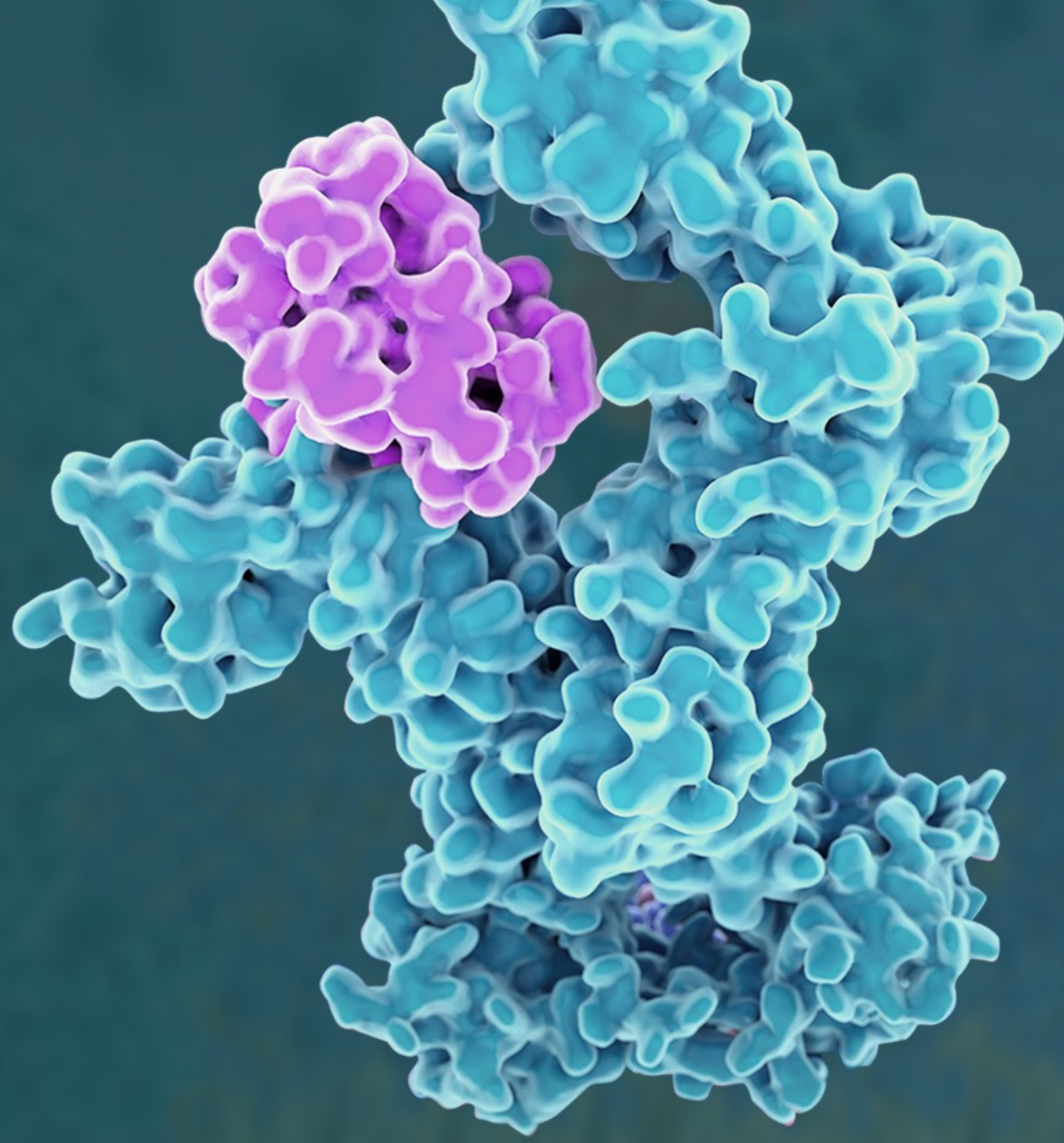
SEPTEMBER 21, 2022

Evolutionary Cytokines Revolutionary Medicines



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Investment Highlights

Clinical Data Updates from MDNA11 Program Expected Throughout 2022

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**

