FORWARD-LOOKING STATEMENTS

This presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Words such as “expects”, “plan”, “project”, “potential”, “suggests”, “may”, or similar expressions. Such forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause the actual results to be materially different from any future results, performance or achievements expressed or implied by such statements. In particular, management’s expectations regarding future results could be affected by, among other things, uncertainties relating to clinical trials and product development; unexpected regulatory delays or government regulation generally; the Company’s ability to obtain or maintain patent and other proprietary intellectual property protection; and competition in general. For more detailed information about the risks and uncertainties that could cause actual results to differ materially from those implied by, or anticipated in, these forward-looking statements, please refer to the Risk Factors section of the Company’s Annual Report on Form 10-K and subsequent updates that may be contained in the Company’s Quarterly Reports on Form 10-Q and current reports on Form 8-K on file with the SEC. Forward-looking statements speak only as to the date they are made. The Company does not undertake to update forward-looking statements to reflect circumstances or events that occur after the date the forward looking statements are made.
Engaged in development of tumor-infiltrating lymphocytes
  • Based on research at NCI
Lead product candidate, LN-144, entering Phase 2 for metastatic melanoma
Two worldwide, exclusive licenses from NIH for TIL in metastatic melanoma
  • Additional non-exclusive license for lung, breast, bladder and HPV-associated cancers
Expanded CRADA with NCI and growing IP portfolio
Strong management and scientific advisory board
Nasdaq: LBIO
TUMOR-INFILTRATING LYMPHOCYTES (TIL)

- Large experience base in solid tumors
  - Over 600 patients treated
  - Phase 2 clinical data

Universal approach to solid tumors to create patient specific T-cells
THE TIL ADVANTAGE

- TIL recognize neoantigens
  - Neoantigens are unique to tumor cells

![Venn Diagram]

- Tumor Cells
  - Neo-antigens (BRAF<sub>V600E</sub>, CDK4<sup>R24C</sup>)
  - Self-antigens (MART-1, gp100)

- Normal Cells
- TIL recognize neoantigens
  - Neoantigens are unique to tumor cells
  - TIL capture tumor heterogeneity

THE TIL ADVANTAGE

- TIL recognize neoantigens
  - Neoantigens are unique to tumor cells
  - TIL capture tumor heterogeneity

- One treatment
  - No ancillary therapies needed after TIL and IL-2

- Less chance for unpredicted on-target, off-tissue effects

- TIL can now be successfully prepared from > 90% of melanoma patients
POWER OF TIL: LATE STAGE DISEASE

Clinical Cancer Research December 15, 2010 16: 6122
REGRESSIONS IN LATE STAGE DISEASE

(a) Pre-Treatment vs. 27+ Months
(b) Day -25 vs. Day +34 vs. 3.2+ Years
(c) Pre vs. 12 days
(d) March, 2005 vs. April, 2008

Current Opinion in Immunology 2009, 21:233-240
IMPRESSIVE SURVIVAL BENEFIT: 2ND & 3RD LINE

Durable remissions in melanoma regardless of prior therapies

19 of 20 complete responders are ongoing at 7 to >10 years

Immunotherapy with Metastatic Melanoma Using T Cell Transfer Durable Complete Responses in Heavily Pretreated Patients. April 15, 2011
<table>
<thead>
<tr>
<th>Phase 1</th>
<th>Phase 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>LN-144 (Lion)</td>
<td></td>
</tr>
<tr>
<td>TIL ± TBI (NCI)</td>
<td></td>
</tr>
<tr>
<td>Compressed Lymphodepletion + TIL (NCI)</td>
<td></td>
</tr>
<tr>
<td>CD137-enriched TIL (NCI)</td>
<td></td>
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<tr>
<td>TIL (MDACC)</td>
<td></td>
</tr>
<tr>
<td>Ipilimumab + TIL (Moffitt)</td>
<td></td>
</tr>
<tr>
<td>Nivolumab + TIL (Moffitt)</td>
<td></td>
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</tbody>
</table>
Randomized Trial to Determine Effect of TBI:

- Chemoablation + TIL + IL-2
- Chemoablation + TBI + TIL + IL-2

N = 101

ORR = 54%

NCI: DURABLE REMISSIONS IN MELANOMA

NR 46 (46%)
PR** 41 (41%)
CR* 14 (14%)

*13 ongoing >2 yrs.  
**22 ongoing > 1 yr, 15 ongoing >2 yrs.
TUMOR REDUCTION IN MAJORITY OF PATIENTS

Metastatic Melanoma Patients
MD Anderson N= 31

48% response rate
(>50% decrease in tumor burden)

TUMOR RESPONSES TO TIL: MELANOMA

Change in tumor burden over time after TIL infusion

PILOT TRIAL OF IPILIMUMAB AND TIL

- Treatment regimen:

- N = 12 (consented)
  - N = 11 (92%) successfully completed TIL regimen
  - N = 1 (8%) drop out due to progressive disease prior to TIL treatment

- 45% overall response:
  - CR = 9% (ongoing)
  - PR = 35% (ongoing)
### Objective Response Rate

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Objective Response Rate</th>
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<tbody>
<tr>
<td>TILs</td>
<td>50%</td>
</tr>
<tr>
<td>Anti-PD1</td>
<td>31%</td>
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<tr>
<td>Yervoy</td>
<td>11%</td>
</tr>
<tr>
<td>Zelboraf</td>
<td>48%</td>
</tr>
<tr>
<td>IL-2</td>
<td>15%</td>
</tr>
<tr>
<td>DTIC</td>
<td>15%</td>
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</tbody>
</table>

### Complete Response Rate

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Complete Response Rate</th>
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</thead>
<tbody>
<tr>
<td>TILs</td>
<td>12%</td>
</tr>
<tr>
<td>Anti-PD1</td>
<td>2%</td>
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<tr>
<td>Yervoy</td>
<td>2%</td>
</tr>
<tr>
<td>Zelboraf</td>
<td>2%</td>
</tr>
<tr>
<td>IL-2</td>
<td>5%</td>
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<tr>
<td>DTIC</td>
<td>3%</td>
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</table>

LN-144: PHASE 2 STUDY

- Multi-center, single arm study
- 20 patients
  - Metastatic melanoma
  - Refractory to at least one systemic treatment

Objectives:
- Safety
- Feasibility
- Anti-tumor activity and other measures of efficacy
- Immune correlates

Treatment
- Lymphodepletion
- TIL infusion
- IL-2
LN-144 MANUFACTURING

GMP MANUFACTURING FACILITY

- Initial TIL Culture (Pre-REP) 3 weeks
  - 1-3 mm³ fragments
  - +IL-2
  - Bulk TILs (>75M)

- Rapid Expansion Protocol (REP) 2 weeks
  - +IL-2 + OKT3 + feeder cells

- Infusion bag
  - Final TILs
## Tentative Long-Term Development Plan

<table>
<thead>
<tr>
<th>Condition</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
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<tbody>
<tr>
<td>Metastatic Melanoma (LN-144)</td>
<td>Phase 2</td>
<td>Ph 3</td>
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<tr>
<td>Cervical Cancer*</td>
<td>IND</td>
<td>Phase 2</td>
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<tr>
<td>Head and Neck Cancer*</td>
<td>IND</td>
<td>Phase 2</td>
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</tr>
<tr>
<td>Bladder Cancer*</td>
<td>IND</td>
<td>Ph 2</td>
<td></td>
</tr>
<tr>
<td>Lung Cancer*</td>
<td>IND</td>
<td>Ph 2</td>
<td></td>
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<tr>
<td>Triple-negative Breast Cancer*</td>
<td>IND</td>
<td>Ph 2</td>
<td></td>
</tr>
</tbody>
</table>

*Order of indications may change*
Patients with metastatic refractory or recurrent cervical cancer

- N = 9
- Widely metastatic disease
- 8 out of 9 patients had prior radiotherapy and all patients had cisplatin

Results:

- Objective responses N = 3
  - CR: N = 2 (duration 15+ and 22+ months)
  - PR: N = 1 (duration 3 months)
  - No acute toxicities related to cell infusion
  - No autoimmune adverse events

NEXT GENERATION TIL

- **Pre-sorted TIL**
  - Select higher potency TIL
    - Need lower cell numbers
    - Shorter manufacturing
    - Lower COGS
    - Stronger IP protection

- **Genetic engineering of TIL**
  - Expression of certain cytokines to increase potency
  - Modulation of PD-1/CTLA-4/LAG-3 on cell surface
    - Persistence over longer time
    - Shorter manufacturing
    - Lower COGS
    - Stronger IP protection
UPCOMING MILESTONES: 2015

LN-144 IND: Melanoma

NCI CRADA (Extended)

LN-144: Initiate Phase 2 Melanoma

NCI Exclusive License (Other Tumors)

Lion IND: Cervical Cancer (tentative)

R&D Labs

NCI Exclusive License (Melanoma)

TIL + IPI Data (Moffitt)

Lion IND: Head & Neck Cancer (tentative)

NCI Exclusive License (2nd Gen Melanoma)

Phase 2 NCI Update

Initiate Phase 1: Anti-PD1 + TIL (Moffitt)

Next Gen Phase 2: Interim Data (NCI)
KEY AGREEMENTS

- CRADA with NCI/Rosenberg
  - Option to license exclusive rights for new TIL therapy to treat lung, triple-negative breast, bladder and HPV-related cancers
  - Conduct clinical trials at NCI
  - Access to all clinical data, manufacturing data, and SOPs

