

A transformational peptide nanoparticle company

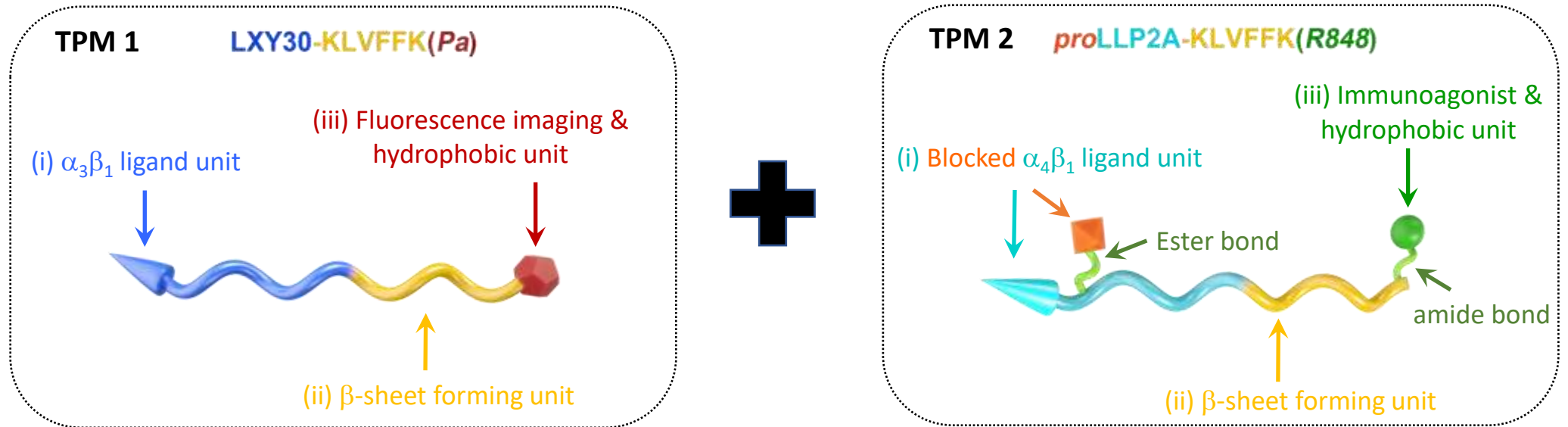
Dr. Anthony Maida, Co-Founder, Chairman and CEO

August 1, 2024

Our Technology Differentiation

- Our Technology, Transformational Peptide Nanoparticles, can overcome the existing Cancer treatment limitations by:
 - Creating a nanofibril network that binds to the cancer cells within the Tumor Micro-Environment (“TME”) that:
 - Prolongs the retention of the immunomodulatory agent within the TME
 - Captures the immune cells at the TME
 - Activates the immune system
 - Sparing the normal tissues and organs, thus reducing off target adverse effects
 - Disrupting HER2 dimerization and subsequent downstream signaling events leading to cell apoptosis
- Preclinical data demonstrated 100% cure in syngeneic lung and breast cancers in mice
- Well defined path to the clinic
- Seeking \$30.0M (tranche) to progress through initial clinical milestones

