Forward Looking Statements

This presentation includes forward-looking statements within the meaning of the Safe Harbor provisions of the Private Securities Litigation Reform Act of 1995. Such statements are subject to a number of risks and uncertainties, the outcome of which could materially and/or adversely affect actual future results and the trading price of our common stock. These forward-looking statements are based on current assumptions that involve risks, uncertainties and other factors that may cause the actual results, events or developments to be materially different from those expressed or implied by such forward-looking statements. These risks and uncertainties include, but are not limited to:

- our ability to conduct and complete clinical trials in our currently anticipated timeframes, including risks relating to potential delays in clinical trials caused by the COVID-19 pandemic, as well as our ability to submit an NDA for pacritinib in currently anticipated timelines;

- potential increases in patient morbidity and/or mortality in clinical trials due to the COVID-19 pandemic;

- clinical trials may not demonstrate safety and efficacy of pacritinib;

- the risk that even if a clinical trial meets one or more primary endpoints, the FDA may nevertheless determine that the benefit/risk profile of pacritinib at the selected doses does not support approval or that additional data is required for approval;

- our assumptions regarding planned expenditures and the sufficiency of cash to fund operations may be incorrect, including due to the impact of expanded product development and clinical activities on operating expenses, as well as delayed timelines due to the pandemic;

- adverse conditions in the general domestic and global economic markets, including instability due to the pandemic and/or social unrest;

- our ability to receive regulatory approval for pacritinib pursuant to the accelerated approval pathway or at all;

- the risk that pacritinib may be delayed to a point where it is not commercially viable, whether due to competition or loss of patent rights; and

- those risks more fully discussed in the section entitled "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2019 and subsequent quarterly reports on Form 10-Q.

These forward-looking statements speak only as of the date hereof and we assume no obligation to update these forward-looking statements. Readers are cautioned not to place undue reliance on such forward-looking statements.
Developing Pacritinib for Myelofibrosis

- >1,200 patients dosed with pacritinib
- NDA Priority Review
  - PDUFA Date 11/30/21
- Advanced launch and commercial planning
- On-going Phase 3 Study

PACRITINIB
a multi-kinase inhibitor

- IRAK1
- JAK2
- CSF-1R

*Rolling NDA submission commenced in October 2020*
The Pacritinib Value Proposition

• Potential to serve a critical unmet medical need in myelofibrosis
  • Severe Thrombocytopenia (platelet count <50 x 10^9/L)
    • 35% of MF patients
  • No approved dosing with current therapies
• NDA accepted for Priority Review - PDUFA date Nov. 30, 2021
• Potential accelerated approval and launch in 2021
• Fully funded launch and commercialization
• Additional opportunities from GVHD and COVID programs
## Pacritinib Development Program

<table>
<thead>
<tr>
<th>Program</th>
<th>Indication</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td>PACIFICA</td>
<td>Myelofibrosis with severe thrombocytopenia (enrolling)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase 1/2 Allogeneic HCT*</td>
<td>(enrolling)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PERSIST-1</td>
<td>Myelofibrosis (all platelet counts) (completed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PERSIST-2</td>
<td>Myelofibrosis (platelets ≤100,000/µL) (completed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAC203</td>
<td>High risk myelofibrosis, second-line therapy (completed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRE-VENT</td>
<td>Severe COVID-19</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Investigator-sponsored trial; HCT – hematopoietic stem cell transplantation
Pacritinib
A New Treatment Option for Myelofibrosis
Myelofibrosis and Unmet Medical Need

• A malignant bone marrow cancer
• Median survival 6 years after diagnosis
• JAK1/2 inhibitors are the only approved therapies
• Cytopenic MF associated with disease progression and existing therapies, represents a critical unmet medical need

Debilitating Symptoms

- Impaired Blood Cell Production
  - Thrombocytopenia, Anemia

- Constitutional Symptoms
  - Fatigue, Night Sweats, Itching, Bone Pain, Weight Loss

- Symptomatic Splenomegaly
  - Abdominal Pain, Early Satiety, Bloating
Poor Outcomes with Severe Thrombocytopenia

Short overall survival when platelet count $<50 \times 10^9$/L

<table>
<thead>
<tr>
<th>Platelets (x$10^9$/µL)</th>
<th>&lt;50</th>
<th>50 to &lt;100</th>
<th>&gt;100</th>
<th>$P$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median Overall Survival (months)</td>
<td>15</td>
<td>44</td>
<td>57</td>
<td>$&lt;0.001$</td>
</tr>
</tbody>
</table>
Severely thrombocytopenic patients typically have cytopenic disease with low blood count and frequently require transfusion support. 

