

NASDAQ: **MEIP**



NewsMakers in the Biotech Industry

September 8, 2017

Forward-Looking Statements

These slides and the accompanying oral presentation contain forward-looking statements. Actual events or results may differ materially from those projected in any of such statements. Additional information concerning factors that may cause actual events or results to differ from those projected is contained in MEI Pharma's most recent annual report on Form 10-K and quarterly reports on Form 10-Q, as well as other subsequent filings with the SEC.

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 \$53.6 million in cash as of June 30, no debt

Experienced Management Team Proven track record in drug development

POTENTIAL FOR TWO REGISTRATION STUDIES IN 2018

Clinical Pipeline Targeting Multiple Drug Pathways

DRUG CANDIDATE	INDICATION / COMBINATION	PRE-CLINICAL	CLINICAL PROOF-OF-CONCEPT	PIVOTAL
Pracinostat* HDAC Inhibitor	Acute Myeloid Leukemia Unfit for intensive chemotherapy Vidaza® (azacitidine)	REGISTRATION STUDY		
	Myelodysplastic Syndrome High & very high risk Vidaza® (azacitidine)			
ME-401 PI3K Delta Inhibitor	CLL & Follicular Lymphoma Relapsed/refractory Single agent			
	Indolent Lymphoma & DLBCL Relapsed/refractory Rituxan® (rituximab)			
Voruciclib Selective CDK Inhibitor	Chronic Lymphocytic Leukemia Relapsed/refractory del(17p) Venclexta™ (venetoclax)			
ME-344 Mitochondrial Inhibitor	HER2- Breast Cancer** Treatment-naïve, early stage Avastin® (bevacizumab)			

* Partnered with Helsinn Healthcare, SA ** Investigator-sponsored study



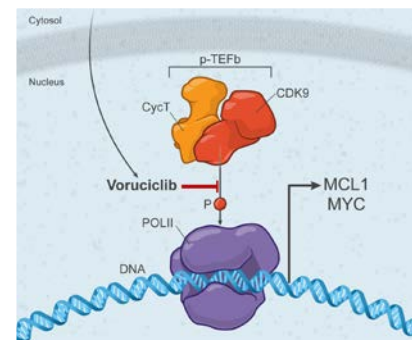
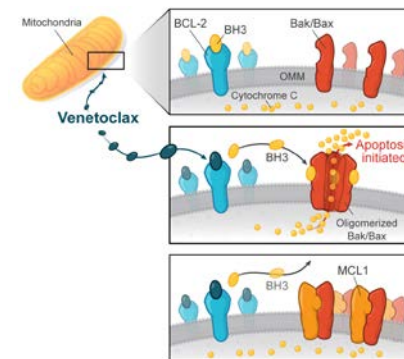
Voruciclib: A Selective CDK Inhibitor

Clinical-Stage Asset with Clear Development Path

- Obtained rights to voruciclib in Sep 2017 for \$2.9M in near-term payments
 - \$2M incremental payment up to regulatory approval of first indication
 - Additional potential milestones of up to \$179M, mid-single-digit tiered royalties
- 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 Phase 1 clinical studies
 - Manageable GI side effects consistent with other CDK inhibitors
- Planned Phase 1/2 study in combination with venetoclax in CLL

