Certain statements contained in this presentation or in other documents of Sorrento Therapeutics, Inc. (the “Company”), along with certain statements that may be made by management of the Company orally in presenting this material, may contain “forward-looking statements” as defined in the Private Securities Litigation Reform Act of 1995. These statements can be identified by the fact that they do not relate strictly to historic or current facts. They use words such as "estimate," "expect," "intend," "believe," "plan," "anticipate," "projected" and other words and terms of similar meaning in connection with any discussion of future operating or financial performance or condition. These statements are based upon the current beliefs and expectations of the Company’s management and are subject to significant risks and uncertainties. Statements regarding future action, future performance and/or future results including, without limitation, those relating to the timing for completion, and results of, scheduled or additional clinical trials and the FDA’s or other regulatory review and/or approval and commercial launch and sales results (if any) of the Company’s formulations and products and regulatory filings related to the same, and receipt by the Company of milestone and royalty payments may differ from those set forth in the forward-looking statements. Peak sales and market size estimates have been determined on the basis of market research and comparable product analysis, but no assurances can be given that such sales levels will be achieved, if at all, or that such market size estimates will prove accurate.

The Company assumes no obligation to update forward-looking statements as circumstances change. Investors are advised to consult further disclosures that the Company makes or has made on related subjects in the Company’s Form 10-K, 10-Q and 8-K reports.

In presenting this material or responding to inquiries in connection with a presentation, management may refer to results, projections or performance measures that are not prepared in accordance with U.S. Generally Accepted Accounting Principles (“GAAP”) as reported in the Company’s SEC filings. These results, projections or performance measures are Non-GAAP measures and are not intended to replace or as a substitute for results measured under GAAP, but rather as supplement to the GAAP reported results.

Because actual results are affected by these and other potential risks, contingencies and uncertainties, the Company cautions investors that actual results may differ materially from those expressed or implied in any forward-looking statement. It is not possible to predict or identify all such risks, contingencies and uncertainties. The Company identifies some of these factors in its Securities and Exchange Commission (“SEC”) filings on Forms 10-K, 10-Q and 8-K, and investors are advised to consult the Company’s filings for a more complete listing of risk factors, contingencies and uncertainties effecting the Company and its business and financial performance.
Deep and complementary pipeline creates significant opportunities for novel, breakthrough mono-or combination therapies against cancer.
Recent Corporate Events

**TNK Therapeutics**
Off-the-shelf CAR-TNK
(Chimeric Antigen Receptor Tumor-attacking Neoplastic)
Sorrento wholly-owned subsidiary
Leader in cellular immunotherapy

**CynViloq**
Successful TRIBECA registration trial
Acquired by NantPharma for $90 M in up-front cash payment plus more than $1.2 B in regulatory and sales milestones
Option to co-promote

**Nantworks Nant Antibody**
First joint venture with NantWorks and Abraxis BioScience Inc. founder,
Dr. Patrick Soon-Shiong, to develop next generation immunotherapies for the treatment of cancer and autoimmune disease.

**Conkwest**
Exclusive global collaboration to develop next generation ‘off-the-shelf’ CAR.TNK immunotherapies for cancer

**Advaxis Immunotherapies**
Collaboration to evaluate investigational combinations of Lm-LL0 Immunotherapy technology and Sorrento’s immunomodulatory antibodies

**Morphotek**
Exclusive research and option agreement to generate and develop antibody-drug conjugates (ADCs) with Morphotek / Eisai

**Lee’s Pharma**
Licensing agreement to develop and commercialize anti-PD-L1 mAb with Lee’s Pharmaceutical for the greater Chinese Market

**Nantworks NantCell**
Collaboration on discovery and development of novel immunotherapies against neoepitopes of tumor-specific antigens
$10 M cash payment and $100 M in NantCell common equity
## Sorrento Pipeline Overview

<table>
<thead>
<tr>
<th>INDICATION</th>
<th>PRECLINICAL</th>
<th>PHASE I</th>
<th>PHASE II</th>
<th>PHASE III</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RTX</strong></td>
<td>Intractable Cancer Pain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G-MAB</td>
<td>Immuno-oncology &gt; PD-L1, PD1, CD47, OX40, LAG3, TIM3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bi-Specific Ab</td>
<td>PD-L1/c-MET; PD-L1/CTLA-4, PD-L1/EGFR</td>
<td></td>
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<td></td>
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<tr>
<td>TNK Therapeutics</td>
<td>PD-L1.TNK, CD123.TNK, ROR1.TNK, PSMA.TNK</td>
<td></td>
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<td></td>
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<tr>
<td>ADC</td>
<td>VEGFR2, c-MET, CXCR5, Axl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small Molecules</td>
<td>MYC inhibitor, TRAIL modulator</td>
<td></td>
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</table>

