



MEDICENNA



TSX: MDNA OTCQX: MDNAF

Corporate Overview

October 2025

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Our mission: To develop life-changing immunotherapies that transform people's lives and deliver the best possible patient outcomes

Key financial highlights:

(as of 6/30/2025)

\$20.5M

cash and cash equivalents

Runway through mid-2026

~20

employees with an experienced leadership team

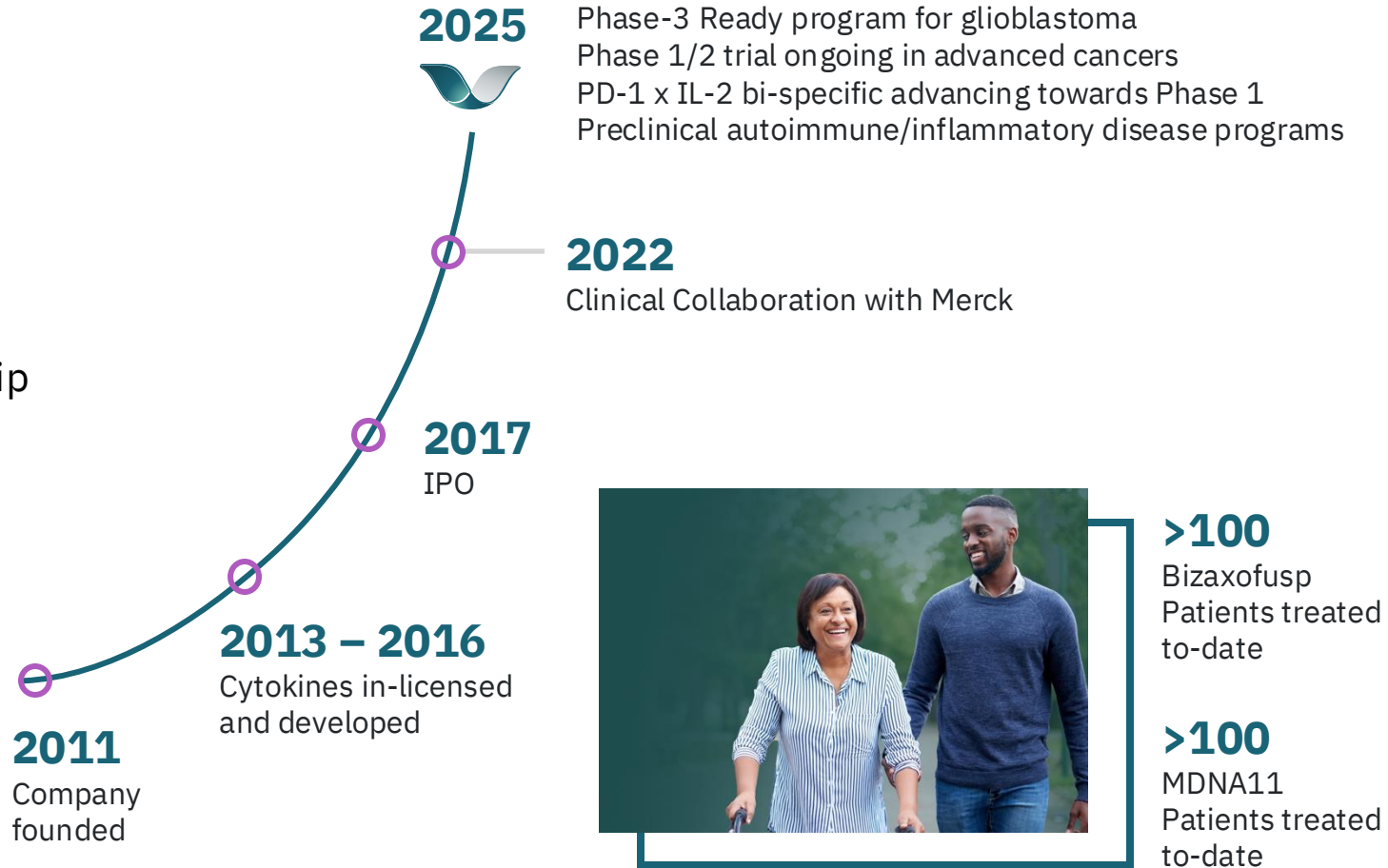
105M*

fully diluted shares outstanding

22%

insider ownership

** includes \$20M private placement by RA Capital in 2024, consisting of ~5M common shares and ~5M pre-funded warrants*



>100
Bizaxofusp
Patients treated to-date

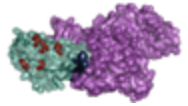
>100
MDNA11
Patients treated to-date

Clinical-Stage Immunotherapy Company Focused on **Evolutionary Superkines** to Develop **Revolutionary Medicines** for **Patients with Unmet Needs**

Programs

Planned Milestones for H2 2025

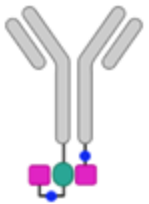
MDNA11



Best-in-class IL-2 Superkine
The only non- α , β -enhanced long-acting IL-2 super agonist

30-50% ORR
in checkpoint resistant cancers (P1/2 ABILITY-1 Trial)

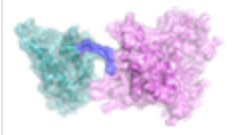
MDNA113



Targeted α PD1 Bispecific
The only tumor-activated antiPD-1 x IL-2 bispecific targeting IL-13R α 2 cancers

Preclinical PoC
Promising efficacy with wide therapeutic window

Bizaxofusp



First-in-Class IL-4R Targeted Therapy
Delivers potent payload **treating deadliest form of brain cancer, rGBM**

Doubling Survival
median OS ~14 months versus ~7 months for matched control

- Complete ABILITY-1 Enrollment
- Monotherapy Expansion Data
- Top-Line Combo Data w/ KEYTRUDA®

- Non-human primate testing underway to support IND enabling studies

- Pursue partnerships to commence P3 trial in 2026

Medicenna's innovative approach to immunotherapy

Our **Superkine™** **BiSKIT™** and **T-MASK™** platforms utilize **Directed Evolution** to optimize our therapies

Modular cytokine discovery platforms



Engineered cytokines = **Superkines**



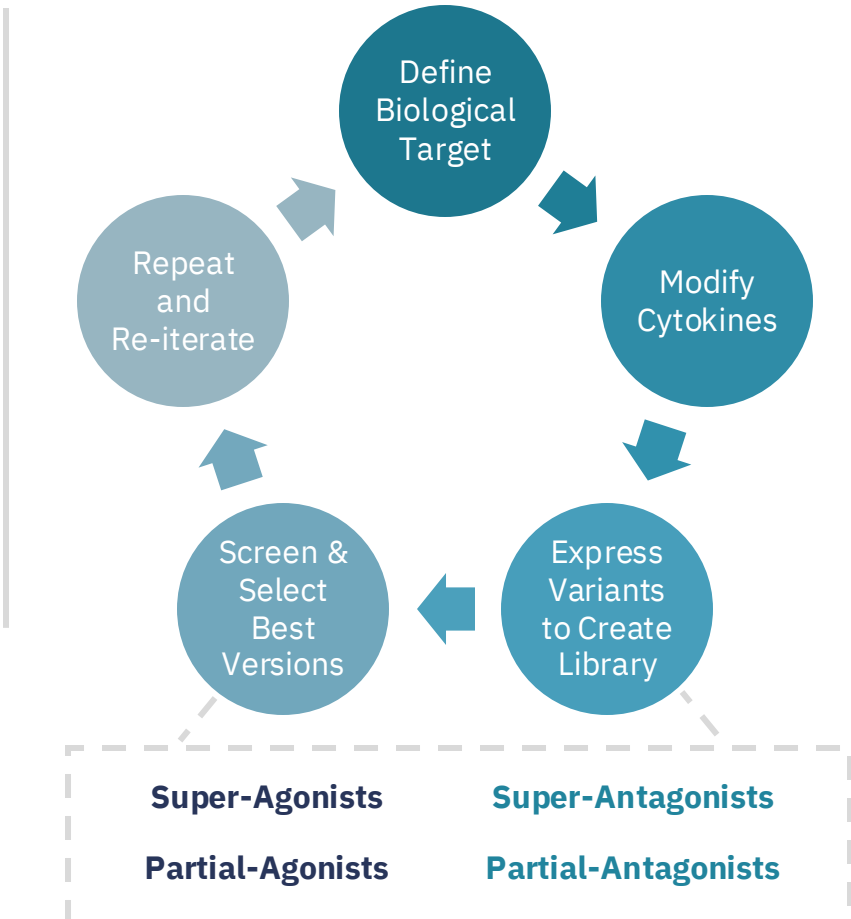
Recombinant & fusion proteins



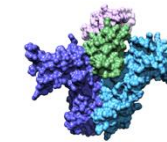
Antibody & Fc domain engineering

Directed Evolution Powers our Pipeline

Technology won the 2018 Nobel Prize in Chemistry

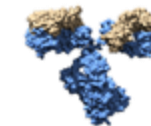


Goal: Best- and/or First-in-Class Therapies



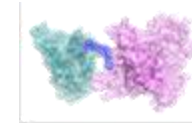
Enhanced Pharmacology

Unique PD/PK characteristics confer novel MOAs



Multi-Specific Molecules

T-MASK and BiSKIT platforms: allow for tumor-targeting, *cis*-binding, and conditional activation of our therapies



Fusion Proteins

Fusion with other molecules can allow our therapies to increase half-life, enhance tumor accumulation, and deliver toxic payloads to cancer cells

Balanced pipeline of early, mid-, & late-stage assets

Candidate	Indication	Discovery	Preclinical	Phase 1	Phase 2	Phase 3
MDNA11 IL-2 Super Agonist monotherapy	Various solid tumors	Key Data Readouts in H2 2025				
MDNA11 IL-2 Super Agonist KEYTRUDA® combo	Various solid tumors	Key Data Readouts in H2 2025				
MDNA113 Anti PD-1-IL-2 Masked BiSKIT	Various solid tumors expressing IL-13R α 2	IND-Enabling Ready				
MDNA209 IL-2/15 Pathway Super Antagonist	Autoimmune diseases	Select Lead				
MDNA413 IL-4/13 Pathway Super Antagonist	Inflammatory diseases	Select Lead				
Partnering Asset						
Bizaxofusp (MDNA55) IL-4-Toxin Fusion	Recurrent glioblastoma (rGBM)	Partner Phase 3 Ready Asset				



