MiNK Therapeutics

Corporate Overview

April 2023

minktherapeutics.com

Disclaimer and Forward-Looking Statements

This presentation contains forward-looking statements that are based on management's beliefs and assumptions and on information currently available to management. All statements other than statements of historical facts contained in this presentation are forward-looking statements. Forward-looking statements include, but are not limited to, statements concerning: the therapeutic and curative potential of agenT-797 and iNKT cells, the mechanism of action, potency and safety of agenT-797 and iNKT cells, interim or top-line data, future development plans and timelines (including pre-clinical, clinical, regulatory, manufacturing and commercial),estimated treatment costs, our ability to continue to successfully manufacture iNKT cells (including capacity and scalability), and any other statements containing the words "may," "believes," "expects," "anticipates," "hopes," "intends," "plans," "forecasts," "estimates," "will" and similar expressions are intended to identify forward-looking statements. These forward-looking statements are subject to risks and uncertainties, including the factors described under the Risk Factors section of the most recent Form 10-K, Form 10-Q and the S-1 Registration Statement filed with the SEC. Actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements. There are several important factors that could cause MiNK's actual results to differ materially from those indicated by such forward-looking statements, including a deterioration in MiNK's business or prospects; adverse developments in clinical development, including unexpected safety issues observed during a clinical trial; adverse developments in the U.S. or global capital markets, credit markets or economies generally; and changes in regulatory, social, and political conditions. For instance, actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors, including the uncertainties inherent in the initiation, enrollment and maintenance of patients, and completion of clinical trials, availability and timing of data from ongoing clinical trials, expectations for the timing and steps required in the regulatory review process, including our ability to obtain regulatory clearance to commence clinical trials, expectations for regulatory approvals, the impact of competitive products, our ability to enter into agreements with strategic partners. When evaluating MiNK's business and prospects, careful consideration should be given to these risks and uncertainties. These statements speak only as of the date of this presentation, and MiNK undertakes no obligation to update or revise these statements.

MiNK Highlights

MiNK is a **clinical-stage allogeneic cell therapy company** advancing a deep pipeline of therapeutics candidates designed to modulate invariant Natural Killer T cells (NKTs) and other immune cells for the treatment of cancer and other immune-mediated diseases

Allogeneic iNKT Product

Clinical data demonstrate benefit and tolerability in solid cancers

iNKT cells uniquely **bridge innate and adaptive** immune mechanisms to deliver a **rapid and potent** immune response

Engineering Platforms

Proprietary technologies to fine-tune modulation of iNKTs and other immune cells

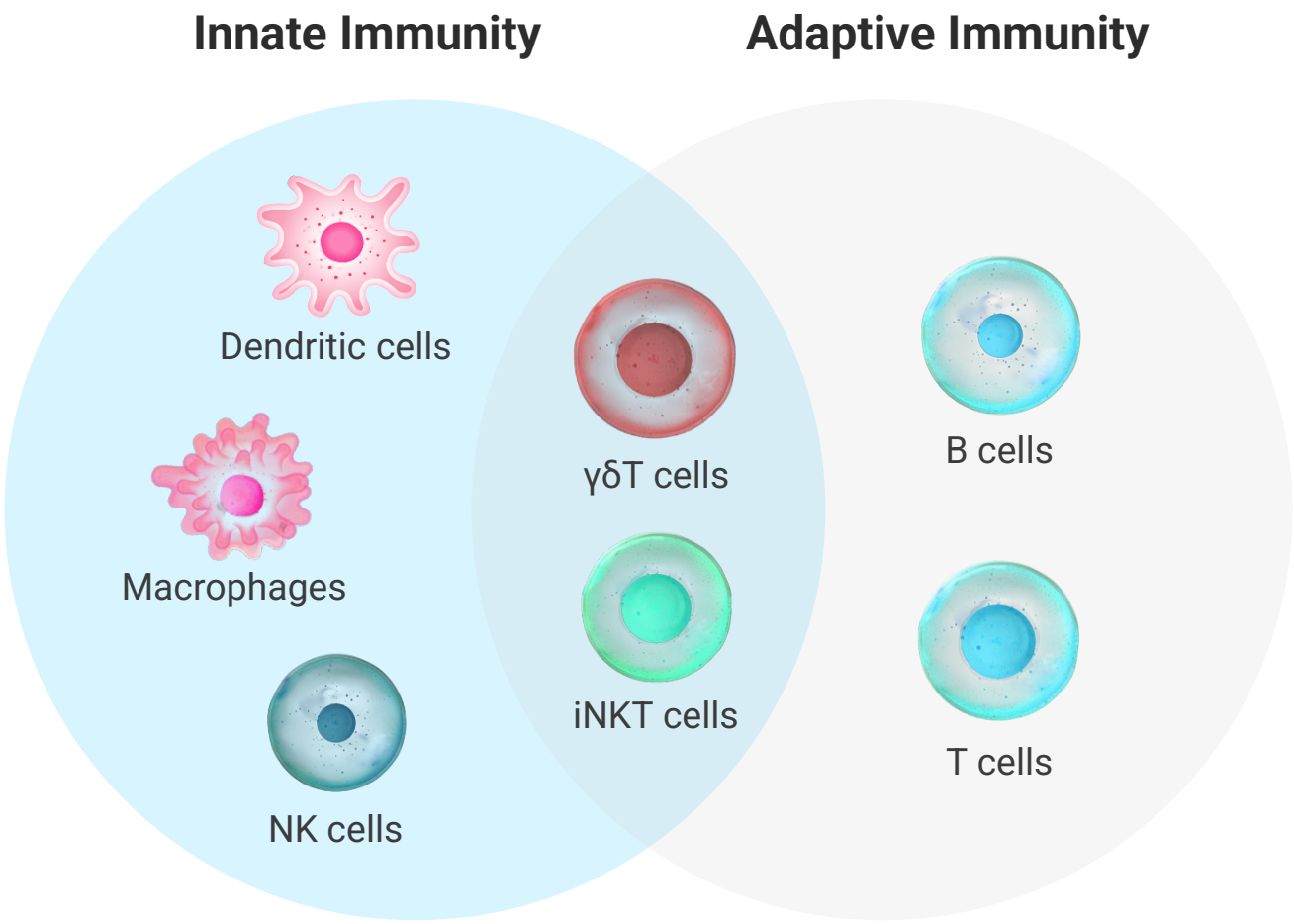
- **Enhanced targeting** with novel CARs & TCRs
- **Improved persistence** through cytokine engineering
- **Boosted tumor killing** with bispecific engagers

Operational Excellence

In-house manufacturing platform generates native and engineered iNKTs at scale with full functionality

Efficient isolation process from healthy donors yields low-cost, high-quality product with capacity to scale to clinical and commercial demand

iNKT Cells are Distinct in the Cell Therapy Landscape, Combining both Innate and Adaptive Immunity



Unique Features

Responds to **lipid antigens and cytokines**. Possess **invariant TCR and NK cell Receptors**

Innate and Adaptive Responses

Effector function of adaptive immune cells and **rapid activation** kinetics of innate immune cells

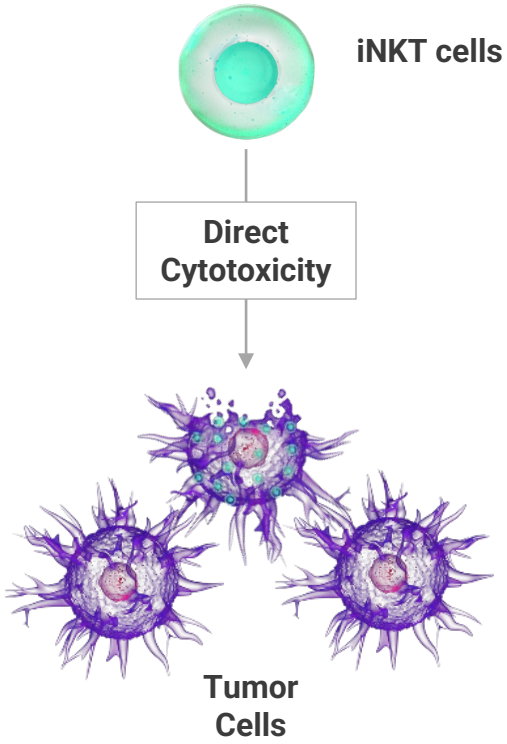
Potent Activity

Amplify & accelerate immune response by cross-reactivity with various immune cells

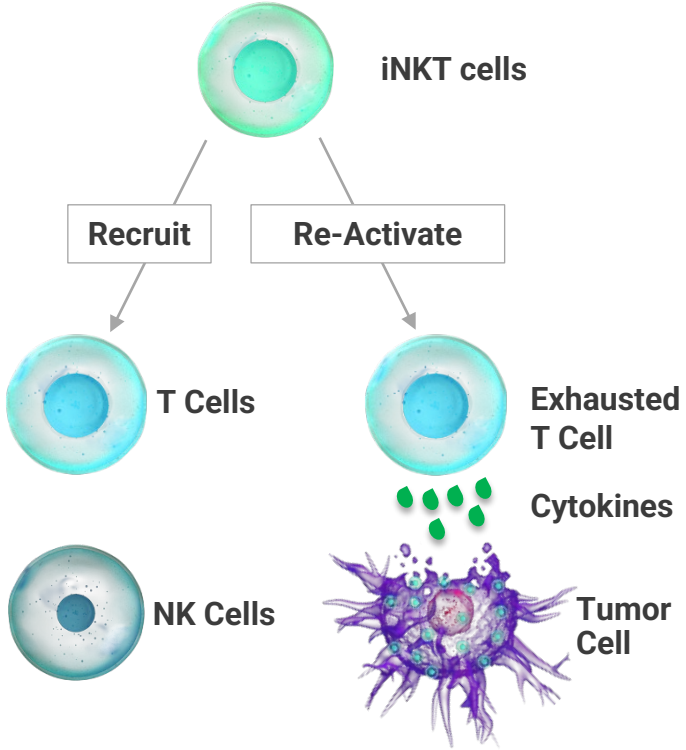
MiNK Therapeutics

iNKT Cells Directly Attack Tumor Cells, Recruit Host Immunity, and Reshape Tumor Microenvironment

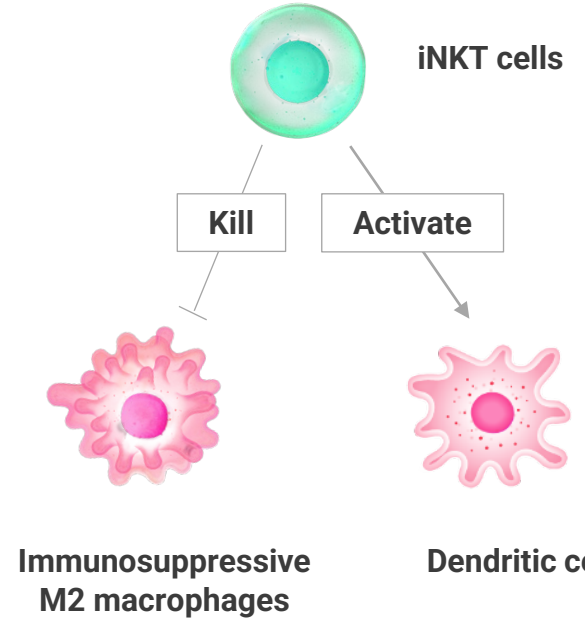
Tumor Homing and Direct Killing



Recruit & Activate Host Immunity



Condition Tumor Microenvironment



Source: Pokharel et al, SITC 2022, Poster 372

MiNK Therapeutics

iNKT Cells Have Benefits Beyond Other Cell Therapies

		iNKT Cells	γδ T Cells	NK Cells	T cells
POTENT CANCER KILLING	Tumor homing and persistence	✓	✓	✗	✗
	Innate and adaptive immune modulation	✓	✓	✗	✗
	No exhaustion	✓	✗	✗	✗
	Modulate suppressive myeloid compartment	✓	✗	✗	✗
ENHANCED TOLERABILITY	No TCR engineering for allogeneic delivery	✓	✓	✓	✗
	Naturally suppresses GvHD	✓	✗	✗	✗
	No lymphodepletion	✓	?	?	✗
	Potential to multi-dose	✓	✓	✓	?

