ALAUNOS™ THERAPEUTICS

Attacking Solid Tumors with Novel TCR-T Cell Therapies

May 2022

Forward Looking Statements

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Shareholder Value Creation:
A Clinical Stage TCR-T Company Targeting Solid Tumors

Weaponizing the immune system with powerful TCRs to treat solid tumors

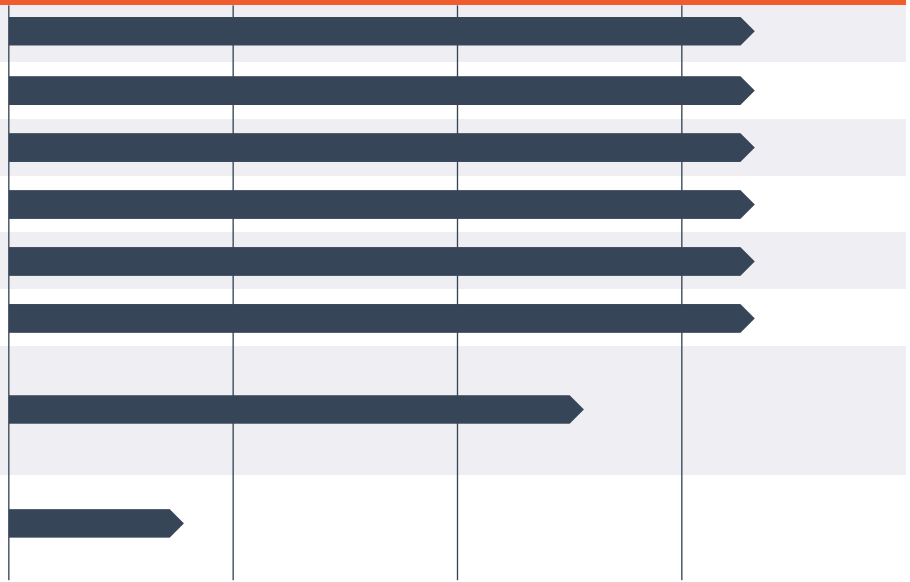
Targeting driver mutations using T cells genetically modified with proprietary non-viral *Sleeping Beauty* platform

Vision 2022 – Execution Mindset, Delivering Results

1. Phase 1/2 TCR-T Library Trial Enrolling; First patient treated April 2022, interim data expected 2H22
2. Clinical Library of 10 TCRs (*KRAS*, *TP53*, *EGFR*) Targeting Six Solid Tumor Indications
3. Utilize internal cGMP Manufacturing Facility For TCR-T Library Trial
4. Proprietary TCR Discovery Platform, hunTR™, Expanding and Advancing the Pipeline

TCR-T Platform with Multiple Solid Tumor Programs in Pipeline

PROGRAM	TARGETS	INDICATION	DISCOVERY	PRECLINICAL	IND-ENABLING	PHASE 1
Library TCR-T cell Therapy (Company Sponsored at MDACC - NCT05194735)	*KRAS, TP53* & *EGFR* Hotspot Mutations	Lung				
		Colon/rectum				
		Endometrium				
		Pancreas				
		Ovary				
		Bile Duct				
mbIL-15 TCR-T cell Therapy	*KRAS* & *TP53* Hotspot Mutations	Solid Tumors				
Undisclosed Targets & Modalities (hunTR™)	Cancer-specific Somatic Mutations	Cancers with Hotspot Mutations				



TCR-T is Superior to Other Cell Therapy Approaches for Solid Tumors

	TCR-T	CAR-T	TIL
Target Intracellular & Extracellular Antigens	✓		✓
Proven Efficacy in Solid Tumors	✓		✓
Defined Target Specificity	✓	✓	
Targets Somatic Neoantigens	✓		✓
Established Transposon-based Gene Transfer	✓	✓	