Clinical data updates expected **throughout 2022**

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

Pursing a **partnership** to advance development

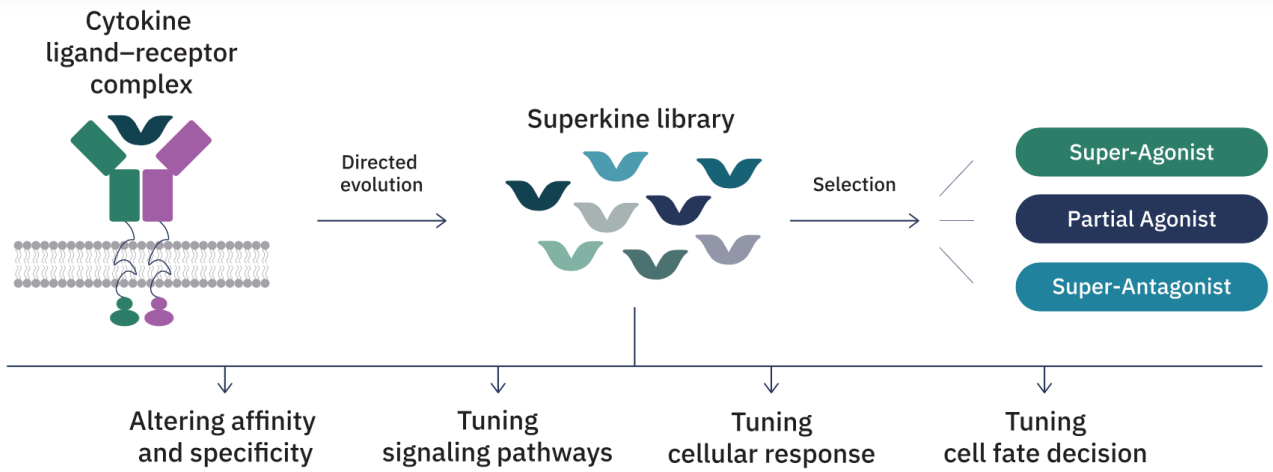
BiSKIT Platform:
Bifunctional **S**uper**K**ines for **I**mmuno**T**herapy

Fusion of two Superkines or a Superkine and an antibody (e.g. a checkpoint inhibitor)