*PDL1.TNK, CD123.TNK, ROR1.TNK, PSMA.TNK, CAR.TNK and G-MAB are trademarks owned by Sorrento Therapeutics, Inc.*
Immunotherapy Program

G-MAB

+ Neukoplast

+ Proprietary Toxins & Conjugation Chemistries

Bispecific Abs
Sorrento’s G-MAB Antibody Library

**Proprietary Technology**
RNA amplification used for library generation
Freedom-to-Operate

**No Stacking Royalties**

**Very High Library Diversity**
$2.1 \times 10^{16}$ Distinct Antibodies

**Fully Human Antibodies**

**Highly Successful Screening Hit Rate**
(over 70 targets screened)

---

**Difficult Targets**
*Small Peptides*

- AIP-1
- AIP-2
- AIP-3
- AIP-4

**High Value Oncology Targets**
*CARS*: PD-L1, CD123, PSMA

**Most Difficult Targets:**
G Protein-Coupled Receptors (GPCRs)
Neukoplast

NK92 cell line ("off-the-shelf")
Broad anti-cancer activity in solid and liquid tumors
No clinical DLTs in over 40 patients treated

G-MAB Library

Vast diversity human antibody library
High successful screening rate (over 70 targets screened)
Proprietary technologies with FTO
Ideal for generation of CARs
Background of NK92 (Neukoplast™; aNK)

- Amplified serial killing
- Missing 'off-switch'
- Broad anti-cancer activity
- Kills bulk & cancer stem cells
- Pure NK Line
- No T-cell contamination
- No Graft vs. Host Disease
- No DLT / only 1 Gr4 SAEs in 40+ pts
- Single source Master Cell Bank
- Batch-to-batch consistency
- Uniform potency
- Highly characterized product
- Large tank reactor
- Cryopreservation / Pipeline
- Off-the-shelf / Low cost
- Bioengineerable
- Enhanced targeting
- Enhanced function
NK92 is Hypo-Immunogenic and Highly Potent

MLR Assay

Mixed Lymphocyte Reaction (MLR) assay:
NK92 do not stimulate allogeneic T cells

Lymphocytes from 2 healthy donors co-cultured with each other → vigorous proliferation

Co-cultured with NK92 (7 days) → no proliferation

NK92 Cytokines Production

Cytokine profile shows high IL-10 production

An immunomodulator of T-cells
Unmodified NK92 Clinically Validated: Phase I

Advanced metastatic disease refractory to chemo, biologics, cytokines, radiation, and surgery

Nearly half the patients received multiple dosing regimens (up to 6 months)

Promising activity against different cancer types, including acute myelogenous leukemia (AML), lymphoma (NHL, HL), melanoma, renal cell cancer (RCC), and lung cancers (SCLC, NSCLC)

No DLTs; only 1 “grade 4 SAE” (hypoglycemia likely related to tumor lysis)
Phase I Studies: Summary of Findings

Excellent Safety Demonstrated

No adverse T-cell induced cytotoxic response
*A significant safety concern for CAR-T cell approaches*

No pre-conditioning or combination treatment

Notable responses:

<table>
<thead>
<tr>
<th>Cancer Type</th>
<th>Response Count</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melanoma</td>
<td>1/1</td>
<td></td>
</tr>
<tr>
<td>Lung Cancer</td>
<td>3/4 (1 MR, 2 PR)</td>
<td></td>
</tr>
<tr>
<td>Renal Cell Cancer</td>
<td>6/11 (1 MR, 5 SD-prolonged survival)</td>
<td></td>
</tr>
<tr>
<td>AML (relapsed)</td>
<td>1/1</td>
<td></td>
</tr>
<tr>
<td>Lymphoma post transplant</td>
<td>2/6</td>
<td></td>
</tr>
</tbody>
</table>

**MR**  Mixed Response  
**PR**  Partial Response  
**SD**  Stable Disease
Clonal cell lines expressing one or more CARs to establish a range of distinct products

Multiple killing mechanisms - CAR-targeted as well as broad intrinsic anti-cancer activity of NK92 (“off-target / on-tumor”)

Engages the adaptive immune system through cytokine secretion and immune cell recruitment

Titratable: repeat dosing option; controllable dose exposure to manage safety risk
In-Vivo Preclinical Mouse Data

Homing to HER2-expressing tumors

Inhibition of HER2⁺ RCC metastasis

“Serial killing” of HER2-positive target cells even after gamma radiation with 10 Gy

Selective cytotoxicity (spares normal cells)

