sorrento

Next-Generation Cancer Therapeutics

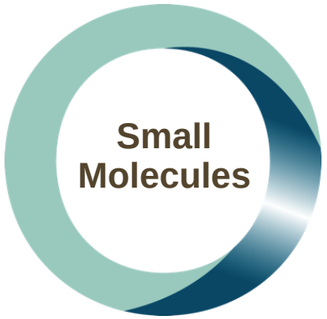
April 2015

Safe Harbor Statement NASDAQ: SRNE

This presentation contains "forward-looking statements" as that term is defined under the Private Securities Litigation Reform Act of 1995 (PSLRA), including statements regarding expectations, beliefs or intentions regarding our business, technologies and products strategies or prospects. Such forward-looking statements are characterized by future or conditional verbs such as “may,” “will,” “expect,” “intend,” “anticipate,” “believe,” “estimate” and “continue” or similar verbs. Actual results may differ from those projected due to a number of risks and uncertainties, including, but not limited to, the possibility that some or all of the pending matters and transactions being considered by the Company may not proceed as contemplated, as well as risks inherent in additional financing, developing and obtaining regulatory approvals of new, commercially-viable and competitive products and product candidates, including timelines, the size of clinical trials, sufficiency of data from those trials and the requirements of the FDA for potential approval of Cynviloq™ and by all other matters described in the Company's filings with the Securities and Exchange Commission, including the risk factors set forth therein. These statements are made based upon current expectations that are subject to risk and uncertainty and information available to the Company as of the date of this presentation. The Company does not undertake to update forward-looking statements in this presentation to reflect actual results, changes in assumptions or changes in other factors affecting such forward-looking information. Assumptions and other information that could cause results to differ from those set forth in the forward-looking information can be found in the Company's filings with the Securities and Exchange Commission, including its most recent periodic report. We intend that all forward-looking statements be subject to the safe-harbor provisions of the PSLRA.

A Comprehensive Oncology Company

Deep and Complementary Pipeline Creates Significant Opportunities-
Novel breakthrough combination therapeutic regimens and modalities to attack cancer
Significant reduction in clinical development costs and timeline
Significant commercial edge in future drug pricing



Cytotoxics
CYNVILOQ™

Targeted Therapy
MYC inhibitor
TRAIL modulator

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

Targeted Therapy
Anti-VEGFR2 ADC
Anti-c-MET ADC
Bispecific ADC

CAR.TNK™
Chimeric Antigen Receptor Tumor-attacking Neukoplast®

Adoptive Cellular Immunotherapy
Chimeric Antigen Receptor
Tumor-attacking Neukoplast®
(Partnership with Conkwest)

RTX

Intractable
Cancer Pain

Corporate Events Validate and Advance Sorrento Pipeline Unlocking Significant Value

Patient enrollment in TRIBECA registration trial completed. Pilot PK suggests bioequivalence (BE) between Cynviloq and albumin-bound paclitaxel

Exclusive global partnership with Conkwest to develop next generation anti-cancer cellular immunotherapy with "Off-the-Shelf" **CAR.TNK™** (***C***himeric ***A***ntigen ***R***eceptor ***T***umor-attacking ***N***eu***K***oplast)

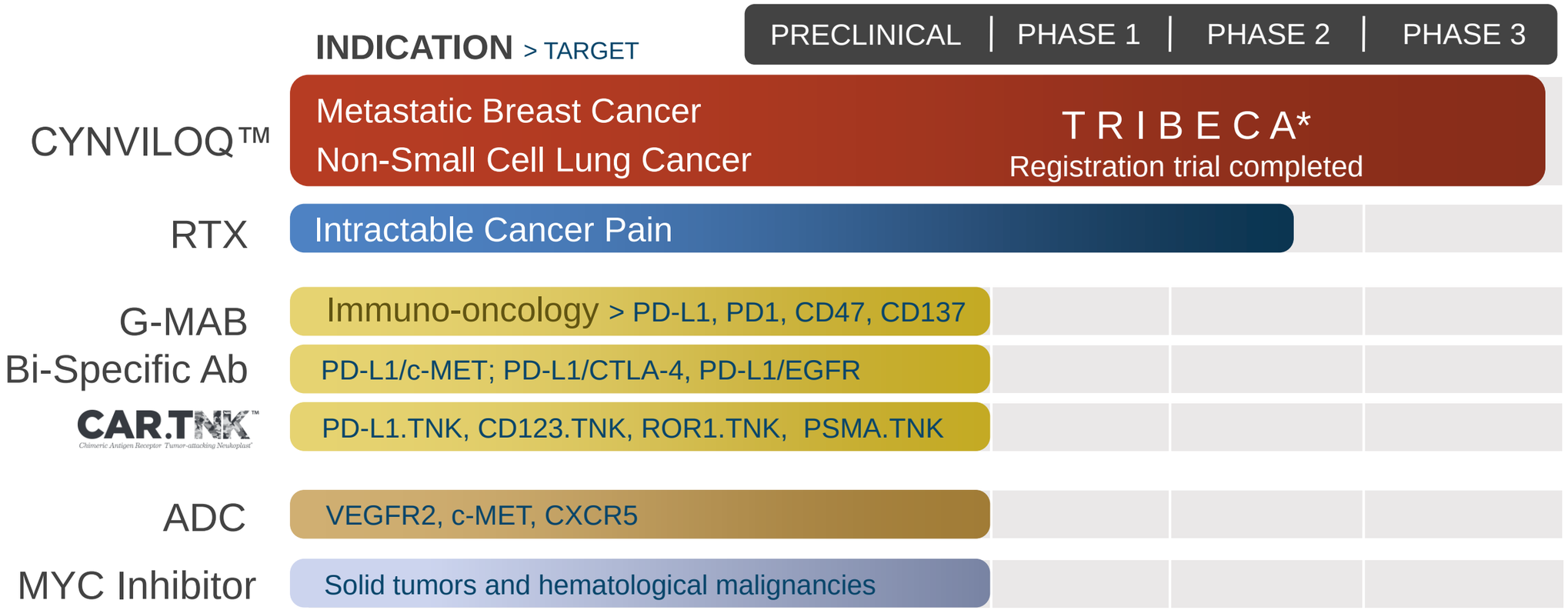
First joint venture with **NantWorks** and Abraxis BioScience Inc. founder, Dr. Patrick Soon-Shiong, to develop next generation immunotherapies for the treatment of cancer and autoimmune disease.

NantCell global collaboration to discover and develop novel anti-cancer immunotherapies against neoepitopes of tumor-specific antigens discovered using NantWorks' proprietary pan-omics based, precision medicine approach

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

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

Deep and Complementary Pipeline Creates Significant Opportunities

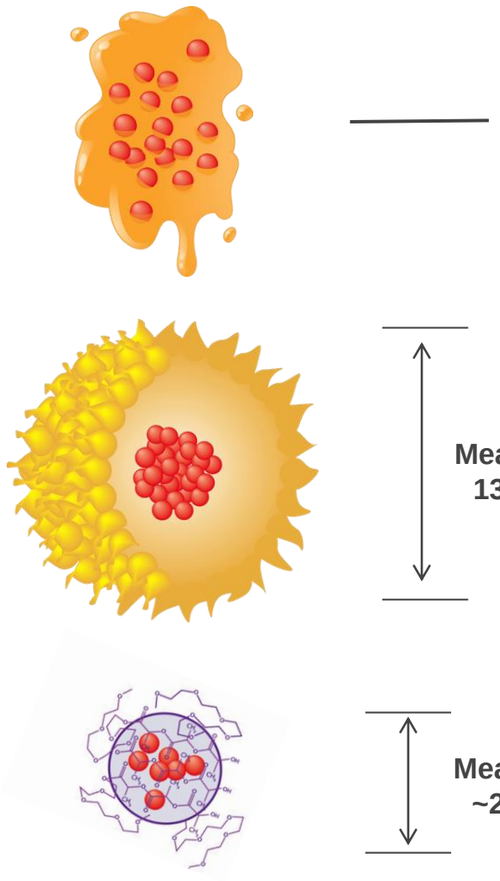


* TRIBECA 505 (b)(2) Bioequivalence trial versus albumin-bound paclitaxel (Abraxane®) (paclitaxel albumin-bound particles for injectable suspension) (albumin-bound), Abraxane® is a registered trademark of and marketed by Celgene Corp.
PDL1.TNK, CD123.TNK, ROR1.TNK, PSMA.TNK are trademarks owned by Sorrento Therapeutics, Inc.

