MOLN Corporate Presentation

ZKB Swiss Equity Conference

Patrick Amstutz, CEO

November 7th, 2024

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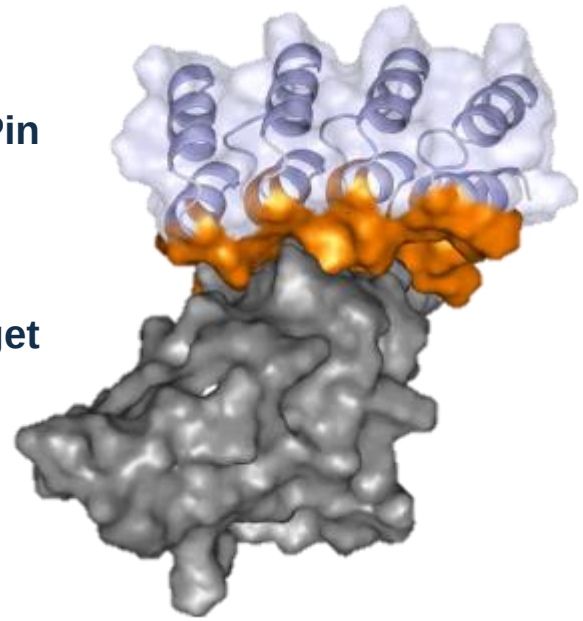
The DARPin Modality and Molecular Partners' Strategy



What we invented

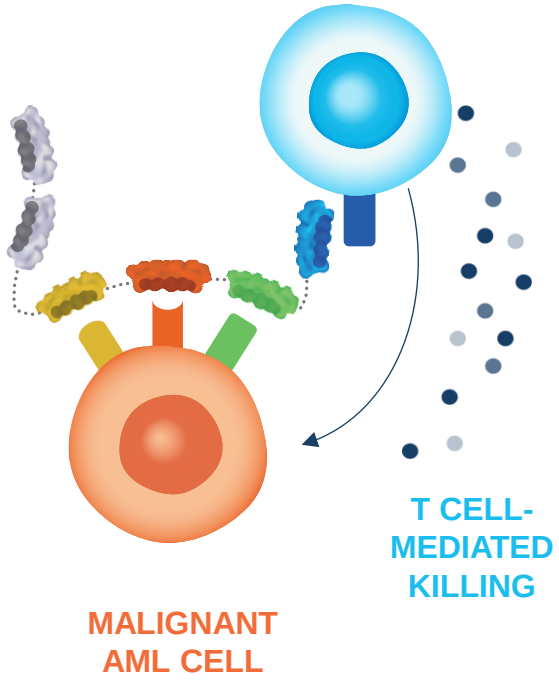
- New class of therapeutics: Designed Ankyrin Repeat Proteins **(DARPins)**
- DARPins to **close the gap between small molecules and antibodies**
- 7 clinical-stage compounds, **>2500 patients treated**

How we apply it

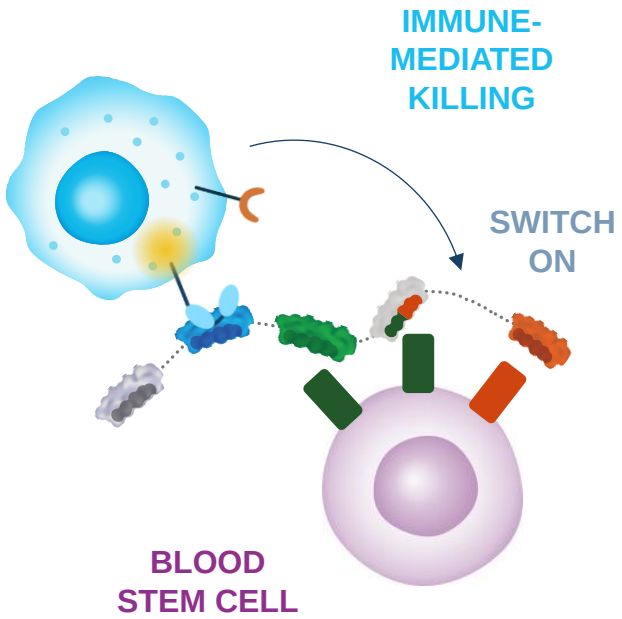
- **Unique DARPin solutions** for a defined medical problems not addressable by antibody designs
- Demonstrate **true patient value** with **early clinical readouts**
- Combine our **capabilities with world-class partners** to deliver innovative therapeutics

