COMPANY OVERVIEW

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President & CEO

January 08, 2024
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Core Competency Remains our Focus
Expertise in Peptide-based Medicines

Potency
1. Computational Vectrix, Clusters
   - Vectrix
   - Clusters

2. Phage Libraries Hits

3. Peptide Chemistry SAR, Leads

Stability
4. Oral Stability Peptidomimetics GI Assays

2. GI-Restricted Targeted GI absorption & delivery

3. Systemic Availability Formulation SAR, Transport

Rusfertide in PV Ph3
JNJ-2113 Psoriasis Ph3
Oral IL-17 Discovery
<table>
<thead>
<tr>
<th>Product Pipeline: Multiple Assets with Multi-Billion Dollar Market Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DISC./PRE-CLINICAL</strong></td>
</tr>
<tr>
<td>Polycythemia Vera (PV)</td>
</tr>
<tr>
<td><strong>VERIFY Ph3, n~250</strong></td>
</tr>
<tr>
<td><strong>REVIVE Ph2, n=70, 40 wk study + 3 yr OLE</strong></td>
</tr>
<tr>
<td><strong>THRIVE LTE</strong></td>
</tr>
<tr>
<td><strong>PACIFIC Ph2 Elevated Hct (&gt;48%), n=20</strong></td>
</tr>
</tbody>
</table>

| **HEMATOLOGY** |
| **RUSFERTIDE** |
| Hepcidin Mimetic |

| **Psoriasis** |
| **FRONTIER 1 & 2 Ph2b, n~255** |
| **ICONIC-LEAD Ph3, n~600** |
| **ICONIC-TOTAL Ph3 in special areas of psoriasis, n~300** |
| **ICONIC- ADVANCE 1 Ph 3, n~750** |
| **ICONIC- ADVANCE 2 Ph 3, n~675** |

| **Ulcerative Colitis (UC)** |
| **ANTHEM Ph2b, n~240** |

| **I & I** |
| **JNJ-2113** |
| Oral IL-23R Peptide Antagonist |

| **DISCOVERY** |
| **Oral IL-17** |
| **HEME** |

<table>
<thead>
<tr>
<th><strong>Key Milestones</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Enrollment completion 1Q 24</td>
</tr>
<tr>
<td>• Completed; OLE ongoing</td>
</tr>
<tr>
<td>• For REVIVE patients on years 3-5</td>
</tr>
<tr>
<td>• Completed</td>
</tr>
<tr>
<td>• Primary: PASI 90 &amp; IGA 0/1; completion ~ Nov ’24¹</td>
</tr>
<tr>
<td>• Primary: IGA 0/1; completion ~ Nov ’24²</td>
</tr>
<tr>
<td>• Superiority study vs. deucravacitinib; planned</td>
</tr>
<tr>
<td>• Superiority study vs. deucravacitinib; planned</td>
</tr>
<tr>
<td>• Completion ~ May ’25³</td>
</tr>
<tr>
<td>• Oral IL-17 peptide antagonist program</td>
</tr>
<tr>
<td>• Hits/Leads in heme program</td>
</tr>
</tbody>
</table>

¹ See clinicaltrials.gov NCT06095115
² See clinicaltrials.gov NCT06095102
³ See clinicaltrials.gov NCT06049017
## Major Catalysts Ahead

### A Transformative Path Forward for Protagonist, from Discovery to Development to Commercialization

<table>
<thead>
<tr>
<th>Program</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rusfertide in PV</strong></td>
<td>Q4</td>
<td>Q1</td>
<td>Q2</td>
<td>Q4</td>
</tr>
<tr>
<td>ASH</td>
<td></td>
<td>VERIFY Ph3 Enrollment Completion</td>
<td>EHA</td>
<td>2-yr CARC completion</td>
</tr>
<tr>
<td>JNJ-2113 Janssen</td>
<td>Ph3 ICONIC-LEAD psoriasis</td>
<td>Ph3 ICONIC-ADVANCE-1</td>
<td>Ph2b ANTHEM UC completion</td>
<td>NDA Filing (Q4)</td>
</tr>
<tr>
<td>Ph3 ICONIC-TOTAL psoriasis</td>
<td>Ph3 ICONIC ADVANCE-2</td>
<td>Ph3 ICONIC-ADVANCE-1</td>
<td>Ph2b ANTHEM UC completion</td>
<td>Product launch</td>
</tr>
<tr>
<td>Ph2b ANTHEM UC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discovery &amp; Pre-Clinical</td>
<td>I &amp; I Hematology</td>
<td>Oral IL-17 Program</td>
<td>Pre-clinical PoC</td>
<td>Oral IL-17 Peptide Antagonist Development Candidate</td>
</tr>
</tbody>
</table>

**Key Events**
- Ph3 ICONIC-LEAD completion
- Ph3 ICONIC-TOTAL completion
- Anticipated NDA filing for psoriasis
- Product launch
Rusfertide
Hepcidin Hormone Mimetic

Addressing Unmet Needs in Polycythemia Vera
Polycythemia Vera

Disease Background

Myeloproliferative neoplasm characterized by excessive production of red blood cells (RBCs)\(^1\)

- Elevated hematocrit (Hct) is a hallmark of the disease, indicating overproduction of RBCs\(^2\)

Serious, chronic disease associated with increased thrombotic and cardiovascular risks\(^1-3\)

Rare disease with \(~100,000\) diagnosed and treated patients in US\(^1\)

- Diagnosed commonly in individuals 50-70 years of age
- Median survival \(~20\) years

Treatment goal is to control \(\text{HCT} < 45\%\) to minimize TEs, CV events and death\(^3\)

1. NORD Rare Disease Database, Polycythemia Vera. https://rarediseases.org/rare-diseases/polycythemia-vera/
The Unmet Need in PV is Three-Fold
Inconsistent Hct Control, Iron Deficiency, and Symptom Burden

### Inconsistent Hct Control
- Maintaining Hct <45% is critical, as uncontrolled Hct is associated with ~4 times higher rate of death from cardiovascular causes or thrombotic events\(^2\)
- Real-world data shows that 78% of patients have uncontrolled Hct with tests ≥45%\(^1\)

### Iron Deficiency
- Most patients with PV are iron deficient due to depleted bone marrow iron levels\(^3\)
- Some treatments exacerbate disease-related symptoms by inducing iron deficiency\(^3,4\)
- There is no pharmaceutical option with RBC-specific mechanism

### Symptom Burden
- Patients have burdensome symptoms, including fatigue and concentration problems\(^5\)
- 84% of patients report fatigue, and 23% report spending full days in bed because of symptoms\(^6\)
- PV impacts reported activities of daily living and productivity\(^5\)

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Hydroxyurea is the Gatekeeper to Other Agents in PV

HU, used alone or in combination with phlebotomy, is the most common 2nd and 3rd line PV therapy\(^1\)