Lead Oncology Product Opportunity

Cynviloq: Next Generation Paclitaxel Therapy

Generation		Formulation	Maximum Tolerated Dose	Peak Product Sales
1st	**Taxol®** paclitaxel	**Cremophor EL** excipient: Polyoxyethylated castor oil	**175 mg/m²**	~ $1.6B (WW in 2000)
2nd	***Albumin-bound* paclitaxel**	**Biological** polymer: Donor-derived human serum albumin (HSA)	**260 mg/m²**	$ 2.2 B* (2020) MBC, NSCLC, PC
3rd	**Cynviloq** paclitaxel polymeric micelle	**Chemical** polymer: Poly-lactide and polyethylene glycol diblock copolymer	**>300 mg/m²** **(up to 435 mg/m²)**	Conversion of paclitaxel sales + new indications



*Celgene Presentation at JPM Healthcare Conference Jan 2015

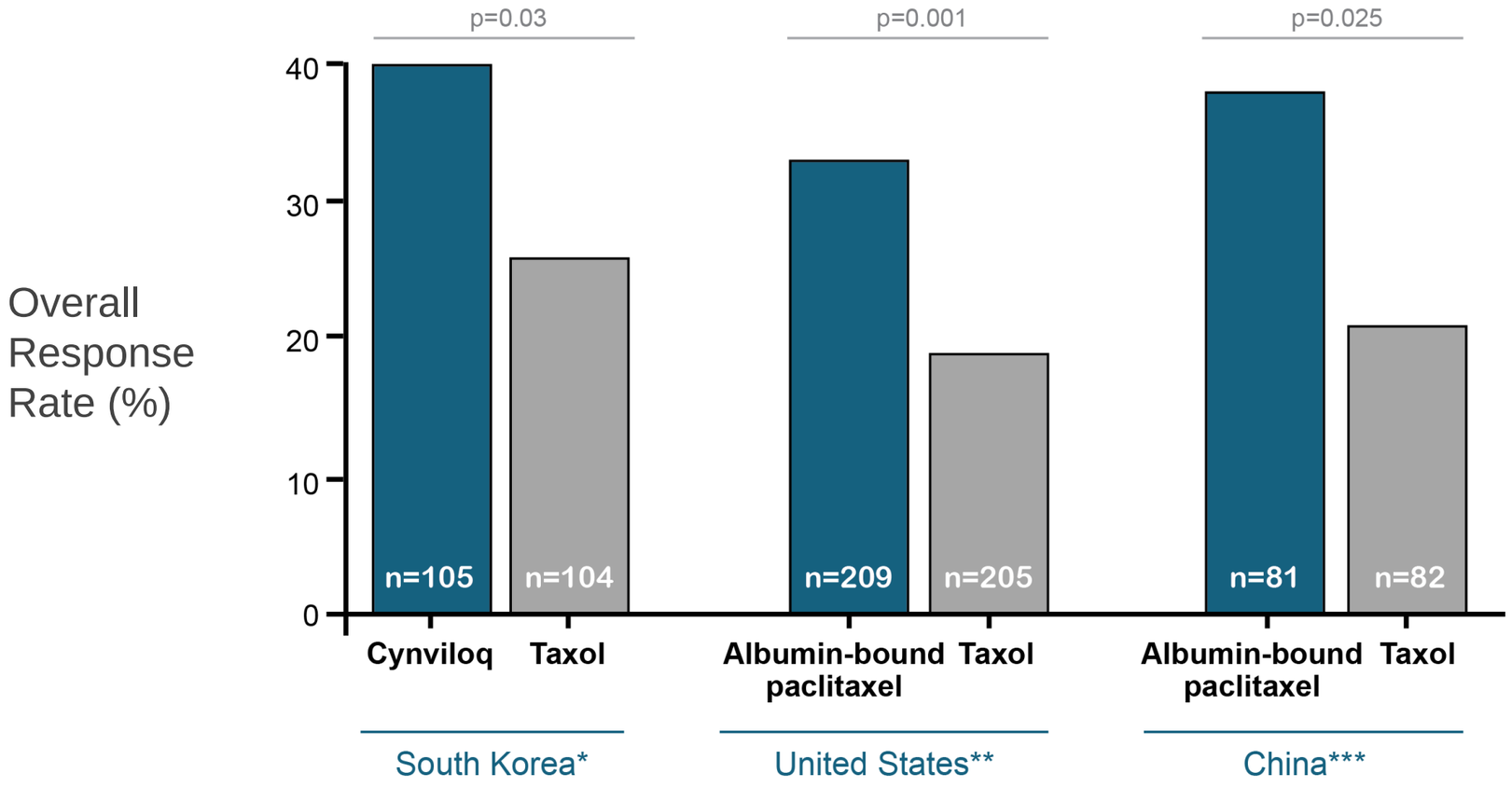
Cynviloq Clinical Development Summary

Total number of patients across all trials: 1,260

Phase 1:	Trials established MTD at >300 mg/m^2 - Dana Farber Cancer Inst, Russia, & S. Korea (total n=80) >300 mg/m^2 (q3w) vs. 175 mg/m^2 (Taxol; weekly)
Phase 2:	Completed trials in MBC, NSCLC, PC, OC, BC; in US - Yale Cancer Center, Russia, S. Korea (total n=259) Possible Phase 3 sNDA programs in these tumor types
Phase 2b*:	Chemo-naïve Stage IIIb/IV NSCLC vs Taxol in S. Korea (total n=276; Cynviloq n=140) 230 mg/m^2 + cis (q3w) vs. Taxol 175 mg/m^2 + cis; non-inferiority established
Phase 2*:	1st line treatment of OC vs Taxol in S. Korea (total n=100; Cynviloq n=50) 260 mg/m^2 + carbo (q3w) vs. Taxol 175 mg/m^2 + carbo; non-inferiority established
Phase 3:	MBC in S. Korea (total n=209; Cynviloq n=105 vs Taxol n=104) GPMBC301. An Open-label, Randomized, Parallel, Phase 3 Trial to Evaluate the Efficacy and Safety of Cynviloq compared to Genexol® (Paclitaxel with Cremophor EL) in Subjects with Recurrent or Metastatic Breast Cancer)
PM-Safety:	Completed for MBC and NSCLC (total n=502) Efficacy and safety data supportive of 505(b)(2) submission

*Data on file; * Investigator Initiated Study*

Comparative Phase 3 MBC Clinical Results



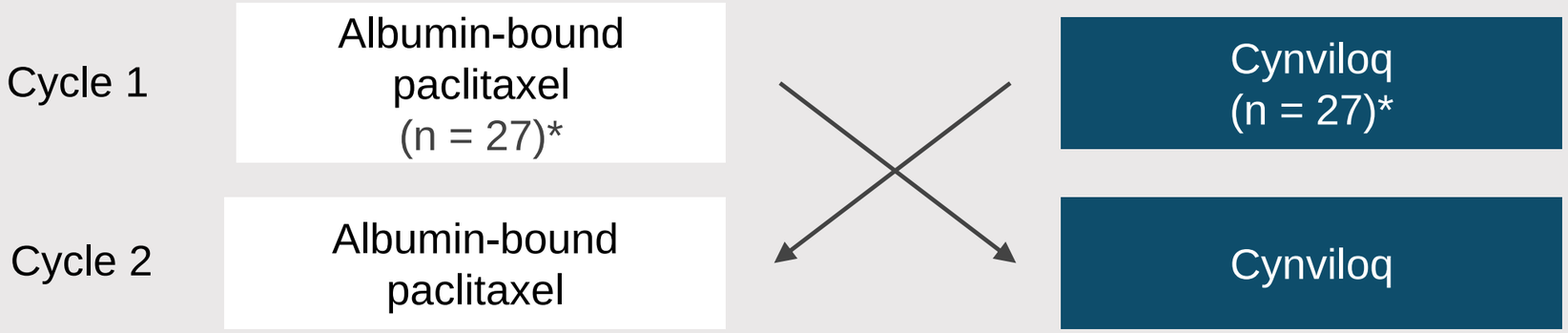
* Trieu et al. 2013. IG-001 for Metastatic Breast Cancer- Interim Analysis of a Phase 3 Trial. 4th Nanomedicine Conference, Sydney, Australia.
** Gradishar et al. 2005. *J Clin Oncol*, 23:7794-7803.
*** Guan et al. 2007. ASCO Annual Meeting Proceedings Part I. Jun 20;25 (Suppl 18):1038.

