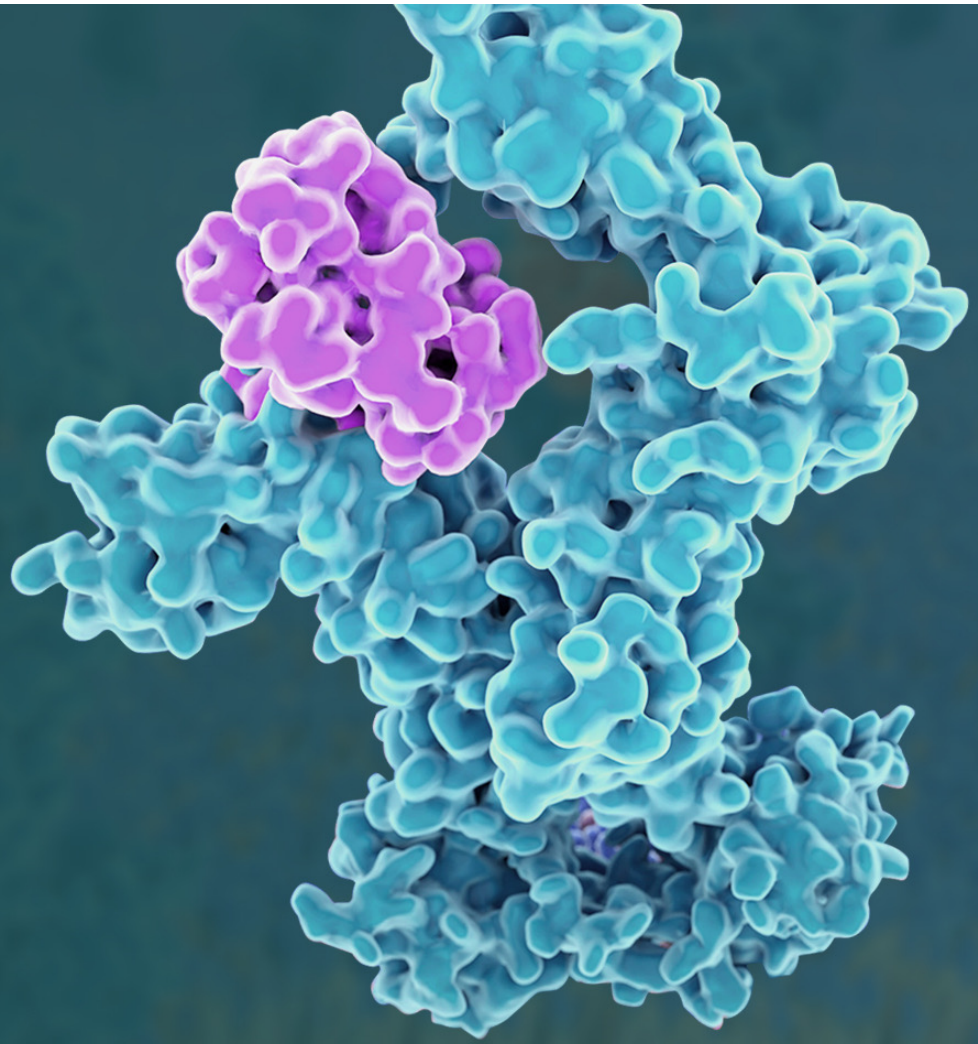
Q3, 2023

Evolutionary Cytokines Revolutionary Medicines



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Investment Highlights

Multiple Significant Catalysts Are Expected in The Next Six Months

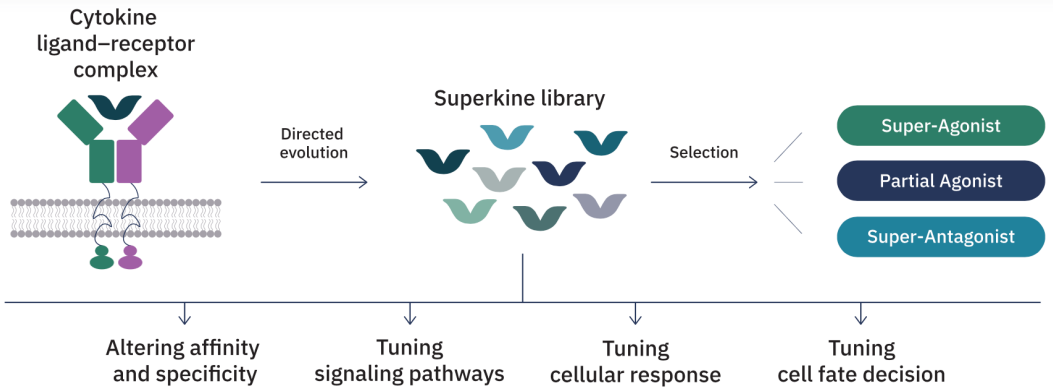
Superkine Platform: Drug Discovery Engine	Directed evolution **enhances the desired properties** of IL-2, IL-4, & IL-13 to generate Superkines Protein fusion can **improve PK, add an MOA, or confer new capabilities** to Superkines IL-2, IL-4 , & IL-13 are known to modulate immune activity against **2,000 different diseases**
MDNA11: "Beta-only" & Long-acting IL-2 Super-agonist in Phase 1/2	Super-agonist against IL-2R, a **clinically validated anti-cancer target** Enhanced IL-2Rβ binding and lack of IL-2Rα affinity position MDNA11 to be **best-in-class** MDNA11 has **successfully completed** the dose escalation phase 1 with grade 1-2 AEs only MDNA11 **commences dose expansion** in Q3 2023 as monotherapy and Q4 with pembrolizumab
MDNA55: Phase 3 Ready Empowered IL-4 Superkine	Targeting recurrent glioblastoma, the most aggressive form of brain cancer Phase 2b data show **~100% improvement in median OS** vs. a matched external control arm Pursuing a **partnership** to advance development
BiSKIT Platform: **Bi**functional **S**uper**K**ines for **I**mmuno**T**herapy	Fusion of two Superkines or a Superkine and an antibody (e.g. a checkpoint inhibitor) Incorporate **two synergistic MOAs** into a single molecule

Our Superkine Platform

Our scientific platform enables us to transform natural interleukins into Superkines, which are enhanced to combat a specific disease. For example, Superkines could alter the immunosuppressive tumor microenvironment, deliver cell-killing agents without harming healthy cells, or turn off destructive autoimmune processes.

Superkine Platform Powers Drug Discovery Engine

Transforming IL-2, IL-4 and IL-13 into Druggable Superkines Using Directed Evolution



Our IL-2, IL-4 and IL-13 Superkines are known to modulate immune activity in many diseases, each providing "A Pipeline in a Product" opportunity

