MEDICENNA

Corporate Overview

Engineering next-generation cytokine therapies
for cancer and immune-mediated diseases

August 2026

TSX: MDNA | OTCQX: MDNAF

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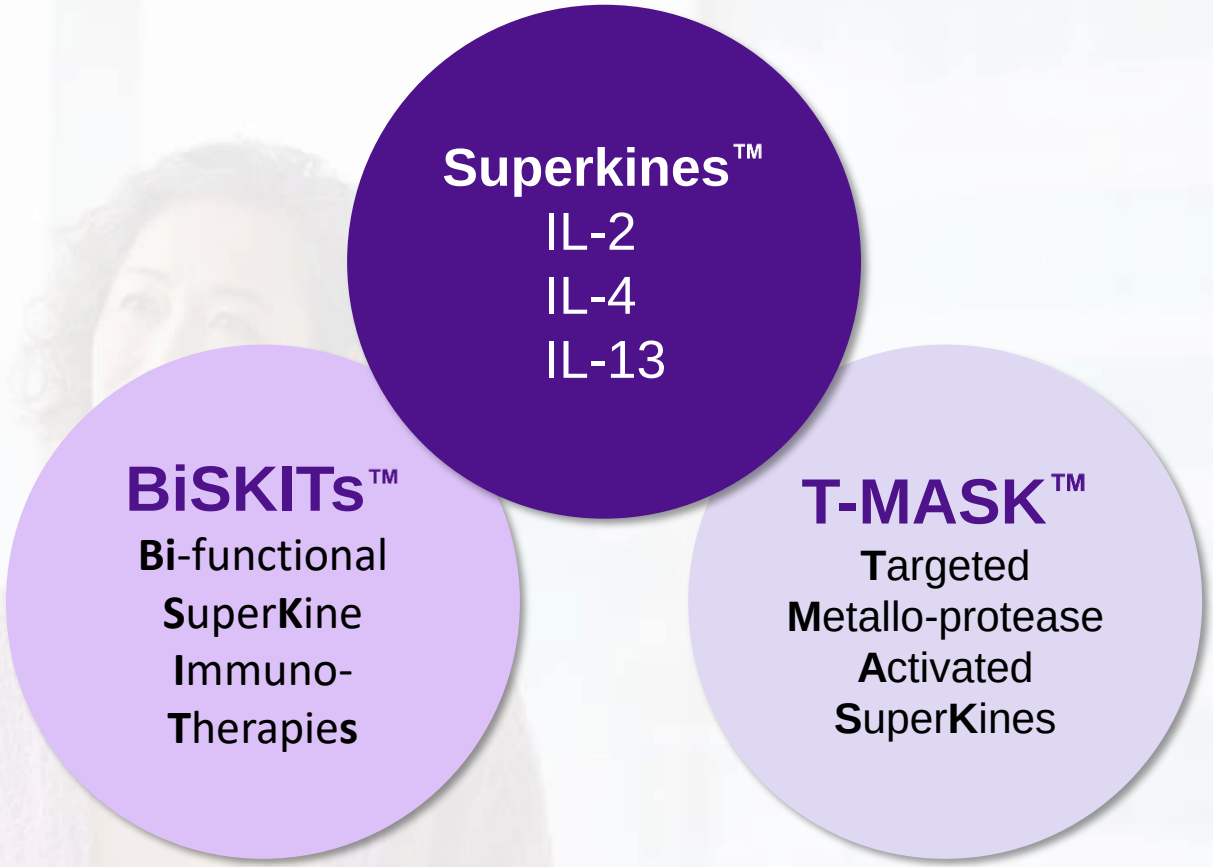
Superkines: Harnessing the Immune System to Improve Patient Outcomes

MISSION

DELIVERING THE NEXT WAVE OF IMMUNOTHERAPIES

to transform the lives of people living with cancer, autoimmune, and inflammatory diseases

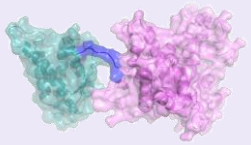


Advancing best-in-class and/or first-in-class immunotherapies

A Clinical Stage Immunotherapy Company Developing Engineered Cytokines

Three lead programs with near-term value inflection milestones over the next 12 months

Phase-3 Ready



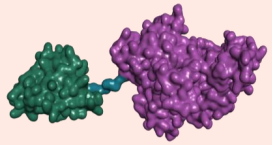
Pursuing Partnerships

Bizaxofusp (MDNA55)

IL-4R Targeted Therapy

- Phase 2b results: 2x median overall survival in recurrent glioblastoma, the deadliest brain cancer
- Partnering for pivotal Phase 3 trial

Phase 1/2

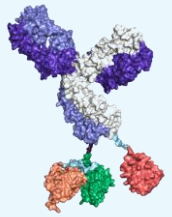


MDNA11

Long-acting IL-2 Superkine

- ABILITY-1 & NEO-CYT clinical trials ongoing
- Data updates H2 2026 & planning for registrational studies underway

IND-enabling



MDNA113

Tumor-activated PD-1 x IL-2

- First-in-class PD-1 x IL-2 therapy within an exciting bispecific drug class
- Planning for Phase 1 trial underway

~300

patients treated with bizaxofusp and MDNA11

2

active MDNA11 clinical trials

100+

active granted patents and applications worldwide

Discovery

MDNA209	IL-2/IL-15 superantagonist blocking CD122
MDNA413	IL-4/IL-13 superantagonist

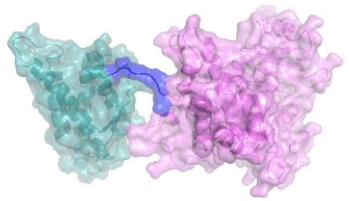
Lead Programs: Recent & Anticipated Value Inflection Milestones

	H1 2026	H2 2026	2027
Bizaxofusp (MDNA55)		rGBM Data Presentation	Plan/Commence Phase 3
MDNA11	Complete ABILITY-1 Expansion Enrollment NEO-CYT Trial Initiated, Enrollment Underway	Updated Data & Conference Presentations	Plan/Commence Registrational Trial
MDNA113	NHP Data Presented at AACR & IND-enabling	Prepare IND submission and Phase 1 planning	Plan/Commence Phase 1 Trial