Schönfeld et al., Mol Ther. 23(2):330-8, 2015
Tumor Homing and Potent Anti-Glioma Activity in Mice

Tumor Homing of TNKs

Intracranial LN-319 glioblastoma xenografts in NSG mice

FACS Analysis

Survival (%)

(Schönfeld et al., Mol Ther. 23(2):330-8, 2015)
# TNK vs. CAR-T Cells: Key Differentiators

<table>
<thead>
<tr>
<th></th>
<th>CAR.TNK</th>
<th>CAR-T Cells</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cell Production</strong></td>
<td>Off-the-shelf universal product; CAR-modified NK92 cells</td>
<td>Autologous (patient-derived) via leukapheresis; personalized therapy</td>
</tr>
<tr>
<td><strong>Transduction</strong></td>
<td>Master cell bank (100% of cells express CAR)</td>
<td>Viral transfection &amp; variable CAR expression levels</td>
</tr>
<tr>
<td><strong>Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MOA</strong></td>
<td>Multiple MOAs - targeting and killing through CAR-dependent and NK innate mechanisms</td>
<td>Targeting and killing CAR-dependent</td>
</tr>
<tr>
<td><strong>Anti-Solid Tumor</strong></td>
<td>No requirement for additional co-stimulation</td>
<td>May require additional co-stimulators; Combination with checkpoint inhibitor antibodies</td>
</tr>
<tr>
<td><strong>Activity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Safety</strong></td>
<td>On-target / off-tumor effects limited due to short half-life and lack of IL-6 production</td>
<td>Cytokine release syndrome; possible engraftment</td>
</tr>
<tr>
<td><strong>COGS</strong></td>
<td>Low: large scale bioreactor manufacturing for many patients</td>
<td>High: requires individual patient processing</td>
</tr>
</tbody>
</table>
### TNKs being generated by Sorrento

**SORRENTO – CONKWEST COLLABORATION FRAMEWORK:**

CAR targets selected by Joint Steering Committee.

CAR.TNKs programs split between both companies. Lead company responsible for all development, regulatory filings, and commercialization.

Profit sharing from future sales and potential strategic collaborations with other pharmaceutical partners will be determined by the development stage of the drug candidates.

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<table>
<thead>
<tr>
<th>Indications</th>
<th>TNK being generated by Sorrento</th>
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<tbody>
<tr>
<td>AML</td>
<td>CD123.TNK</td>
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<tr>
<td>Glioma</td>
<td>EGFRviii.TNK</td>
</tr>
<tr>
<td>Glioma</td>
<td>EphA3.TNK</td>
</tr>
<tr>
<td>Gastric, Pancreatic, NSCLC</td>
<td>L1CAM.TNK</td>
</tr>
<tr>
<td>H&amp;N, Breast, Mesothelioma</td>
<td>CSPG4.TNK</td>
</tr>
<tr>
<td>Myeloma</td>
<td>BCMA.TNK</td>
</tr>
<tr>
<td>Myeloma, RCC, NSCLC, TNBC</td>
<td>PDL1.TNK</td>
</tr>
<tr>
<td>CLL, ALL, MCL, Breast, Lung, Pancreas</td>
<td>CS1.TNK</td>
</tr>
<tr>
<td>Myeloma</td>
<td>ROR1.TNK</td>
</tr>
<tr>
<td>CLL, ALL</td>
<td>CD19.TNK</td>
</tr>
<tr>
<td>CLL, ALL</td>
<td>CD22.TNK</td>
</tr>
<tr>
<td>Prostate</td>
<td>PSMA and PSCA.TNK</td>
</tr>
</tbody>
</table>
TNK Development: Next Steps

**H1 2015**

Generation of in-house CARs

**H2 2015**

Generation and evaluation of stable TNK pools and cell lines

**2016**

IND-enabling studies, IND submission, and initiation of Phase I Studies
Anti-PD-L1 mAb Exhibits Potent Activity

PD-L1

- T Cell Activation (%)
- IFN-γ (pg/mL)
- IL-2 (pg/mL)

Sorrento mAb

Competitor mAb

* mAbs @ 0.05 mg/mL
** xenograft model using H1975 human NSCLC cells; % inhibition relative to control mAb treatment
*** p<0.05, mean tumor volumes are significantly reduced in STI-A1010 group versus control groups as determined by Mann-Whitney u-test

PD-1

- T Cell Activation (%CD25 positive)

Sorrento mAb
STI-A1110

Competitor mAb
Pembrolizumab (MK3475)

Control
IgG

µg/ml
3 1 0.3

µg/ml
3 1 0.3

µg/ml
3 1 0.3
C57 BL/6 mice bearing MC38 colon carcinomas (n = 7/group) were treated with 200 μg IgG1 control or the anti-PD-L1 antibody STI-A1015 (dosed on day 8, 12, and 15), either alone or in combination with 125 mg/kg ganetespib (Synta Pharmaceuticals Corp.) dosed on days 8 and 15.