MiNK Therapeutics' Off-The-Shelf Commercial-Ready iNKT Process Planned in 2023

MiNK Therapeutics

MiNK Manufacturing Path to Achieve ≥5,000 Doses Per Batch

Production capacity with commercial manufacturing suite

Cell expansion
(2-3 weeks)

Harvest & Purification
(<1 day)

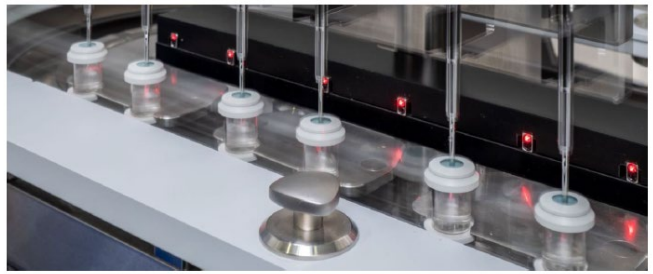
Formulating & Fill/Finish
(< 1 day)

Bioreactor

Large Scale Purification

Fill/Finish

Typical batch size may reach 80,000 vials on a single shift basis.



cGMP manufacturing capability within 3-week manufacturing time

More than 10 batches can be made from 1 healthy donor

MiNK Therapeutics

Pipeline Spans Oncology and Immune-Mediated Diseases

Target / Indication		Product	Preclinical	Phase 1/2	Next Milestone
Native iNKT Cells					
Oncology	**Solid Tumors**	agenT-797 +/- Checkpoint Antibodies			**2023:** Phase 1 update / Phase 2 launch
	r/r Multiple Myeloma	agenT-797			**2022:** Trial completed
Immune Mediated Diseases	**Autoimmune diseases**	agenT-797			**2023:** IND & Phase 1 initiation
	ARDS Secondary to Viral Infections	agenT-797			**2023:** Phase 1 update
Engineered iNKT Cells					
Oncology	**FAP-CAR-iNKT**	MiNK-215			**2023:** IND-Enabling
	BCMA-CAR-iNKT	MiNK-413			**2023:** IND-Enabling
	NY-ESO-TCR	MiNK-TCR			**2023:** IND-Ready*
	PRAME TCR	MiNK-Prame-TCR			Candidate selection underway
	iNKT Cell Engagers	MiNK-XX-Engagers			Candidate selection underway

* Autologous T cell program IND-Ready; allogeneic iNKT program in development

MiNK Therapeutics

Native iNKT cells in Oncology

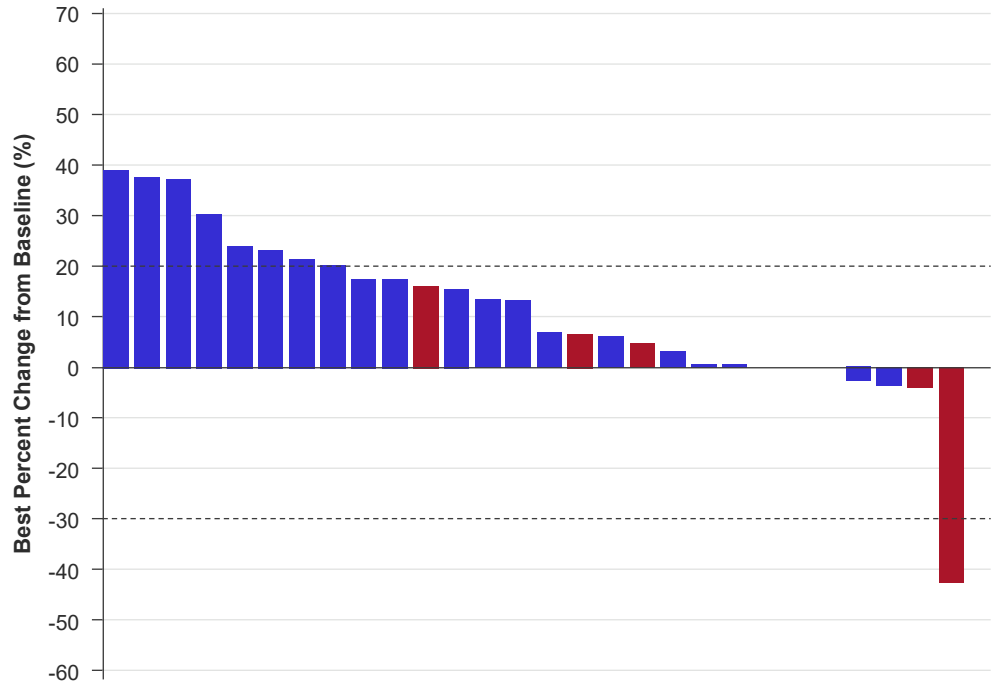
Clinical data in solid tumors

MiNK Therapeutics

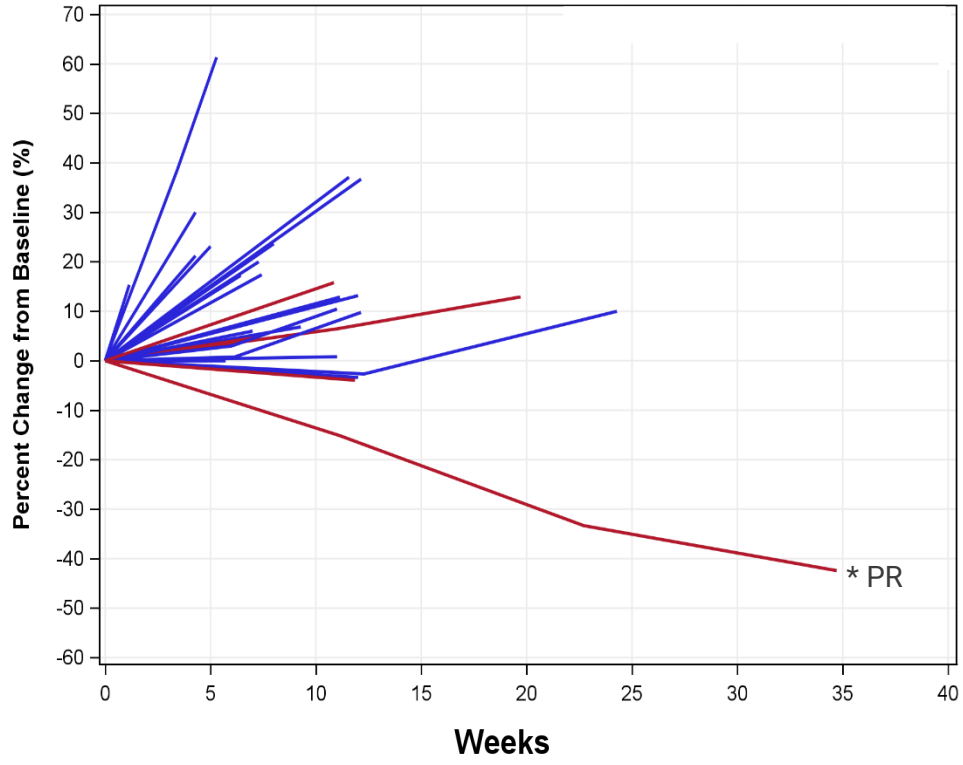
agenT-797 Shows Early Clinical Activity in Heavily Pre-Treated Solid Tumors

PR in Gastric cancer, SD in PD-1 r/r NSCLC, testicular, appendiceal cancer and other tumor types

Best Percentage Target Lesion Change



Target Lesion Percent Change From Baseline



Monotherapy (Single dose; no Lymhodepletion) Combination therapy (+Pembro/+Nivo)

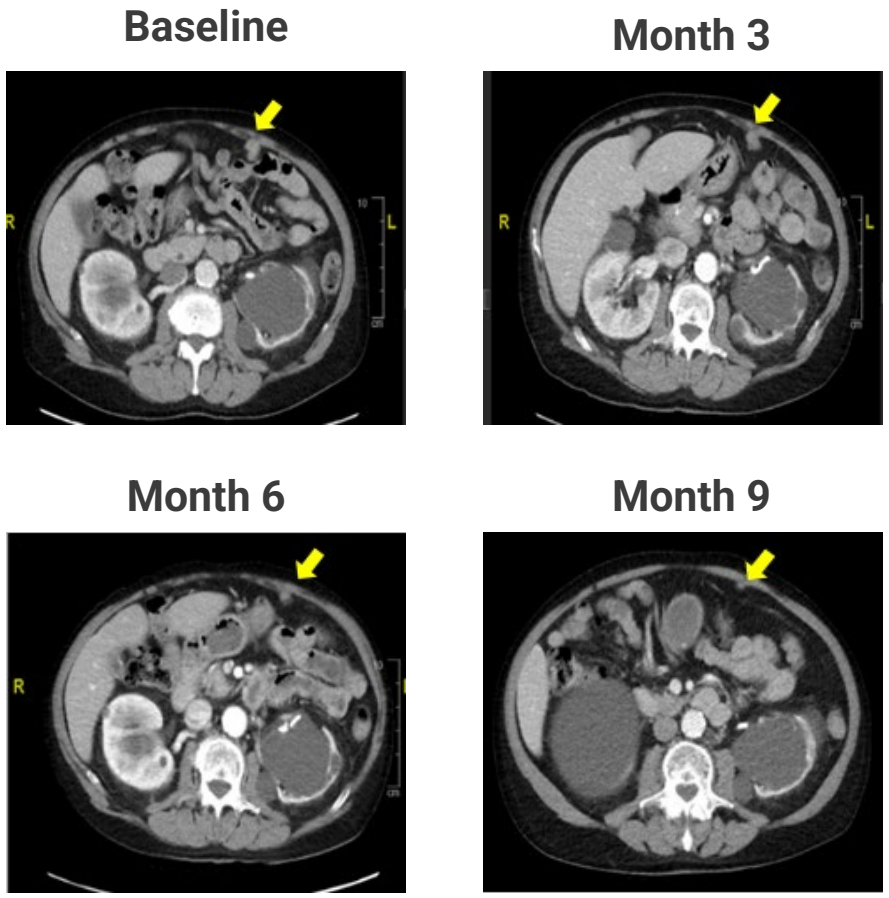
Source: Carniero BA et al, AACR 2023 Poster CT275

MiNK Therapeutics

Partial Response in PD-1 Refractory Gastric Cancer

42% target lesion reduction at 9 months; response ongoing

Gastric Cancer Patient		
Patient Characteristics	• 75-year-old male • Failed prior PD-1 therapies	
Prior Therapies	• Pembrolizumab • FOLFOX + nivolumab + oxaliplatin	PD SD
Treatment	• Single dose of agenT-797 + nivolumab (200mg) • DL1: 4.3 x 106 cells	
Response	• 33% target reduction at 6 months • 42% target reduction at 9 months • Response ongoing	

