CERO THERAPEUTICS

INVESTOR PRESENTATION

April 2024

NASDAQ: CERO

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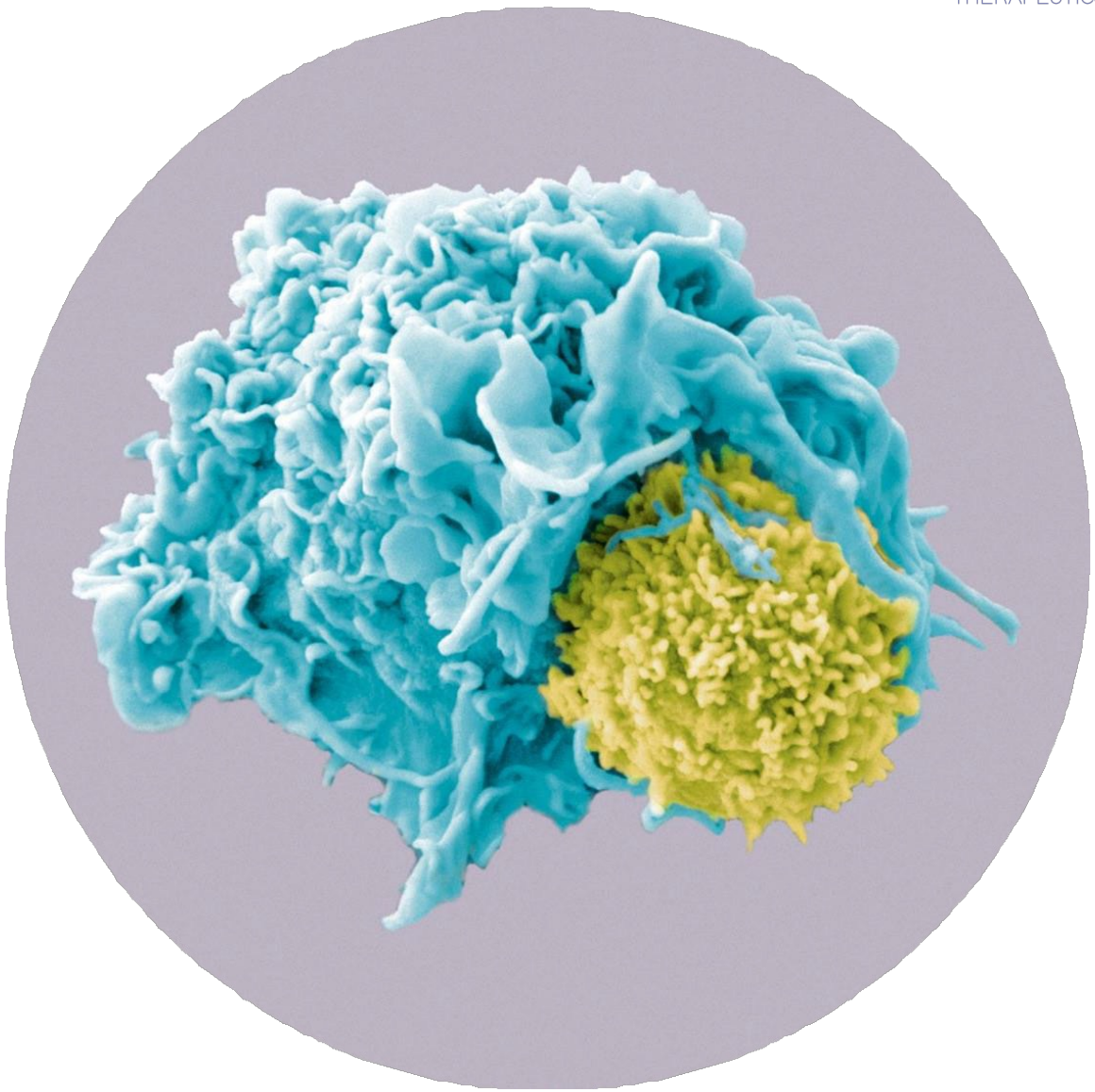
Tumor Clearance Reimagined

MISSION:

Deploy a highly novel cancer treatment - *integrating* ***eight*** *anti-tumor functions* – into clinical testing across leukemias, B cell lymphomas, and solid tumors.



Investment Highlights

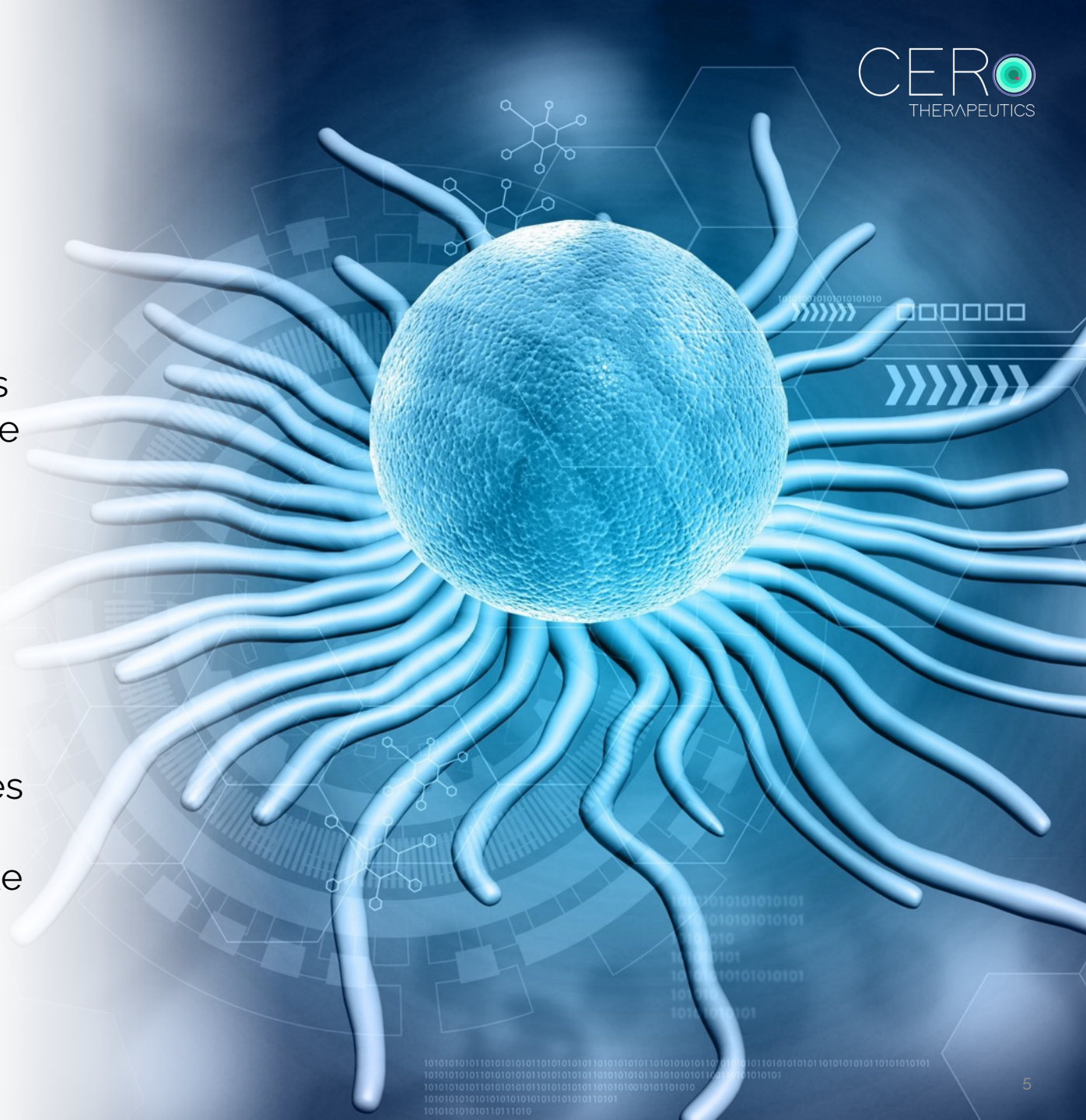
- **Groundbreaking Biology –** novel, multi-modal approach to fighting cancer by harnessing the power of the body's innate and adaptive immune systems
- **Platform in a Product-** demonstrated preclinical tumor-killing capabilities for hematologic and solid tumor cancers - Leukemia (AML), lung cancer (NSCLC), Ovarian Cancer, and B-cell Malignancies
- **Entering the Clinic** - plan to file IND in first half 2024 in AML
- **Funding through EOY 2025**
- **Seasoned Management Team –** deep industry and capital markets expertise

CERo Therapeutics NASDAQ: CERO	
Stock Price (as of 4/15/24)	$1.84
Shares Outstanding	14.9M
Market Capitalization (as of 3/25/24)	$31M
FY End	Dec 31

CERo Overview

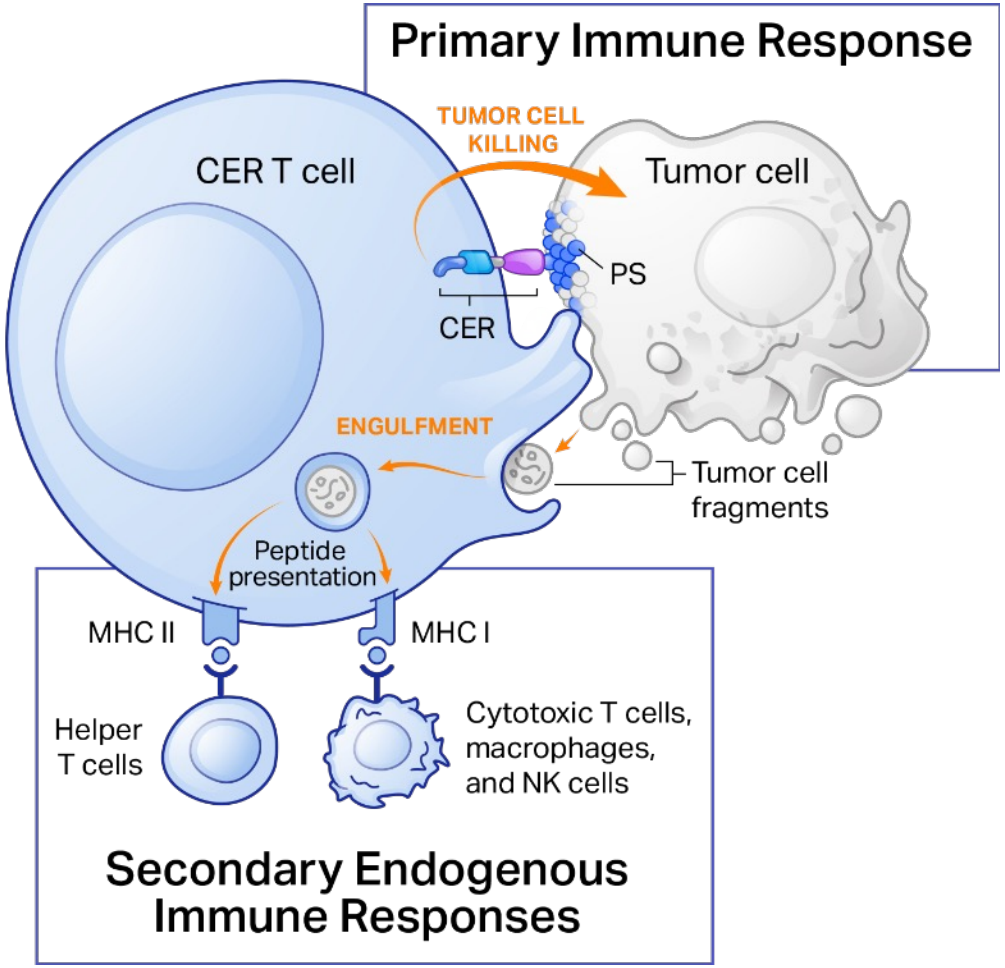
Rethinking What's Possible in the Treatment of Tumors

- Created new generation of engineered T-cells (CER-T Cells) for cancer therapy - amplifies the body's anti-tumor immune response
- Multifunctional CER-T cells have the potential to be deployed against a broad range of hematologic and solid tumors
- Platform provides a differentiated approach from other immune-based therapies; combines body's own natural clearance machinery with enhanced T-cell cytotoxic effects and APC-like capabilities



CERs – A New Anticancer Strategy

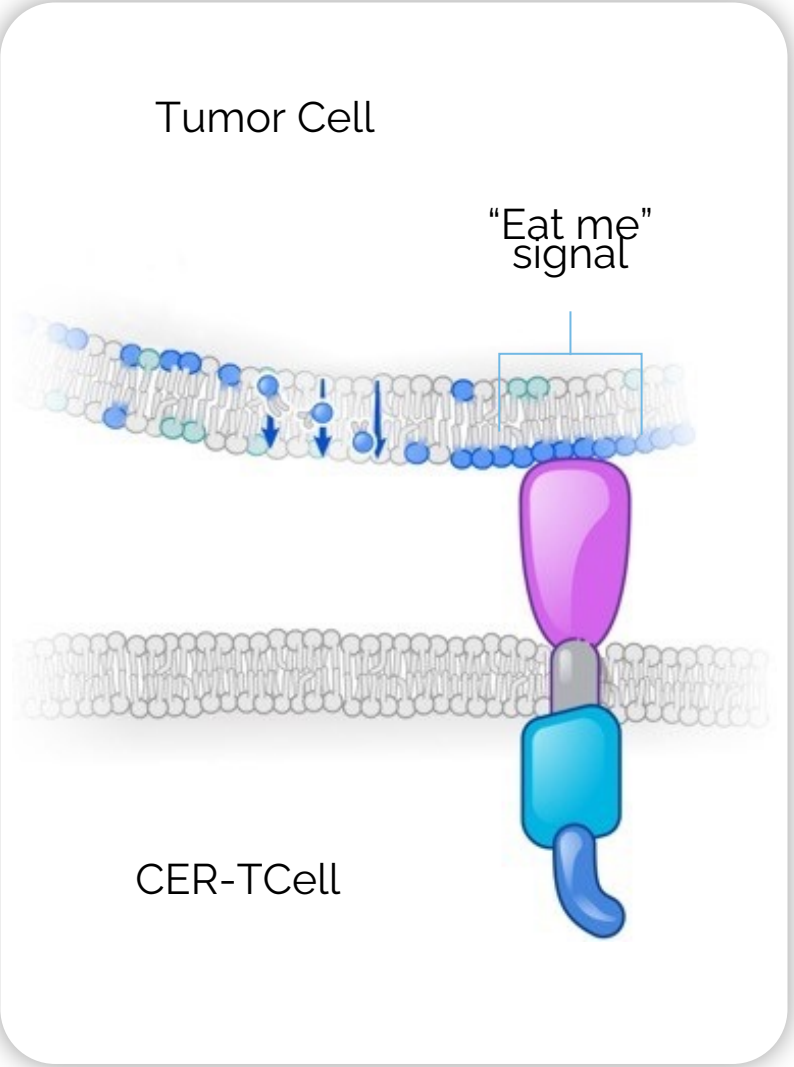
- Chimeric engulfment receptors (CERs or CER-T cells) function at the interface of the innate and adaptive immune systems, making them uniquely suited for cancer immunotherapy. Binding of the CER induces phagocyte-like engulfment activity of the CER T. The intracellular domains of the CER have the capacity to induce the complementary effects of
  - **Direct tumor killing mediated by CER T cells**
  - **Secondary endogenous immune responses through APC- like presentation of tumor-associated antigens**
- CERo's technology has the potential to overcome major barriers to successful adoptive cell therapy by combining direct cell killing and phagocytic antigen presentation into single T cells to achieve tumor eradication



The CER Platform

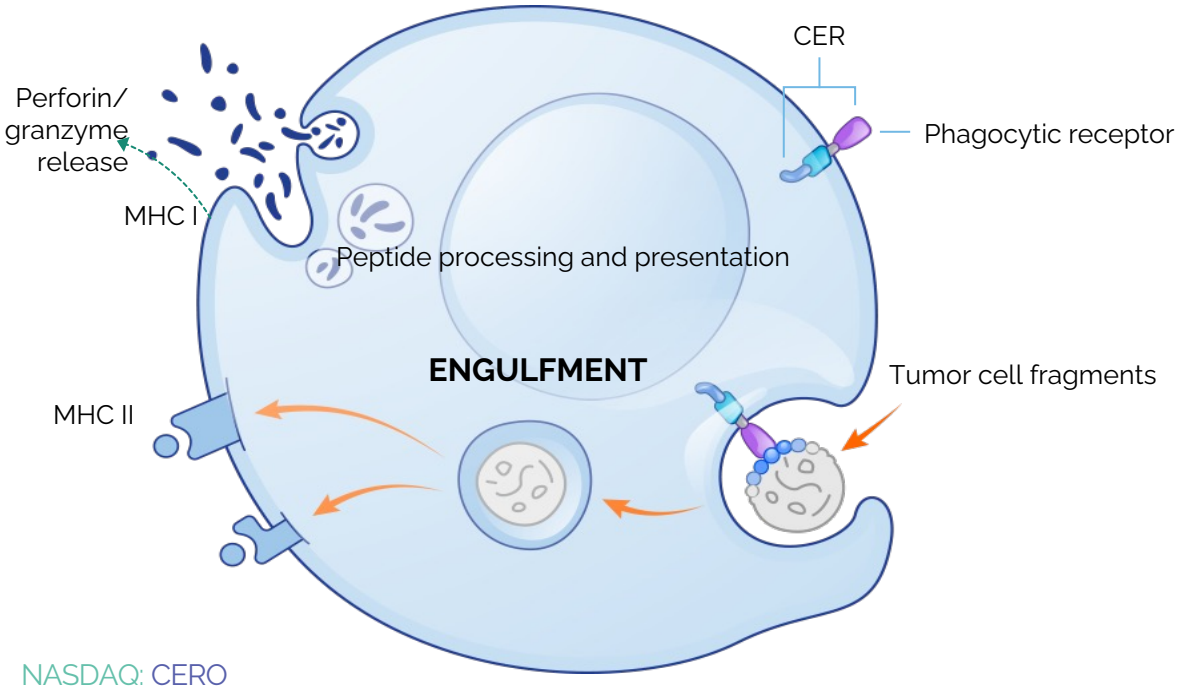
A differentiated mechanism of action

- The CER T cell's phagocyte receptor component binds to the "*eat me*" signal on tumor cells
- Binding mediates phagocytic uptake
- The transmembrane domain links receptor to intracellular domains
- Intracellular domain promotes enhanced processing and presentation of tumor-specific antigens; potential to amplify body's endogenous adaptive T-cell response against the tumor
- The intracellular signaling domain(s) optimized activate T-cells, leading to cytotoxic killing of the targeted tumor