Partnering & Development Optionality

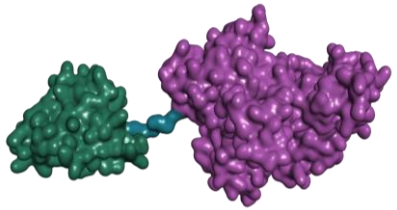
MDNA209 MDNA413

Significant Market Opportunities Across our Clinical-Stage Programs



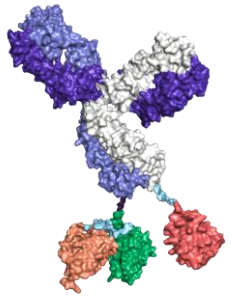
Bizaxofusp

- Potential for revenue by 2028
- >$800M projected annual sales in rGBM, >$4B estimated across brain cancers
- Pursuing partnerships to commence Phase 3



MDNA11

- $3.6B licensing deal and $2.5B acquisition precedents demonstrate asset potential
- Shrinking Tumors in 30-40% of end-stage cancer Patients who have failed standard of care ICI therapy (ICIs collectively >$80B annual revenue)



MDNA113

- >$30B aggregate transaction value in PD-1 bispecific space over last 18 months
- Differentiated from competitors, first-in-class
- Entering a Phase 1 Study in H1 2027

Balanced Pipeline of Early, Mid- & Late-Stage Assets

PLATFORM	CANDIDATE	INDICATION	PRECLINICAL / PHASE 1 / PHASE 2 / PHASE 3	NEXT MILESTONE	PARTNER
Superkine™ BiSKIT™	**Bizaxofusp** IL-4R-Toxin Fusion	Recurrent Glioblastoma (rGBM)		**Pursuing partnership to commence Phase 3**	
Superkine™	**MDNA11** IL-2 Super Agonist	Various solid tumors	**MDNA11 monotherapy**; **MDNA11 + pembrolizumab** — *ABILITY-1 Phase 1/2 Basket Study*	**Plan first registrational trial in 2L/3L checkpoint refractory cancers**	*Clinical Collaborations* MERCK
			MDNA11 + nivolumab ± ipilimumab — *NEO-CYT Phase 1b in Neoadjuvant Melanoma*	**NEO-CYT study enrolling with interim readout in Q4/26**	Fondazione Melanoma
T-MASK™ BiSKIT™	**MDNA113** anti-PD-1 x IL-2 Masked Bispecific	Various solid tumors expressing IL-13Rα2		**File IND and commence FIH study**	
Superkine™	**MDNA209** IL-2/15 Pathway Super Antagonist	Autoimmune diseases		**Select lead**	
Superkine™	**MDNA413** IL-4/13 Pathway Super Antagonist	Inflammatory diseases		**Select lead**	

Bizaxofusp (MDNA55)

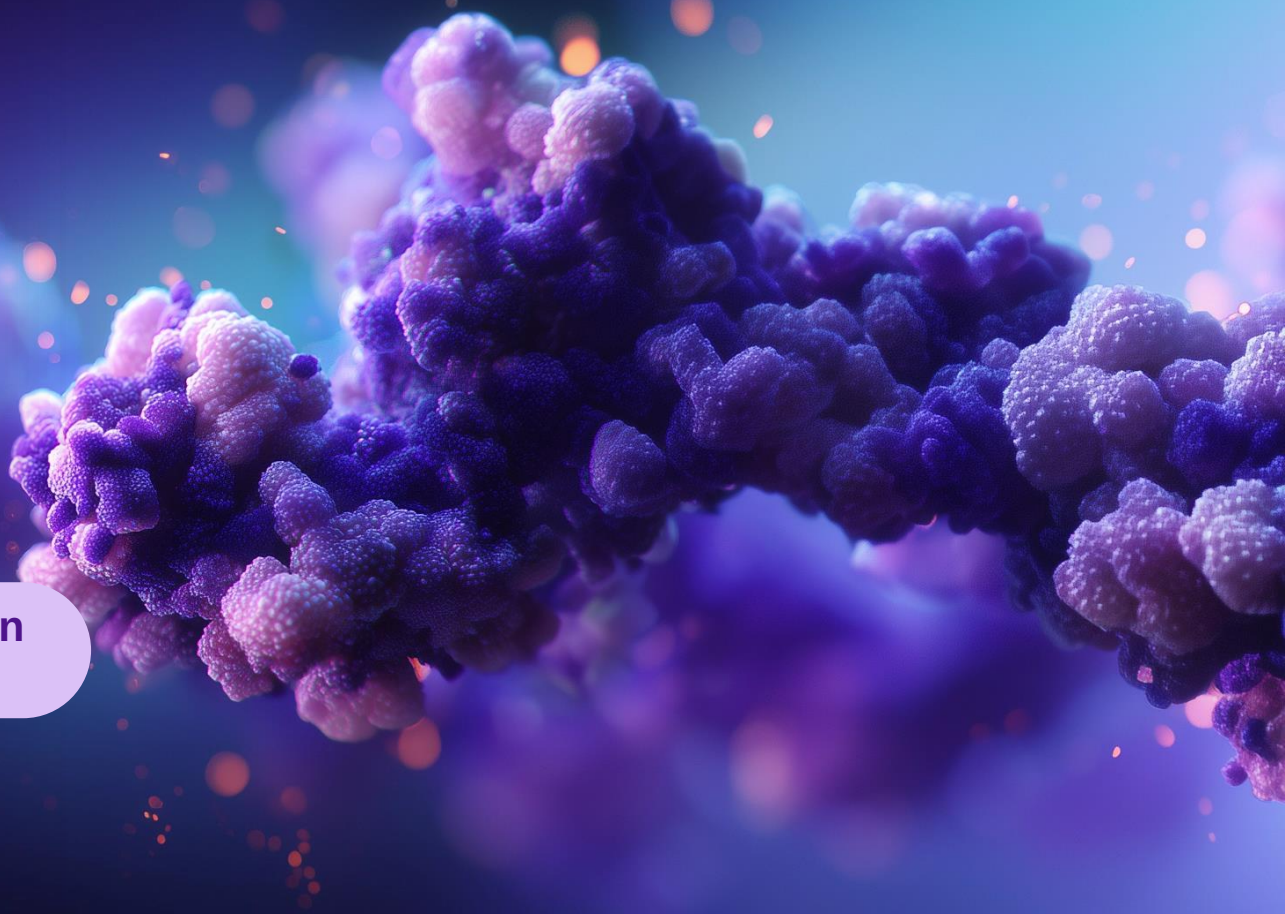
A Phase 3-ready IL-4R-targeted therapy for glioblastoma