Incorporate **two synergistic MOAs** into a single molecule

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

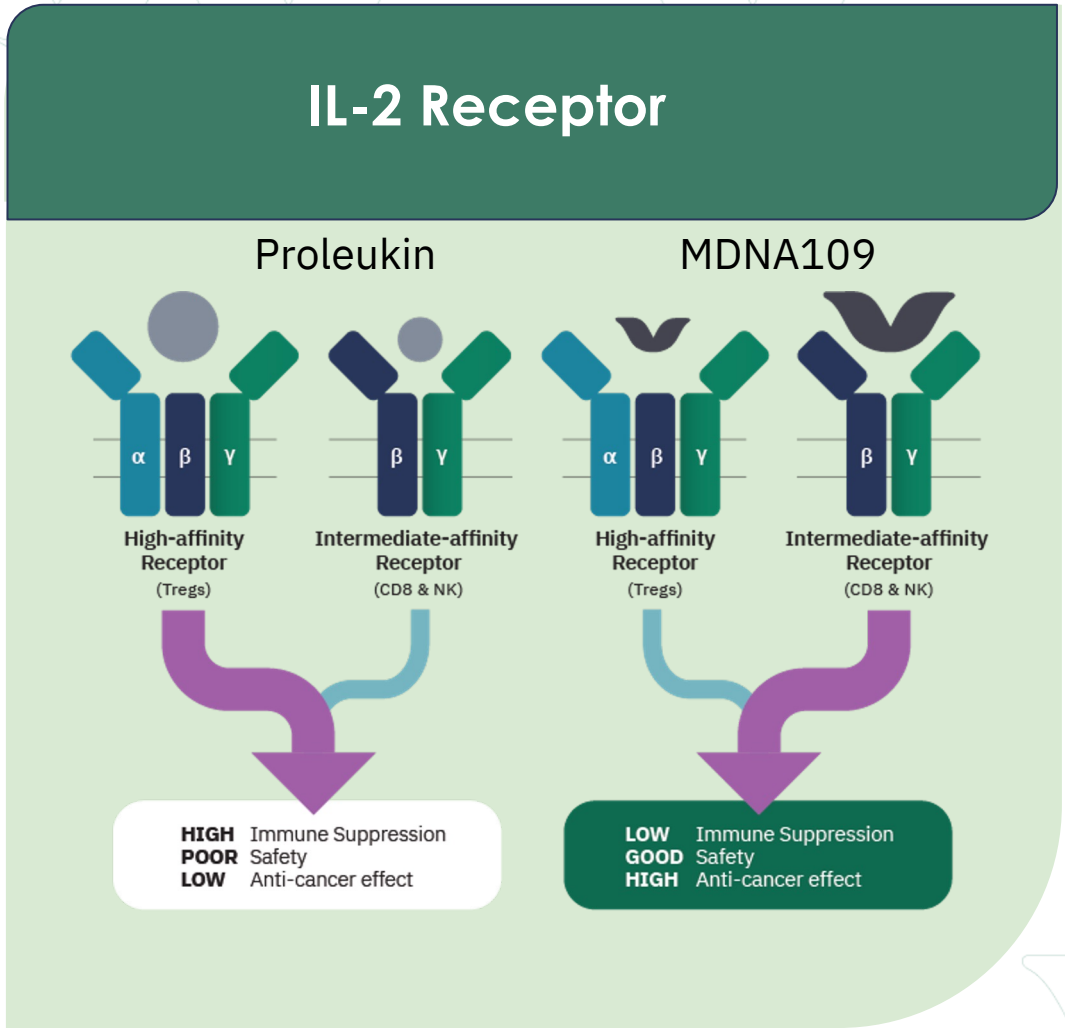
Lead Selection & Development

Advance the most promising candidates towards clinical studies

MDNA11

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

Targeting IL-2 Receptor Subunits in Cancer Therapy



Mullard, Nat Rev Drug Discovery 20(3): 163-165, 2021.

- **The IL-2 receptor (IL-2R) consists of three subunits**
  - CD25 (IL-2Rα)
  - CD122 (IL-2Rβ)
  - CD132 (IL-2Rγ)

- **Stimulation of CD122**
  - Key for the activation of cancer killing immune cell such as CD8+ T cells, naïve T cells, and NK cells

- **Stimulation of CD25**
  - Leads to activation of immunosuppressive Tregs, which abrogate the anti-tumor response
  - Causes extreme toxicity (i.e., pulmonary edema, vascular leak syndrome)

Proleukin® (recombinant human rhIL-2), which selectively stimulates CD25, is approved for the treatment of metastatic melanoma and renal cell carcinoma

IL-2 Transaction Landscape

Bristol Myers and Nektar

$3.6 Billion licensing transaction

Sanofi and Synthorx

$2.5 Billion acquisition – Phase 1

Merck and Pandion

$1.85 Billion acquisition – Phase 1

Roche and Good Therapeutics

$250M acquisition – Preclinical

MDNA11 Compares Well With Other IL-2 Programs

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

	MDNA11	Proleukin[1]	SAR'245[2]	ALKS 4230[3]	NL-201[4]	WTX-124[5]	XTX202[6]	STK-012[7]
No binding to IL-2Rα	✓	✗	✓	✓	✓	✗	✓	✗
Enhanced IL-2Rβγ Binding	✓	✗	✗	✗	✓	✗	✗	✗
Q2W or Q3W Dosing	✓	✗	✓	✗	✓	Unknown	✓	✓
Albuminated	✓	✗	✗	✗	✗	✗	✗	✗
No Pegylation Liabilities	✓	✓	✗	✓	✗	✓	✓	✗

