Forward-Looking Statements

Statements that are not descriptions of historical facts are forward-looking and subject to risk and uncertainties. Actual results may differ materially from those currently anticipated due to a number of factors, including risks relating to additional financing, early-stage product development, clinical trials, and those set forth in the Company’s Securities and Exchange Commission filings.
EntreMed: A Good Investment Opportunity

- Robust clinical pipeline of product candidates to treat cancer & inflammatory disease
- Focused on important pathways and targets that can inhibit disease progression
- All compounds:
  - Orally-active
  - Small molecules
  - Antiproliferative
  - Antiangiogenic
- Established targets; builds on expertise in angiogenesis and cell cycle regulation
Tumor Growth, Invasion, and Metastasis
Cancer Cells Use Multiple Pathways to Survive and Grow

Angiogenesis, Proliferation, Metabolism

Protein Synthesis

Apoptosis, Metabolic & Antiangiogenic Effects

TORC2 Complex

Akt

GβL Rictor

mTOR

TORC1 Complex

mTOR GβL Raptor

HIF-1α, STAT3, NFκB

SM/TFs

Importin β

TFREs

TFs

Translation

Cell Cycle

Mitosis
Investment Highlights: Robust Clinical Pipeline

- Multi-program clinical development pipeline
  - MKC-1 Ph 2 Oncology
  - ENMD-1198 Ph 1 Oncology
  - ENMD-2076 Ph 1 Oncology
  - Panzem® Ph 1 Rheumatoid Arthritis (RA)
- Potential to address high unmet medical needs
- Celgene Corporation, largest shareholder
- Strong IP, retained commercial rights to all compounds
- Selective partnering discussions initiated for ENMD-2076
- Cash & short-term investments well into 2H09
Target Interdiction is Key to Cancer Cell Inhibition

- **Akt**
- **mTOR**
- **Rictor**
- **TORC2 Complex**
- **GβL**
- **Raptor**
- **TORC1 Complex**
- **GβL**
- **SM/TFs**
- **HIF-1α, STAT3, NFκB**
- **MKC-1**
- **Importin β**
- **TFREs**
- **TFs**
- **Cell Kill, Apoptosis, Metabolic & Antiangiogenic Effects**

**Angiogenesis, Proliferation, Metabolism**

**Protein Synthesis**

**Translation**

**Cell Cycle**

**Mitosis**

**RTKs**

**TKs**

**ENMD-2076**

**ENMD-1198**

**ENMD-1198**

**ENMD-2076**
## Solid Clinical Pipeline: Multiple Product Opportunities

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>INDICATION</th>
<th>DISCOVERY</th>
<th>PRECLINICAL</th>
<th>PHASE 1</th>
<th>PHASE 2</th>
<th>PHASE 3</th>
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<tbody>
<tr>
<td><strong>MKC-1</strong></td>
<td>Metastatic Breast Cancer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-Small Cell Lung Cancer</td>
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<tr>
<td></td>
<td>Leukemia</td>
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<tr>
<td></td>
<td>Pancreatic Cancer</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Ovarian/Endometrial Cancers</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Solid Tumors</td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>ENMD-1198</strong></td>
<td>Solid Tumors</td>
<td></td>
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</tr>
<tr>
<td><strong>ENMD-2076</strong></td>
<td>Solid Tumors</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Panzem® (2ME2)</strong></td>
<td>Rheumatoid Arthritis</td>
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<td></td>
</tr>
</tbody>
</table>
MKC-1: Novel Phase 2 Cell Cycle Inhibitor

- Oral, antiproliferative, cell-cycle inhibitor; mTOR inhibitor, tubulin/HIF-1α targets
- Validated target, broad antitumor activity, alone and in combination
- Extensive preclinical package – exclusive world-wide license from Roche
- Predictable toxicity (neutropenia, GI effects); no neuropathy, no abnormal cardiovascular effects
- Broad IP coverage through 2021, including composition-of-matter & formulation; substantial API inventory
mTOR Pathway Plays an Important Role in Cancer

Emerging mTOR Inhibitors Make Good on Their Initial Promise
May 2008

Evolving Role of mTOR Inhibition...
June 30, 2008

The AKT-mTOR pathway plays a critical role ...
June 2007
Why Target PI-3K/Akt/mTOR Signaling Pathway?