Doubled median overall survival in Phase 2b

Fast Track Designation

Orphan Drug Designation

✓ FDA alignment on Phase 3 Design



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Treatment Paradigm for GBM has NOT Changed in Decades & GBM is Uniformly Fatal

Patient Journey

Diagnosis → **Surgery** → **Radiotherapy** + **Chemotherapy** → **Adjuvant Chemotherapy**

70-85% of patients

*55% of GBM Temodar-Resistant**

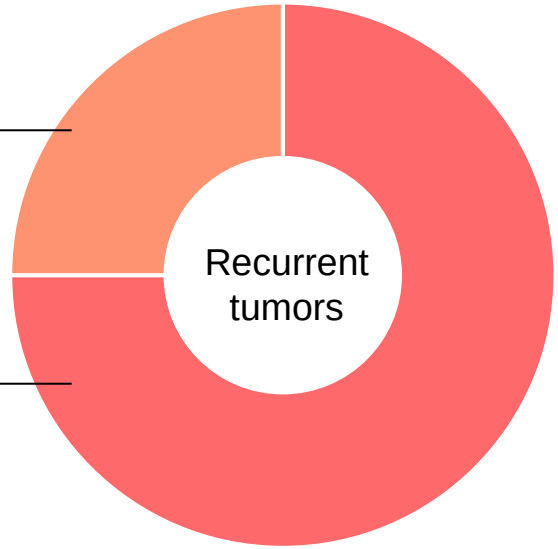
100%
of patients RELAPSE

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%

In Phase 2b, high dose Bizaxofusp **doubled** median overall survival in inoperable rGBM