Bioequivalence = Accelerated Pathway to Market

T R I B E C A™

(**TRI**al establishing **B**io**E**quivalence between **C**ynviloq™ and **A**lbumin-bound paclitaxel)

- Patients with MBC



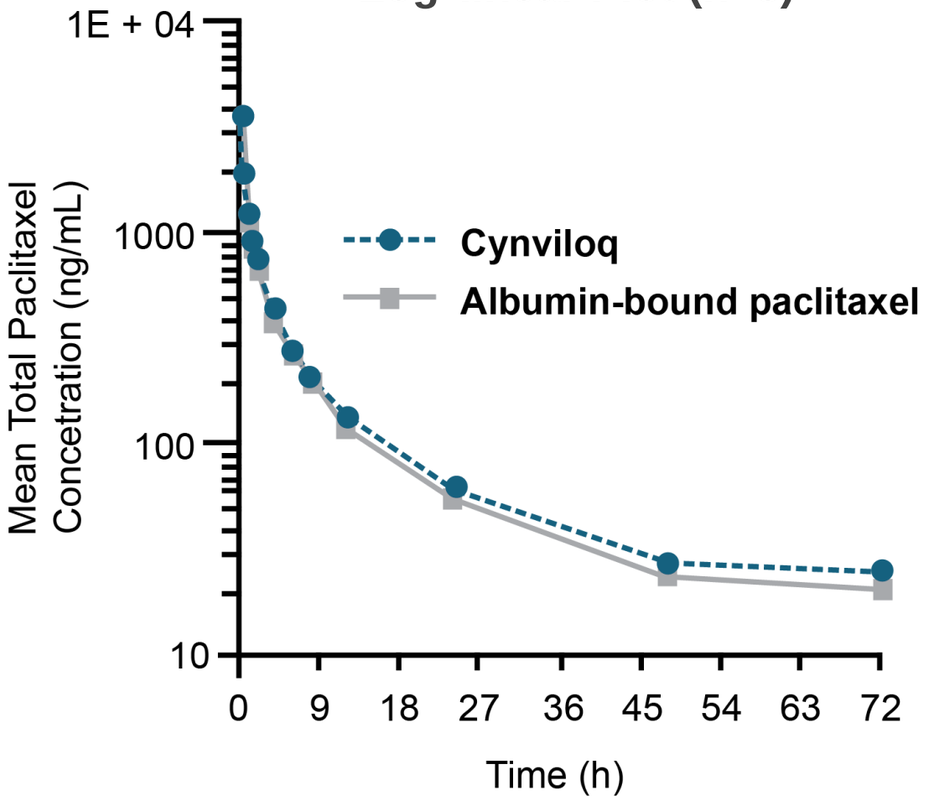
Key Parameters:

- Dose: **260 mg/m²**
- Infusion time: **30 min**
- Duration: 3 weeks + crossover for 3 weeks
- Endpoints: AUC and C_{max} (90% CI)

Note: Previous trial size estimate of 100 patients was based on **PK simulation** of albumin-bound paclitaxel and Cynviloq **historical data with both drugs given at different doses and infusion rates**. Based on the recent positive initial PK data and subject to FDA guidance, 53 patients may be sufficient to establish BE.

Pilot PK Data Analyses Suggest BE *vs.* Albumin-Bound Paclitaxel

Log-linear Plot (n=8)

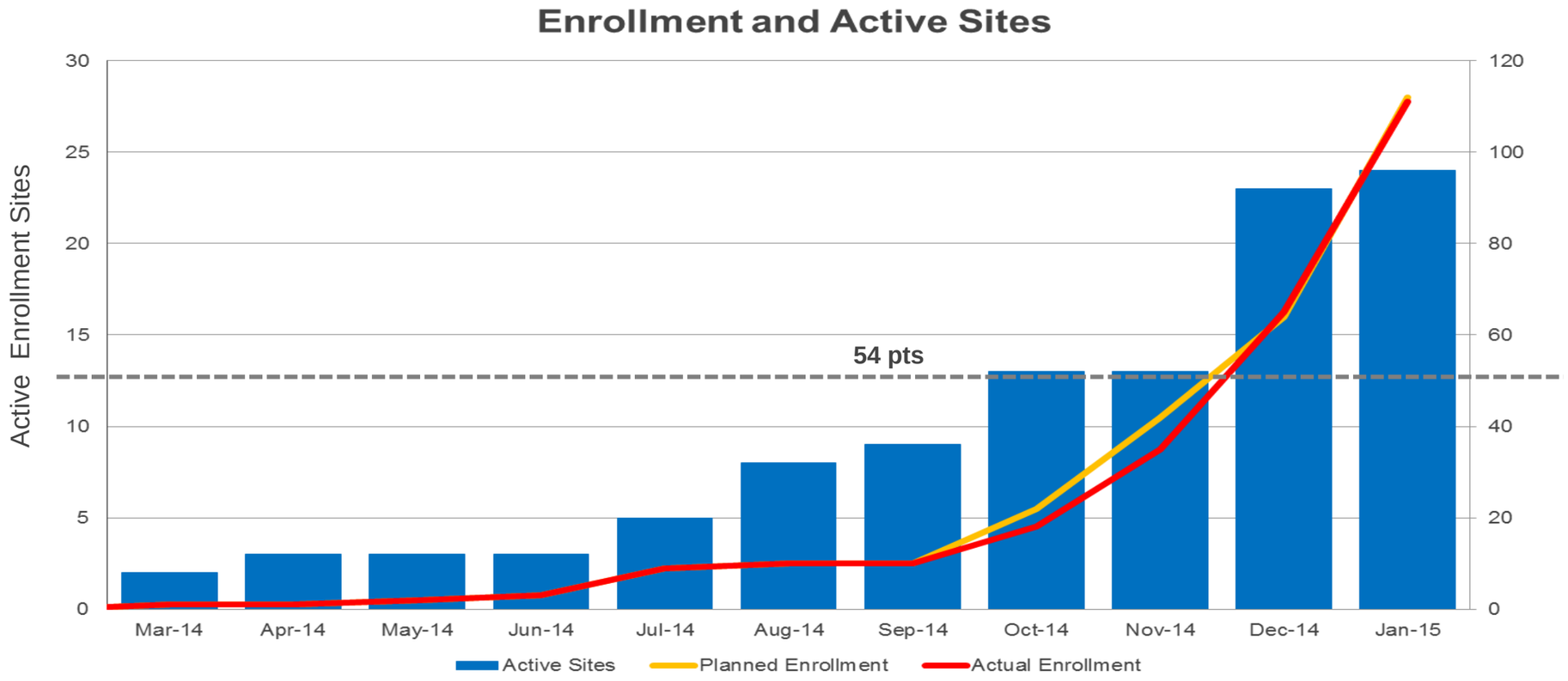


BE Assessment and Sample Size Estimate

Parameters	Ratio of Cynviloq/ Albumin-bound paclitaxel (%)	90% CI
Ln($AUC_{0\ to\ \infty}$)	109.1	93.98 – 126.58
Ln(C_{max})	102.5	83.10 – 126.35
Point estimate 110 - Ln($AUC_{0\ to\ \infty}$)	N = 53 with 90% power	

TRIBECA Patient Enrollment Completed

111 patients recruited from Eastern Europe, USA and Asia
Initial reported AEs consistent with historical nab-paclitaxel toxicity profile



Estimated Timeline and Next Steps*

First patient dosed: **March 31, 2014**

Last patient in: **January 2015**

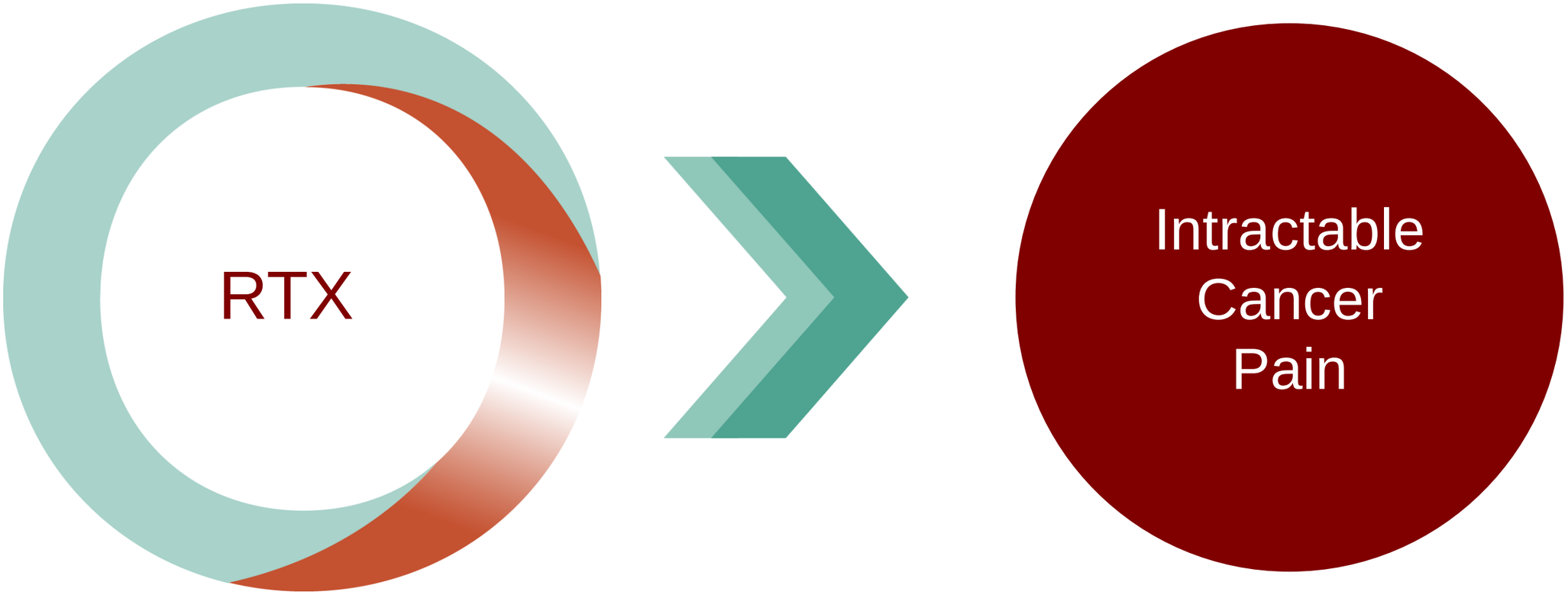
NDA filing: **Q3 2015**

Product launch (MBC and NSCLC): **2016**

Cynviloq™ (paclitaxel polymeric micelle) for Injectable suspension

*Estimates, subject to discussions with the FDA.