Many patients require high doses of HU, but still experience inadequate Hct control
- 60% of patients receiving HU require ≥1,000mg daily\(^1\)
- 35% of patients receiving HU experience Hct ≥45%\(^2\)
- Some patients may be intrinsically resistant to HU, making even high doses ≥2,000mg ineffective\(^2\)

HU is associated with potentially serious side effects and adverse events\(^3\)
- Myelosuppression may lead to anemia, leukopenia, and thrombocytopenia, especially at high doses
- Long-term use of HU can cause secondary leukemias and skin cancers

Sub-optimal efficacy and safety of HU illustrates an unmet need for PV patients with elevated Hct that cannot be managed without frequent phlebotomies

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Marketed Agents for PV are Cytoreductive Therapies

No Approved Medications That Specifically Target Red Blood Cells and Hematocrit

**Interferon**

Pegasys®, Besremi®

Interferons have long been used off-label in PV treatment; Besremi is the first interferon product approved for PV

Slow onset of action, with average time to response of **1.2 to 1.4 years**

Failed to show noninferiority to HU at 12 months in the PROUD-PV study

Black box warning for serious neuropsychiatric, autoimmune, ischemic, and infectious disorders

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**Ruxolitinib**

Jakafi®

Only approved for hydroxyurea-resistant or intolerant patients

Improves splenomegaly, a potential marker of disease progression

Potential serious side effects include thrombocytopenia, neutropenia, and anemia

23% of patients were found to have discontinued ruxolitinib within a mean of **2 years** post treatment initiation

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2. Besremi FDA label.
Increased Hematocrit is Associated with Increased Morbidity and Mortality

Elevated Hematocrit Contributes to ~4x Increased Risk of CV Death and Major Thrombosis

Phlebotomy, Even with Concomitant Cytoreductive Therapy, Is Inadequate in Reducing Thrombotic Risk


Thromboembolic Events are Associated with PV

- In observational studies, **patients with PV had higher rates of TEs** compared to matched controls (14.3 vs 4.9/1000 patient years)\(^1\)-\(^3\)
- In a retrospective analysis of US electronic health records contained in the Optum® MarketClarity database, TEs were evaluated in 20,000+ PV patients (date range: 2007-2019)\(^4\)
  - Approximately **25% of PV patients experienced post-index TEs**
  - TE incidence was highest among event-based high-risk patients (50.2%), followed by age-based high-risk (25.0%) and low-risk patients (13.3%)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Total cohort</th>
<th>Event-based high-risk</th>
<th>Age-based high-risk</th>
<th>Low-risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>N=20,089</td>
<td>n=3256</td>
<td>n=9924</td>
<td>n=6909</td>
</tr>
<tr>
<td>Any TE, n (%)</td>
<td>5035 (25.1)</td>
<td>1634 (50.2)</td>
<td>2480 (25.0)</td>
<td>921 (13.3)</td>
</tr>
</tbody>
</table>

- In PV patients with 5 years of follow-up data, high-risk patients had a greater risk of death than event-based low risk patients (37% vs 8.5%, respectively)
- **These data suggest that thrombotic risk reduction should be an area of focus across all PV risk groups**

PV, polycythemia vera; TE, thromboembolic event.
Guidelines Use Risk to Govern Treatment Strategy, but Treatment Burden Has Real-World Significance

**Risk Stratification**

- NCCN guidelines characterize PV patients as low- or high-risk, defined as:
  - Low-risk: age <60 years without history of TE
  - High-risk: age ≥60 years and/or history of TE
- Physicians often do not adhere to guidelines for low- and high-risk patients because this stratification is not comprehensive
- Other critical aspects of care, such as perceived treatment burden, influence one’s treatment strategy

**Treatment Burden**

- **Treatment burden** is the impact of patient’s therapy regimen on overall wellbeing
- Factors influencing treatment burden include:
  - Physical impacts (side effects, pain, inconvenience of therapy)
  - Psychological impacts (emotional burden, fear of complications)
  - Financial impacts
- According to HCP research, frequent PHL (>3 in 6 months) and adverse events had the most significant impact on treatment burden

Baseline AAU Study of Rusfertide, N=45 hematologist, oncologists, or hem/oncs interviewed
Defining the “moderate treatment burden” population using current market treatments and trends is the key to understanding rusfertide's market opportunity.

### Key indicators of suboptimal control for a PV patient

<table>
<thead>
<tr>
<th>Phlebotomy Frequency</th>
<th>Dosing of Hydroxyurea</th>
<th>Thrombotic Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>A high frequency of phlebotomies indicates the intervention is not working to maintain Hct ( \leq 45% )</td>
<td>High doses of HU (1-2 g/day) can indicate difficult-to-control PV, especially when used in combination with phlebotomy</td>
<td>Occurrence of thrombotic events following treatment initiation can be an indicator of the ineffectiveness of the treatment – an example of a sub-optimally controlled PV patient</td>
</tr>
<tr>
<td>Frequent phlebotomies may exacerbate iron deficiency and related symptoms(^1)</td>
<td>Potential serious side effects and adverse events, including leukemic transformation and skin malignancies(^2)</td>
<td></td>
</tr>
</tbody>
</table>

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Rusfertide for Polycythemia Vera
Successful Phase 2 Completion and Phase 3 Enrollment Nearing Completion

• Phase 2 REVIVE Study (n=70):
  – Randomized withdrawal data presented at EHA 2023\(^1\) as a late breaker oral
    ▪ 69% responder rate (vs. 19% placebo; p=0.0003)
  – Long-term extension data presented at ASH 2023\(^2\)
    ▪ Durable hematocrit control through 2.5 years

• Phase 2 THRIVE Study (n≈50):
  – Long-term extension study (for REVIVE patients on study years 3-5)

• Phase 2 PACIFIC Study (n=20)\(^3\):
  – High hematocrit (Hct >48%); 52-week open-label study completed in Q2 2023

• Phase 3 VERIFY Study (n≈250)\(^4\):
  – Enrollment completion expected in 1Q 2024
  – Primary endpoint essentially same as Phase 2; statistical powering geared for proving secondary endpoints
  – Secondary endpoints include multiple symptom improvement metrics

Rusfertide has **Orphan Drug** designation and **Fast Track** status for PV

Clinical Study of Rusfertide in PV Patients with High Hematocrit (>48%)\textsuperscript{1,2}

Rapid Hematocrit Control <45% Was Achieved

- Open-label, 1 year study in PV patients who are newly diagnosed or for whom current treatment is not sufficient to control hematocrit (Hct)

- Patients met WHO criteria for PV diagnosis
  - Baseline Hct>48%
  - History of ≥3 Hct values >48% in prior 28 wks or ≥5 Hct values in prior year
  - Phlebotomy alone or with concurrent cytoreductive therapy
  - Initiated rusfertide treatment without prestudy phlebotomy