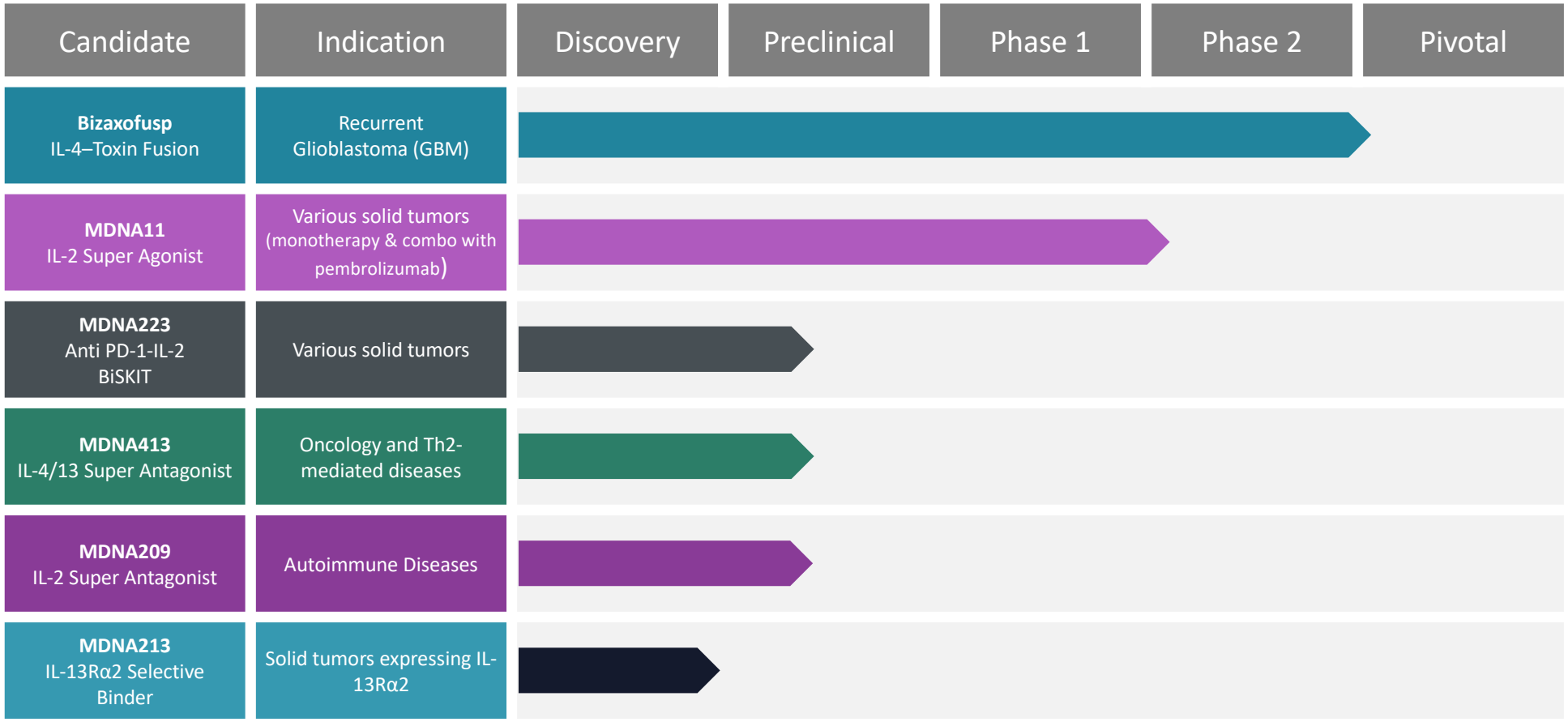
Superkine Design and Development

Generate Tunable Superkine Library
Transform interleukins using directed evolution to enhance desired properties

Enhance via Protein Fusion
To improve PK, add a second MOA, or confer new capabilities

Lead Selection & Development
Advance the most promising candidates towards clinical studies

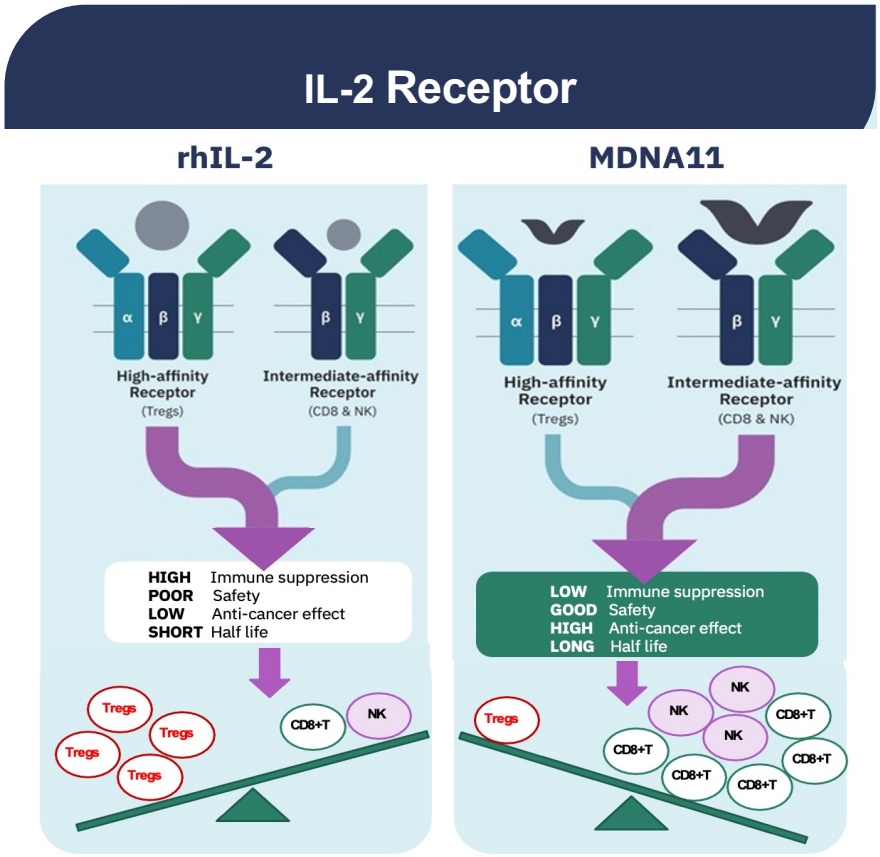
Our Diversified Pipeline Of Next-Generation Superkines



MDNA11

"Beta-only" & Long-acting IL-2
Super-Agonist for Solid Tumors

Targeting IL-2 Receptor Subunits in Cancer Therapy



The IL-2 receptor (IL-2R) consists of three subunits

- IL-2Rα (CD25)
- IL-2Rβ (CD122)
- IL-2Rγ (CD132)

Stimulation of IL-2Rβ

- Key for the activation of cancer killing immune cells such as CD8+ T cells, naïve T cells, and NK cells.

Stimulation of IL-2Rα

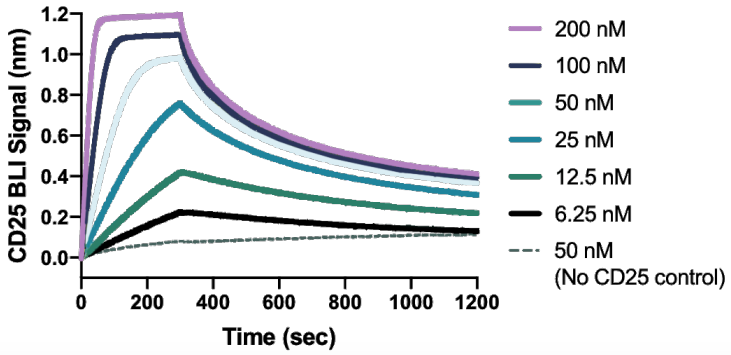
- Leads to activation of immunosuppressive Tregs, which abrogate the anti-tumor response
- Causes extreme toxicity

Proleukin (recombinant human [rh] IL-2), which selectively stimulates IL-2Rα, is approved by the FDA for the treatment of metastatic melanoma and renal cell carcinoma.