Nano Immuno-Engager: Drug Composition

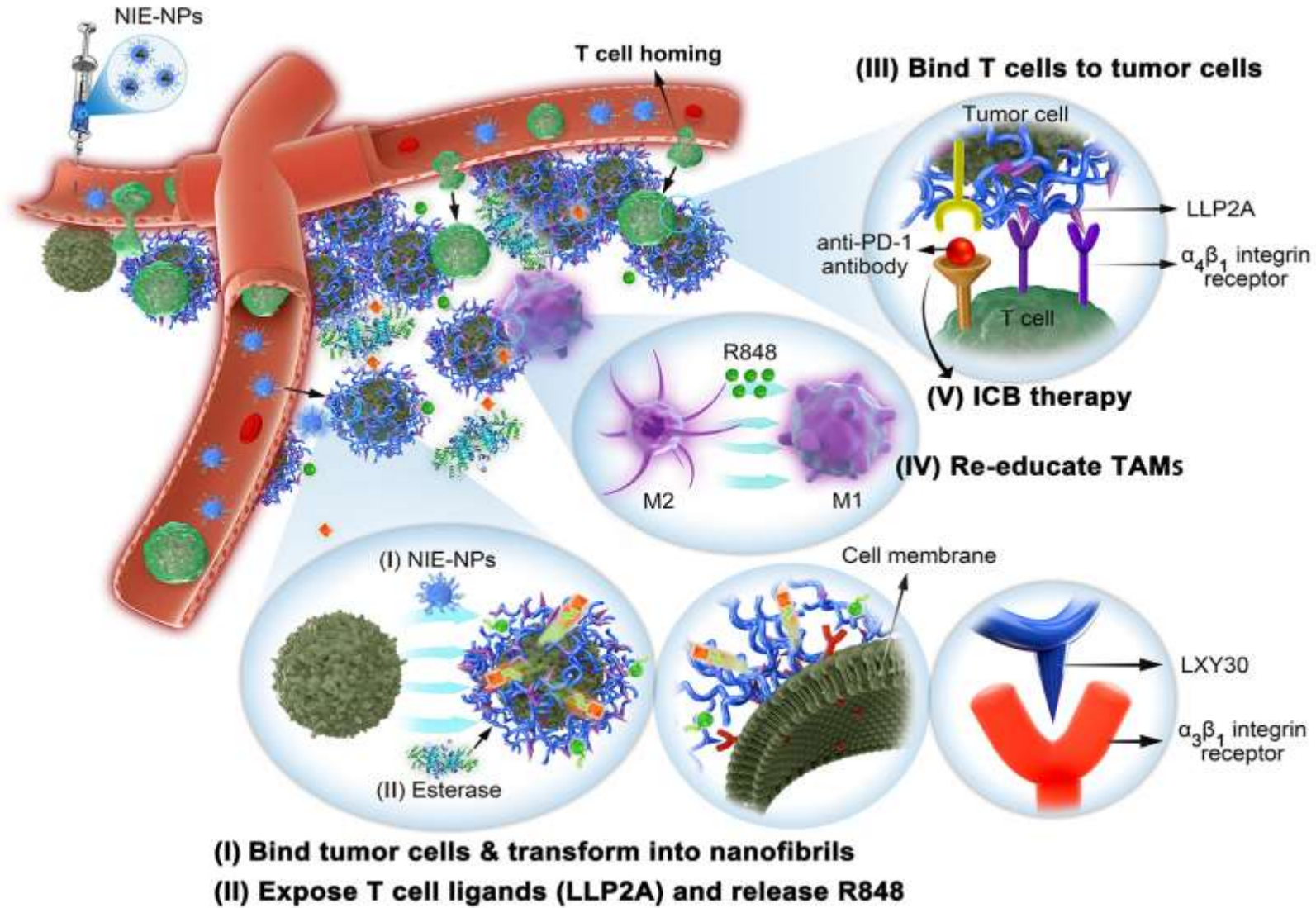


Our therapeutic **drug** consists of two peptides: Transformable Peptide Monomers (“TPM”) 1 and TPM 2, that contain molecules targeting Cancer; and molecules that aggregate the peptides together to form a nanoparticle.


Key Domains:


- KLVFF: Responsible to aggregate the peptides together to form a nanoparticle
- R848: Resiquimod is a potent immuno-stimulant
- LLP2A: Ligand to capture the immune cells
- LXY30: Ligand that targets the $\alpha_3\beta_1$ integrin heterodimeric transmembrane receptor expressed by many epithelial tumors with high metastatic potential

Our NIE: Activation of the Tumor Microenvironment



 Tumor cell

 Tumor cell with nanofibrillar engager

 M1 TAM

 M2 TAM

 T cell

Our Initial Target Market and Cancer Burden

A significant opportunity remains to benefit Patients on ICI

Immune Checkpoint Inhibitors: Foundation of Immuno-Oncology Treatment

- 44% of US cancer patients are eligible for Immune Checkpoint Inhibitors (“ICI”)*
- Nearly half of all patients with metastatic cancer in economically developed countries are eligible to receive ICI**
- 32% five-year overall survival rate for Non-Small Cell Lung Cancer (“NSCLC”) patients***

*JAMA Netw Open. 2020;3(3):e200423. doi:10.1001/jamanetworkopen.2020.0423

** Immune-checkpoint inhibitors: *Nature Rev Clin Oncol* 19, 254–267 (2022)

***Journal of Clinical Oncology: Abstract KEYNOTE 024

Annual Diagnosed Cases



NSCLC

- US: >190K†
- Global: >1.750M††



Breast

- US: 300K†
- Global: >2.250M††



Melanoma

- US: 97K†
- Global: 325K††

† American Cancer Society 2023

†† Cancer.net 2020 data,

Our Technology Contributing to Better Patient Outcomes

Addressing Unmet Immuno-Oncology Needs

Our Lead Program / First-in-Class: Nano Immuno-Engager (“NIE”)