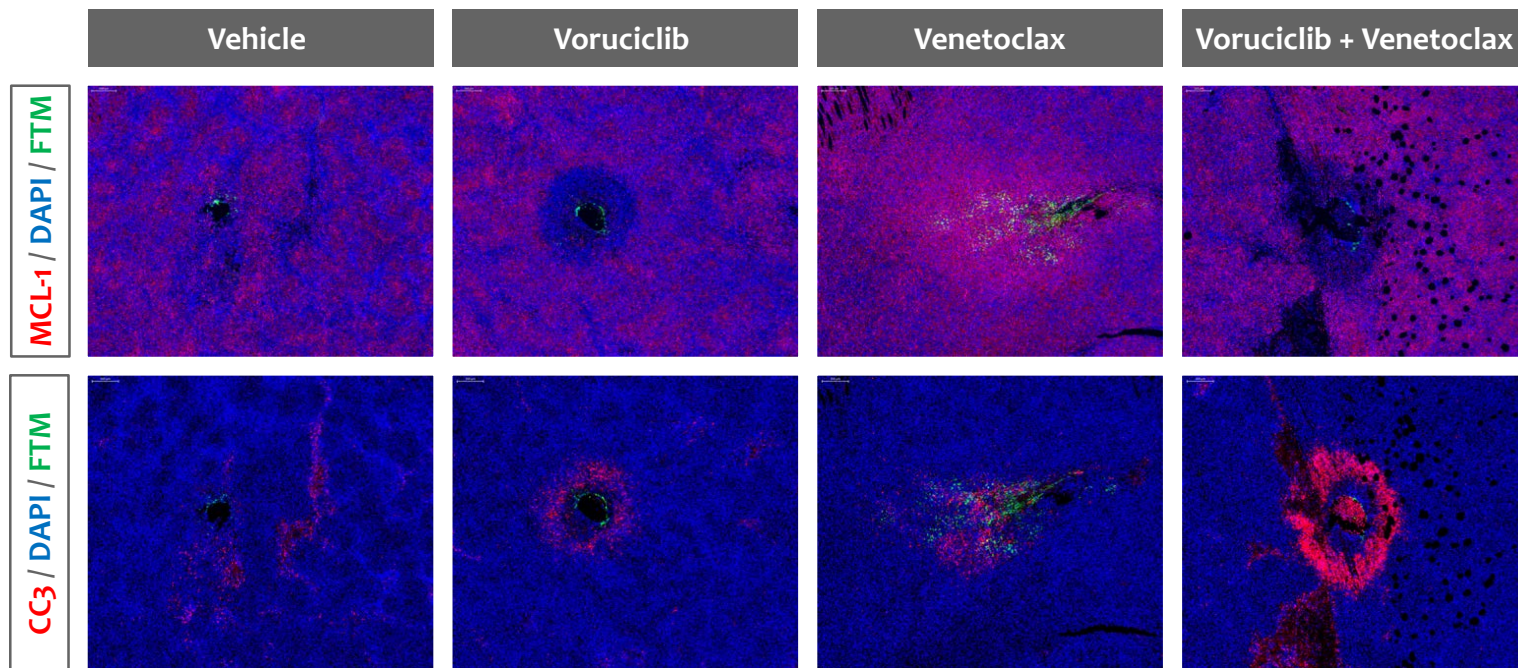
Potential to Overcome Resistance to Venetoclax

- Venetoclax inhibits BCL2 but not anti-apoptotic family member MCL1
- Increased MCL1 is an established resistance mechanism to venetoclax¹
- Cyclin dependent kinases (CDKs) are a family of kinases that are 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