- Clinical endpoints
  - Proportion of subjects with Hct <45% at week 16
  - Time to first Hct <45%
  - Safety

\begin{itemize}
  \item Median time to first Hct <45%: 4.93 wks
  \item Rate of Hct Reduction: 1.7%/wk
  \item Proportion <45% Prestudy: 0%
  \item Proportion of Patients <45% at Wk 16: 69% (11/16)
\end{itemize}

**Phase 2 REVIVE Study of Rusfertide in PV Patients (n=70)**

**Randomized Withdrawal Design**

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**STUDY HIGHLIGHTS:**

- Phlebotomy dependent PV patients diagnosed as per 2016 WHO criteria
- ≥3 phlebotomies in 6 months with or without concurrent cytoreductive therapy
- Rusfertide (PTG-300) administered s.c. weekly, added to prior standard therapy
- Key endpoints: Safety, Hct<45%, freedom from phlebotomy, symptom scores

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**Dose Finding**

- PART 1 (28 wks; Wks 1-29)

**Efficacy Evaluation**

- Dose ± Titration

**Randomized Withdrawal**

- Fixed Active/Placebo Dose (1:1)

**Open Label Extension**

1. OLE increased from 1 yr to 3 yrs
2. 4 pts ≥3 yrs
3. 37 pts ≥2 yrs
4. 57 pts ≥1 yr

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Baseline Characteristics

Characteristics (n = 70)

<table>
<thead>
<tr>
<th>AGE</th>
<th>Range</th>
<th>27-77 years (Median, 58)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GENDER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>21 (30.0%)</td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>49 (70.0%)</td>
<td></td>
</tr>
<tr>
<td>RISK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>30 (42.9%)</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>40 (57.1%)</td>
<td>[Age based – 37.1%, Thrombotic events – 20.0%]</td>
</tr>
<tr>
<td>DURATION SINCE PV DIAGNOSIS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤1 yr</td>
<td>14 (20.0%)</td>
<td></td>
</tr>
<tr>
<td>1 - ≤3 yrs</td>
<td>23 (32.9%)</td>
<td></td>
</tr>
<tr>
<td>3 - ≤5 yrs</td>
<td>11 (15.7%)</td>
<td></td>
</tr>
<tr>
<td>&gt;5 yrs</td>
<td>22 (31.4%)</td>
<td></td>
</tr>
</tbody>
</table>

CONCURRENT THERAPIES

| PHL only | 37 (52.9%) |
| PHL + HU | 18 (25.7%) |
| PHL + IFN| 8 (11.4%)  |
| PHL + JAK inhibitor | 5 (7.1%) |
| PHL + Multiple Agents | 2 (2.9%) |

NUMBER OF PHL IN 28 WEEKS PRIOR

| 2       | 1 (1.4%) |
| 3       | 13 (18.6%) |
| 4       | 26 (37.1%) |
| ≥5      | 30 (42.9%) |
| Median  | 4 (2.9%)  |

WEEKS BETWEEN PHLEBOTOMIES IN 28 WEEKS PRIOR

| Median | 5.5 |

Data cutoff: 17 October 2023
In patients who continued onto Part 3, 32 (55.2%) and 26 (44.8%) patients were treated with phlebotomy alone or phlebotomy with cytoreductive therapy, respectively.

Adapted from Ritchie EK, et al. Durability of Hematocrit Control in Polycythemia Vera with the First-in-Class Hepcidin Mimetic Rusfertide: Two-Year Follow up Results from the Revive Study. Blood. 2023;142 (Supplement 1): 745.
Part 2: Blinded Randomized Withdrawal, Weeks 29-41

Rusfertide Met the Primary Endpoint of Efficacy (p=0.0003)

- 69.2% subjects (18 out of 26) are responders. 8 non-responders as per protocol definition
  - 3 fulfilled the phlebotomy eligibility criteria
  - 5 discontinued treatment per patient/investigator discretion

- All 8 non-responders continued in the Part 3 open label extension part of the study
  - 7 out of 8 are currently continuing treatment

- 92.3% subjects (24 out of 26) in rusfertide arm did not receive phlebotomy in Part 2, the 12-week randomization part of the study

*Responder definition as per protocol
- Did not receive a phlebotomy
- Completed 12 weeks of treatment
- Hematocrit control maintained without phlebotomy eligibility, which is defined as
  - Hematocrit ≥45% that was ≥3% higher than Week 29 pre-randomization hematocrit value or
  - Hematocrit >48%
or
  - An increase of ≥5% in hematocrit compared to Week 29 pre-randomization hematocrit value

Adapted from Kremyanskaya et al. EHA2023; Abstract LB2710.
Phase 2 REVIVE Study: Part 1 and 2
Consistent Effects on Freedom from Phlebotomy

Phlebotomy-free on Rusfertide

Rusfertide

Part 1
- Dose Titration
- Open-Label Efficacy

Part 2
- Double-Blind Efficacy

Percent of Subjects

Wk 1-17 (N=65)
- 76.9%
- n=50

Wk 17-29 (N=63)
- 87.3%
- n=55

Wk 29-41 (N=26)
- 92.3%
- n=24

Phase 2 REVIVE Study: Time to Event Analysis

Rusfertide Associated With Delayed Time to Loss of Response, Phlebotomy Eligibility, and First Hct ≥45%

Time to Loss of Response

Time to Phlebotomy Eligibility

Time to First Hct ≥45%

Protagonist Therapeutics, Inc. Data on File. 2 January 2024.
Rusfertide Provided Durable Control of Hematocrit Through 2.5 Years

REVIVE Part 3: Open-Label Extension (OLE)

- Rusfertide treatment resulted in consistent maintenance of hematocrit <45%

Adapted from Ritchie EK, et al. Durability of Hematocrit Control in Polycythemia Vera with the First-in-Class Hepcidin Mimetic Rusfertide: Two-Year Follow up Results from the Revive Study. *Blood*. 2023;142 (Supplement 1): 745.
Ph2 REVIVE Study: Symptom Improvement

Improvement in Ferritin Levels and Symptoms

Serum Ferritin (Central) Data (Mean ± 1 SEM)¹

Symptom Improvements in Part 1 (28 Weeks)²

• Prior to enrollment, iron-related parameters were consistent with systemic iron deficiency
• Rusfertide resulted in normalization of serum ferritin levels over 2.5 years

¹Adapted from Ritchie EK, et al. Durability of Hematocrit Control in Polycythemia Vera with the First-in-Class Hepcidin Mimetic Rusfertide: Two-Year Follow up Results from the Revive Study. Blood. 2023;142 (Supplement 1): 745.

²Adapted from Kremyanskaya et al. EHA2023; Abstract LB2710.