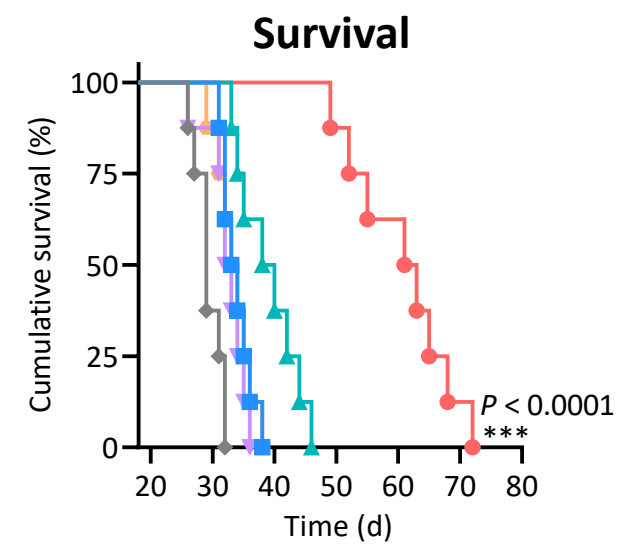
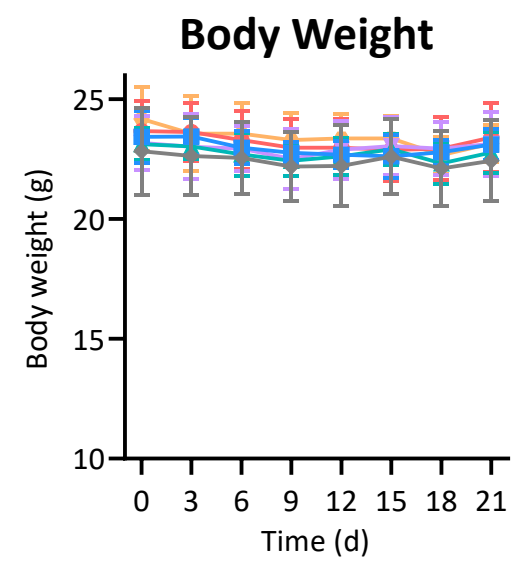
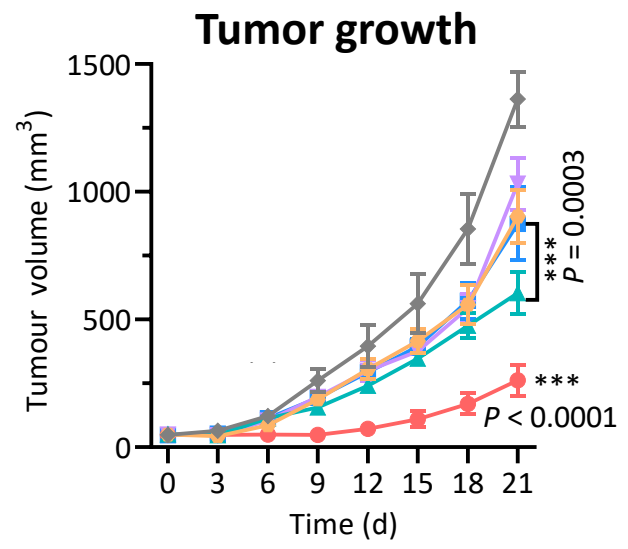
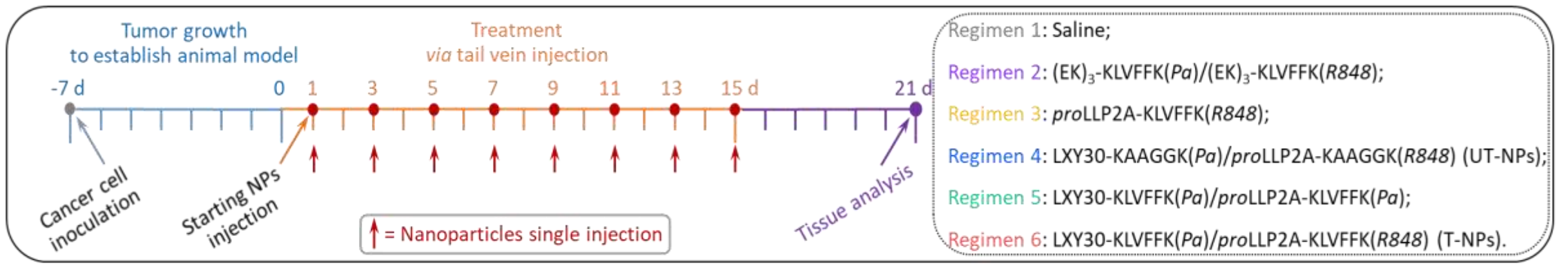
Pre-clinical results:

- 100% cure in relevant murine mouse models of Breast and Lung Cancer in combination with anti-PD-1
- Demonstrated durability
- No observed toxicity
- Ability to turn “cold” tumors “hot”

Exclusively licensing technology from the University of California Davis Cancer Center