25%
OPERABLE rGBM

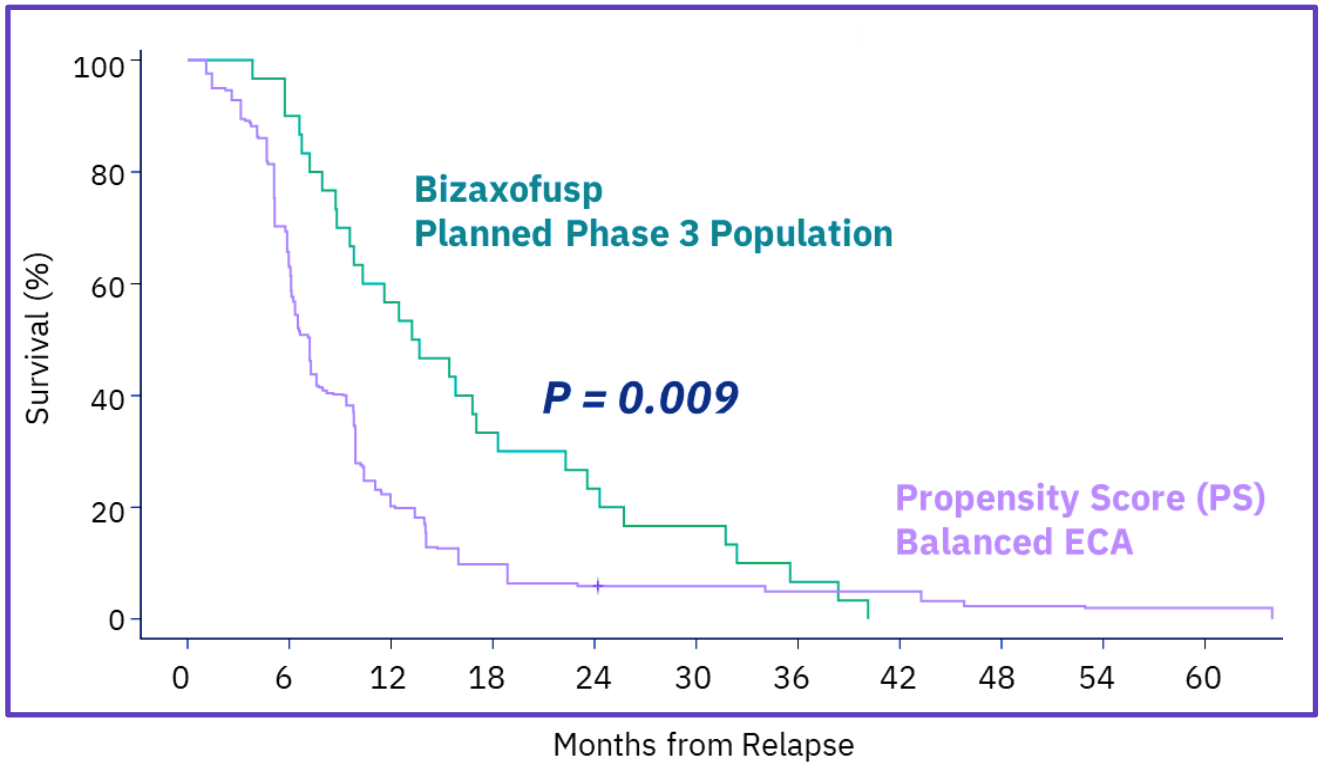
75%
INOPERABLE rGBM



GBM, glioblastoma | rGBM, recurrent glioblastoma | mOS, median overall survival

Single Treatment Doubled Median Overall Survival (OS) in rGBM

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



	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)**	

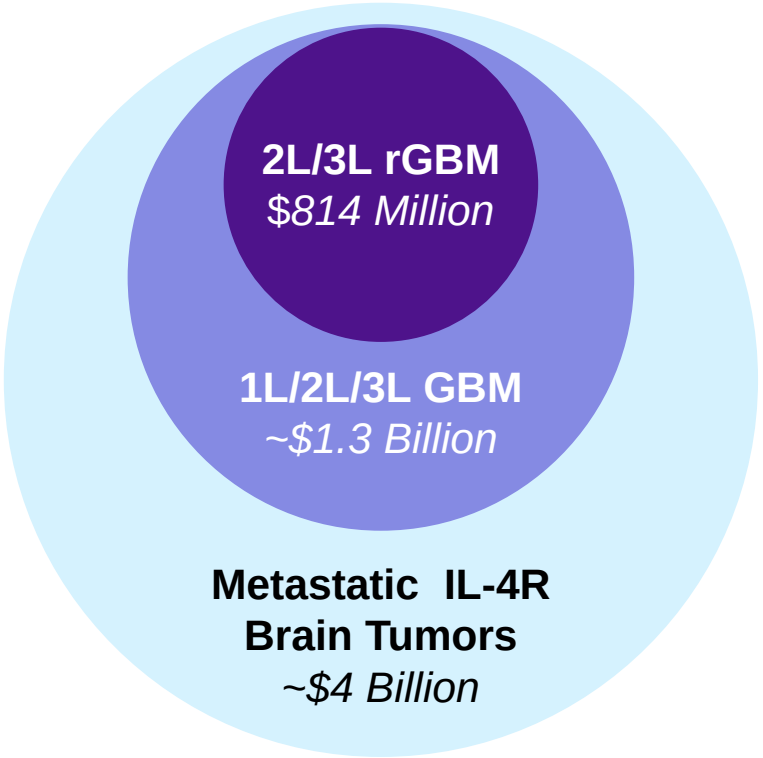
*Log-rank test

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

ECA, external control arm | PS, propensity score

Bizaxofusp has $1.3B Sales Potential if Approved for GBM, up to $4B if Approved in other Brain Cancers

Projected Peak Sales[1]



	2L/3L rGBM	Non-resectable GBM	Metastatic IL-4R Brain Tumors *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**

- **Renal Cancer** ~6,000
- **Breast Cancer** ~47,000
- **Colon Cancer** ~23,000

Additional **IL4R Positive Cancers**

- **60% Ovarian** ~21,500
- **73% Bladder** ~85,000
- **96% Mesothelioma** ~3,000

[1] Source: Triangle Insights Group

A New Hope for the Deadliest Brain Cancer

Strong Clinical Validation	**13.5** Months median OS vs 7.2 months in a propensity matched arm	**~100%** Improvement in Median Survival compared to Standard of Care
Market	**19,000** Number of Patients Annually Diagnosed with rGBM in US and EU4+UK	**250,000** Global Annual Incidence of Primary and Metastatic Brain Cancers
Beyond rGBM	**20** Number of Cancers Known to Over-Express the IL-4R	**1 Million** Global Annual Incidence of IL-4R Positive Cancers

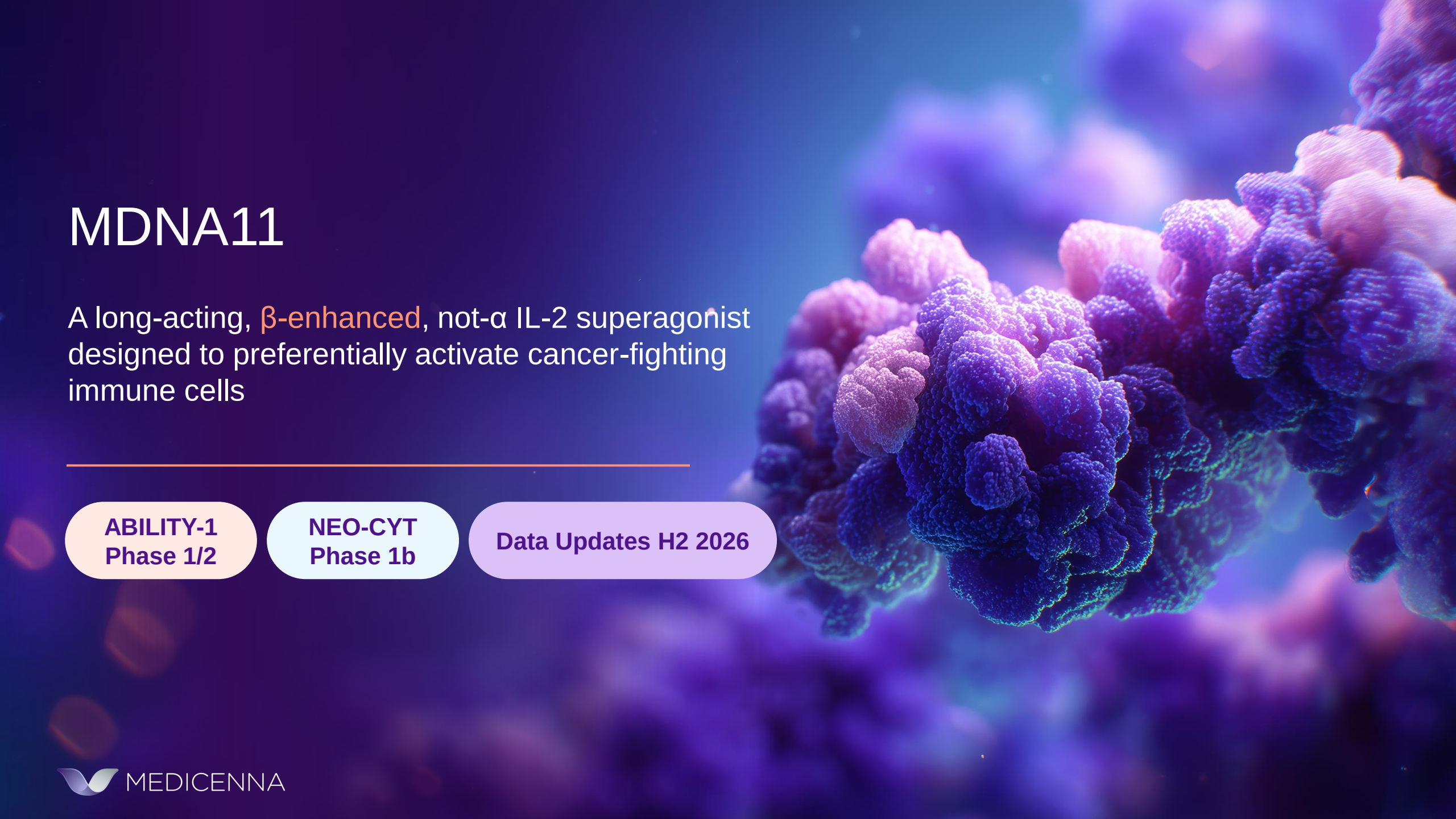
MDNA11

A long-acting, β-enhanced, not-α IL-2 superagonist designed to preferentially activate cancer-fighting immune cells