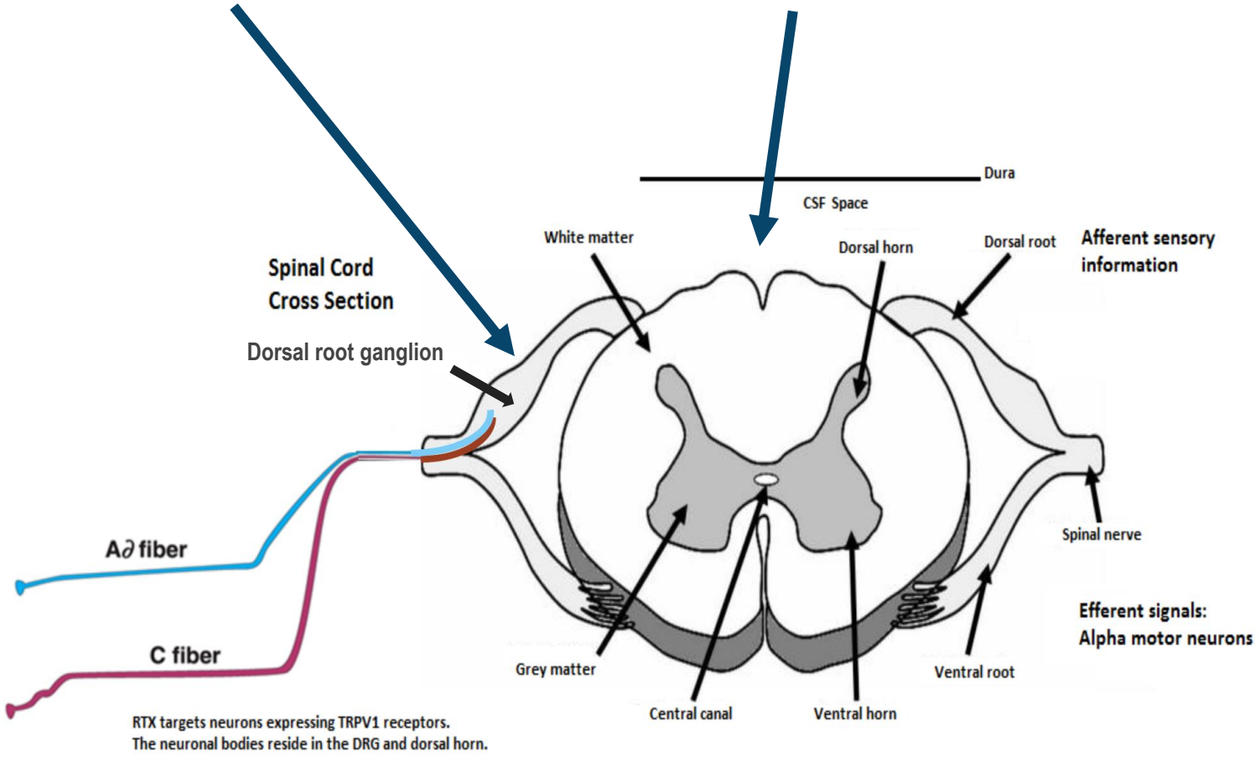
Resiniferatoxin (RTX): A Novel, Non-opiate Analgesic



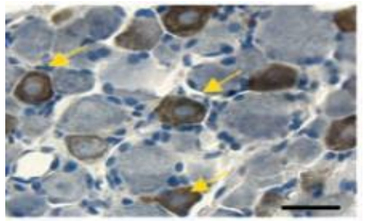
Two Injection Sites = Two Products for Human Use

Intraganglionic: *injection into or near the dorsal root ganglion*

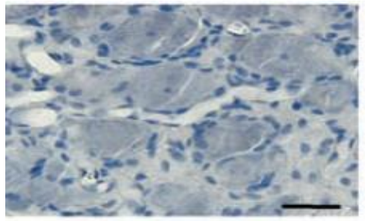
Intrathecal: *injection into the cerebrospinal fluid space*



Cross Sections of spinal cord*



TRPV1-positive cells (dark brown)



Absence of TRPV1-positive cells after RTX treatment

** Adapted from Karai et al., 2004*

Summary of Interim Data from the Phase 1/2 NIH Sponsored Trial

DESIGN OVERVIEW

6 advanced cancer patients with severe refractory pain received a single injection of RTX.

Neuropathic pain, visceral and bone pain 2º to bone metastases

(49-61 years; 4 M/ 2F, MBC, H&N, pancreatic, lymphoma, SCLC, endometrial cancer).

RESULTS

No unexpected toxicities

All 6 patients had near complete relief post-injection

100% of non-ambulatory patients could walk post injection (n=2)

MTD not reached, additional dose optimization being explored

Clinically meaningful improvement in QOL

Improved pain scores with increased activity

Next Steps for RTX Development

OBJECTIVES
for
2015 and 2016

Complete intractable cancer pain clinical Phase 1/2 trial (**intrathecal injection**) under Sorrento IND; n=45-60 patients; optimization of dosing study

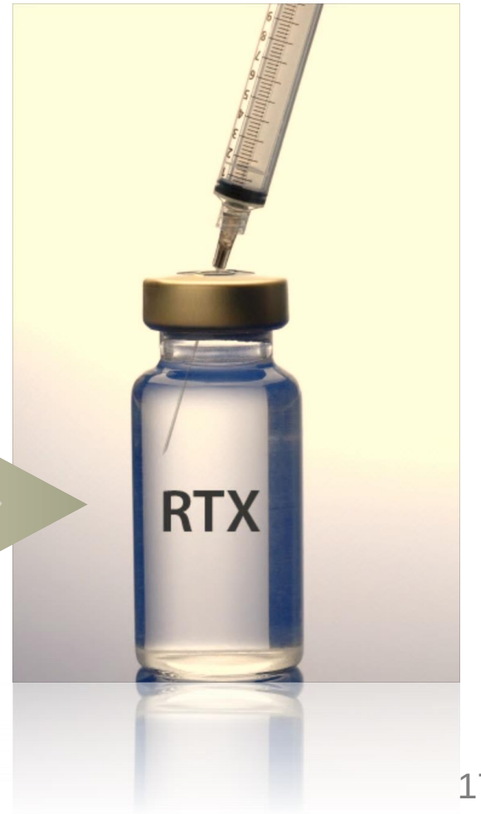
End of Phase 2 meeting with FDA (for **intrathecal injection**)

Initiate Phase 3 (**intrathecal injection**)