Our NIE: Monotherapy 4T1 Breast Cancer Model

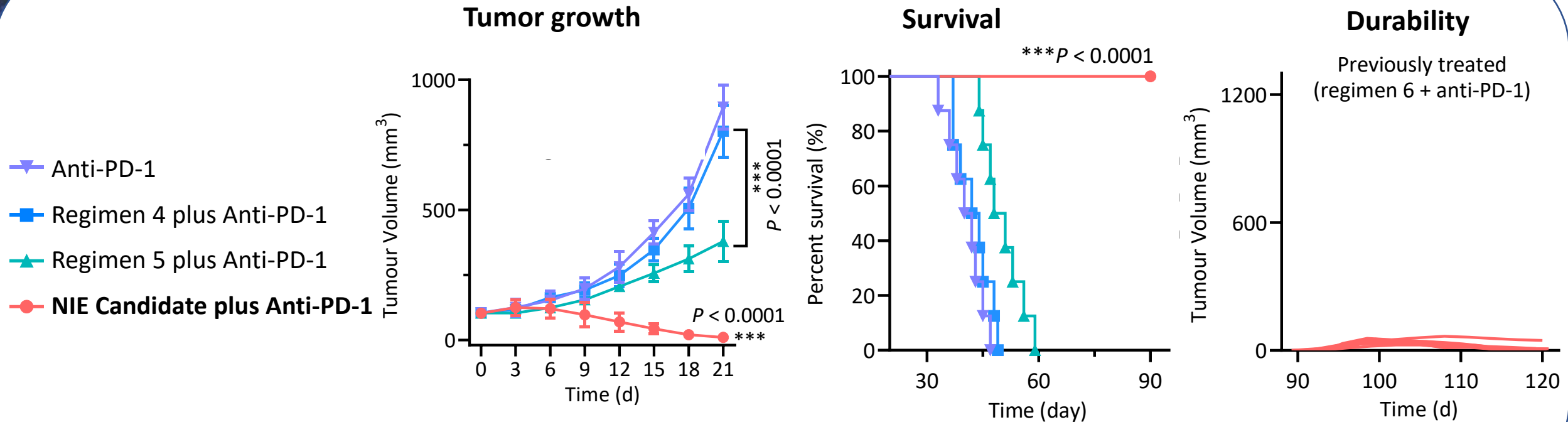
Potential to be used for Patients not eligible for ICI's



Note: Zhang and Lam et al *Nano Letter*

Combination Therapy: Our NIE + anti-PD-1 in Breast Cancer Model

*We Demonstrated Memory Response and Durability in Mice;
Reinoculation of 4T1 Breast Cancer Cells on Day 90.*

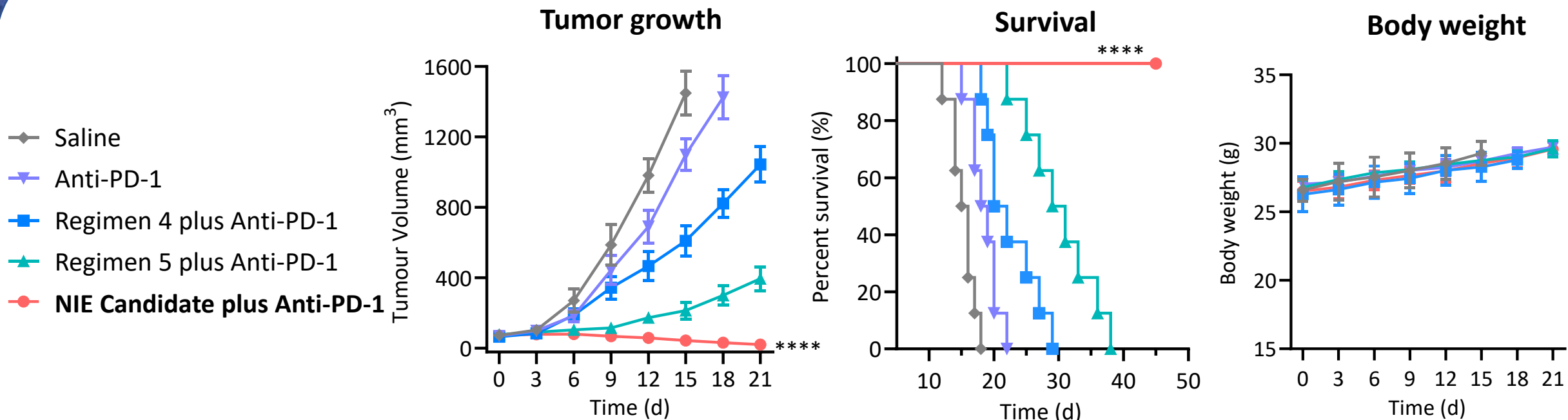


Regimen 4: Construct excluded KVLFF (un-transformable negative control)
Regimen 5: Construct excluded R848 Resiquimod

4T1 Breast tumor model
N= 8 mice per regimen

Combination Therapy: Our NIE + anti-PD-1 in Lung Cancer Model

Demonstrated Tumor Inhibitory Effect with No Change in Body Weight.



Regimen 4: Construct excluded KVLFF (un-transformable negative control)

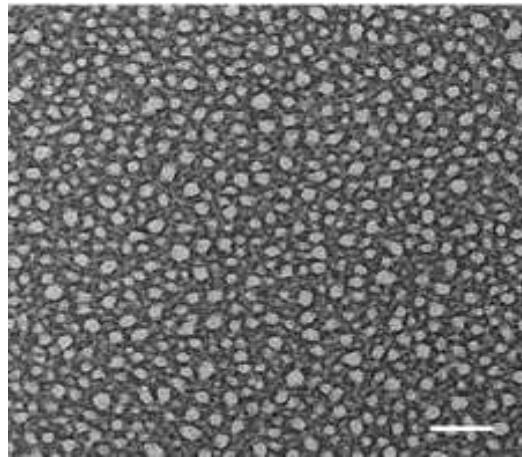
Regimen 5: Construct excluded R848 Resiquimod