DARPin Platforms to Build Therapeutics for Cancer Patients

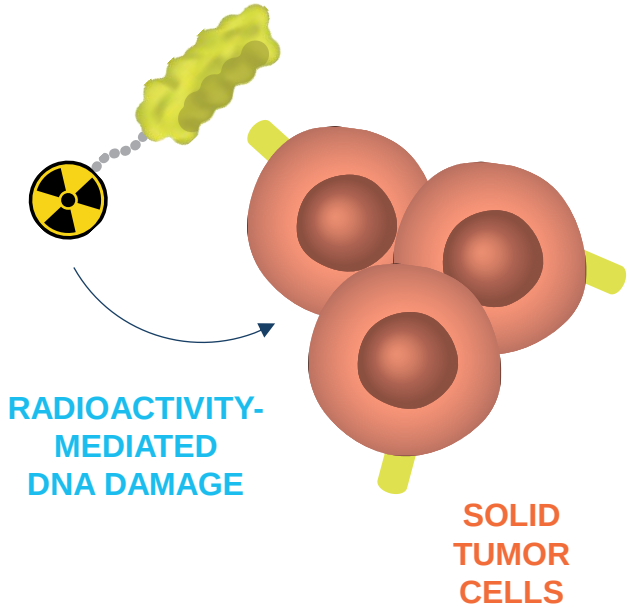
Multi-specific T cell Engagers



Switch-DARPins for Next-Gen Immune Cell Engagers



Radio-DARPin Therapeutics



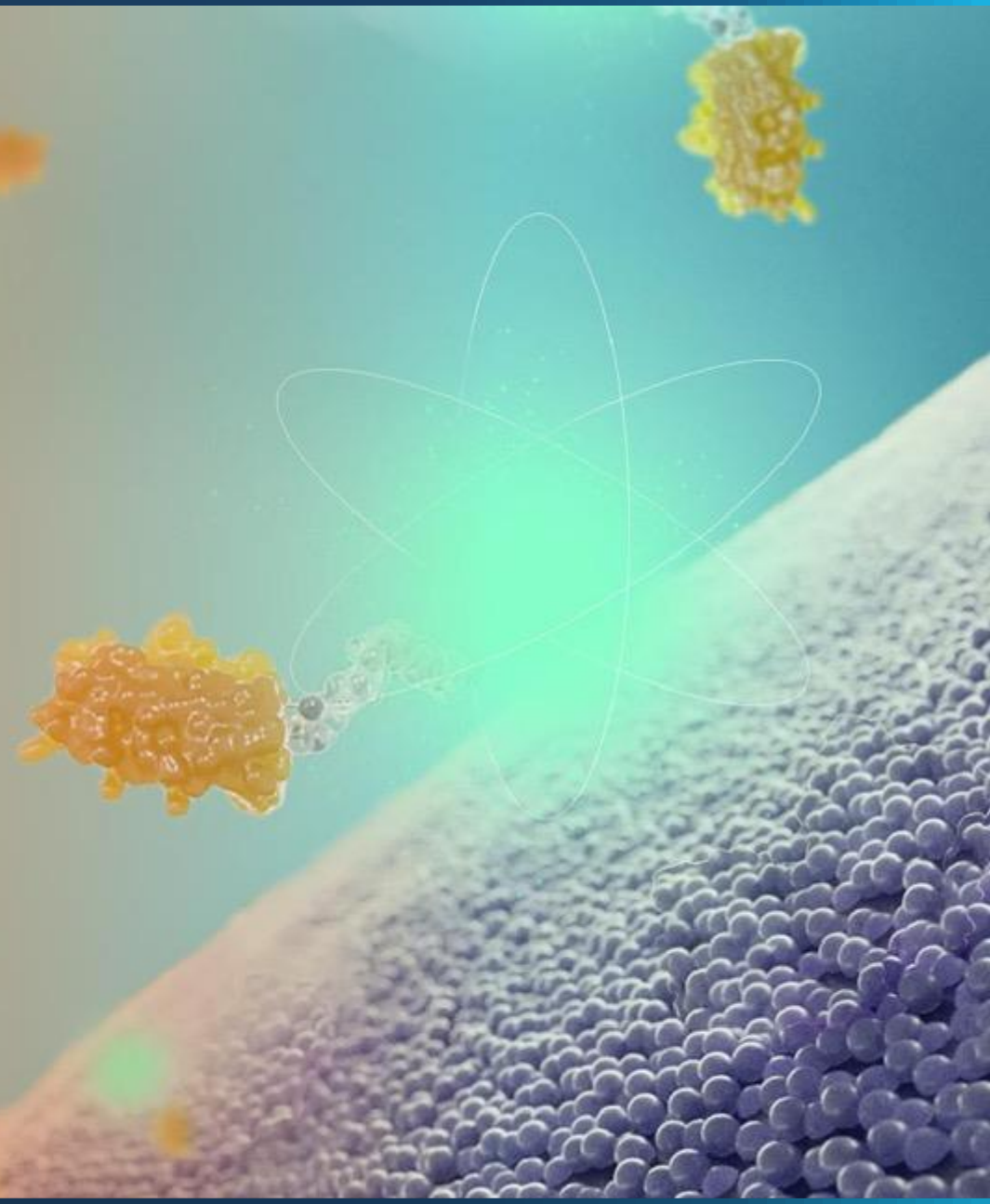
Pipeline

MODALITY	CANDIDATE	RESEARCH	PRE-CLINICAL	PHASE 1	PHASE 2	RIGHTS
Radio–DARPin Therapy (RDT)	**MP0712**	**SCLC & NETs** *DLL3*	*Co-development**			MOLECULAR partners
	Undisclosed Programs	**Solid Tumors**	*3 programs**			oranomed
	Undisclosed Programs	**Solid Tumors**	*In-house programs*			MOLECULAR partners
	Undisclosed Programs	**Solid Tumors**	*2 partnered programs*			NOVARTIS
Tetra-specific T-cell Engager	**MP0533**	**r/r AML and AML/MDS** *CD33 x CD123 x CD70 x CD3*				MOLECULAR partners
Switch-DARPin	**MP0621**	**HSCT** *cKit x CD16a x CD47*				MOLECULAR partners
	Undisclosed Programs	*Immune Cell Engager*				
Localized Agonist	**MP0317**	**Advanced Solid Tumors** *FAP x CD40*				MOLECULAR partners

*The co-development agreement with Orano Med includes 4 RDT programs, including MP0712.
AML, acute myeloid leukemia; DLL3, Delta-like ligand 3; HSCT, hematopoietic stem cell transplant; MDS, myelodysplastic syndrome; NET, neuroendocrine tumor; r/r, relapsed/refractory; SCLC, small cell lung cancer.

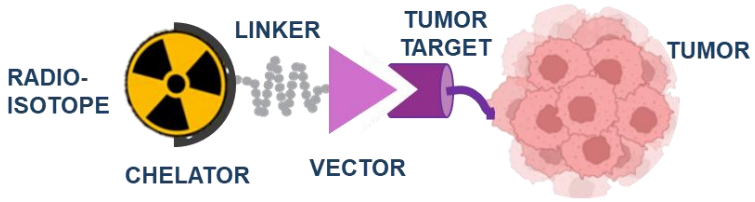
Radio-DARPin Therapy & MP0712 as first program

Platform & Pipeline



Targeted Radiotherapy: “Old” Modality Turned Hot Through Precision

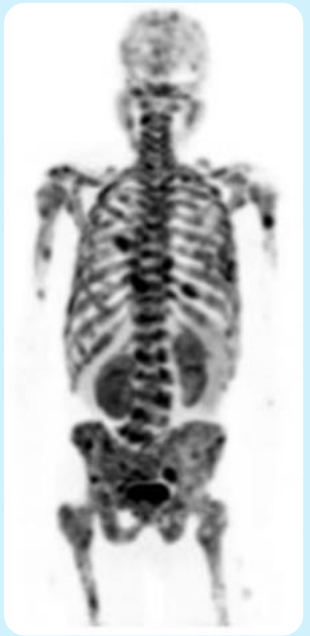
A TARGETED RADIOTHERAPEUTIC:



- **“see what you treat” & “treat what you see”**
  - Early validation or kill point
- Proven clinical **benefit for oncology patients**
- Therapies with beta emitters established, data with **alpha emitters** on the rise
- **Opportunity**: **Broaden the target & indication space with vectors** amenable to selective tumor uptake

Example of a prostate cancer patient with extensive bone metastasis treated with ^{225}Ac-PSMA-617:

IMAGE → THERAPY → IMAGE



^{225}Ac-PSMA-617

8 MBq →

7 MBq →

8 MBq →

July 2017, PSA = 782 ng/ml
PET/CT, 68Ga-PSMA-11

May 2018, PSA = 0.04 ng/ml
PET/CT, 68Ga-PSMA-11

PET/CT scan pictures adapted from Sathekge M, et al. 225Ac-PSMA-617 in chemotherapy-naive patients with advanced prostate cancer: a pilot study. Eur J Nucl Med Mol Imaging 46, 129–138 (2019). https://doi.org/10.1007/s00259-018-4167-0.