ABILITY-1
Phase 1/2

NEO-CYT
Phase 1b

Data Updates H2 2026



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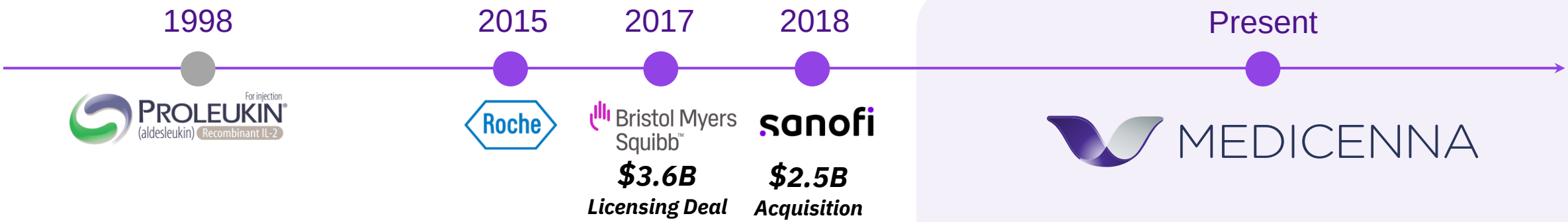
MDNA11 is a Best-in-Class 'IL-2 Agonist' Immunotherapy with Significant Potential for Various Cancers



- IL-2 agonists became the first-ever immunotherapy drug approved for cancer treatment
- Limited-use clinically because of toxic side effects
- **IL-2 is a naturally occurring protein in your body that boosts cancer fighting immune cells**

- 2nd generation programs were discontinued due to poor PK/PD profiles, toxicity or lack of efficacy

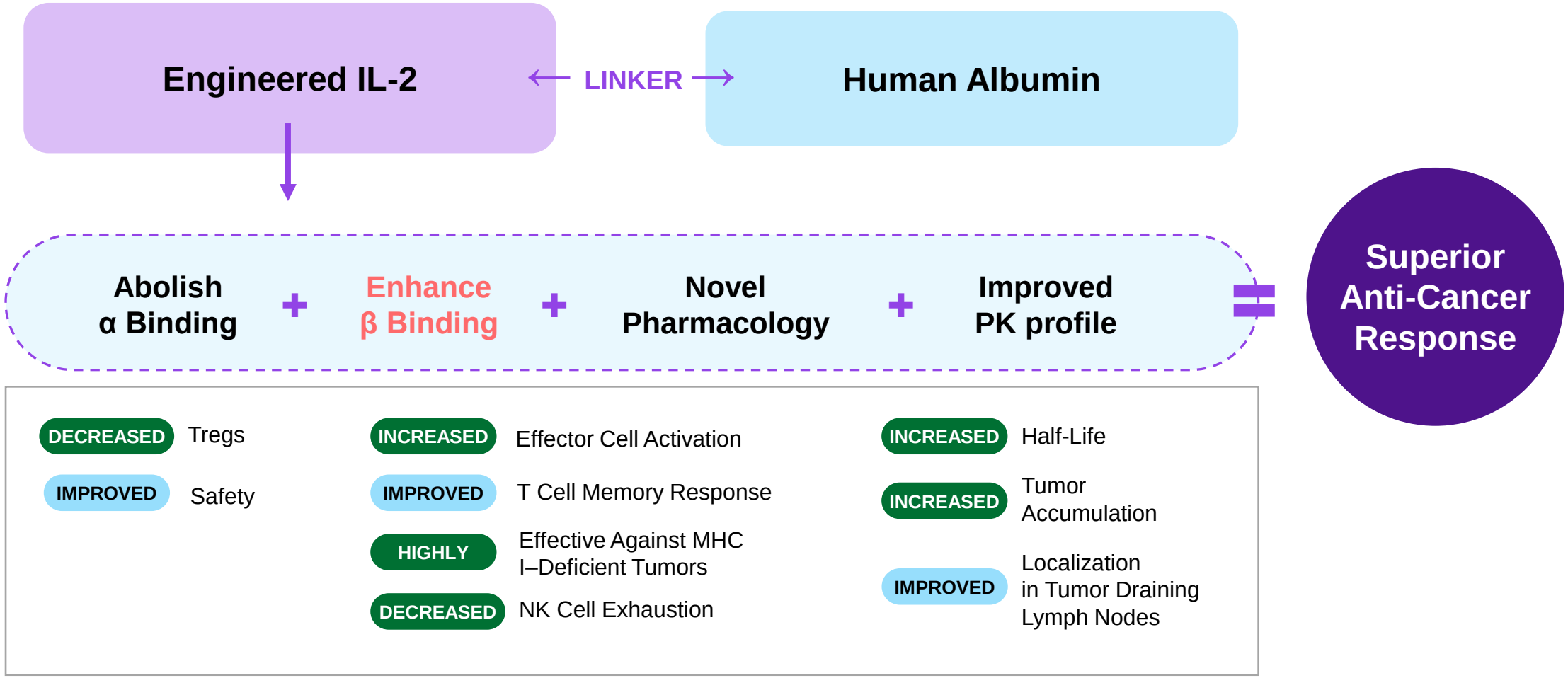
- **ABILITY-1 Study (in Collaboration with Merck):** Phase 1/2 trial ongoing for various cancers in combination with Merck's checkpoint inhibitor pembrolizumab
- **NEO-CYT Study (funded by Fondazione Melanoma):** Randomized Phase 1b trial ongoing in melanoma patients prior to surgery