The combination of STI-A1015 plus ganetespib displayed significantly greater antitumor activity than either individual agent (* P <0.02)
In Vivo Proof-of-Concept of Sorrento ADCs

**VEGFR2-ADC STI-D0168**

- **A431 squamous-cell carcinoma cells**; maytansinoid drug conjugates
- ^indicates dosing

**c-MET-ADC STI-D0602**

- **U87 xenograft**; dosing twice weekly; maytansinoid drug conjugates
Resiniferatoxin (RTX): A Novel, Non-opiate Analgesic
MOA:
Ultrapotent, highly specific TRPV1 agonist selectively targeting afferent neurons

Efficacy:
Meaningful analgesia with concomitant opioid reduction and improvement in function

Safety:
Alteration of heat sensation in the targeted area with effect on normal perception / sensation or muscle function

Dosing:
Targeted single injection
Two Injection Sites = Two Products for Human Use

**Epidural** injection into or near the dorsal root ganglion (DRG) for unilateral or diffuse pain

**Intrathecal** injection into the cerebrospinal fluid space (CSF) targeting both DRGs and dorsal horn neurons

Spinal Cord Cross Section

- Dorsal Root
- Dorsal Horn
- Dorsal Root Ganglion (DRG)
- Ventral Root
- Ventral Horn
12 advanced cancer patients with severe refractory pain have received a single IT RTX injection.

<table>
<thead>
<tr>
<th>No unexpected toxicities</th>
<th>Clinically meaningful pain relief</th>
<th>Poorly ambulatory patients able to walk without assistance (n=3)</th>
<th>Dose optimization ongoing Administration: 1 mL/2 min by infusion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reduced pain intensity</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reduced opioid use</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Meaningful improvement in physical activity levels</td>
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<td></td>
<td>Long-lasting effects</td>
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</tbody>
</table>

15th World Congress on Pain (IASP), October 6 – 11, 2014, Buenos Aires, Argentina, Poster # PF025: Intrathecal Administration of Resiniferatoxin for Treating Intractable Cancer-Related Severe Chronic Pain; Mannes et al. Data on 6 patients presented.
2 Patients from New Cohort (2015)

**Colorectal Cancer: Stage IV**

43 year old female with severe lower abdominal and rectal pain

**Post RTX**

- No pain day after RTX, by day 28 most days are at “0” pain with some days up to 6-7/10
- Opioid utilization reduced by about 75% reduction by day 28
- No reduced thermal sensitivity
- Normal touch sensation, normal motor control, no other severe or serious AEs

**Lung and Rectal Cancer**

60 year old male with severe bilateral pelvic and sacral pain

**Post RTX**

- Substantial pain reduction from 7-10/10 to 0-4/10 by day 14
- Uses breakthrough pain meds only occasionally
- **No need for cane to assist ambulation**
- No reduced thermal sensitivity
- Normal touch sensation, normal motor control, no other severe or serious AEs
Next Steps for RTX Development

2015
- Complete NIH dose ranging IT safety study (cancer pain)
- Start NIH POC EpiPG study (cancer-induced bone pain [CIBP])
- Complete tox package to support corporate IND for IT RTX
- Begin tox package to support corporate IND for EpiPG RTX (upper thoracic and lumbar approaches)

2016
- Begin corporate P2 IT POC/pivotal trial in cancer pain
- Begin corporate P1b EpiPG safety trial in CIBP
- Begin corporate P1b IT safety trial in spinal cord injury w/refractory pain
- Begin corporate P1b EpiPG trial in refractory phantom pain
A Comprehensive Approach to Cancer Treatment

Deep and complementary pipeline creates significant opportunities for novel, breakthrough mono-or combination therapies against cancer.

Adoptive Cellular Immunotherapy
- CAR-TNK
- Chimeric Antigen Receptor
- Tumor Attacking Neukoplast

RTX
- Intractable Cancer Pain

Immunotherapy
- PD-1, PD-L1, CTLA-4
- Bispecific Abs

Targeted Therapy
- MYC Inhibitor
- TRAIL modulator
- HIF-1α inhibitor

Targeted Small Molecules

TNK Therapeutics

RTX

Immunooncology
Next-Generation Cancer Therapeutics

CONTACT:

George Uy
Executive Vice President and CCO
guy@sorrentotherapeutics.com
(661) 607-4057

Henry Ji, Ph.D.
President and CEO
hji@sorrentotherapeutics.com
(858) 668-6923