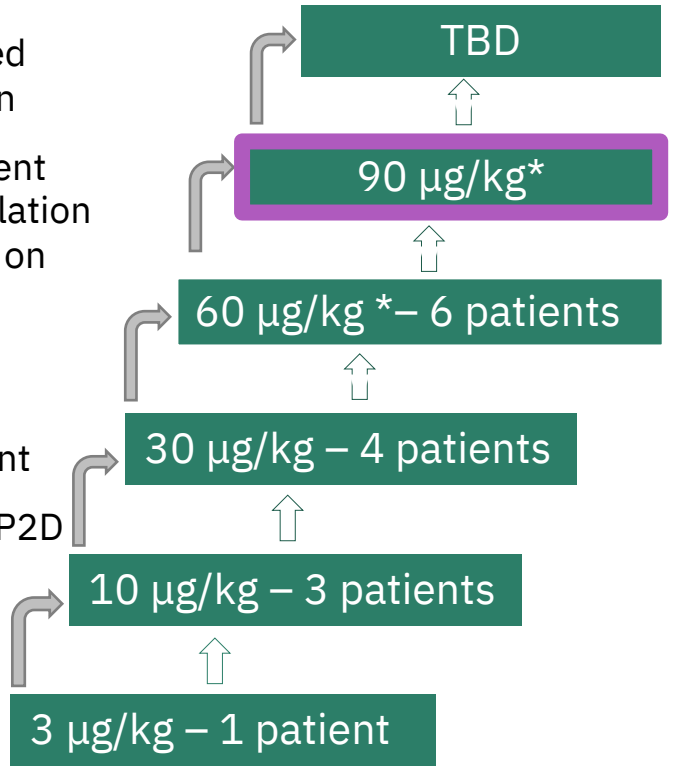
[1] Nature Rev. Drug Discovery (2021). [2] Ptacin et al., Nat Comm (2021). [3] Lopes et al., JITC (2020). [4] Da Silva et al., Nature (2019). [5] Nirschl et al, Cancer Immunol Res (2022). [6] O'Neil et al., ASCO (2021). [7] Oft et al, AACR (2021). Additional information from https://clinicaltrials.gov/

Phase 1/2 ABILITY Study Schema: Enrolling Dose Level 5

MDNA11 Monotherapy Dose Escalation

N ~ 20: Select tumors

- Modified, accelerated 3+3 design
- Intra-patient dose escalation permitted on sponsor approval
- DLT assessment
- Identify RP2D



MDNA11 Monotherapy Dose Expansion

N~ 40: Melanoma, RCC and other select tumors (1:1:1)

MDNA11 administered alone at RP2D via IV infusion Q2W or Q3W

Signals of anti-tumor activity

MDNA11 + CPI Dose Expansion

N~ 40: Melanoma, RCC and other select tumors (1:1:1)

Safety run-in

MDNA11 administered at RP2D in combination with CPI via IV infusion Q3W (planned)

Signals of anti-tumor activity

Endpoints:

- Safety and tolerability
- ORR (RECIST 1.1)
- Clinical Benefit Rate (CBR) (CR+PR+SD)
- Survival EPs (TTE Analysis) PFS/OS
- Disease Control Rate (DCR)
- Duration of Response (DoR)
- Time to Relapse (TTR)

Pharmacodynamic Assessment:

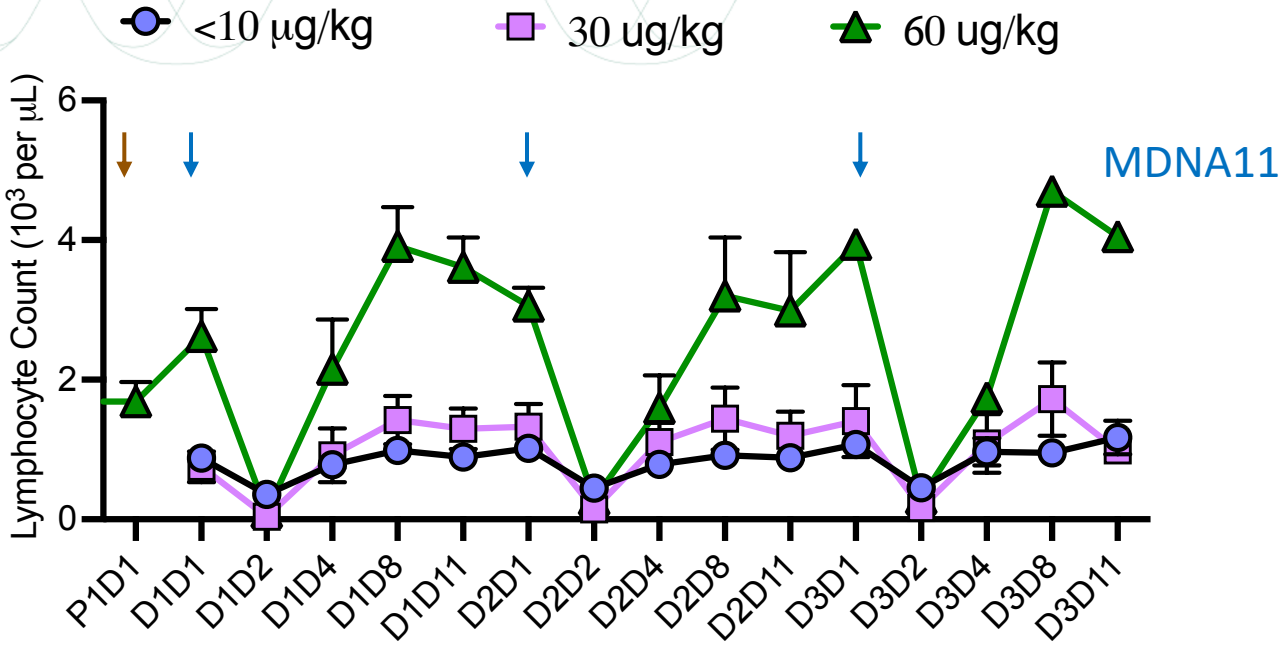
- Immune Cell Profiling (Blood)
- Serum Cytokines
- Multiplex Immunofluorescence (Paired tumor biopsies)
- NanoString Gene Expression (Paired tumor biopsies)