Fondazione Melanoma

MERCK

Data updates anticipated in H2 2026

MDNA11: A Unique ‘β-enhanced Not-α’ IL-2 Albumin-fused Superkine



MDNA11 Aims to Address Unmet Needs in Patients Resistant to Checkpoint Therapy

	MERCK	Bristol Myers Squibb™	REGENERON	Roche	AstraZeneca
Approved Checkpoint Therapy	KEYTRUDA®	OPDIVO®	LIBTAYO®	TECENTRIQ®	IMFINZI®
2025 Revenue / Loss of Exclusivity*	**$30B** / 2028	**$12B** / 2028	**$2B** / 2035	**$6B** / 2030	**$7B** / 2031

~$60B annual revenue for checkpoint inhibitors…

but only ~30% of patients benefit

MDNA11's anti-tumor activity has been observed in difficult-to-treat checkpoint resistant tumors

Single Agent Activity
36% ORR

N=14 in 2L/3L Tx or as next-line following checkpoint resistance

Combination with Pembro
43% ORR

N=14 in 2L/3L Tx or as next-line following checkpoint resistance

ABILITY-1 trial update presented at ESMO-IO 2025

* Anticipated loss of exclusivity for each agent, respectively

Two Ongoing Clinical Trials Designed to Inform Registrational Development

ABILITY-1 evaluating MDNA11 after checkpoint therapy
NEO-CYT evaluating MDNA11 before surgery in earlier-stage melanoma

ABILITY-1

NCT05086692

Phase 1/2 Trial in Advanced Solid Tumors

- MDNA11 monotherapy and in combo with pembrolizumab
- Expansion enrollment anticipated to complete in H2 2026
- Focus on 2L/3L Tx setting following checkpoint resistance

NEO-CYT

EUCT 2024-519010-31-00

Phase 1b Trial in High Risk Surgically Resectable Stage III Melanoma

- Randomized, sponsored by Fondazione Melanoma
- MDNA11 + nivolumab with or without ipilimumab
- Rapid randomized data in earlier line setting: major pathologic response is primary endpoint

MDNA11 Clinical Data Updates Anticipated in H2 2026

MDNA113

A first-in-class tumor-targeted and tumor-activated anti-PD-1 x IL-2 bifunctional superkine

IND-enabling studies underway

First-in-class bifunctional

IL-13Rα2 anchoring

IND planned Q4 2026

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‘Anti-PD-1 Bispecifics’ Have Emerged to Deal with the 2028 Patent Cliff of the World’s Best-Selling Cancer Drugs

Summit therapeutics | Akesobio

Ivonescimab

MERCK | 礼新医药 LaNova Medicines

LM-299

BIONTECH | Bristol Myers Squibb™

BNT327

Pfizer | 三生制药 3SBIO INC.

SSGJ-707

abbvie | RemeGen Biosciences

RC148

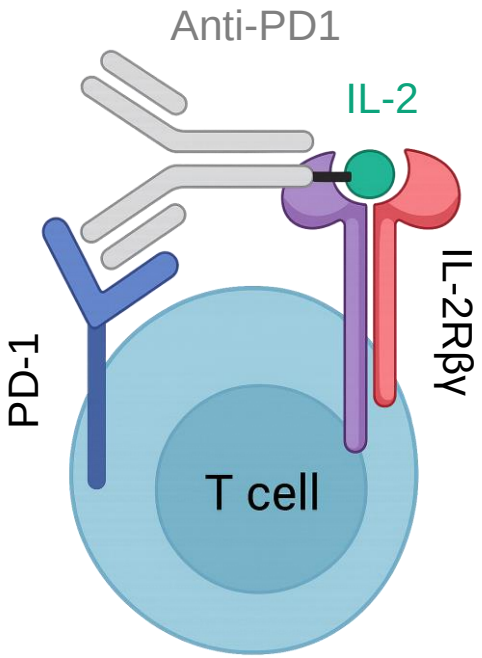
Takeda | Innovent

TAK-928

The Space has Seen ~$38B USD Aggregate Transaction Value Over the Past 24 months

- PD-(L)1 x VEGF combinations dominate early wave of transactions
- PD-1 x IL-2 emerging as next frontier

PD-1 x IL-2: The Next Wave of Immuno-Oncology



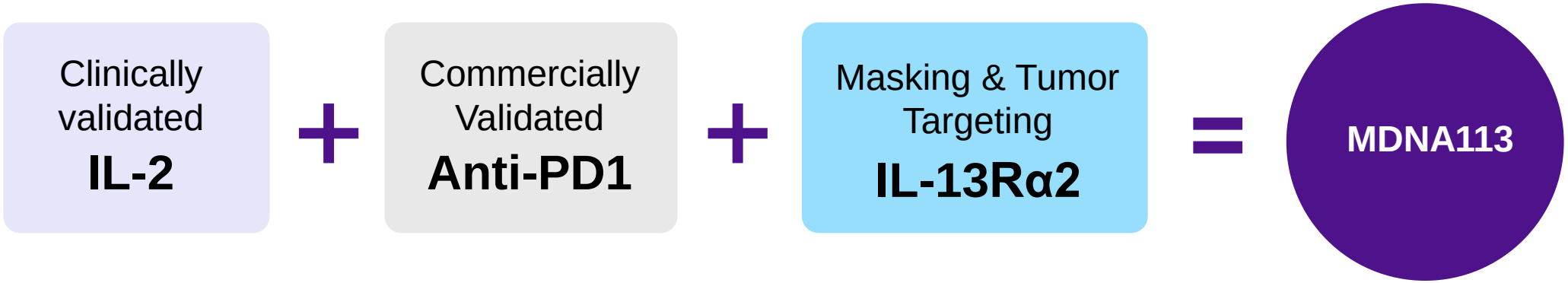
Mechanism: PD-1 × IL-2 *cis*-binding synergies