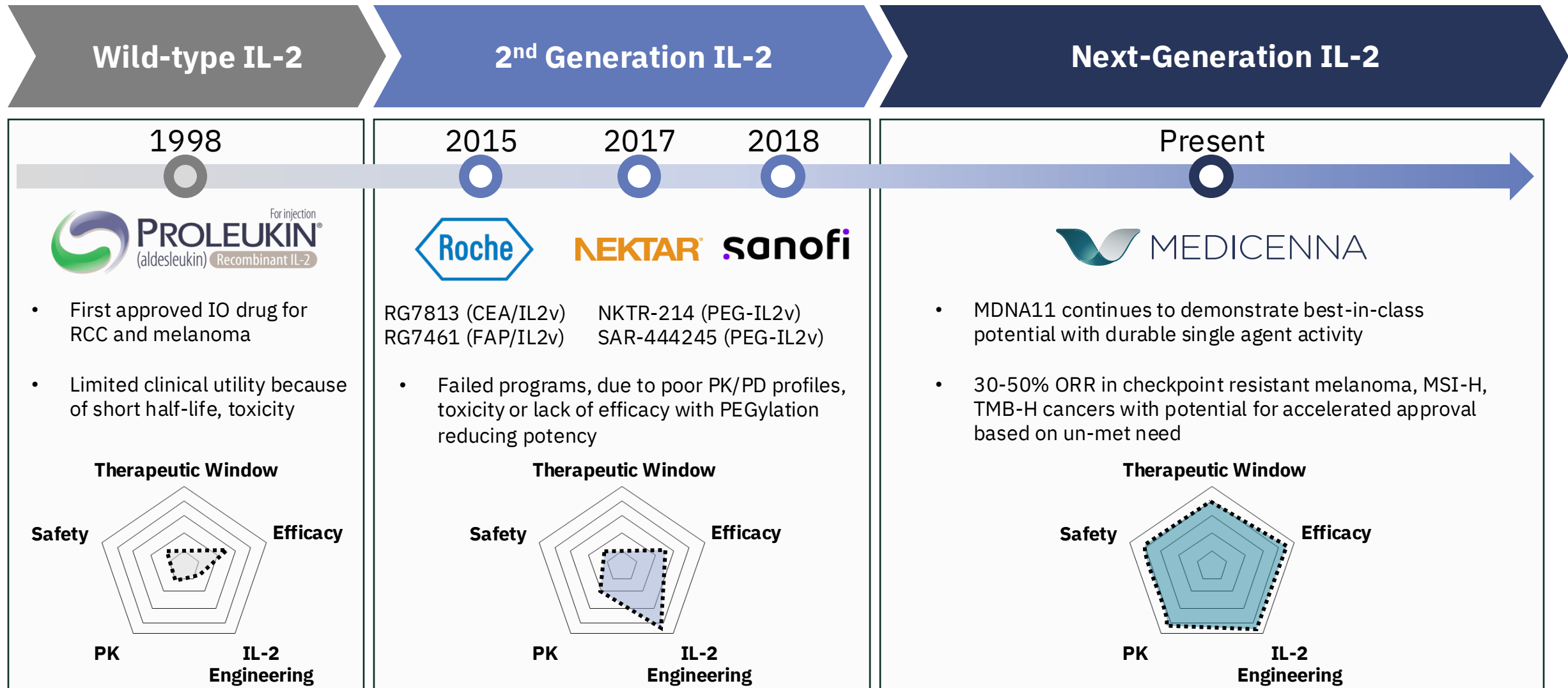
MDNA11

Clinical-Stage Asset in Phase 1/2 with a Monotherapy Treatment Arm and a Combination Arm with KEYTRUDA® (pembrolizumab)

This study is in collaboration with Merck Sharp & Dohme LLC, a subsidiary of Merck & Co., Inc., Rahway, NJ, USA.

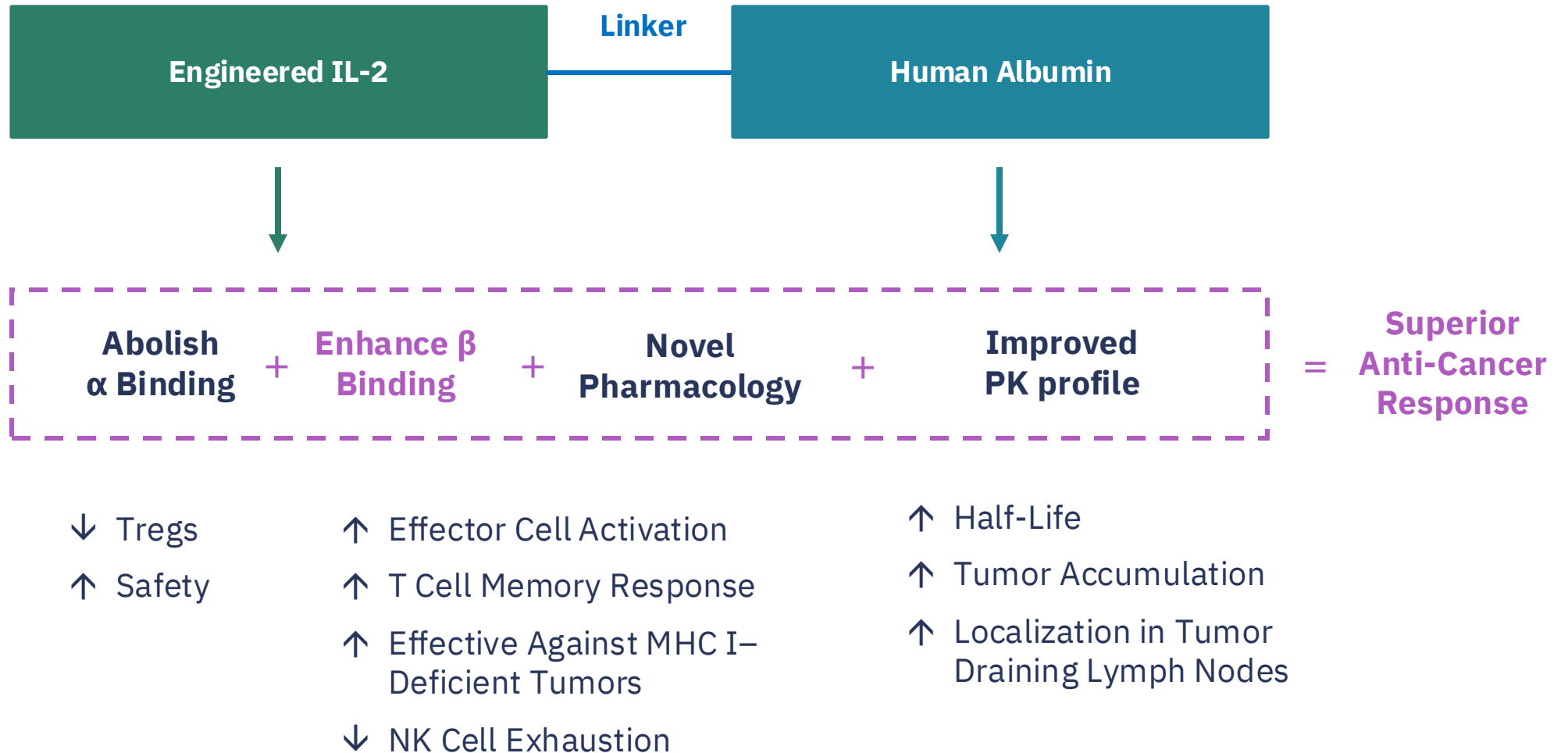


Biology-driven Evolution of IL-2 Therapies



MDNA11: Novel 'beta-enhanced not-alpha' pharmacology

Superior selectivity and anti-cancer response with enhanced 'β-only' binding



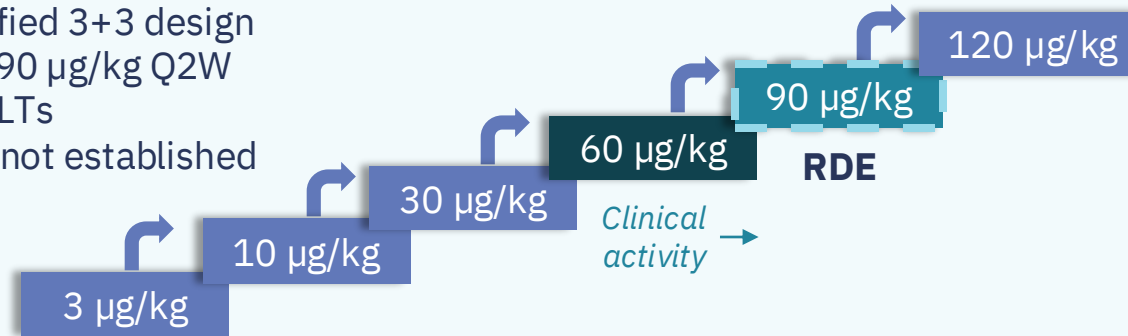
ABILITY-1 Phase 1/2 Trial: Expansion phase in-progress

Monotherapy and KEYTRUDA® combination for advanced solid tumors

✓ Escalation Enrollment Complete

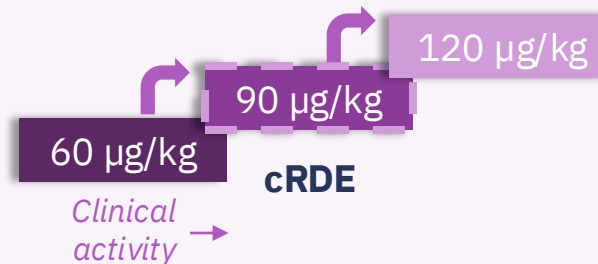
✓ MDNA11 Monotherapy

- Modified 3+3 design
- RDE 90 µg/kg Q2W
- No DLTs
- MTD not established



✓ MDNA11 + KEYTRUDA® (pembrolizumab 400 mg Q6W)

- Select CPI resistant and CPI-naïve indications
- cRDE 90 µg/kg Q2W
- No DLTs
- MTD not established



Expansion Enrollment Underway

MONOTHERAPY	COMBINATION
Cutaneous Melanoma Secondary ICI-resistant	Cutaneous Melanoma Primary ICI-resistant
MSI-H / dMMR	MSI-H / dMMR
TMB-H	TMB-H
Virally Associated Tumor	Gynecological Cancer