Lewis Lung Cancer Model
N= 8 mice per regimen

Transformation of Nanoparticles into a Nanofibril Network

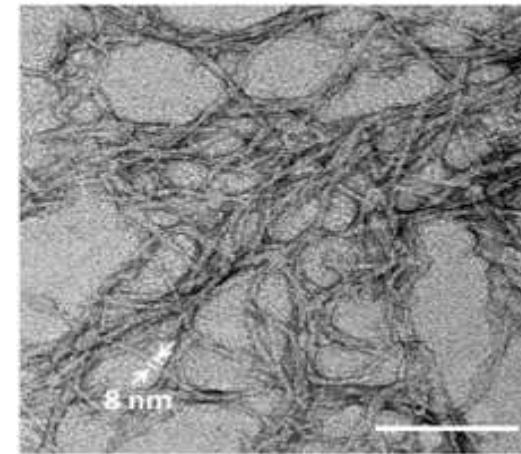
Upon interaction with $\alpha_3\beta_1$ integrin receptor protein

T-NPs



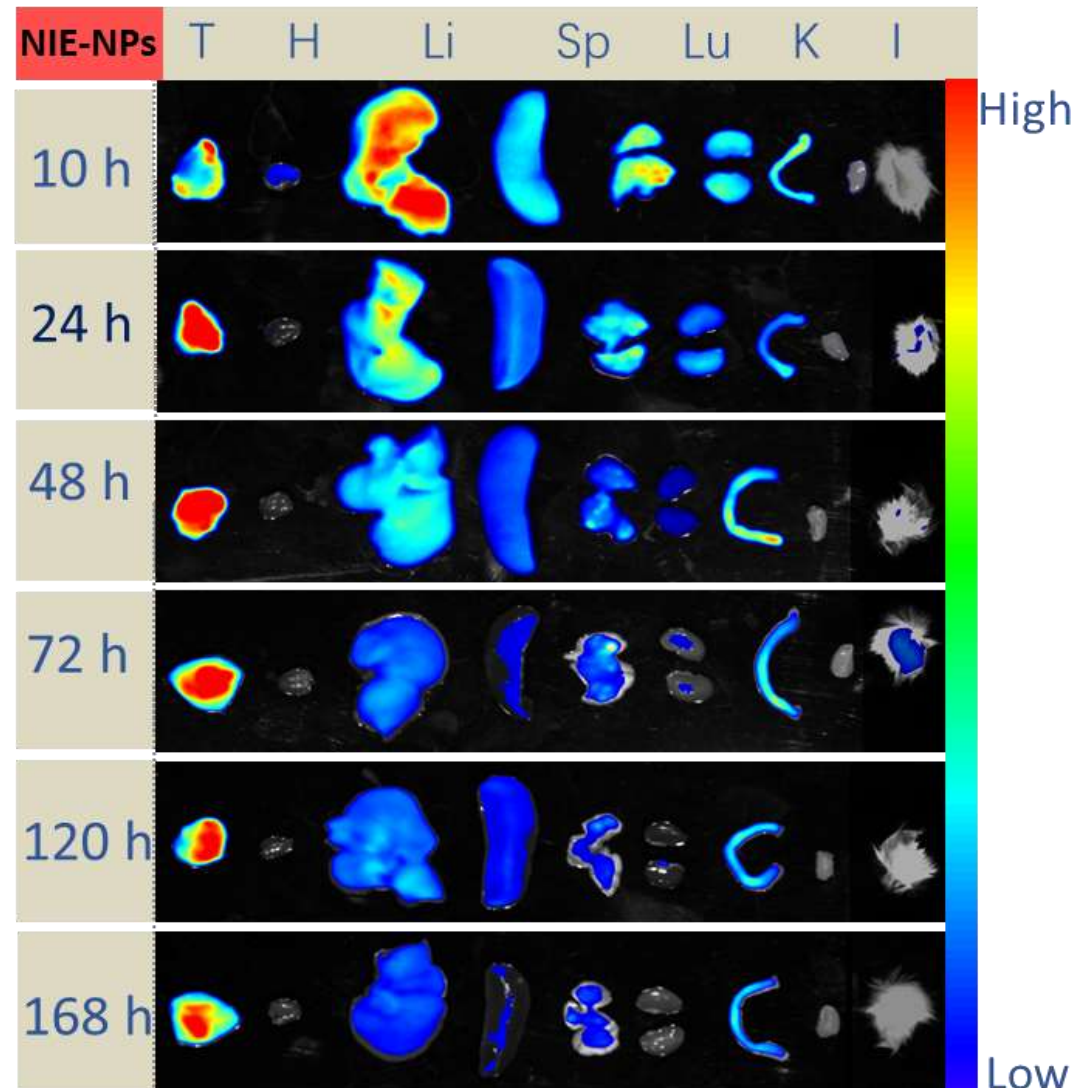
Structural
transformation
→

 $\alpha_3\beta_1$ Integrin
receptor protein

T-NPs + $\alpha_3\beta_1$ protein



Our NIE: Durability with no Off-Target Systemic Toxicity

- Prolonged retention of the immunomodulatory agent and capturing of the immune cells at the TME
- Rapid clearance in off target organs --
“T: Tumor, H: Heart, Li: Liver, Sp: Spleen, Lu: Lung, K: Kidney, I: Intestine”