Next Generation T Cell Therapy Candidate

CER-T CELL
(Chimeric Engulfment Receptor)



THE POTENTIAL OF CER-T CELLS

Multi-modal tumor elimination:
lysis (cell breakdown) + phagocytosis (cell engulfment)

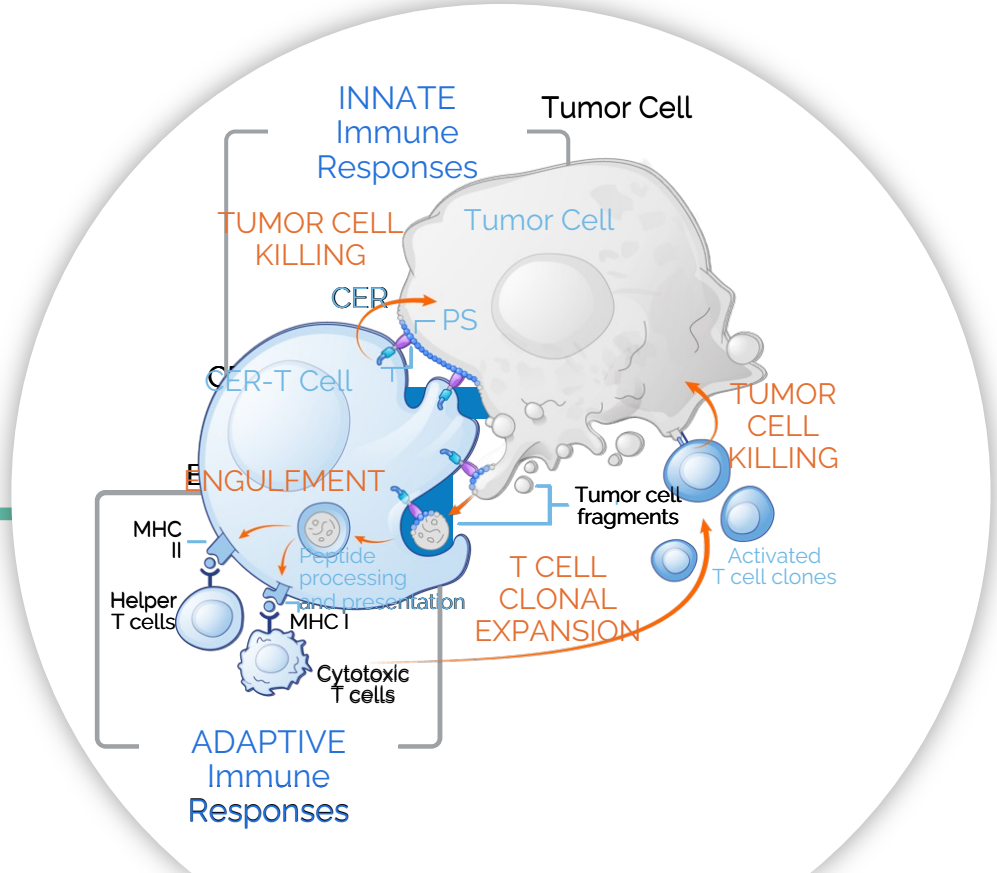
Platform in a Product

Phagocytic clearance is systematic and progressive

Adapting known and proven T cell manufacturing technology

HOME and BIND	EAT	PRESENT	KILL
Chimeric engulfment receptor T cells (**CER-T)** binds TIM-4 ligand, the "eat me" signal on tumor cell	Binding to the TIM-4 ligand mediates the capture and uptake of tumor cell fragments, which are engulfed (eaten)	Tumor cell phagocytosis (eat me signal) leads to efficient immune response	Intracellular signaling domains activate T cells, leading to cytotoxic killing of the tumor

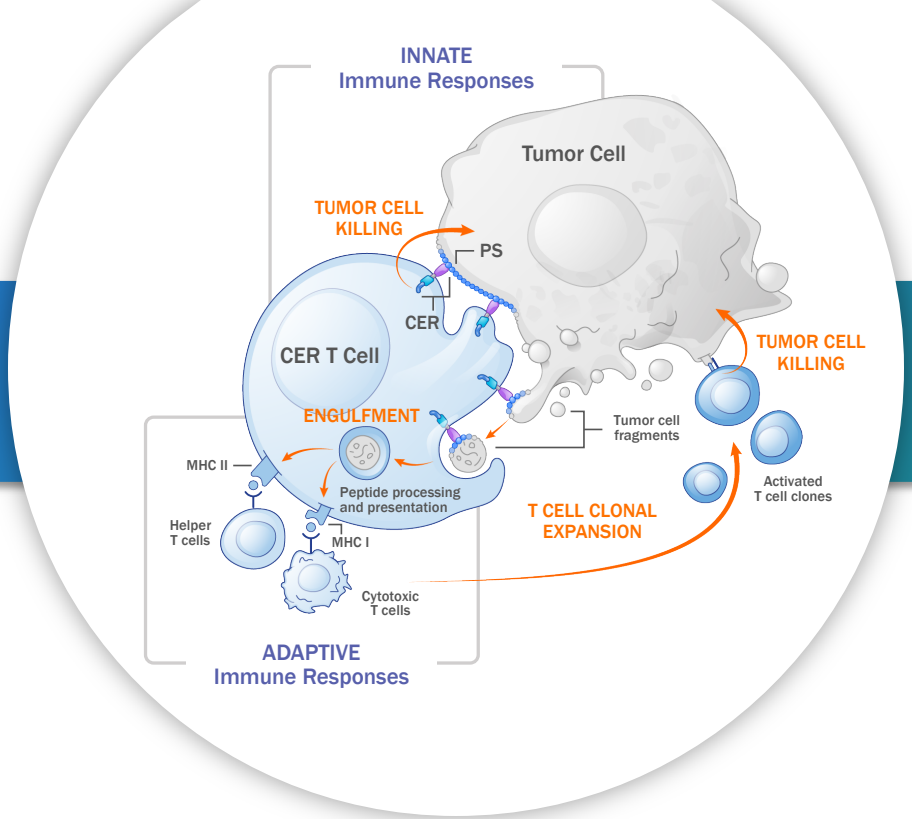
CER-T Cells Designed to Eliminate the Entire Tumor



CERO THERAPEUTICS

Innate

Adaptive



CER-T CELL OPPORTUNITIES

MORE POTENT

Multi-modal approach to tumor cell sensing, killing, and elimination

MORE DURABLE

Combining the body's natural clearance machinery with enhanced T-cell cytotoxic effects can amplify the body's anti-tumor response

LOW OBSERVED TOXICITY

Favorable potential toxicity profile characterized by less cytokine release

RESTORED IMMUNE FUNCTION

APC-like activity is designed to prime tumor-specific cytotoxic T-cells

Molecular Therapy, 2023 May 16. PMID: 37194236

Optimizing the Therapeutic

Molecular Therapy, 2023 May 16. PMID: 37194236.

What We Learned

- Serial killing, high proliferative capacity, and multi-functionality
- Absence of auto-activation, or premature exhaustion
- Preservation of naïve and memory phenotype
- Distinct transcriptome, cytokine, and chemokine repertoire
- Enhanced antigen acquisition, antigen processing, and presentation
- Highly manufacturable and scalable with optimal product attributes

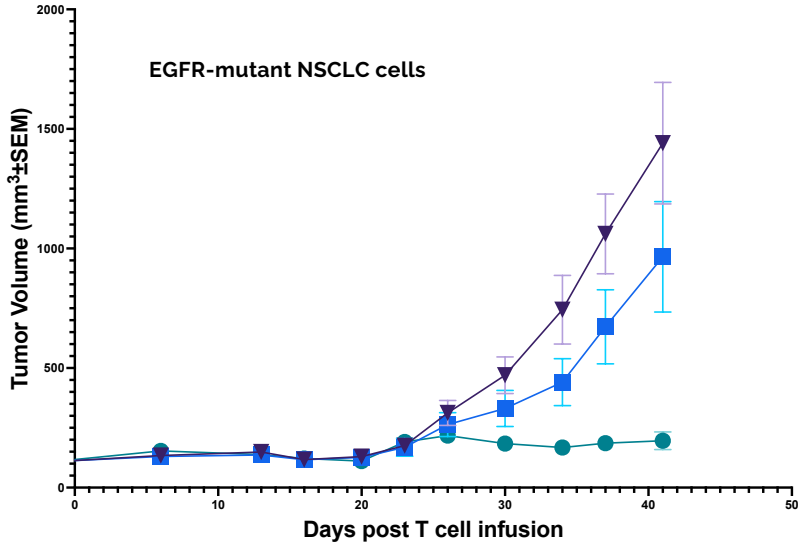
In Vivo Evidence of Anti-Tumor Killing

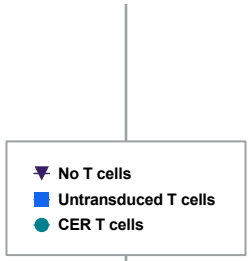
A Single Infusion of CER-T Cells

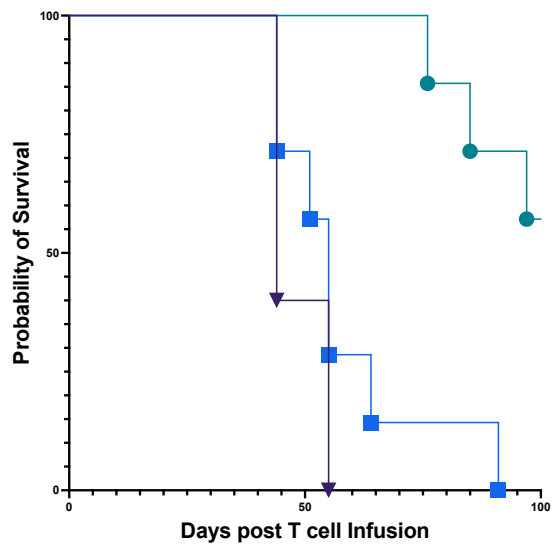
Specifically kills non-small cell lung cancer (NSCLC) cells

Tumor **not eliminated by untransduced** T cells

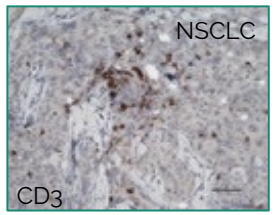
No off-tumor safety signals observed







Day-14 post infusion



CER-1236 infiltrating T cells

Robust anti-tumor in vivo responses across solid and hematologic models

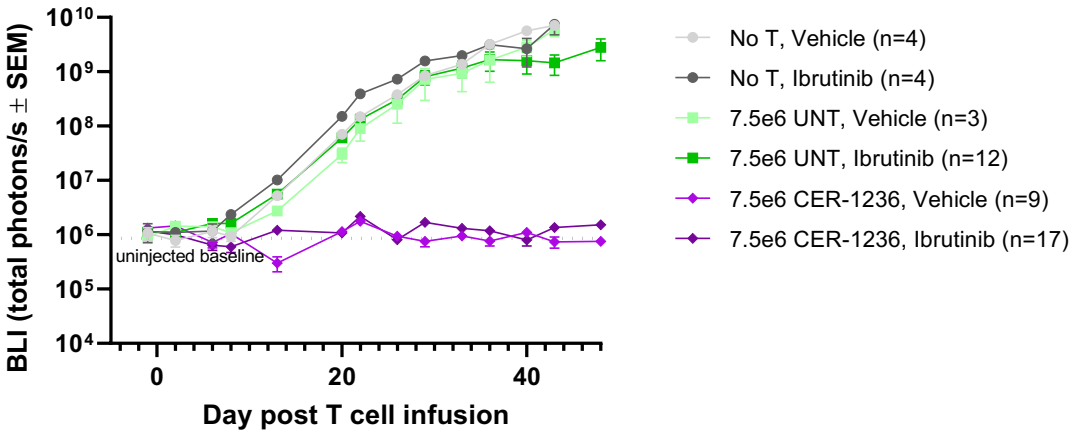
Single infusion of 2.5e^6 CER-1236 T cells
All animals (mice) received EGFR inhibitor therapy

CER-T Cells Eliminate Lymphoma Xenografts *In Vivo*

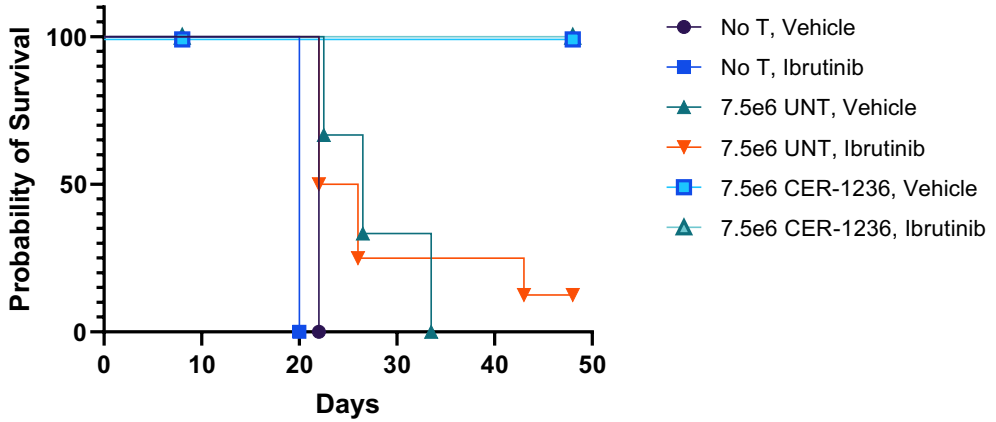
A Single Infusion of CER-1236 T Cells

Eliminated
TP53 mutant MCL tumors

Observed improvements in survival
without evidence for toxicity



Single infusion of 2.5e^6 CER-1236 T cells

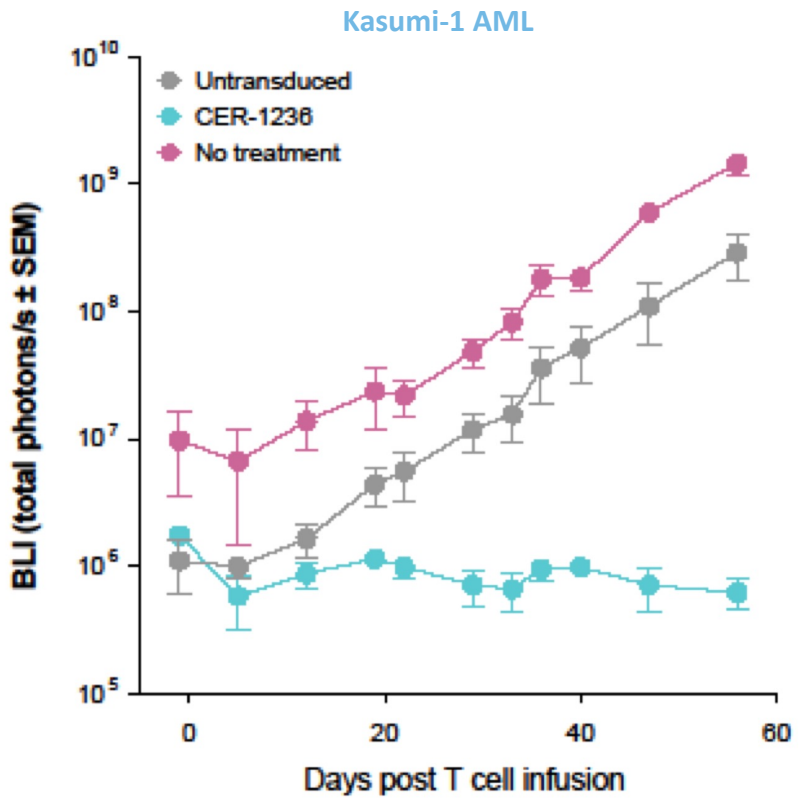


Ibrutinib at clinical doses has little effects on MCL growth; combination results

Molecular Therapy, 2023 May 16. PMID: 37194236.

