Forward-Looking Statements

This presentation contains, and our officers and representatives may from time to time make, statements that are “forward-looking statements” within the meaning of the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995. Examples of forward-looking statements include, among others, statements regarding our development strategy; potential advantages of our product candidates; the initiation and completion of preclinical and clinical studies and the reporting of the results thereof; the timing of regulatory submissions and actions; the sufficiency of our existing cash; and all other statements relating to our plans, objectives, expectations and beliefs regarding future performance, operations, financial condition and other future events (including assumptions underlying or relating to any of the foregoing).

These forward-looking statements rely on a number of assumptions concerning future events and are subject to a number of risks, uncertainties, and other factors, many of which are outside of our control. Important factors that could cause our actual results and financial condition to differ materially from those indicated in forward-looking statements include, among others: uncertainties relating to the initiation and completion of preclinical and clinical studies; whether preclinical and clinical study results will validate and support the safety and efficacy of our product candidates; the outcome of regulatory reviews of our product candidates; varying interpretation of research and development and market data; risks and uncertainties relating to intellectual property and the other factors discussed under the caption “Item 1A. Risk Factors” in our most recent annual report on Form 10-K and our most recent quarterly report on Form 10-Q.

Any forward-looking statement made by us in this presentation is based only on information currently available to us and speaks only as of the date on which it is made. In addition, we operate in a highly competitive and rapidly changing environment, and new risks may arise. Accordingly, you should not place any reliance on forward-looking statements as a prediction of actual results. We disclaim any intention to, and undertake no obligation to, update or revise any forward-looking statement. You are urged to carefully review and consider the various disclosures in our most recent annual report on Form 10-K, our most recent Form 10-Q and our other public filings with the SEC since the filing of our most recent annual report.
MEI Pharma: Leveraging Core Strength in Oncology Drug Development

Growing Pipeline of Drug Candidates

• **Pracinostat**: HDAC inhibitor with Breakthrough Therapy Designation in pivotal Phase 3 study
• **ME-401**: Differentiated PI3K delta inhibitor with emerging data in CLL & follicular lymphoma
• **Voruciclib**: Selective CDK inhibitor with potential to overcome resistance to Venclexta™
• **ME-344**: Mitochondrial inhibitor with upcoming data + Avastin® in HER2⁻ breast cancer

**Strong Balance Sheet**  $47 million in cash as of September 30, no debt

**Experienced Management Team**  Proven track record in drug development

POTENTIAL FOR TWO REGISTRATION STUDIES IN 2018
Delivering on Near-Term Milestones

**Pracinostat**
- ✓ First patient dosed in Phase 2 dose-optimization study in MDS
- ✓ First patient dosed in pivotal Phase 3 study in AML
- ❑ Data from stage 1 of Phase 2 dose-optimization study in MDS (Q2 2018)

**ME-401**
- ✓ Demonstrate safe, efficacious dose in single-agent Phase Ib study in CLL & follicular lymphoma
- ✓ Initiate combination study with Rituxan® in indolent lymphoma & DLBCL (Q4 2017)
- ❑ Data from Phase Ib study in CLL & follicular lymphoma (Q2 2018)
- ❑ Initiate single-agent registration study in R/R follicular lymphoma (2H 2018)

**Voruciclib**
- ✓ Gain FDA clearance for treatment of B-cell malignancies (Q1 2018)
- ❑ Initiate Phase 1 study in relapsed/refractory B cell malignancies (Q2 2018)

**ME-344**
- ❑ Data from investigator-sponsored study with Avastin® in HER2-negative breast cancer (Q2 2018)

*Pracinostat, ME-401, voruciclib and ME-344 are investigational agents and have not been approved for commercial use in the U.S.*
Leadership Team with Deep Expertise in Drug Development

EXECUTIVE MANAGEMENT

Daniel Gold, PhD
President & Chief Executive Officer
Former Chief Scientific Officer & Founder, Favrille

Robert Mass, MD
Chief Medical Officer
Former Head of Medical Affairs, BioOncology, Genentech

Brian Drazba
Chief Financial Officer
Former Chief Financial Officer, Heron Therapeutics

David Urso, JD
SVP, Corporate Development & General Counsel
Former Principal, Forward Ventures / COO, Tioga Pharmaceuticals

Karen Potts, PhD
SVP, Regulatory Affairs
Former SVP of Regulatory Affairs, Trius Therapeutics

Richard Ghalie, MD
SVP, Clinical Development
Former Chief Medical Officer, Denovo, HemaQuest, Novalar & Favrille

BOARD OF DIRECTORS

Christine White, MD (Chair)
Former Head of Global Medical Affairs, Biogen Idec

Charles Baltic, JD
Co-Head of Healthcare, Needham & Co.