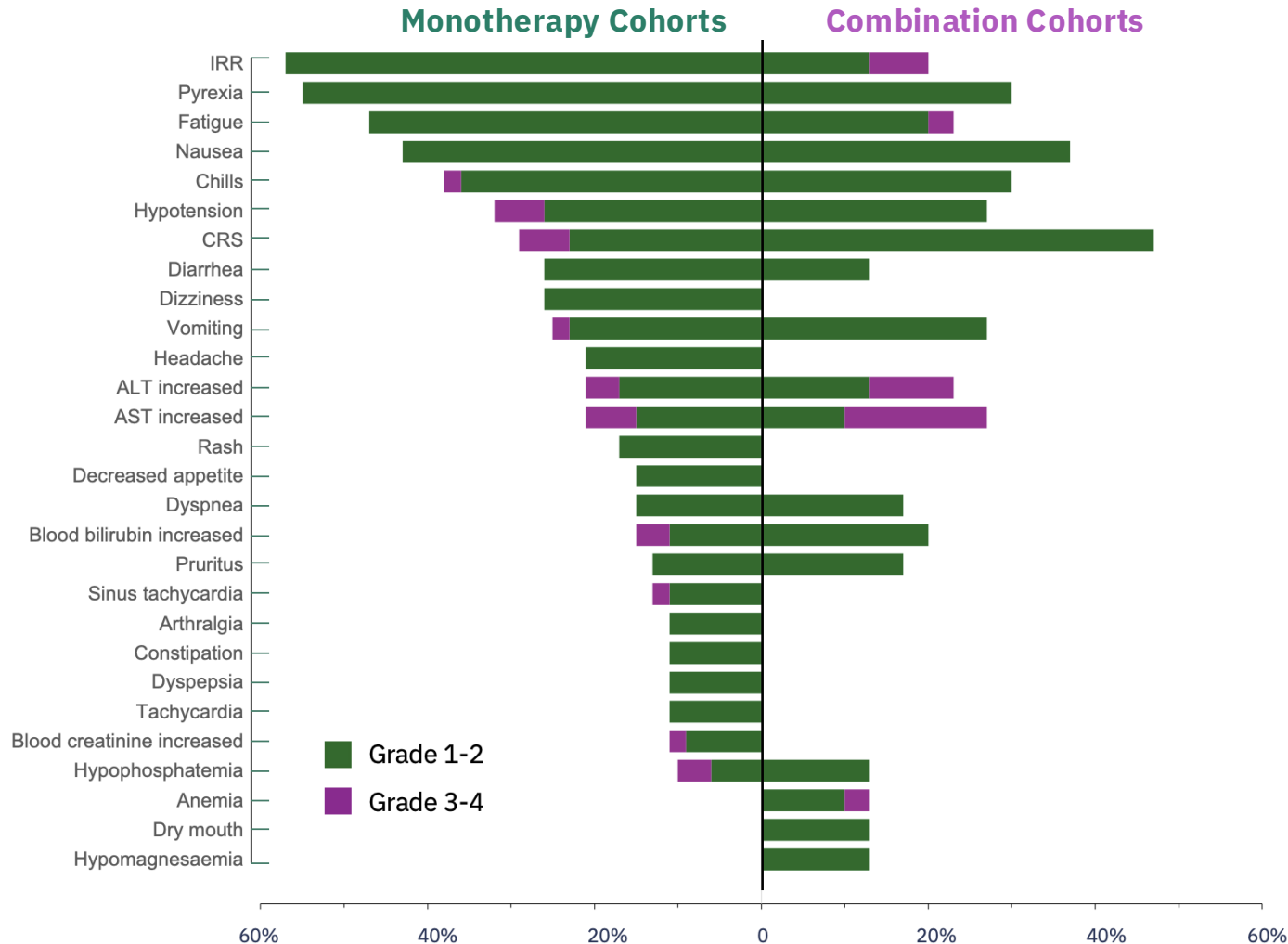
High unmet need tumors with **potential for accelerated approval**

ClinicalTrials.gov Identifier: NCT05086692

ABILITY-1: A Beta-only IL-2 Immunotherapy Study

Desirable safety profile with no dose limiting toxicities (DLTs)

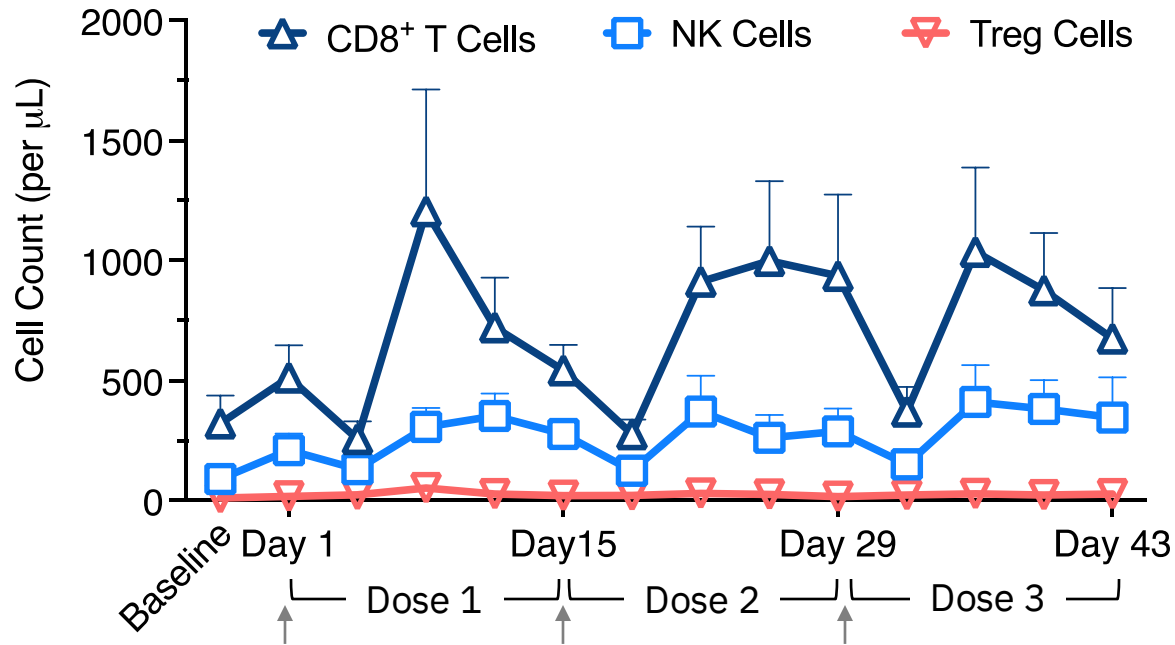
Treatment Related Adverse Events (TRAEs) in ≥ 10% of Patients



- Majority TRAEs were Grade 1-2 (> 92%) and resolved within 48 hours
- Grade 3 liver function test elevations (ALT/AST) were asymptomatic and transient
- Monotherapy: grade 3 hypotension in patients with adrenal insufficiency
- No non-laboratory grade 4 TRAEs

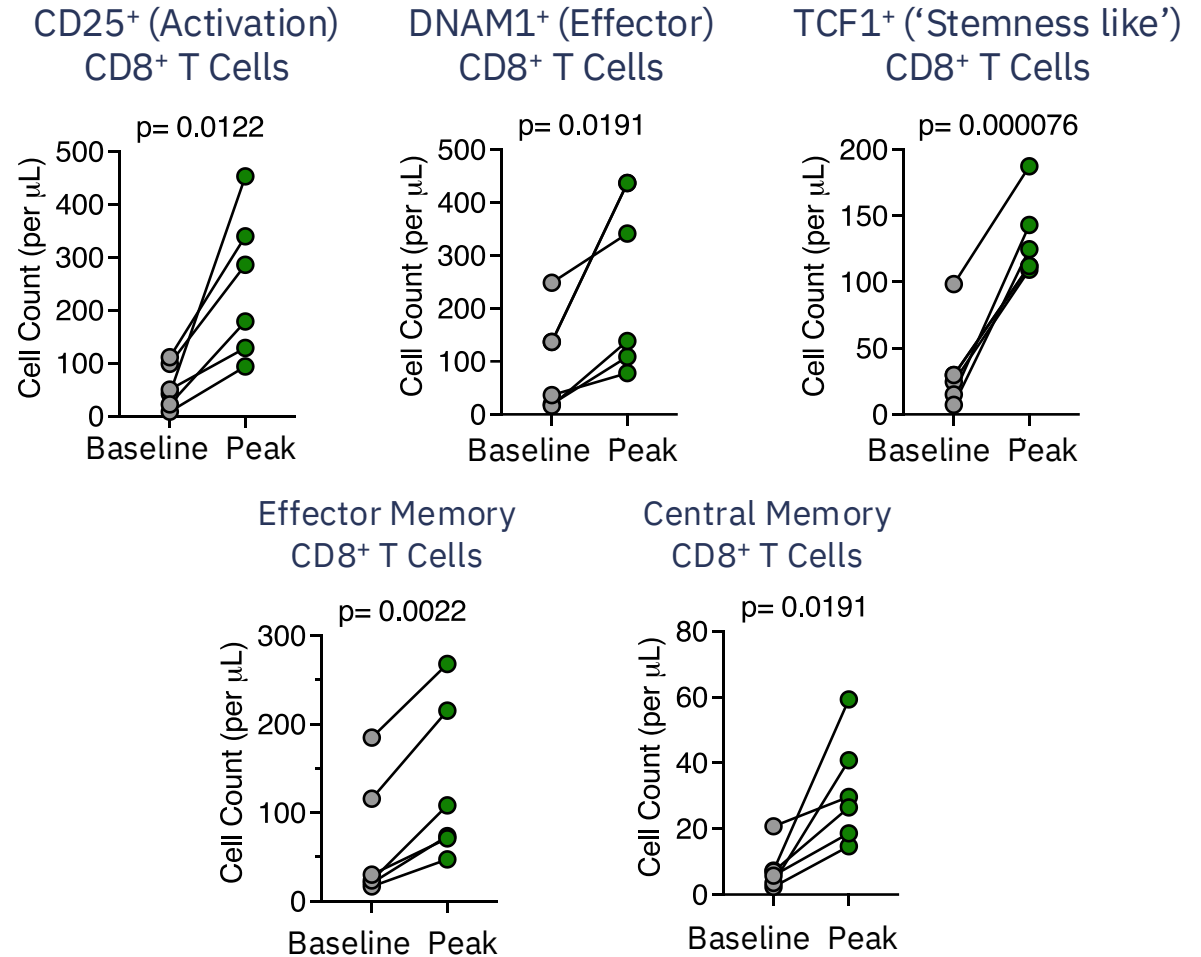
Sustained effector cell expansion with repeat dosing and enhanced stemness, activation, and memory

Patients Treated with MDNA11 90 µg/kg Q2W (Recommended Dose for Expansion)