Table above not based on head-to-head trials

A Differentiated TCR-T Program Targeting Solid Tumors

Targeting Hotspot Mutations

Hotspot mutations are ideal targets for defeating cancer

***Sleeping Beauty* Technology**

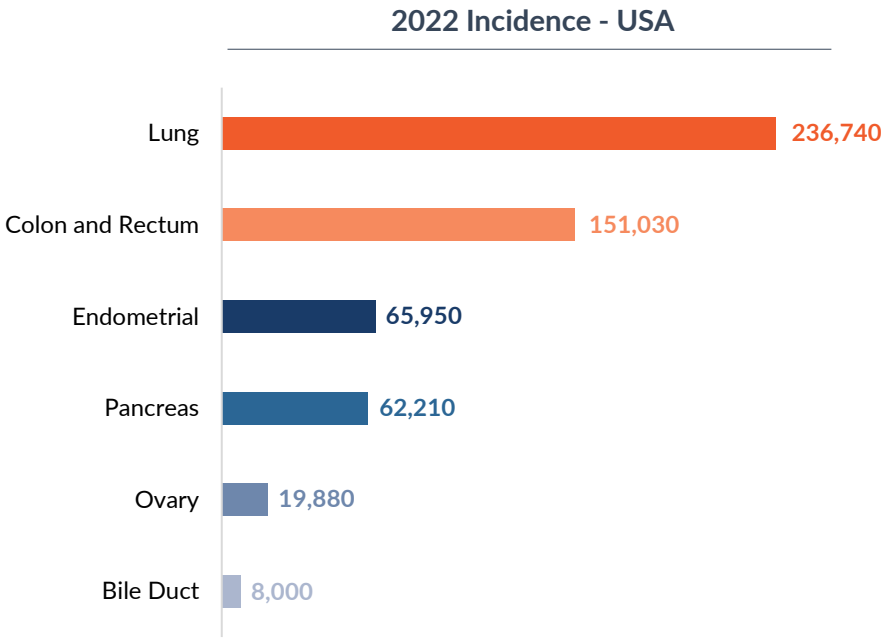
Non-viral transposition technology has favorable safety profile

Rapid, flexible & cost-effective manufacturing

hunTR™ Platform
(human neoantigen T cell Receptor)

Robust discovery engine enables expansion of TCR Library

Our TCR-T Cell Platform Targets Solid Tumors in Large Patient Populations with Unmet Clinical Need



- In the US, 92% of new cancer cases are solid tumors
- 4,804 patients are diagnosed every day with cancerous solid tumor
- 1,548 patients die every day from a solid tumor cancer

Source: https://www.cancer.org/research/cancer-facts-statistics/all-cancer-facts-figures/cancer-facts-figures-2022.html
https://www.cancer.org/cancer/bile-duct-cancer/about/key-statistics.html; CA CANCER J CLIN 2021;71:7–33

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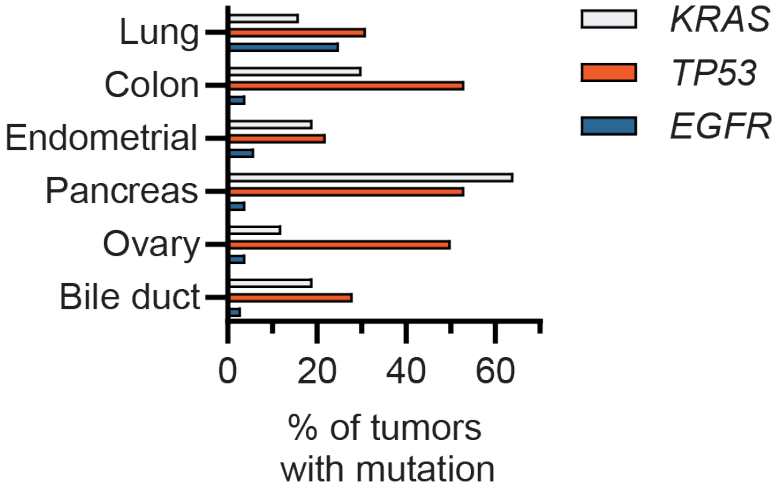
KRAS, *TP53*, *EGFR* Mutations are Commonly Expressed in Targeted Indications