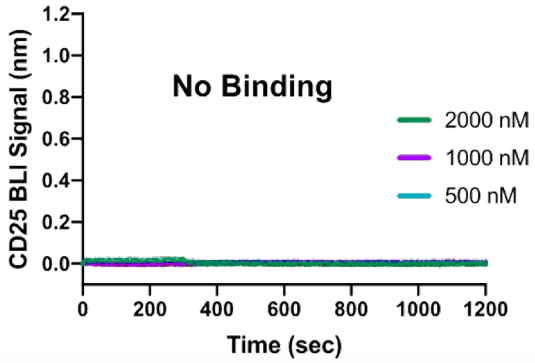
MDNA11's IL-2 Binding is Highly Differentiated vs. Proleukin (rhIL-2)

No IL-2Rα (CD25) Binding and Enhanced Affinity and Selectivity for IL-2Rβ (CD122) Compared to rhIL-2

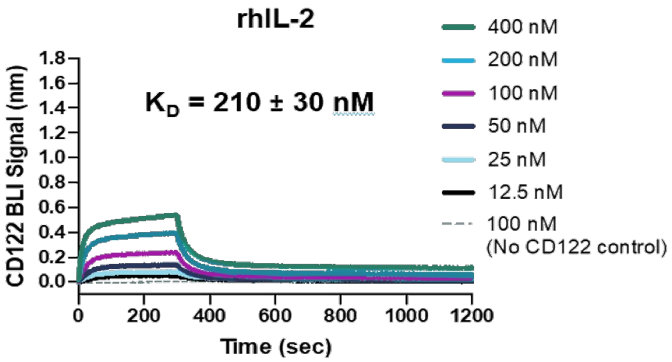
rhIL-2 – IL-2Rα Binding



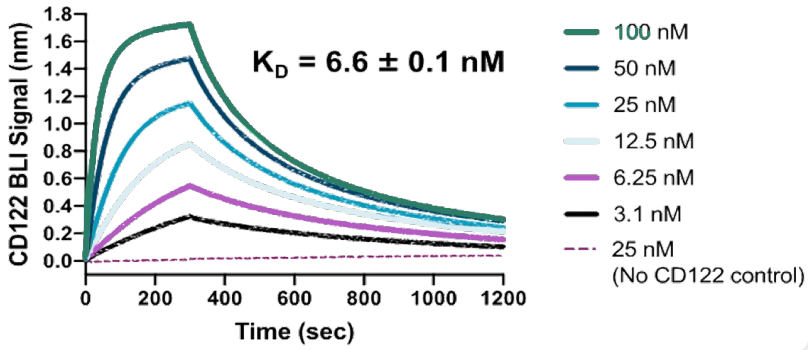
MDNA11 – IL-2Rα Binding



rhIL-2 – IL-2Rβ Binding

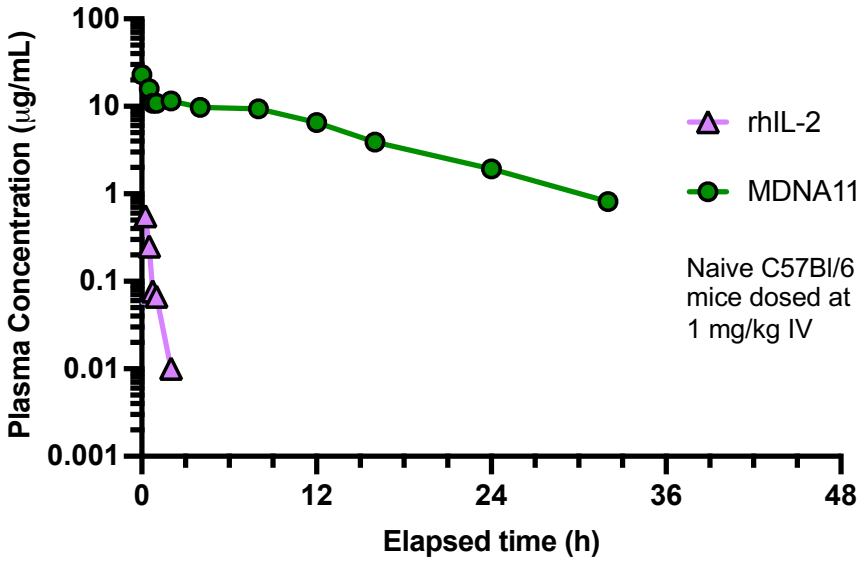


MDNA11 – IL-2Rβ Binding



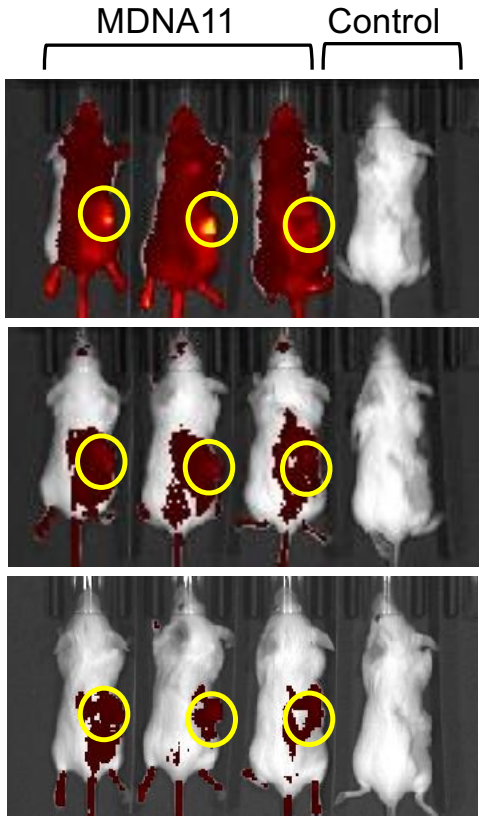
MDNA11 Durably Accumulates In Solid Tumors In Vivo

PK Profile in Mice



	C_{max} (µg/mL)	AUC (µg.hr/mL)	T_{half} (hr)
rhIL-2	5.77	1.07	0.28
MDNA11	23.02	182.3	6.83

MDNA11 Imaging in CT26 Tumor Model



MDNA11 labelled with VivoTag800; IV dosing (1 mg/kg); Tumor size: 150-200 mm^3

- **Tumor exposure of MDNA11 is > 15x longer than its serum half-life**

MDNA11 – Best in Class Potential

MDNA11's strong anti-tumor activity, well-tolerated safety profile and convenient outpatient dosing regimen paves the way for a potential best-in-class therapy with significant commercial potential

	MDNA11	Proleukin[1]	NKTR-214	SAR'245[2]	ALKS 4230[3]	WTX-124[5]	XTX202[6]	STK-012[7]	TransCon IL-2 β/γ[8]
No binding to IL-2Rα	√	✗	✗	√	√	✗	√	✗	Minimal binding
Enhanced IL-2Rβγ Binding	√	✗	✗	✗	✗	✗	✗	✗	√
QW, Q2W or Q3W Dosing	√	✗	√	√	✗	Unknown	√	√	√
Tumor Accumulation	√	✗	✗	✗	✗	✗	✗	✗	✗
No Pegylation Liabilities	√	√	✗	✗	√	√	√	✗	√
Pipeline Potential	√	√	✗	✗	✗	✗	✗	√	√

[1] Nature Rev. Drug Discovery (2021). [2] Ptacin et al., Nat Comm (2021). [3] Lopes et al., JITC (2020). [5] Nirschl et al, Cancer Immunol Res (2022). [6] O'Neil et al., ASCO (2021). [7] Oft et al, AACR (2021). [8] Rosen et al., J. Immunother Cancer (2022) and Company's Oncology Program Update on 5/31/23. Additional information from https://clinicaltrials.gov/