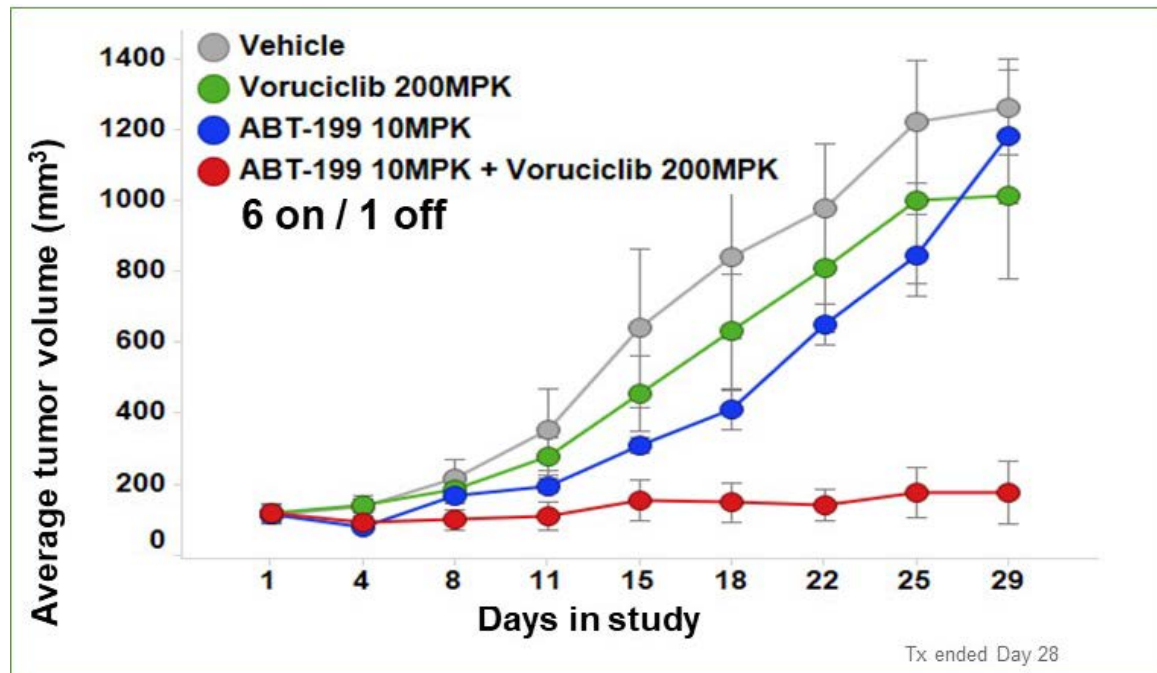
¹ Blood. 2016 Jun 23;127(25):3192-201

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



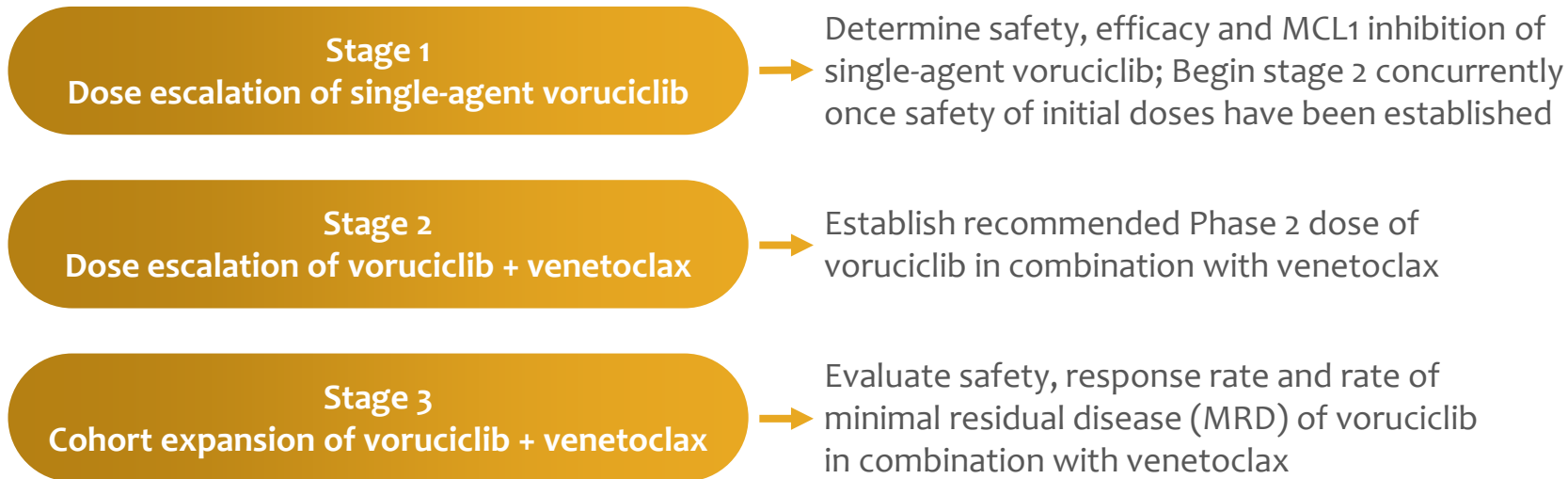
* NUDHL1 diffuse large B-cell lymphoma (DLBCL) model using Presage's CIVO™ intratumoral microdosing platform

Voruciclib/Venetoclax Synergy Observed *in vivo**



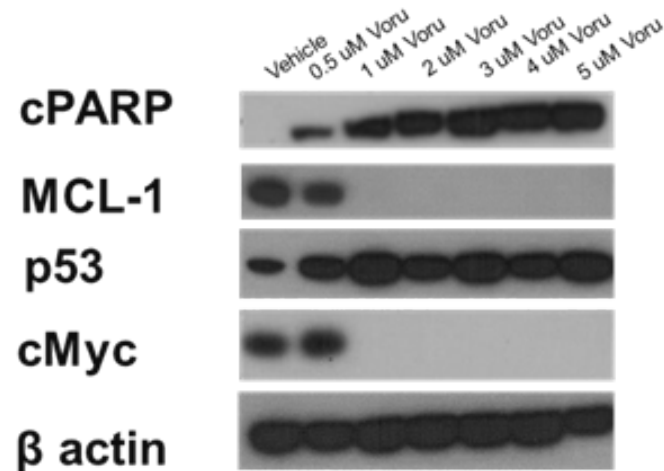
* U2932 diffuse large B-cell lymphoma (DLBCL) model

Phase 1/2 Study in Relapsed/Refractory CLL del(17p)



Additional Opportunity 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 models²