- High frequency tumor targets, not expressed in normal tissues
- Killer TCR-T cells specific for the mutation without off-tumor toxicity
- Unmet clinical need for patients with solid tumors

Source: Catalogue of Somatic Mutations in Cancer (COSMIC) database https://cancer.sanger.ac.uk/cosmic

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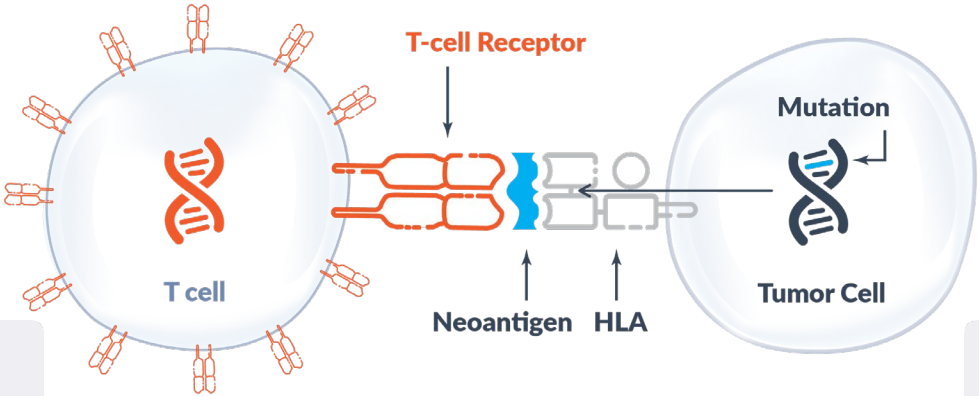
TCRs Can Give Patients' T Cells a New Ability to Recognize and Kill Tumor Cells with Common Mutations



T-cell Receptors

- Naturally occurring
- Highly specific
- Intracellular and extracellular targets

Neoantigens

- Derived from mutations
- Expressed by tumor, not in normal tissues
- Presented on the tumor surface by HLA

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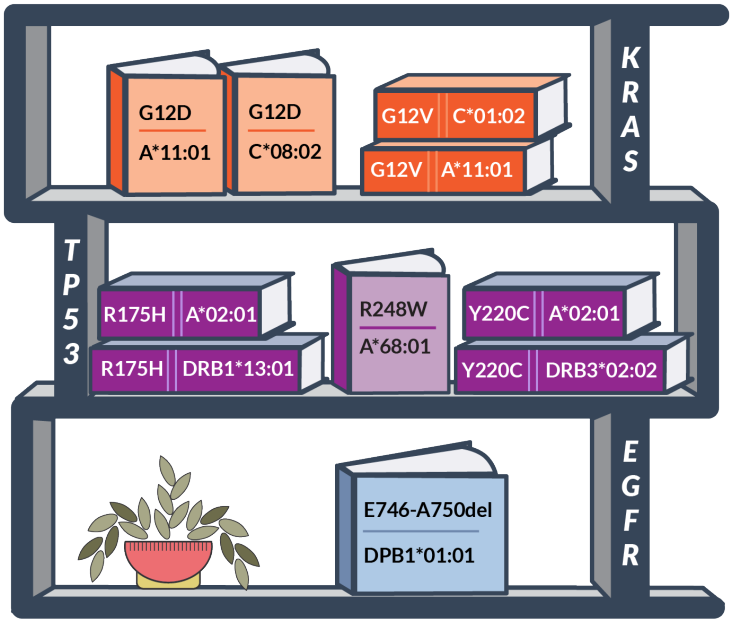
TCR Library Captures High Frequency Mutations and HLA Types



- Common HLAs are represented in our TCR library
- Certain mutations have more than one HLA restriction
- As more TCRs are added to our library, the addressable patient market size will further increase