ABILITY: Phase 1/2 Dose Escalation & Expansion Study

Monotherapy Dose Escalation

N = 20 patients with advanced, treatment-refractory solid tumors

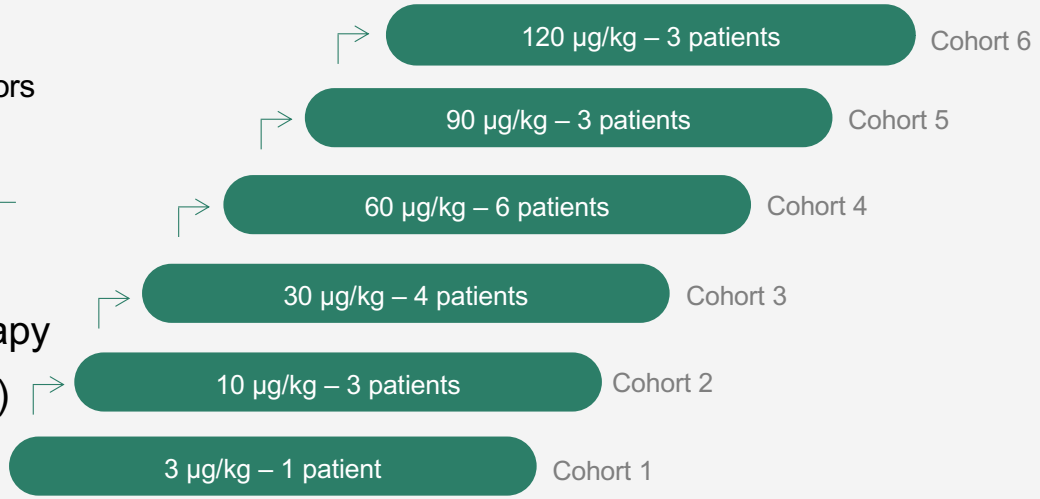
MDNA11 Q2W IV; cut-off date: June 20, 2023

Modified 3+3 design. Open-label

Assess safety & tolerability of MDNA11 monotherapy

Identify Recommended Dose for Expansion (RDE)

NCT05086692



MDNA11 Monotherapy Dose Expansion

N≈40: Melanoma and other selected solid tumors

MDNA11 Q2W IV at RDE

Further evaluate safety and tolerability

Evaluate single-agent anti-tumor activity

MDNA11 + Anti-PD-1 (Pembrolizumab) Dose Expansion

N≈40: Melanoma and other selected solid tumors

MDNA11 + anti-PD-1 (pembrolizumab)

Evaluate safety and tolerability of MDNA11 / anti-PD-1 combination

Evaluate combination anti-tumor activity

ABILITY: Patient Baseline Characteristics in Dose Escalation

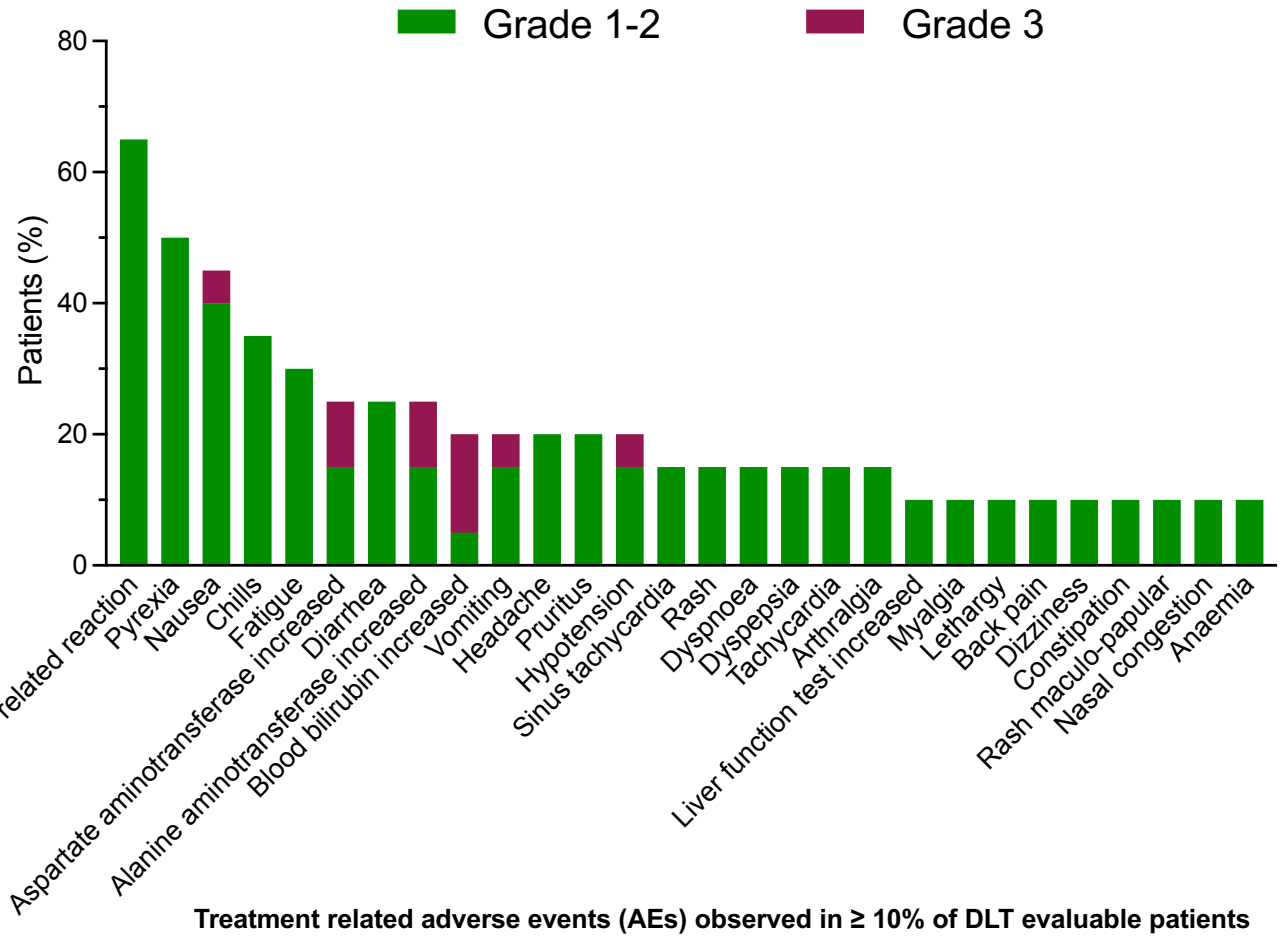
Demographics/Performance	
Median age, years (range)	**61 (27-78)**
Male (%)	**16/20 (80%)**
ECOG 0	**14/20 (70%)**
ECOG 1	**6/20 (30%)**

Prior Systemic Therapies	
Prior Lines of Therapy: 1	**5/20 (25%)**
Prior Lines of Therapy: 2-4	**15/20 (75%)**
Prior Immunotherapy	**15/20 (75%)**
Prior Targeted Therapy	**5/20 (25%)**
Prior Chemotherapy	**9/20 (45%)**

Primary Cancer Diagnosis	
Melanoma	**11/20 (55%)**
Renal Cell Carcinoma (non-clear cell)	**2/20 (10%)**
Pancreatic Ductal Adenocarcinoma (PDAC)	**2/20 (10%)**
Sarcoma	**2/20 (10%)**
Squamous Cell Carcinoma	**1/20 (5%)**
Gastro-esophageal Adenocarcinoma	**1/20 (5%)**
Lung Adenocarcinoma	**1/20 (5%)**

Most patients received multiple prior lines of anti-cancer therapy, including immunotherapy

Single Agent Safety Profile Across all Dose Escalation Cohorts



Treatment related adverse events (AEs) observed in ≥ 10% of DLT evaluable patients