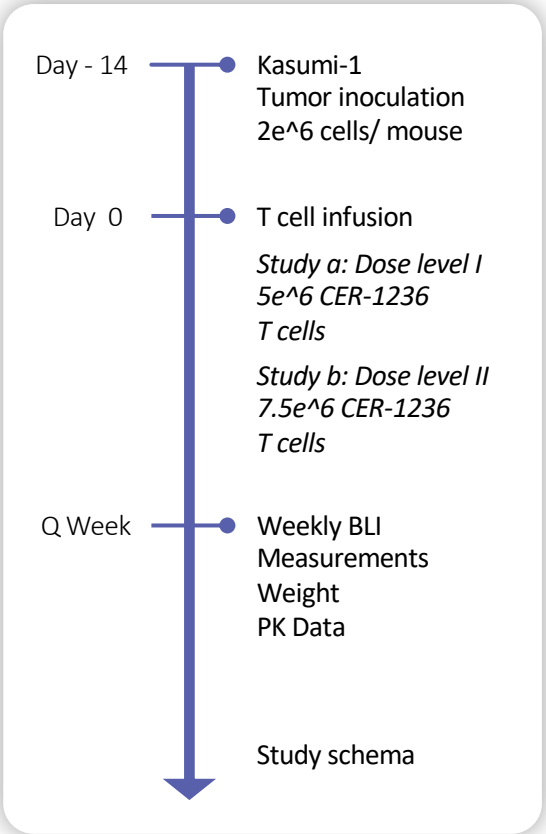
Elimination of p53 Mutant AML Cell Lines in NSG Animals

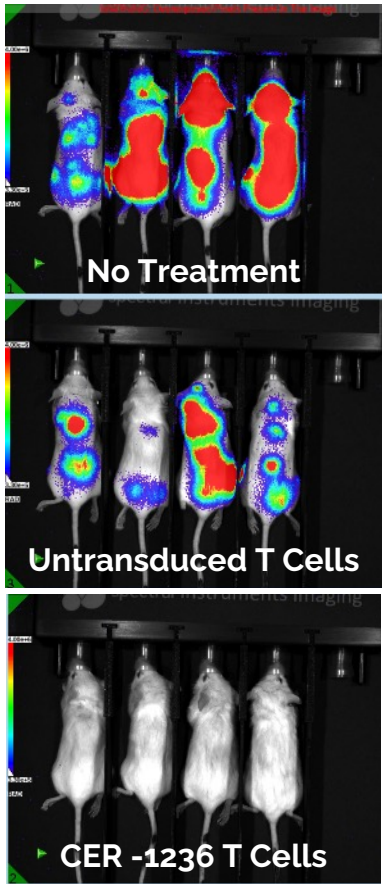
Dose Level II
7.5e^6 CER-1236 T Cells per Mouse



Therapeutic Targeting of TIM-4-L With Engineered T Cells for Acute Myeloid Leukemia. Clinical Cancer Research. March 2024

Dose Level I
5e^6 CER-1236 T cells per mouse
D + 50: 3-log reduction in tumor





CER-1236 T Cells Have Not Shown Toxicity in Animal Tumor Models

A Single Infusion of CER-1236 T Cells

NO Toxicity

- **NO** anemia, thrombocytopenia, neutropenia, or coagulation abnormalities
- **NO** weight loss, morbidity, unexpected mortality
- **NO** histological abnormalities across organs

Single infusion of 7.5e^6 CER-1236 T cells

Well Positioned for Potential Phase I Success

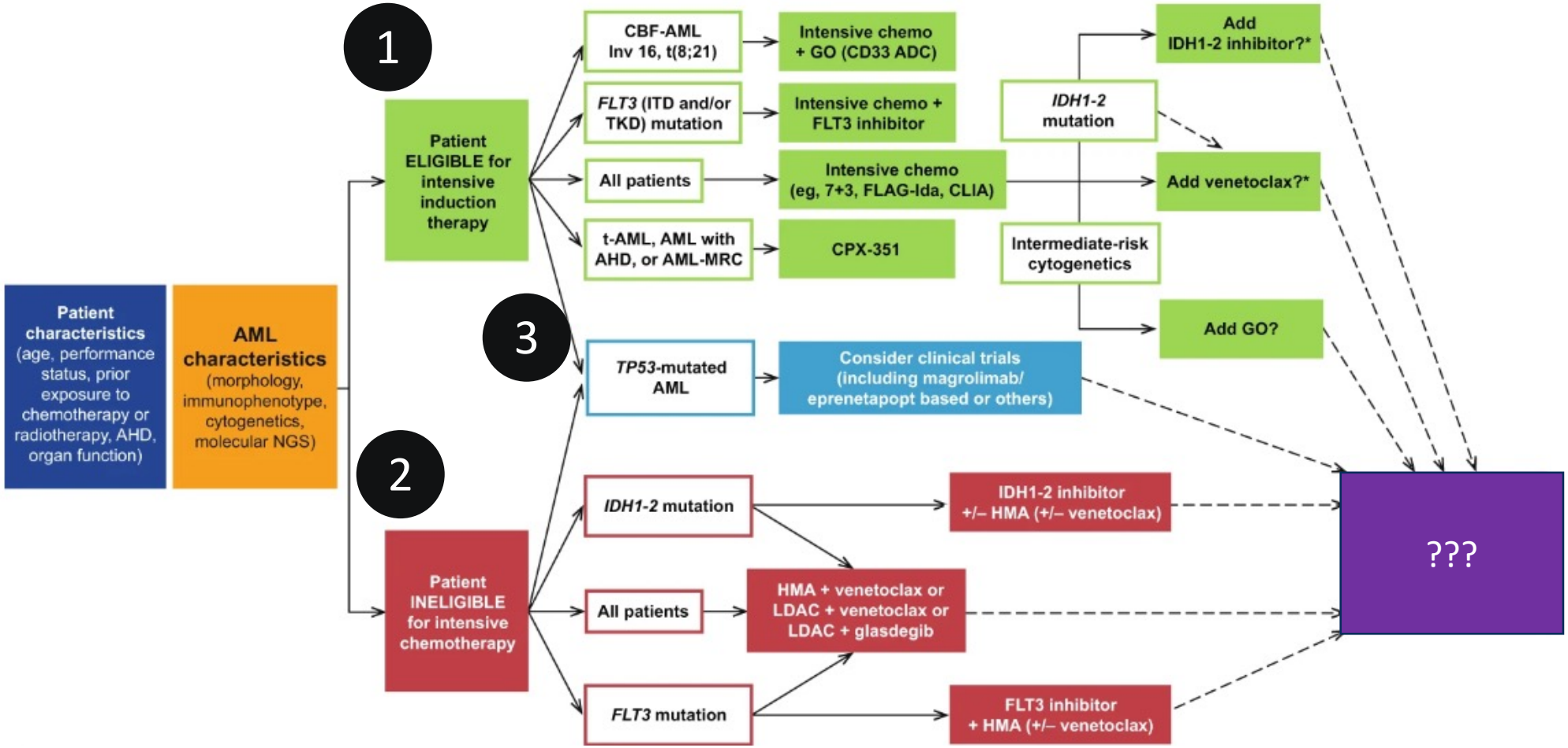
- Deep preclinical data set, novel mechanism of action, clinical history with CAR-T
- Adaptive Phase I design in AML: explore patient response in step-wise protocol, maximize opportunity to elicit clinical signal while evaluating safety
- Determine dose, conditioning therapy required to trigger CER T cell proliferation

IND Approach

- Safety first, efficient patient recruitment (e.g., completion within 12 months of IND)
- Initially, **AML patients, high-risk MDS/AML, and "all-comer" Salvage B cell Lymphoma**
- Dose expansion cohorts
  - **r/r AML, MRD+ AML , CR1 with adverse risk AML**
  - **Front line TP53 AML** with concurrent 5-azacitidine/decitabine
- Observed efficacy – CR, ORR, MRD, etc. – may lead to rapid clinical development and approval
- Goal of 25 patients
- Second IND 2025:Solid Tumor basket trial targeting Ovarian Cancer and NSCLC

Standard of Care AML Treatments Do Not Cure Most Patients

- Note the 3 broad groups of patients that flow into the CERo trial.



Source: National Comprehensive Cancer Network Clinical Practice Guidelines. (2024). Acute Myeloid Leukemia. Version 2.2024.

Significant Unmet Needs in AML

- **Relapsed/Refractory Subset**
  - Allogeneic Hematopoietic Cell Transplant (HCT) is only curative option…
  - … but HCT is not an option if patient cannot achieve a Complete Response in prior therapy
  - Early Trial Endpoint: Complete Response (CR)
- **P53 - Subset**
  - Patients all do poorly - even with HCT
  - Most patients receiving Hypomethylating Agents (HMA) +/- Venetoclax
  - Early Trial Endpoint : Complete Response (CR)
- **CR Minimal Residual Disease (MRD)+ Subset**
  - HCT and non-HCT patients have high relapse rates if they are MRD+
  - Early Trial Endpoint : MRD- (as measured by flow cytometry)

Patent Portfolio Overview

- 2 issued US patents (2023), cover broad concept and CER-1236 specifically
- 4 granted foreign applications, 5 allowed in first two families
- 8 total patent families, 29 allowances across 6 newest families
- Will continue to monitor and prosecute strategically
- Key application already allowed with protection out to 2038
- Cancer agnostic
- Favorable ISR/WO search reports, including full acknowledgment of both novelty and inventiveness of broader CER and CER1236 constructs

Unmatched Strategic Positioning

Phagocytosis

Killing Capability

Lysis

Macrophages / Monocytes

T cells / Lymphocytes

Starting Cell Source

Experienced, Successful Senior Team in Place

CERO THERAPEUTICS

Brian Atwood
Chief Executive Officer

- Co-founder, President and CEO of Cell Design Labs (acquired by Gilead in 2017)
- Chair, Phoenix Biotech Acquisition Corp
- Former Chair, Locust Walk Acquisition Corp (NASD: LWAC)
- Managing Director of Versant Ventures, co-founder in 1999
- Director and Chair Atreca, Inc.
- Served on the boards of Immune Design Corp. (acquired by Merck), Veracyte, Five Prime (acquired by Amgen), and Cadence Pharmaceuticals (acquired by Mallinckrodt)

Charles Carter
Chief Financial Officer

- Previous CFO of iCAD, Inc. (NASDAQ::ICAD), GI Dynamics, Inc. (ASX:GID), Aeris Therapeutics, Inc., Intelligent Medical Devices, Inc,, and head of finance for Adnexus, Inc.
- Executive-level finance consultant with Danforth Advisors with numerous public and private life science clients
- Previous CFO of the Guild for Human Services, Inc.
- Partner at Mercer Management Consulting

Robert Sikorski, MD
Consulting CMO

- Managing Director, Woodside Way Ventures focused on novel biologic drug development
- Previous CMO of eFFECTOR, Five Prime Therapeutics (acquired by Amgen)
- Former leadership roles at AstraZeneca, Medimmune, and Amgen
- Howard Hughes Fellow at the National Cancer Institute
- Former editor of the journals Science and the Journal of the American Medical Association

Chris Ehrlich
Vice Chairman

- CEO, Phoenix Biotech Acquisition Corp
- Former CEO, Locust Walk Acquisition Corp
- Former Senior Managing Director, Locust Walk
- Former General Partner, Interwest Partners
- Director at eFFECTOR Therapeutics
- Genentech, LEK Consulting

Daniel Corey, MD
Founder and
Chief Technology Officer

- Stanford-trained and board-certified hematologist
- Led the foundational discovery research of chimeric engulfment receptors
- Completed fellowships in cell biology, immunology, and hematology-oncology at Duke and Stanford University

Larry Corey
Founder & Head of SAB

- Co-founder of Juno Therapeutics
- Co-founder of Vir Biotechnology
- Co-founder of Immune Design
- Faculty member and past President of the Fred Hutchinson Cancer Research Center
- Member, National Academy of Medicine

Track Record of Success

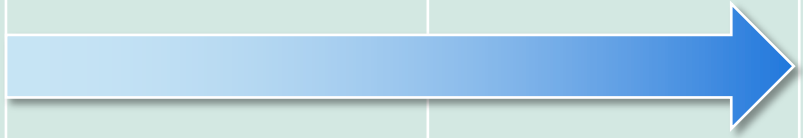
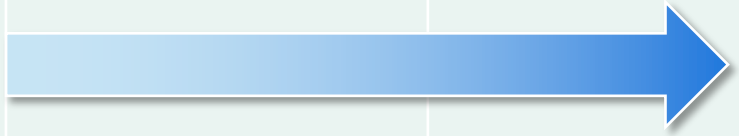
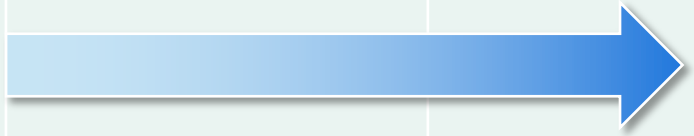
JUNO THERAPEUTICS · VERSANT ventures · VIR · celldesignlabs · LOCUST WALK · INTERWEST · Genentech · LEK

Capital Efficient Execution to Date

$40M
from top investors

ARCH VENTURE PARTNERS

CER-T Development Pipeline

Indications	Development	Pre-clinical	Phase 1	Phase 2	Pivotal Phase 2/BLA Enabling
AML					
B Cell Malignancies					
Solid tumors - Ovarian					
Solid tumors - NSCLC					

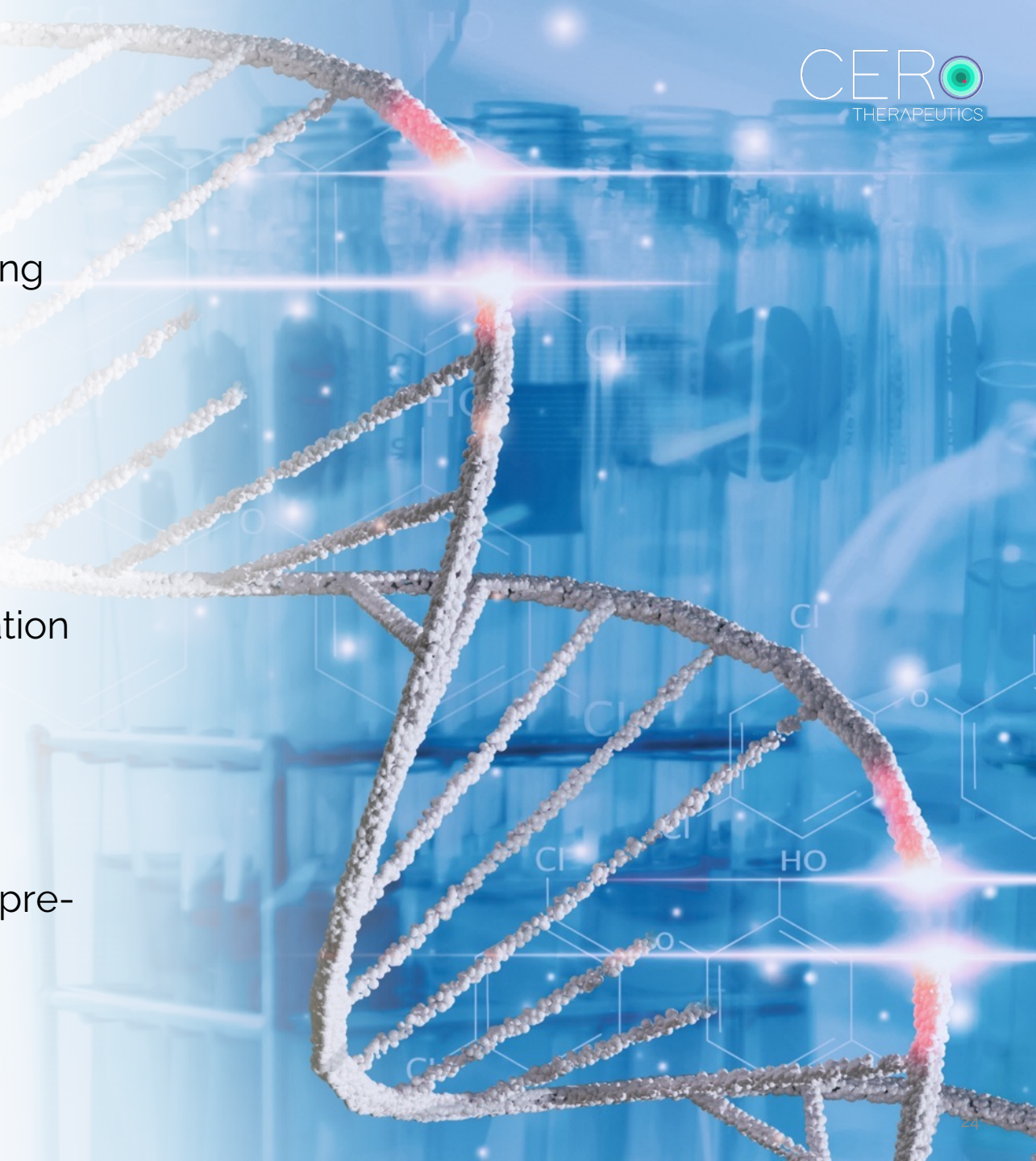
Milestones

H1 2024

- Completion of pre-IND work, including manufacturing and toxicology
- IND for AML
- Participation in investor conferences
- Initiation of analyst reports