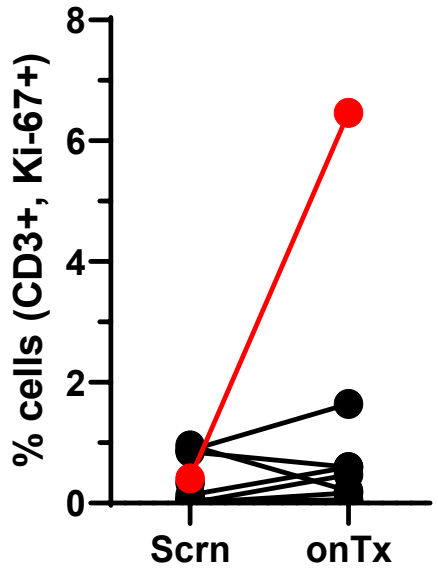


Source: Carniero BA et al, AACR 2023 Poster CT275

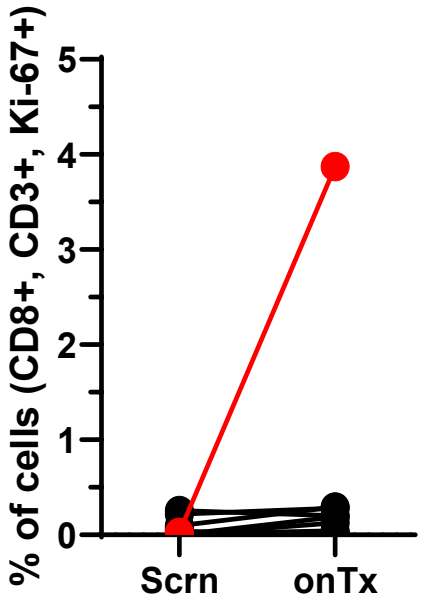
MiNK Therapeutics

agenT-797 Enhances Cytotoxic T Cell Infiltration and Activity in the TME

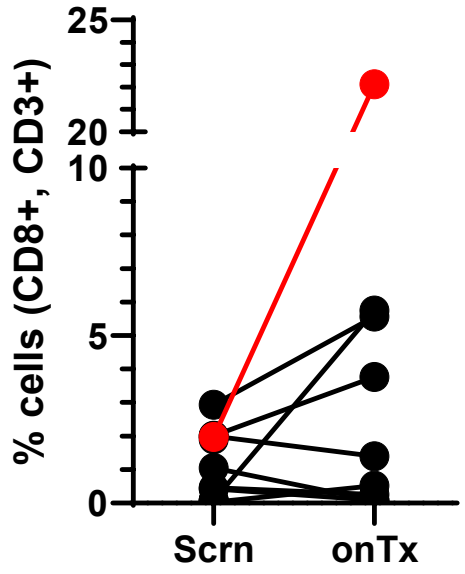
T Cell Proliferation



Cytotoxic T Cell Proliferation



Cytotoxic T Cell Infiltration



Gastric cancer patient

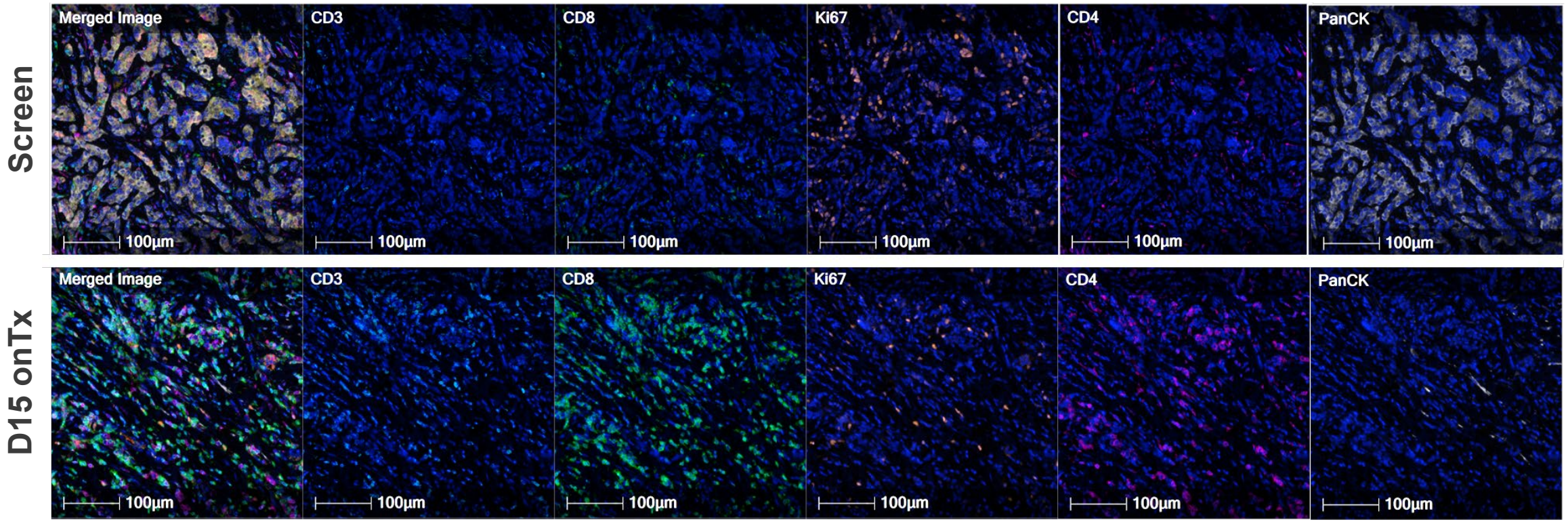
Pre-existent clone in Gastric cancer patient

Other patients

Source: Carniero BA et al, AACR 2023 Poster CT275

MiNK Therapeutics

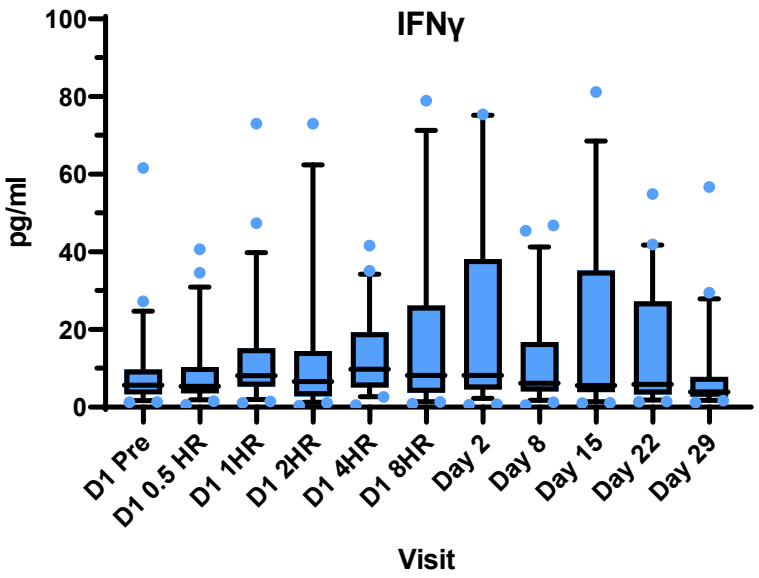
agenT-797 Promoted Immune Cell Infiltration in Tumor in Gastric Cancer Patient



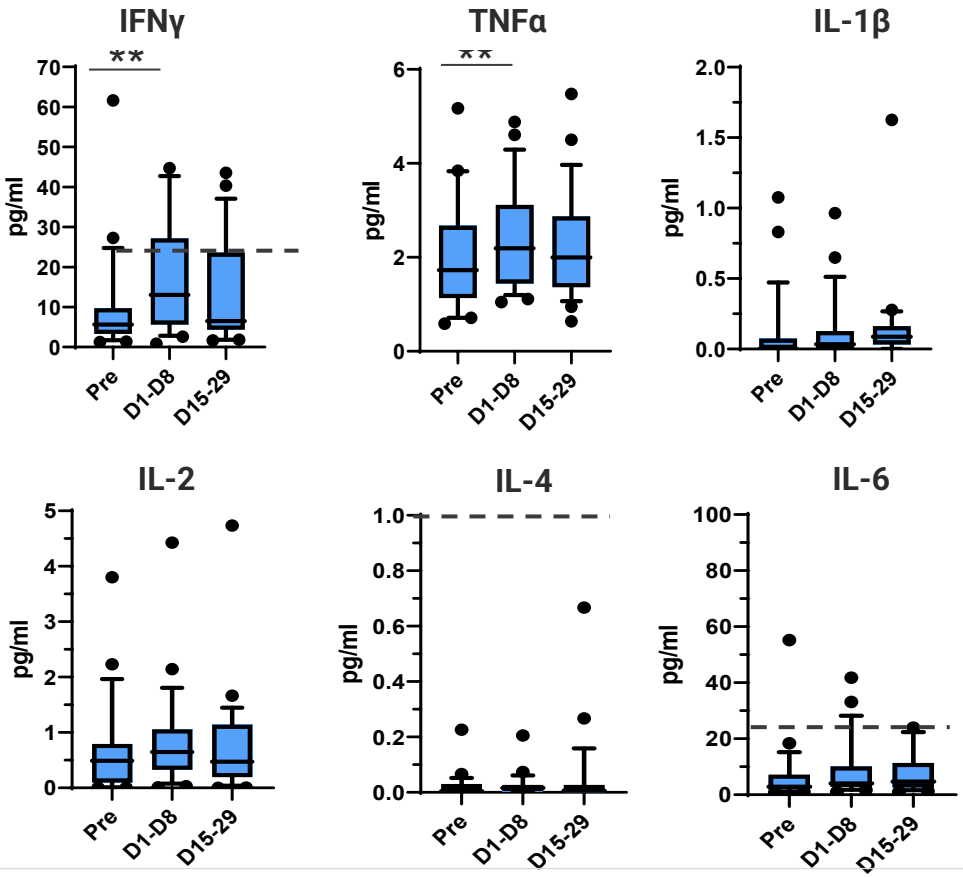
Source: Carniero BA et al, AACR 2023 Poster CT275

agenT-797 Shows Proinflammatory Cytokine Response

Peripheral Cytokine Modulation



Enhanced Th1 Cytokine Profile

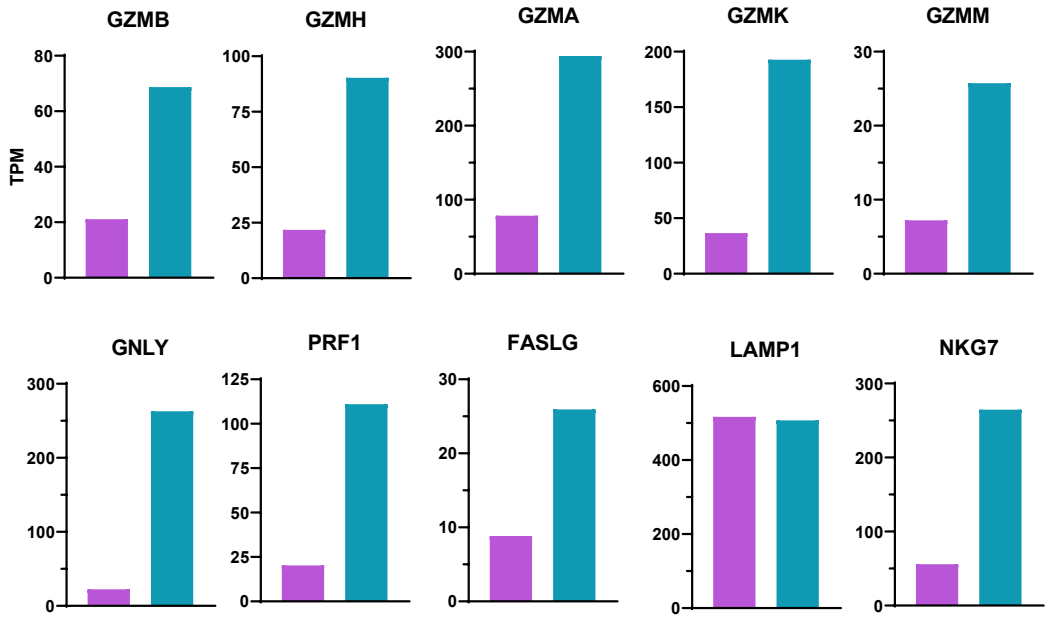


Source: Carniero BA et al, AACR 2023 Poster CT275
Dashed line indicates upper limit of cytokine levels in healthy people