Analysis of PBMC processed from whole blood

Patients Treated with MDNA11 ≥ 60 µg/kg Q2W

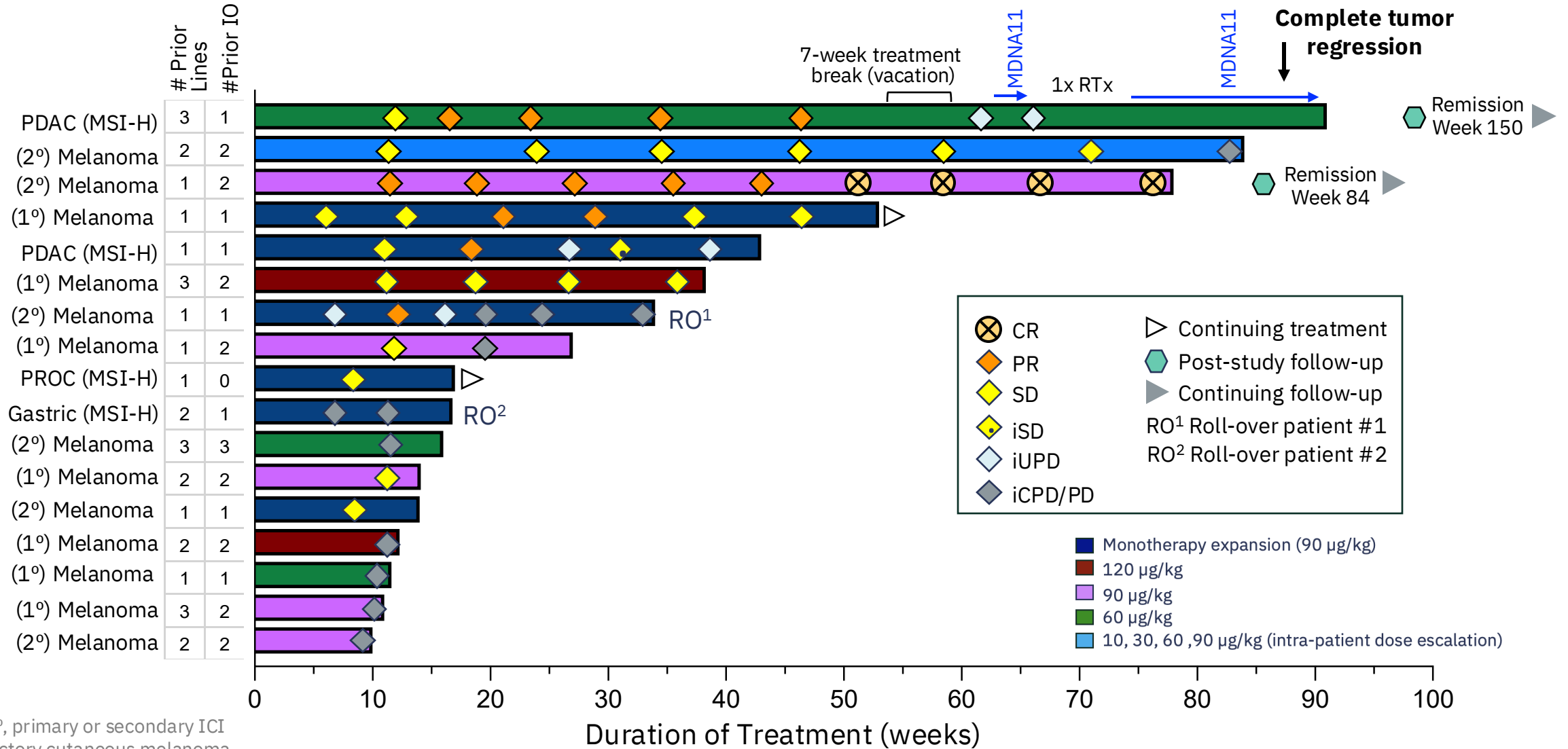


p-values based on paired t-test

2025 MEDICENNA THERAPEUTICS

12

Monotherapy: MDNA11 shows durable tumor response in patients who failed prior immunotherapy



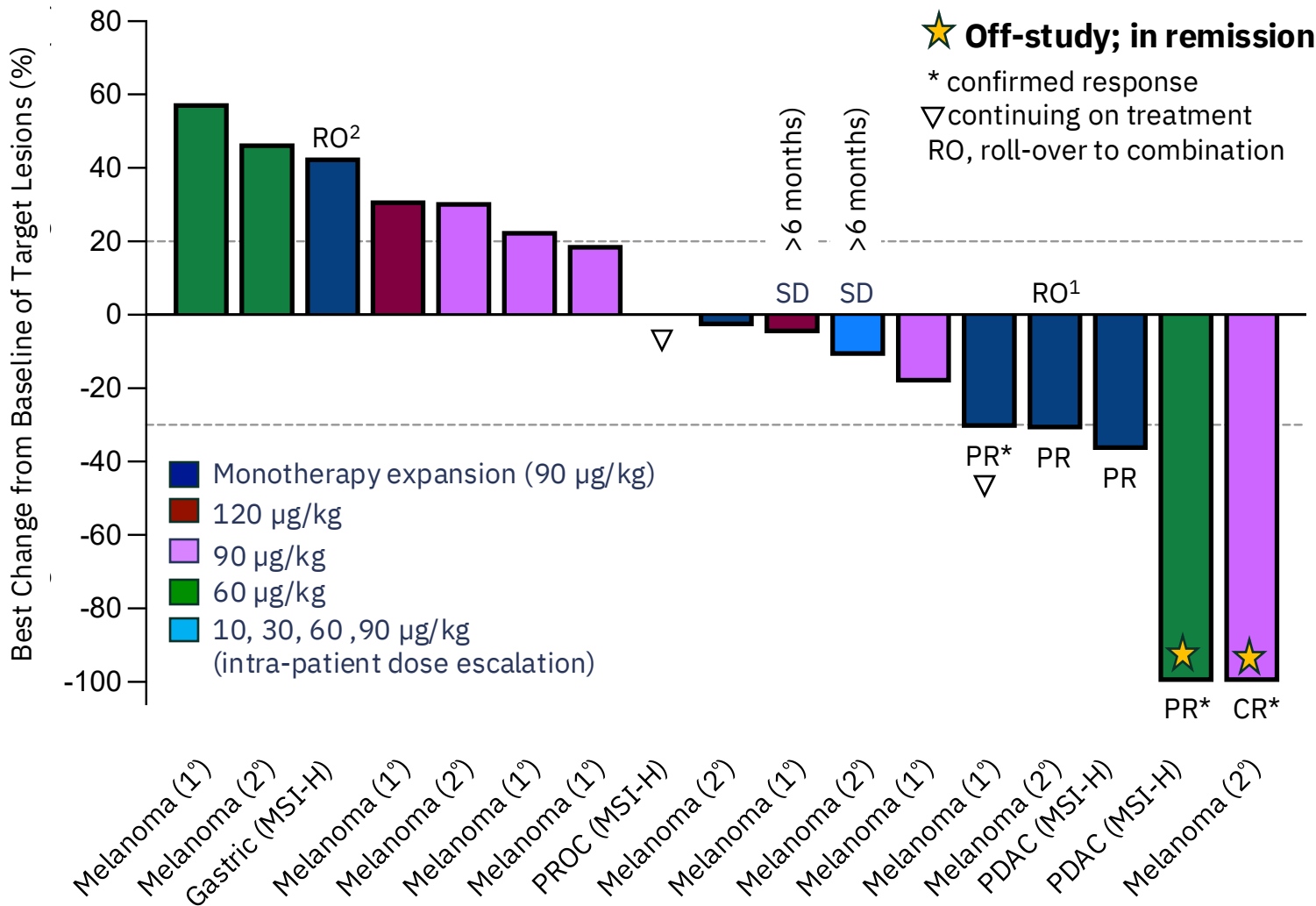
1°/2°, primary or secondary ICI refractory cutaneous melanoma



Phase 2 Expansion Eligible and Primary ICI Resistant Melanoma Patients Treated with ≥ 60µg/kg MDNA11
 PDAC, pancreatic ductal adenocarcinoma; PROC, platinum resistant ovarian cancer

Data cut-off: April 15, 2025
 2025 MEDICENNA THERAPEUTICS

Monotherapy: 1 CR, 4 PRs, including 100% reduction of target and non-target lesions in 2 patients



Monotherapy ORR

40% ¹ (1 CR, 3 PRs) Ph2 eligible patients (n = 10)	29.4% ² (4 PRs, 1 CR) Ph2 eligible + 1° ICI-resistant melanoma (n = 17)
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Tumor-Specific ORR

50% (2 PRs) MSI-H tumors (n = 4)	33% (1 CR, 1 PR) 2° ICI-resistant melanoma (n = 6)
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Disease Control Rate: 65%