Individual symptoms assessed using MPN-SAF; p-values are based on paired comparisons
Phase 2 REVIVE Study: Safety and Exposure

Rusfertide Was Generally Well Tolerated

Summary of Reported TEAEs (Any Grade) by Preferred Term Noted at ≥10%

<table>
<thead>
<tr>
<th>Preferred Term</th>
<th>N=70</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients with at least 1 TEAE</td>
<td>70 (100.0)</td>
</tr>
<tr>
<td>Injection site erythema</td>
<td>46 (65.7)</td>
</tr>
<tr>
<td>Injection site pain</td>
<td>28 (40.0)</td>
</tr>
<tr>
<td>Injection site pruritus</td>
<td>28 (40.0)</td>
</tr>
<tr>
<td>Fatigue</td>
<td>23 (32.9)</td>
</tr>
<tr>
<td>Injection site mass</td>
<td>21 (30.0)</td>
</tr>
<tr>
<td>Arthralgia</td>
<td>19 (27.1)</td>
</tr>
<tr>
<td>Pruritus</td>
<td>19 (27.1)</td>
</tr>
<tr>
<td>Injection site swelling</td>
<td>18 (25.7)</td>
</tr>
<tr>
<td>COVID-19</td>
<td>17 (24.3)</td>
</tr>
<tr>
<td>Dizziness</td>
<td>17 (24.3)</td>
</tr>
<tr>
<td>Headache</td>
<td>16 (22.9)</td>
</tr>
<tr>
<td>Nausea</td>
<td>16 (22.9)</td>
</tr>
<tr>
<td>Anemia</td>
<td>15 (21.4)</td>
</tr>
<tr>
<td>Injection site irritation</td>
<td>14 (20.0)</td>
</tr>
<tr>
<td>Injection site bruising</td>
<td>11 (15.7)</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>10 (14.3)</td>
</tr>
<tr>
<td>Dyspnea</td>
<td>10 (14.3)</td>
</tr>
<tr>
<td>Hyperhidrosis</td>
<td>10 (14.3)</td>
</tr>
<tr>
<td>Injection site warmth</td>
<td>10 (14.3)</td>
</tr>
</tbody>
</table>

- **70 subjects were enrolled in the rusfertide REVIVE study**
  - 57 subjects (81.4%) have exposure ≥ 1 yr
  - 51 subjects (72.9%) have exposure ≥ 1.5 yrs
  - 37 subjects (52.9%) have exposure ≥ 2 yrs
  - 11 subjects (15.7%) have exposure ≥ 2.5 yrs
  - 4 subjects (5.7%) have exposure ≥ 3 yrs
  - Overall, the median duration of exposure to rusfertide was 105.4 weeks (range, 3-182 weeks)

- **Rusfertide was generally well tolerated**
  - A majority of TEAEs were Grade 1 or 2
    - Overall, 77.1% of TEAEs had a maximum grade of 2
    - Overall, 21.4% of TEAEs were grade 3
    - No Grade 4 or 5 TEAEs
  - The most common TEAEs were injection site reactions, which were localized and grade 1-2 in severity and decreased in incidence
REVIVE: Serious Adverse Events

No New Safety Signals

• Overall, 14 patients (20.0%) experienced an SAE*
  – There were 3 cases of basal cell carcinoma
  – There was 1 case each of atrial fibrillation, myocardial infarction, anogenital dysplasia, constipation, non-cardiac chest pain, gastroenteritis, sepsis, lung adenocarcinoma, malignant melanoma, malignant melanoma (Stage I), acute myeloid leukemia (Part 2; placebo arm), squamous cell carcinoma (Part 2; placebo arm), ischemic stroke, syncope, transient ischemic attack, peripheral artery aneurysm, and peripheral vascular disorder
• The nature of the SAEs observed is consistent with comorbidities anticipated in the PV population, including vascular events and skin cancer

*Most SAEs were assessed as being unrelated to rusfertide by the investigators

Ph2 REVIVE Study

PV, polycythemia vera; SAE, serious adverse event.
Adapted from Ritchie EK, et al. Durability of Hematocrit Control in Polycythemia Vera with the First-in-Class Hepcidin Mimetic Rusfertide: Two-Year Follow up Results from the Revive Study. Blood. 2023;142 (Supplement 1): 745.
Prevalence of Second Cancers in PV

- One large population-based study found that patients with MPNs had a 60% higher risk of developing second non-hematologic cancers compared to matched controls¹
  - Skin cancers were among the most prevalent second cancers (2.8-fold increase in risk of non-melanoma skin cancer vs. matched controls)
- In a retrospective analysis of US electronic health records contained in the Optum® MarketClarity database, the post-index period prevalence of second cancers was evaluated in 20,000+ PV patients (date range: 2007-2019)²
  - 35.7% of patients had at least one second cancer in the post-index period; the highest rates were observed for skin cancers
    - 9.1% of patients had any form of skin cancer
    - 8.3% of patients had non-melanoma skin cancer
    - 1.4% of patients had melanoma
  - Patients treated with hydroxyurea had nearly 2× the rate of skin cancers compared to patients treated with phlebotomy alone
- Given these data¹,², patients with PV appear to have high rates of second cancers, including skin cancers

MPN, myeloproliferative neoplasm; PV, polycythemia vera; TE, thromboembolic event.

**Rusfertide Summary**

*An Investigational Injectable Hepcidin Mimetic for Treatment of Polycythemia Vera*

- PV patients requiring frequent phlebotomy ± cytoreductives have been treated with rusfertide for >2 years in the **REVIVE** study, with subjects remaining essentially phlebotomy free
  - Rapid, sustained and durable hematocrit control
  - Robust efficacy in all categories of patients
  - Rusfertide dosing was interrupted and led to loss of effect; restart restored therapeutic benefits
  - Positive improvements in symptom scores
  - 53 patients, 1:1 randomization part 2 of the study completed

- Rapid Hct control (<45%) without phlebotomy in high Hct (>48%) **PACIFIC** study

- Rusfertide treatment with or without cytoreductives appears to be well tolerated
  - Safety update presented at ASH in December 2023; no new safety signals observed

- ~250 patient, randomized, placebo-controlled Ph3 **VERIFY** study to confirm efficacy and safety
  - Execution underway, enrollment completion by 1Q 2024

---

Phase 3 Study **VERIFY** (NCT05210790): Rusfertide vs Placebo in Patients With PV

**Pathway to Potential Registration in the USA and Europe**

**Key Eligibility:**
- Age ≥18 years
- Meet revised 2016 WHO criteria for diagnosis of PV
- ≥3 phlebotomies due to inadequate Hct control in 28 weeks before randomization OR ≥5 phlebotomies due to inadequate Hct control within 1 year prior to randomization