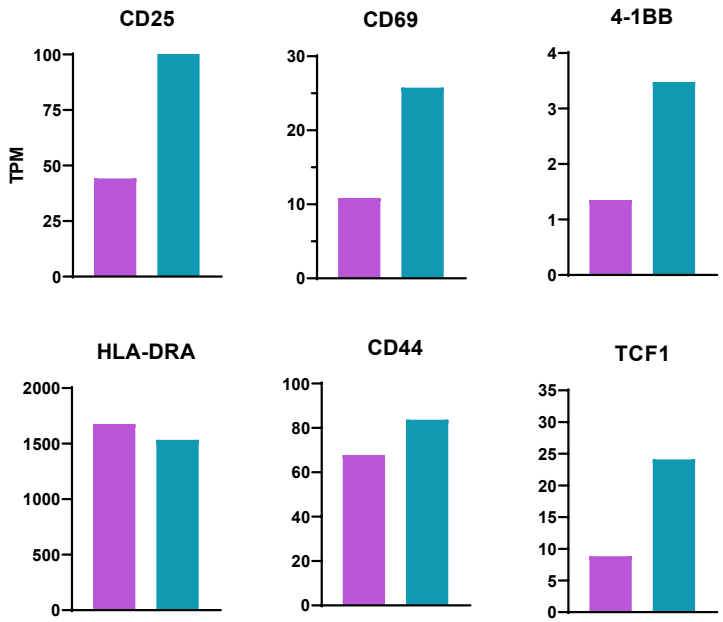
MiNK Therapeutics

agenT-797 Promoted Cytotoxic Response and Activation in Gastric Cancer Patient

Enhanced Cytotoxic Response



Enhanced Immune Cell Activation



Screen On-treatment

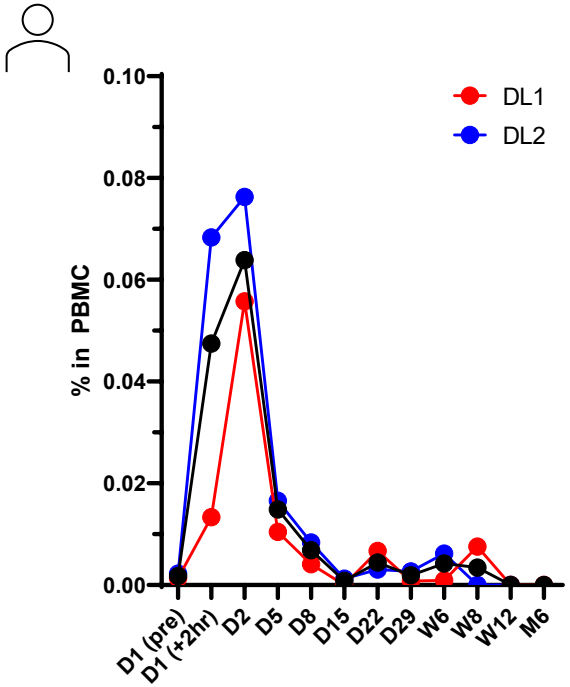
Source: Carniero BA et al, AACR 2023 Poster CT275
GZM: Granzyme; GNLY: Granulysin; PRF1: Perforin

MiNK Therapeutics

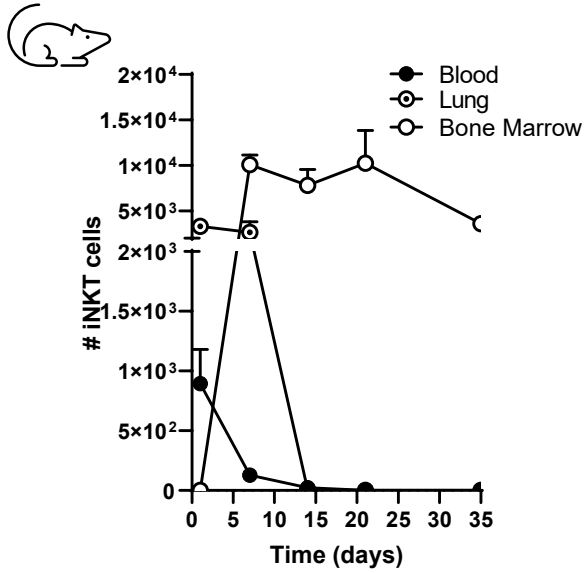
agenT-797 Shows Peripheral Persistence Detectable To ~8 Weeks

Consistent with rapid translocation of agenT-797 to tissues

Peripheral Persistence of Up to 8 Weeks



Translocate to Tissues In Vivo



Source: Carniero BA et al, AACR 2023 Poster CT275, Yigit et al. SITC 2021, Poster 205

agenT-797 is Well Tolerated

No DLTs and few related adverse events

	Total	agenT-797 MonoTx		agenT-797 + anti-PD-1	
Dose level		DL1: 4.3 x 10^6 cells/kg	DL2: 1.4 x 10^7 cells/kg	DL1: 4.3 x 10^6 cells/kg	DL2: 1.4 x 10^7 cells/kg
Subjects dosed (n)	34	8	20	3	3
	n (%)	n (%)	n (%)	n (%)	n (%)
AE	**32 (94)**	**8 (100)**	**18 (90)**	**3 (100)**	**3 (100)**
Any AE of grade ≥ 3	19 (56)	7 (88)	11 (55)	0	1 (33)
irTEAE	**3 (9)**	**0**	**2 (10)**	**0**	**1 (33)**
Any irTEAE of grade ≥ 3	1 (3)	0	0	0	1 (33)
TRAE	**9 (27)**	**3 (38)**	**2 (10)**	**2 (67)**	**2 (67)**
Any TRAE of grade ≥ 3	1 (3)	1 (13)	0	0	0
Any TRAE leading to discontinuation	0	0	0	0	0
Any TRAE leading to dose interruption	0	0	0	0	0
Any TRAE leading to death	0	0	0	0	0
TRAE by System Organ Class					
General (Fatigue, Chills)	5 (15)	1 (13)	1 (5)	1 (33)	2 (67)
Skin (Pruritus, Odor)	2 (6)	1 (13)	0	1 (33)	0
Immune system (CRS)	1 (3)	0	1 (5)	0	0
Nervous system (Dysgeusia)	1 (3)	0	0	0	1 (33)
Psychiatric (Insomnia)	1 (3)	0	0	1 (33)	0
Respiratory (Dyspnoea)	1 (3)	0	1 (5)	0	0
Blood and lymphatic system (Anemia)	1 (3)	1 (13)	0	0	0

Source: Carniero BA et al, AACR 2023 Poster CT275

MiNK Therapeutics

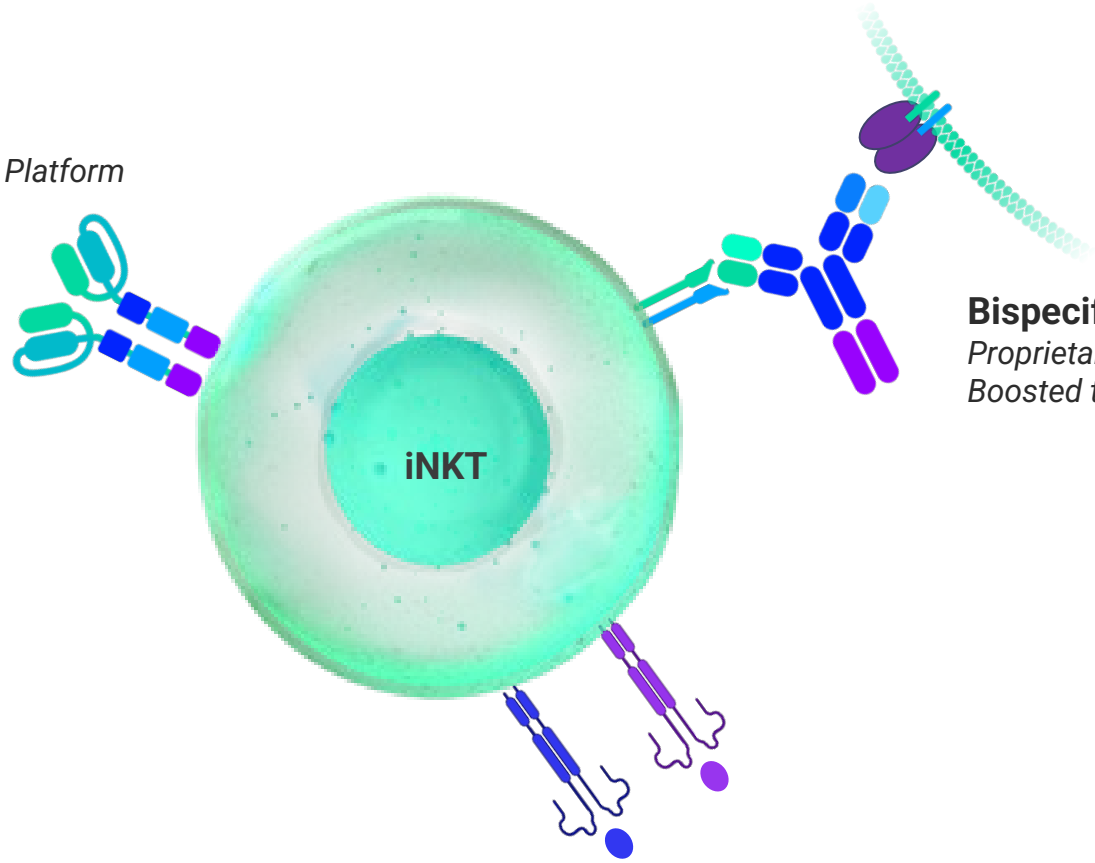
Engineered iNKT cells in Oncology

FAP-CAR iNKT

MiNK Therapeutics

iNKT Cells Can Be Deployed With Various Armors to Attack Solid Tumors

CARs and TCRs
Proprietary Mammalian Phage Display Platform
Enhanced tumor targeting