Severe Thrombocytopenia is Common in MF

One-third of all patients are severely thrombocytopenic

**Incidence**
- <50K: 11%
- 50-100K: 14%
- 100K+: 75%

**Prevalence**
- <50K: 32%
- 50-100K: 34%, 7,000 patients
- 100K+: 34%
Ruxolitinib Exacerbates Thrombocytopenia

Rapid decline in platelet counts with ruxolitinib at doses of 15-20mg BID

...associated with cytopenias and dose reductions

....which can reduce clinical benefit

1. Verstovsek S. et al., Haematologica, 2015 May; 100(4): 479–488; 2. CDER: JAKAFI Clinical Pharmacology and Biopharmaceutics Review(s), Figure 1 (NDA 202192), 2011.
Reduced Clinical Effect with Low-dose Ruxolitinib

Lower levels of SVR with low-dose ruxolitinib
In the real world, 63% of ruxolitinib dosing is at 5 mg or 10 mg BID

2019 Ruxolitinib Dosing Mix
Myelofibrosis
N=528

5mg BID: 28%
10mg BID: 35%
15mg BID: 16%
20mg BID: 4%
25mg BID: 17%

TriNetX, Dataworks US EMR Database, December 2020
## Pacritinib Reduces Spleen Volume

<table>
<thead>
<tr>
<th>Spleen Volume Reduction in Patients with Platelet Counts &lt;50 x 10^9/L</th>
<th>Pacritinib 200mg BID (N=31)</th>
<th>BAT (N=32)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥35% SVR</td>
<td>29.0%</td>
<td>3.1%</td>
</tr>
<tr>
<td>P-value vs. BAT</td>
<td>0.0059</td>
<td></td>
</tr>
</tbody>
</table>

### Significant reductions in SVR with Severe Thrombocytopenia

### Pacritinib Safety Profile

A predictable and manageable safety profile

<table>
<thead>
<tr>
<th>Adverse Event (%)</th>
<th>200mg BID (N=54)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diarrhea</td>
<td>30%</td>
</tr>
<tr>
<td>Thrombocytopenia</td>
<td>41%</td>
</tr>
<tr>
<td>Nausea</td>
<td>28%</td>
</tr>
<tr>
<td>Fatigue</td>
<td>24%</td>
</tr>
<tr>
<td>Abdominal pain</td>
<td>24%</td>
</tr>
<tr>
<td>Pyrexia</td>
<td>13%</td>
</tr>
<tr>
<td>Anemia</td>
<td>24%</td>
</tr>
<tr>
<td>Peripheral edema</td>
<td>17%</td>
</tr>
<tr>
<td>Decreased appetite</td>
<td>19%</td>
</tr>
</tbody>
</table>
Pacritinib Improves Hb and Transfusion Requirements

Clinical improvement in hemoglobin was defined based on International Working Group (IWG) criteria: increase of ≥2.0 g/dL or RBC transfusion independence for ≥8 weeks prior. Mascarenhas et al., ASCO 2016.

Clinical improvement in hemoglobin was defined based on International Working Group (IWG) criteria: increase of ≥2.0 g/dL or RBC transfusion independence for ≥8 weeks prior. Mascarenhas et al., ASCO 2016.
Pacritinib Stabilizes Platelet Counts

Platelet counts remain stable over 36 weeks
Phase 3 Confirmatory Clinical Trial

- 130+ clinical sites worldwide
- 1st and 2nd-line MF patients with severe thrombocytopenia
- Powering: SVR (85%), TSS (80%)
- Top-line primary analysis data expected in 2022*
- Planned post-marketing commitment following accelerated approval

SVR, ≥35% spleen volume reduction; TSS, ≥50% reduction in total symptom score. *Enrollment projections may change in light of the COVID-19 pandemic.
Potential Pathway to Approval and Launch in 2021