*Step-up dosing utilized: two priming doses of 30µg/kg given before target dose

Protocol Version 5

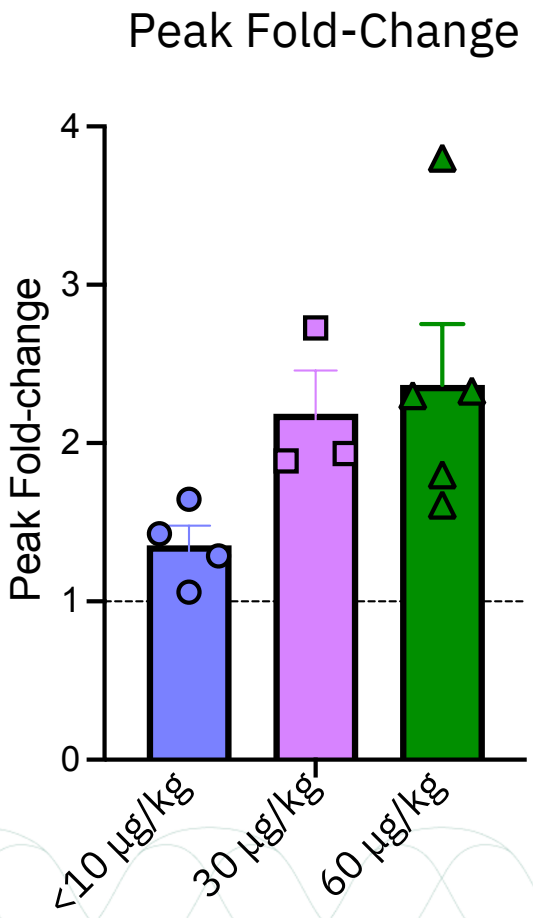
MDNA11 Induced Lymphocyte Expansion

- Expansion of circulating lymphocytes irrespective of baseline count



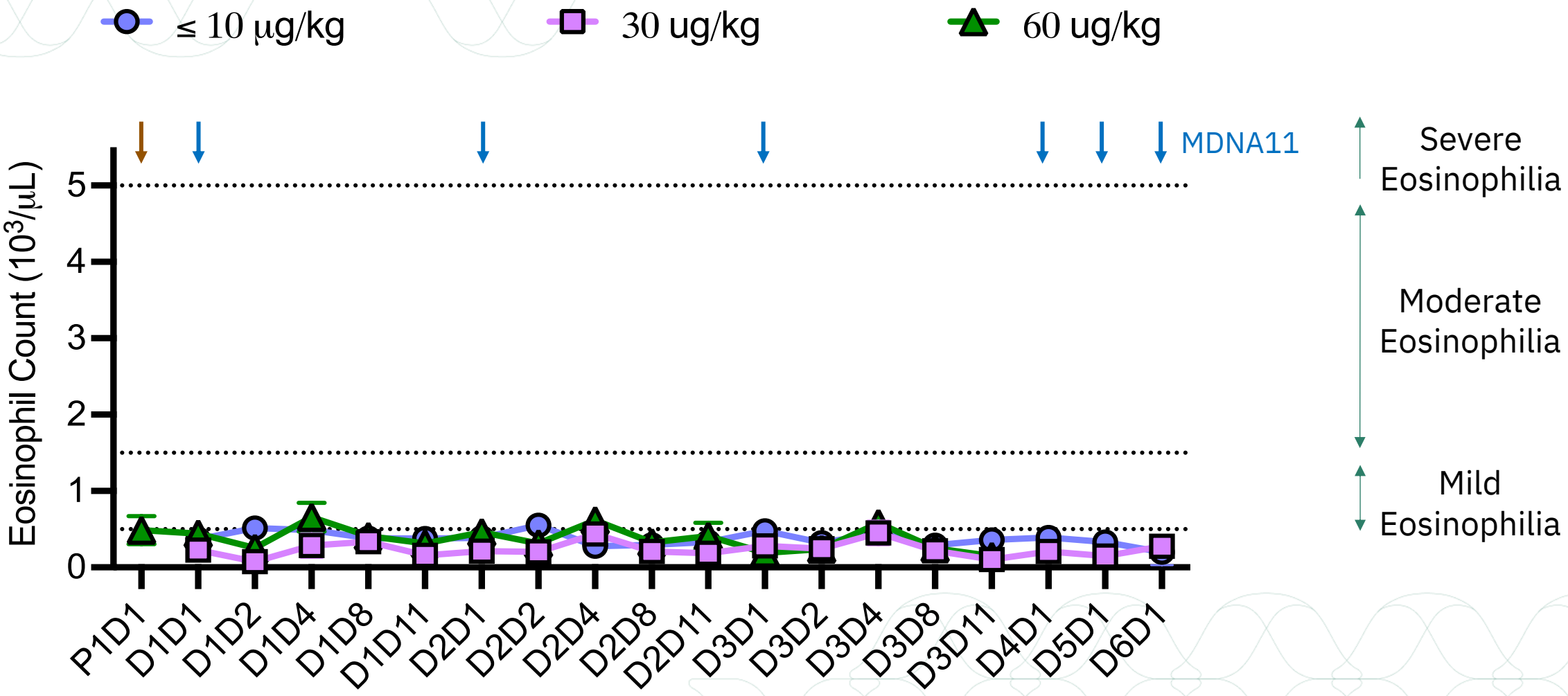
	Average AUC (day.10³ cells/µL) (Average of Dose 1 & 2)
< 10 µg/kg	3
30 µg/kg	4.8
60 µg/kg	12.2

DL4 patients received 2 priming doses (30 µg/kg Q2W) prior to target dose (60 µg/kg Q2W)
Graph shows mean ± SEM.
AUC measured as area between minimum lymphocyte count values



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, peak data for Target Dose 1