H2 2024

- Initiate Phase 1 trial in AML followed by dose escalation phase
  - Amend AML IND for B cell malignancies
- Completion of pre-IND work and filing IND for solid tumors
- Anticipated peer-review publications for additional pre-clinical work
- Anticipated medical conference presentations
- Updates to U.S. and international patent estate



The Next Era in Cancer Cell Therapy (NASDAQ: CERO)

Designed and Engineered to Be a More Powerful Cancer Cell Killer

UNIQUE APPROACH

Powerful, multi-functional tumor clearing

NEAR TERM VALUE

IND planned in 2024, human data in 24 months

PROVEN SUCCESS

Experienced team, top investors, capital efficient

LARGE OPPORTUNITY

Target prevalent across many tumor types

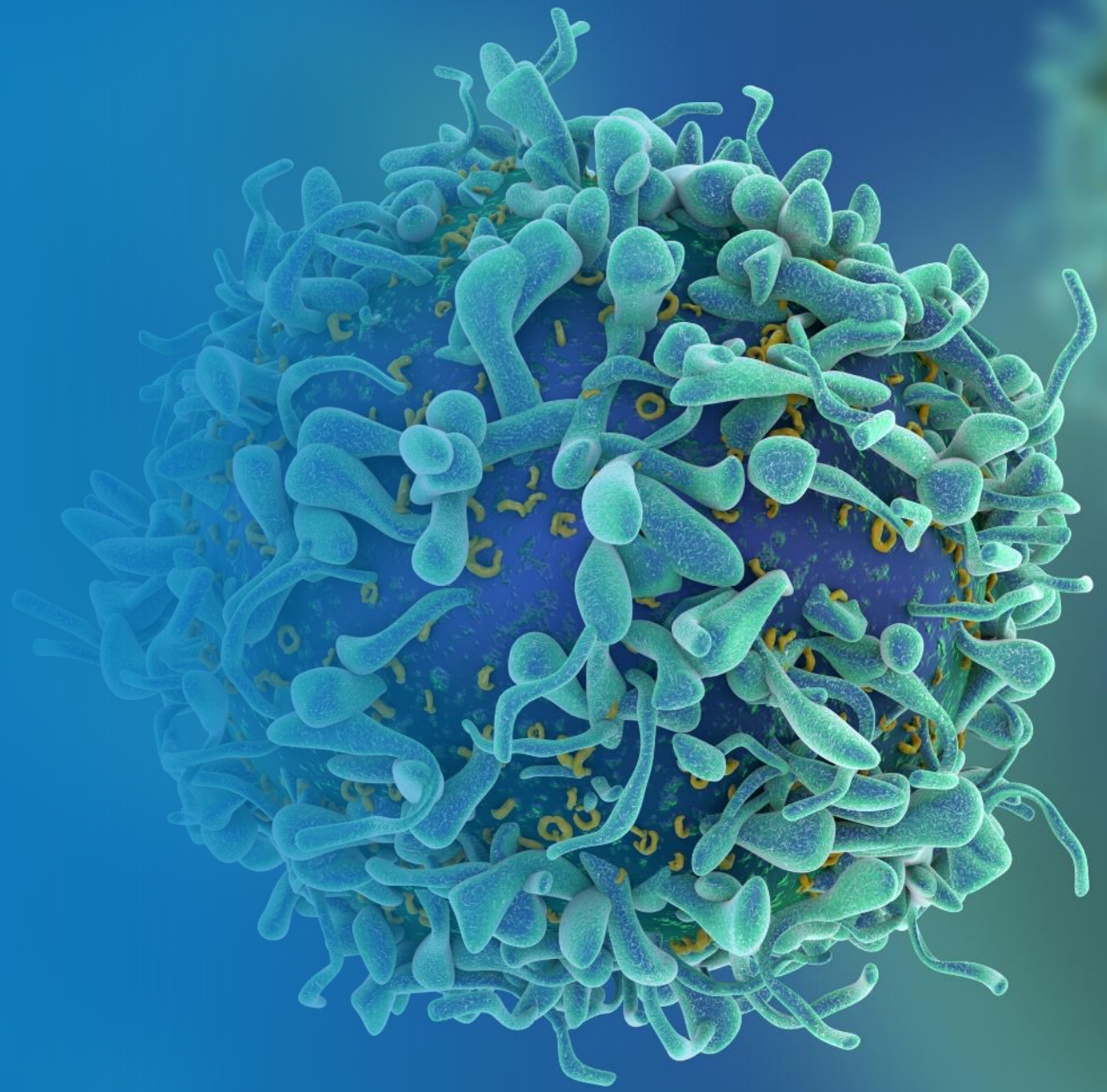
CERO THERAPEUTICS

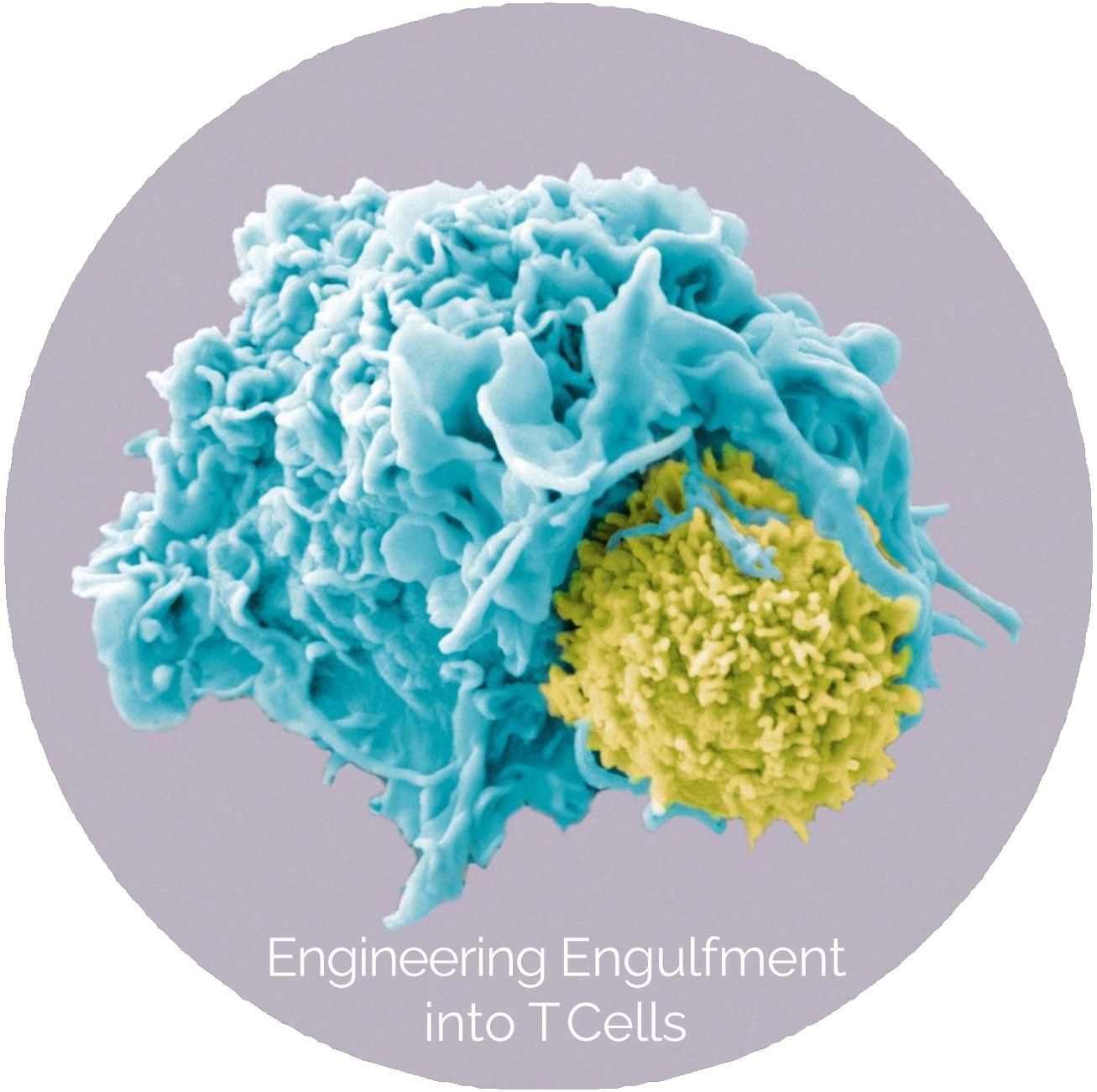
Contact Details

Investor & Media Relations:
CORE IR
Matt Blazei
mattb@coreir.com

Media Inquiries:
CORE IR
Jules Abraham
julesa@coreir.com

APPENDIX





A Simple Idea

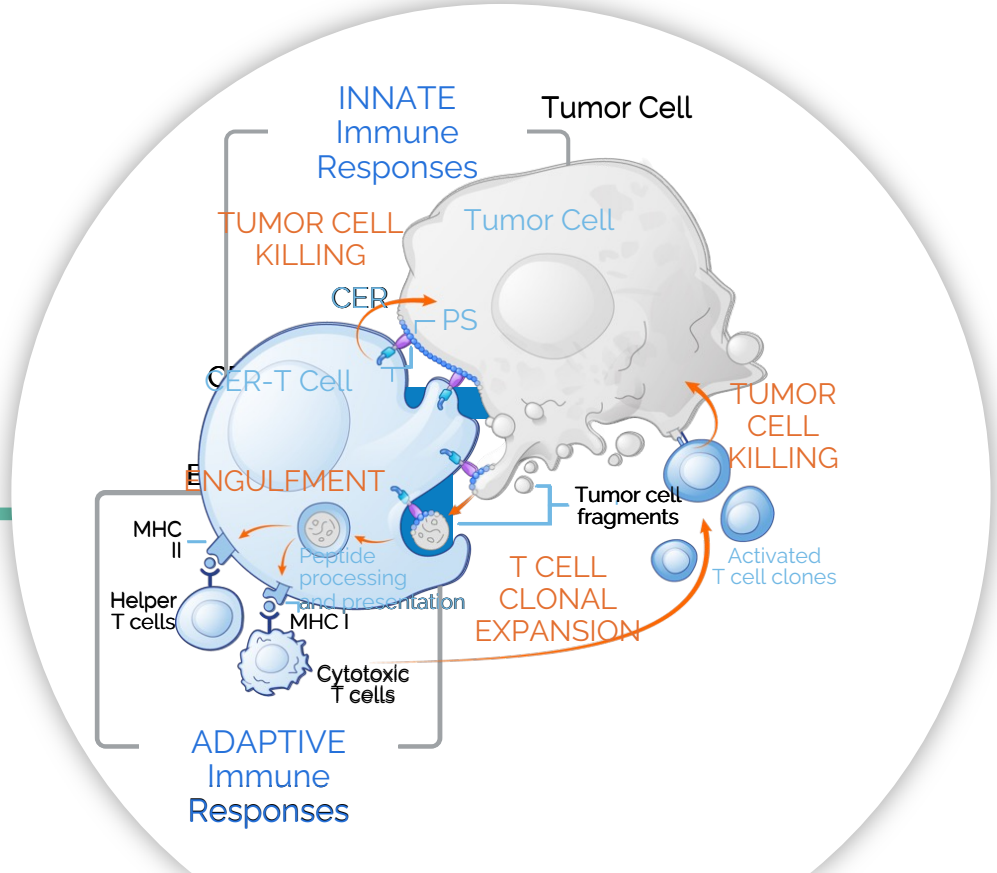
Became a Novel, Powerful Therapeutic

Overview of a Chimeric Engulfment Receptor

- CERo utilizes synthetic biology to integrate functional phagocytic process into T cells
- Lead clinical candidate, CER-1236, is a dual functioning Tcell that elicits anti-tumor function through target-dependent phagocytosis, enhanced antigen processing and presentation, and cytotoxicity
- Engineered to overcome bottlenecks in adoptive T cell therapy
  - Leads to enhanced potency and T cell fitness through the combination of phagocytic and cytotoxic elimination
  - Targets a novel antigen (TIM-4-L) dysregulated across tumors
  - Broadens host adaptative immune anti-tumor responses
  - Auto-induces target to augment and overcome target heterogeneity / downregulation

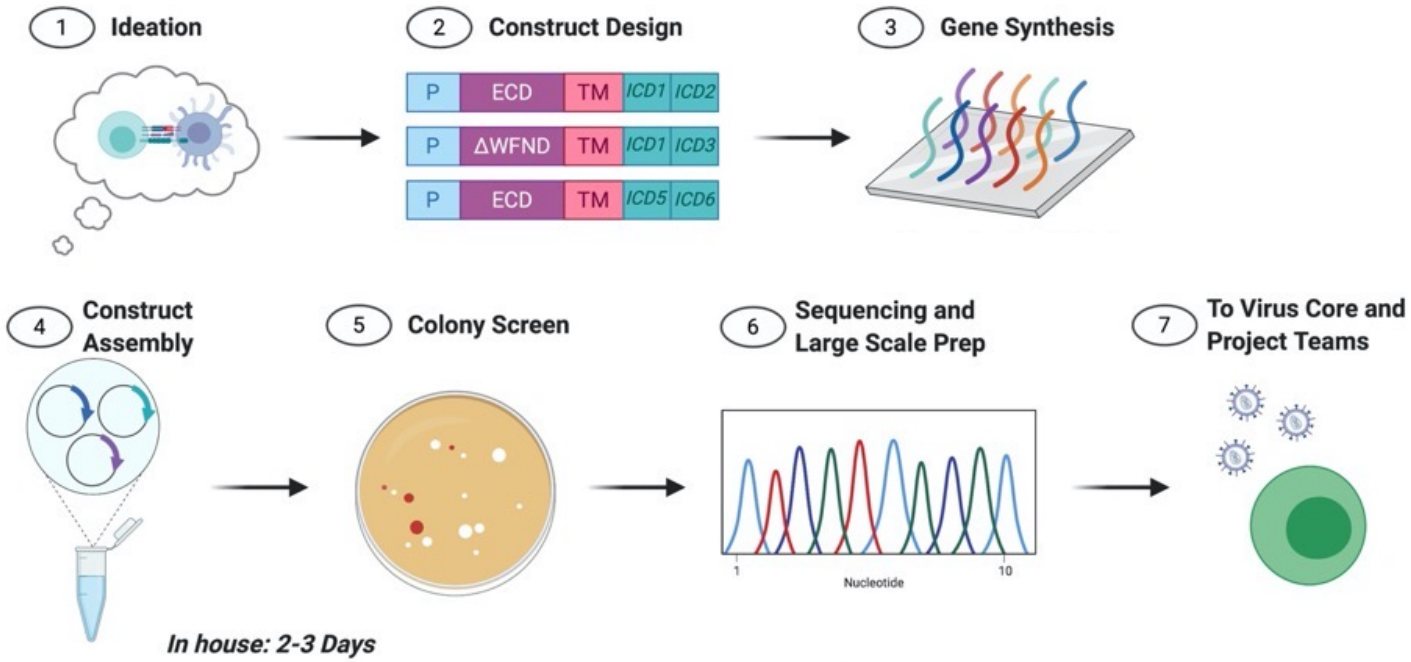
HOME and BIND	EAT	PRESENT	KILL
Chimeric engulfment receptor T cells (**CER-T)** binds TIM-4 ligand, the "eat me" signal on tumor cell	Binding to the TIM-4 ligand mediates the capture and uptake of tumor cell fragments, which are engulfed (eaten)	Tumor cell phagocytosis (eat me signal) leads to efficient immune response	Intracellular signaling domains activate T cells, leading to cytotoxic killing of the tumor

CER-T Cells Designed to Eliminate the Entire Tumor



CERO THERAPEUTICS

CERo Engineered > 10,000 plasmids to identify lead candidate CER-1236

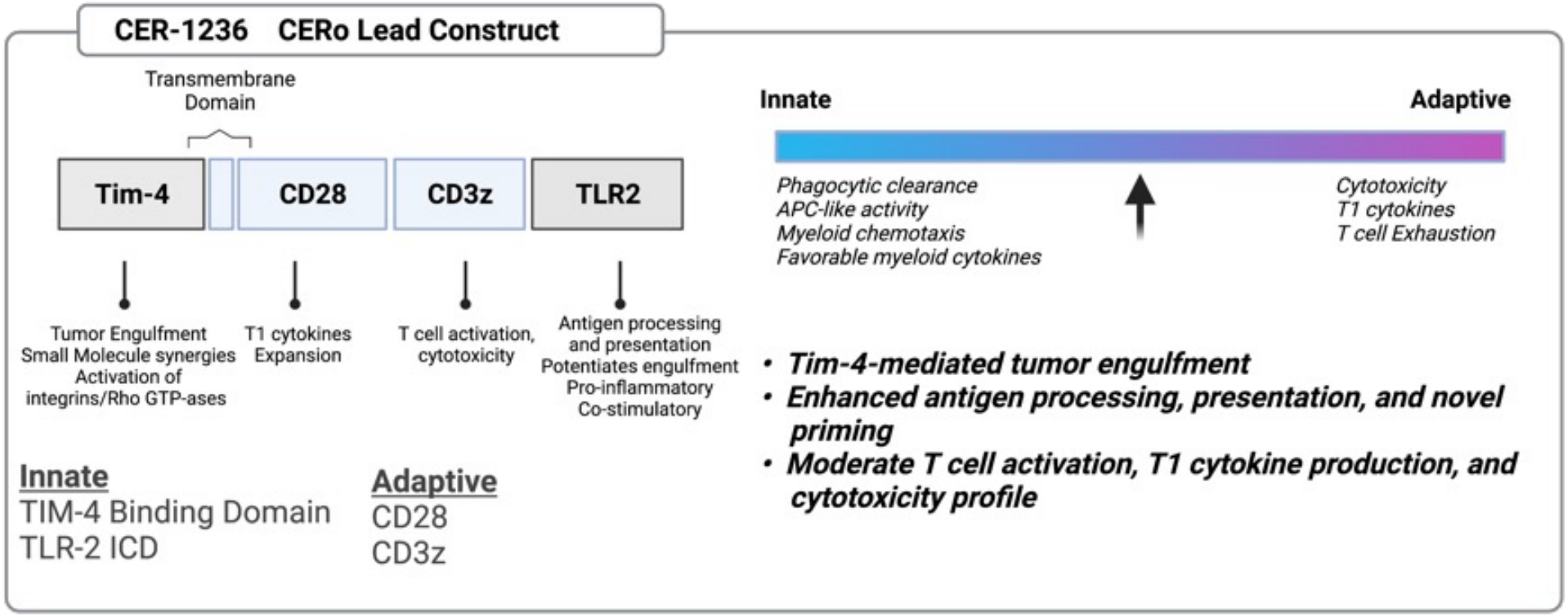


Engineering work-flow 2019-2022

Constructs screened for innate and adaptive functional enhancements

Source: CERo Benchling: Projects/Molecular biology/Inventory.