1 CR, 4 PRs, 6 SDs (11/17)

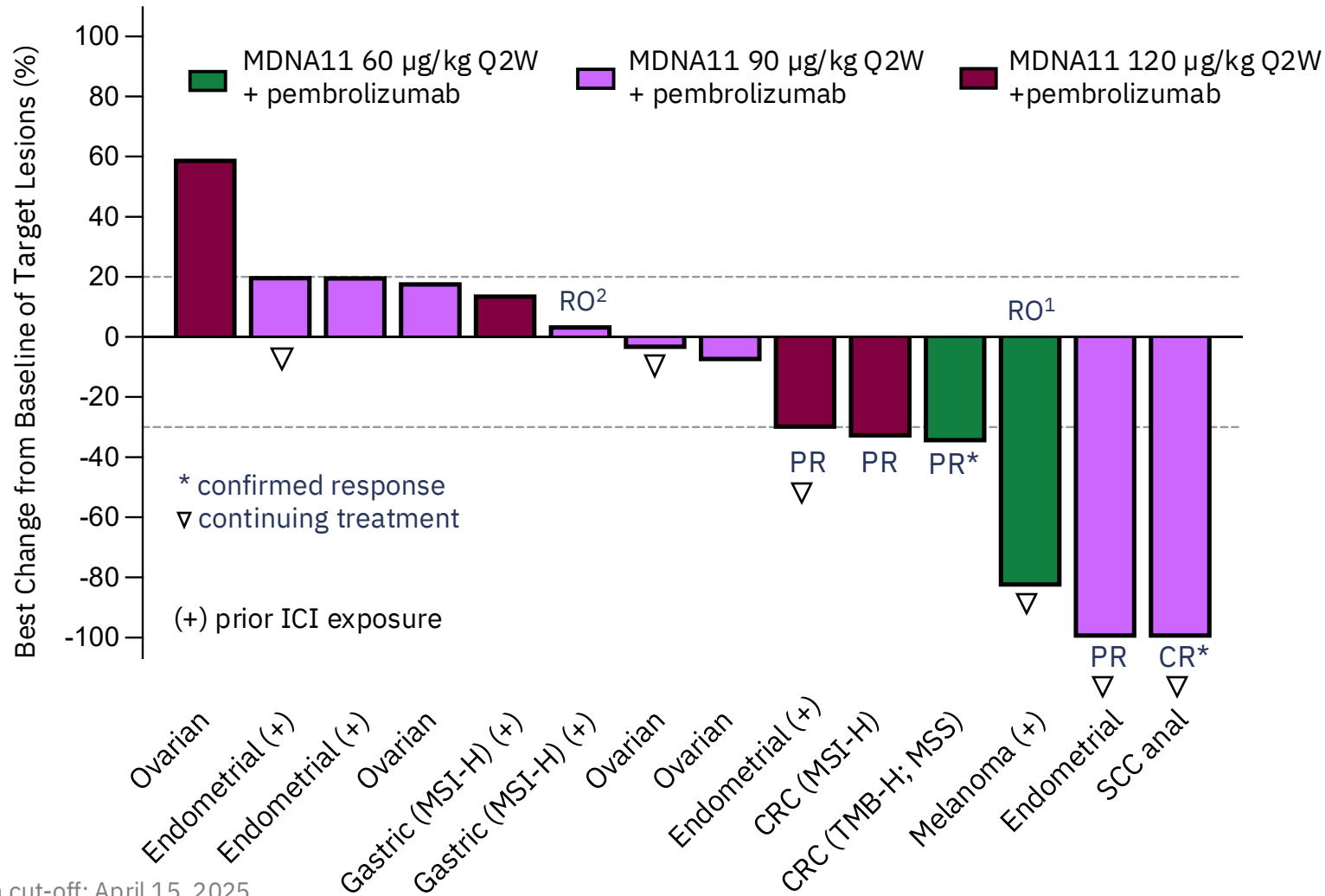
Clinical Benefit Rate: 41%

1 CR, 4 PRs, 2 Durable SD (7/17)

¹ 95% CI: 17-69%

² 95% CI: 13-53%

Combination Dose Escalation: Clinical activity across multiple tumor types with historically low immunotherapy response rates



Combination ORR

31%¹

(4 PRs)

Ph2 eligible patients³
(n = 13)

36%²

(1 CR, 4 PRs)

Ph2 eligible + virally associated tumors
(n = 14)

Tumor-Specific ORR

50%

(2 PRs)

Endometrial cancer
(n = 4)

Disease Control Rate: 57%

1 CR, 4 PRs, 3 SDs (8/14)

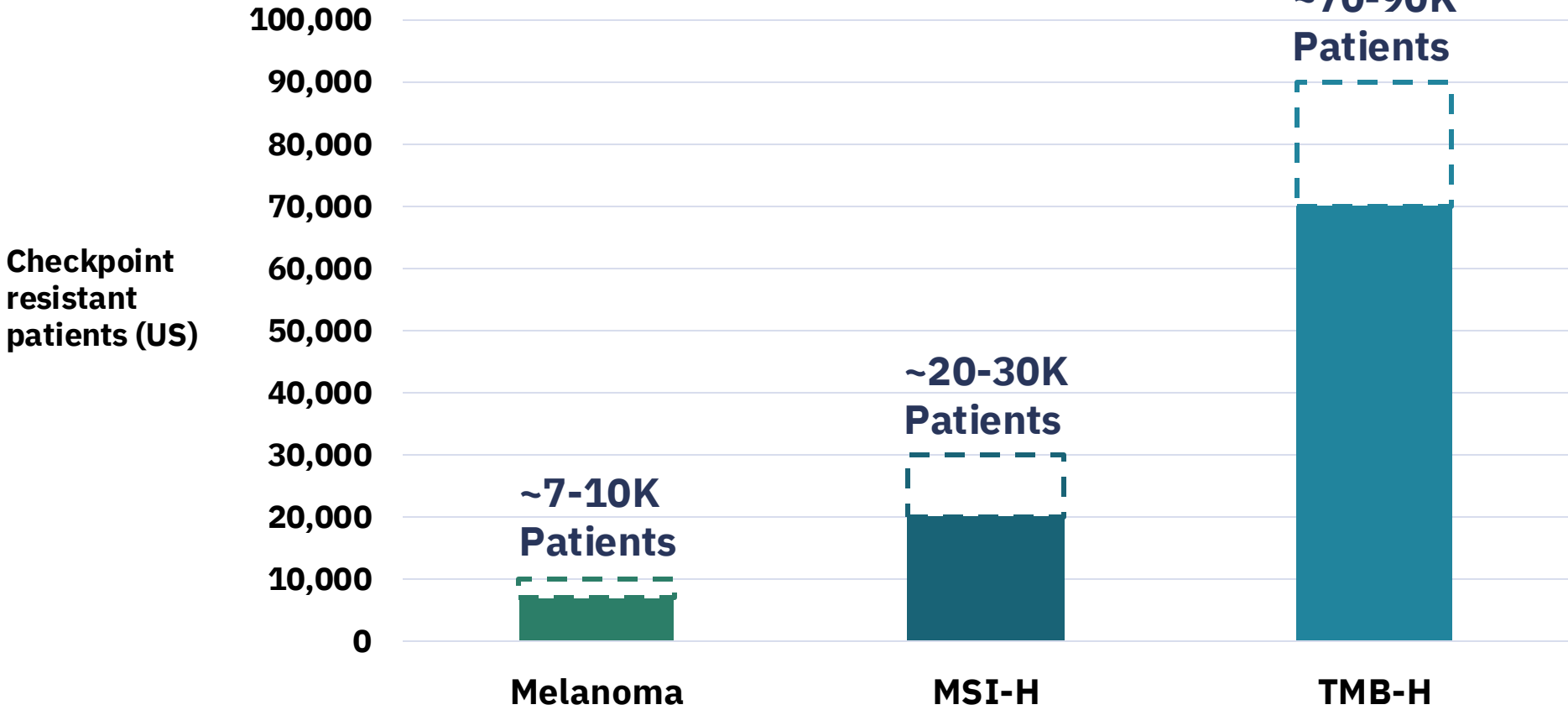
¹ 95% confidence interval: 13-58%

² 95% confidence interval: 16-61%

³ Excludes CR in anal SCC

Addressable markets in checkpoint-resistant MSI-H, TMB-H and melanoma cancers

Estimates for Annual Checkpoint Resistant Advanced Cancers in the US



Future MDNA11 Development Potential

MDNA11 has the potential to expand into additional tumor types where PD-(L)1 is approved

Additional tumor types with US revenue > \$30B (in 2024)

MDNA113

Lead Pre-clinical Program

PD-1 x IL-2 Bi-specific Molecule

First-in-Class Potential with Novel IL-13 Targeted
and Conditionally activated Bifunctional
Approach

Commercial interest in anti-PD1 bi-specifics is accelerating

Big Pharma is Facing a Patent Cliff for Checkpoint Inhibitors



REGENERON



Approved CPI

Keytruda

Opdivo

Libtayo

Tecentriq

Imfinzi

Bavencio

Peak Sales /
LoE¹

\$30B / 2028

\$12B / 2028

TBD / 2035

\$6B / 2030

\$7B / 2031

TBD / 2036

Anti-PD1 Bi-specifics are Gaining Significant Interest

\$500M upfront, up to \$5B

\$588M upfront, up to \$2.7B

\$1.5B upfront, up to \$11B

\$1.25B upfront, up to \$6B



BIONTECH



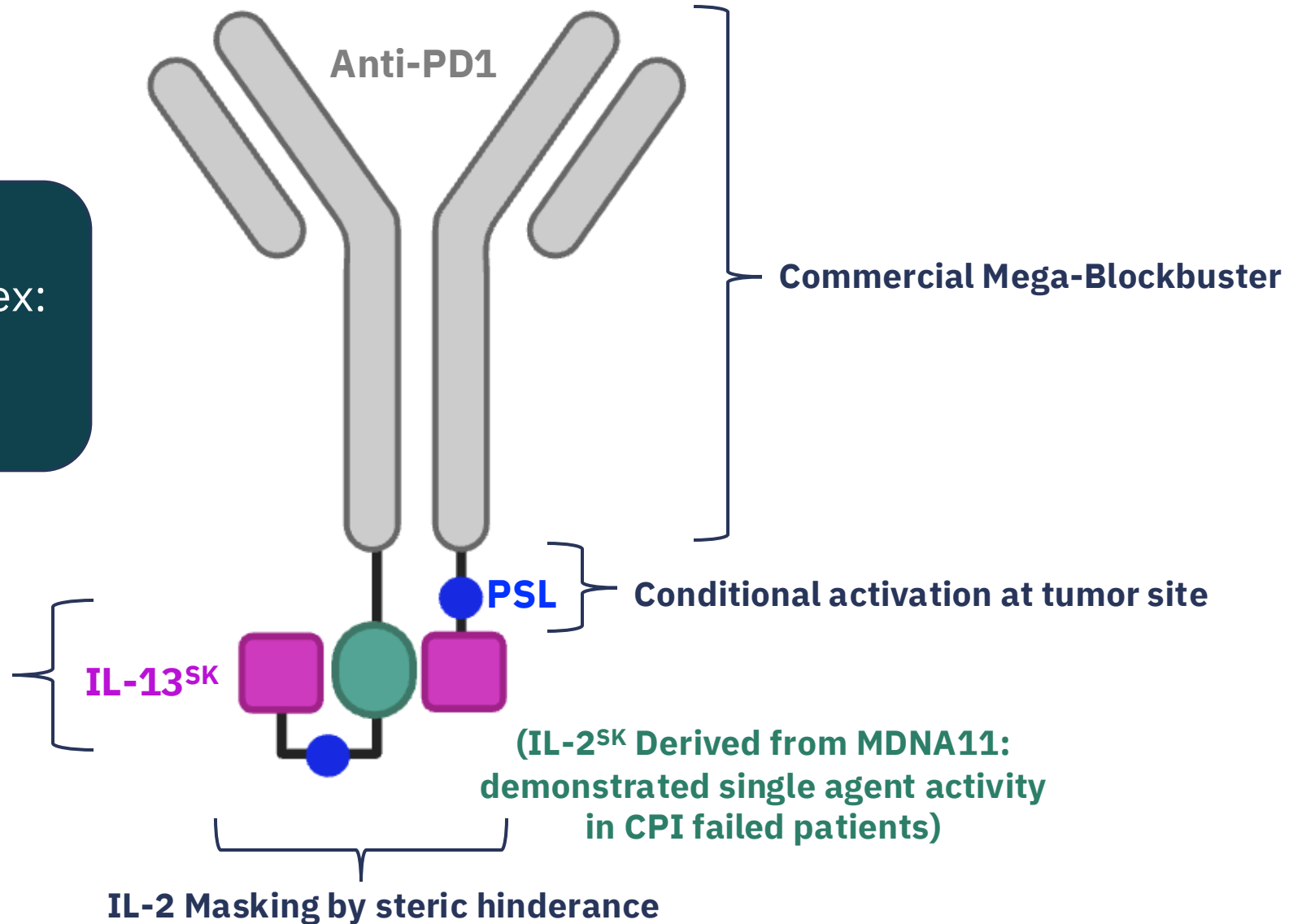
MDNA113 is a tumor targeting & conditionally activated anti-PD1-IL2^{SK} BiSKIT