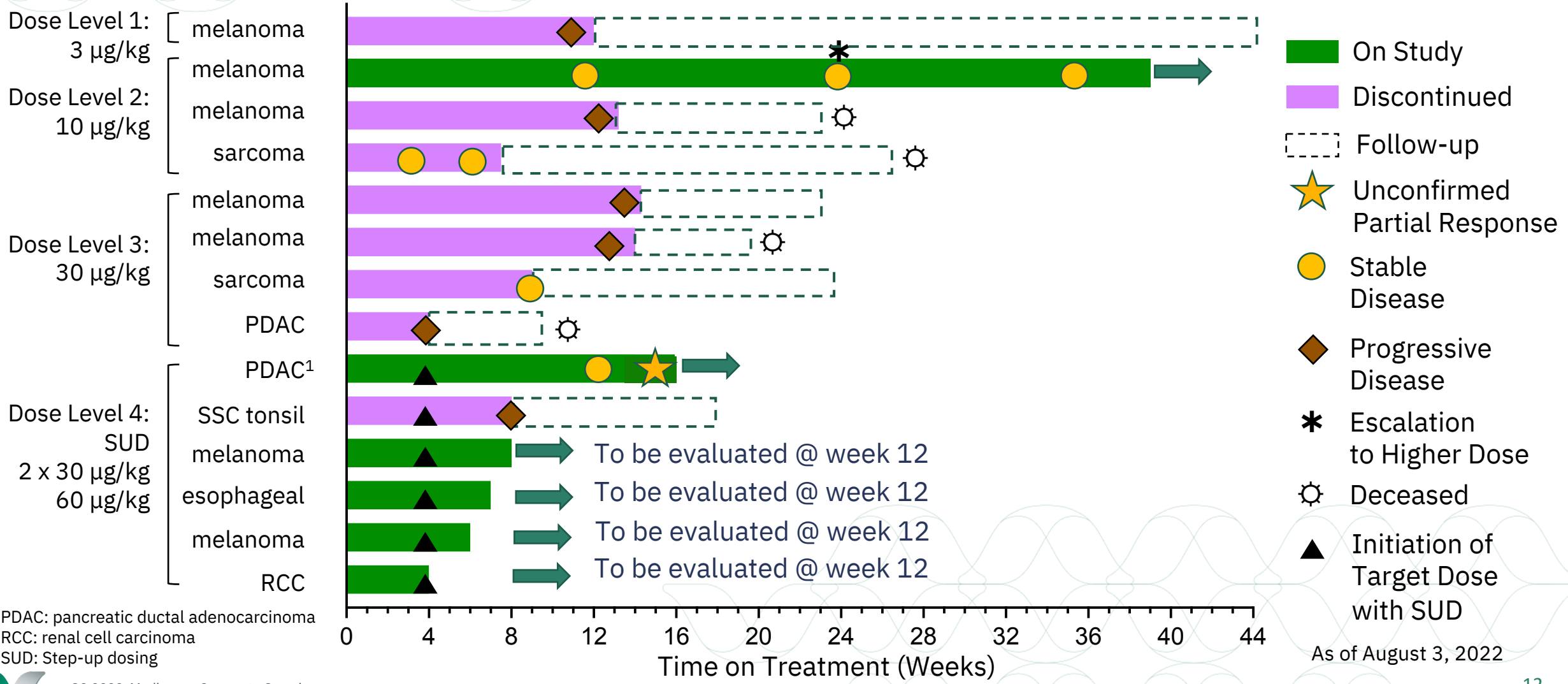
No Evidence of Eosinophilia Associated with VLS



DL4 patients received 2 priming doses (30 µg/kg Q2W) prior to start of target dose of 60 µg/kg (Q2W)
Graphs show mean ± SEM.

Duration of Treatment and Summary of Response

- Tumor control in 4 of 10 evaluable patients (including 1 unconfirmed PR) despite low dose levels and heavily pre-treated patients



PDAC: pancreatic ductal adenocarcinoma
RCC: renal cell carcinoma