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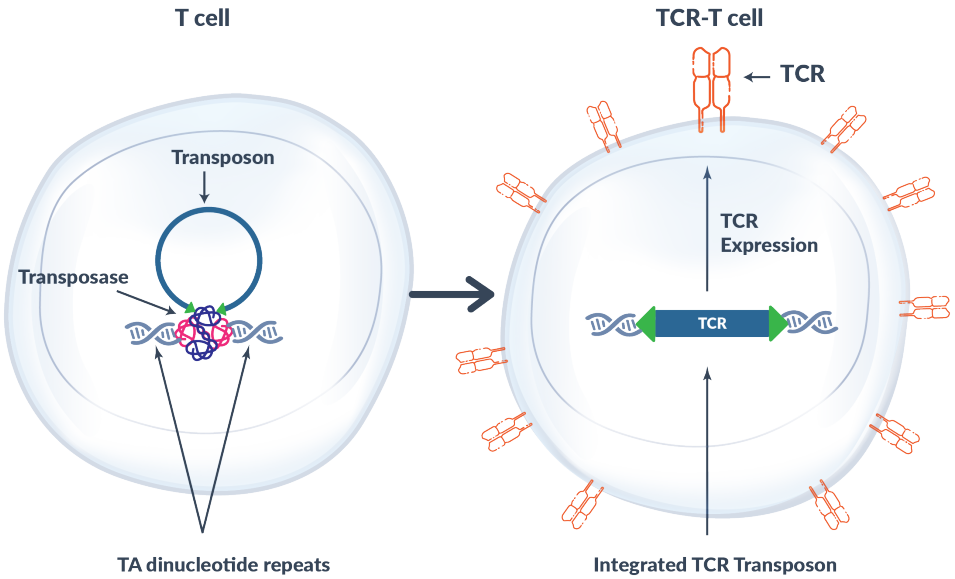
Non-viral *Sleeping Beauty* Platform for Manufacturing TCR-T Cells without the Complexity of Gene Editing



- Efficient integration without the complexity of gene editing or viral approaches
- Rapid, cost-effective manufacturing
- Flexible approach to add TCRs; attractive choice for library
- Platform can accommodate large transgene size
- Process scalable for clinical production

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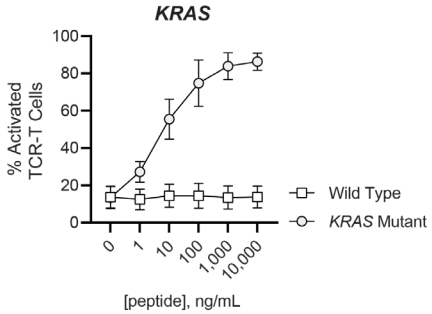
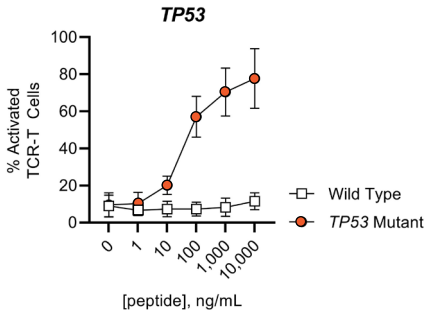
TCR-T Cells Recognize *KRAS*, *TP53*, *EGFR* Mutations and Kill Solid Tumor Cells

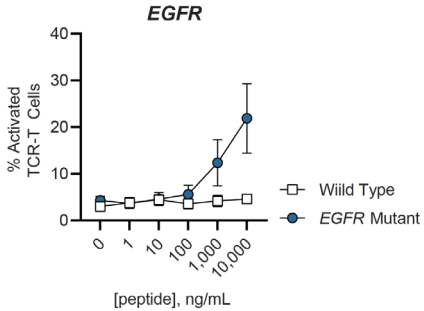
Powerful TCRs:
Naturally-occurring, high avidity TCRs recognize low levels of neoantigens