Bispecific Engagers
Proprietary iNKT Engager Platform
Boosted tumor killing

Cytokines
Cytokine engineering capabilities
Improved persistence

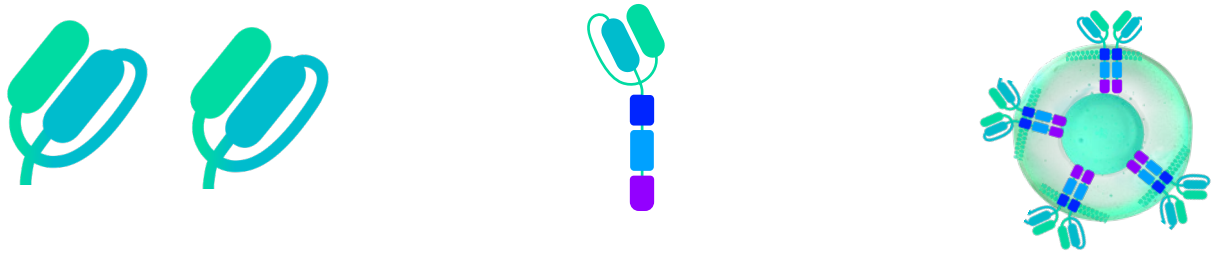
MiNK Therapeutics

CARDIS Enables High-Throughput Identification of Functional CARs

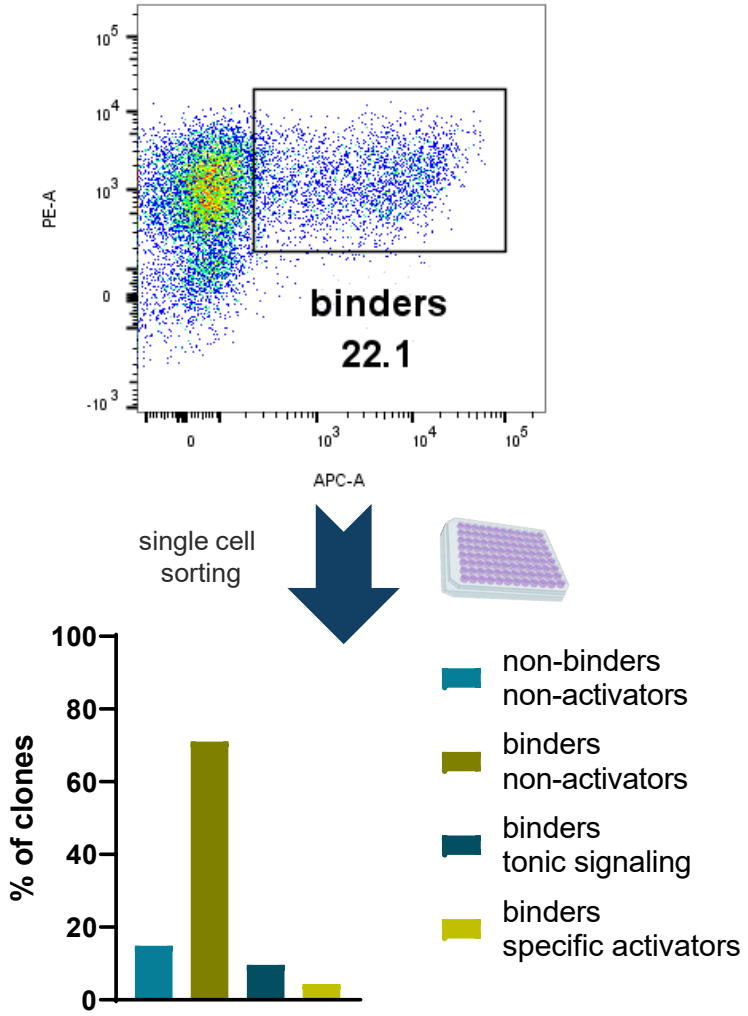
2 Rounds of panning human scFV

Phage output cloned into a CAR backbone

CAR Expressed into Mammalian display library



- CARDIS robustly eliminates false binders and molecules that fail to form functional CARs in mammalian display
- ~5% of the binders discovered were functional CARs



Source: Chantzoura et al, SITC 2022, Poster 322

MiNK Therapeutics

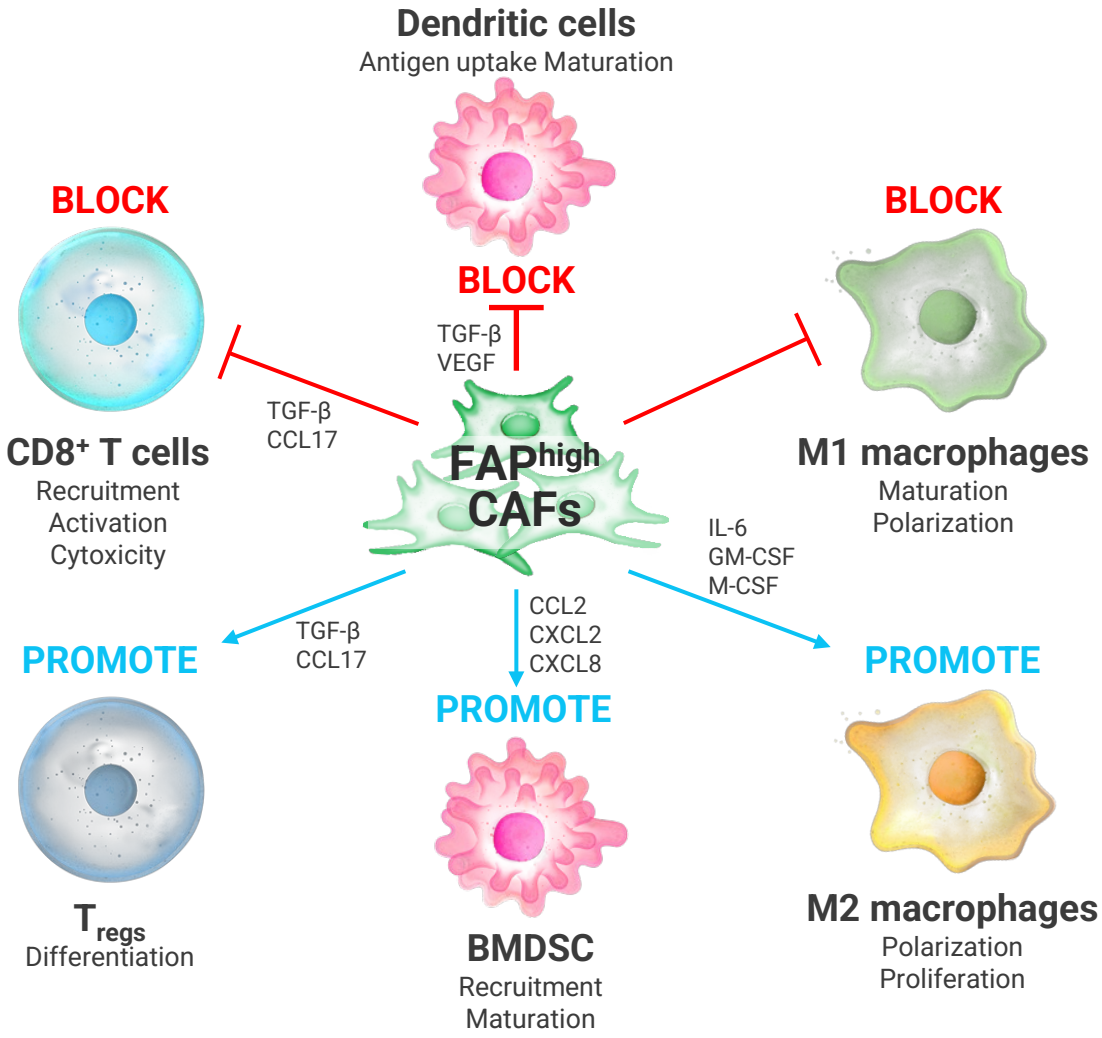
MiNK-215: IL-15 Armored, Allogeneic FAP-CAR-iNKT for Solid Tumors

Target	• Fibroblast Activating Protein (FAP) expressing CAFs sequester T cells to tumor edge preventing infiltration • FAP+ CAFs are one of the most immunosuppressive subset of CAFs in solid tumors
Approach	• MiNK-215 is a novel IL-15 armored FAP-CAR-iNKT targeting FAP+ CAFs discovered with CARDIS
Mouse models	• Orthotopic lung cancer model with A-549 expressing NYESO-1 antigen in immunodeficient mice • Subcutaneous xenograft FAP+ A-375 melanoma model
Cellular activity	• Specific FAP+ tumor cytotoxicity in vitro • Increased serum cytokine secretion (IFNγ) • Enhanced T cell proliferation and infiltration to tumors
Anti-tumor response	• Increased survival and reduced tumor burden • Multiple dosing further improved anti-tumor activity
Status	• IND filing planned 2024

Source: Michelet et al, SITC 2022, Poster 358

Cancer Associated Fibroblasts Expressing Fibroblast Activation Protein Are Common Tumor-Promoting Stromal Cells in Solid Tumors

- Tumors recruit a variety of precursor cells and converts them into Cancer Associated Fibroblasts (CAFs)
- Fibroblast Activation Protein (FAP) is upregulated on >90% of CAFs
- FAP^{high} CAFs are highly immune-suppressive and tumor-promoting stromal cells
- FAP^{high} CAFs are abundantly present in >90% of all epithelial-derived solid tumors
- FAP is highly tumor specific, as FAP expression on non-tumor fibroblasts is low under normal circumstances

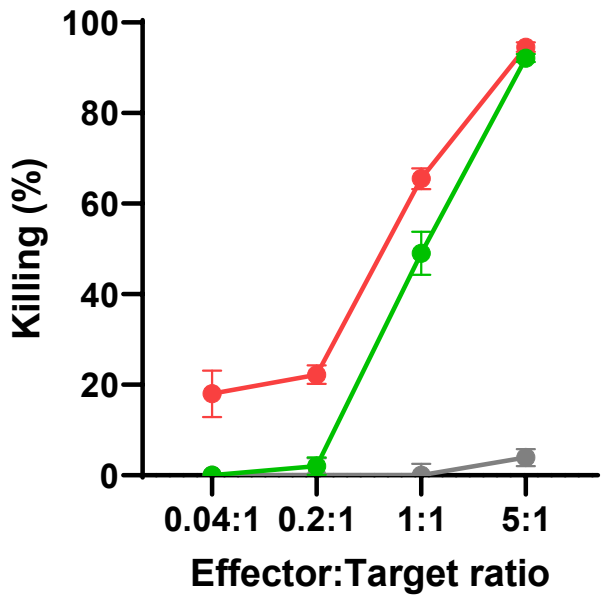


Source: Chen et al. Nat. Rev. Cin. Oncology 2021; Raskov et al, Front. Oncology 2021

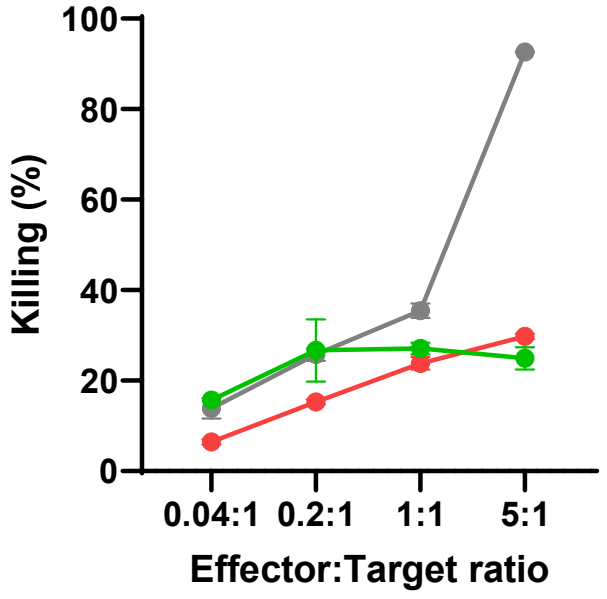
FAP-CAR-iNKT Specifically Kills FAP+ Tumor Cells

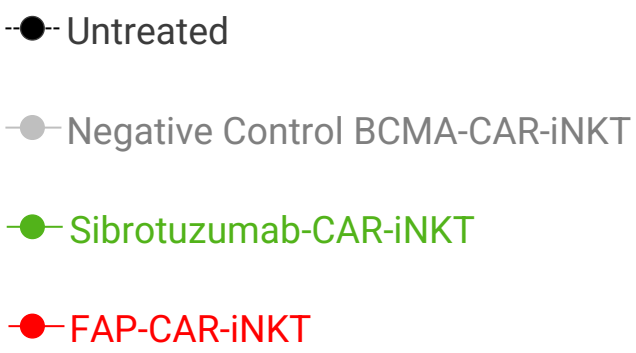
Superior cytotoxicity to clinical reference CAR formatted on iNKT backbone