SUD: Step-up dosing

1 – Patient demonstrated stable disease at 12 week scan and an unconfirmed partial response (per RECIST 1.1) at a 16 week scan on August 1, 2022 which is preliminary and must be confirmed by a second scan at equal to or greater than 28 days

MDNA55

Empowered IL-4
Superkine Targeting
Glioblastoma

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

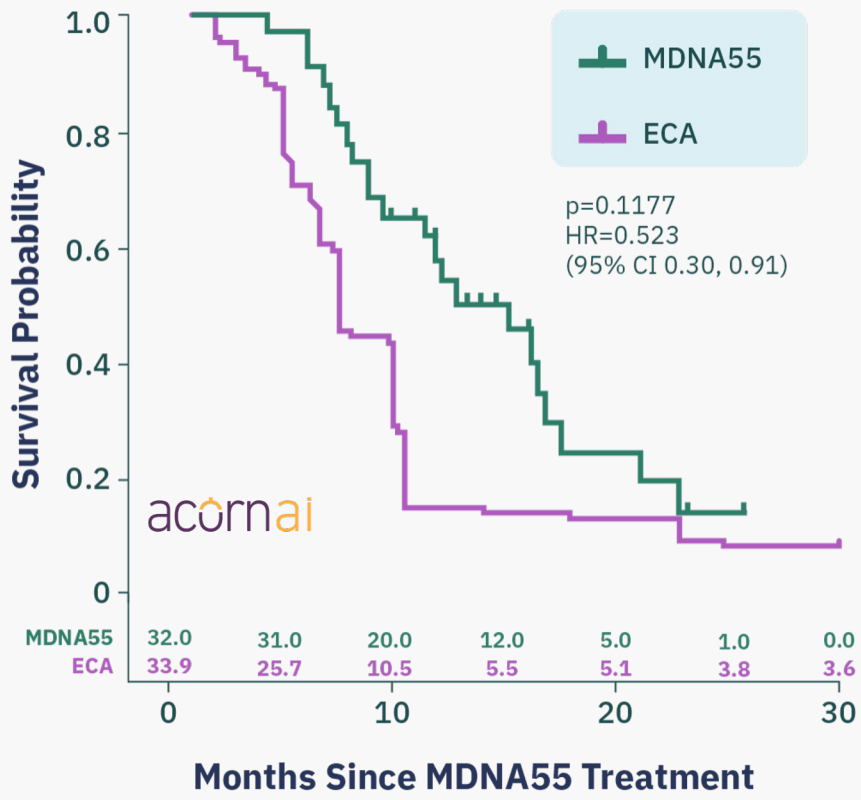
Results*

Weighted IL4R High + IL4R Low$^{\text{High Dose}}$ (n=32)