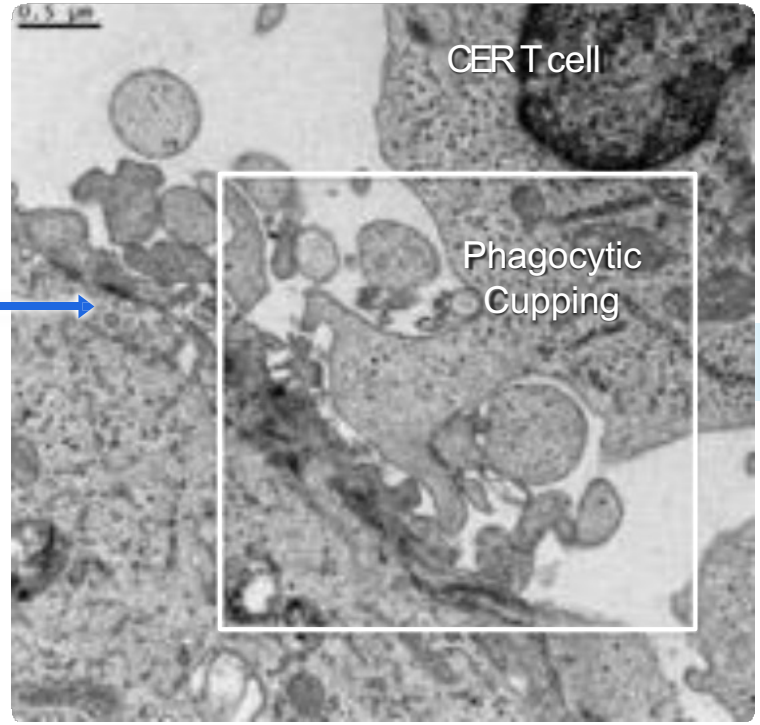
Tuning Innate – Adaptive function to define a lead clinical CER candidate



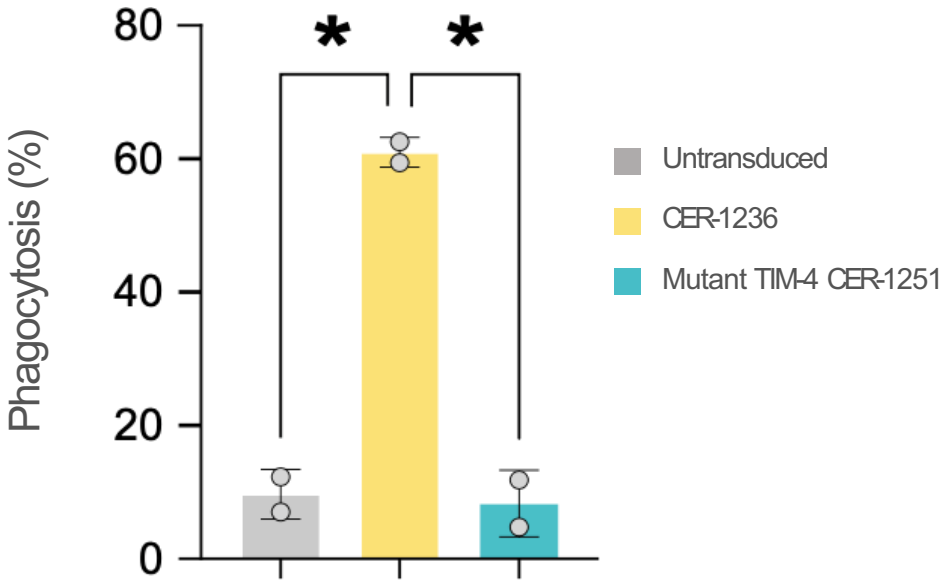
CER lead construct incorporates TLR-2 and CD3z signaling domains; TLR-2 enhances antigen processing and presentation, and potentiates tumor uptake; CD3z retains cytotoxicity

CER-1236 Empowered T Cells with Phagocytic Potency

NSCLC



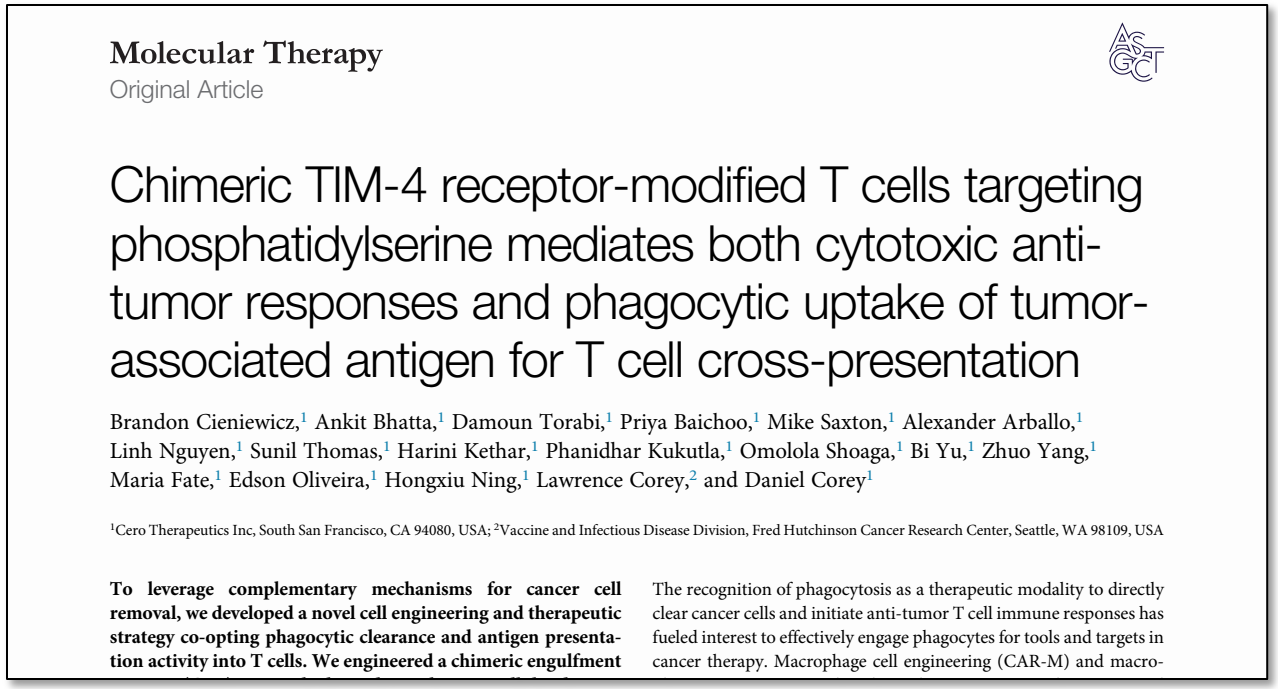
Transmission electron microscopy image of CD4+ T cells after co-culture with NSCLC cells



Tumor elimination via target-dependent phagocytosis

Molecular Therapy, 2023 May 16. PMID: 37194236.

Platform Manuscript – Molecular Therapy – an ASGCT Journal – Published May 2023



Molecular Therapy

Original Article

Chimeric TIM-4 receptor-modified T cells targeting phosphatidylserine mediates both cytotoxic anti-tumor responses and phagocytic uptake of tumor-associated antigen for T cell cross-presentation

Brandon Cieniewicz,[1] Ankit Bhatta,[1] Damoun Torabi,[1] Priya Baichoo,[1] Mike Saxton,[1] Alexander Arballo,[1] Linh Nguyen,[1] Sunil Thomas,[1] Harini Kethar,[1] Phanidhar Kukutla,[1] Omolola Shoaga,[1] Bi Yu,[1] Zhuo Yang,[1] Maria Fate,[1] Edson Oliveira,[1] Hongxiu Ning,[1] Lawrence Corey,[2] and Daniel Corey[1]

[1]Cero Therapeutics Inc, South San Francisco, CA 94080, USA; [2]Vaccine and Infectious Disease Division, Fred Hutchinson Cancer Research Center, Seattle, WA 98109, USA

To leverage complementary mechanisms for cancer cell removal, we developed a novel cell engineering and therapeutic strategy co-opting phagocytic clearance and antigen presentation activity into T cells. We engineered a chimeric engulfment

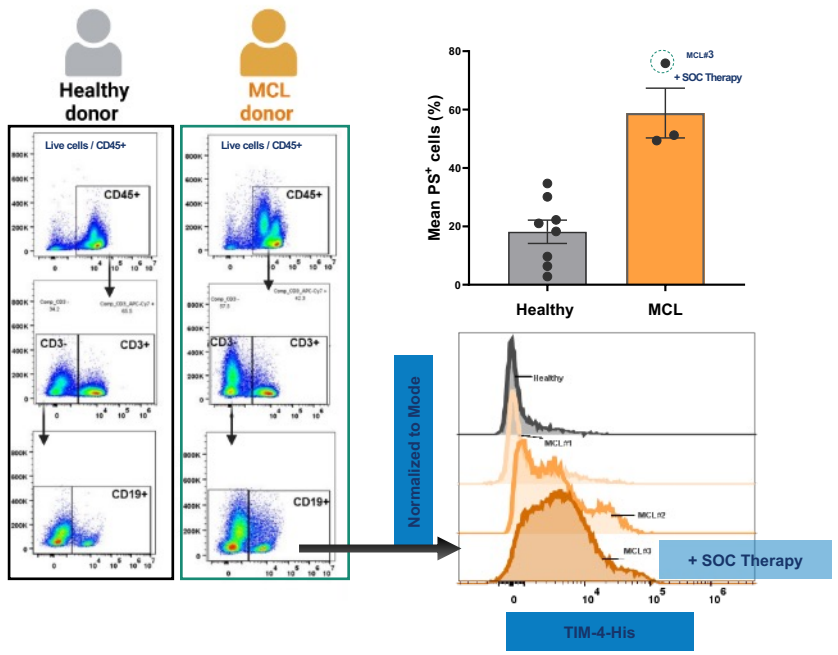
The recognition of phagocytosis as a therapeutic modality to directly clear cancer cells and initiate anti-tumor T cell immune responses has fueled interest to effectively engage phagocytes for tools and targets in cancer therapy. Macrophage cell engineering (CAR-M) and macro-

- 1st demonstration of pre-clinical data supporting anti tumor effects of phagocytic T cells
- In vitro/ in vivo elimination of hematologic malignancies – mantle cell/small lymphocytic leukemia
- In vitro / in vivo elimination of solid tumor malignancies – Non small cell lung cancer
- Primary tumor sampling from B cell malignancy patients
- In vitro antigen presentation assay demonstrating possibilities for neo-antigen spread in vivo

Source: Unpublished. Internal R&D.

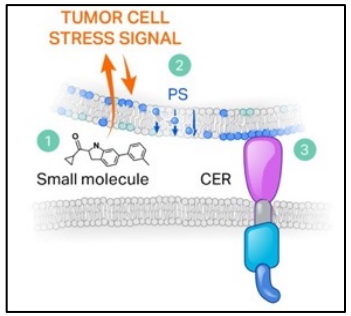
Mantle Cell Lymphoma (MCL) and Small Lymphocytic Leukemia cells Upregulate TIM-4 ligand, which can be Further Upregulated by BTK Inhibitor Therapy

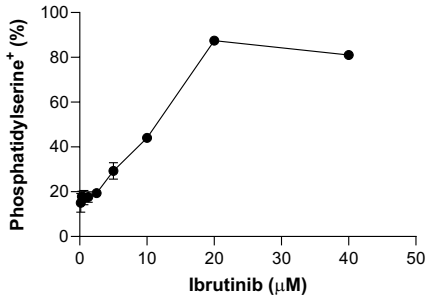
A.



High expression of TIM-4 ligand in MCL patients

B.

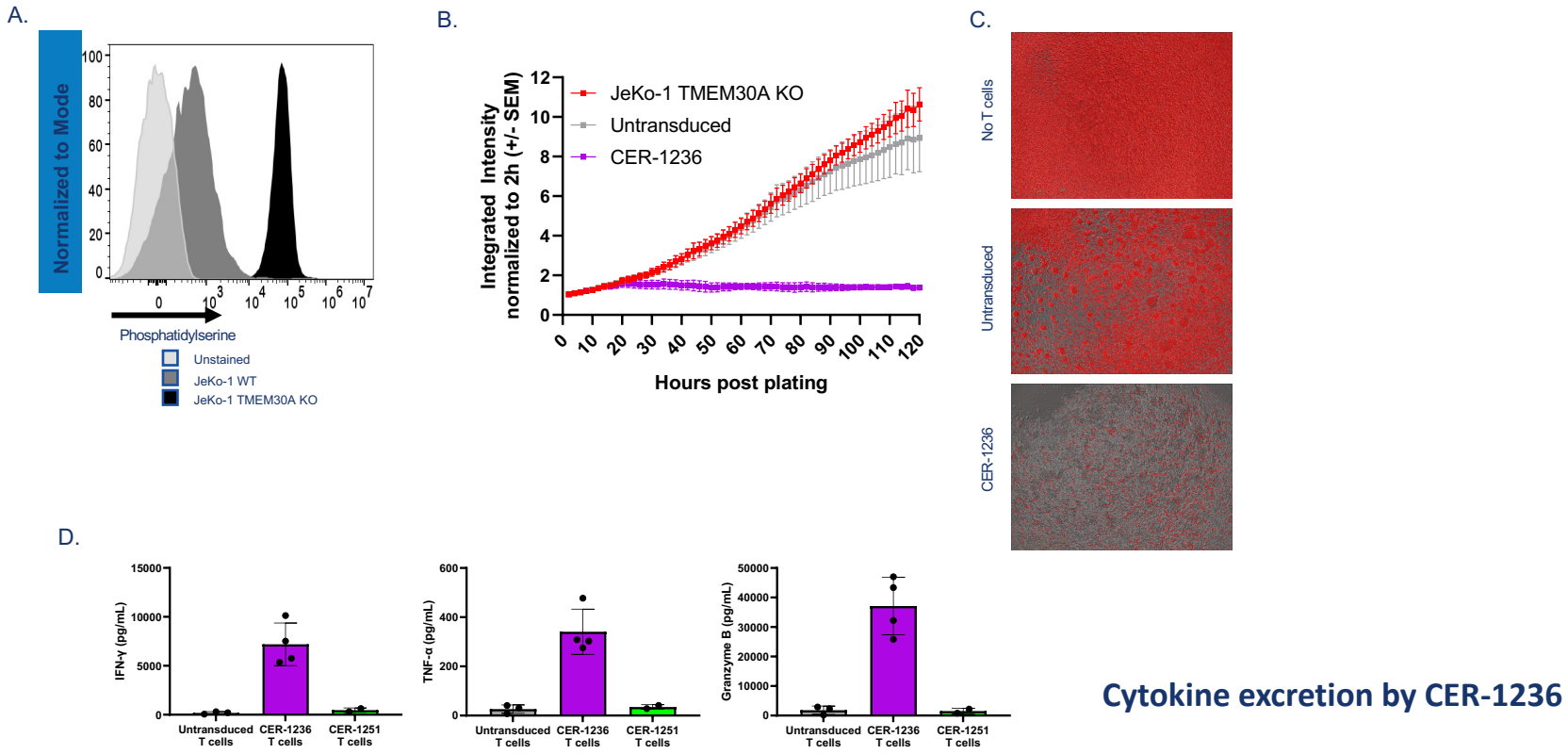




Enhancement of TIM-4-L by Ibrutinib

Molecular Therapy, 2023 May 16. PMID: 37194236.