Targeting the same T cell
simultaneously to fight cancer

Anti-PD-1:
Prevents T cell exhaustion

IL-2:
Proliferates and
activates T cells

MDNA113: A Differentiated First-in-Class, Tumor Anchored Anti-PD1 x IL-2 Bi-functional Therapy



AACR 2026 Presentation: First-in-Class

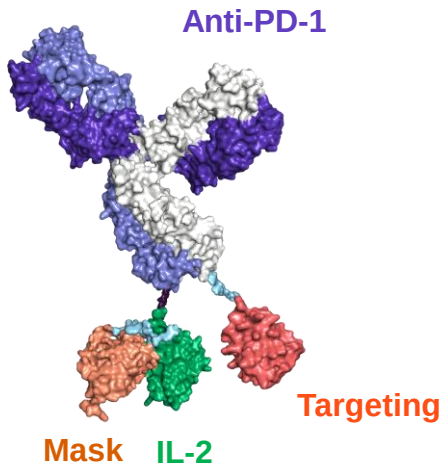
- Safety in non-human primates and superiority to competing IL-2$^{\alpha\text{-bias}}$ design with dosing up to 50 mg/kg
- Dosing tolerated at 30x higher than IL-2$^{\alpha\text{-bias}}$
- Data supporting unmasking and tumor anchoring mechanisms
- *in vivo* efficacy

MDNA113: A First-in-Class Anti-PD1 x IL-2 Bifunctional Targeting Tumors that Express IL-13Rα2

Timing of Development and Features

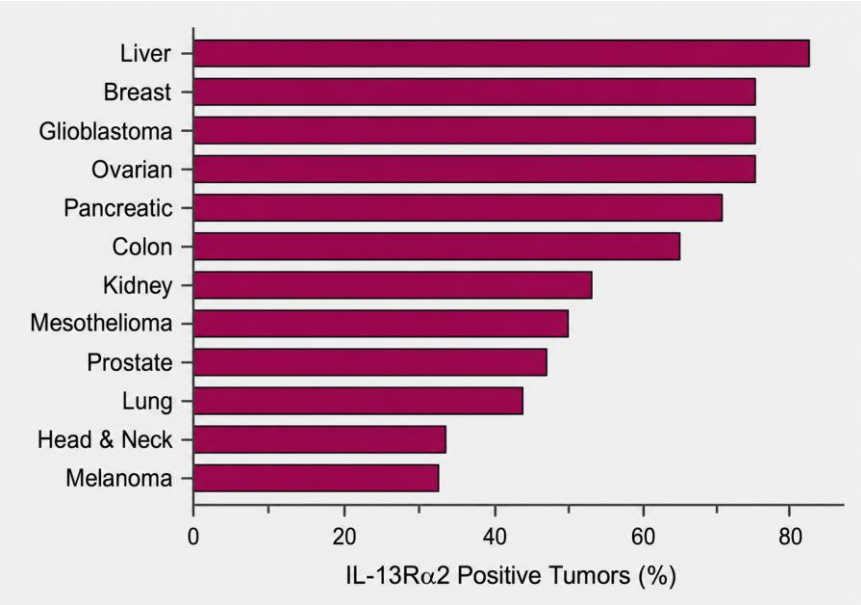
IND-enabling and Phase 1 Trial in 2027

Tumor Targeting & Masking
differentiated from competition and first-in-class



MDNA113 Has Significant Market Opportunity

>2 Million Tumors Express IL-13Rα2 Target Every Year



1. Hou et al., J Cancer Res & Clinical oncol (2009); 2. Papageorgis et al., Br Cancer Res (2015); 3. Joshi et al., Cancer Res (2000); 4. Kioi et al., Cancer (2006); 5. Shimamura et al., Clin Cancer Res (2010); 6. Barderas et al., Cancer Res (2012); 7. Kang et al., J Per Med (2021); 8. Oncomine Cancer MicroArray (OMCA Database); 9. Nagai et al., Cancer Reprots (2023); 10. Xiw et al., Oncotarget (2015); 11. Kawakami et al., Clin Cancer Res (2003); 12. Beardi et al., Clin Cancer Res (2013)

Targeting IL-13Rα2: MDNA113 is a First-in-Class PD-1 x IL-2 Bifunctional

Rationally designed to overcome limitations of competing programs

	MEDICENNA	xilio THERAPEUTICS	REGENERON	Anwita Biosciences	Takeda Innovent
PD-1 Blocking	✓	✓	✗	✓	✓
No IL-2Rα Affinity	✓	✗	✗	✓	✗
Enhanced IL-2Rβγ Affinity	✓	✗	✗	✗	✗
IL-2 Single Agent Activity in CPI Resistant Patients	✓	✗	✗	✗	✗
Tumor Targeting	✓	✗	✗	✗	✗
Conditional Activation	✓	✓	✓	✗	✗
	IND-enabling	IND-enabling	Phase 1	Phase 1	Phase 2/3

Pre-clinical Programs

MDNA209: An IL-2/IL-15 Superantagonist blocking CD122 for autoimmune and inflammatory diseases

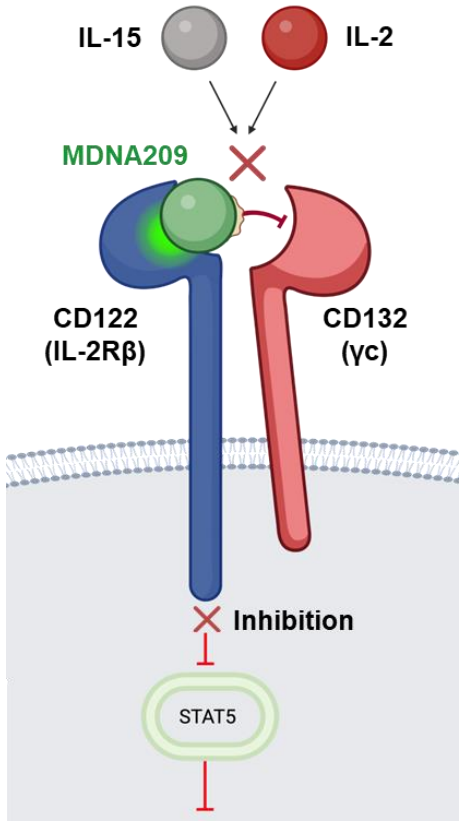
MDNA413: An IL-4/IL-13 Superantagonist for inflammatory diseases