• Clear strategy to maximize the potential for pacritinib based on unmet medical need
• Identification of opportunities for rapid adoption of pacritinib

<table>
<thead>
<tr>
<th>NDA Submission Status</th>
<th>Pre-Launch Activities Advancing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rolling NDA started 4Q 2020 ✓</td>
<td>Leadership team recruited ✓</td>
</tr>
<tr>
<td>Final NDA submission 1Q 2021 ✓</td>
<td>Disease awareness campaign ✓</td>
</tr>
<tr>
<td>NDA acceptance 2Q 2021 ✓</td>
<td>Market access/customer engagement ✓</td>
</tr>
<tr>
<td>Anticipated approval by end of 2021*</td>
<td>Field force sizing and recruitment</td>
</tr>
</tbody>
</table>

*Approval timeline dependent on priority review
Pacritinib and GVHD
Effective Therapies to Prevent GVHD

- Graft versus host disease (GVHD) frequently complicates allogeneic hematopoietic cell transplantation (alloHCT)
- The transplanted “graft” recognizes its new “host” as foreign, leading to organ dysfunction and death
- GVHD occurs despite standard immunosuppressive prophylaxis

Allogenic HSCT (~9K annually in the US)

Prophylaxis Therapy

Grade II-IV acute GVHD (~40%)\(^1\)

Chronic GVHD (~40%)\(^2\)

1. The Glucksberg (I-IV) and the International Bone Marrow Transplant Registry (A-D) grading systems are used for aGvHD severity and are based on organ involvements and/or specific organ staging criteria. 2. NIH consensus criteria are used for cGvHD severity and are based on organ involvement and/or functional impairment. GlobalData; UpToDate; CIBMTR; Clearview Analysis.
Pacritinib/Sirolimus Promotes Immune Tolerance

- Co-stimulation of IL-6 and CD28 drives GVHD directed immune response
- Immune response blocked by JAK2 + mTOR inhibition by shifting T cell populations away from alloreactivity (Th1/Th17 cells) and towards immune tolerance (Tregs/Th2 cells)\(^1\)
- Selective JAK2 inhibition by pacritinib promotes immune tolerance while preserving the graft-versus-leukemia (GVL) effect (mediated by STAT5-dependent CD8/NK cells), unlike JAK1 inhibitors\(^1\)

1. Betts BC et al., PNAS 2018:115(7);1582-7
Phase 1 Allogeneic HCT IST with Pacritinib

- Single-arm Phase 1/2 alloHCT investigator-sponsored study presented at ASH2020
  - GVHD prophylaxis with pacritinib (PAC) added to standard sirolimus (SIR) and low-dose tacrolimus (TAC) therapy
  - 3+3 pacritinib dose escalation design
  - Assessments including safety and acute/chronic GVHD
  - Phase 1 completed
  - Phase 2 underway
GVHD Prophylaxis with PAC/SIR/TAC

**Efficacy**
- PAC 100 mg BID* → Phase 2
- Acute GVHD (grade 2-4)
  - 25% - all cohorts
  - 17% - 100 mg BID cohort
  - 43% expected with SIR/TAC\(^1,2\)
- Moderate-to-severe chronic GVHD
  - No cases reported
  - 24% expected with SIR/TAC alone\(^2\)

**Safety**
- No engraftment delay or cytopenias
- No CMV reactivation at 100 mg BID
- One relapse (>12 mo. post transplant)

---

<table>
<thead>
<tr>
<th>Pacritinib Dose</th>
<th>aGVHD Onset (Day)</th>
<th>Grade of aGVHD</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 mg daily</td>
<td>41</td>
<td>2 (GI)</td>
</tr>
<tr>
<td>100 mg daily</td>
<td>N/A</td>
<td>0</td>
</tr>
<tr>
<td>100 mg daily</td>
<td>N/A</td>
<td>0</td>
</tr>
<tr>
<td>100 mg daily</td>
<td>N/A</td>
<td>0</td>
</tr>
<tr>
<td>100 mg daily</td>
<td>75</td>
<td>2 (GI)</td>
</tr>
<tr>
<td>100 mg daily</td>
<td>72</td>
<td>1</td>
</tr>
<tr>
<td>100 mg BID</td>
<td>54</td>
<td>1</td>
</tr>
<tr>
<td>100 mg BID</td>
<td>32</td>
<td>1</td>
</tr>
<tr>
<td>100 mg BID</td>
<td>29</td>
<td>1</td>
</tr>
<tr>
<td>100 mg BID</td>
<td>N/A</td>
<td>0</td>
</tr>
<tr>
<td>100 mg BID</td>
<td>20</td>
<td>4 (skin)**</td>
</tr>
<tr>
<td>100 mg BID</td>
<td>N/A</td>
<td>0</td>
</tr>
</tbody>
</table>