DARPins Have the Potential to Broaden the Target Space

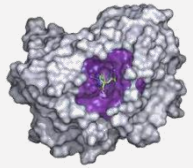
LMW Molecules

Generally good affinity and tumor uptake, low accumulation in kidneys

Limited number of targets with cavity where a LMW targeting moiety can be identified

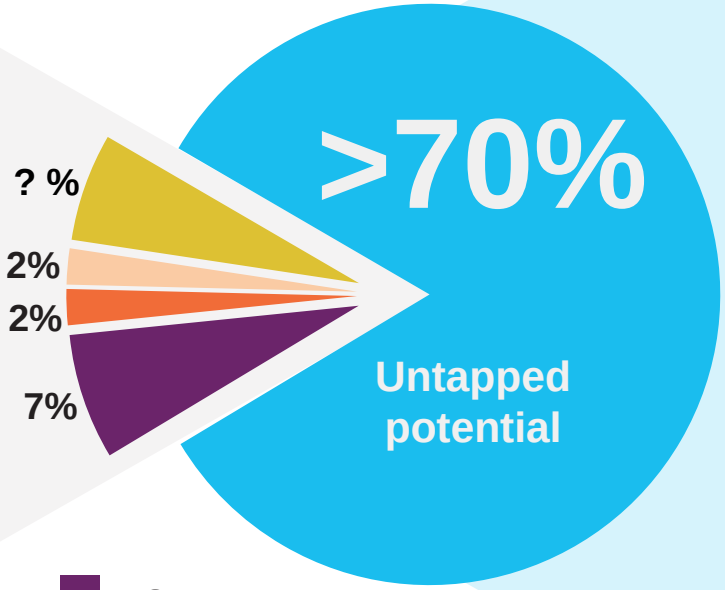
Target Examples:

PSMA
SSTR2



PSMA (1Z8L)

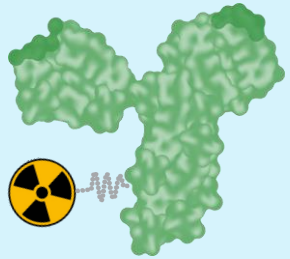
Target Space*



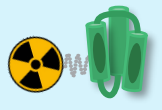
- PSMA + Prostate
- SSTR2 + NETs
- SSTR2 expansion
- Potential other LMW suitable targets**
- Other tumor targets & cancers

Expanding with other targeting moieties

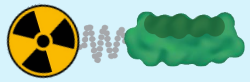
High affinity & specificity binding of protein surfaces of broad range of tumor targets



Antibodies



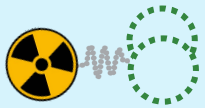
Affibody



Small proteins

DARPin

VHH



Cyclic-peptides

* Source: Guggenheim Securities Report 2023 ** e.g. FAP, CAIX, FOLR1, NTSR1, Eph2A, GPC3, MC2R, GRPR, ITGB6.
LMW, low molecular weight; NET, neuroendocrine tumor; PSMA, prostate-specific membrane antigen; SSTR2, somatostatin receptor 2 .

Opportunity to Evolve DARPins to Radio-DARPins

Enabled by the robust architecture of the DARPin scaffold

Proteins < 60 kDa are reabsorbed by kidneys

Breast cancer patient imaged after treatment with a Her2 DARPin:

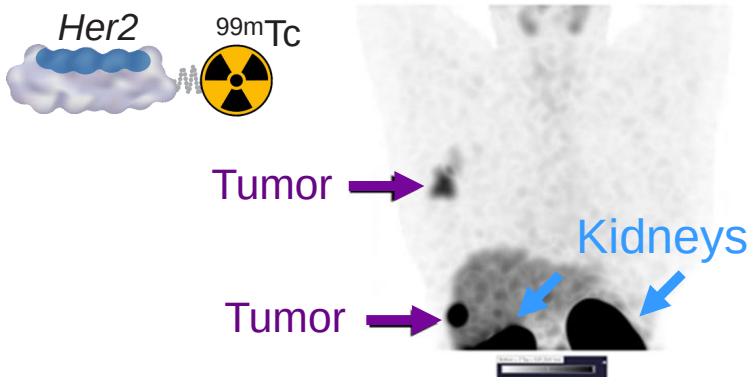
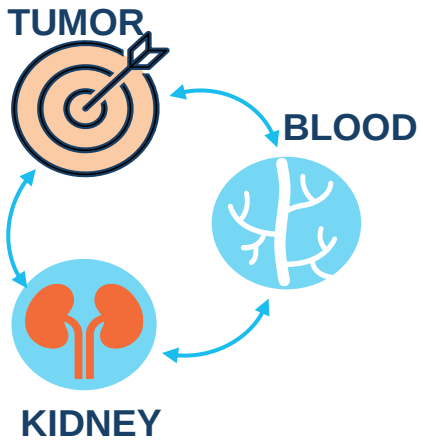
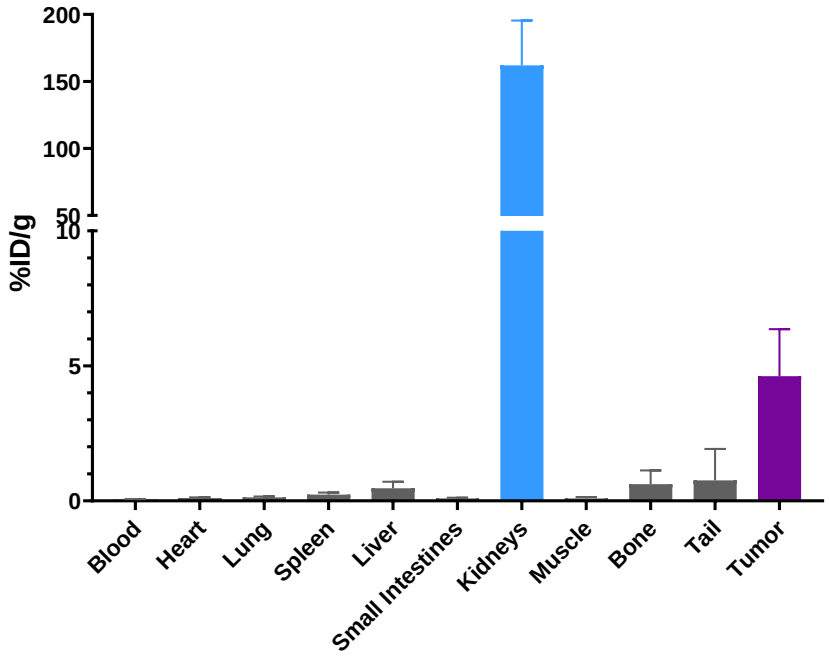