Note: Lu and Lam. Nano Letters 22:6866-6876, 2022

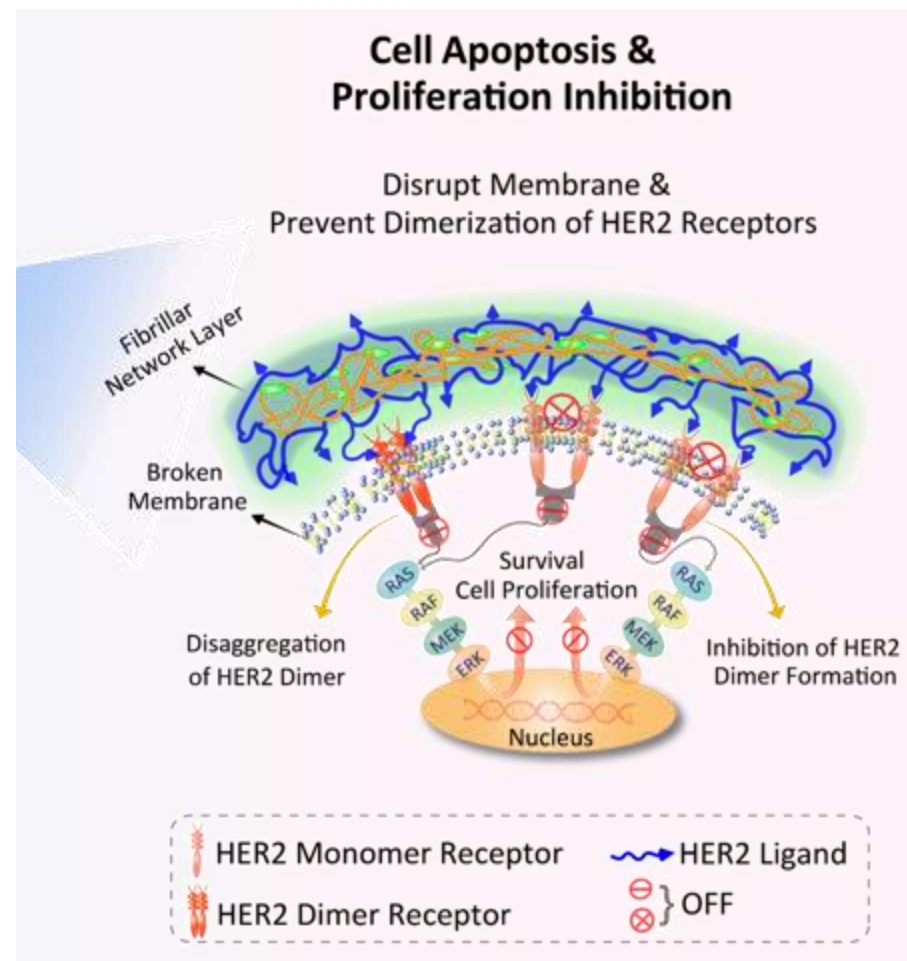
Our Second Target HER2+: Our Solution & Mechanism of Action

Prevents Dimerization of HER2 Receptors

HER2 overexpressed in 20% of Breast cancers, approx. 60,000 patients in the US are diagnosed annually

Our solution:

- Peptides self assemble in aqueous conditions
- On binding to HER2 on cancer cells, transform into nano-fibrils
- Disrupt HER2 dimerization and subsequent downstream signaling events leading to cell apoptosis

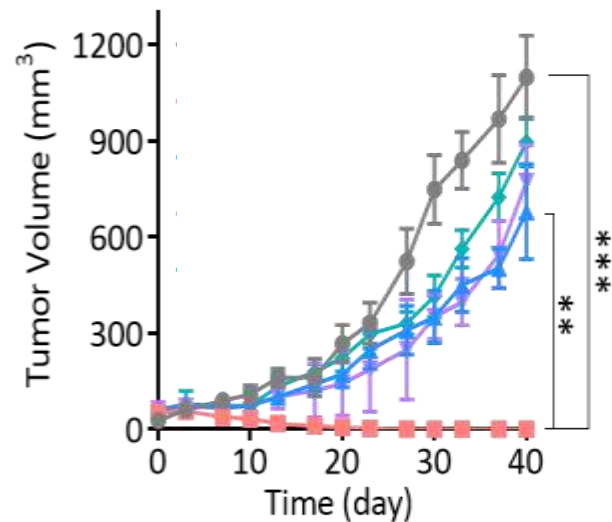


Zhang and Lam et al *Nature NanoTechnology* 15: 145-153 (2020)

