

![](_page_37_Picture_1.jpeg)

![](_page_37_Figure_2.jpeg)

## **Beginning treatment with JOENJA®**

![](_page_38_Picture_1.jpeg)

![](_page_38_Figure_2.jpeg)