*Subject prematurely discontinued tacrolimus prior to GVHD onset due to a tacrolimus toxicity.*

\(^1\) Pidala et al, Oral Presentation, ASH 2020; \(^2\) Pidala J et al., Haematologica 2012;97;12. *RP2D selected based on bioactivity and safety data.
Pacritinib and COVID-19
Pacritinib in COVID-19

• Patients with COVID-19 have high levels of cytokines involved in multiple signaling pathways
  - IL-1, IL-6, IL-7, TNF-α, ferritin, GM-CSF

• High cytokine levels associated with high mortality

• Pacritinib targets multiple cytokine pathways

• No JAK1 inhibition – may preserve anti-viral response

Pacritinib Immunomodulatory Effects

Cell membrane
- M-CSF
- GM-CSF
- IL-6
- ssRNA
- IL-1
- TLR
- IL-1R
- CSF-1R
- CD116
- IL-6R
- IRAK1
- Jak2

Nucleus
- STAT3
- MAPK
- IkB
- TRAF6
- ERK
- JNK
- p38
- NF-κB
- TRAF6

Transcription of factors that control production and function of macrophages

Transcription of pro-inflammatory cytokines and promotion of TH17 cell differentiation

Phase 3 Trial: Severe COVID-19

Severe COVID-19 is defined as confirmed disease in patients who are hospitalized with hypoxia (blood oxygen saturation [SpO2] ≤93% on room air at sea level), respiratory rate >30, arterial oxygen partial pressure [PaO2]/fraction of inspired oxygen [FiO2] <300, or lung infiltrates >50% but do not require Invasive Mechanical Ventilation.

- Hospitalized patient with Severe COVID-19
- Age ≥18 years
- No other active infections
- History of bleeding (grade 2 or higher)

1:1 Randomization (N = 358)

- SOC + Pacritinib 200 mg BID
- SOC + Placebo

Primary Endpoint
- Mechanical Ventilation/ECMO, or death by 28 days

Key Secondary Endpoints
- 15-day and 28-day mortality
- Ventilator-free days

- Interim analysis at 200 patients
- Data anticipated 3Q 2021

1Severe COVID-19 is defined as confirmed disease in patients who are hospitalized with hypoxia (blood oxygen saturation [SpO2] ≤93% on room air at sea level), respiratory rate >30, arterial oxygen partial pressure [PaO2]/fraction of inspired oxygen [FiO2] <300, or lung infiltrates >50% but do not require Invasive Mechanical Ventilation.
Financials
## Financial Overview

<table>
<thead>
<tr>
<th>Balance Sheet</th>
<th>06/30/2021</th>
<th>12/31/2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash, Cash Equivalents and Short-term investments</td>
<td>$71.8 M*</td>
<td>$52.5 M</td>
</tr>
<tr>
<td>Debt</td>
<td>$2.0 M</td>
<td>$4.9 M</td>
</tr>
<tr>
<td>Common/Preferred Stock outstanding (as converted)</td>
<td>151,985 M**</td>
<td>128,570 M**</td>
</tr>
</tbody>
</table>

* *Assumes all preferred stock has been converted to common stock. Preferred stock has equivalent economic value to common stock.*
Recent Financing with DRI Capital

• $135 million debt and royalty financing completed with DRI Healthcare in August 2021:
  • $50 million loan upon closing
  • $60 million payment due upon receiving accelerated approval
  • $25 million milestone payments based on net sales

• Financing structure:
  • Credit facility
    • $50 million, interest only for 5 years

• Royalty facility:
  • Royalties paid on US annual sales ranging from 0% - 9.6%
The Pacritinib Value Proposition

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