Discovery

MEDICENNA

MDNA209: A Potent IL-2/IL-15 Antagonist Blocking CD122

A novel mechanism for treating autoimmune diseases



- Inhibition of pathogenic T cells and NK cells
- Sparing beneficial Tregs

A High-Affinity CD122 Antagonist: Preventing IL-2/IL-15 Receptor Signaling

- Inhibits effector CD4, CD8 T and NK cells
- Reduction of these immune cell subsets is critical for treating various autoimmune and inflammatory diseases

Immunology & Inflammatory Disease Opportunities

- Graft vs. host disease (GvHD)
- Systemic lupus erythematosus (SLE)
- Rheumatoid arthritis (RA)
- Type 1 diabetes (T1D)
- Multiple sclerosis (MS)
- Behçet's disease
- HTLV-1 associated myelopathy (HAM)
- Eosinophilic Esophagitis (EoE)
- Atopic dermatitis
- Alopecia areata
- Vitiligo
- Celiac disease (CeD)

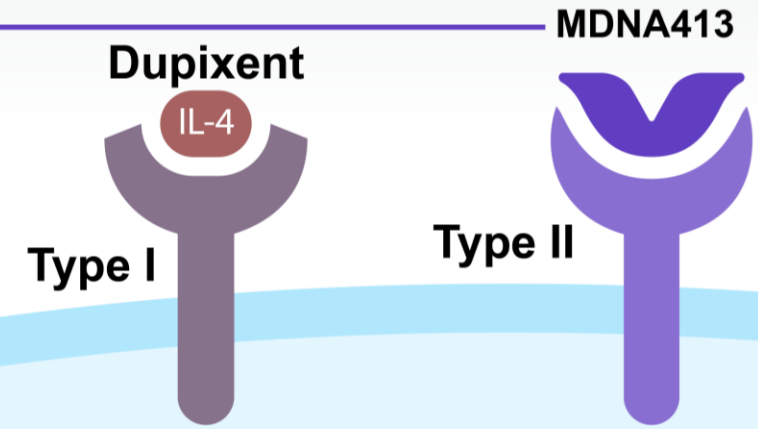
MDNA413: A Highly Selective IL-4/IL-13 Pathway Super-Antagonist

Potential for topical or aerosolized administration for chronic inflammatory diseases

MDNA413

Type II IL-4R Antagonist

- High affinity inhibitor of IL-13Rα1
- Preserves endogenous type I IL-4R signaling
- Potential to synergize with anti-IL-4Rα inhibitors
- Fc added to extend half-life



$11.4B
2023 Revenue
DUPIXENT®
REGENERON
sanofi

Cancer

- Skewing towards M2a TAMs
- Promotion of MDSCs
- Pro-tumor TME
- Promotes tumor growth and metastasis

Th2-Mediated Diseases

- Activation of myeloid cells and non-hematopoietic cells (i.e. nerve fibers)
- Promotes pathogenesis of airway inflammation, AD, EoE, itch and other allergic indications

Corporate Highlights

Upcoming Clinical Catalysts

		Upcoming milestones (2026)
Bizaxofusp	**Increased Overall Survival by ~100%** Median OS ~13.5 months versus ~7.2 months for matched control arm	+ Partner to commence Phase 3 trial
MDNA11	**Deep and Durable Single Agent Activity** 36% ORR MDNA11 monotherapy 43% ORR MDNA11 + pembrolizumab *in expansion cohorts: 2/3L Tx or next line following resistance to ICI therapy*	+ Complete Ability-1 enrollment (N~150) + Ability-1 Data Updates H2 2026 + Plan 2b registrational trial Q4/2026 + Phase 1b neoadjuvant melanoma interim data Q4 2026
MDNA113	**Compelling Preclinical PoC Data** Dosing up to 30 mg/kg (masked) vs. 1 mg/kg (unmasked) validates conditional activation MoA in NHP	+ Non-human primate studies underway + Planned IND submission in Q4 2026 for FIH trial

Stock and Financial Information

Capitalization Summary

Headquarters	Toronto, CA
Market Capitalization	$40M CAD
Cash	$10.7M CAD[1,2]
Debt	$0
Basic SO	~92 Million[1,2]
Fully Diluted SO	~120 Million[1,2]
Insider Ownership	~20%[1,2]

[1] As of 3/31/2026 – *See Company's Q4 F2026 Financial Results and MD&A*
[2] Includes $4.44M public offering closed May 28, 2026

ANALYST COVERAGE

Bloom Burton & Co.
David Martin PhD, MBA

Lucid Capital
Dev Prasad PhD, MBA

H. C. Wainwright & Co
Swayampakula Ramakanth PhD, MBA

Research Capital
Andre Uddin PhD

Experienced Leadership Supported by Leading Clinical and Scientific Advisors

Fahar Merchant, PhD

President & CEO

30 year biotech entrepreneur

Raised over $150M and closed corporate transactions over $250M

Dr. Nageatte Ibrahim, MD

Chief Medical Officer

Helped develop Merck's pembrolizumab, over 12+ years at Merck and GSK

Former Chief Medical Officer of Oncology at Innovent Biologics USA

Dr. Paolo A. Ascierto, MD

Chair Clinical Advisory Board

World-leading immunotherapy expert and melanoma KOL

500+ papers, 150+ trials

Principal Investigator for the NEO-CYT Phase 1b Trial

Sergio Quezada, PhD

Chair Scientific Advisory Board

Cancer-immunology professor at University College London

Co-developed an antibody acquired by Roche

Co-founded Achilles Therapeutics

Burkhard Becher, PhD

Scientific Advisory Board

Chair of Experimental Immunology at the University of Zurich

Won the Sobek Prize, Europe's top basic science research award

Dr. Arash Yavari, MBBS, DPhil

Director of Clinical Strategy

Physician Scientist and Prinicipal Investigator at the University of Oxford

20+ years in early therapeutic development

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Thank you

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