MDNA113

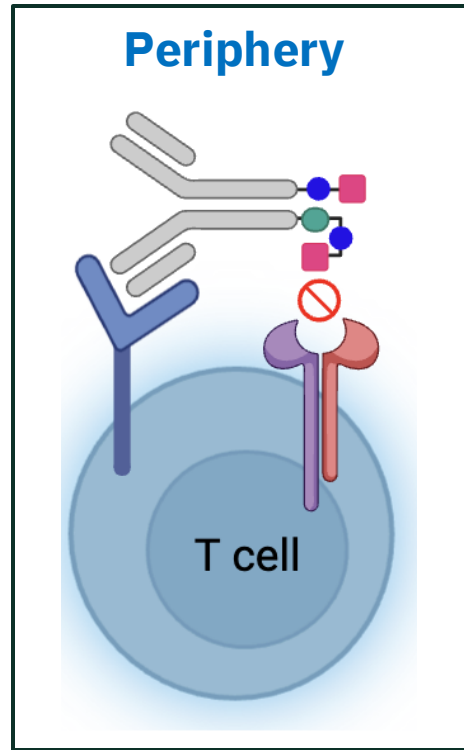
Designed to Widen Therapeutic Index:

- ❖ Reduces risk of systemic toxicity
- ❖ Maximizes therapeutic activity

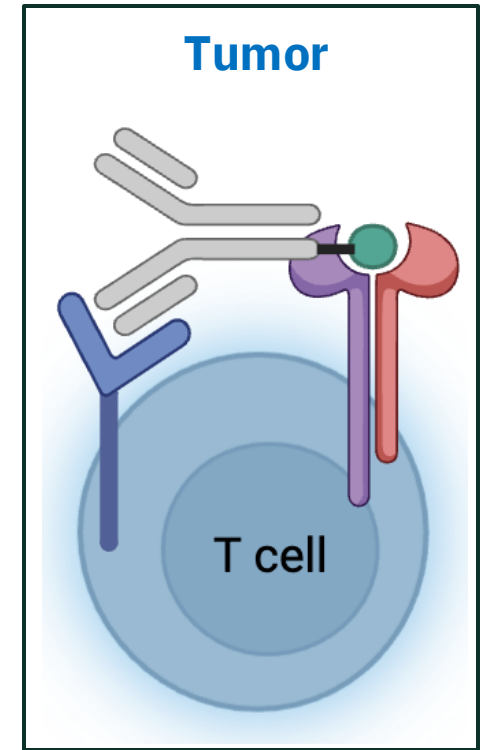
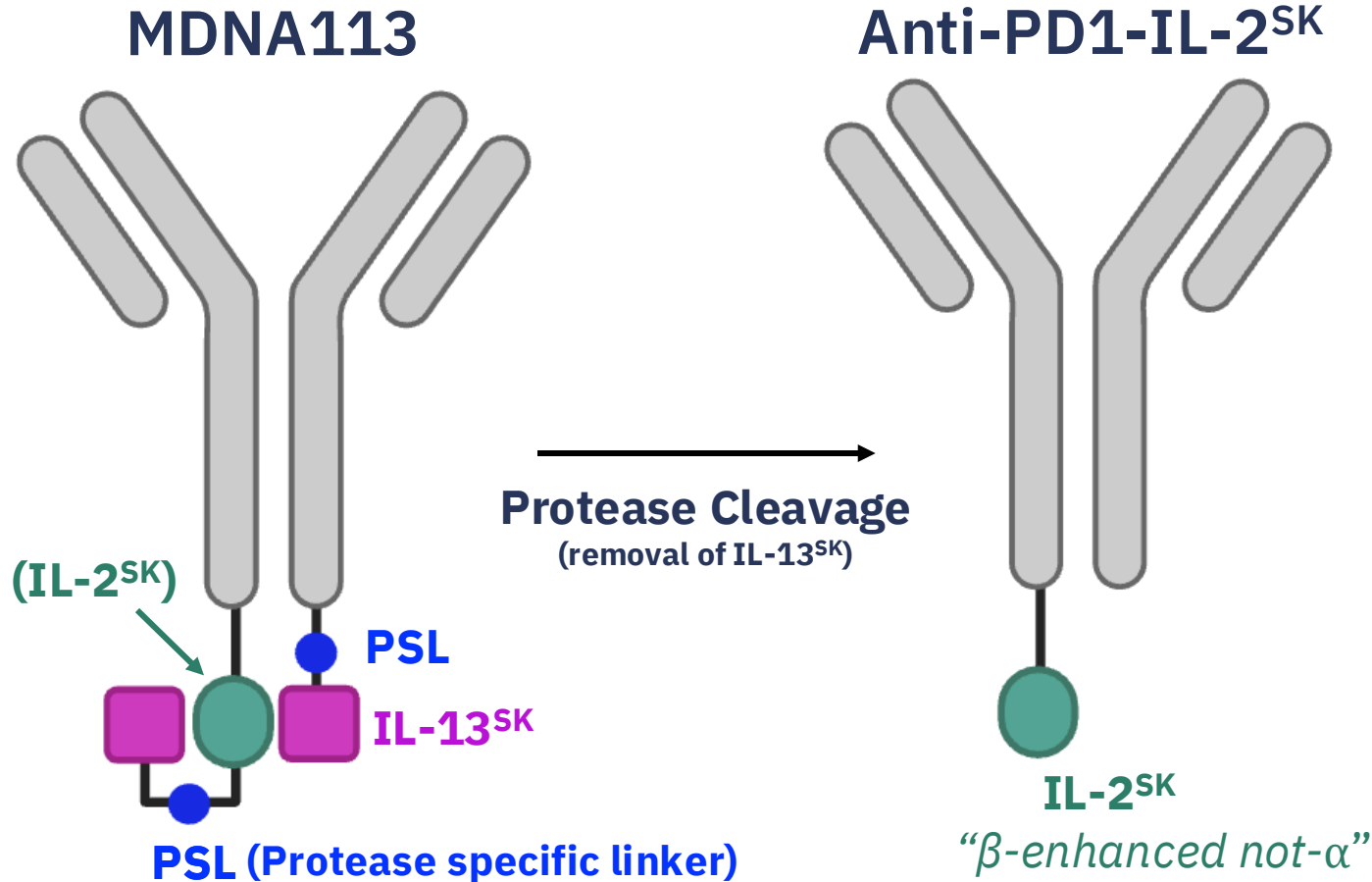
Validated Tumor Targeting
via IL-13Ra2



MDNA113 is a tumor targeting & conditionally activated anti-PD1-IL2^{SK} BiSKIT



Attenuated
IL-2R Agonism
(due to steric hindrance from IL-13^{SK} moieties)



Fully Restored
IL-2R Agonism
CIS binding

Potential benefits of MDNA113 versus competing programs



PD-1/IL-2 α -bias

- Early signs of efficacy in CPI-naïve patients
- Advancing into Phase 2 and Phase 3 Registrational Trials
- **Grade 5 events consistent with IL-2R α binding and native IL-2**
- **Due to toxicity, IBI363 is capped on its dosage**

	Cutaneous (N=19)	Acral (N=7)	Mucosal (N=11)
Prior treatment lines ≥ 2 , n (%)	13 (68.4)	7 (100)	7 (63.6)
Median duration of prior IO treatment, months	5.6	11.3	5.2
Best overall response, n (%)			
CR	1 (5.3)	0	0
PR	5 (26.3)	3 (42.9)	2 (18.2)
SD	7 (36.8)	2 (28.6)	7 (63.6)
PD	6 (31.6)	2 (28.6)	1 (9.1)
Not evaluable	0	0	1 (9.1)
ORR, % (95% CI)	31.6 (12.6-56.6)	42.9 (9.9-81.6)	18.2 (2.3-51.8)
DCR, % (95% CI)	68.4 (43.4-87.4)	71.4 (29.0-96.3)	81.8 (48.2-97.7)

IBI363 Ph1/2 Data Adapted from ASCO and ESMO Plenary 2024



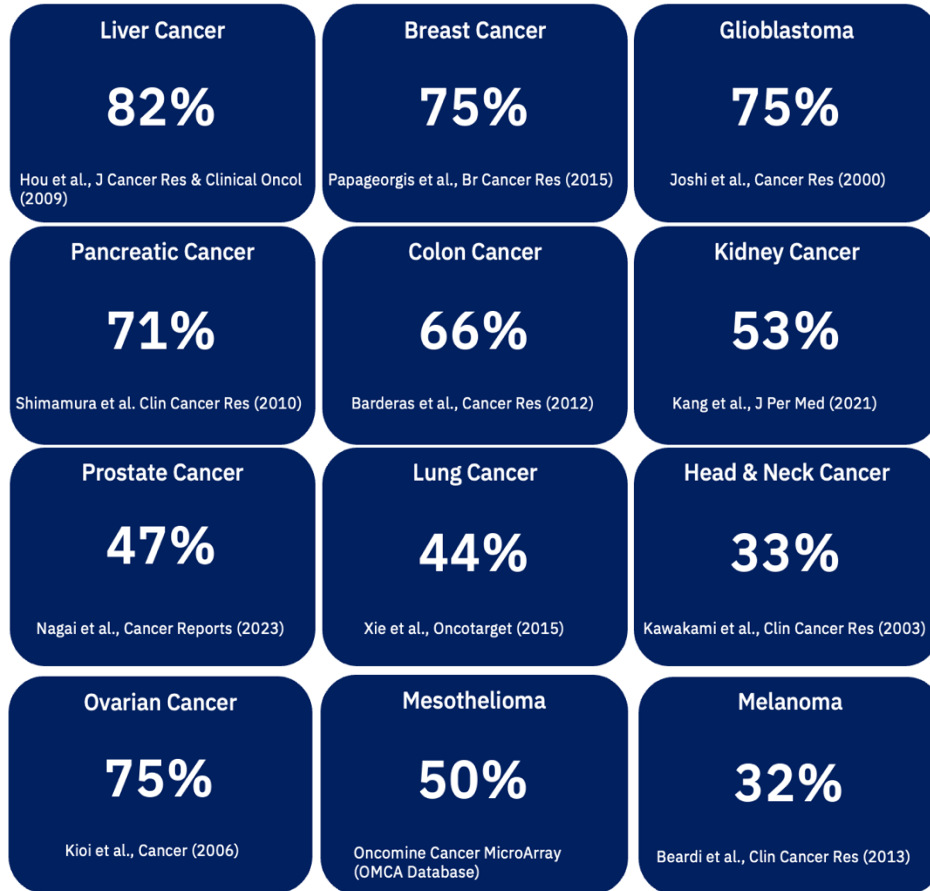
PD-1/IL-2 $\text{non-}\alpha, \beta$ enhanced