FAP Positive Cell Line
A-375 FAP



FAP Negative Cell Line
A-375 BCMA





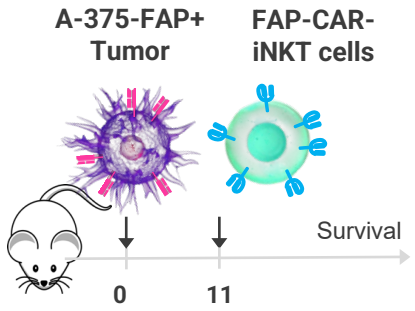
Source: Michelet et al, SITC 2022, Poster 358
Subcutaneous FAP+ A-375 melanoma model

MiNK Therapeutics

MiNK FAP-CAR-iNKT Promotes Survival in FAP+ Tumor-Bearing Mice

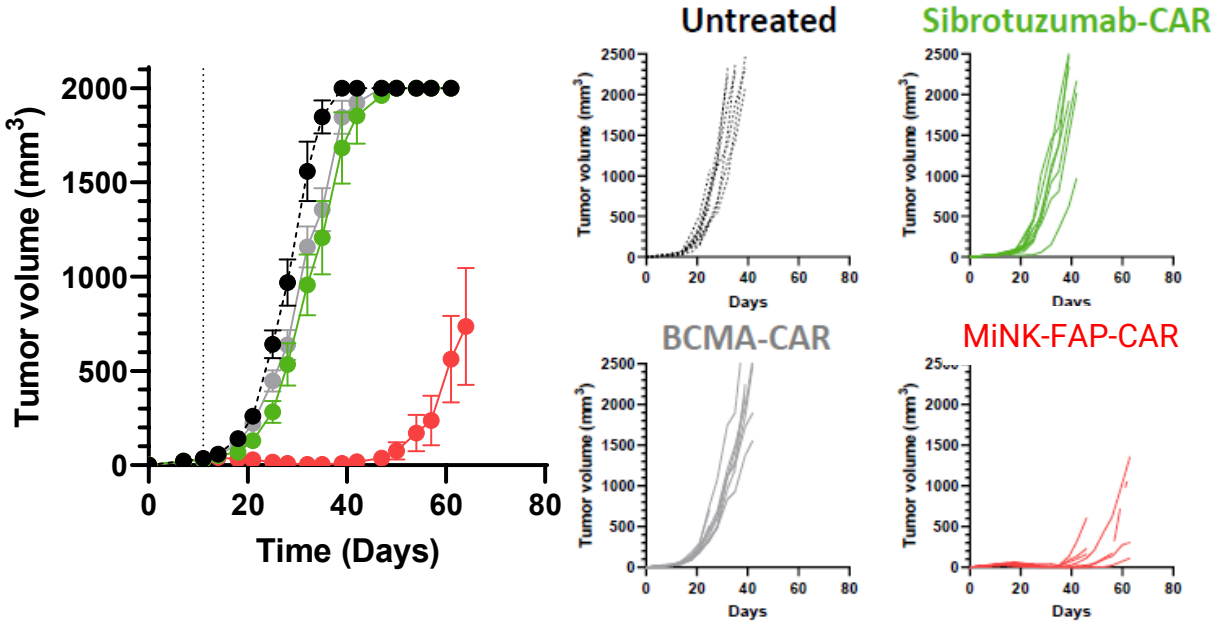
Superior anti-tumor activity to clinical reference CAR formatted on iNKT cell

A-375 Melanoma Mouse Model

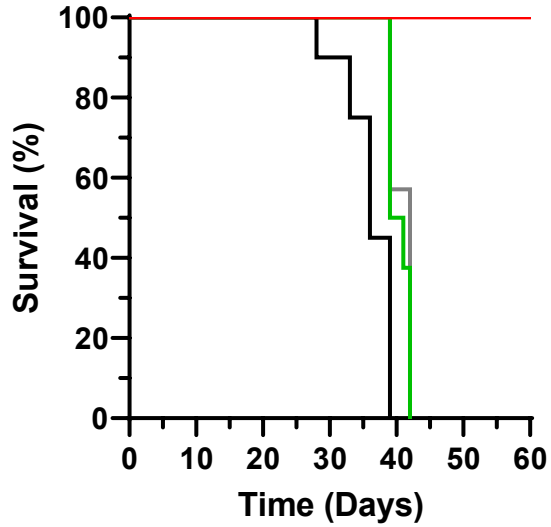


- Day 0: FAP+ A-375 tumor cells injected subcutaneously into NOG-tg (IL15) mice
- Day 11: FAP-CAR- iNKT cells administered

Improved Tumor Control



Superior Survival



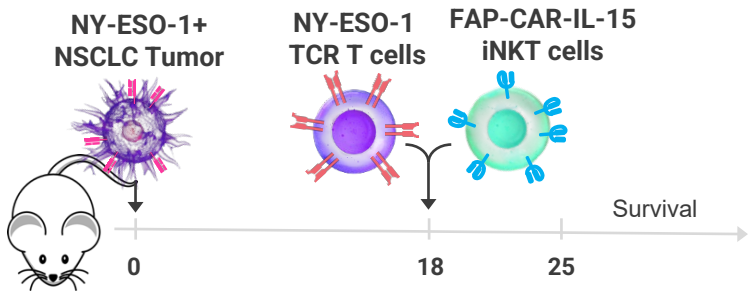
Untreated
Sibrotuzumab-CAR-iNKT
Negative Control BCMA-CAR-iNKT
MiNK-FAP-CAR-iNKT

Source: Michelet et al, SITC 2022, Poster 358
Subcutaneous FAP+ A-375 melanoma model

MiNK Therapeutics

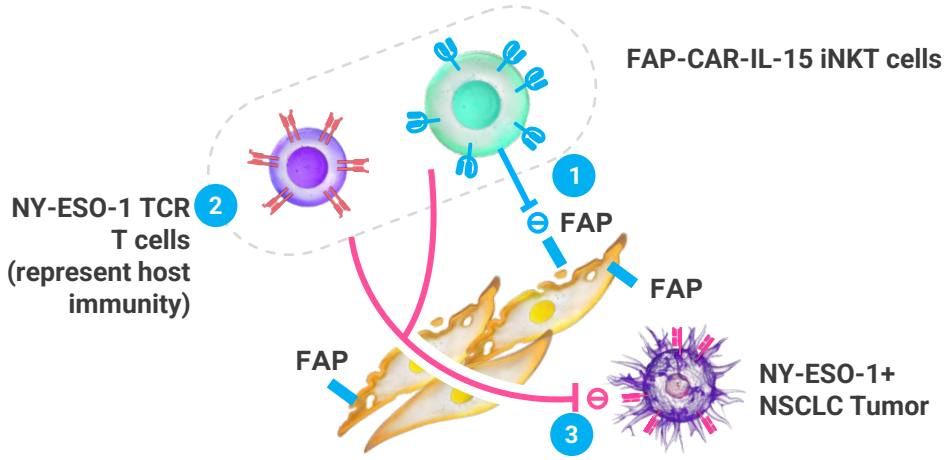
FAP-CAR-IL-15 iNKT Mechanism of Action in NSCLC Mouse Model

Orthotopic NSCLC Model



- Day 0: A-549 tumor cells expressing NY-ESO-1 antigen injected into immunodeficient mice
- Day 18: FAP-CAR-IL-15 iNKT cells and/or NY-ESO-1 TCR T cells administered
- NY-ESO-1 TCR T cells mimic host T cells

FAP-CAR-IL-15 iNKT Mechanism of Action



1. FAP-CAR-IL-15 iNKT cells directly target and kill FAP-expressing CAFs
2. FAP-CAR-IL-15 iNKT cells recruit T cells to the tumor microenvironment
3. T cells infiltrate the tumor tissue and directly kill tumor cells

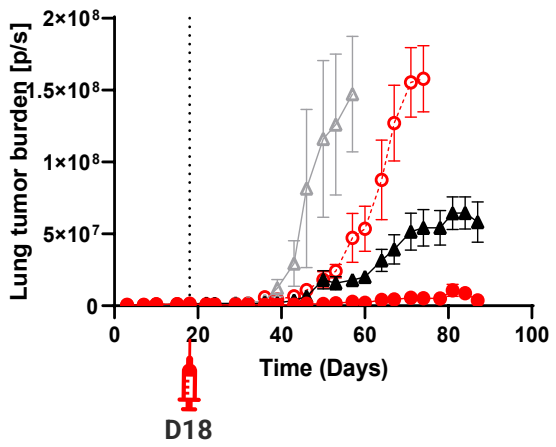
Source: Michelet et al, SITC 2022, Poster 358
Orthotopic lung cancer model with A-549 expressing NY-ESO-1 antigen in immunodeficient mice

MiNK Therapeutics

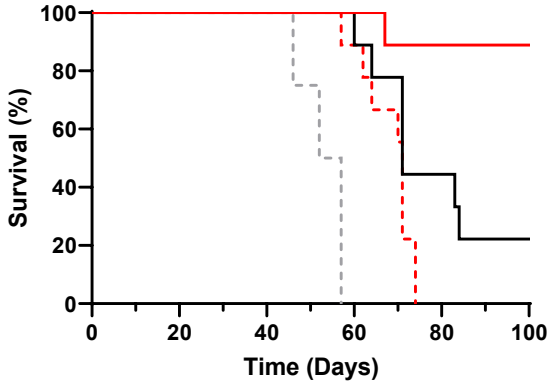
MiNK-215 Synergizes With Tumor-Specific T Cells To Promote Cures

Reduced tumor burden and increased survival in orthotopic lung tumor model A-549 expressing NY-ESO-1 antigen

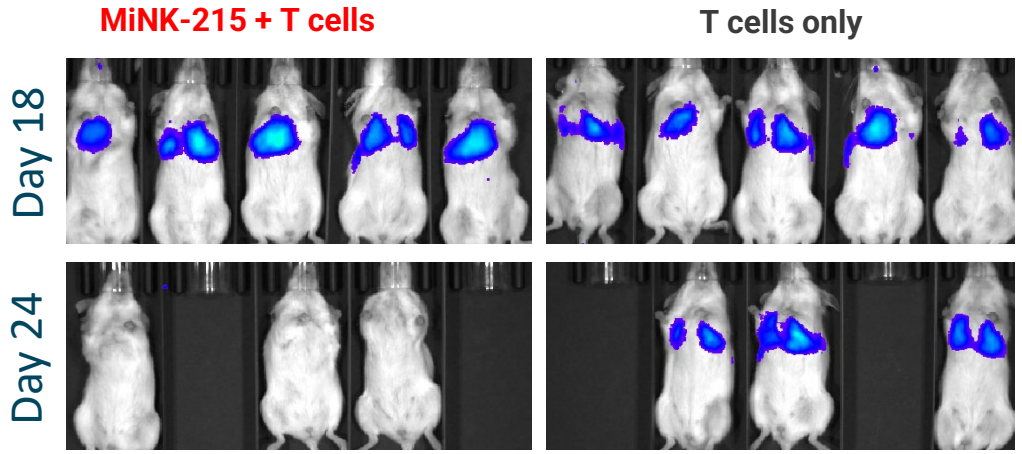
Reduced Tumor Burden



Improved Survival



Superior Tumor Clearance



Untreated

MiNK-215 + T cells

T cells only

MiNK-215 only

Source: Michelet et al, SITC 2022, Poster 358

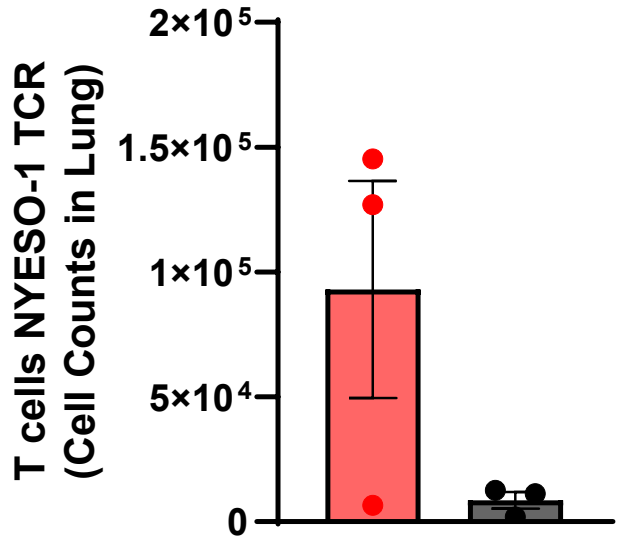
Orthotopic lung cancer model with A-549 expressing NY-ESO-1 antigen in immunodeficient mice