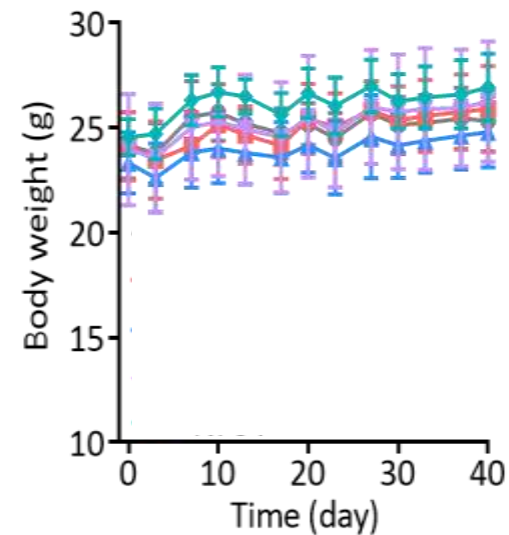
Our HER2+ in Breast Cancer Model

Potential to be Used as a Monotherapy in HER2+ Cancers

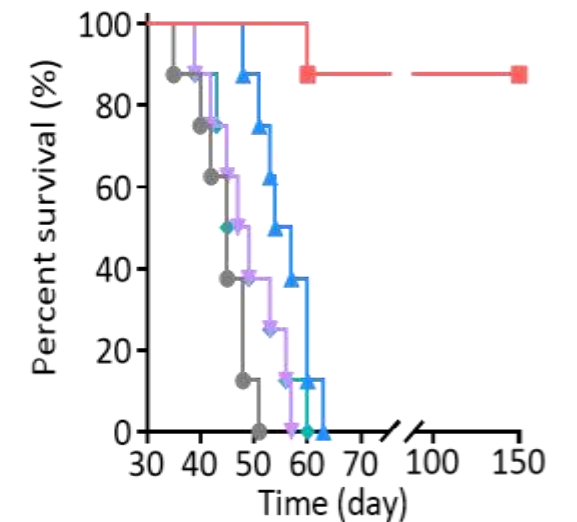
Tumor growth



Body Weight



Survival



NPS2 – NPS4: Negative controls

N= 8 mice per group

Note: Zhang and Lam et al *Nature NanoTechnology* 15: 145-153 (2020)




Technology: A Diversity of Applications

- Additional delivery of agents for Oncology
 - Targeted delivery of doxorubicin
 - Manuscript in preparation
 - Other drugs: paclitaxel, cabazitaxel, DM1, MMAE, SN-38
- Inflammatory Disease
 - Targeted delivery of dexamethasone to immune cells
 - Targeted delivery of other anti-inflammatory drugs
- Infectious Disease
 - Patent Application in Process
 - Manuscript in preparation
 - Anti-microbial drugs

References: Advanced Delivery Reviews 157 (2020) 161-178
Nature Nanotechnology Vol 16 April 2021 369 -384

Our Diversified Portfolio and Clinical Approach

*Two validated preclinical lead candidates
among several platform establishing indications*

Platform	Indication	Discovery	IND-enabling	Clinical
NIE*	NSCLC, Melanoma Breast, Head and Neck Squamous Cell Carcinoma (“HNSCC”)			
HER2+	HER2+ solid tumors (Breast, Gastric)			
Combination (NIE and HER2+)	Solid HER2+ Tumors			

* The Phase I/II study will include two arms; patients with NSCLC and a second arm which will be a basket study that may include patients with melanoma, breast, HNSCC and other malignancies.

Committed & Experienced Leadership & Scientific/Clinical Team

Leadership Team and Board Members



Anthony E. Maida III, PhD
Chief Executive Officer
Chairman of the Board



Kit S. Lam, MD, PhD
Chair Scientific Advisory Board
Board Member



Robert H. Pierce, MD
Chief Medical Officer



Richard B. Slansky
Board Member



Bernice Welles, MD
Board Member



Willam Ashton
Board Member



Scientific Advisory Board



Jose Lutzky, MD
Director, Cutaneous Oncology
at Sylvester Comprehensive
Cancer Center, Miami, FL



Jerome Galon, PhD
Director of Research at INSERM
and Head of an INSERM laboratory
at the Cordeliers Research Center
in Paris, France



James Talmadge, PhD
Professor, Department of
Pathology and Microbiology,
UNMC, Omaha, NE



Primo Lara, MD
Director UC Davis NCI-Designated
Comprehensive Cancer Center, Exec
Associate Dean, Cancer Programs,
Professor, Department of Internal
Medicine, Sacramento, CA