Image kindly provided by Dr. Bragina
Research Centrum for Oncotheranostics, Tomsk



BioD in Tumor Mouse Model



Unlocking DARPins for radiotherapeutic applications

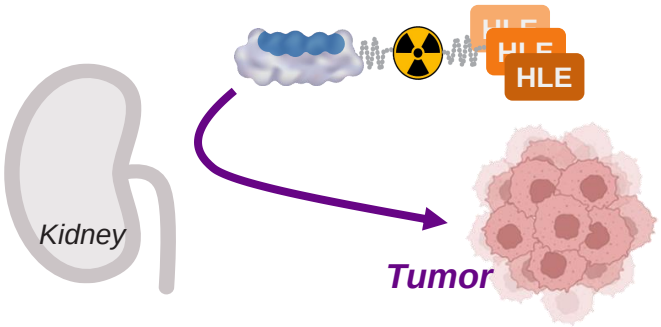
- Increase selective but moderate tumor uptake
- Reduce strong kidney accumulation

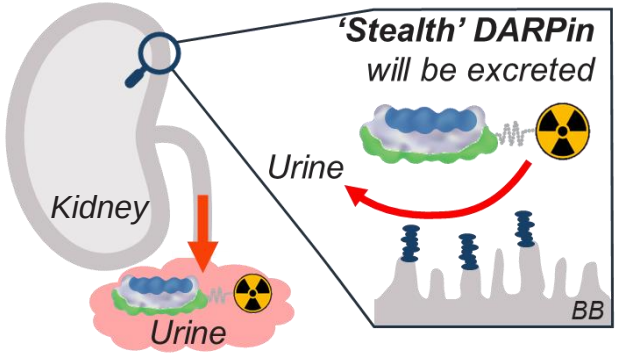
Her2, human epidermal growth factor receptor 2; kDA, kilodalton; pM, picomolar; Tc, technetium.

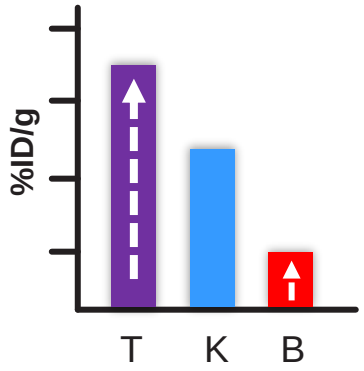
Radio-DARPin Platform Ready to Deliver Product Candidates

Increased tumor uptake
by half-life extension (*HLE*)*

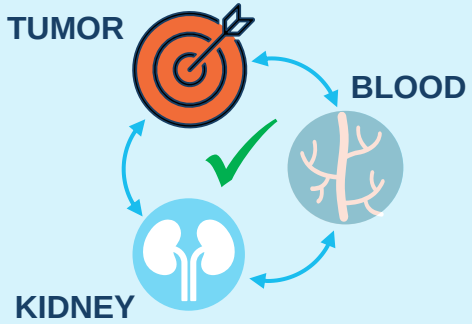
Reduced kidney accumulation
by surface engineering (*Stealth-DARPin*)*

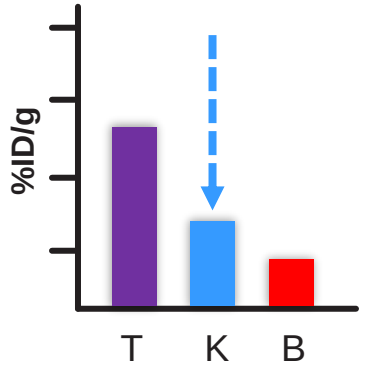






Optimized biodistribution properties





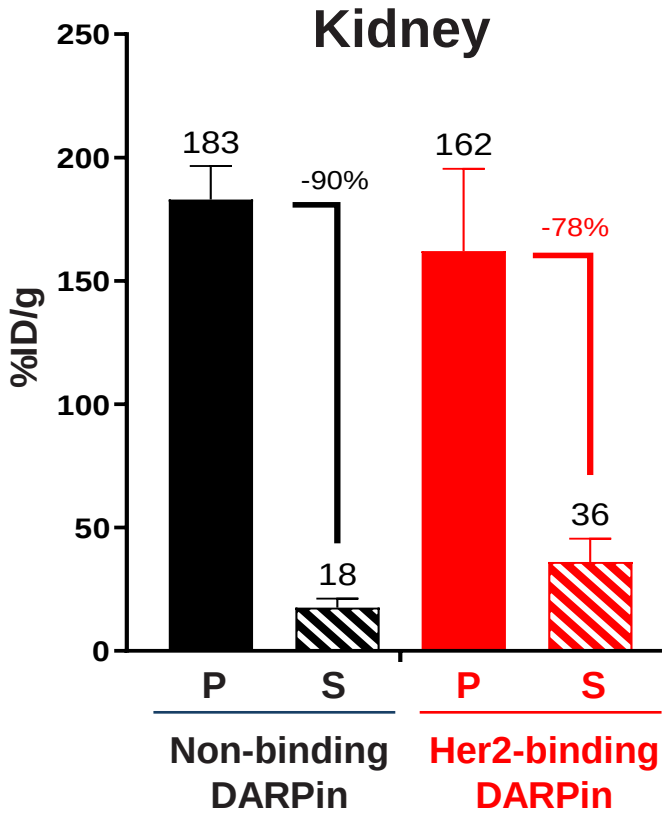
BB: Brush border of proximal tubular cells in the kidney with megalin/cubilin receptor complex

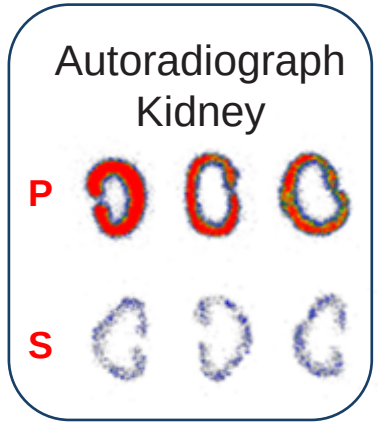
*Data presented at various scientific conferences, including: AACR 2023 (Bosshart et al.), SNMMI 2023 (Lizak et al.), EANM 2023 (Lizak et al.), and others.
B, blood; D, dose; HLE, half-life extension; K, kidney; kDA, kilodalton; pM, picomolar; T, tumor.