- Intellectual property license
  - Worldwide exclusive licenses for TIL in melanoma from NIH

- Process development and scale-up agreement
<table>
<thead>
<tr>
<th>Number</th>
<th>Title</th>
<th>Issue Date</th>
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<tbody>
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<td>8,034,334</td>
<td>Immunotherapy with in vitro-selected antigen-specific lymphocytes after non-myeloablative lymphodepleting chemotherapy</td>
<td>10/11/11</td>
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<td>8,287,857</td>
<td>Immunotherapy with in vitro-selected antigen-specific lymphocytes after non-myeloablative lymphodepleting chemotherapy</td>
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<td>8,383,099</td>
<td>Adoptive cell therapy with young T cells</td>
<td>2/26/13</td>
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<tr>
<td>2014/0030806</td>
<td>Adoptive cell therapy with young T cells</td>
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<td>2012/0244133</td>
<td>Methods of growing tumor Infiltrating lymphocytes in gas-permeable containers</td>
<td>N/A</td>
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<td>61/955,970</td>
<td>Compositions and methods for improving tumor-infiltrating lymphocytes for adoptive cell therapy</td>
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<td>61/973,002</td>
<td>Compositions and methods for improving tumor-infiltrating lymphocytes for adoptive cell therapy</td>
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<td>WO 2014/133567</td>
<td>Methods of producing enriched populations of tumor-reactive T cells from tumor</td>
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<td>MANAGEMENT TEAM</td>
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</table>
| **Elma Hawkins, PhD, MBA**  
President and CEO | ![genzyme](#)  
![agenus](#)  
![Parke-Davis](#)  
![Tufts Center for the Study of Drug Development](#) |
| **Laszlo Radvanyi, PhD**  
Chief Scientific Officer | ![MD Anderson Cancer Center](#)  
![Harvard Medical School](#)  
![Sanofi Pasteur](#) |
| **Michael Handelman, CPA**  
CFO | ![Oxis](#)  
![Kings](#) |
| **James Bender, PhD, MPH**  
VP, Product Dev and Manufacturing | ![ImmunoCellular Therapeutics Ltd.](#)  
![Baxter](#)  
![Idm Pharma](#) |
| **Peter Ho, PhD, MBA**  
Director, Business Development | ![ImmunoCellular Therapeutics Ltd.](#)  
![Allergan](#)  
![DE Shaw & Co](#) |
<table>
<thead>
<tr>
<th>Board Member</th>
<th>Companies and Logos</th>
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</thead>
<tbody>
<tr>
<td>Elma Hawkins, PhD, MBA, President and CEO</td>
<td>Genzyme, agenus, Parke-Davis, Tufts Center for the Study of Drug Development</td>
</tr>
<tr>
<td>Sandy Hillsberg, JD, Director</td>
<td>ImmunoCellular, TroyGould, Galena BioPharma</td>
</tr>
<tr>
<td>Ryan Maynard, Director</td>
<td>Rigel, Personify, General Magic</td>
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<tr>
<td>Merrill McPeak, Director</td>
<td>Course of Study, Defense, Tektronix, Ethics-Point, GenCorp</td>
</tr>
<tr>
<td>Jay Venkatesan, MD, Director</td>
<td>McKinsey &amp; Company, Ayer Capital, Brookside Capital</td>
</tr>
<tr>
<td>SCIENTIFIC AND MEDICAL ADVISORY BOARD</td>
<td></td>
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<tr>
<td>--------------------------------------</td>
<td></td>
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<tr>
<td>Dr. Mario Sznol</td>
<td></td>
</tr>
<tr>
<td>Dr. Jeffrey Weber</td>
<td></td>
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<tr>
<td>Dr. James Mulé</td>
<td></td>
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<tr>
<td>Dr. Patrick Hwu</td>
<td></td>
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<tr>
<td>Dr. Cassian Yee</td>
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<tr>
<td>Dr. David DiGiusto</td>
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<tr>
<td>Dr. Daniel Powell</td>
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<tr>
<td>Description</td>
<td>Value</td>
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<tr>
<td>-----------------------------------------------------</td>
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<tr>
<td>Total Common Shares Outstanding</td>
<td>44.8 million</td>
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<td>Preferred Shares – as converted to Common Shares</td>
<td>1.8 million</td>
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<tr>
<td>Warrants/Options</td>
<td>12.2 million</td>
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<tr>
<td>Cash</td>
<td>$111.3 million</td>
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<tr>
<td>Debt</td>
<td>0</td>
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</tbody>
</table>

Data current as of March 31, 2015
INVESTMENT HIGHLIGHTS

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