**N≈250**

**Part 1A: Double-Blind**
- Dose Titration (Weeks 0-20)
- Primary Efficacy (Weeks 20-32)
- Placebo + phlebotomy ± cytoreductive therapy (n≈125)
- Rusfertide + phlebotomy ± cytoreductive therapy (n≈125)  
  *Starting dose: 20 mg SC Q1W*

**Part 1B: Open-Label**
- Durability of Response (Weeks 32-52)
- Rusfertide + ongoing therapy

**Part 2: Open-Label**
- 2 Year Long-Term Safety Follow-Up (Weeks 52-156)
- Rusfertide + PV therapy

**Key Endpoints:**
- Proportion of patients achieving response (defined as absence of phlebotomy eligibility; measured between Weeks 20-32)
- Mean number of phlebotomies (Weeks 0-32)
Potential Commercial Positioning for Rusfertide

Potential Therapy of Choice for Patients with Moderate Treatment Burden

Prevalent Patients in US¹: ~160,000
Diagnosed & Treated Patients²: ~100,000

Rusfertide Target

~30%
- Infrequent Phlebotomy
- Low-dose HU

~60%
- Frequent phlebotomy
- Frequent phlebotomy + HU
- High-dose HU

~10%
- Other agents

Low
Moderate Treatment Burden
High

¹ Based on NORD estimates (44 to 57 per 100,000 people in the US)
² Internal estimates based on data on file
Clinical Study of Rusfertide in Patients with Hemochromatosis

Control Serum Iron and Reduce Phlebotomies

- Open-label, 24-week proof-of-concept study in patients with hemochromatosis

- **Eligibility**
  - Adults with HFE-related hemochromatosis.
  - History of ≥3 phlebotomies in 12 months or ≥4 phlebotomies in 15 months

- **Clinical endpoints**
  - Number of phlebotomies
  - Liver Iron Concentration (LIC) by MRI

- **Manuscript published in** *Lancet Gastroenterol Hepatol* in December 2023\(^1\)
  - Rusfertide treatment rapidly reduced and suppressed serum iron and TSAT.
  - Essential elimination of phlebotomies and stable LIC.
  - Rusfertide was generally well tolerated

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JNJ-2113: Oral IL-23 Receptor Antagonist Peptide

Targeted Investigational Therapy for Psoriasis & Other IL-23 Mediated Diseases
Collaboration overview
• Initiated in 2017 with I&I market leader Janssen Biotech
• JNJ-2113 (formerly PN-235) jointly discovered using Protagonist’s proprietary peptide discovery platform
  - Protagonist completed pre-clinical and first Phase 1 study
  - Janssen responsible for further development and commercialization

Comprehensive JNJ-2113 Phase 3 registrational program (ICONIC) in psoriasis
• Four Phase 3 studies
• PASI 90 highlighted as high-bar primary endpoint to reflect the modern clinical goal of durable, symptom-free remission
• Two head-to-head trials vs. deucravacitinib
• All psoriasis trials to be conducted with single dose of JNJ-2113 at 200 mg once-daily

Phase 2b study in ulcerative colitis ongoing (ANTHEM)

JNJ-2113 highlighted as first- and best-in class targeted oral IL-23 peptide antagonist
• "Unprecedented potential" from JNJ-2113 across multiple indications: IBD, plaque psoriasis, psoriatic arthritis, IBD
• PTGX positioned as delivering "transformational science" and a source or "best innovation" alongside two other JNJ partners
• "Potential peak year sales for JNJ-2113 across indications: $5B+"
JNJ-2113 Market Potential

Big Opportunity for a safe and effective oral, once daily medication

- 50-70% of patients (~5 million in G8) living with psoriatic and IBD conditions and are eligible for advanced therapies, and yet aren't receiving them

Reasons eligible patients avoid using advanced treatments

- 30% Method of administration
- 75% Overall risk/benefit profile

Market growth expected to be driven by orals

- Patients on injectables who would switch to an oral with similar safety & efficacy: 75%
- Eligible patients not receiving advanced therapy: ~5M

Growing Market for Oral Treatment Options

| WW market | PsO  | ~$35B (4-6%) |
| PsA       | ~$8B (4-6%) |
| CD        | ~$19B (2-4%) |
| UC        | ~$13B (7-9%) |

Combination of advanced efficacy and trusted safety in a preferred oral formulation could unlock a large market share

## JNJ-2113: Oral, IL-23R Peptide Antagonist

Preclinical, Phase 1 and Phase 2b Data Supportive of a Robust Clinical Development Program

### Highly Potent Oral IL-23R Antagonist
- Picomolar potency
  - Similar or better target affinity vs. IL-23 mAbs

### High Oral Stability
- >24hr half-life in feces (human, cyno, and rat)
- >25% fecal recovery after 24hrs in cynos

### Pre-clinical Proof-of-Concept
- Rat ear skin inflammation model
- Rat TNBS colitis model

### Phase 1 studies in NHVs
- PD based PoC: Inhibition of IL-23 biomarkers

### Phase 2b FRONTIER1 study in Psoriasis
- Potential for best-in-class oral agent for psoriasis

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Protagonist – JNJ Innovative Medicines Discovery & Development Partnership
**JNJ-2113 FRONTIER 1 Phase 2b Plaque Psoriasis (PsO) Study**

A Phase 2b multicenter, randomized, placebo controlled, dose-ranging study to evaluate the efficacy and safety of JNJ-2113 for the treatment of moderate-to-severe plaque psoriasis

### Adult Patients with PP
- **N=255**

#### Eligibility
- Moderate – Severe PP

#### Inclusion
- BSA $\geq$ 10%
- PASI $\geq$ 12

#### Primary endpoint
- PASI $>75$ at Week 16

<table>
<thead>
<tr>
<th>Screening (Up to 4 Weeks)*</th>
<th>Treatment (Weeks 0-16)</th>
<th>Safety Follow-up (4 Weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>25 mg QD &amp; Placebo</td>
<td>LTE (FRONTIER 2)</td>
</tr>
<tr>
<td>2</td>
<td>50 Mg QD &amp; Placebo</td>
<td>4 weeks safety follow-up</td>
</tr>
<tr>
<td>3</td>
<td>100 mg QD &amp; Placebo</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>50 mg BID &amp; Placebo</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>100 mg BID &amp; Placebo</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Placebo</td>
<td></td>
</tr>
</tbody>
</table>

*Week 0 Randomize  
Week 16 Primary Endpoint
Demographics and Disease Characteristics at Baseline