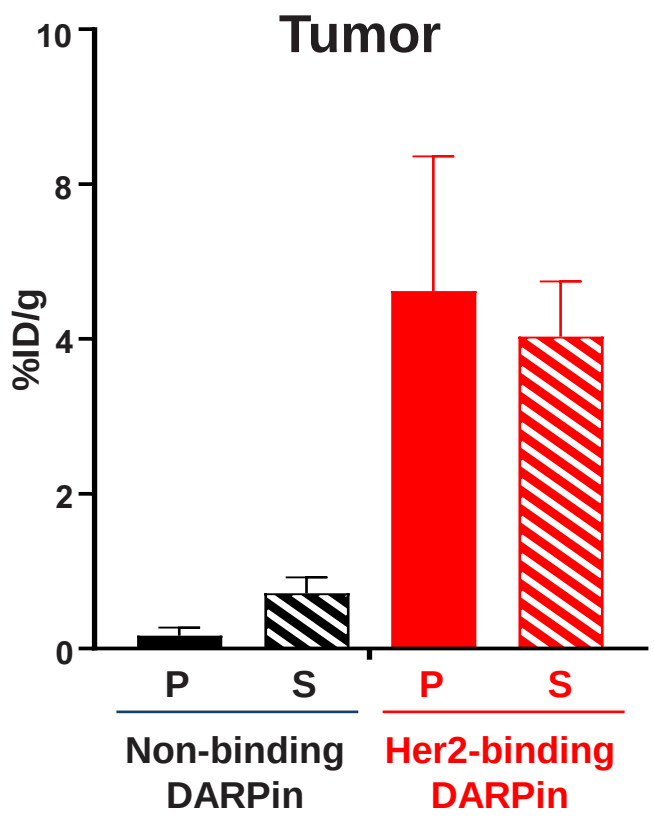
Stealth DARPins Show Strongly Reduced Kidney Accumulation

P: Parental

S: Stealth







→ **Up to 90% reduction in kidney accumulation with maintained tumor uptake**

SKOV3 tumor mouse model,
111-In/DTPA labelled DARPin
4 h post injection

MP0712: the First ^{212}Pb-DLL3 Targeted Radiotherapy

Combining distinctive DARPin features with the power of ^{212}Pb for efficacious cancer therapy

SCLC as indication

- **Aggressive cancer** with high **unmet medical need**
  - 2L: mPFS ~3m; 5y OS ~3%[1,2]
- **DLL3 is expressed in >85% of patients**[3]

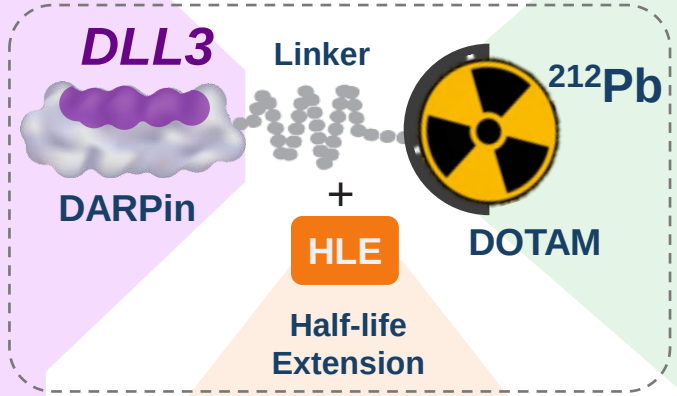
DLL3: a promising target

- **Homogeneous tumor expression**, but low expression level in patients
- No expression in healthy tissues
- **New treatments** with **room for improvement**: Tarlatamab (AMGEN) for 2L+; ORR ~40%

Diverse set of DARPins against DLL3

- **Good developability**
- Specific binding with **high affinity**

Product composition



Tunable albumin binding

^{212}Pb for targeted alpha therapy

- **Strong cytotoxicity** (dsDNA breaks)
- **Single alpha decay** (limited free daughters)
  - → Limited irradiation of healthy tissues
- Relatively **short half-life** (10.6 h)
  - → **Fast energy deposition** (efficacy)
  - → **Easier waste management**