No DLTs or MTD reached

No Grade 4/5 events

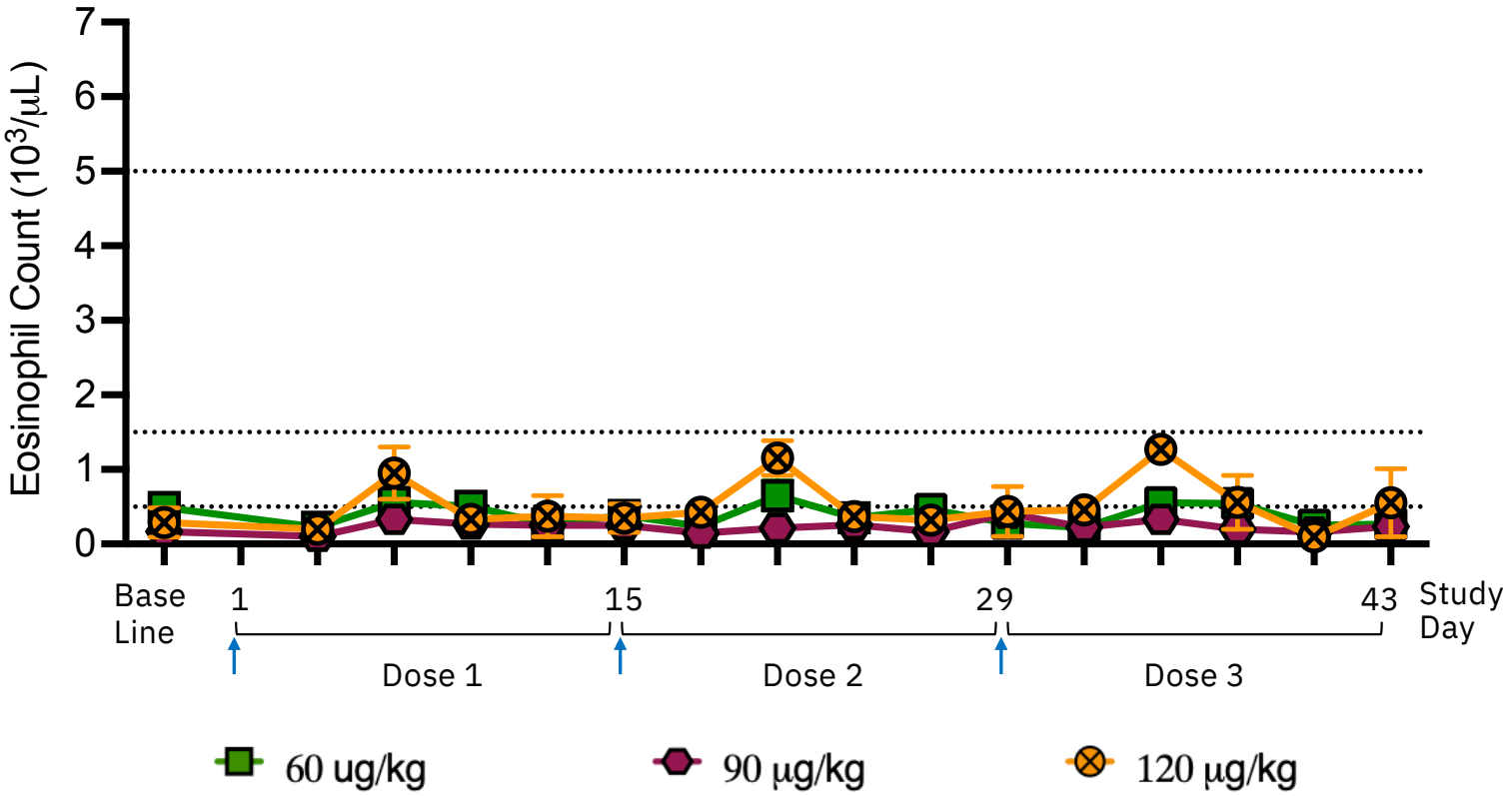
Majority of AEs Grade 1/2 and resolved within 1-2 days

Data cut-off: June 20, 2023

MNDA11 generally well-tolerated across cohorts

No Significant Eosinophilia (Associated with VLS)

Vascular Leak Syndrome (VLS) is a hallmark dose-limiting toxicity of IL-2



Severe Eosinophilia

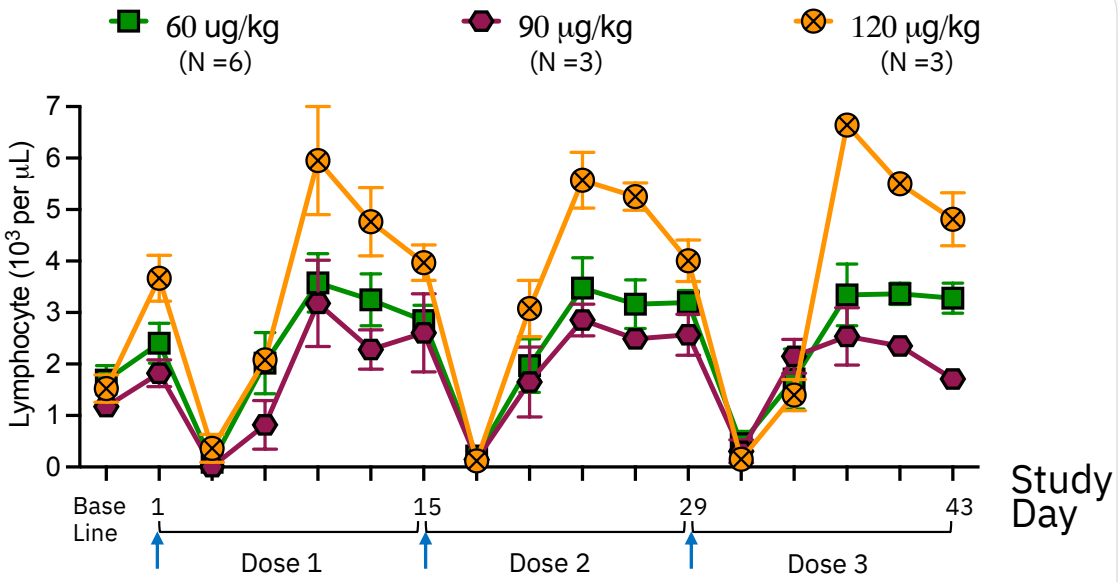
Moderate Eosinophilia

Mild Eosinophilia

Only for for target doses are shown

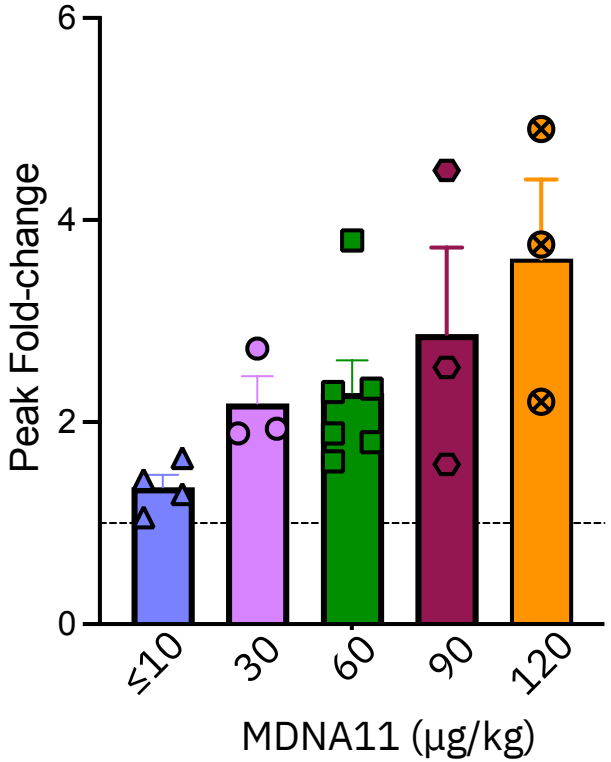
MDNA11-Induced Sustained Dose-Dependent Lymphocyte Expansion

Expansion of cancer killing immune cells



	60 µg/kg	90 µg/kg	120 µg/kg
Average Baseline Lymphocyte (10^3 per µL)	1.48	1.17	1.52
Median Age, years (Range)	58 (27-78)	74 (73-75)	49 (41-67)