- IL-13R $\alpha 2$ tumor-anchoring
- Activation of drug at tumor site
- Designed to be safer via with conditional activation (i.e. not capped on dosage)
- Targets cold tumors
- **IL-2 component alone of MDNA113 has comparable efficacy to IBI363 in cutaneous melanoma (~30% ORR)**

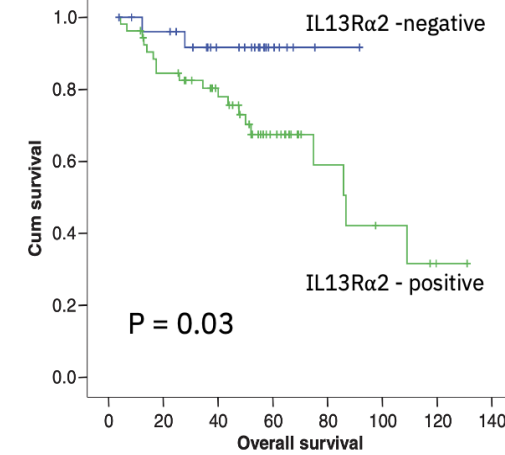


IL-13R α 2 is expressed in many tumors, >2 million patients annually

Blockbuster potential: high IL-13R α 2 is associated with poor clinical outcomes, making it an ideal TAA target

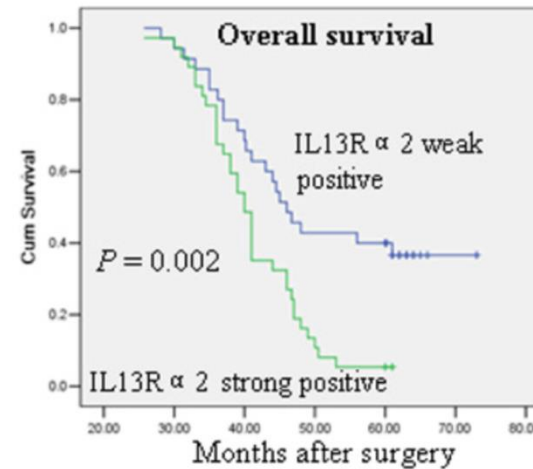


COLON CANCER



Bardeas et al., Cancer Res, 2012

LUNG CANCER



Xie et. al. Oncotarget, 2015

MDNA113 is designed with a unique IO profile to optimize the therapeutic index

Differentiation of MDNA113 to other Bifunctional Anti-PD1-IL-2 Clinical Candidates

KEY FEATURES	Medicenna MDNA113	Other IL2/anti-PD1 candidates
β -enhanced and not- α IL-2 ^{SK} (clinically validated)	✓	✗
Tumor Specific Targeting (IL-13R α 2)	✓	✗
PD-1/PD-L1 Blockade (clinically validated vs. novel)	✓	✓✗
Cis-binding (IL-2R/PD-1) (Synergistic engagement potentiates immune activation)	✓	✓✗
IL-2 ^{SK} attenuated in periphery	✓	✓✗
IL-2 ^{SK} activated in TME	✓	✓✗

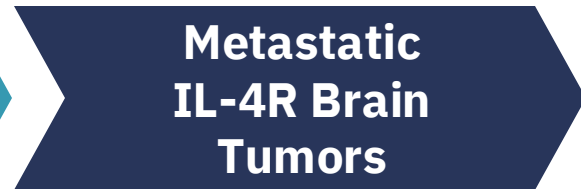
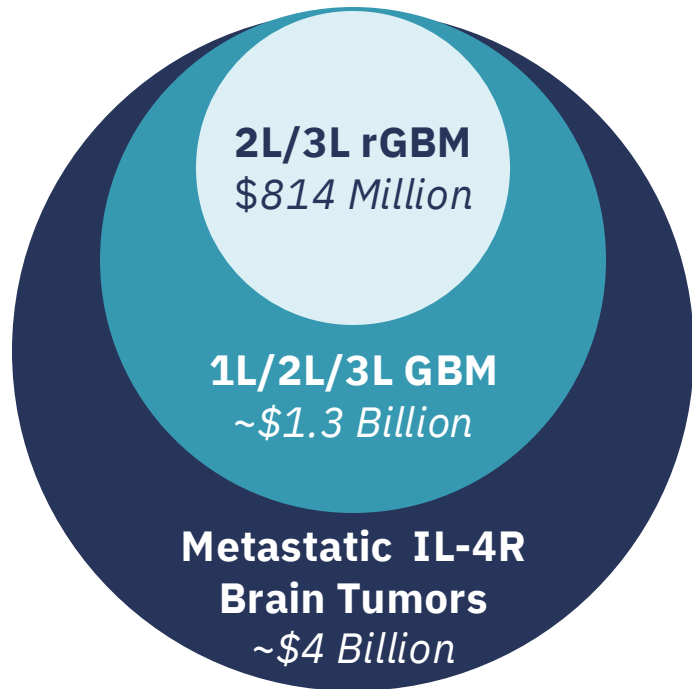
Bizaxofusp (MDNA55) for Recurrent GBM

A Phase 3-Ready Asset with Orphan Drug Status,
Fast Track Status and an FDA-Endorsed Pivotal
Phase 3 Trial Design

Pursuing a Development and Commercial
Partnership

Bizaxofusp has \$1.3B sales potential if approved for GBM, up to \$4B if approved in other brain cancers

Projected Peak Sales⁽¹⁾



Renal | Breast | Colon | Leptomeningeal

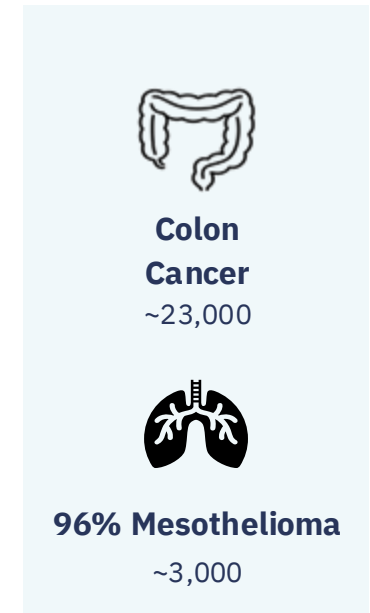
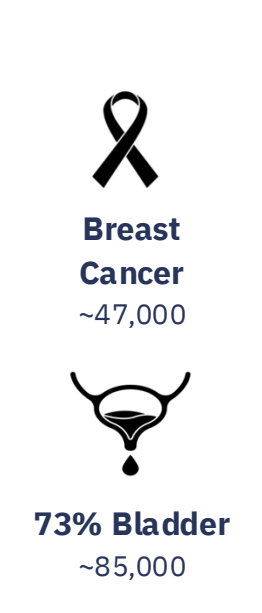
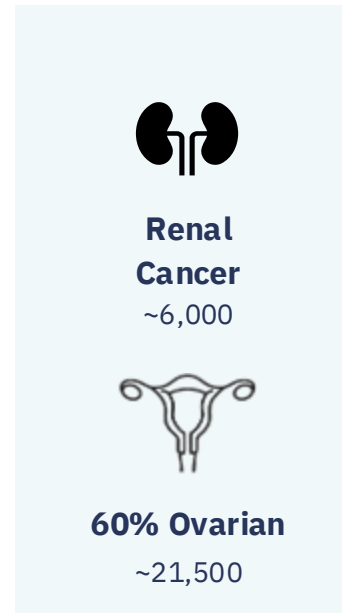
Total market (patients)
~19,000 annually (US/EU)

~22,000 annually (US/EU)

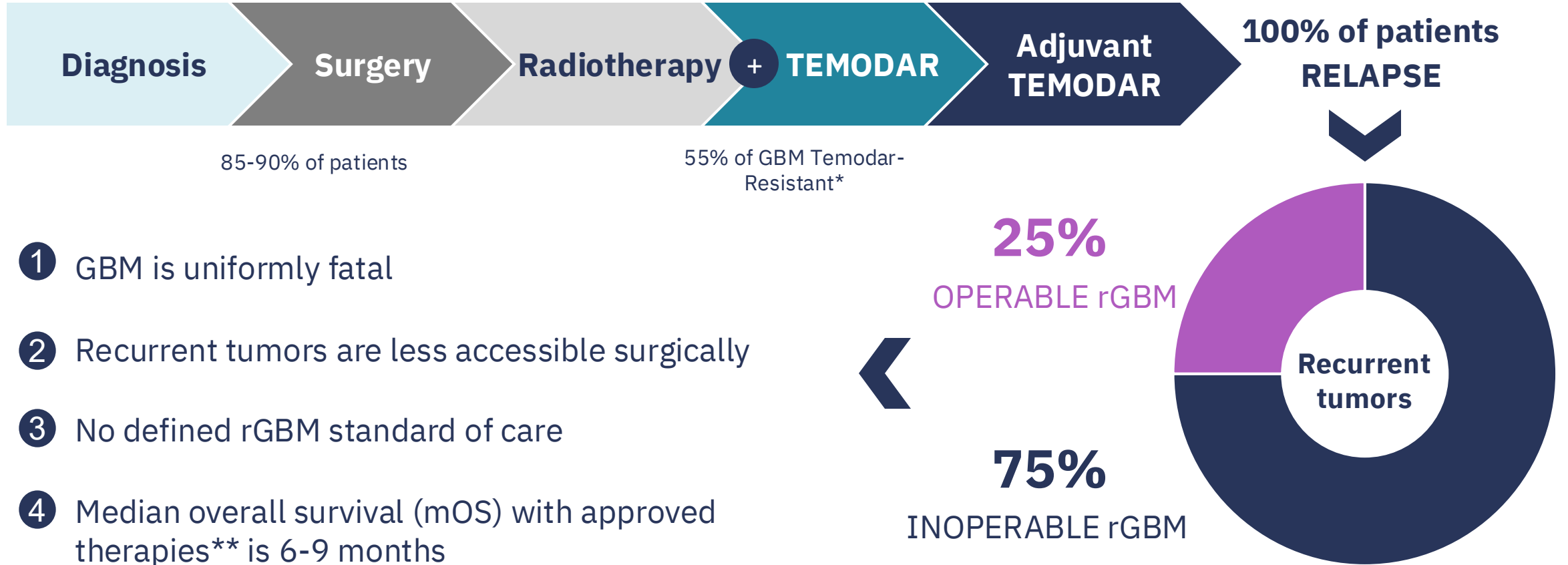
~76,000 annually (US/EU)