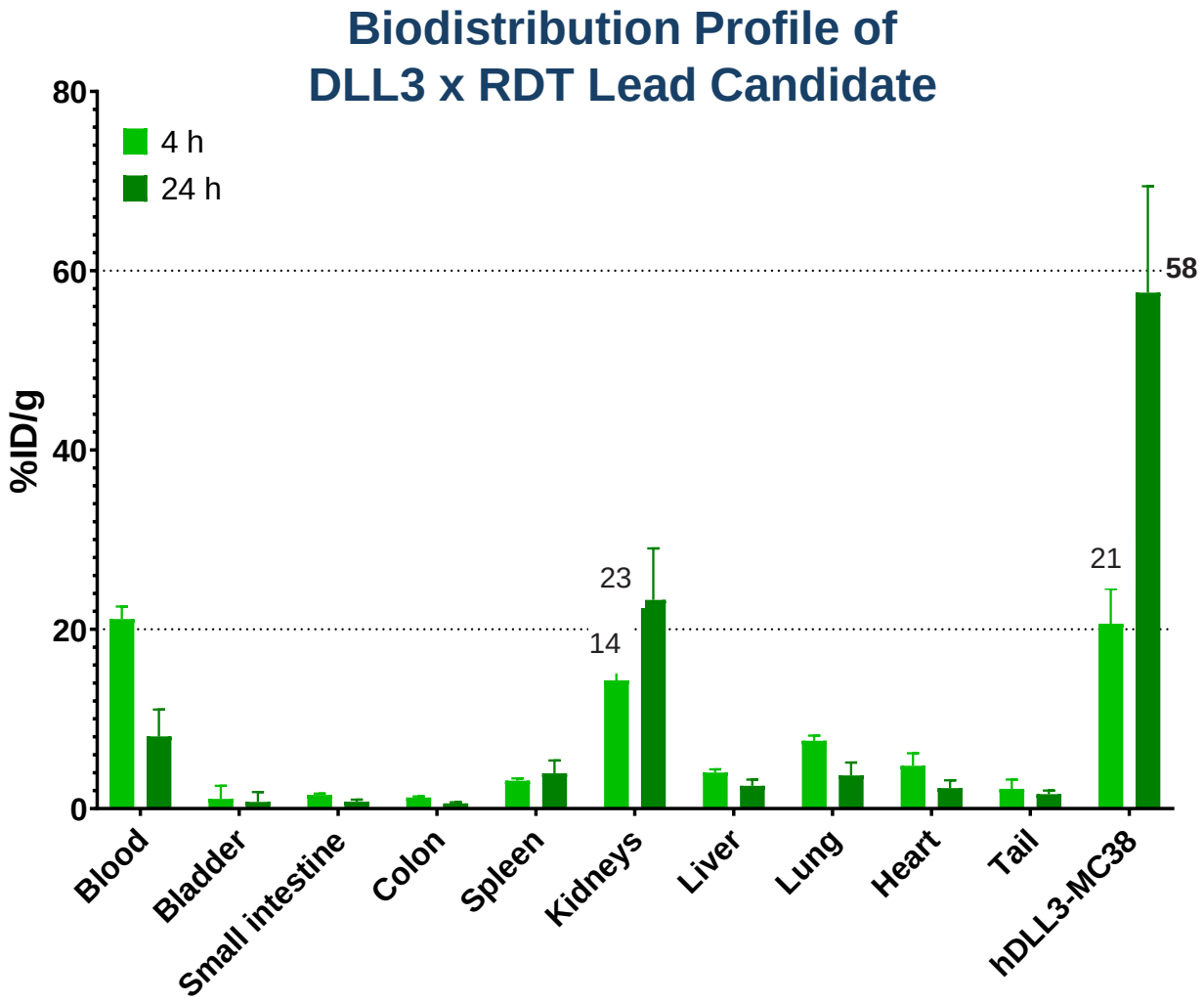
Co-Development with Orano Med

- The **leader for ^{212}Pb** & a committed partner
- **Reliable & scalable ^{212}Pb production**
- **Independent production** capacities (substantial inventory of purified ^{232}Th)

***ASCO**: Ph2 clinical data **^{212}Pb-DOTAMTATE** (AlphaMedix™) showed an **ORR of 55.6%** [4]*

1. Treatment of refractory and relapsed small cell lung cancer, UpToDate; 2. SEER; 3. Rojo et al., Lung Cancer 2020; 4. Strosberg et al., ASCO 2024 presentation. 2L, second line; dsDNA, double-stranded DNA; mPFS, median progression-free survival; ORR, overall response rate; OS, overall survival; Th, thorium.

MP0712: ^{212}Pb-DLL3 Lead Candidate with Attractive BioD Profile



SNMMI SOCIETY OF NUCLEAR MEDICINE & MOLECULAR IMAGING
ANNUAL MEETING

- **MP0712 selected as Lead Candidate** for ^{212}Pb-DLL3 Radio-DARPin Therapy
- Encouraging biodistribution profile with **T:K Ratio >2** in MC38 model
- Similar profile in NCI-H82 model (patient relevant DLL3 expression) with T:K Ratio >1 *(data not shown)*

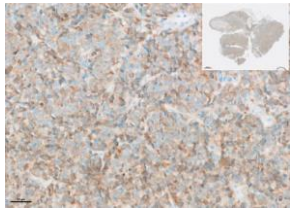
Mice xenografted s.c. with hDLL3-MC38 (Biocytogen)
Dose: 10 µCi of ^{212}Pb at 0.01 mg/kg of DLL3 DARPin
BioD, biodistribution; AUC, area under the curve.

Lizak et al, SNMMI 2024 (oral presentation)

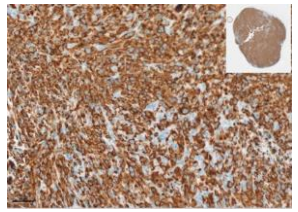
MP0712: Attractive BioD Profile and Tumor Specificity

DLL3 expression & distribution by IHC

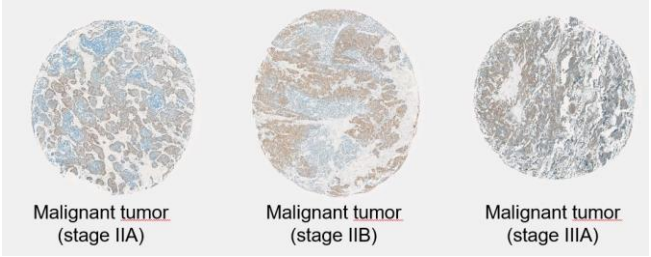
NCI-H82 tumors



hDLL3-MC38 tumors

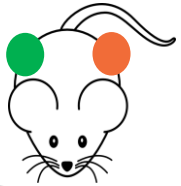


Human SCLC tumors

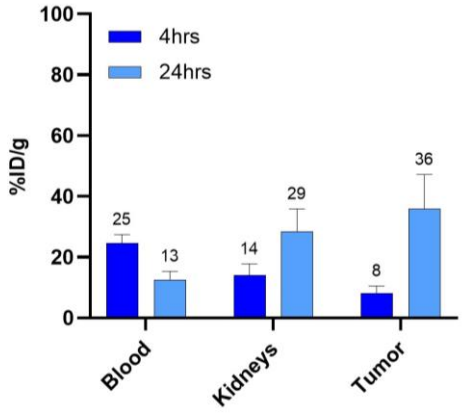


*R2G2 mice xenografted **s.c.** with **NCI-H82***

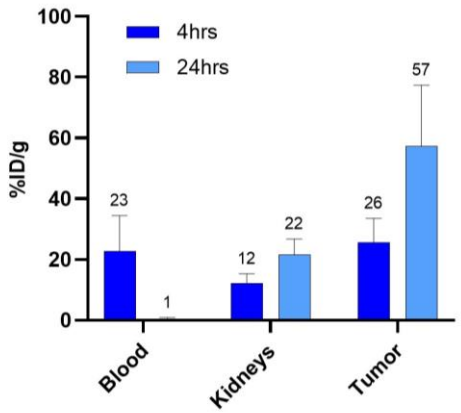
*R2G2 mice xenografted **i.v.** with **NCI-H82***



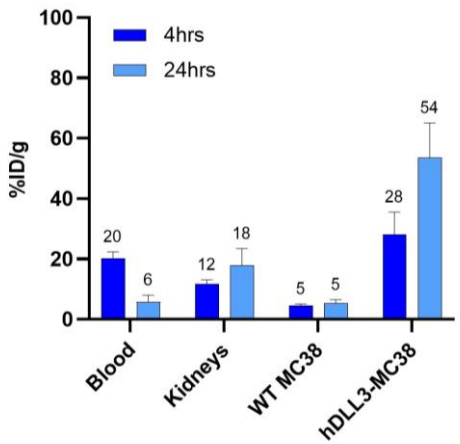
*ATH nude mice double xenografted **s.c.** with **hDLL3-MC38** + **WT-MC38***