¹ J Clin Oncol. 2017 Mar 10;35(8):826-833; ² ASH 2016: 4167



ME-401: A Highly Differentiated PI₃K Delta Inhibitor

A Highly Differentiated PI3K Delta Inhibitor

Attributes

- Distinct chemical structure
- Differentiated binding and saturation of drug target
- Potential for improved safety and versatility for combination approaches

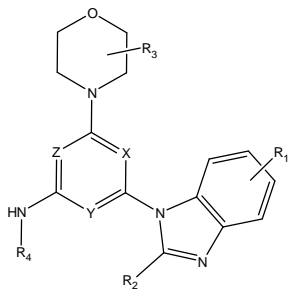
Compared to Zydelig® (idelalisib)

- >30-fold improvement in on-target binding affinity
- 150-fold greater biological activity
- Potential for significant improvement in therapeutic window based on exposure margin

Distinct Chemical Structure from “First Generation” PI3K Delta Inhibitors

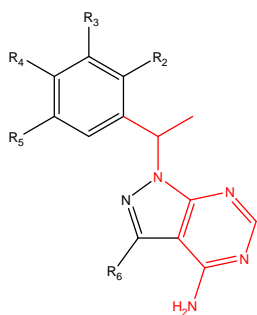
ME-401

MEI Pharma



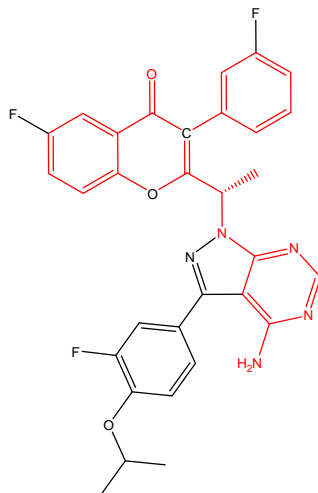
INCB50465

Incyte



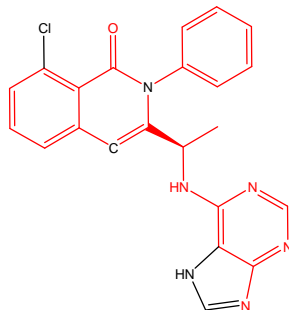
Umbralisib

TG Therapeutics



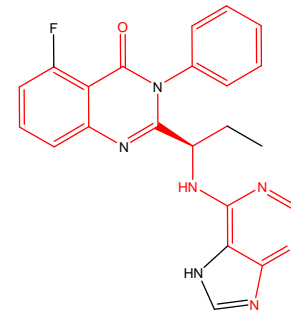
Duvelisib

Verastem



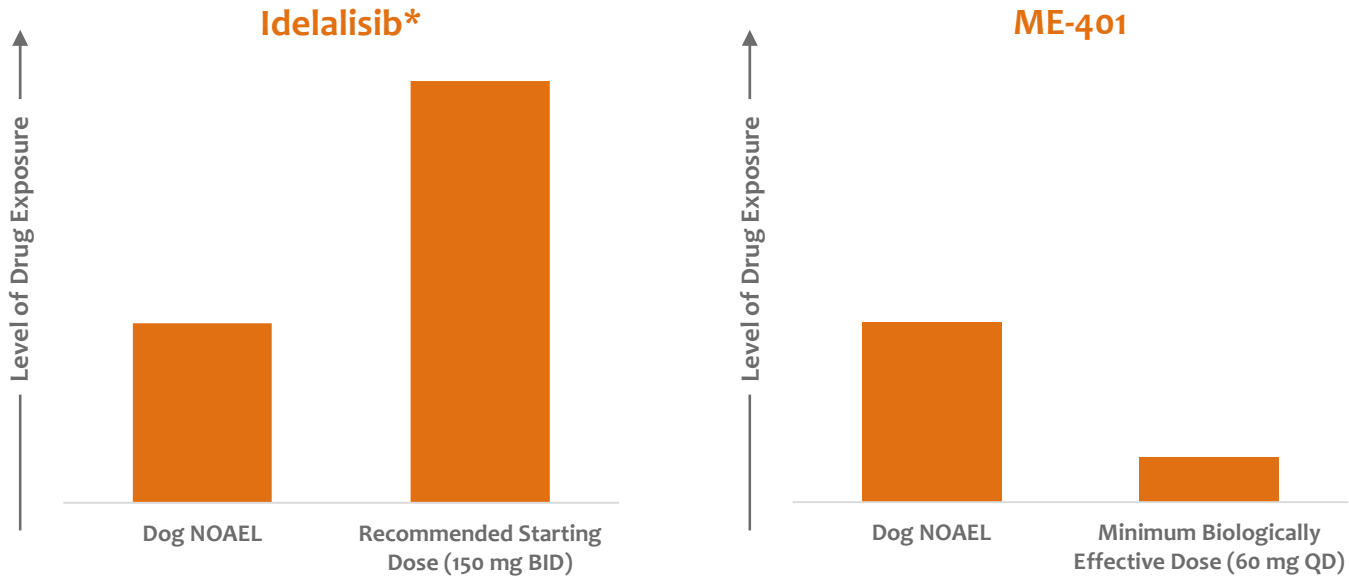
Idelalisib

Gilead



Pre-Clinical and Clinical Data Suggest Wide Therapeutic Window

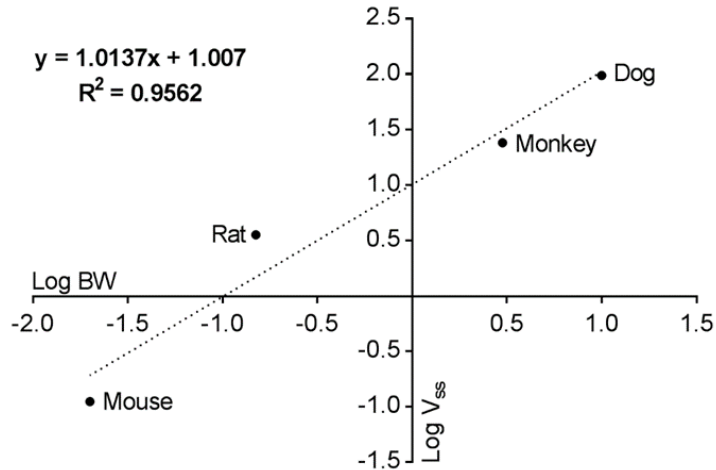
Exposure (AUC) in humans vs. No Observed Adverse Effect Level (NOAEL) in dogs



* Source: CHMP assessment report

Large Volume of Distribution

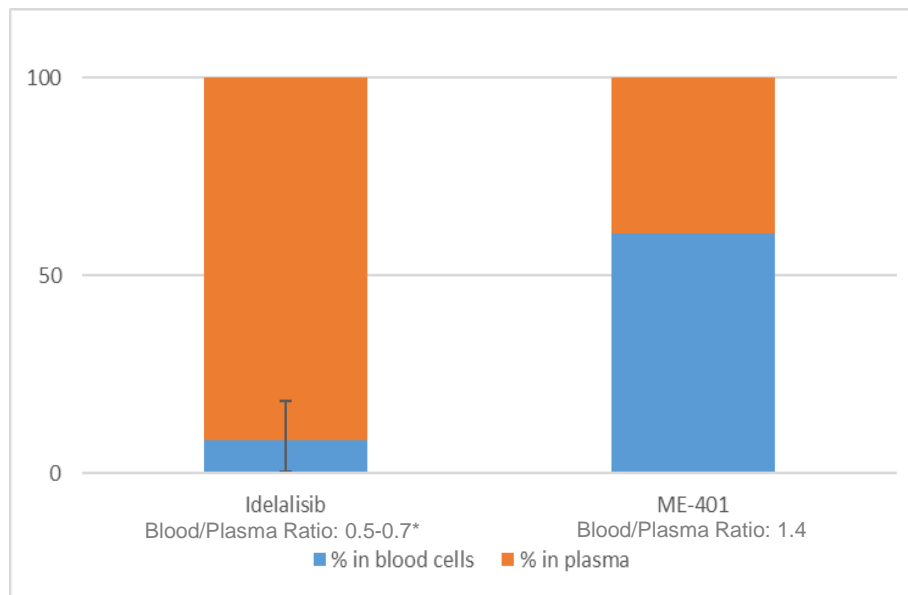
Potential for Better Distribution to Target Tissues