<table>
<thead>
<tr>
<th></th>
<th>Placebo</th>
<th>JNJ-77242113</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>25 mg QD</td>
<td>50 mg QD</td>
</tr>
<tr>
<td>Full analysis set</td>
<td>43</td>
<td>43</td>
<td>43</td>
</tr>
<tr>
<td>Age (yrs)</td>
<td>43.9 (14.70)</td>
<td>44.5 (12.72)</td>
<td>45.1 (11.08)</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>92.1 (24.66)</td>
<td>89.0 (19.42)</td>
<td>87.6 (19.23)</td>
</tr>
<tr>
<td>BMI (kg/m²)</td>
<td>31.2 (7.61)</td>
<td>30.0 (7.25)</td>
<td>29.3 (5.97)</td>
</tr>
<tr>
<td>PsO disease duration (yrs)</td>
<td>17.9 (14.37)</td>
<td>15.5 (11.76)</td>
<td>21.5 (11.16)</td>
</tr>
<tr>
<td>Age at diagnosis (yrs)</td>
<td>26.1 (15.55)</td>
<td>29.1 (15.56)</td>
<td>23.7 (11.57)</td>
</tr>
<tr>
<td>PASI total score</td>
<td>18.99 (5.341)</td>
<td>18.90 (5.272)</td>
<td>19.23 (5.082)</td>
</tr>
<tr>
<td>IGA score, n (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severe (4)</td>
<td>5 (11.6%)</td>
<td>13 (30.2%)</td>
<td>7 (16.3%)</td>
</tr>
<tr>
<td>Moderate (3)</td>
<td>38 (88.4%)</td>
<td>30 (69.8%)</td>
<td>36 (83.7%)</td>
</tr>
<tr>
<td>Previous Psoriasis Medications/Therapies, n (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phototherapy**</td>
<td>19 (44.2%)</td>
<td>17 (39.5%)</td>
<td>24 (55.8%)</td>
</tr>
<tr>
<td>Biologics†</td>
<td>7 (16.3%)</td>
<td>7 (16.3%)</td>
<td>11 (25.6%)</td>
</tr>
<tr>
<td>Systemics‡</td>
<td>34 (79.1%)</td>
<td>33 (76.7%)</td>
<td>35 (81.4%)</td>
</tr>
</tbody>
</table>

BID = Twice daily; BMI = Body mass index; IGA = Investigator’s Global Assessment; PASI = Psoriasis Area and Severity Index; PsO = Psoriasis; PUVA = Psoralen plus ultraviolet A; QD = Daily; UVB = Ultraviolet B. Data shown are mean (SD), unless otherwise indicated. *Includes all JNJ-77242113 treatment columns. **Includes PUVA or UVB. †Includes etanercept, infliximab, adalimumab, ustekinumab, briakinumab, secukinumab, ixekizumab, brodalumab, guselkumab, risankizumab, tildrakizumab, alefacept, efalizumab, natalizumab, certolizumab pegol. ‡Includes conventional nonbiologic systemics, novel nonbiologic systemics, 1,25-vitamin D3 and analogues, phototherapy, biologics.
JNJ-2113 Phase 2B Frontier 1 Data

**Dose Response**

- 200 mg once daily oral dose selected for all four phase 3 psoriasis studies
- PASI 90 as a high-bar primary endpoint in these phase 3 studies
Cross-Study Comparison of JNJ-2113 to Clinically Relevant Phase 2 Benchmarks

1. Cross trial (not head-to-head) comparisons
2. JNJ2113 100 mg bid dose. Wk 16 endpoint (Placebo: PASI 75: 9.3%, PASI 90: 2.3%, PASI 100: 0%)
5. TAK-279 30 mg qd dose (Expected phase 3 dose). Wk 12 primary endpoint. AAD 2023. (Placebo: PASI 75: 5.8%, PASI 90: 0%, PASI 100: 0%)
7. Tremfya 200 mg wk 0, 4, then q 8 wks (approved dose 100 mg wk 0, 4 then q 8 wks). Wk 16 primary endpoint. Gordon KB et al. N Engl J Med 2015;373:136-44. (Placebo: PASI 75: 5%, PASI 90: 2%, PASI 100: 0%)
Proportion of Patients Achieving IGA 0/1 and IGA 0 (95% CI) Through Week 16

Non-responder imputation

*nominal p <0.001 vs placebo; **nominal p<0.01 vs placebo. p-values are based on Cochran-Mantel-Haenszel (CMH) chi-square test stratified by baseline weight category (≤90 kg, >90 kg). Patients who discontinued study agent due to lack of efficacy/worsening of PsO, or who initiated a prohibited PsO treatment were considered non-responders after the occurrence. Patients with missing data were considered non-responders.
### Number of Patients With ≥1 TEAE With Frequency of ≥5% of Preferred Terms in Any Treatment Group Through End of Study by System Organ Class and Preferred Term

<table>
<thead>
<tr>
<th></th>
<th>Placebo</th>
<th>JNJ-77242113</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>25 mg QD</td>
</tr>
<tr>
<td>Safety analysis set, n</td>
<td>43</td>
<td>43</td>
</tr>
<tr>
<td>Avg duration of follow-up (weeks)</td>
<td>15.03</td>
<td>15.70</td>
</tr>
<tr>
<td>Patients with ≥1 AE, n (%)</td>
<td>22 (51.2%)</td>
<td>20 (46.5%)</td>
</tr>
<tr>
<td>System organ class/Preferred term, n (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infections and infestations</td>
<td>12 (27.9%)</td>
<td>15 (34.9%)</td>
</tr>
<tr>
<td>COVID-19</td>
<td>5 (11.6%)</td>
<td>5 (11.6%)</td>
</tr>
<tr>
<td>Nasopharyngitis</td>
<td>2 (4.7%)</td>
<td>1 (2.3%)</td>
</tr>
<tr>
<td>Upper respiratory tract infection</td>
<td>1 (2.3%)</td>
<td>3 (7.0%)</td>
</tr>
<tr>
<td>Gastrointestinal disorders</td>
<td>5 (11.6%)</td>
<td>3 (7.0%)</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>1 (2.3%)</td>
<td>2 (4.7%)</td>
</tr>
<tr>
<td>Nervous system disorders</td>
<td>1 (2.3%)</td>
<td>0</td>
</tr>
<tr>
<td>Headache</td>
<td>1 (2.3%)</td>
<td>0</td>
</tr>
<tr>
<td>Respiratory, thoracic and mediastinal disorders</td>
<td>1 (2.3%)</td>
<td>1 (2.3%)</td>
</tr>
<tr>
<td>Cough</td>
<td>0</td>
<td>1 (2.3%)</td>
</tr>
</tbody>
</table>

AE=Adverse event; BID=Twice daily; QD=Daily; TEAE=Treatment-Emergent Adverse Events. *Includes all JNJ-2113 treatment columns.