Kevan Clemens, PhD
Former Head of Global Oncology, Roche

Nick Glover, PhD
President & CEO, Sierra Oncology

Daniel Gold, PhD
President & CEO, MEI Pharma

Thomas Reynolds, MD, PhD
Former Chief Medical Officer, Seattle Genetics

William Rueckert
Former Chairman, Novogen Limited
# Clinical Pipeline Targeting Multiple Drug Pathways

<table>
<thead>
<tr>
<th>DRUG CANDIDATE</th>
<th>INDICATION / COMBINATION</th>
<th>PRE-CLINICAL</th>
<th>CLINICAL PROOF-OF-CONCEPT</th>
<th>PIVOTAL</th>
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<tbody>
<tr>
<td><strong>Pracinostat</strong>*</td>
<td><strong>Acute Myeloid Leukemia</strong></td>
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<td>REGISTRATION STUDY</td>
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<tr>
<td>HDAC Inhibitor</td>
<td>Unfit for intensive chemotherapy Vidaza® (azacitidine)</td>
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<td><strong>Myelodysplastic Syndrome</strong></td>
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<tr>
<td></td>
<td>High &amp; very high risk Vidaza® (azacitidine)</td>
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<tr>
<td><strong>ME-401</strong></td>
<td><strong>CLL &amp; Follicular Lymphoma</strong></td>
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<tr>
<td>PI3K Delta Inhibitor</td>
<td>Relapsed/refractory Single agent</td>
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<td></td>
<td><strong>Indolent Lymphoma &amp; DLBCL</strong></td>
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<td></td>
<td>Relapsed/refractory Rituxan® (rituximab)</td>
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<tr>
<td><strong>Voruciclib</strong></td>
<td><strong>B-Cell Malignancies</strong></td>
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<tr>
<td>Selective CDK Inhibitor</td>
<td>Relapsed/refractory Single agent</td>
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<tr>
<td><strong>ME-344</strong></td>
<td><strong>HER2- Breast Cancer</strong></td>
<td></td>
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<tr>
<td>Mitochondrial Inhibitor</td>
<td>Treatment-naïve, early stage Avastin® (bevacizumab)</td>
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*Partnered with Helsinn Healthcare, SA **Investigator-sponsored study
Pracinostat: Potential Best-in-Class HDAC Inhibitor
Breakthrough Therapy Designation by FDA*

Phase 2 study of pracinostat + azacitidine in elderly patients with newly diagnosed AML, not candidates for induction chemotherapy

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<thead>
<tr>
<th></th>
<th>PRACINOSTAT + AZACITIDINE (N=50)</th>
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<tbody>
<tr>
<td>CR rate</td>
<td>42%</td>
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<tr>
<td>60-day mortality rate</td>
<td>10%</td>
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<tr>
<td>Duration of Response (CR/CRi)</td>
<td>17.2 months (95%CI: 10.9-21.5)</td>
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<tr>
<td>1-year survival rate</td>
<td>62%</td>
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<tr>
<td>Median overall survival</td>
<td>19.1 months (95%CI: 10.7-26.5)</td>
</tr>
</tbody>
</table>

- Pracinostat + azacitidine was generally well tolerated in this study
- Most common grade 3/4 treatment-emergent adverse events in ≥25% of patients included febrile neutropenia, thrombocytopenia, anemia and fatigue

* Breakthrough Therapy Designation granted by the U.S. Food and Drug Administration (FDA) for the investigational drug Pracinostat in combination with azacitidine for the treatment of patients with newly diagnosed AML who are ≥75 years of age or unfit for intensive chemotherapy

Pracinostat is an investigational agent not approved for commercial use in the U.S.
Pivotal Phase 3 Study in AML
First patient dosed in July 2017