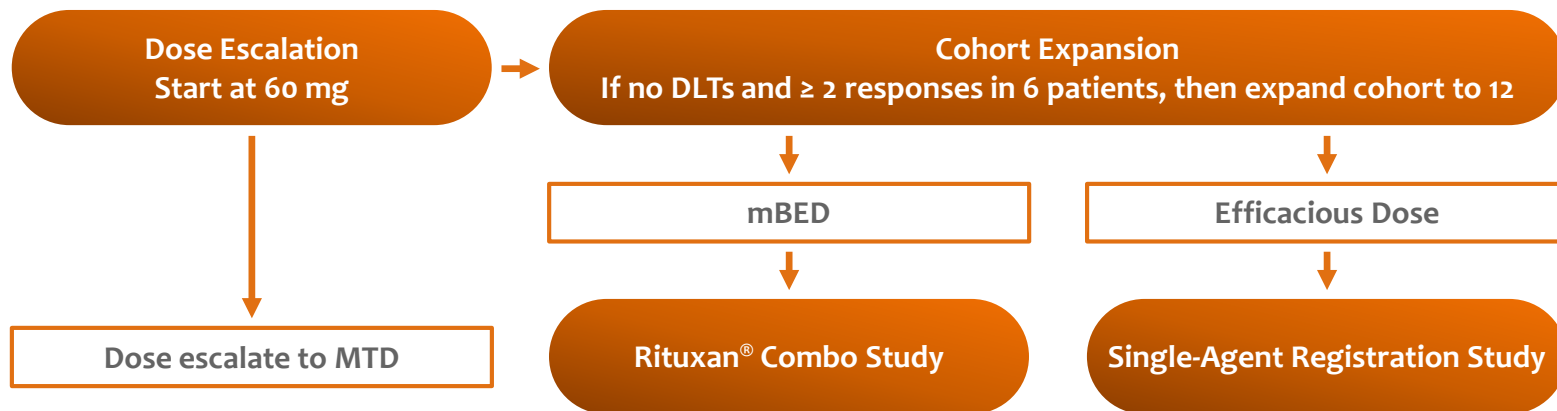
- Log/log plot of body weight (BW) vs. volume of distribution at steady state (V_{SS}) from preclinical studies extrapolates to human $V_{SS} \sim 10$ L/Kg
- ME-401 V_{SS} is $\sim 100X$ larger than blood volume, indicating that it readily distributes out of the plasma

Superior Drug Distribution to Blood Cells

% of drug in plasma vs blood cells based on blood/plasma ratios



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 of BTK therapy

Phase 1b Study in CLL and Follicular Lymphoma

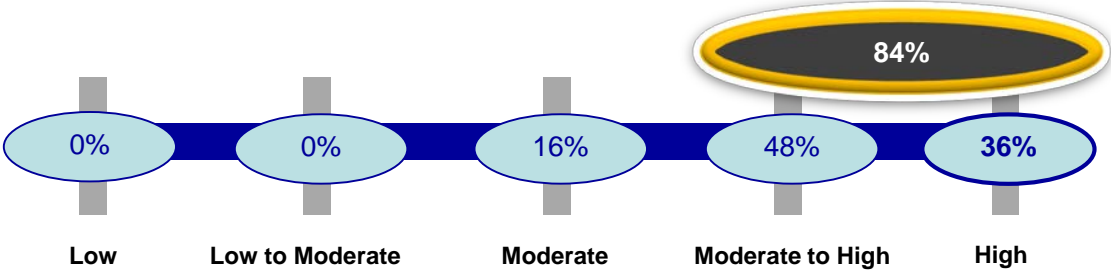
Emerging Safety and Efficacy Data

- 18 patients currently enrolled and evaluable for safety (range = 1-10 months, median = 3 months) and 14 patients for efficacy
 - Response rate in 60 mg and 120 mg cohorts both > 50%
 - To date, no ALT/AST, colitis, pneumonitis or other dose limiting toxicities
 - One grade 3 neutropenia, one grade 3 rash; neither unexpected, both patients remain on study; all other drug-related adverse events grade 1 or 2
- No patients have discontinued due to adverse events or disease progression
- Safety review recommends dose escalation to 180 mg

Market Opportunity in Follicular Lymphoma*

Viability of Product X for relapsed/refractory follicular lymphoma patients if available with the profile presented

Hematologist/
Oncologists
in U.S. & EU
(N=25)



* Source: MEI Pharma Primary Market Research



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

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

- Pracinostat + azacitidine was generally well tolerated in this study
- Most common grade 3/4 treatment-emergent adverse events in $\geq 25\%$ 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.