mOS is 15.7 months vs 7.2 months in ECA

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

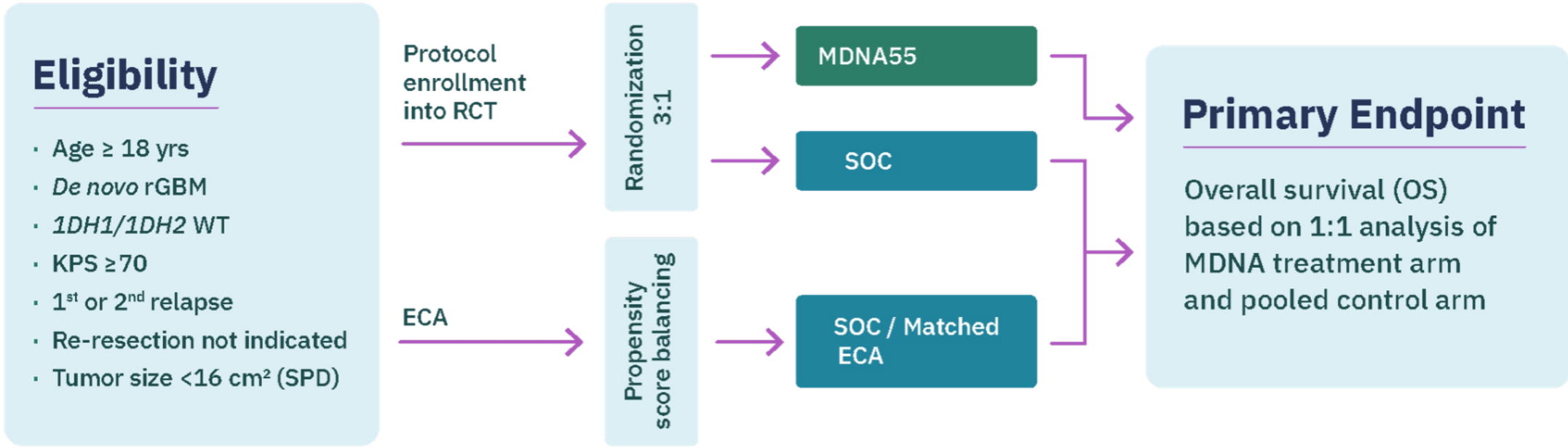
IL4R High + IL4R Low$^{\text{High Dose}}$



*Survival was calculated from time of relapse

Planned MDNA55 Phase 3 Trial – Hybrid Design With ECA

Hybrid Design Trial with an External Control Arm



Study Assumptions

- 90% power
- HR of MDNA55 vs. pooled control = 0.65
- 2-sided alpha = 0.05
- Effect size = 4.6 months in mOS time
- Drop-out rate = ~5%

Upcoming Anticipated Milestones & Financial Summary

2022/2023 Anticipated Milestones

- Fourth Dose Cohort Initial Anti-Tumor Activity Data **(September 2022)**
- Fifth Dose Cohort Initial Anti-Tumor Activity Data **(Q4 2022)**
- Single Agent Expansion Anti-Tumor Activity Data **(Mid 2023)**
- Combination Study Top-Line Anti-Tumor Activity Data **(2H 2023)**

Financial Highlights

Nasdaq/TSX	**MDNA**
Headquarters	**Toronto, CA**
Cash	**CDN $19.3M ** +US$20M 08/22**
Debt	**$0**
Preferred Shares	**None**
Issued and Outstanding	**~70 Million***
Fully Diluted	**~92 Million***

*As of August 12, 2022
**As of June 30, 2022

Thank you

Fahar Merchant, PhD
President and CEO

Elizabeth Williams
Chief Financial Officer

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