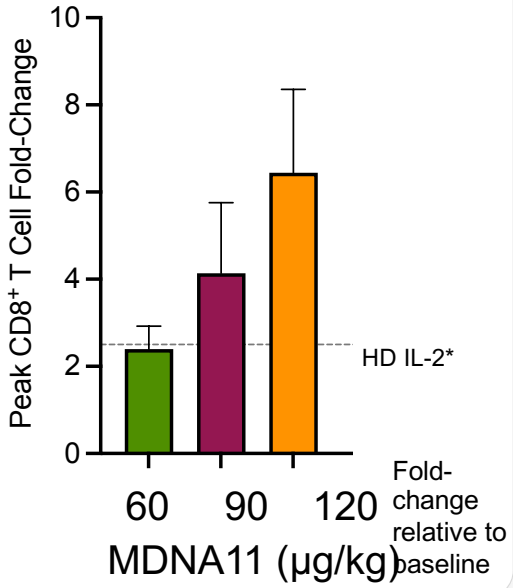
Lymphocyte Peak Fold-Change



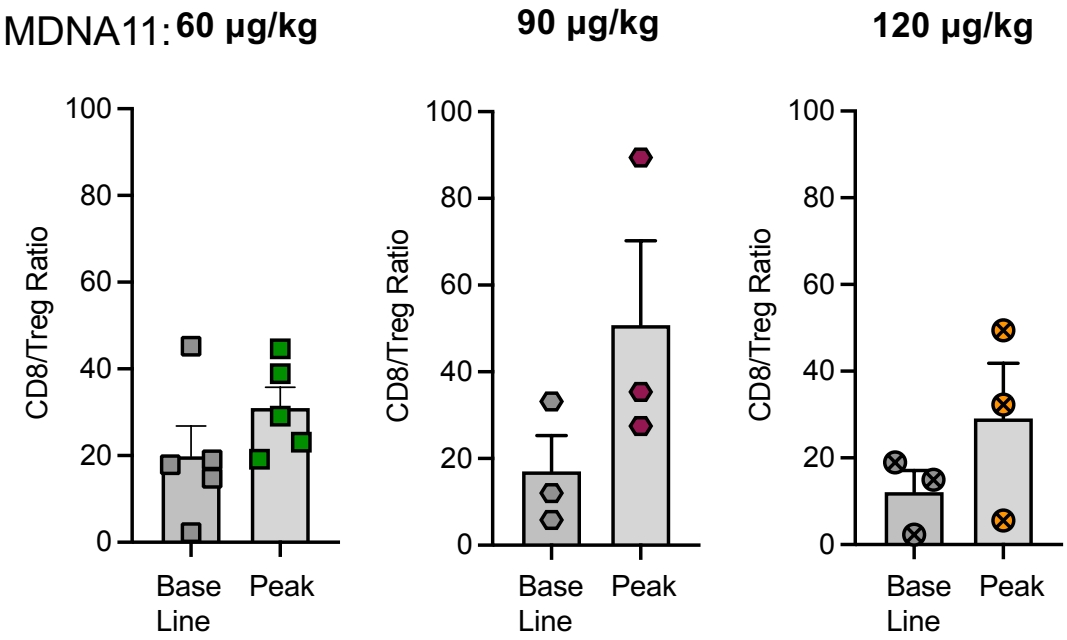
Peak fold-change relative to baseline.
Graph shows mean ± SEM
For < 10 µg/kg and 30 µg/kg, peak data for Dose 3
For 60 µg/kg, 90 µg/kg and 120 µg/kg, peak data for Target Dose 1

MDNA11 Preferentially Induced CD8+ T Cell Expansion Over Tregs

Peak Increase: CD8+ T Cell



Peak Increase: CD8+/Treg Ratio

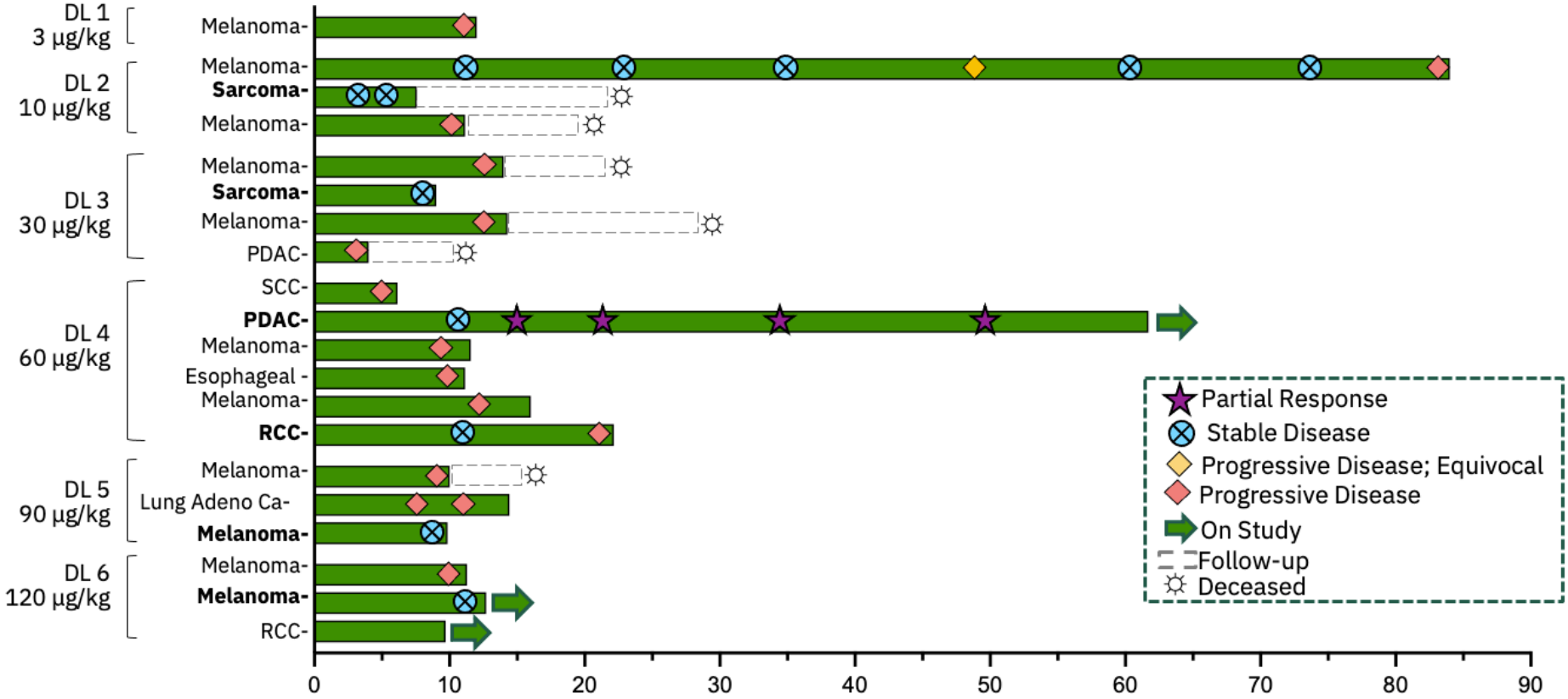


CD8+ T cells are powerful effectors of the anti-cancer immune response

* R. Bhatt et al., Peripheral blood lymphocyte responses in patients with renal cell carcinoma treated with high-dose interleukin-2, presented at SITC 2018