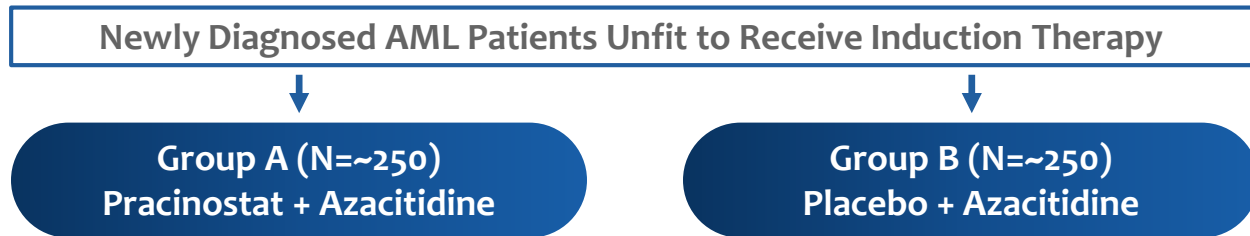
Late-Stage Development Landscape in AML

Patients with newly diagnosed AML who are <i>unfit</i> for treatment with intensive chemotherapy					
DRUG CANDIDATE	SPONSOR	PHASE 3 STATUS	COMBO	LAST REPORTED CLINICAL DATA	
				CR RATE	MEDIAN OS
Azacitidine ¹	Celgene	Completed	–	19.5% (47/241)	10.4 months (95%CI: 8.0-12.7)
Pracinostat²	MEI Pharma	Recruiting	AZA	42% (21/50)	19.1 months (95%CI: 10.7-26.5)
Vadastuximab talirine ³ (SGN-CD33A)	Seattle Genetics	Terminated	HMA	47% (23/49)	11.3 months (95%CI: 8.8-13.7)
Venetoclax ⁴ (ABT-199)	AbbVie	Recruiting	AZA	27% (12/45)	N/A
Venetoclax ⁵ (ABT-199)	AbbVie	Recruiting	LDAC	21% (13/61)	N/A
Guadecitabine ⁶ (SGI-110)	Astex	Ongoing	–	37% (19/51)	10.5 months
Patients with secondary AML who are <i>suitable</i> for treatment with intensive chemotherapy					
VYXEOS ⁷ (CPX-351)	Celator	Completed	–	37%	9.6 months

¹ Blood. 2015 Jul 16;126(3):291-9; ² ASH 2016: 100; ³ ASH 2016: 211; ⁴ ASCO 2016: 7009; ⁵ EHA 2017: S473 ; ⁶ ASH 2015: 458; ⁷ ASCO 2016: 7000

Pivotal Phase 3 Study in AML

First patient dosed in July 2017

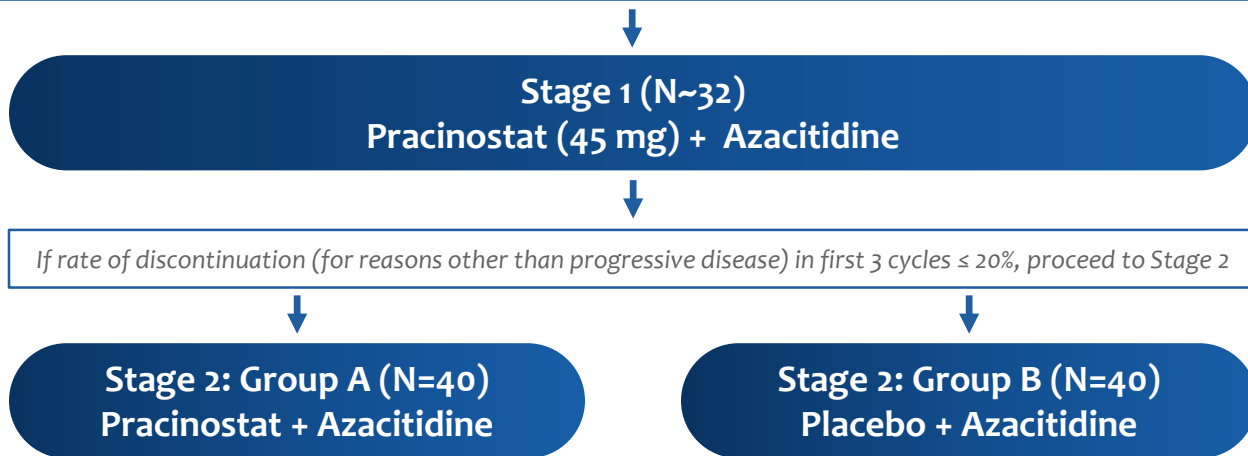


- Randomized, double-blind, placebo-controlled study to enroll up to 500 patients
- Primary endpoint: Overall survival
- Secondary endpoints: Morphologic CR rate, event free survival & duration of CR
- Inclusion criteria: Newly diagnosed AML patients ≥ 18 years who are unfit to receive intensive remission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

Phase 2 Dose-Optimization Study in MDS

Expect to complete Stage 1 in Q1 2018

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



- 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
- 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-344: A Novel Mitochondrial Inhibitor