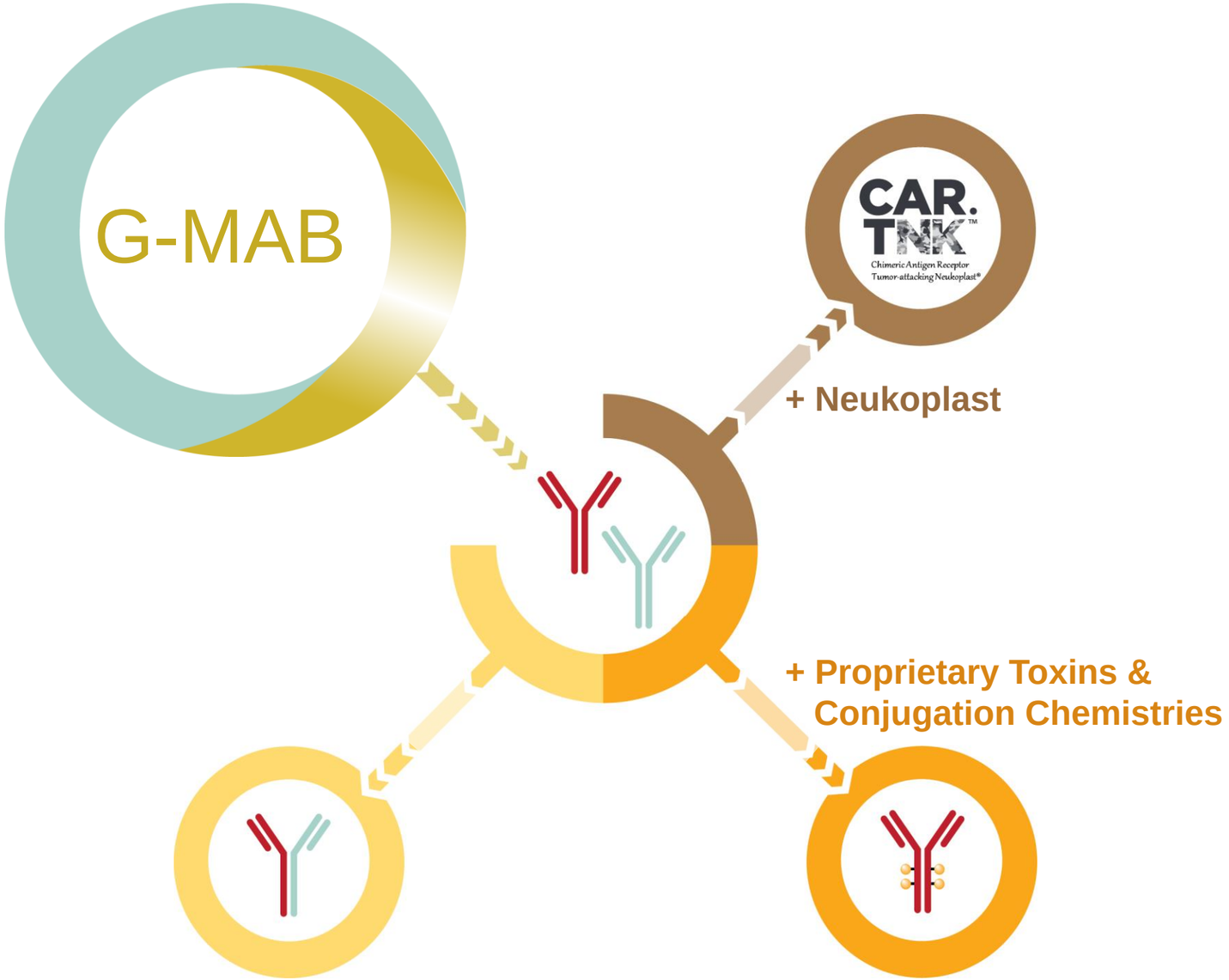
Phase 1/2 trial(s) (**intraganglionic injection**)

End of Phase 2 meeting with FDA (for **intraganglionic injection)**

~3 years for clinical development



Immunotherapy Programs



G-MAB: Library of Therapeutic Antibodies

Proprietary technology:

- RNA amplification used for library generation
- Freedom-To-Operate

No stacking royalties

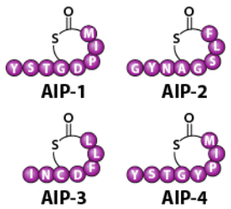
Very high library diversity:
2.1 x 10^{16} distinct antibodies

Fully human antibodies

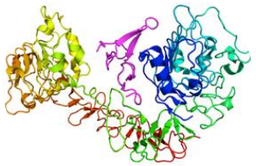
High successful screening hit rate
(over 70 targets screened)

Ideal for CAR-Generation

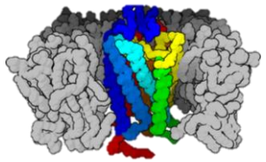
Difficult Targets:
Small Peptides



High Value Oncology Targets:
Immune modulation: PD-1, PD-L1, CD47
Antibody Drug Conjugates: VEGFR2, c-Met



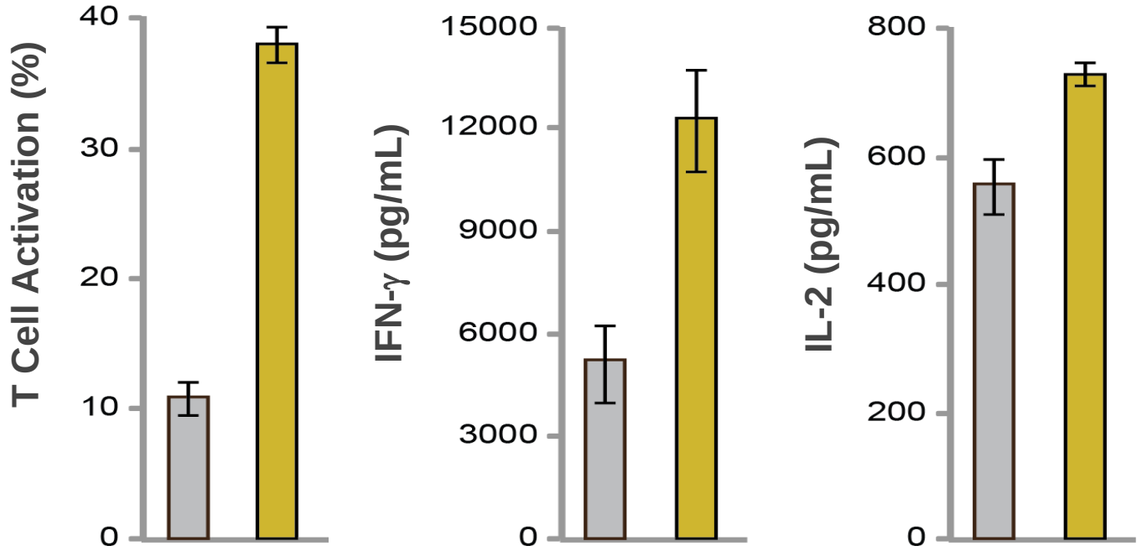
Most Difficult Targets:
G Protein-Coupled Receptors (GPCRs)