- Critical mediator of oncogenic signaling
- Important for cell proliferation, angiogenesis, and metabolism
- PI-3K/Akt/mTOR pathway deregulation key to cancer development & growth
- Pathway’s role in cancer validated
- Multiple clinical trials on drugs targeting PI-3K/Akt/mTOR pathway ongoing with 1st generation products
- FDA approved the first mTOR inhibitor Temsirolimus (Torisel®) for RCC

‡ Approved mTOR Inhibitor
MKC-1 is a 2nd Generation mTOR Drug that Blocks the TORC2 Complex & Inhibits Akt Function

**Growth Factor Signaling**
- IGF
- EGF
- VEGFs

**Protein Synthesis**
- PI-3K
- mTOR
- Rictor
- GβL

**Cell Proliferation**

**Angiogenesis**

**Cell Metabolism**

**Hypoxia**

**Nutrients**

**TORC2 Complex**
- MKC-1
- Rapamycin
- RAD001

**TORC1 Complex**
- mTOR
- GβL
- Raptor

**HIF-1α**
# MKC-1: Clinical Trials in Solid Tumors and Leukemia

<table>
<thead>
<tr>
<th>INDICATION</th>
<th>TRIAL TYPE</th>
<th>SITE(S)</th>
<th>N=</th>
<th>Dosing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metastatic Breast Cancer</td>
<td>Phase 2</td>
<td>Multicenter</td>
<td>Up to 60</td>
<td>Intermittent</td>
</tr>
<tr>
<td>Non-Small Cell Lung Cancer</td>
<td>Phase 1/2</td>
<td>Multicenter</td>
<td>Up to 60</td>
<td>Intermittent</td>
</tr>
<tr>
<td>(w/Alimta®)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hematological Cancers</td>
<td>Phase 1</td>
<td>Princess Margaret Hospital</td>
<td>30</td>
<td>Intermittent/Continuous</td>
</tr>
<tr>
<td>Pancreatic Cancer</td>
<td>Phase 2</td>
<td>Multicenter</td>
<td>Up to 33</td>
<td>Intermittent</td>
</tr>
<tr>
<td>Ovarian/Endometrial Cancers</td>
<td>Phase 2</td>
<td>Multicenter</td>
<td>Up to 84</td>
<td>Intermittent</td>
</tr>
<tr>
<td>Solid Tumors</td>
<td>Phase 1</td>
<td>University of Wisconsin</td>
<td>Up to 24</td>
<td>Continuous</td>
</tr>
</tbody>
</table>
ENMD-2076: Aurora A and Angiogenesis Inhibitor

- Orally active, defined-kinase inhibitor
- Unique combination of target activities: Aurora A & Angiogenic Kinases (VEGFR, FGFR, PDGFR); Growth Factor Kinases (Flt-3, Src, c-Kit)
- Tumor regression observed in multiple preclinical models
- Excellent efficacy as a single agent
- Combines with other cancer drugs
- Excellent pharmaceutical properties
- Patents pending; > 600 analogs covered

Aurora A
Key Regulator of Cell Division; Expression Linked to Decreased Survival
ENMD-2076 Affects Multiple Oncogenic Pathways

- **Growth Factor Kinases**: Src, Flt-3, c-Kit
- **Cell Cycle Kinases**: Aurora A
- **Angiogenic Kinases**: VEGFR, FGFR, PDGFR

Combined, Broad-Spectrum Antitumor Effects
Significant Tumor Regression Demonstrated with ENMD-2076 in Preclinical Leukemia Model

- MV4;11 Leukemia Tumor Model
- Dose escalated to 150 mg/kg in 15 & 30 mg/kg cohorts
Tumor Regression and Antiangiogenic Effects of ENMD-2076 in Preclinical Colon Carcinoma Models

HT29 Colon Carcinoma Xenograft

Vehicle Control Day 28

ENMD-2076 po, qd (200 mg/kg) Day 28
Multicenter Clinical Trial Underway with ENMD-2076 in Advanced Cancer Patients

- Ph 1 clinical study 1Q08
  - Dana-Farber and University of Colorado

- Ph 1 design and endpoints
  - 3 + 3 dose escalation with safety, PK and clinical benefit endpoints

- PD evaluation of soluble VEGFR2

- Cardiovascular monitoring

- Goal: determine MTD in solid tumor patients

- Additional studies in hematological cancers planned for 2H08
ENMD-1198: Oral, Multi-Mechanism Antimitotic Agent

- Novel drug targeting key transcription factors – HIF-1, STAT3 & NF\_kB
  - HIF-1 has a central role in cell survival & proliferation; regulates > 80 genes
  - Over-expression associated with tumor aggression & increased angiogenesis