MCL Cell Lines Dysregulate TIM-4-L and CER-1236 eliminates MCL cells in vitro



Cytokine excretion by CER-1236

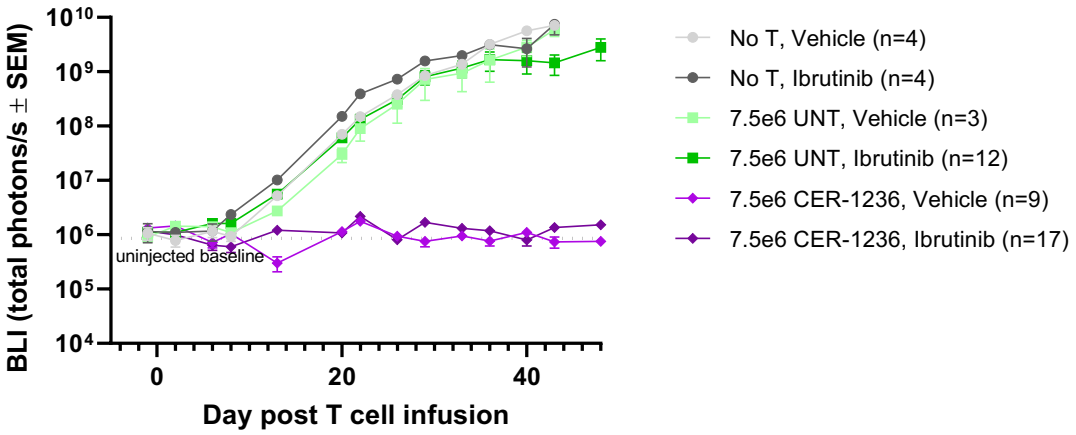
Molecular Therapy, 2023 May 16. PMID: 37194236.

CER-T Cells Eliminate Lymphoma Xenografts *In Vivo*

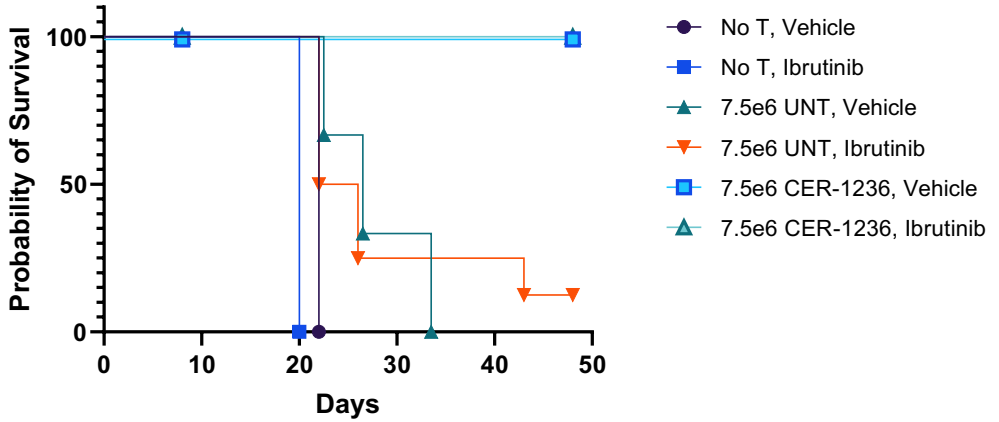
A Single Infusion of CER-1236 T Cells

Eliminated
TP53 mutant MCL tumors

Observed improvements in survival
without evidence for toxicity



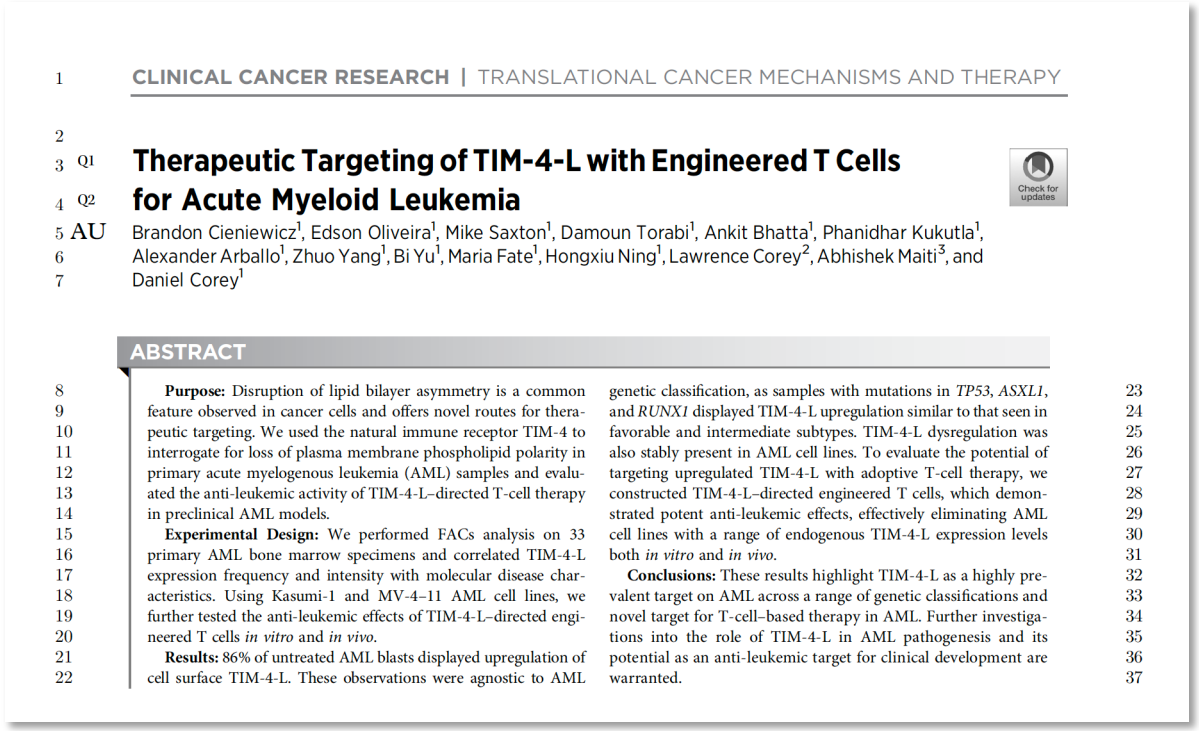
Single infusion of 2.5e^6 CER-1236 T cells



Ibrutinib at clinical doses has little effects on MCL growth; combination results

Molecular Therapy, 2023 May 16. PMID: 37194236.

AML Manuscript – Clinical Cancer Research – an AACR Journal – Published March 2024



CLINICAL CANCER RESEARCH | TRANSLATIONAL CANCER MECHANISMS AND THERAPY

Therapeutic Targeting of TIM-4-L with Engineered T Cells for Acute Myeloid Leukemia

Brandon Cieniewicz[1], Edson Oliveira[1], Mike Saxton[1], Damoun Torabi[1], Ankit Bhatta[1], Phanidhar Kukutla[1], Alexander Arballo[1], Zhuo Yang[1], Bi Yu[1], Maria Fate[1], Hongxiu Ning[1], Lawrence Corey[2], Abhishek Maiti[3], and Daniel Corey[1]

ABSTRACT

Purpose: Disruption of lipid bilayer asymmetry is a common feature observed in cancer cells and offers novel routes for therapeutic targeting. We used the natural immune receptor TIM-4 to interrogate for loss of plasma membrane phospholipid polarity in primary acute myelogenous leukemia (AML) samples and evaluated the anti-leukemic activity of TIM-4-L–directed T-cell therapy in preclinical AML models.

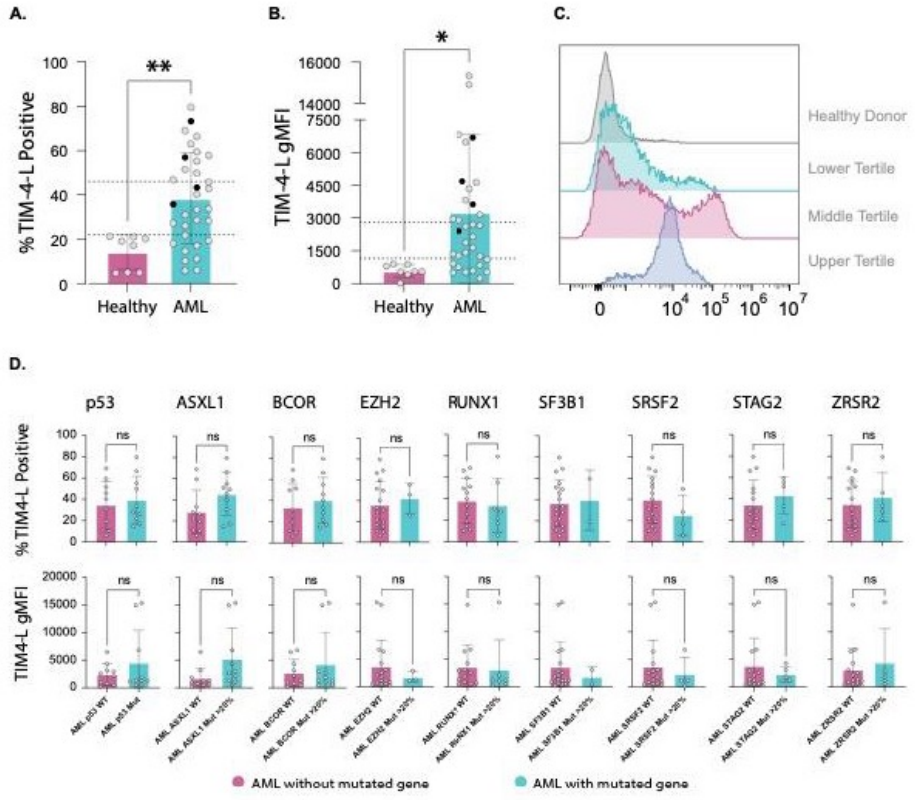
Experimental Design: We performed FACs analysis on 33 primary AML bone marrow specimens and correlated TIM-4-L expression frequency and intensity with molecular disease characteristics. Using Kasumi-1 and MV-4–11 AML cell lines, we further tested the anti-leukemic effects of TIM-4-L–directed engineered T cells *in vitro* and *in vivo*.

Results: 86% of untreated AML blasts displayed upregulation of cell surface TIM-4-L. These observations were agnostic to AML genetic classification, as samples with mutations in *TP53*, *ASXL1*, and *RUNX1* displayed TIM-4-L upregulation similar to that seen in favorable and intermediate subtypes. TIM-4-L dysregulation was also stably present in AML cell lines. To evaluate the potential of targeting upregulated TIM-4-L with adoptive T-cell therapy, we constructed TIM-4-L–directed engineered T cells, which demonstrated potent anti-leukemic effects, effectively eliminating AML cell lines with a range of endogenous TIM-4-L expression levels both *in vitro* and *in vivo*.

Conclusions: These results highlight TIM-4-L as a highly prevalent target on AML across a range of genetic classifications and novel target for T-cell–based therapy in AML. Further investigations into the role of TIM-4-L in AML pathogenesis and its potential as an anti-leukemic target for clinical development are warranted.

- 1st demonstration of TIM-4-L as a candidate target for myeloid malignancies
- Bone Marrow sampling from 33 patient samples including adverse risk AML
- In vitro / in vivo elimination of AML cell lines including FLT-3 and p53 mutated AML
- In vivo profiling of hematopoietic progenitors showing absence of target ligand on blood stem cells
- Collaborators from MD Anderson

Acute Myeloid Leukemias Upregulate the TIM-4-L: Analysis of 33 Bone Marrow Samples

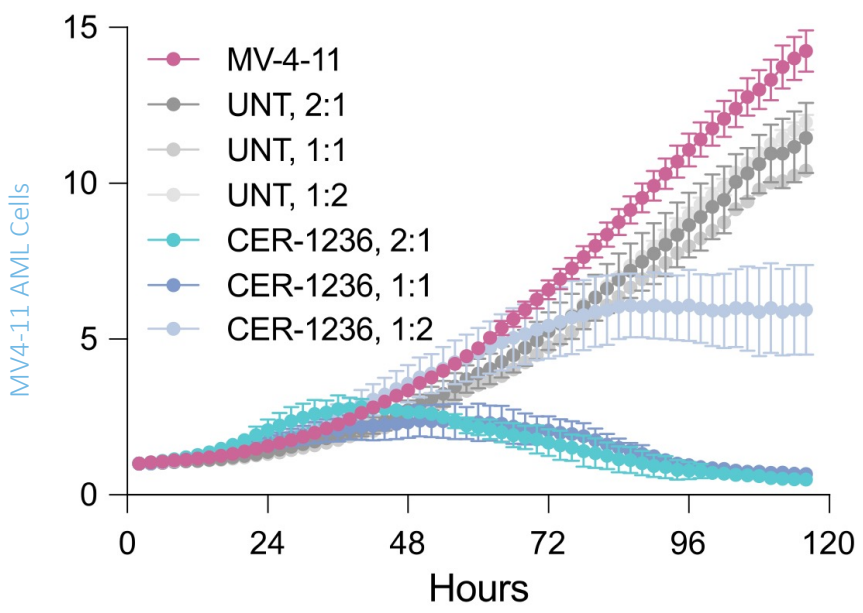


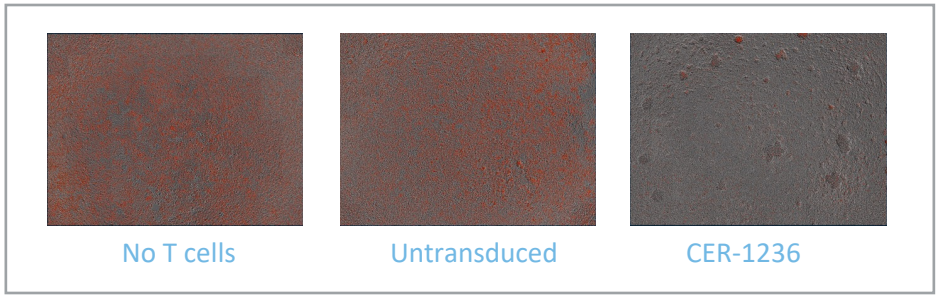
Bone marrow samples with mutations in *TP53*, *ASXL1*, and *RUNX1*, also display TIM- 4-L upregulation similar to that seen in favorable and intermediate subtypes.

Therapeutic Targeting of TIM-4-L With Engineered T Cells for Acute Myeloid Leukemia. Clinical Cancer Research. March 2024

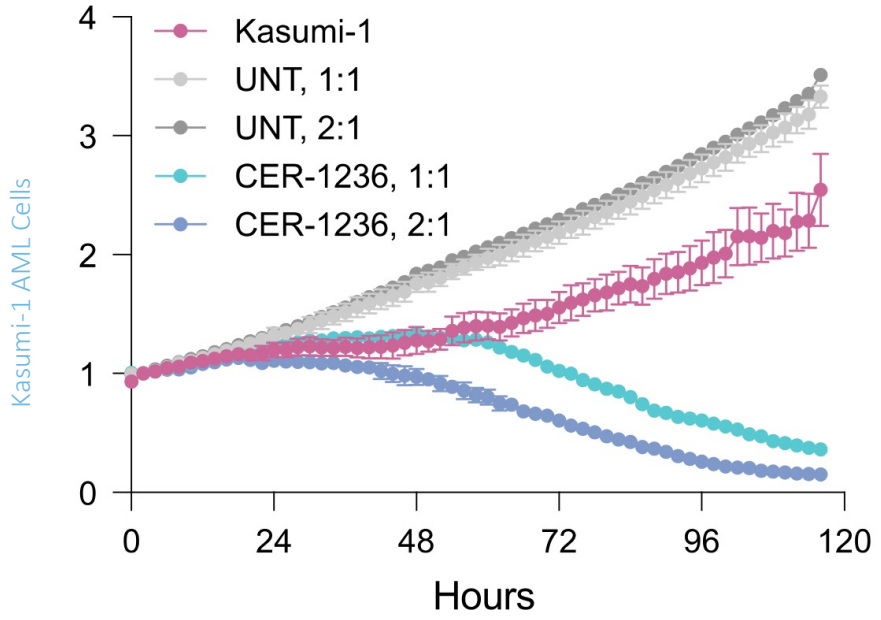
CER-1236 Induces Potent Cytotoxic Responses Against High Risk Acute Myeloid Leukemia Subtypes