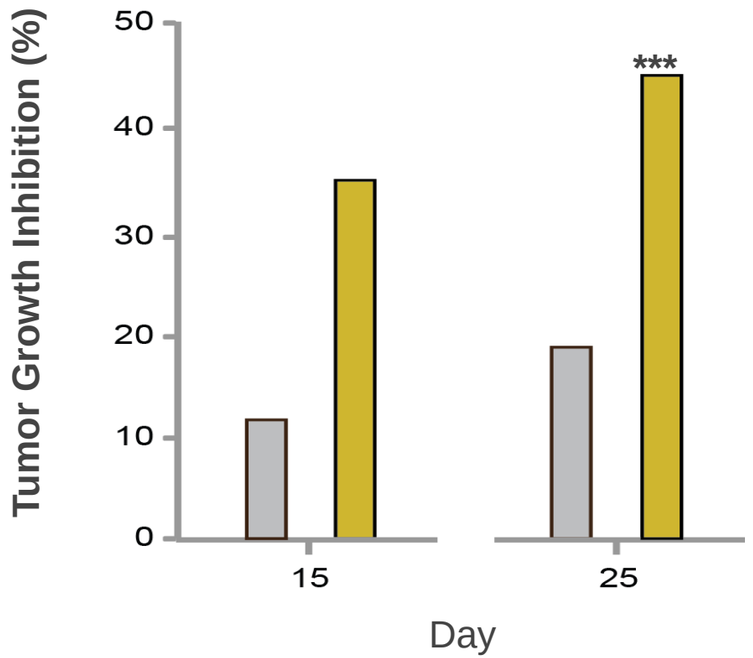
Size of Target Antigen

Anti-PD-L1 mAb Exhibits Potent Activity

Immune Modulation*



Tumor Mouse Model**



Competitor mAb

Sorrento mAb

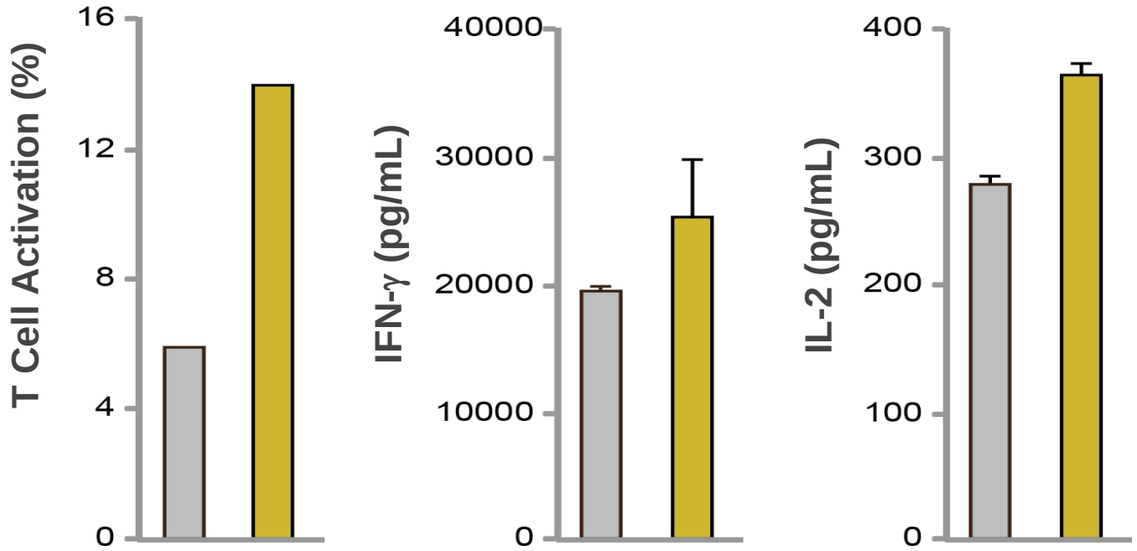
* mAbs @ 0.05 mg/mL

** 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

Anti-PD1 mAb Exhibits Excellent Activity

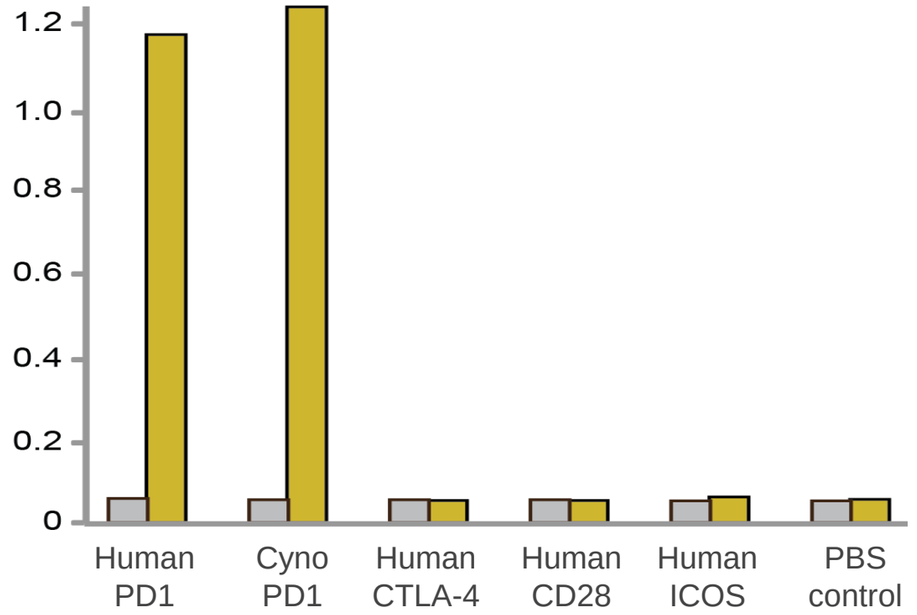
Immune Modulation*



Competitor mAb

Sorrento mAb

Target Specificity



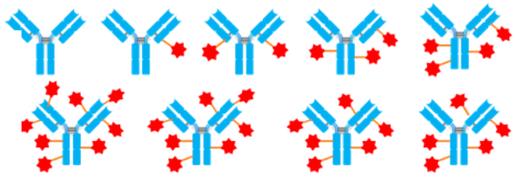
Control

Sorrento mAb

Proprietary K-Lock and C-Lock Conjugation Chemistries Enable Homogeneous ADCs

K-Lock

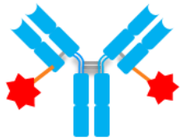
Current industry standard



Proprietary K-Lock chemistry

purified

Sorrento's homogenous ADC



No need for:

- non-natural amino acids
- genetic re-engineering
- enzymatic posttranslational modification

C-Lock

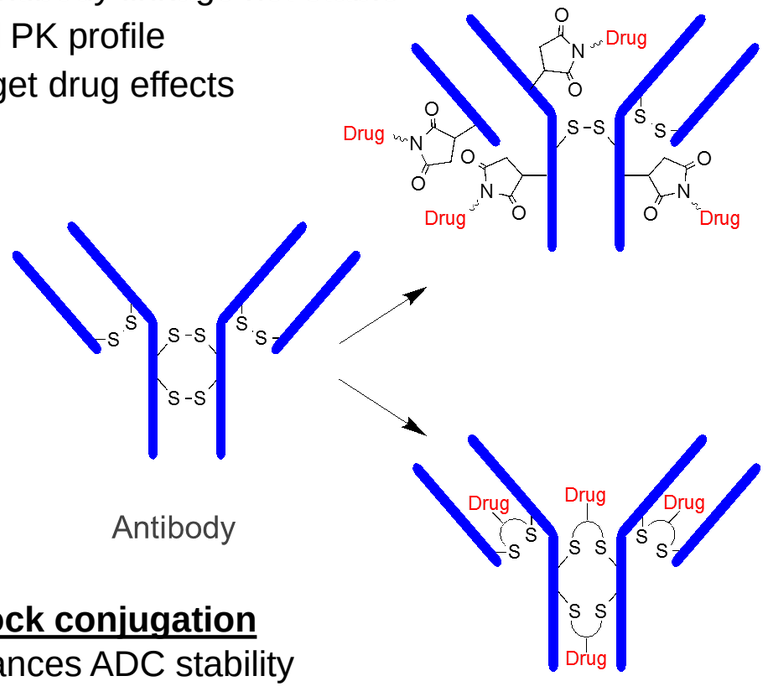
Maleimide conjugation

Destabilizes antibody structure

Drug-antibody linkage not stable

Altered PK profile

Off-target drug effects



C-Lock conjugation

Enhances ADC stability

Prolongs PK profile

Reduces off-target effects

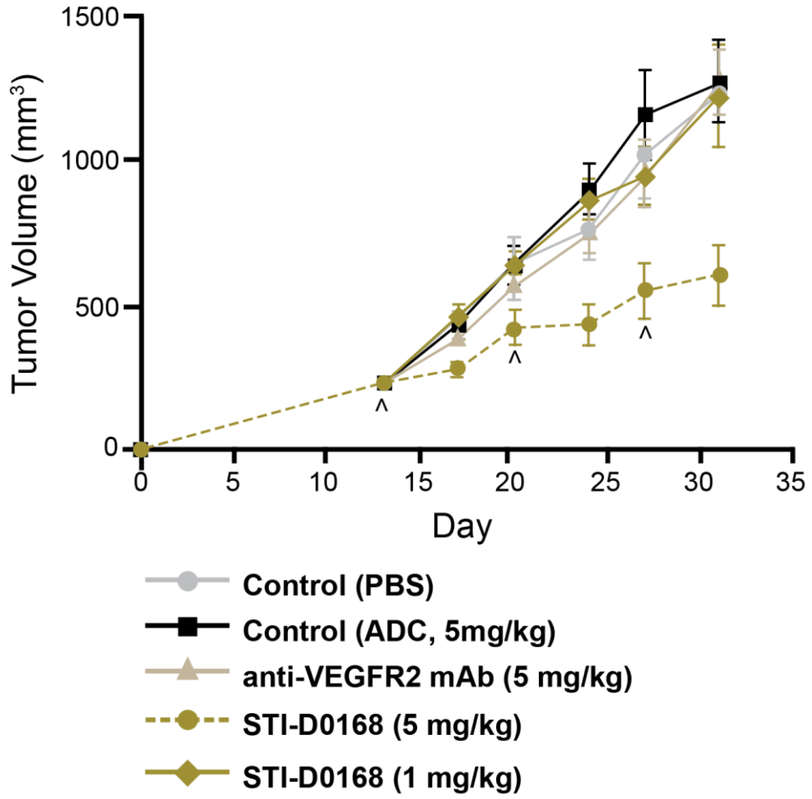
Proprietary High Potency Duostatin Toxins

EC_{50} (pM)	Cancer	Her-2	DM1	MMAE	Duostatin 3
SBKR3	Breast	+++	95	72	30
HCC1954	Breast	+++	124	78	68
BT474	Breast	+++	818	126	214
MDA-MB-361	Breast	+++	218	151	35
ZR75	Breast	+++	215	298	264
HCC1419	Breast	+++	391	271	332
MDA-MB-453	Breast	++	1,877	>100,000	**452**
MDA-MB-175	Breast	+	>100,000	1,348	**425**
N87	Gastric	+++	368	139	260
OE-19	Gastric	+++	176	164	130
SKOV-3	Ovarian	+++	150	251	144