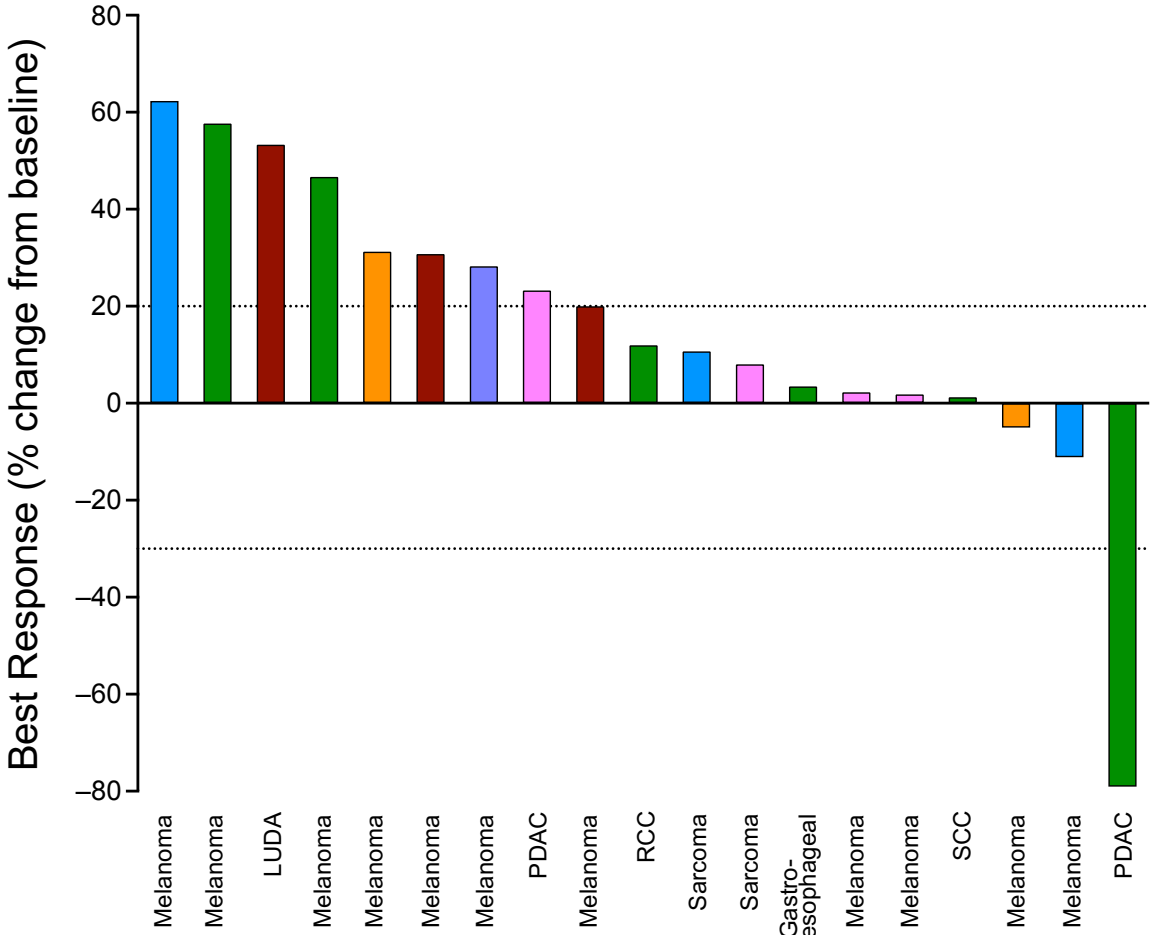
Durable Responses Observed During Dose Escalation

SD lasting ~18 months in 71-year-old patient with metastatic melanoma treated with 2 prior lines of IO



Data cut-off: June 20, 2023

MDNA11 Shows Single Agent Clinical Activity



DL6: 120 µg/kg
DL5: 90 µg/kg
DL4: 60 µg/kg
DL3: 30 µg/kg
DL2: 10 µg/kg
DL1: 3 µg/kg

Confirmed partial response (PR) achieved in a 55-year-old patient with metastatic pancreatic cancer treated with MDNA11 at 60 µg/kg IV Q2W

19 of 20 patients with at least one follow-up assessment

Data cut-off: June 20, 2023

ABILITY Study Plan – Dose Expansion & Combination Phase

Global, multi-center, open-label Phase 1/2 study

Monotherapy dose escalation and expansion; combination with Pembrolizumab

A: Monotherapy Dose Escalation

MDNA11 IV (Q2W)
Advanced solid tumors, N = 20;
Pretreated

- 120 µg/kg
- **RDE: 90 µg/kg**
- 60 µg/kg
- 30 µg/kg
- 10 µg/kg
- 3 µg/kg

B: Monotherapy Dose Expansion

MDNA11 IV at 90 µg/kg (Q2W)

- Melanoma
- Non-melanoma skin cancer
- MSI-high MMR-deficient cancer

Objectives: safety and anti-tumor activity

C: Combination Study with Pembrolizumab

MDNA11 IV + Pembrolizumab

- Melanoma
- TBD
- TBD

Objectives: safety and anti-tumor activity

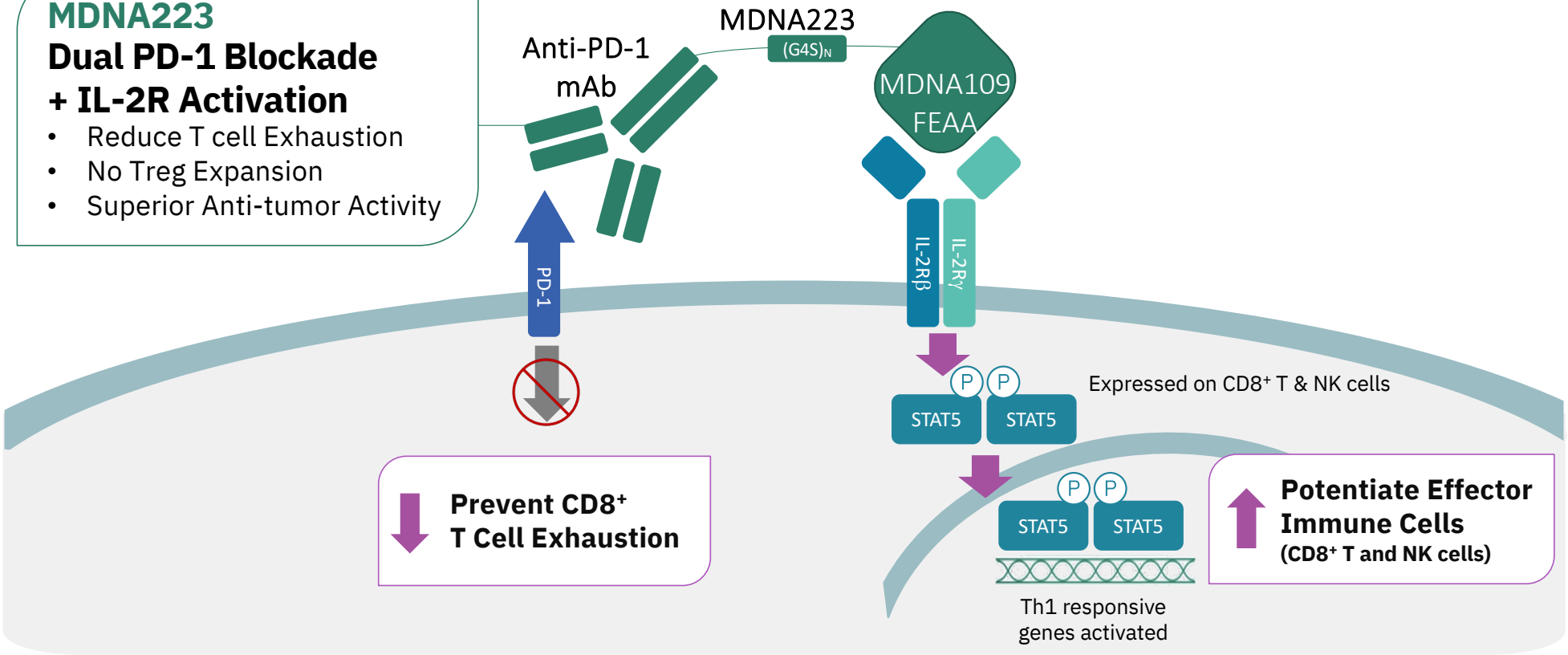
Bifunctional **S**uper**K**ines for **I**mmuno**T**herapy (BiSKIT)