MiNK Therapeutics

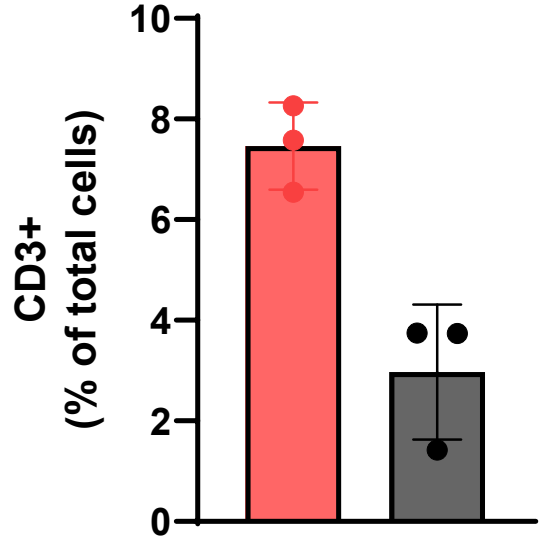
MiNK-215 Promotes Lung T Cell Infiltration and Serum Cytokine Secretion

Enhanced T cell proliferation and infiltration in lungs and increased serum IFNγ

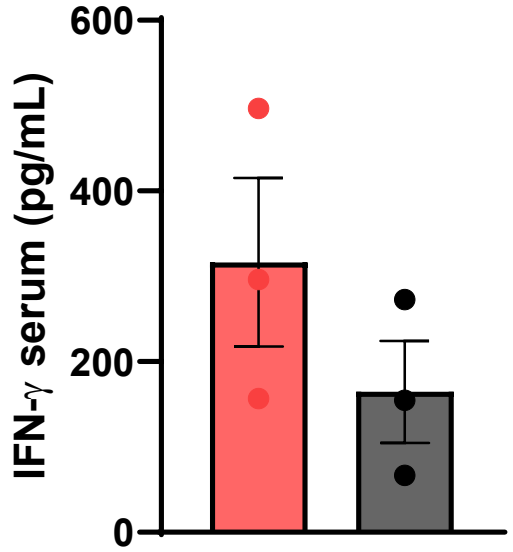
Increased Lung T Cell Infiltration



Increased T Cells in Tumor



Enhanced Serum Cytokine Secretion



MiNK-215 + T cells T cells only

Source: Michelet et al, SITC 2022, Poster 358
Orthotopic lung cancer model with A-549 expressing NY-ESO-1 antigen in immunodeficient mice

MiNK Therapeutics

Engineered iNKT cells in Oncology

BCMA-CAR iNKT

MiNK Therapeutics

MiNK-413: IL-15 Armored, Allogeneic BCMA CAR-iNKT for Multiple Myeloma

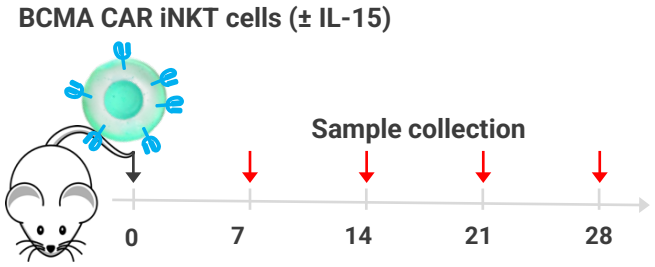
Target	• Approved BCMA CAR-T therapies are associated with toxicity, cost, and logistical challenges • Many patients relapse, with 60% still expressing BCMA who may benefit from next-gen approaches
Approach	• MiNK-413 is a novel IL-15 armored BCMA-CAR-iNKT discovered using mammalian display platform
Mouse models	• Non-tumor bearing NCG mice to demonstrate persistence with engineered IL-15 • MM1.S multiple myeloma mouse xenograft model for anti-tumor activity
Cellular activity	• BCMA specific cytotoxicity in BCMA low and high expressing cell lines • IL-15 improved persistence in blood, bone marrow, liver and lung for up to 21 days
Anti-tumor response	• Delayed tumor engraftment (>20 days) vs untreated • Multiple dosing further improved anti-tumor activity
Status	• IND-enabling studies in 2023

Source: Chantzoura et al, SITC 2022, Poster 322

IL-15 Armored BCMA-CAR-iNKT Improved Persistence

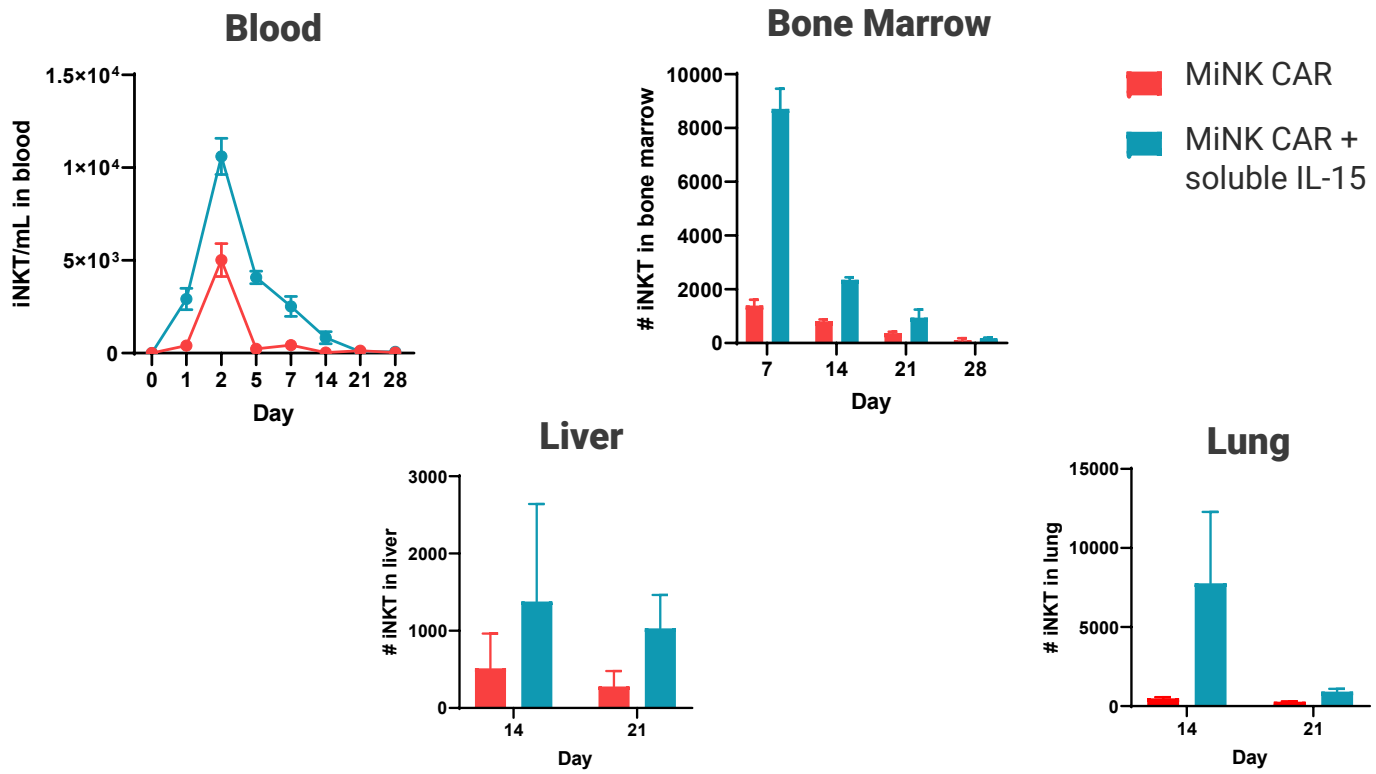
iNKTs persist in blood, bone marrow, liver and lung for up to 21 days

NCG Mouse Model (No Tumor)



- Day 0: BCMA-CAR iNKT cells engineered with or without IL-15 administered
- Day 7, 14, 21, 28: Collection of blood, bone marrow, spleen, liver and lung

Engineering with Soluble IL-15 Improves Persistence



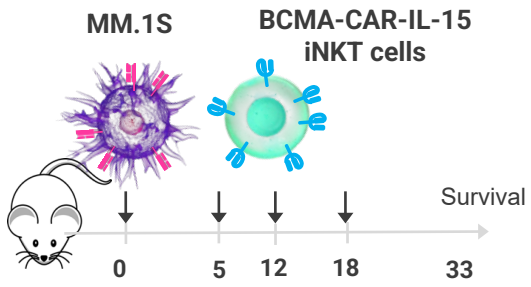
Source: Chantzoura et al, SITC 2022, Poster 322

MiNK Therapeutics

MiNK-413 Delayed Tumor Engraftment In Xenograft Mice

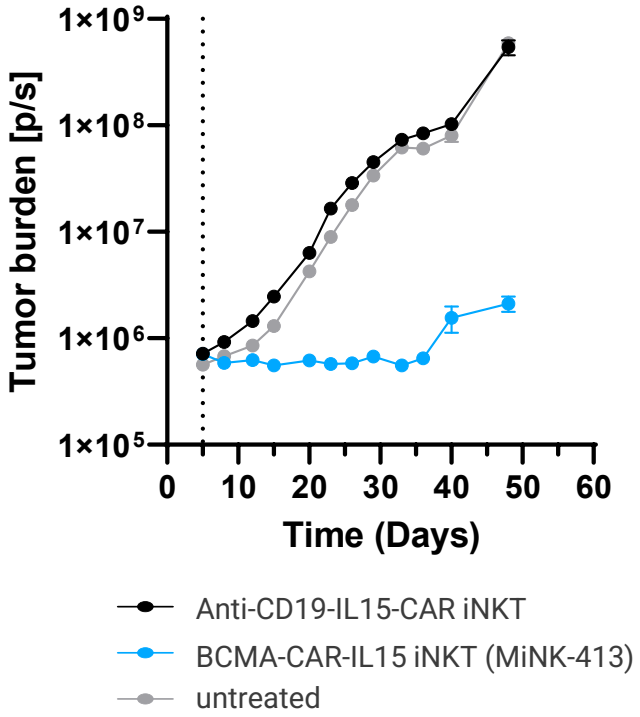
Reduced tumor burden and improved survival in mice treated with MiNK-413