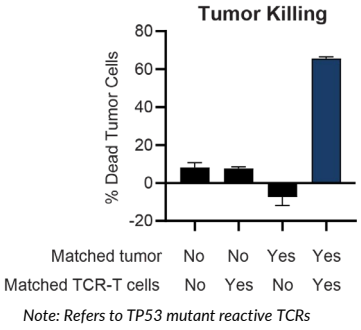
No off-target toxicity observed:
Specificity for the mutation with negligible recognition of the wild type sequences

Tumor killing:
Recognition of tumor cells that express mutation and HLA









Note: Refers to TP53 mutant reactive TCRs

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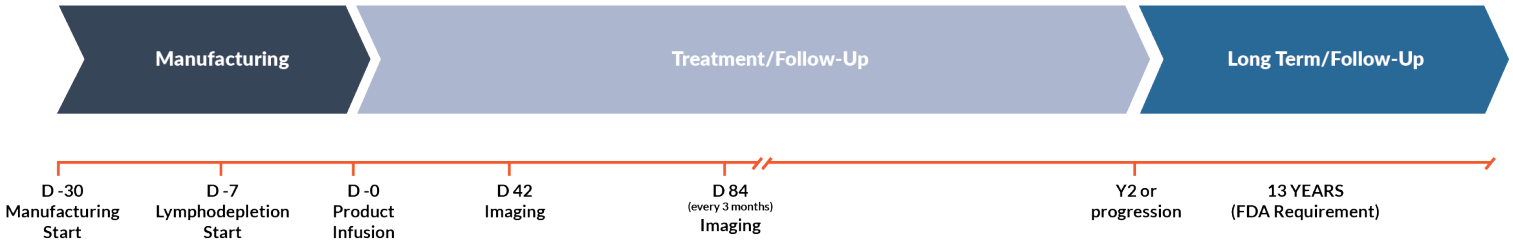
Actively Enrolling First-in-Human TCR-T Clinical Trial with Innovative Library Approach



- Trial enrolling patients where a TCR matching a neoantigen / HLA pairing is available in our TCR-T library
- Phase I is a prospective, open-label, dose-escalation study of TCR-T cells in patients with progressive or recurrent solid tumors who have failed standard therapy utilizing a Bayesian optimal interval design (BOIN) with an accelerated dose escalation
- Patients will be enrolled in one of three dose cohorts: $5x10^9$, $4x10^{10}$, $1x10^{11}$

Phase I Objectives:

- Define dose limiting toxicity (DLT) and the maximum tolerated dose (MTD) or recommended phase II dose (RP2D)
- Evaluate the feasibility of TCR-T cell drug product manufacturing

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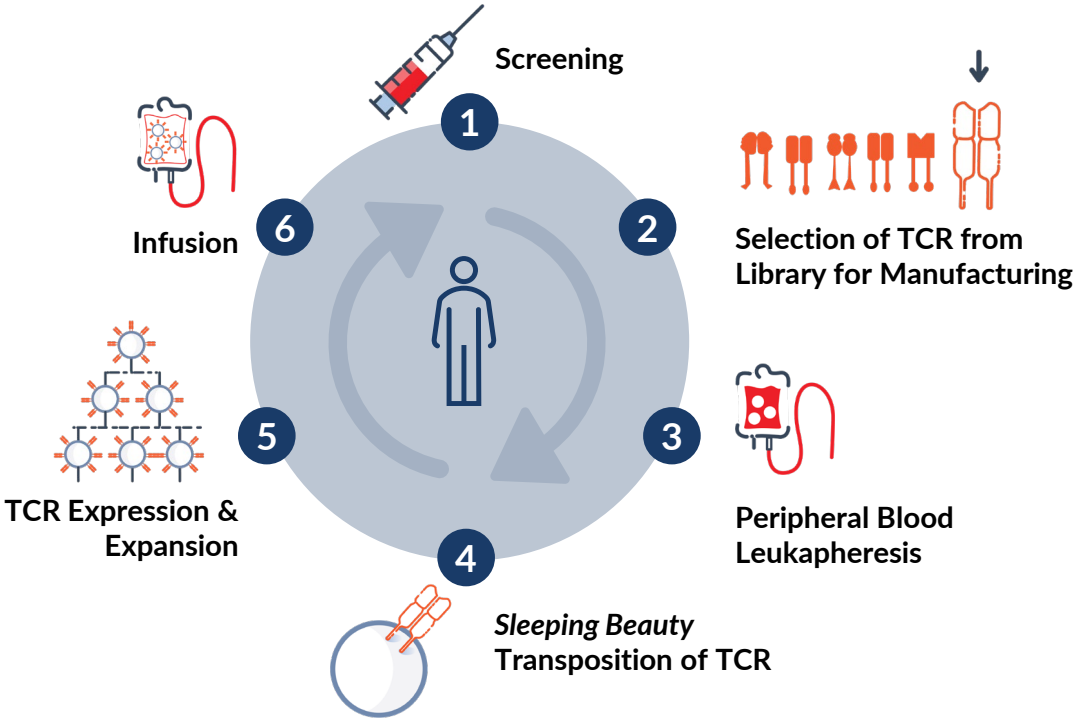
Alaunos Successfully Dosed its First Patient in the TCR-T Library Phase 1/2 Trial of Patients with Solid Tumors