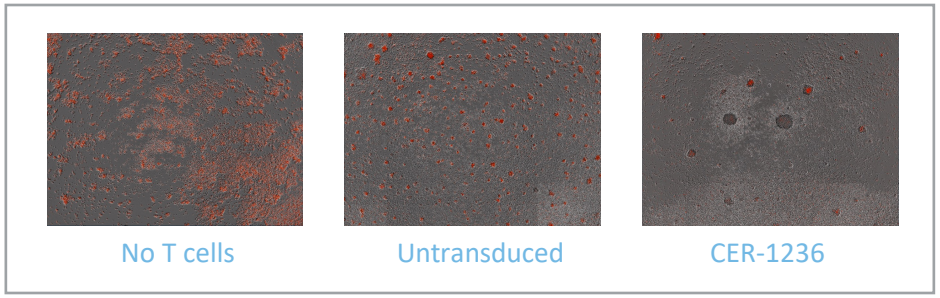
Mutated FLT-3-ITD AML





Mutated TP53 AML



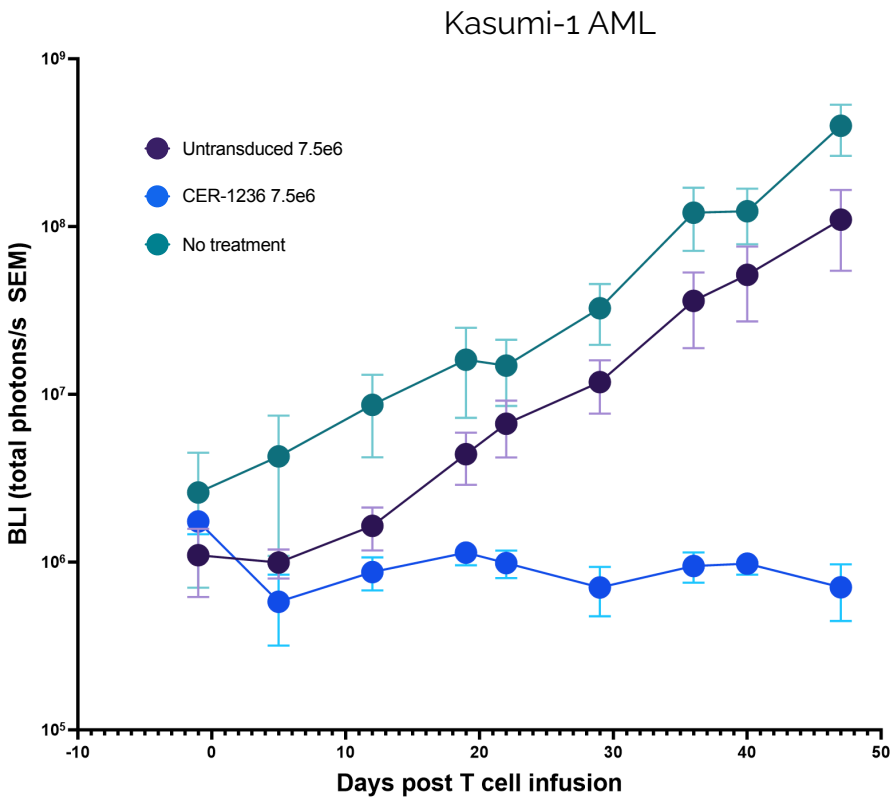


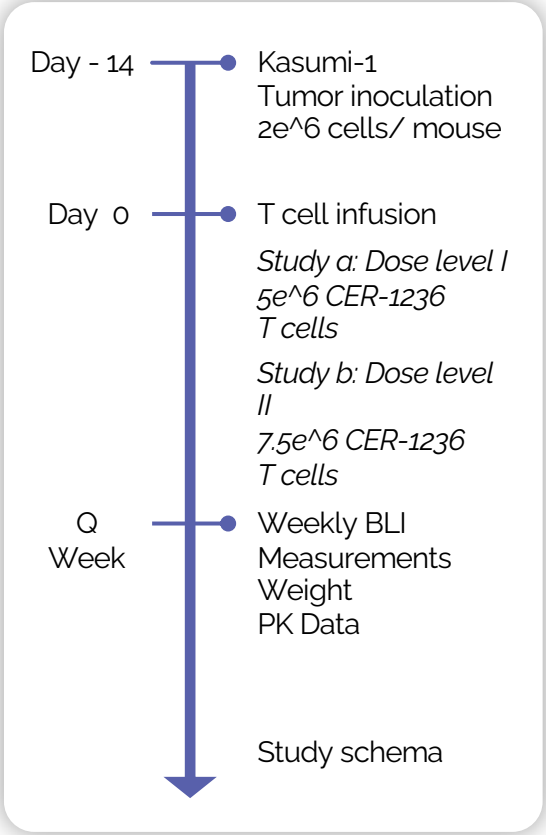
Therapeutic Targeting of TIM-4-L With Engineered T Cells for Acute Myeloid Leukemia. Clinical Cancer Research. March 2024

Elimination of p53 Mutant AML Cell Lines in NSG Animals

Dose Level II

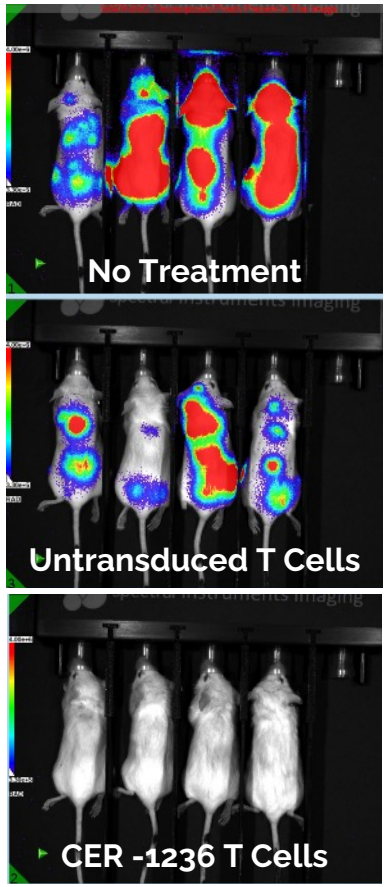
7.5e^6 CER-1236 T Cells per Mouse
Study in Progress





Dose Level I

5e^6 CER-1236 T cells per mouse
D + 50: 3-log reduction in tumor



Therapeutic Targeting of TIM-4-L With Engineered T Cells for Acute Myeloid Leukemia. Clinical Cancer Research. March 2024

Summary

- CER receptors intersect innate – adaptive function to elicit novel mechanisms of multi-modal tumor cell elimination
- CER-1236 is a highly optimized lead development candidate that incorporates CD28, CD3z, TLR signaling domains with a phagocytic TIM-4 receptor
- Peer reviewed manuscripts demonstrate in vitro and in vivo elimination of tumor cell lines across both hematologic and solid tumor settings
  - Acute myeloid leukemias
  - B cell malignancies
  - Non Small Cell Lung Cancers
- Unpublished datasets with multi-cistronic cassetes incorporating novel CAR designs and CERs to eliminate lymphoma and NSCLC cells and single CER targeting elimination of Ovarian Ca cell lines and combinations with small molecules

Designed with the Best Parts of the Immune System – *T-Cells and Macrophages*

T-Cells

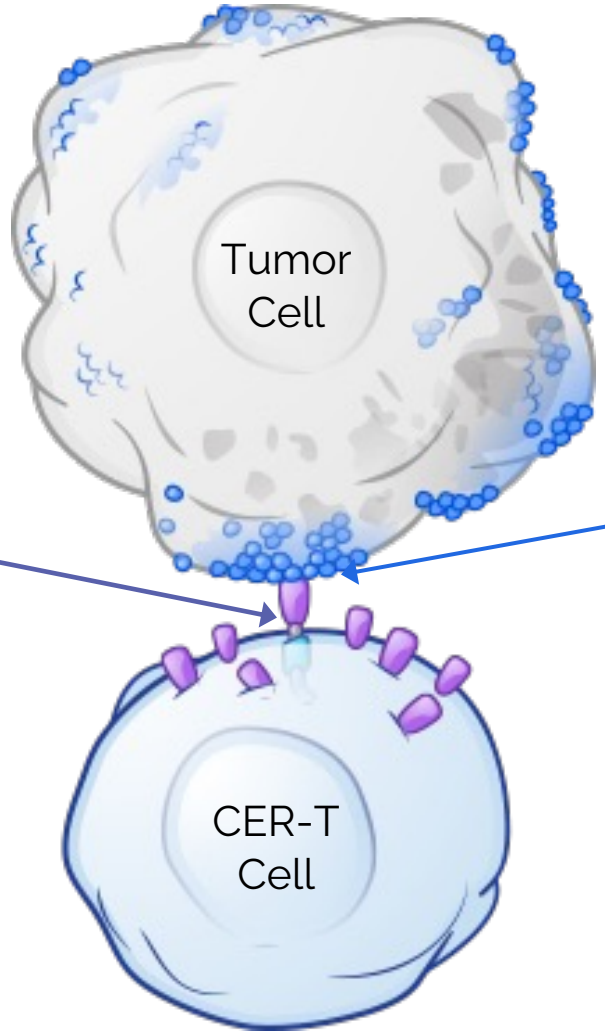
- **Home** to target cells
- Rapidly multiply at site of target cells (tumor)
- Punch holes in target cells
- **Signal** rest of immune system
- **Form molecular memory**, and **persist**

Macrophages

- Eat (Phagocytosis) targeted tumor cells
- **Process** the debris (Antigens), **package** and **present** to the immune system

T-Cells Engineered to have Macrophage function – CER-T Cells

Phagocytosis by theTIM-4 Receptor



T cell Immunoglobulin and Mucin (TIM-4) Phagocytic Receptor

- A natural phagocytic receptor
- Involved in clearing billions of unwanted cells each second in our body
- Acquires tumor associated antigens to activate anti-tumor responses

TIM-4 Ligand (phosphatidylserine)

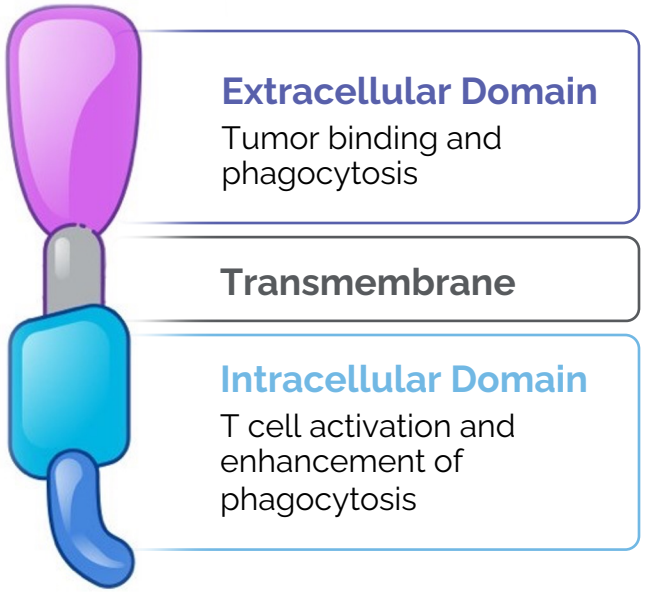
- Initiates a clearance process for stressed and dead/dying cells
- Tumor cells upregulate PS
- Stress inducible in tumors through targeted therapies

CERo has observed TIM-4-mediated phagocytosis in CER-T cells

What is a CER-T cell?

Chimeric **E**ngulfment **R**eceptor

Multifunctional Construct

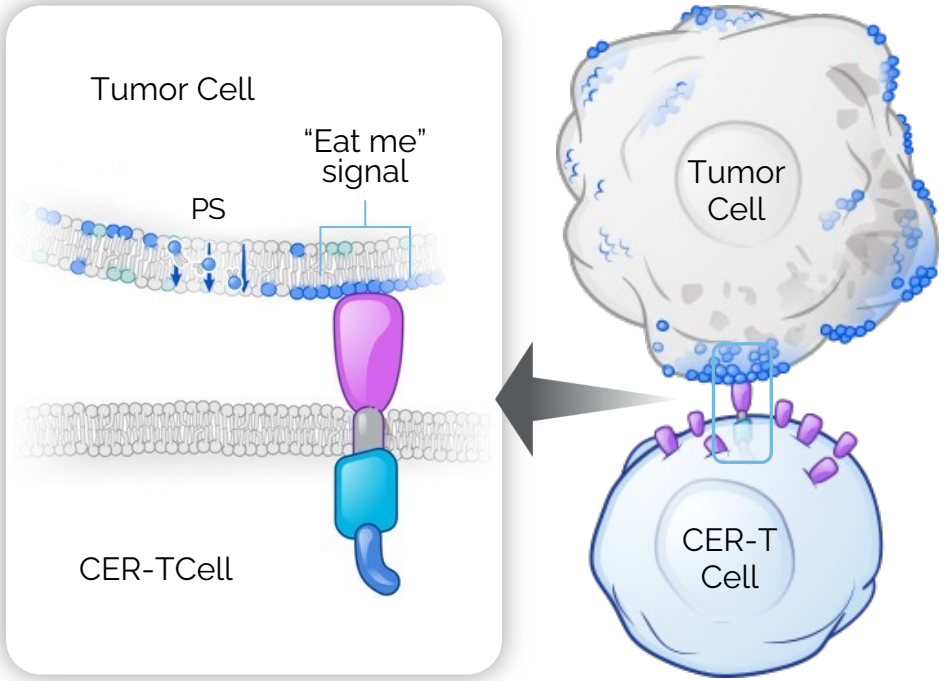


Extracellular Domain
Tumor binding and phagocytosis

Transmembrane

Intracellular Domain
T cell activation and enhancement of phagocytosis

Uses TIM-4 Phagocytic Receptor to Engage Tumor Targets via the Cell of Damaged Receptor Phosphatidylserine (PS)

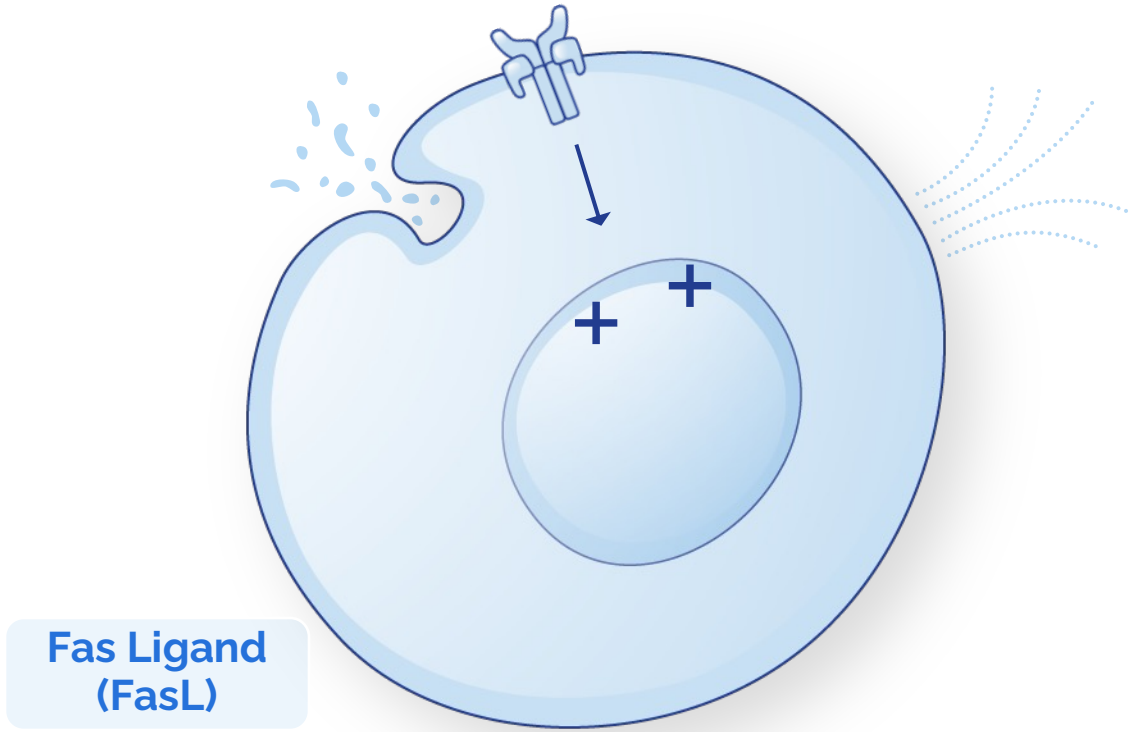


TIM-4 Ligand
Binding triggers the capture of tumor cell fragments by the CER-T cell and activates cytotoxicity

TIM-4 Phagocytic Receptor
Binds to PS

T Cells – The Right Weapons Platform

- **Homes** to target cells
- Rapidly **multiplies** at target cell site
- **Punches holes** in target cells
- **Signals** rest of immune system
- Forms molecular **memory**, and **persists**

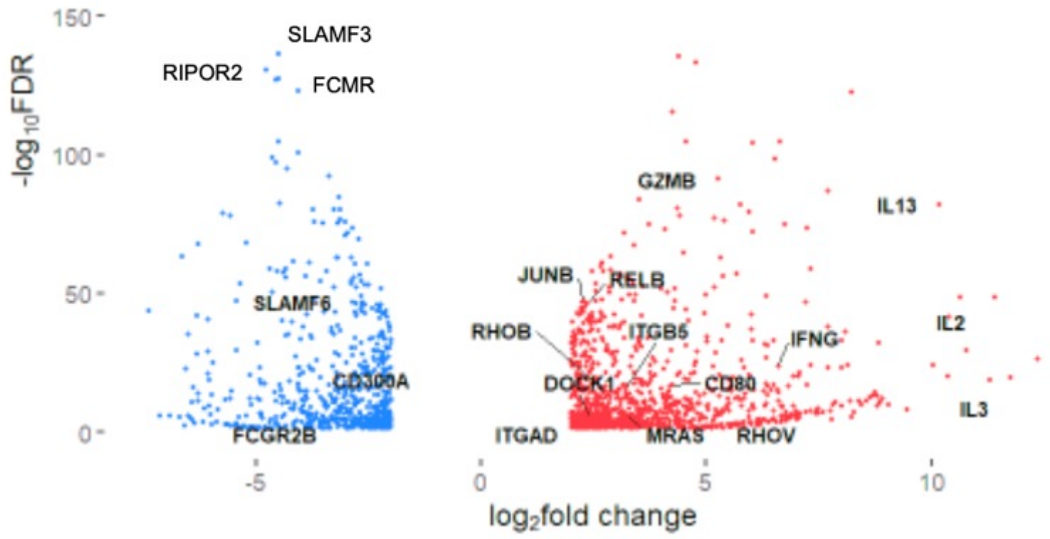


The Macrophage And the "Eat-Me Signal"