Patients are counted only once for any given event, regardless of the number of times they actually experienced the event. Adverse events are coded using MedDRA Version 25.1.
**Safety Summary**

<table>
<thead>
<tr>
<th>The proportion of patients experiencing 1 or more AEs was comparable between JNJ-77242113 groups and the placebo group</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Most frequently reported AEs were COVID-19 and nasopharyngitis</td>
</tr>
<tr>
<td>• There was no evidence of dose-dependent increase in the occurrence of AEs across the JNJ-77242113 treatment groups</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>There were three serious AEs that occurred in FRONTIER-1 (n=1 each: suicide attempt, COVID-19, infected cyst; all on active drug and assessed as not related to study intervention by investigators).</th>
</tr>
</thead>
<tbody>
<tr>
<td>No dose-dependent relationship was observed.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A low number of laboratory abnormalities occurred during the study and were comparable between placebo and JNJ-77242113 groups.</th>
</tr>
</thead>
<tbody>
<tr>
<td>There was no evidence of a dose-dependent increase in the occurrence of abnormalities.</td>
</tr>
</tbody>
</table>

| There were no deaths, MACE, or malignancies during the study. |
JNJ-2113 (formerly PN-235)
Conclusions from Phase 2b Psoriasis Study and Next Steps

<table>
<thead>
<tr>
<th>Innovation</th>
<th>Efficacy</th>
<th>Safety</th>
<th>Potential</th>
<th>Next Steps</th>
</tr>
</thead>
</table>
| • Oral IL-23R antagonist peptide  
  • First-in-class  
  • Only-in-class  
  • Efficacious, well-tolerated | • Statistically significant efficacy vs. placebo across all doses  
  • A dose-response in PASI scores (75, 90, 100) | • Well tolerated at all doses with AEs comparable vs. placebo  
  • No dose dependent relationship in AEs | • Potential for best-in-class oral agent | • Further development in psoriasis and other IL-23 mediated disease indications is warranted |

Next Steps
• Registrational program (ICONIC) with four phase 3 studies in psoriasis
  - Two head-to-head trials with deucravacitinib
• PASI 90 highlighted as a high-bar primary endpoint
• 200 mg oral once-daily dosing in all four phase 3 studies

JNJ-2113 is a potential best, first-, and only-in-class oral IL-23 receptor antagonist
## Study Phase 1 Phase 2 Phase 3 Key Milestones

<table>
<thead>
<tr>
<th>Study</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Key Milestones</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCT04621630</td>
<td>Ph1 in NHVs</td>
<td>Ph2b in Psoriasis, n~255</td>
<td>Ph2a in Psoriasis, n~90</td>
<td>NHVs in Australia; completed</td>
</tr>
<tr>
<td>NCT05062200</td>
<td>Ph1 in NHVs</td>
<td>Ph2b in Psoriasis</td>
<td></td>
<td>Adult Japanese/Chinese participants; completed</td>
</tr>
<tr>
<td>NCT05703841</td>
<td>Ph1 in NHVs</td>
<td>Ph2b in Psoriasis</td>
<td></td>
<td>Healthy adult Chinese participants; completed</td>
</tr>
<tr>
<td>FRONTIER 1</td>
<td>Ph2b in Psoriasis</td>
<td>Ph2b in Psoriasis</td>
<td></td>
<td>Completed</td>
</tr>
<tr>
<td>FRONTIER 2</td>
<td>Ph2b in Psoriasis</td>
<td>Ph2b in Psoriasis</td>
<td></td>
<td>Delayed release formulation; completed</td>
</tr>
<tr>
<td>SUMMIT</td>
<td>Ph2a in Psoriasis, n~90</td>
<td>Ph2b in Psoriasis</td>
<td></td>
<td>Completed</td>
</tr>
<tr>
<td>ICONIC-LEAD</td>
<td>Ph3 in Psoriasis, n~600</td>
<td>Ph3 in Psoriasis, n~300</td>
<td></td>
<td>PASI 90 &amp; IGA 0/1; completion ~Nov '24*</td>
</tr>
<tr>
<td>ICONIC-TOTAL</td>
<td>Ph3 in Psoriasis, n~300</td>
<td>Ph3 in Psoriasis, n~750 pts</td>
<td>Ph3 in Psoriasis, n~675 pts</td>
<td>Special areas IGA 0/1; completion ~Nov '24*</td>
</tr>
<tr>
<td>ICONIC-ADVANCE 1</td>
<td>Ph3 in Psoriasis, n~750 pts</td>
<td>Ph3 in Psoriasis, n~675 pts</td>
<td></td>
<td>Superiority study vs. deucravacitinib; planned</td>
</tr>
<tr>
<td>ICONIC-ADVANCE 2</td>
<td>Ph3 in Psoriasis, n~675 pts</td>
<td>Ph3 in Psoriasis, n~675 pts</td>
<td></td>
<td>Superiority study vs. deucravacitinib; planned</td>
</tr>
<tr>
<td>ANTHEM-UC</td>
<td>Ph2b in UC, n~240 Pts</td>
<td></td>
<td></td>
<td>Completion ~May '25</td>
</tr>
</tbody>
</table>
Milestones Status and Outlook
2024 and Beyond

$172.5M* in upfront and development milestones have been achieved
$795M amount of total future development and sales milestones for which Protagonist remains eligible
Royalty 6% to 10% upward tiering 10% at ≥ $4B net sales

<table>
<thead>
<tr>
<th>Upcoming Potential Milestones</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1st indication</td>
<td>Ph3 1° end point achieved</td>
<td>$115M**</td>
</tr>
<tr>
<td></td>
<td>NDA filing</td>
<td>$35M**</td>
</tr>
<tr>
<td></td>
<td>NDA approval</td>
<td>$50M**</td>
</tr>
<tr>
<td>2nd indication</td>
<td>Ph3 initiation</td>
<td>$15M**</td>
</tr>
</tbody>
</table>

* Includes $60 million in milestones achieved in Q4 2023
** $215M potential milestones NOT included in current cash runway forecast
Discovery Pipeline
Financial Outlook

2024 is a year of pipeline execution and strategic evolution for Protagonist
## Discovery Pipeline

### Leveraging Our Successes to Address Major Unmet Medical Needs and Create Value

<table>
<thead>
<tr>
<th>Focus Areas</th>
<th>Strategic Rationale</th>
</tr>
</thead>
</table>
| **I & I** Inflammatory & Immunomodulatory Diseases | • Leverage the success of JNJ-2113  
• Next generation oral peptides with best-in-class efficacy/safety in systemic immune-mediated diseases  
• Validated clinical targets  
• Internal expertise/experience to move in competitive disease areas with strong differentiation  |

**Lead Optimization**  
1H 2024  
**Dev Candidate Nomination**  
2H 2024  

**Oral IL-17 Peptide Antagonists**

<table>
<thead>
<tr>
<th>1H 2024</th>
<th>2H 2024</th>
</tr>
</thead>
</table>
| **Hematology** Myeloproliferative Neoplasms | • Leverage end-to-end expertise in MPNs  
• Build upon rusfertide MPN commercial franchise  
• Address unmet medical needs in MPNs; moving beyond rusfertide  
• Oral and/or parenteral routes of administration |