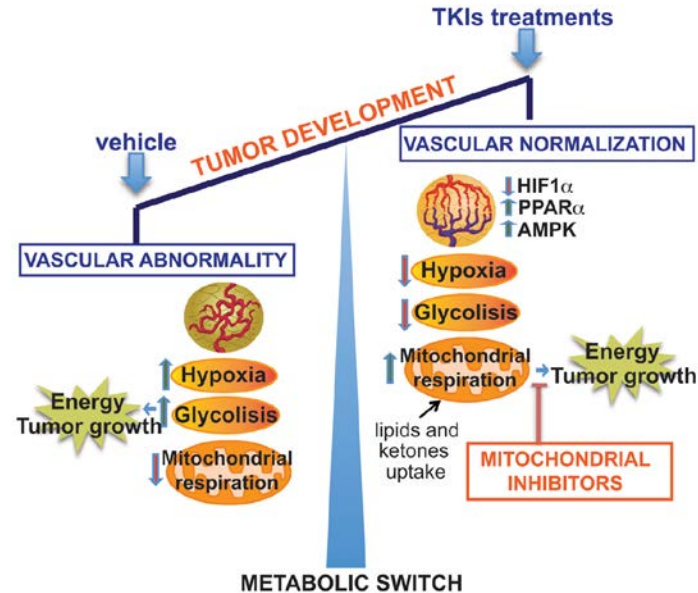
ME-344: A Novel Mitochondrial Inhibitor

- Mechanism of action directly targets mitochondrial OXPHOS complex I¹, resulting in **rapid loss of cellular energy (ATP)**
- **Evidence of single agent activity** in Phase 1 dose-escalation study in refractory solid tumors²

¹Lim et al. *Am J Cancer Res.* 2015;5(2):689-701 ²Bendell et al. *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^{3,4} to modulate tumor's glycolytic dependence
- Investigator-sponsored study of ME-344 in combination with Avastin[®] in HER2-negative breast cancer **now actively dosing patients**

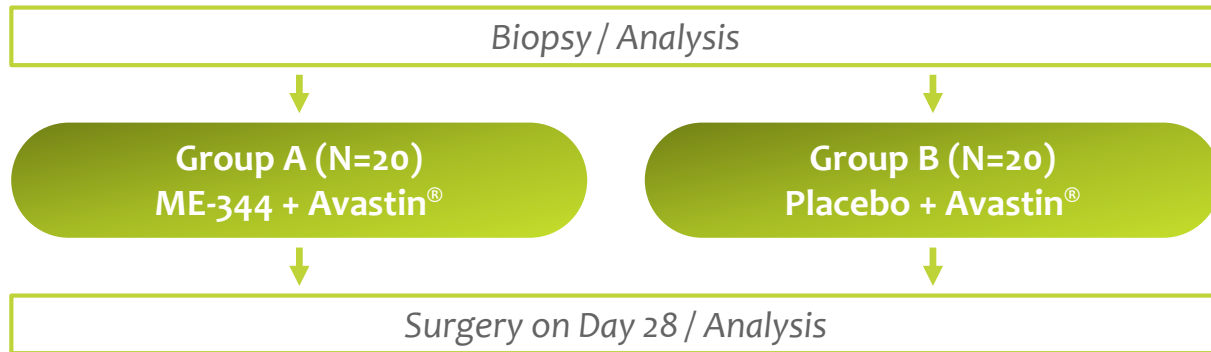


³ Manevich et al. *J Pharmacol Exp Ther.* 2016 Aug;358(2):199-208

⁴ Navarro et al. *Cell Rep.* 2016 Jun 21;15(12):2705-18

Clinical Study in HER2-Negative Breast Cancer*

Data expected in December 2017



- 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

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.
 - **Sep 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.

Leadership Team with Deep Expertise in Drug Development

EXECUTIVE MANAGEMENT

Daniel Gold, PhD

President & Chief Executive Officer

Former Chief Scientific Officer & Founder, Favril

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 & Favril

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

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
- ❑ Complete stage 1 of Phase 2 dose-optimization study in MDS (Q1 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)
- ❑ Meet with FDA to discuss registration study (Q1 2018)

Voruciclib

- ❑ Initiate Phase 1/2 study with venetoclax in relapsed/refractory CLL del(17p) (Q2 2018)

ME-344

- ❑ Data from investigator-sponsored study with Avastin® in HER2-negative breast cancer (Q4 2017)

Pracinostat, ME-401, voruciclib and ME-344 are investigational agents and have not been approved for commercial use in the U.S.

NASDAQ: **MEIP**



NewsMakers in the Biotech Industry

September 8, 2017