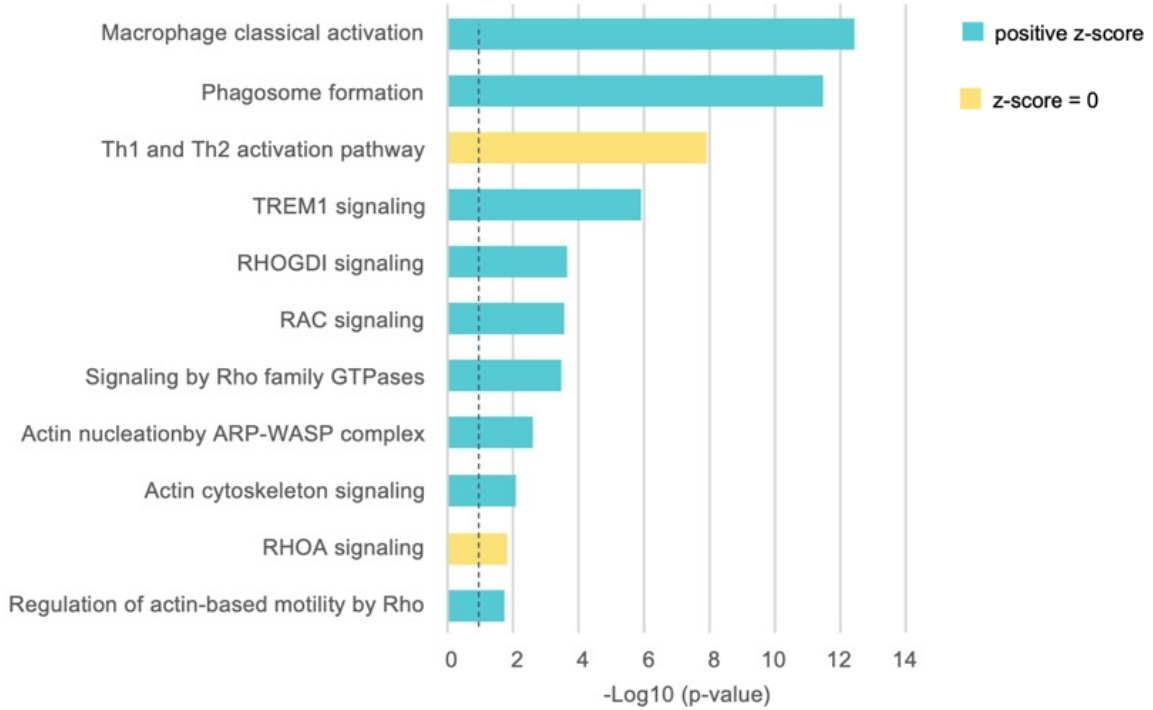
- **TIM-4** – via binding to its ligand (phosphatidylserine, or PS) - **triggers cell removal by Macrophages**
- **TIM-4 is a Macrophage cell surface receptor** - orchestrates the phagocytosis response on Macrophages when activated by abnormal, extracellular Phosphatidylserine
- PS resides in the **internal bilipid layer of normal healthy cells** – normal expression on cell surface of these cells is **absent or at low and transient levels**
  - **Cell surface phosphatidylserine** (PS) is **significantly upregulated** on cells marked for cell clearance - apoptotic cells, virally infected cells, under cell stress conditions, or **on tumor cells**
- **Macrophage targeting of the Eat-Me Signal is exquisitely specific**

Theranostics 2020; 10(20):9214-9229. doi:10.7150/thno.45125

Comprehensive RNA Analysis Showed CER-1236 Possesses Phagocytic and Cytotoxic Transcriptional Signatures



Differentially expressed genes among CER 1236 stimulated vs. mutTIM-4 ICD matched controls



RNA-seq IPA analysis

Combines cytotoxic and phagocytic function into single T cells

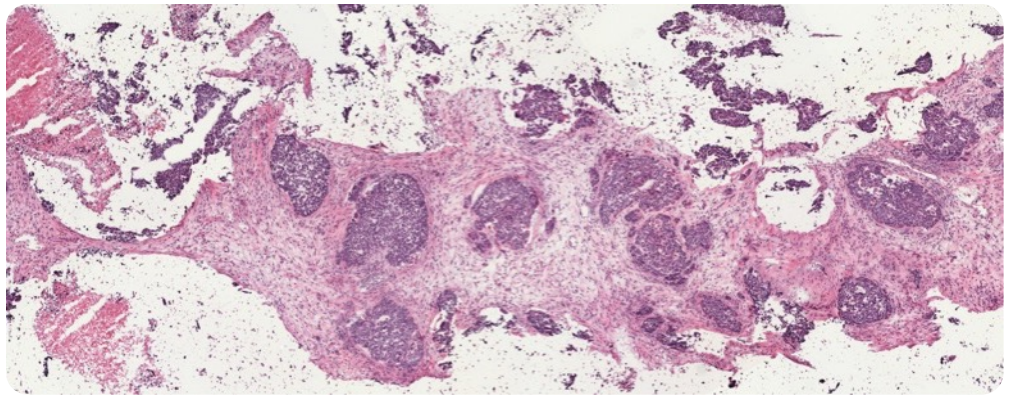
Molecular Therapy, 2023 May 16. PMID: 37194236.

Ovarian Cancers Upregulate the TIM-4 Ligand Signal – Phosphatidylserine

Age at Surgery	Histology	Stage	Grade	Type of Chemotherapy	Chemo Regimen	Tumor Site	Tumor % pos for TIM-4 Binding
52	High grade serous	3c	3	Neoadjuvant	Carboplatin + Taxol	Left ovary	90
54	High grade serous	4	3	Neoadjuvant	Carboplatin + Taxol	Right ovary	90
57	Clear cell	1a1	3	None	N/A	Left ovary	90
72	High grade serous	4	4	Neoadjuvant	Carboplatin + Taxol	Left ovary	90
66	High grade serous	3b	3	None	N/A	Right ovary	80
70	Clear cell	1c3	3	None	N/A	Left ovary	80
76	High grade serous	2	3	None	N/A	Right ovary	80
41	High grade serous	4	3	None	N/A	Left ovary	70
60	High grade serous	4	4	Neoadjuvant	Carboplatin + Paclitaxel	Left ovary	60
66	Clear cell	1c1	na	Breast	Letrozole	Left ovary	60
68	High grade serous	4b	3	None	N/A	Pelvic mass	60
70	High grade serous	3b	3	Neoadjuvant	Carboplatin + Paclitaxel	Right ovary	60
72	High grade serous	3c	3	None	N/A	Left ovary	60
77	High grade serous	3b	3	None	N/A	Omental nodule	60

High levels of TIM-4 ligand across Ovarian Cancer subtypes allows for solid tumor clinical translation

High Grade Serous Ovarian Carcinoma

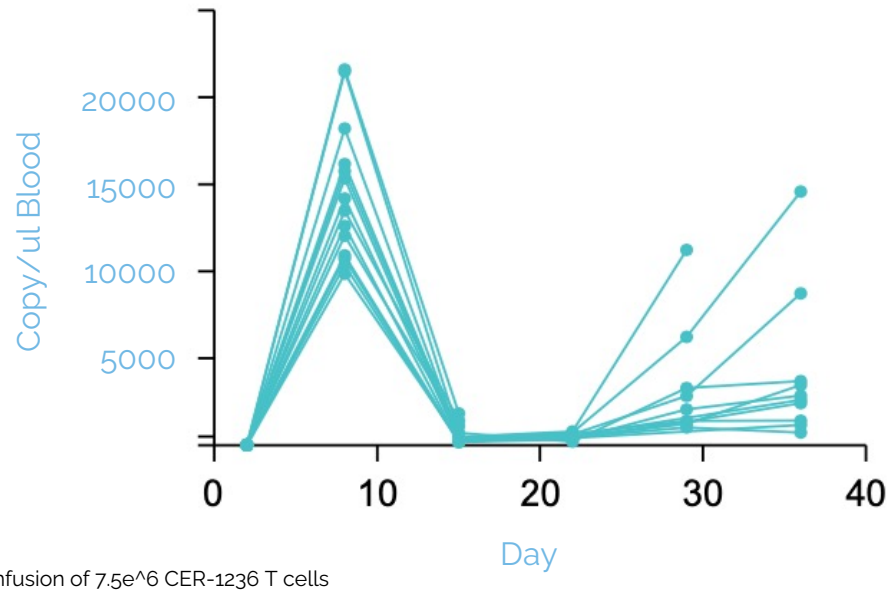


Ovarian Cancer Target survey evaluation in collaboration with University of Washington Gyn-Onc Division
Data unpublished

CER-1236 T Cells Rapidly Proliferated and Showed No Premature Exhaustion

A Single Infusion of CER-1236 T Cells

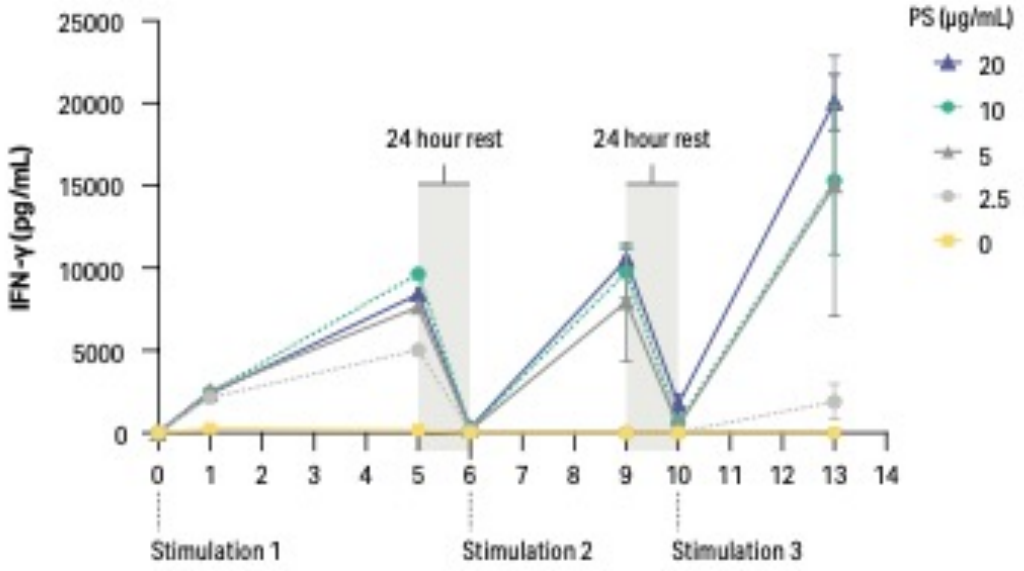
Rapid Cell Expansion



Single infusion of 7.5e^6 CER-1236 T cells

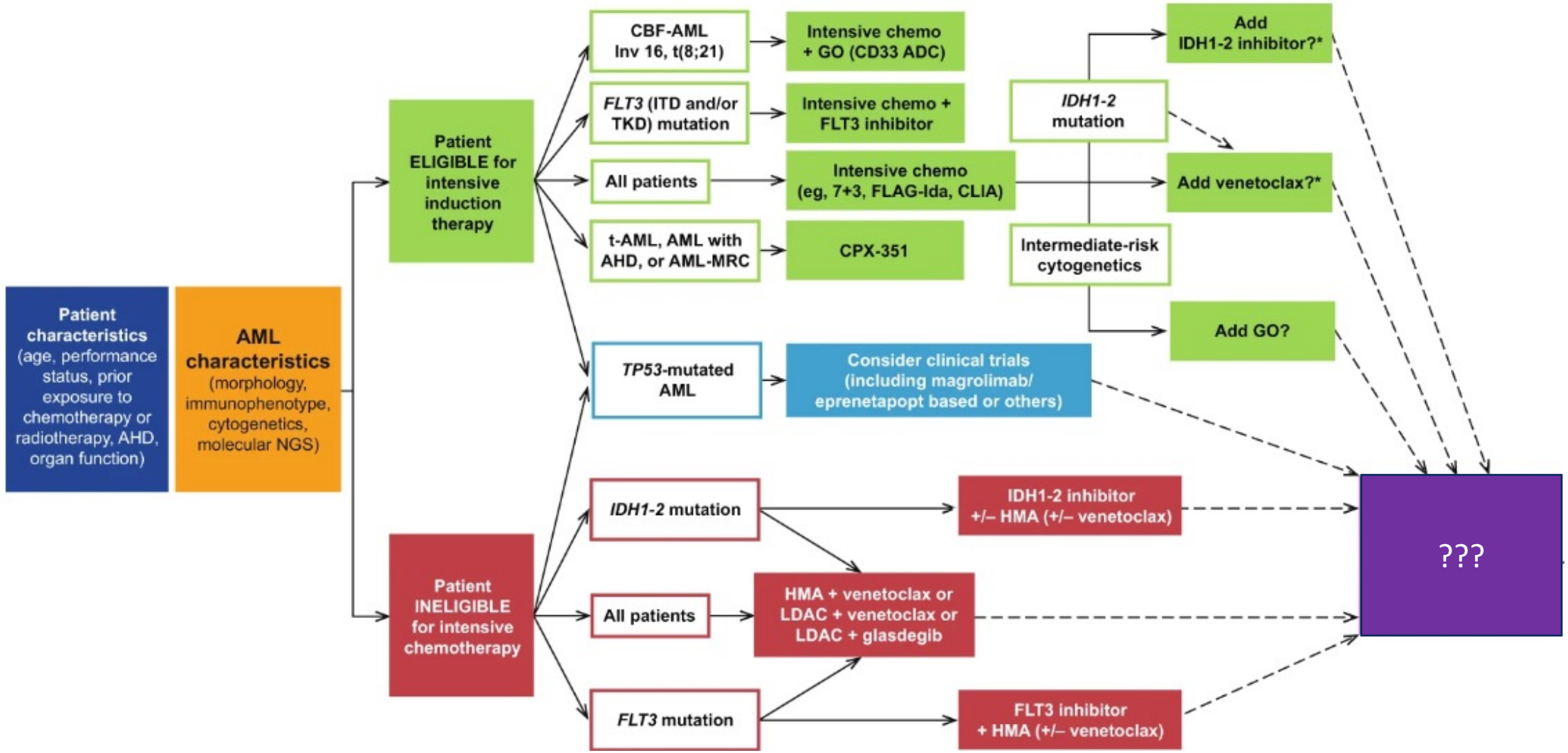
Repeat Antigen Stimulation Shows No Exhaustion

Repeat antigen stimulation shows no exhaustion



Bobbins, M., et al. CER-T cells Elicit Cytotoxic and Innate-Like Function and Synergize with Approved PARP Inhibitors in an Ovarian Cancer Model. May, 2022. Poster Presentation. American Society of Gene and Cell Therapy.

Standard of Care AML Treatments Do Not Cure Most Patients



Phased First in Human Study of CER-1236 in Patients with Advanced AML

First Phase (Escalation)

C cells/kg
3+3

B cells/kg
3+3

A cells/kg
3+3

ADULT WITH AML:

Relapsed/Refractory
- <4 prior lines of therapy
  or
- Any karyotype/ genotype

CR w MRD+ <= 0.1% by flow
- CR1 ELN adverse risk
- CR2+ any risk

WBC < 10K

Blasts <25%
(blood and bone marrow)

Second Phase (Expansion)

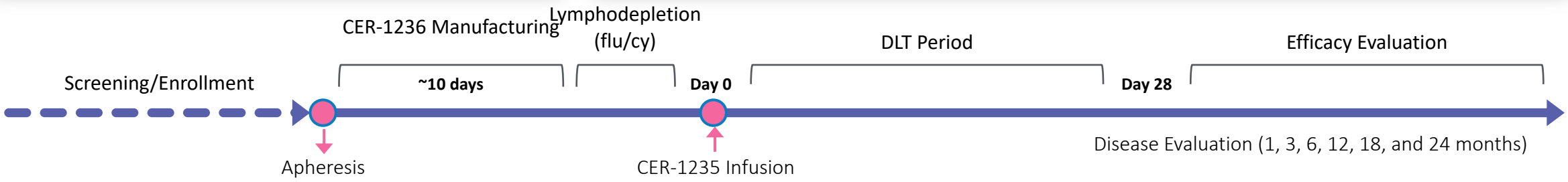
AML — n=5
- R/R
- < 4 prior therapies

AML + HMA — n=5
- p53-
- Treatment naive

Lymphoma — n=6
- R/R
- Diffuse large B-cell lymphoma, not otherwise specified, large B-cell lymphoma (LBCL) arising from follicular lymphoma, mantle cell lymphoma

KEY ENDPOINTS:
Primary:
CR
Secondary:
ORR, MRD-, DoR, OS

KEY ENDPOINTS:
Primary:
ORR
Secondary:
CR, DoR, OS



Plug and Play Manufacturing

- Serial killing, high proliferative capacity, and multi-functionality
- Absence of auto-activation, or premature exhaustion
- Preservation of naïve and memory phenotype
- Distinct transcriptome, cytokine, and chemokine repertoire
- Enhanced antigen acquisition, antigen processing, and presentation
- Highly manufacturable and scalable with optimal product attributes

Process is analogous to CAR-T Cell