- Antiproliferative & antiangiogenic activity against multiple tumor types, including resistant tumors

- Large unmet medical need; traditional drugs are IV formulations, induce resistance, and are neurotoxic

- Strong IP position; NCE, multiple patents pending; wholly ENMD-owned
ENMD-1198 Significantly Increases Survival in a Preclinical Lung Cancer Model

**Graph:**
- Survival (%) vs. Days After Tumor Cell Injection
- **Rx**:
  - No Rx
  - ENMD-1198 200 mg/kg (po, qd)
  - cisPt 6 mg/kg (ip, qw)

**Table:**

<table>
<thead>
<tr>
<th>Rx</th>
<th>MST (Days)</th>
<th>P-value (Control vs. Rx)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Rx</td>
<td>17</td>
<td>-</td>
</tr>
<tr>
<td>cisPt q3d x 7</td>
<td>18</td>
<td>NS</td>
</tr>
<tr>
<td>ENMD-1198 qd x 50</td>
<td>&gt;53</td>
<td>0.0001</td>
</tr>
</tbody>
</table>
ENMD-1198 Phase 1 Clinical Trial is Nearing Completion

- Phase 1 dose escalation clinical trial in advanced cancer patients
  - Establish safety in patients with multiple tumor types
  - Establish neutropenia as evidence of pharmacological activity
  - Determine Phase 2 dose
  - Cohort expansion expected in 1H09 to identify combination therapies and target indications

- MOA indicates prostate cancer may be key indication

- Clinical findings & MOA studies will drive selection of indication(s)
Joint in Rheumatoid Arthritis – Effects of 2ME2

- Bone Erosion
- Pannus Formation
- Cellular Infiltration
- Cartilage Degradation

Normal Joint
Rheumatoid Arthritis

2ME2
Panzem® (2ME2) Has Shown Substantial Activity Against the Hallmarks of Rheumatoid Arthritis in Preclinical Models

- Dose-dependent inhibition in preclinical RA models (DMARD)
  - Cellular Infiltration
  - Pannus Formation
  - Cartilage Lesions
  - Bone Resorption
- Additive activity in combination with MTX
- Comparable activity to Enbrel® in preclinical RA models
- Orally-active, unique inhibition of targets distinguishes 2ME2 from other RA agents
- Broad IP position; composition-of-matter coverage through 2022
- Phase 1 normal volunteer study completed successfully; results submitted to the FDA; partnering for Phase 2 & 3 development
Unique-in-Class Oral DMARD for Rheumatoid Arthritis

• $14 billion global market
• > 300 million cases in 7 major markets
• Growing rapidly due to aging populations
• Need for alternative DMARDs
  – Oral; small molecule
  – Unique mechanism(s)
• Potentially competitive to:
  – DMARDs (Trexall®, Plaquinil®)
  – BRMs (Enbrel®, Remicade®, Humira®)

Source: EvaluatePharma®
## Good Financial Position: Emphasis on Tight Cash Management and Execution Against Milestones