- Patient #1 has non-small cell lung cancer, and had one prior line of adjuvant therapy following surgery and three prior lines of systemic therapy
- The patient has a tumor with a KRAS G12D mutation
- The patient was treated at the first dose level with TCR-T cells and has now cleared the 28-day safety window
- We expect to report initial data from the study in 2H 2022

Each Autologous TCR-T Cell Product is Manufactured with a TCR Matched for the Patient's Mutation and HLA Type



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State of the Art, In-House cGMP Manufacturing Facility Operational

Provides control over clinical manufacturing, including expertise and scheduling

Located in Houston near Texas Medical Center

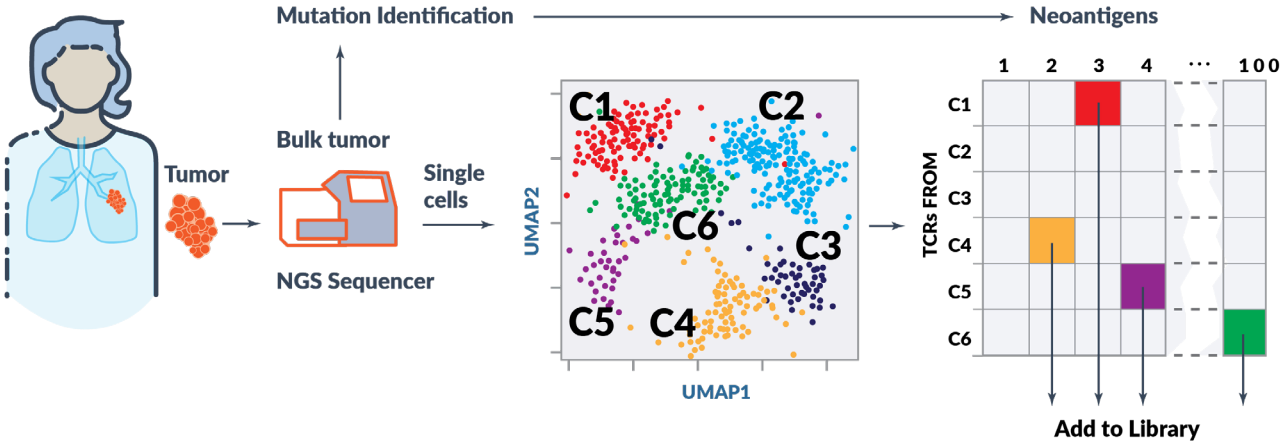
Staffed by highly skilled Alaunos personnel

Will be used for early phase clinical manufacturing

TCR-transposed T cells targeting neoantigens have been grown:

- with high TCR expression
- to clinical dose levels
- with high viability

hunTR™ Program Rapidly Expands TCR Library Targeting Hotspot Mutations



- Focus on neoantigens, particularly those arising from hotspot mutations
- Empirical screening of TCRs from CD4+ and CD8+ T cells directly from tumor
- High-throughput TCR screening

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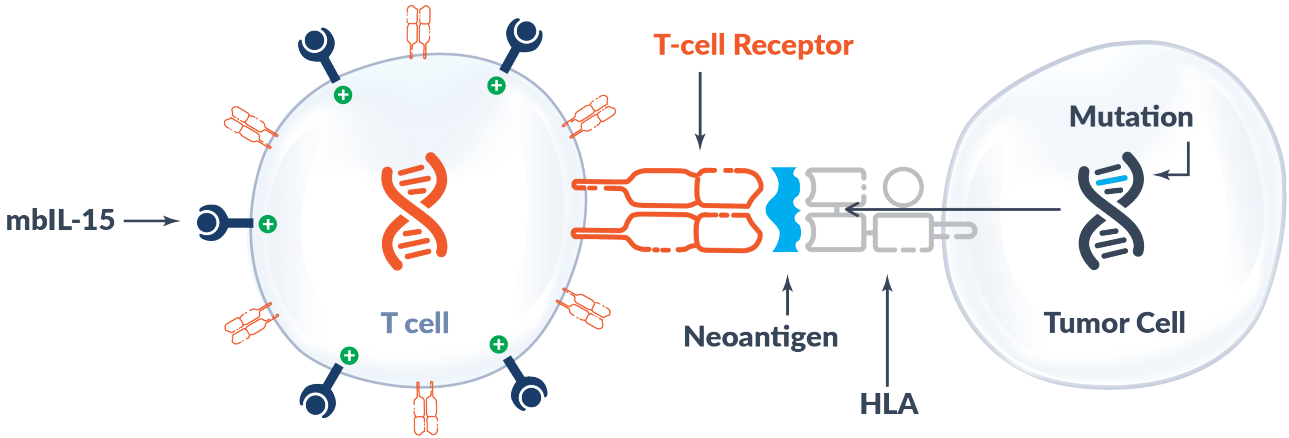
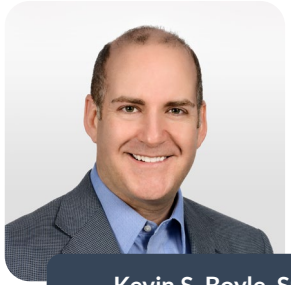
mbIL-15 Improves the Persistence and Anti-tumor Activity of TCR-T cells in the Tumor Microenvironment (TME)

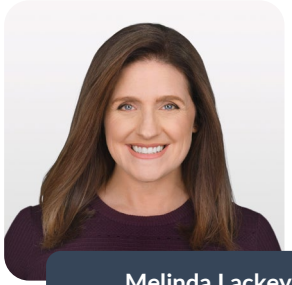


- Pro-survival signaling limits negative signals from the TME
- Stem-cell memory mbIL-15 TCR-T cells regenerate TCR-T cells
- Limit effects of HLA loss by supporting TILs and NK cells
- Potential for TCR-T cell therapy without lymphodepletion

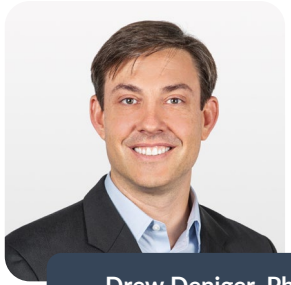
Experienced Management Team



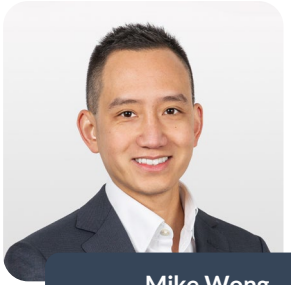
Kevin S. Boyle, Sr.
Chief Executive Officer



Melinda Lackey
SVP Legal



Drew Deniger, PhD
VP Research & Development



Mike Wong
VP Finance

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