---

Protagonist Therapeutics
Oral IL-17 Peptide Antagonists

New Discovery Program

• IL-17 inhibitors expected to lead the I&I space
  – Global sales expected to increase significantly from ~$29B (2021) to >$50B (2031) for IL-17 mediated indications¹
  – IL-23 and IL-17 inhibitors expected to have significant PsO (~80%) and PsA (~60%) market share by ~2035²

• Leveraging our oral peptide technology platform

• Target product profile (TPP)
  – Oral peptide, first-in-class
  – Similar/better potency vs. approved mAbs³
  – Tri-specific (IL-17 AA, AF & FF)

• Development candidate in 2024⁴

Financial Highlights

Financial Resources Forecast Extends Through Q1 2026

$322.7M CASH, CASH EQUIVALENTS & MARKETABLE SECURITIES as of September 30, 2023

Q1 2026 CASH, CASH EQUIVALENTS & MARKETABLE SECURITIES provide forecast cash runway through Q1 2026*

~57.6M SHARES OUTSTANDING as of September 30, 2023

* Includes $60M in milestones achieved in Q4 2023
Thank you
65th American Society of Hematology Annual Meeting & Exposition

Accepted Abstracts
# 65th ASH Annual Meeting and Exposition (2023)

## Company-Sponsored Abstracts

### Oral Presentations

<table>
<thead>
<tr>
<th>Day</th>
<th>Time (PST)</th>
<th>Type</th>
<th>Location</th>
<th>Presentation/Abstract Title</th>
<th>Abstract Number</th>
<th>Presenting Author</th>
<th>Abstract URL</th>
</tr>
</thead>
</table>

### Poster Presentations

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Type</th>
<th>Location</th>
<th>Presentation/Abstract Title</th>
<th>Abstract Number</th>
<th>Presenting Author</th>
<th>Abstract URL</th>
</tr>
</thead>
</table>
Pre-Clinical PoC 1: Rat TNBS-Induced Colitis Model
Orally Dosed JNJ-2113 Attenuates Weight Loss and Colon Inflammation

- Statistically significant effects seen beginning at doses of 0.1 to 0.3 mg/kg/day
- Although exposure in plasma and skin was much lower than GI tissues, exquisite potency of JNJ-2113 indicated potential for systemic activity beyond the GI tract

GI=Gastrointestinal; TNBS=Trinitrobenzenesulfonic acid.
ns=not significant, **p <0.01, ****p <0.0001. Graph on right represents median and interquartile range. Data combined from three studies.

Fourie A, et al. ISID Meeting; May 10-13, 2023; Tokyo, Japan.
Pre-Clinical PoC 2: Rat IL-23 Induced Skin Inflammation Model
Orally Dosed JNJ-2113 Achieves Inhibition Equivalent to Anti-IL-23 Antibody

- Doses ≥ 1 mg/kg BID reduced inflammation and cytokine induction (IL-17A, IL-17F and IL-22)
- Doses ≥ 10 mg/kg BID showed equivalent inhibition to an anti-IL-23 antibody

BID=Twice daily. Anti-IL-23 and isotype control dosed intraperitoneally on days -1 and 3. ns=not significant, *p<0.05, ***p<0.001, ****p<0.0001. Boxes depict median and interquartile ranges; bars depict minima and maxima. Data combined from three experiments.

Fourie A, et al. ISID Meeting; May 10-13, 2023; Tokyo, Japan.
Phase 1 Study of JNJ-2113 in Healthy Volunteers
Safety, Pharmacokinetics, Systemic Pharmacodynamics

- Demonstrated PoC for systemic PD activity of orally dosed JNJ-2113 in humans
- Single and multiple oral doses were safe and generally well tolerated with no safety signal of concern

PD=Pharmacodynamic; PK=Pharmacokinetic; PoC=Proof of Concept.
PK data represent mean + SD.
†Phase 1 conducted under fasted conditions.
ICONIC-LEAD: JNJ-2113 Phase 3 Study in Moderate to Severe Plaque Psoriasis

A Study of JNJ-77242113 in Adolescent and Adult Participants with Moderate to Severe Plaque Psoriasis

n=600 (2:1 randomization)

**Eligibility:**

- **Mod/Severe PsO**
  - IGA > 3
  - PASI > 12
  - BSA > 10%
  - Age: > 12

**Primary endpoint:**

- IGA 0/1 Week 16
- PASI 90 Week 16

Study Start Date: 10/12/23
Estimated Primary Completion: 11/19/24
A Study of JNJ-77242113 for the treatment of Participants with Plaque Psoriasis Involving Special Areas (Scalp, Genital, and/or Palms of the Hands and the Soles of the Feet)

n=300 (2:1 randomization)

Eligibility:
Special Areas and Low BSA Mod-Severe
• IGA>2 + BSA ≥ 1% + mod/severe special area (ss-IGA>3 or sPGA of genitalia≥ 3 or hf-IGA>3) OR
• IGA≥3, BSA 5-10%
• Failed Topicals
• Age: ≥ 12

Primary endpoint:
• IGA 0/1 Week 16

Study Start Date: 10/12/23
Estimated Primary Completion: 11/5/24
A Study of JNJ-77242113 in Adolescent and Adult Participants with Moderate to Severe Plaque Psoriasis

Eligibility:
Mod/Severe PsO
• IGA > 3
• PASI > 12
• BSA ≥ 10%
• Age: ≥ 18

Primary endpoint:
• IGA 0/1 Week 16
• PASI 90 Week 16

Estimated Study Start Date: 2/9/24
Estimated Primary Completion: 3/13/25

*Study powered for JNJ-2113 superiority to placebo and deucravacitinib
A Study of JNJ-77242113 in Adolescent and Adult Participants with Moderate to Severe Plaque Psoriasis

**Eligibility:**
- Mod/Severe PsO
  - IGA>3
  - PASI>12
  - BSA>10%
  - Age: ≥ 18

**Primary endpoint:**
- IGA 0/1 Week 16
- PASI 90 Week 16

Estimated Study Start Date: N/A
Estimated Primary Completion: N/A

*Study powered for JNJ-2113 superiority to placebo and deucravacitinib*
ANTHEM-UC: JNJ-2113 Phase 2b Study in Moderate to Severe Ulcerative Colitis

A Study of JNJ-77242113 in Participants With Moderately to Severely Active Ulcerative Colitis (ANTHEM-UC)

**Adult Patients with UC**

- n~240

**Eligibility:**

- 18 years of age or older
- Moderately to severely active UC as per the modified Mayo score
- Demonstrated inadequate response to or intolerance of conventional therapy and/or advanced therapy

**Primary endpoint:**

- Clinical Response (Modified Mayo score) at Week 12

Study Start: 10/9/23

Estimated Primary Completion: 5/27/25