IL4R Overexpressing
Metastatic Brain Tumors

Additional **IL4R Positive Cancers**



Treatment paradigm for GBM has NOT changed in decades



- 1 GBM is uniformly fatal
- 2 Recurrent tumors are less accessible surgically
- 3 No defined rGBM standard of care
- 4 Median overall survival (mOS) with approved therapies** is 6-9 months
- 5 2-year survival for rGBM is 5-10%

* Expression of the DNA repair protein O6-methylguanine-DNA methyltransferase (MGMT) is responsible for resistance to Temodar

** Avastin, Lomustine, Gliadel, Optune, Temodar, Radiotherapy

Bizaxofusp: A molecular trojan horse

A first-in-class phase 3-ready empowered IL-4 superkine for recurrent GBM

Approach By-Passes BBB

Intra-tumoral administration **avoids systemic toxicity** and achieves tumor control

Targets IL-4R

Receptor is expressed in brain tumors and immunosuppressive, non-malignant TME, **but not in healthy brain cells**

Highly Selective

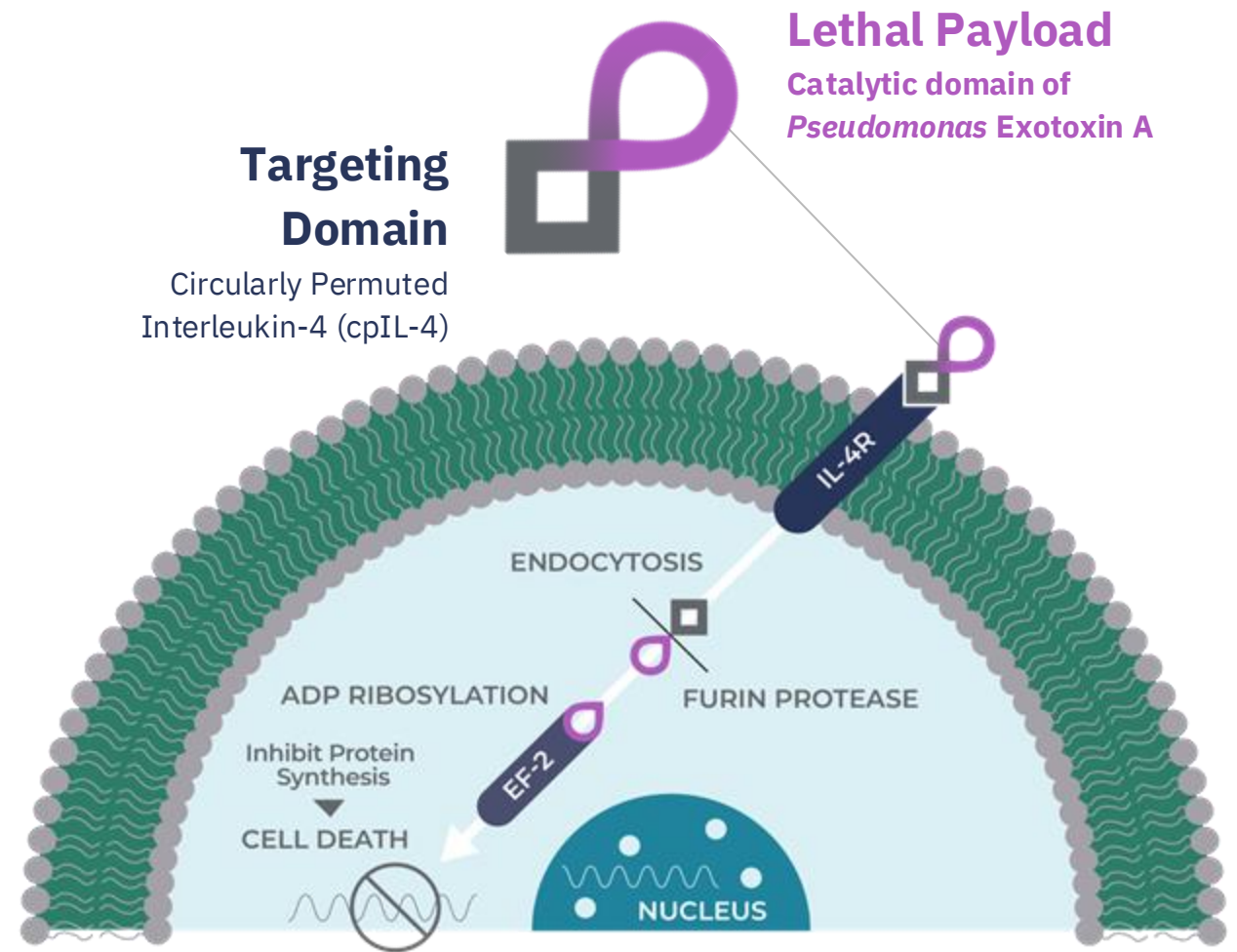
Avoids off-target toxicity

Disrupts the TME

Targets IL-4R positive MDSCs in GBM uncloaks the immunosuppressive TME

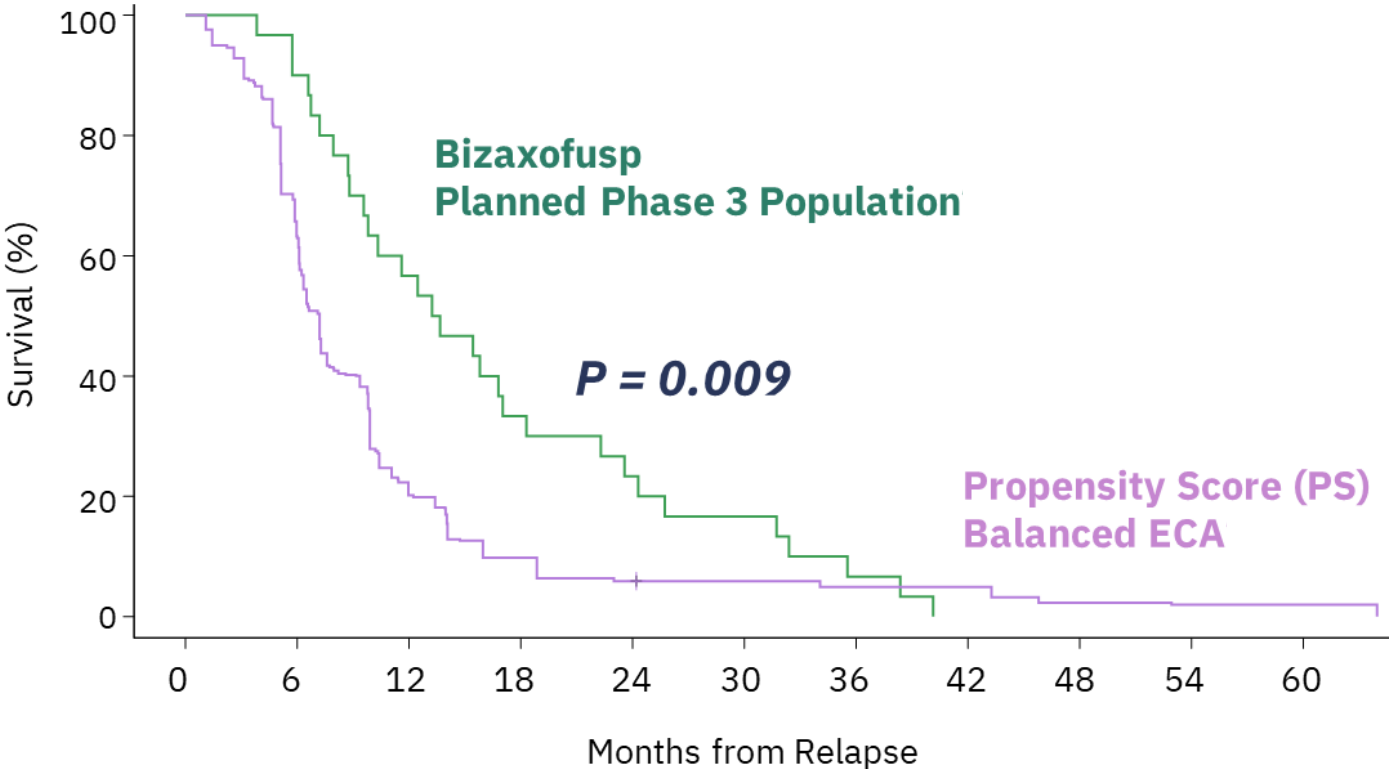
Causes Immunogenic Cell Death

Sustained anti-tumor immunity remains after clearance of bizaxofusp



Single treatment **doubled median Overall Survival (OS)**

OS increased by 180% at 12 months and 290% at 24 months when compared to ECA



	PS Balanced ECA (N = 29.5)	Bizaxofusp (N = 30)
OS-12	20.2%	56.7%
OS-18	9.8%	33.3%
OS-24	5.9%	23.3%
OS-30	5.9%	16.7%
mOS (months)	7.2	13.5
p-value*	0.009	
HR* (95 % CI)	0.536 (0.344, 0.834)	

*Log-rank test

Patients enrolled in the external control arm (ECA) met same eligibility criteria as Phase 2b and were then matched using propensity score balancing

Financials & Catalysts

Stock and financial information

Balance sheet provides cash runway through mid calendar 2026

Capitalization Summary

TSX OTCQX	MDNA MDNAF
Headquarters	Toronto, CA
Market Capitalization	\$100M CAD ³
Cash	\$21M CAD ^{1,2}
Debt	\$0
Basic SO	~83 Million ^{1,2}
Fully Diluted SO	~105 Million ^{1,2}
Insider Ownership	~22% ^{1,2}

¹ As of 6/30/2025 – See Company's Q1 F2026 Financial Results and MD&A

² Includes \$20M private placement by RA Capital, which includes ~5M common shares and ~5M pre-funded warrants

³ As of market close August 8th, 2025

Analyst Coverage

Bloom Burton & Co.

David Martin PhD, MBA

Jones Research

Catherine Novack MS

H. C. Wainwright & Co

Swayampakula Ramakanth PhD, MBA

Research Capital

Andre Uddin PhD

Advancing Superkines with **First and Best-in-Class** Potential



IL-2 Superagonist: Phase 1/2 Underway with Promising Data in Difficult-to-Treat Tumors



Superkine Platform Driving Robust and Balanced Pipeline in Deal Heavy Indications



First-in-Class IL-4 Superkine: Phase 3-Ready for Recurrent Glioblastoma



Healthy Balance Sheet With Runway Through At Least Mid-2026

Upcoming Catalysts

MDNA11

Monotherapy Expansion Data (H2/25)
Complete ABILITY-1 Enrollment (H2/25)
Top-Line Combo Expansion Data (H2/25)

MDNA113

Readiness for IND Enabling Studies

Bizaxofusp

Pursue Partnership for Phase 3 Trial

Thank You

TSX: MDNA

OTCQX: MDNAF