Newly Diagnosed AML Patients Unfit to Receive Induction Therapy

Group A (N=~250)
Pracinostat + Azacitidine

Group B (N=~250)
Placebo + Azacitidine

- Randomized, double-blind, placebo-controlled study to enroll up to 500 patients
- Primary endpoint: Overall survival
- Secondary endpoints: Morphologic CR rate, event free survival & duration of CR
- Inclusion criteria: Newly diagnosed AML patients ≥ 18 years who are unfit to receive intensive remission induction chemotherapy due to age (≥ 75 years) or comorbidities
Phase 2 Dose-Optimization Study in MDS

Expect to report Stage 1 results in H1 2018

Patients with High and Very High Risk MDS Previously Untreated with Hypomethylating Agents

Stage 1 (N~32)
Pracinostat (45 mg) + Azacitidine

If rate of discontinuation (for reasons other than progressive disease) in first 3 cycles ≤ 20%, proceed to Stage 2

Stage 2: Group A (N=40)
Pracinostat + Azacitidine

Stage 2: Group B (N=40)
Placebo + Azacitidine

- Two-stage study: 12-15 sites in stage 1; approximately 25 sites in stage 2
- Primary objectives: Safety and tolerability; overall response rate (ORR)
Helsinn an Ideal Partner to Advance Pracinostat

- Combines MEI Pharma’s clinical development expertise in oncology with Helsinn’s sales and marketing expertise with hematologic oncologists
- Resulted in $20M in near-term payments, up to $444M in future milestones + royalties
- $5 million equity investment from Helsinn Investment Fund
- Helsinn responsible for funding global development and commercialization for Pracinostat currently being evaluated in AML and other hematologic diseases
- Share cost of Phase 2 study to explore optimal dosing regimen of the investigational agent Pracinostat + azacitidine in high and very high risk MDS
ME-401: A Highly Differentiated PI3K Delta Inhibitor
Distinct Chemical Structure from Other Oral PI3K Delta Inhibitors

- ME-401
  - MEI Pharma

- INCB50465
  - Incyte

- Umbralisib
  - TG Therapeutics

- Duvelisib
  - Verastem

- Idelalisib
  - Gilead
Pharmacodynamic Properties Suggest Potential for Improved Safety and Versatility

Attributes

• Linear PK from 10 to 150 mg
• $t_{1/2} \sim 28$ hours supports daily dosing
• Large Volume of Distribution
• Preferential accumulation within cells

Outcome

• Highly potent at low plasma concentrations
• Potential for significant improvement in therapeutic window
• Versatility for combination approaches
ME-401 Demonstrates High Biologic Potency*

- PK/PD data was fit to $E_{\text{max}}$ model
  - EC50 = 0.6 ng/ml (1.0 nM)
  - EC90 = 5.2 ng/ml (8.9 nM)
- Daily dosing of 60 mg in Phase 1b studies yields continuous plasma concentrations $\approx 3X$ above the EC$_{90}$

*Inhibition of basophil activation by FceR1 antibody following single ascending dosing in healthy volunteers
Pre-Clinical and Clinical Data Suggest Wide Therapeutic Window

Exposure (AUC) in humans vs. No Observed Adverse Effect Level (NOAEL) in dogs

* Source: CHMP assessment report
Phase Ib Study in CLL and Follicular Lymphoma

Key objectives:
- Minimum Biologically Effective Dose (mBED)
- Efficacious Dose
- Maximum Tolerated Dose (MTD)

Key eligibility:
- Relapsed/refractory CLL or follicular lymphoma
- No prior therapy w/ PI3K delta inhibitors
- No prior therapy w/ BTK inhibitors unless intolerant
Phase 1b Study in CLL and Follicular Lymphoma
Emerging Safety and Efficacy Data

• 34 patients enrolled
  – 12 at 60 mg, 11 at 120 mg, 6 at 180mg, and 5 at 60 mg with rituximab
  – Median follow-up = 3.7 mo. (range = 0.5-11 mo.)