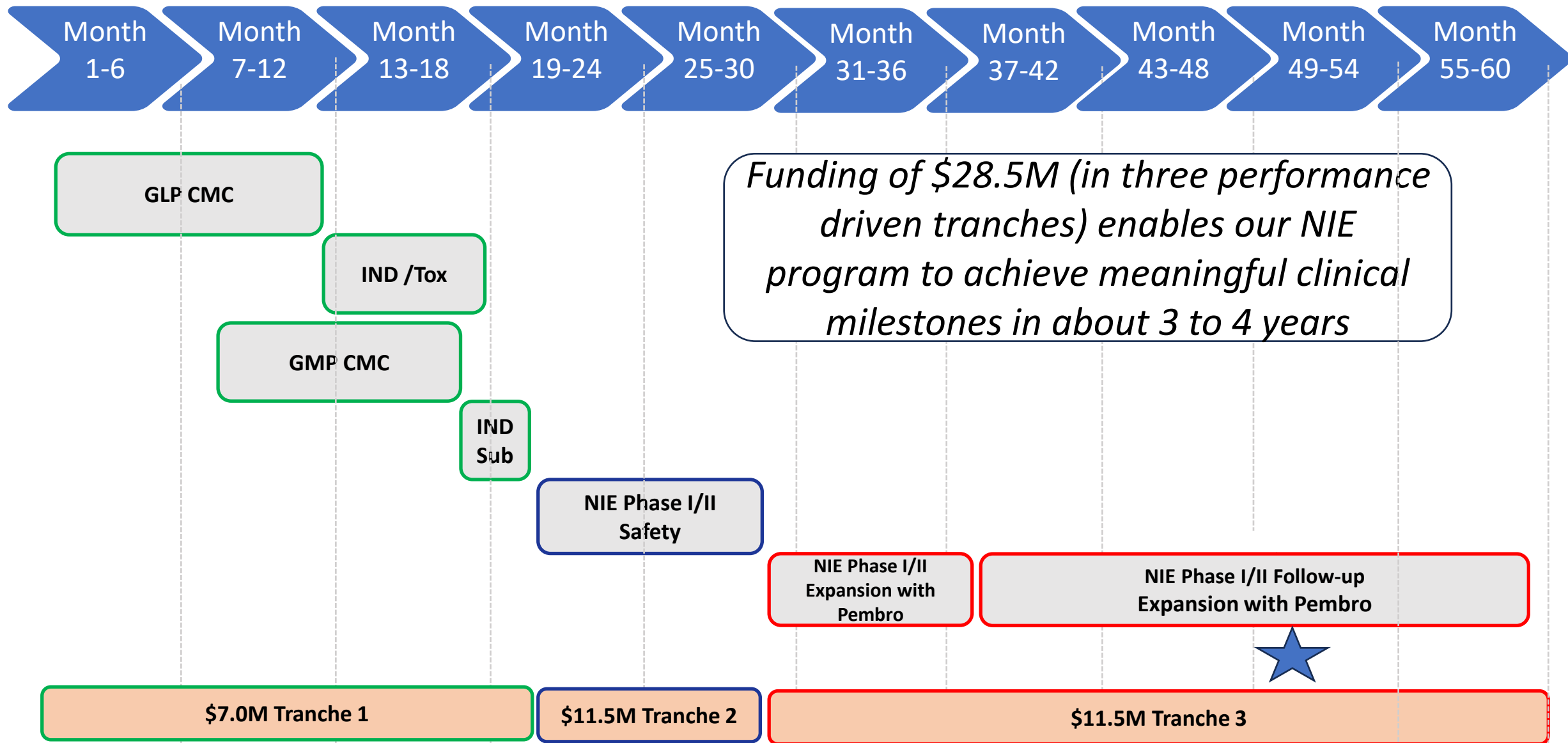


Kim Margolin, MD
Medical Director of the
Melanoma Program at Saint
John's Cancer Institute (SJCI),
Santa Monica, CA



David Gandara, MD
Professor at UC Davis NCI-
Designated Comprehensive
Cancer Center, Sacramento, CA

Our Clinical Plan & Funding Needs: Reaching Value Enhancing Milestones



Risk Management

- **Risk**: Competing Nanoparticle Peptide Technology
 - ✓ **Mitigation**: First-to-Market mindset, Rapid Phase I/II execution and developed plans progress to a proposed adaptive study, Robustness of the technology enabling expanded Patent Claims
- **Risk**: Manufacturing & Scale-Up
 - ✓ **Mitigation**: Demonstrate commercial scale feasibility at the GLP stage
- **Risk**: Slow Clinical Trial Enrollment
 - ✓ **Mitigation**: Expansion of Clinical sites to include the UC Cancer Consortium, NCI-designated Comprehensive Cancer Centers
- **Risk**: Unknown or Unanticipated Risks
 - ✓ **Mitigation**: Experienced Broad Cross Functional Management Team & Scientific/Clinical Advisors
- **Risk**: Limited Nano Immuno-Engager Clinical Results
 - ✓ **Mitigation**: Second Product Development of HER2+ in Various Indications
- **Risk**: Macro-economic Environment and Difficult US Capital Investment Market
 - ✓ **Mitigation**: Non-Dilutive Financing Options, International Economic Interest

Summary: Why Invest in T-NanoBio Therapeutics?

- **Patient focus**, improve patient outcomes, may benefit >850K patients in the US annually with many more worldwide
- **Exclusively licensing** technology from the University of California Davis
- **Compelling pre-clinical data:**
 - In combination with anti-PD-1, our NIE candidate product **cured** lung and breast cancer in mice
 - Demonstrated consistent conversion of immunologically **“cold”** to **“hot”** tumors in mice
- **Differentiated profile** versus competitive programs: i) delivers potent immune stimulant resiquimod; and, ii) Recruits cytotoxic immune cells
- **Multiple product candidates** with platform interest by KOLs
- **Attractive clinical plan** with acceleration possibilities
- **Seeking \$30.0M**, tranching, allowing a Phase I/II study within 20 months of funding leading to **meaningful clinical milestones** within 3 to 4 years
- **Leadership team** of experienced scientific/clinical/business professionals