Multiple Myeloma Mouse Model

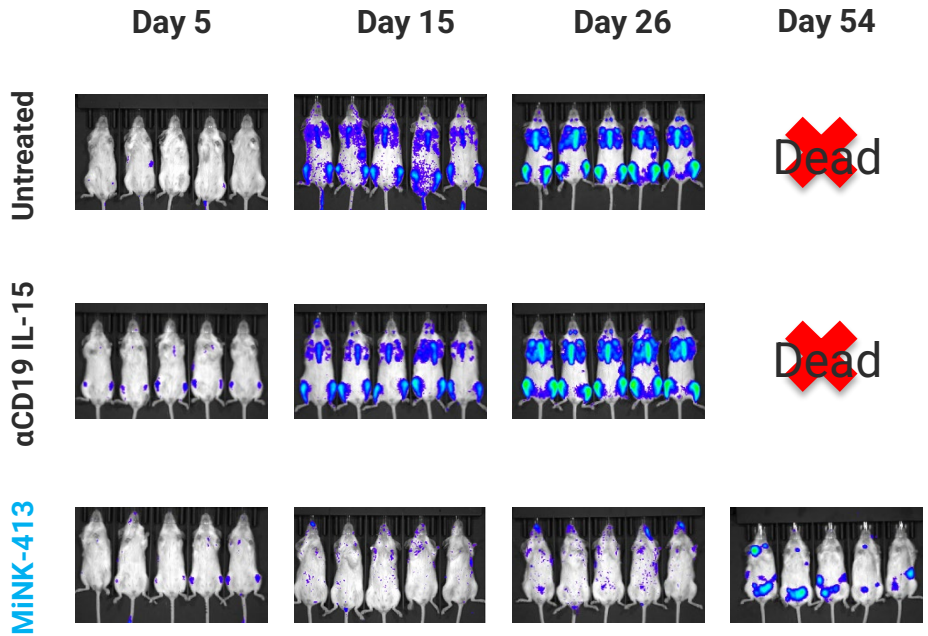


- Day 0: MM.1S tumor cells injected into NOG mice
- Day 5: First dose of BCMA-CAR-IL15 iNKT cells administered
- Day 12, 18: Additional doses of BCMA-CAR-IL-15 iNKT cells

MiNK-413 Delays Tumor Growth



MiNK-413 Delays Tumor Growth And Promotes Survival



Source: Chantzoura et al, SITC 2022, Poster 322

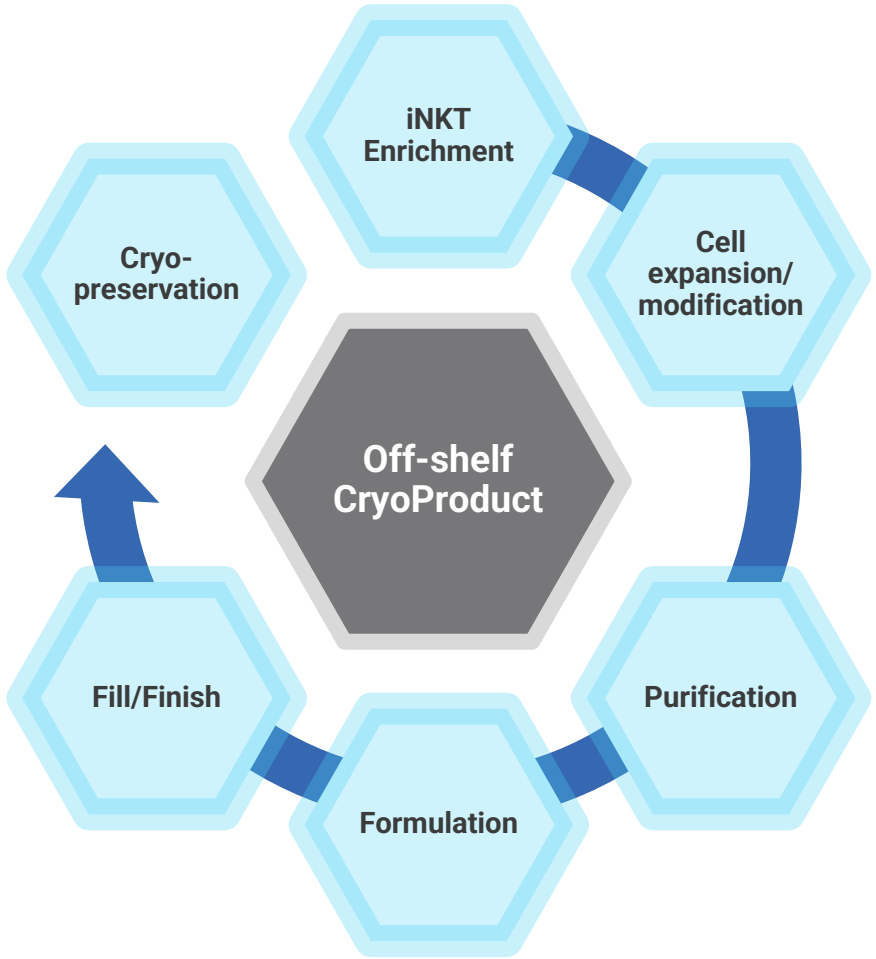
MiNK Therapeutics

iNKT Manufacturing

Native and Engineered iNKT manufacturing capability

MiNK Manufacturing Is a High-Yield Turn-Key Operation

Off-the-Shelf, Scalable, and Efficient



≥5000
doses/year

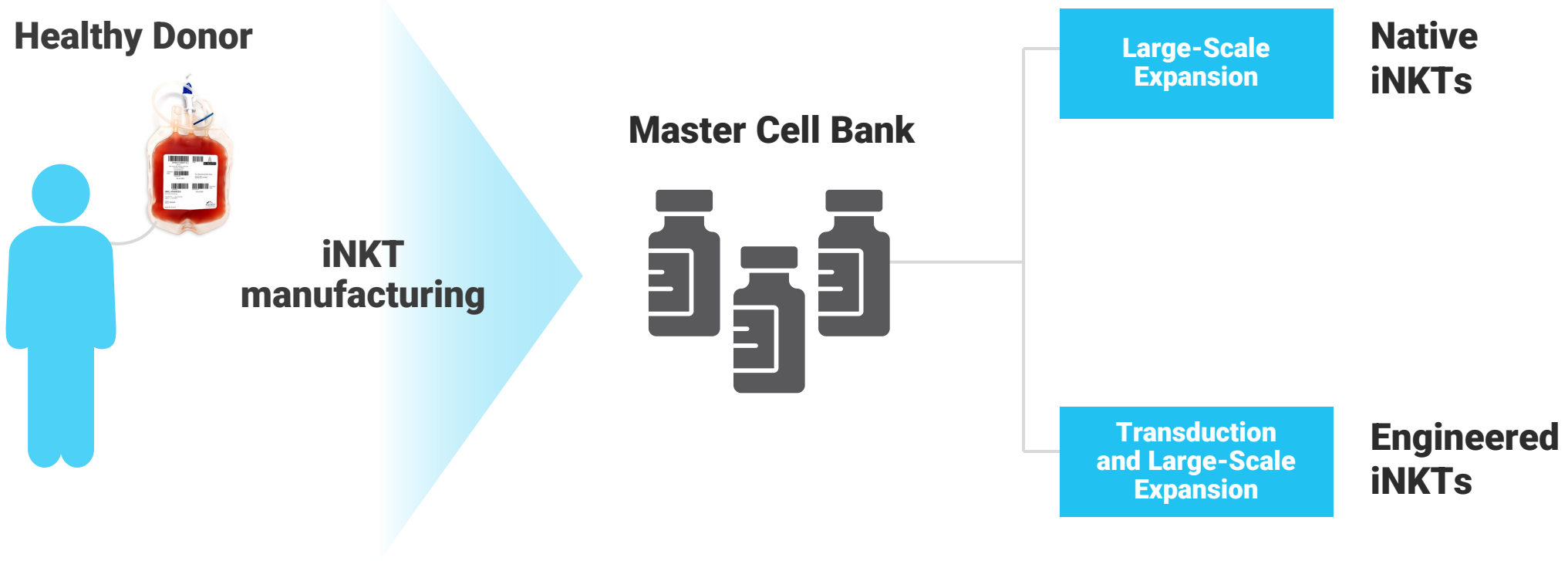
≤$10K/
dose

- Fully closed automated process
- Pure functional iNKTs (>99%)
- Cost-effective manufacturing

MiNK Therapeutics

Cryopreservation of Master Cell Bank To Introduce Donor-Independent Process

Same donor source for both native and engineered iNKTs



>50,000 doses from 1 healthy donor to eliminate donor to donor variability

MiNK Therapeutics

MiNK Manufacturing Path to Achieve ≥5,000 Doses Per Batch

Production capacity with commercial manufacturing suite

Cell expansion
(2-3 weeks)

Harvest & Purification
(<1 day)

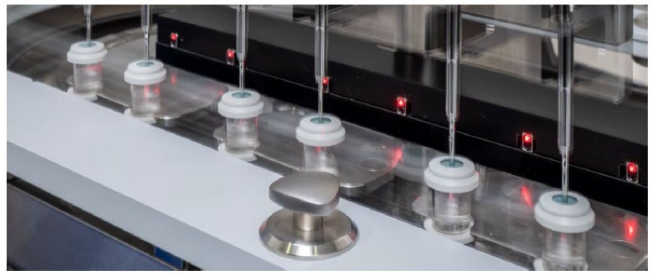
Formulating & Fill/Finish
(< 1 day)

Bioreactor

Large Scale Purification

Fill/Finish

Typical batch size may reach 80,000 vials on a single shift basis.



cGMP manufacturing capability within 3-week manufacturing time

More than 10 batches can be made from 1 healthy donor

MiNK Therapeutics

Summary

MiNK Therapeutics

MiNK is Pioneering Allogeneic iNKT Cell Therapies for Oncology and Other Immune Mediated Diseases

iNKTs Bridge Adaptive and Innate Immunity

Directly attack tumor cells, recruit host immunity, reshape tumor microenvironment

Broad Therapeutic capability

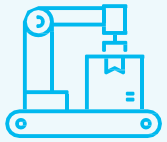
Opportunities in oncology and immune-mediated diseases

Clinical Proof-of-Concept

3 Phase 1 trials show tolerability and immune-modulating activity

Proprietary Cell Engineering

Platform for discovery of CARs, TCRs, and bispecific engagers



Proprietary Manufacturing at Scale

Efficient isolation process from healthy donors can generate >5,000 doses per batch

Access to Validated Immuno-oncology Therapies

Access to Agenus' immuno-oncology antibodies for combinations

MiNK Therapeutics

What to Expect from MiNK

Recent Accomplishments

- agenT-797 top line data in solid tumors shows clinical response and disease stabilization in PD-1 refractory patients
- Completed agenT-797 Phase 1 in multiple myeloma and ARDS
- agenT-797 improves survival in patients with ARDS compared to case-control (70% vs. 10%); selected as fundable by DARPA for further development in ARDS
- Demonstrated novel mechanisms by which iNKT cells contribute to immune regulation
  - Reverse T cell exhaustion
  - Activate DCs
  - Deplete immuno-suppressive M2 macrophages

Near-Term Milestones

- Phase 1/2 data presentation from agenT-797 in viral ARDS at American Thoracic Society Annual Meeting (May 2023)
- agenT-797 expansion combination studies in NSCLC and Gastric cancer initiating in 2023
- FAP-CAR-iNKT IND filing in 2024
- BCMA-CAR-iNKT is IND-ready in <12 months
- Progress existing and new collaborations

Source: Carniero BA et al, AACR 2023 Poster CT275 , Stevens et al, SITC 2022, Poster 647 ; Purbhoo et al, SITC 2022; Poster 649; Pokharel et al, SITC 2022, Poster 372