• No dose limiting toxicities noted (DLT assessed at d56)

• 27 patients with ≥ 2 cycles of therapy and evaluable for efficacy
  – Response rate in all cohorts well in excess of 50%

• 45mg cohort added to reassess mBED

• Plan to submit long-term safety and efficacy data on ~48 patients for presentation at scientific meeting in Q2 2018
Qualitative Assessment of the Unmet Medical Need in Relapsed/Refractory Follicular Lymphoma

Current unmet need in relapsed/refractory FL

- Low: 4%
- Low to Moderate: 4%
- Moderate: 28%
- Moderate to High: 48%
- High: 16%

Overall satisfaction with drugs currently available to treat relapsed/refractory FL

- Low: 0%
- Low to Moderate: 16%
- Moderate: 68%
- Moderate to High: 16%
- High: 0%

*Source: MEI Pharma Primary Market Research; n=25 U.S. and EU Physicians*
Importance of Idelalisib in Relapsed/Refractory Follicular Lymphoma: Potential for a Safer PI3K Delta

Importance of Idelalisib in treating/managing relapsed/refractory FL patients

- 84% of physicians rated it as important

- 0% rated it as Low
- 4% rated it as Low to Moderate
- 28% rated it as Moderate
- 56% rated it as Moderate to High
- 12% rated it as High

Importance of novel PI3Kδ inhibitor **without** the negative aspects of Idelalisib

- 96% of physicians rated it as important

- 0% rated it as Low
- 0% rated it as Low to Moderate
- 4% rated it as Moderate
- 40% rated it as Moderate to High
- 56% rated it as High

* Source: MEI Pharma Primary Market Research; n=25 U.S. and EU Physicians
Voruciclib: A Selective CDK Inhibitor
Clinical-Stage Asset with Clear Development Path

• Oral, selective CDK inhibitor differentiated by potent inhibition of CDK9
  – CDK9 shown to suppress MCL1, a known mechanism of resistance to BCL2 inhibitors

• Pre-clinical data shows synergy with BCL2 inhibitor Venclexta™ (venetoclax)

• Tested in more than 70 patients in multiple solid tumor Phase 1 clinical studies
  – GI side effects consistent with other CDK inhibitors

• Planned Phase 1/2 study in B cell malignancies and then + venetoclax in R/R CLL
MCL1: The Achilles Heal for Venetoclax

- Venetoclax inhibits BCL2 but not anti-apoptotic family member MCL1
- Increased MCL1 is an established resistance mechanism to venetoclax\(^1\)

\(^1\) Blood. 2016 Jun 23;127(25):3192-201
Voruciclib: Potential to Overcome Venetoclax Resistance

- **Cyclin Dependent Kinases (CDKs)** are a family of kinases involved in cell cycle and transcription control.

- Voruciclib is an oral CDK inhibitor with low nM inhibition of CDK9, 4/6 & 1.

- Inhibition of CDK9 results in suppression of MCL1 levels, promoting apoptosis in MCL1 dependent cells.
Voruciclib Sensitivity of CLL Patient Samples at Clinically Achievable Drug Levels

- Voruciclib was dosed from 75-500 mg QD in Phase 1 solid tumor studies; MTD 350mg
- Orally available w/ half-life of >24 hours
- Induces apoptosis at 0.5–1 μM in >50 patient-derived CLL samples (right) \(^1\)
- Suppression of MCL1 I pre-clinical studies also observed at concentrations 0.5–1 μM
- Phase 1 PK results suggest steady state levels >1.5 μM achievable with 150mg daily dosing

\(^1\) PLoS One. 2015 Nov 25;10(11):e0143685
Voruciclib Suppresses MCL1 in Patient Samples

**CLL86**

**CLL63**

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<tr>
<th></th>
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<th>0.5</th>
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<td>4h</td>
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<td>8h</td>
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**MCL1**

**Actin**
Pre-Clinical Studies Show Inhibition of MCL1 and Synergistic Cell Death*

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<thead>
<tr>
<th></th>
<th>Vehicle</th>
<th>Voruciclib</th>
<th>Venetoclax</th>
<th>Voruciclib + Venetoclax</th>
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</thead>
<tbody>
<tr>
<td><strong>MCL1 Levels</strong></td>
<td><img src="image1" alt="Image" /></td>
<td><img src="image2" alt="Image" /></td>
<td><img src="image3" alt="Image" /></td>
<td><img src="image4" alt="Image" /></td>
</tr>
<tr>
<td><strong>Cell Death</strong></td>
<td><img src="image5" alt="Image" /></td>
<td><img src="image6" alt="Image" /></td>
<td><img src="image7" alt="Image" /></td>
<td><img src="image8" alt="Image" /></td>
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</table>