Trastuzumab was used as targeting mAb

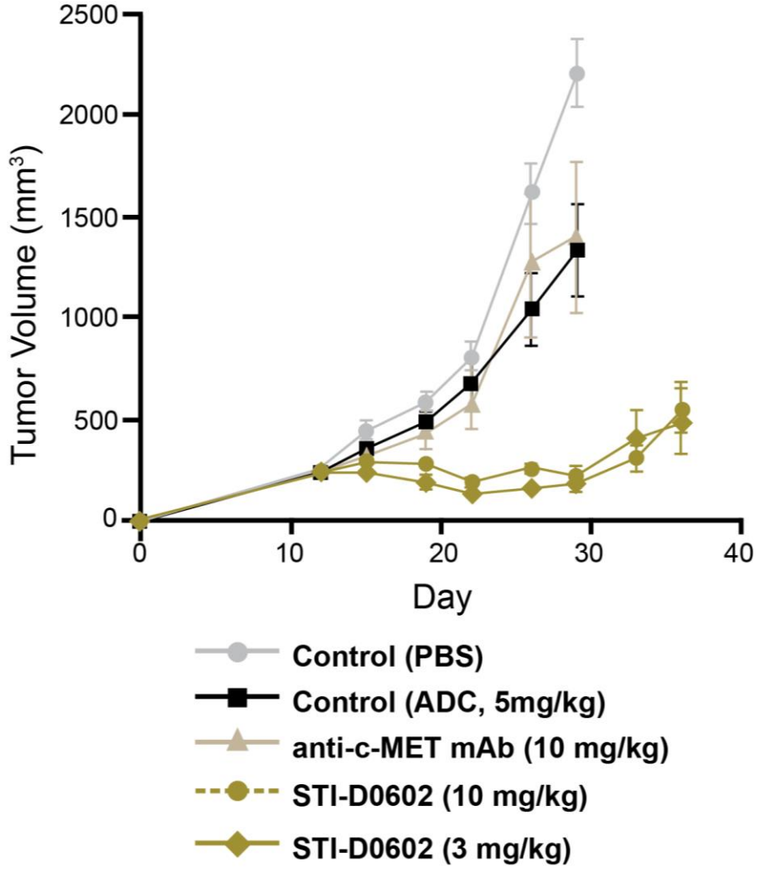
In Vivo Proof-of-Concept of Sorrento ADCs

VEGFR2-ADC STI-D0168



A431 squamous-cell carcinoma cells; ^indicates dosing

c-MET-ADC STI-D0602



U87 xenograft; dosing twice weekly; maytansinoid drug conjugates

“ Nantibody, LLC- The Immunotherapy Antibody JV Company”

Independent company focused
on advancing next generation immunotherapies against cancer and auto-immune diseases.

Both companies will contribute to its pipeline of clinical and preclinical assets of novel and proprietary immunotherapies, ADCs, and bispecific antibodies.

Nantworks will contribute phase 3 antibody.

Nantibody will draw from NantWorks’ proteomic and genomic capabilities and Sorrento’s industry-leading, highly diverse G-MAB library.

CAR.TNK™

Chimeric Antigen Receptor Tumor-attacking Neukoplast®

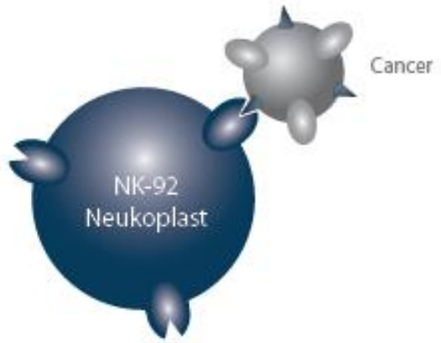
AN EXCLUSIVE JOINT PARTNERSHIP

conkwest • NANTWORKS • sorrento

CAR.TNK is a trademark owned by Sorrento Therapeutics, Inc.
Neukoplast is a trademark owned by Conkwest, Inc.

Advancing Cellular Immunotherapy Beyond CAR-T Cell Therapies

conkwest



Neukoplast® NK cell line (“off-the-shelf”)

Broad anti-cancer activity in **solid** and liquid tumors

No clinical DLTs/SAEs in over 40 patients treated

sorrento

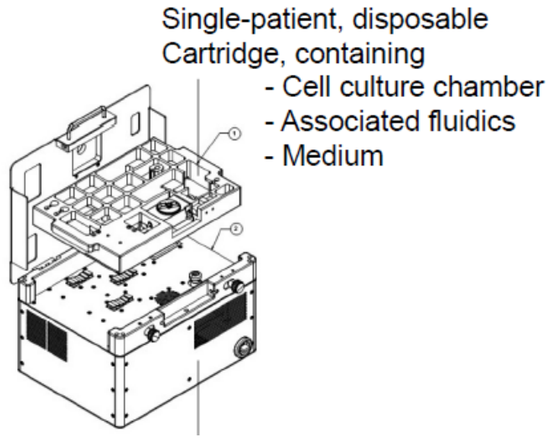
G-MAB

Vast diversity human antibody library

High successful screening rate (over 70 targets screened)

Proprietary technologies with FTO

NANTWORKS



Advanced proteomics platform

Proprietary gene insertion (without use of lentiviruses)

‘GMP in a Box’ production technology

CAR.TNK vs CAR-T: Key Differentiators

	CAR.TNK	CAR-T
Cell Production	**Simple:** Off-the-shelf universal product CAR-modified Neukoplast cells	**Invasive:** Autologous (patient-derived) invasive procedure/leukapheresis
Transduction characteristics	**100%:** Master cell bank with 100% of cells expressing CAR	**Variable %:** Variable CAR transfection & expression
MOA	**Broad:** Multiple MOAs, targeting and killing through CAR-dependent and innate mechanisms *("off-target / on-tumor")*	**Limited:** Requires co-stimulators (CD80, CD86) not present in many solid tumors
Safety	**Good:** On-target / off-tumor effects limited due to short half life and lack of IL-6 production	**Poor:** Cytokine release syndrome, ICU; Prolonged bone marrow suppression; Cardiotoxicity; Reported cases of encephalitis; Death
COGS	**Low:** large scale bioreactor manufacturing for many patients	**High:** requires individual patient processing

Unmodified Neukoplast Clinically Validated In Several Phase 1 Studies

More than 40 patients treated

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

Many 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)

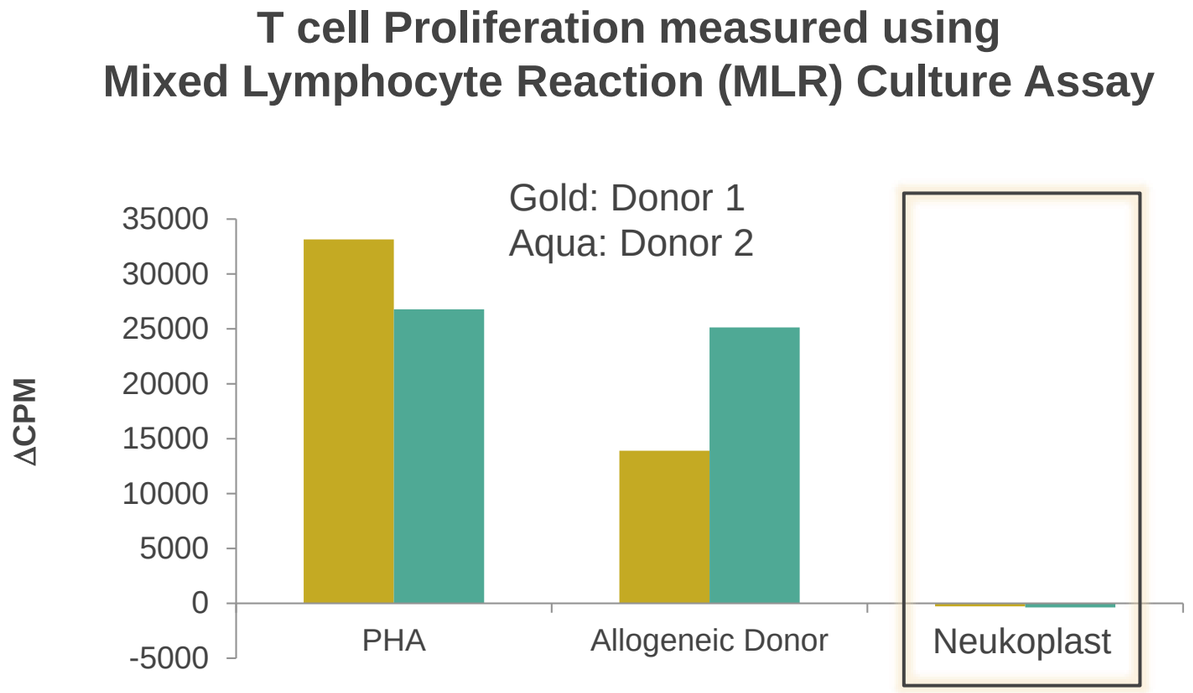
UNIVERSITY of TORONTO

RUSH UNIVERSITY MEDICAL CENTER

JOHANN WOLFGANG GOETHE UNIVERSITÄT FRANKFURT AM MAIN

University of Pittsburgh

Neukoplast do not stimulate allogeneic T cells



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

Co-cultured with Neukoplast (7 days) → ***no proliferation***

CAR.TNK: CAR-modified Neukoplast

Clonal cell lines expressing one or more CARs to establish a range of distinct products