MDNA223: Anti-PD1-IL-2 Superkine BiSKIT

Synchronized cis-binding for PD-1 blockade and IL-2R activation on same CD8⁺ T or NK cell

MDNA223
Dual PD-1 Blockade + IL-2R Activation

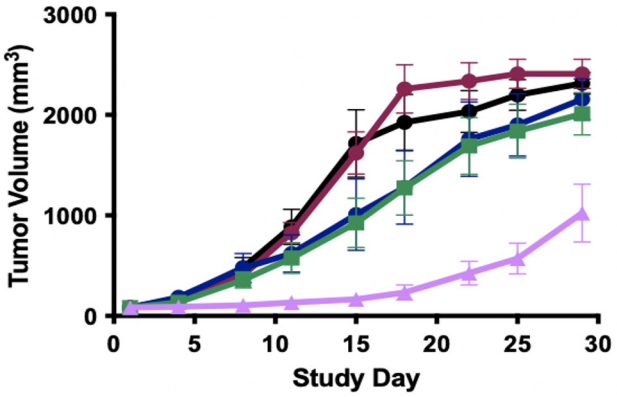
- Reduce T cell Exhaustion
- No Treg Expansion
- Superior Anti-tumor Activity



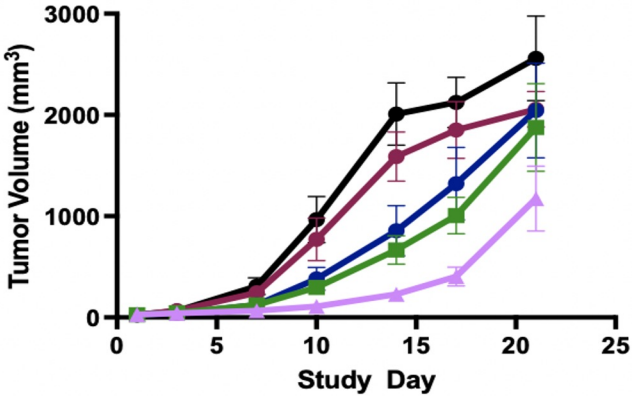
MDNA223m Demonstrated Superior Anti-Tumor Activity

MDNA223m showed higher levels of anti-tumor activity than co-administration in pre-clinical studies

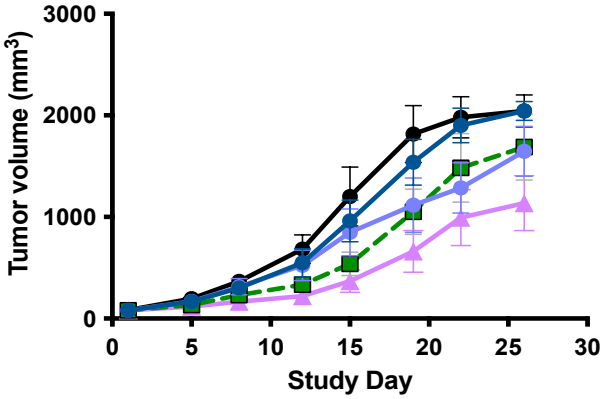
CT26 Colon Tumor Model



B16F10 Melanoma Model



E0771 Breast Tumor Model



- Vehicle
- Anti-PD1 (1.8 mg/kg)
- MDNA19 (1 mg/kg)
- Anti-mPD1 (1.8 mg/kg) + MDNA19
- MDNA223m (2 mg/kg)

- Vehicle
- Anti-mPD1 (10 mg/kg)
- MDNA19 (1 mg/kg)
- Anti-mPD1 (10 mg/kg) + MDNA19
- MDNA223m (2 mg/kg)

Treatment with molar equivalent doses of anti-PD1 (150 Kda), MDNA19 (83 Kda) or MDNA223m (165 Kda).
IP treatment QWx2 (CT26 and E0771) and QWx3 (B16F10)
Avg tumor size at initiation of dosing: 127 mm^3 (CT26), 80 mm3 (E0771) or 30 mm^3 (B16F10)

MDNA55

Empowered IL-4 Superkine Targeting Glioblastoma

Improvement of ~ 100% in mOS vs External Control Arm (ECA)

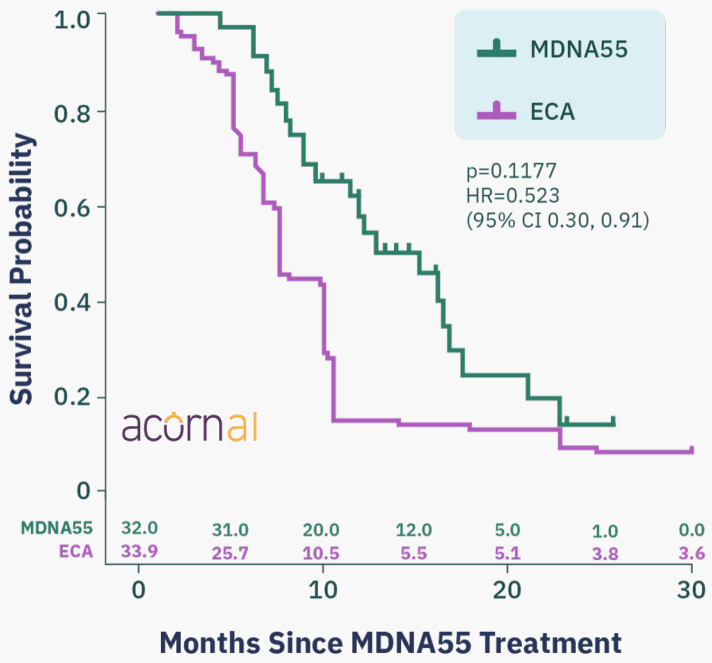
Results*

Weighted IL4R High + IL4R Low$^{High\ Dose}$ (n=32)
mOS is 15.7 months vs 7.2 months in ECA

→ Survival time more than doubled in the IL4R High + IL4R Low$^{High\ Dose}$ group compared to ECA

Bisaxofusp (MDNA55) is Phase 3 ready in recurrent glioblastoma

IL4R High + IL4R Low$^{High\ Dose}$



*Survival was calculated from time of relapse

Next Milestones

Upcoming Anticipated Milestones & Financial Summary

ABILITY Study Fully Funded – Cash Runway Through Q3 2024

Anticipated Milestones

Start of ABILITY monotherapy expansion	**Q3 2023**
Update from ABILITY monotherapy expansion	**Q4 2023**
Commence combination phase of ABILITY with MDNA11 & pembrolizumab	**Q4 2023**
Update from ABILITY mono- and combination phases	**Q1 2024**

Financial Highlights

Nasdaq/TSX	MDNA
Headquarters	Toronto, CA
Cash	CDN $29.6M *
Debt	$0
Preferred Shares	None
Issued and Outstanding	~70 Million*
Fully Diluted	~92 Million*

* As of June 30, 2023.

Thank you

Fahar Merchant, PhD / President and CEO
fmerchant@medicenna.com

Delphine Davan, MSc, MBA / VP Investor Relations
ddavan@medicenna.com

Medicenna Therapeutics: TSX, NASDAQ: MDNA
Toronto, Houston, Boston
www.medicenna.com

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