*NUDHL1 diffuse large B-cell lymphoma (DLBCL) model using Presage’s CIVO™ intratumoral microdosing platform
Voruciclib/Venetoclax Synergy Observed in vivo*

* U2932 diffuse large B-cell lymphoma (DLBCL) model
Study Design

• Relapsed/Refractory B cell Malignancies
• Standard 3-6 patients/group (3+3)
• Trial initiation expected Q2 2018

Endpoints
➢ Safety and tolerability
➢ Pharmacokinetics
➢ Biologic correlative studies
➢ Objective response rates/MRD negativity

Voruciclib single agent Dose escalation

50 mg → 100 mg → 150 mg → 200 mg → 250 mg

Venetoclax + Voruciclib dose escalation

50 mg → 100 mg → 150 mg → 200 mg → 250 mg
Voruciclib + Venetoclax Not Only a CLL Story: Opportunities in Double-Hit Lymphoma

- Subtype of diffuse large B-cell lymphoma (DLBCL) characterized by rearrangements of MYC and BCL2 (most common) or BCL6
  - Poor prognosis, significant unmet need
- Voruciclib inhibits MYC protein expression (right)
- Low response rate to BCL2 inhibitor venetoclax as monotherapy in DLBCL (18% ORR; n = 34)\(^1\)
- Voruciclib synergistic with venetoclax in multiple DLBCL models\(^2\)

---

Voruciclib: Opportunities Beyond Venetoclax Synergy with Proteasome Inhibition*

- Screen of rationally selected drugs identify bortezomib as MCL1 inducer
- Combination of bortezomib + voruciclib in TNBC xenograft model demonstrates synergy
- Synergy extends to other proteasome inhibitors i.e. MLN2238 (ixazomib)
- No synergy observed with combination of bortezomib + CDK4/6 selective palbociclib (Ibrance®)

* Dey, et al. AACR 2016
ME-344: A Novel Tumor Selective Mitochondrial Inhibitor
ME-344: A Novel Mitochondrial Inhibitor

• Mechanism of action directly targets mitochondrial OXPHOS complex I\textsuperscript{1}, resulting in rapid loss of cellular energy (ATP)

• Evidence of single agent activity in Phase 1 dose-escalation study in refractory solid tumors\textsuperscript{2}

\textsuperscript{1} Am J Cancer Res. 2015 Jan 15;5(2):689-701; \textsuperscript{2} Cancer. 2015 Apr 1;121(7):1056-63
The Problem: Tumor Cell Metabolic Plasticity

- In vivo, tumor cells display metabolic plasticity switching between aerobic glycolysis and mitochondrial metabolism

- Pre-clinical data demonstrate ability of VEGF inhibitors to modulate tumor’s glycolytic dependence\(^1,2\)

- Investigator-sponsored study of ME-344 in combination with Avastin\(^\text{®}\) in HER2-negative breast cancer now actively dosing patients

Clinical Study in HER2-Negative Breast Cancer*
Data expected in Q2 2018

- Prospective, randomized study being conducted at 6 sites in Spain
- Primary objective: Mitochondrial switch changes from baseline
- Secondary objectives: Evidence of biologic anti-tumor activity and safety

* Sponsored by Spanish National Cancer Research Centre
Strong Intellectual Property Protection

**Pracinostat (formerly SB939)**
- 4 issued U.S. and 77 issued foreign patents
  - 2 U.S. and 8 foreign applications pending
- Composition of matter to May 2028 in U.S.
  - **May 2033**, which includes up to 5 years of patent term restoration in U.S.

**Voruciclib (formerly P1446A)**
- 2 issued U.S. and 14 issued foreign patents
  - 6 U.S. and 11 foreign applications pending
- Composition of matter to Sep 2028 in U.S.
  - **Sept 2033**, which includes up to 5 years of patent term restoration in U.S.

**ME-401 (formerly PWT143)**
- 2 issued U.S. patent
  - 1 U.S. and 21 foreign applications pending
- Composition of matter to Dec 2032 in U.S.
  - **Dec 2037**, which includes up to 5 years of patent term restoration in U.S.

**ME-344 (formerly NV-344)**
- 3 issued U.S. and 18 issued foreign patents
  - 3 U.S. and 7 foreign applications pending
- Pharmaceutical composition to Nov 2031 in U.S.
  - **Nov 2036**, which includes up to 5 years of patent term restoration in U.S.