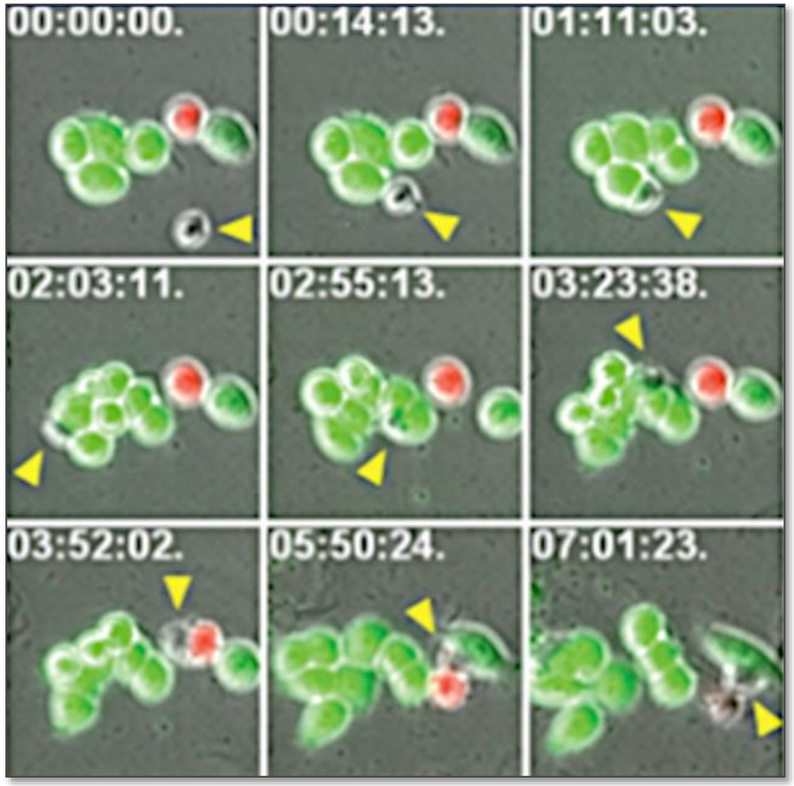
Multiple killing mechanisms - CAR-targeted as well as broad intrinsic anti-cancer activity of Neukoplast (“off-target / on-tumor”)

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

Titratable: repeat dosing option; controllable dose exposure to manage safety risk

Serial Killing of Her2+ Cells by Her2.TNK Cells

IN VIVO PRECLINICAL MOUSE DATA



Schoenfeld et al. Mol Therapy, in press

Homing to Her2 expressing tumors

Inhibition of Her2+ RCC metastasis

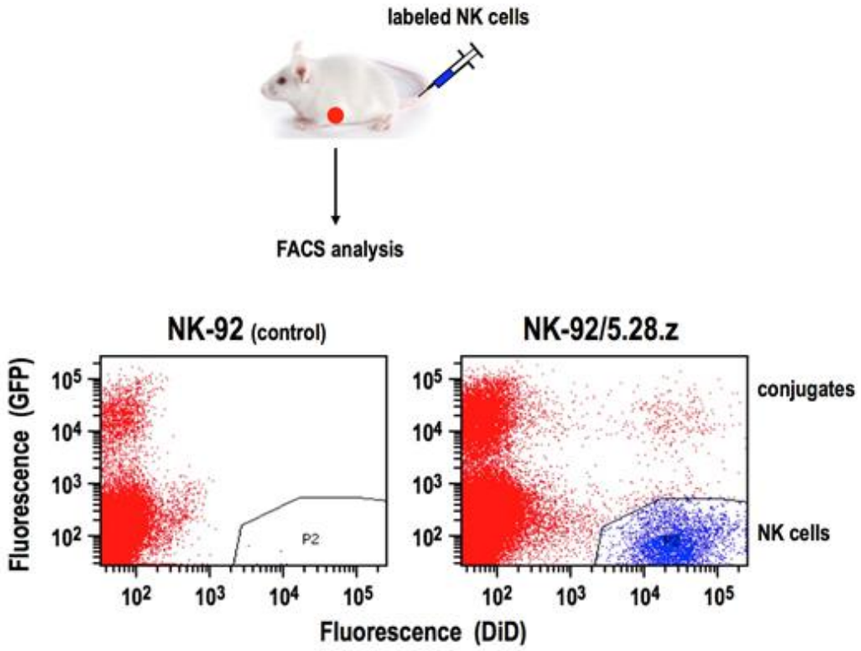
Growth inhibition and killing correlate with Her2 expression levels

“Serial killing” of Her2+ target cells even after gamma radiation with 10 Gy

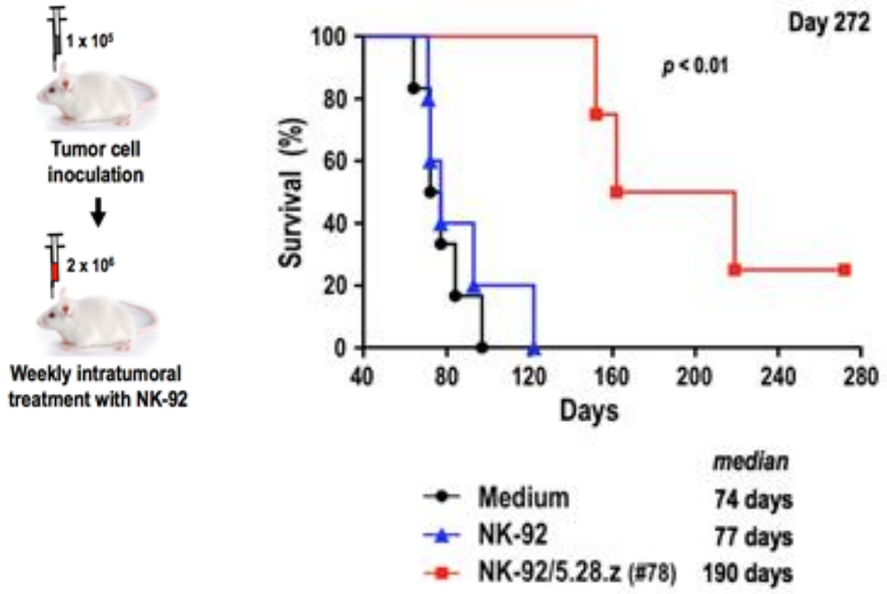
Selective cytotoxicity (spares normal cells)

Her2.TNK Demonstrate Tumor Homing and Potent Anti-Glioma Activity in Mice

Tumor homing of CAR.TNKs



Intracranial LN-319 glioblastoma xenografts in NSG mice



Schoenfeld et al. Mol Therapy, in press

Prospective CAR.TNKs for Development (Initial List)

Target	Potential Indication(s)
EGFRviii.TNK	Glioma
EphA3.TNK	Glioma, AML
L1CAM.TNK	Gastric, pancreatic, NSCLC
CSPG4.TNK	H&N, breast, mesothelioma
BCMA.TNK	Myeloma
ROR1.TNK	CLL, ALL, MCL, breast, lung, pancreas
PSMA or PSCA.TNK	Prostate
PDL1.TNK	Myeloma, RCC, NSCLC, TNBC
CS1.TNK	Myeloma
CD123.TNK	AML
CD19.TNK	CLL, ALL
CD22.TNK	CLL, ALL

CAR targets jointly selected by the Steering Committee

Lead company will be responsible for all pre-clinical and clinical development, regulatory filings, and commercialization

Profit sharing on all CAR.TNKs revenues proportional to contribution

Next Steps for CAR.TNK Development

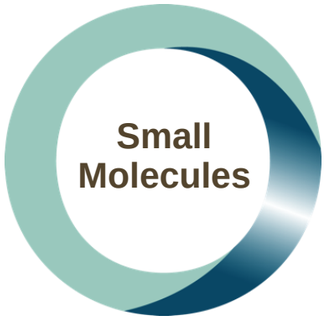
H1 2015 Generation of CARs

H2 2015 Generation and evaluation of stable CAR.TNK cell lines

2016 IND-enabling studies, IND submission, and initiation of Phase 1 studies

A Comprehensive Oncology Company

Deep and Complementary Pipeline Creates Significant Opportunities-
Novel breakthrough combination therapeutic regimens and modalities to attack cancer
Significant reduction in clinical development costs and timeline
Significant commercial edge in future drug pricing



Cytotoxics
CYNVILOQ™

Targeted Therapy
MYC inhibitor
TRAIL modulator

Immunotherapy
PD1, PD-L1, CTLA-4
Bispecific Abs

Targeted Therapy
Anti-VEGFR2 ADC
Anti-CMET ADC
Bispecific ADC

CAR.TNK™
Chimeric Antigen Receptor Tumor-attacking Neukoplast®

Adoptive Cellular Immunotherapy
Chimeric Antigen Receptor
Tumor-attacking Neukoplast®
(Partnership with Conkwest)

RTX

Intractable
Cancer Pain

CYNVILOQ, CAR.TNK, CAR.TNK (Chimeric Antigen Receptor Tumor-attacking Neukoplast) are trademarks owned by Sorrento Therapeutics, Inc.
Neukoplast is a trademark owned by Conkwest, Inc.

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