T:K at 4h = 0.6 / at 24h = 1.2



T:K at 4h = 2.1 / at 24h = 2.6

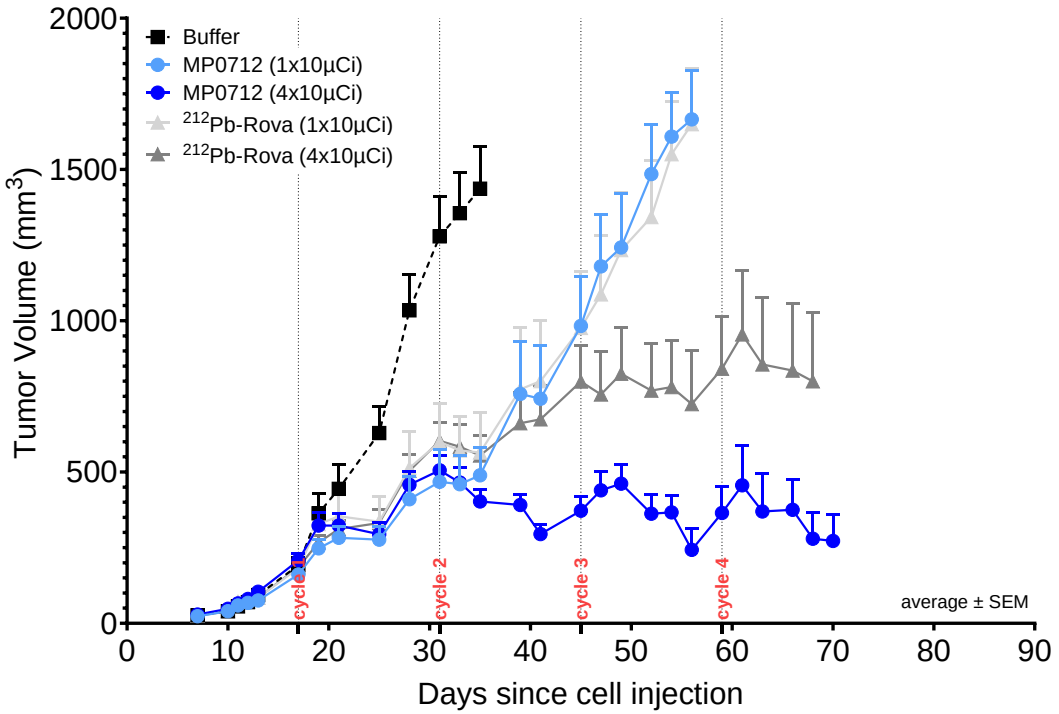


T:K at 4h = 2.4 / at 24h = 3

- **MP0712 reached T:K ratios > 2 in mouse model matching clinically relevant DLL3 expression levels**
- **Selective uptake in DLL3-expressing tumors confirmed high target specificity of MP0712**

MP0712 biodistribution studies done in different mouse models expressing DLL3 / ^{212}Pb-DOTAM-DARPin injected 1 x 10μCi at 0.01mg/kg. BioD, biodistribution

MP0712: Potent Efficacy at Clinically-Relevant Dose

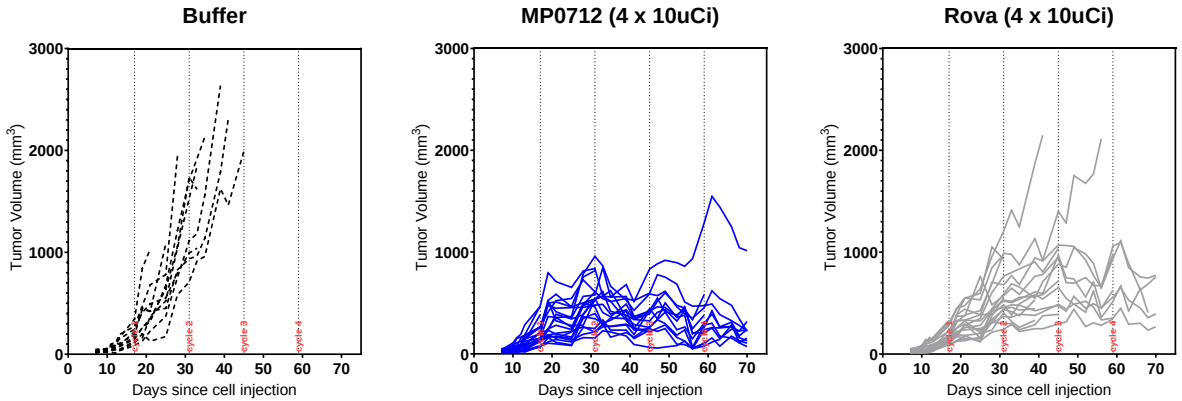


Median survival

Buffer	MP0712 1x10µCi	MP0712 4x10µCi	Rova 1x10µCi	Rova 4x10µCi
4.7 wks	7.9 wks	**15.7 wks**	7.9 wks	8.9 wks