<table>
<thead>
<tr>
<th></th>
<th>Six Months Ended June 30</th>
<th></th>
<th>Year-End</th>
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<tbody>
<tr>
<td></td>
<td>2008</td>
<td>2007</td>
<td>2007</td>
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<tr>
<td>Total Revenues</td>
<td>$ 0</td>
<td>$ 0</td>
<td>$ 7,395,651</td>
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<tr>
<td>Research &amp; Development</td>
<td>11,672,060</td>
<td>12,979,983</td>
<td>23,739,392</td>
</tr>
<tr>
<td>General &amp; Administrative</td>
<td>3,722,685</td>
<td>3,701,137</td>
<td>7,386,570</td>
</tr>
<tr>
<td>Operating Loss</td>
<td>(15,394,745)</td>
<td>(16,681,120)</td>
<td>(22,411,121)</td>
</tr>
<tr>
<td>Acquired In-Process R&amp;D</td>
<td>2,000,000</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Net Loss</td>
<td>(17,916,599)</td>
<td>(15,608,279)</td>
<td>(22,411,121)</td>
</tr>
<tr>
<td>Net loss per share attributable to common shareholders (ongoing)</td>
<td>$ (0.22)</td>
<td>$ (0.19)</td>
<td>$ (0.28)</td>
</tr>
<tr>
<td>Weighted average number of shares outstanding (basic)</td>
<td>85,217,169</td>
<td>84,015,999</td>
<td>84,166,552</td>
</tr>
<tr>
<td>Cash &amp; short-term investments</td>
<td>$ 36,196,345</td>
<td>$ 38,062,570</td>
<td>$ 47,748,191</td>
</tr>
</tbody>
</table>
**Experienced Management Team to Move Drug Candidates Forward**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Companies/Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenneth W. Bair, PhD</td>
<td>SVP, Research &amp; Development</td>
<td>Chiron, Pharmacia, Novartis, Sandoz, Burroughs-Wellcome</td>
</tr>
<tr>
<td>Mark R. Bray, PhD</td>
<td>VP, Research</td>
<td>Miikana Therapeutics, Amgen Research Institute</td>
</tr>
<tr>
<td>James S. Burns</td>
<td>President &amp; CEO</td>
<td>MedPointe Pharmaceuticals, Osiris Therapeutics, Healthcare Ventures, Becton Dickinson, Booz Allen Hamilton</td>
</tr>
<tr>
<td>Dane R. Saglio</td>
<td>CFO</td>
<td>Public Communications Associates</td>
</tr>
<tr>
<td>Carolyn F. Sidor, MD</td>
<td>VP &amp; CMO</td>
<td>UNC Healthcare System, Cato Research, DuPont</td>
</tr>
<tr>
<td>Anthony R. Treston, PhD</td>
<td>VP, Product Development &amp; Manufacturing</td>
<td>National Cancer Institute</td>
</tr>
<tr>
<td>Cynthia Wong Hu, JD</td>
<td>VP, General Counsel &amp; Secretary</td>
<td>Powell Goldstein, Golden American Life</td>
</tr>
</tbody>
</table>
## 2H08 & 1H09 Milestones: Moving Our Clinical Pipeline Forward

<table>
<thead>
<tr>
<th>Compound</th>
<th>Goal</th>
<th>Target</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>MKC-1</td>
<td>Initiate Phase 2 study in ovarian/endometrial cancers</td>
<td>1Q08</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Report results (Phase 2 metastatic breast cancer)</td>
<td>2Q08</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Initiate Phase 1 continuous dosing trial</td>
<td>2Q08</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Report Phase 1 and interim Phase 2 data (non-small cell lung cancer)</td>
<td>3Q08</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Initiate combination trial with radiation in pancreatic cancer</td>
<td>3Q08</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Report interim results for Phase 1 leukemia</td>
<td>2H08</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Report interim results for Phase 2 pancreatic</td>
<td>4Q08</td>
<td></td>
</tr>
<tr>
<td>ENMD-1198</td>
<td>Complete Phase 1b enrollment</td>
<td>4Q08</td>
<td></td>
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<tr>
<td></td>
<td>Initiate expanded Phase 1 or Phase 2 trial</td>
<td>1H09</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Report interim data for Phase 1b</td>
<td>4Q08/1Q09</td>
<td></td>
</tr>
<tr>
<td>ENMD-2076</td>
<td>Initiate Phase 1 trial in solid tumors</td>
<td>1Q08</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Initiate Phase 1 trial in hematological tumors</td>
<td>4Q08</td>
<td></td>
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<tr>
<td></td>
<td>Co-development alliance</td>
<td>2H08/1H09</td>
<td></td>
</tr>
<tr>
<td>Panzem® (2ME2)</td>
<td>Initiate normal volunteer trial in rheumatoid arthritis</td>
<td>1H08</td>
<td>✓</td>
</tr>
<tr>
<td>Panzem® NCD</td>
<td>Report interim data for Phase 2 Avastin® trial in carcinoid tumors</td>
<td>1Q08</td>
<td>✓</td>
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</table>
Good Investment Proposition: Robust Clinical Pipeline with Partnering Opportunities

• Robust clinical pipeline of candidates for cancer & inflammatory disease – all oral, targeted, state-of-the-art mechanisms

• Focused on important pathways/targets for cancer & inflammatory disease
  • PI-3K/Akt/mTOR Pathway
  • Transcription Factor Targets - HIF-1, NFκB, STAT3
  • Kinase Signaling & Cell Cycle Pathways; Flt-3, Src, c-Kit, Aurora A
  • Angiogenic Pathways; VEGFR, FGFR, PDGFR

• Strong IP, commercial rights to all compounds for partnering opportunities
Multi-Target Drugs for Cancer and Inflammation