*R2G2 mice xenografted **s.c.** with **NCI-H82***

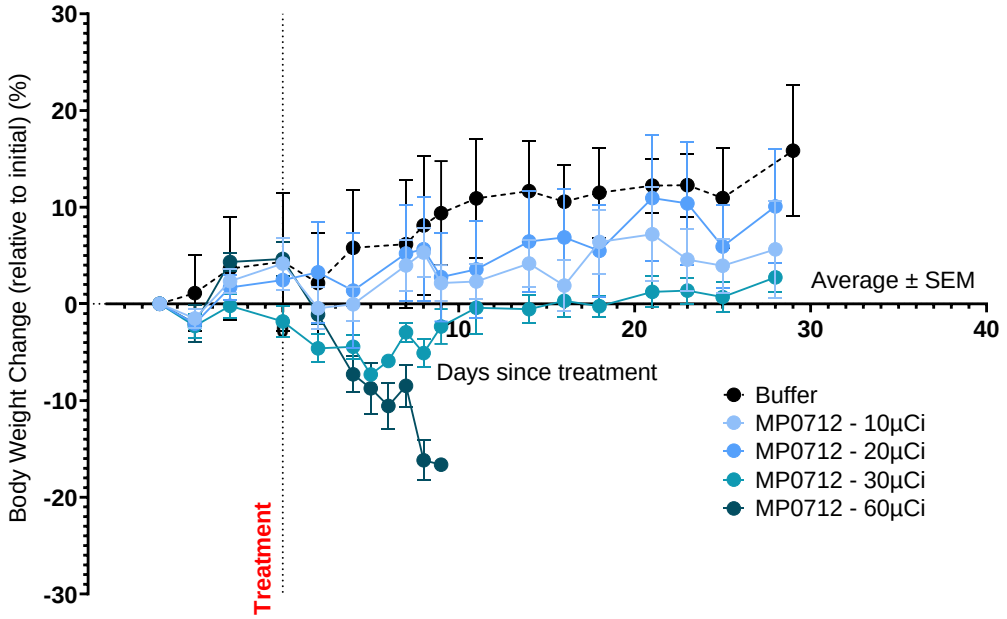
Tumor growth curve for each animal



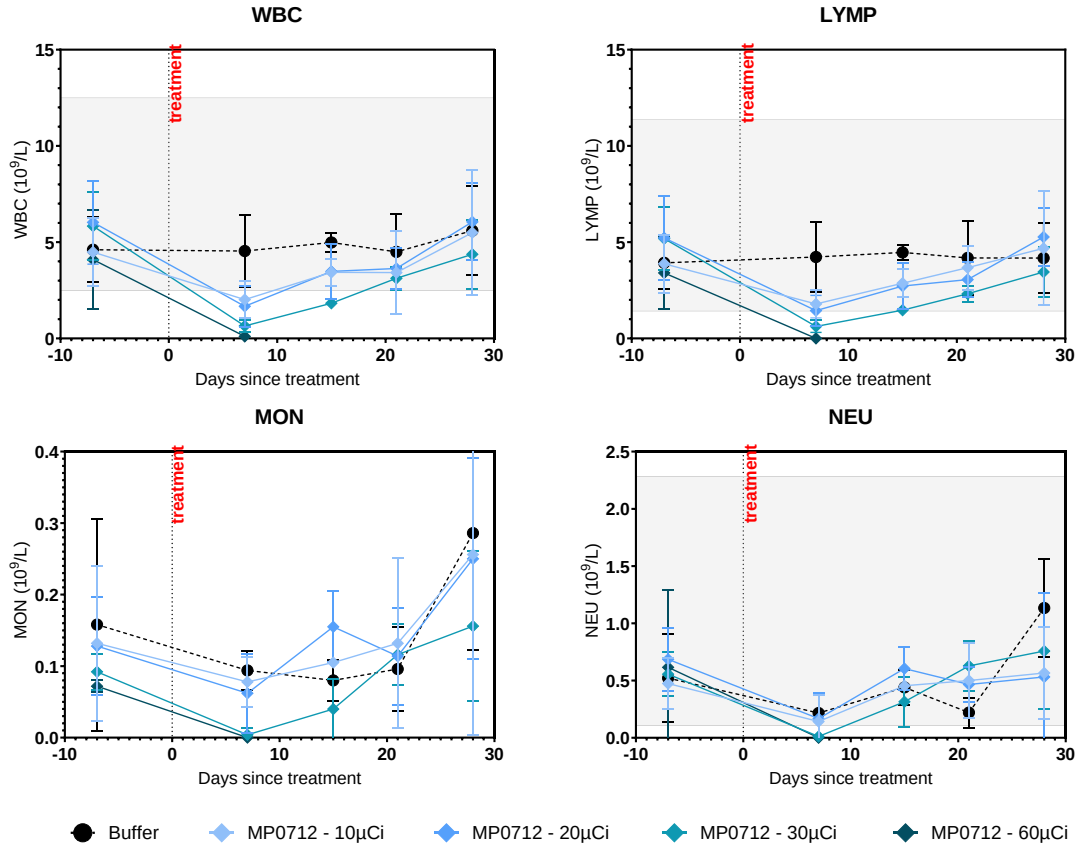
- **MP0712 induced tumor stabilization in NCI-H82 tumor model**

MP0712: Favorable Safety Profile

Body weight (BW) change (%)



Hematology



- **Complete recovery of body weight loss after 10 days**
- **Complete recovery of hematologic profile after 28 days**
- **MP0712 treatment up to 30µCi well tolerated**

^{212}Pb has Key Advantages as Radioisotope

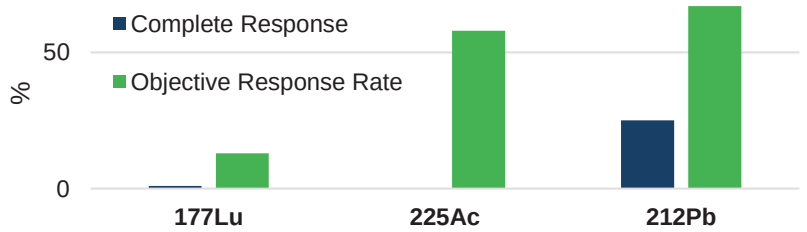
Efficacy

Short decay half-life leads to high energy deposition on tumor in short time frame

^{212}Pb demonstrated efficacy and good tolerability in GEP-NET patients treated with AlphaMedix™: 57% ORR in ph 1+2 combined
(Strosberg et al, ASCO 2024)

^{212}Pb bears best-in-class potential for certain indications

	Beta	*Alpha*	
	177Lu (1)	**225Ac** (2)	**212Pb** (3)
Therapy	177Lu-DOTATATE (=Luthatera®)	225Ac-DOTATATE	212Pb-DOTAMTATE
Phase	Phase 3 NETTER-1	Comp. use	Phase 1
Patients (n)	111	26	12



Clinical data comparing ^{212}Pb with other radioisotopes in treatment-naïve NET patients treated with SSTR-targeting RLTs

Selectivity

Localized and limited exposure of healthy cells with alpha particles

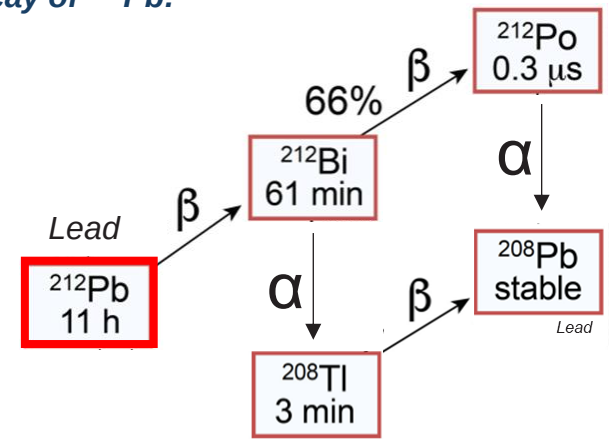
Safety

Clean decay profile: ^{212}Pb is an alpha precursor with low risk for long-lived free daughter radionuclides

Waste management

Less problematic thanks to short half-life

Decay of ^{212}Pb:



Adapted from Li et al., Current Medicinal Chemistry, 2020

References: 1. Strosberg et al, NEJM 2017; 2. Ballal et al, JNM 2022; 3. Delpassand et al, JNM 2022.
GEP-NET, gastroenteropancreatic neuroendocrine tumor; Comp. use, compassionate use; RLT, radio-ligand therapy.

Orano Med – Partner to Co-develop Radio-DARPin Therapies

oranomed
^{212}Pb for Targeted Alpha Therapy

Leader in targeted alpha therapies

Large-scale, reliable, independent production and supply capabilities of ^{212}Pb

- Proprietary stockpile
- Achieve high purity of ^{212}Pb
- 4 GMP sites available or in construction across US and EU
- Excellent logistics

Clinical capabilities demonstrated with ^{212}Pb and AlphaMedix™ in Phase 2 study in collaboration with RadioMedix

Strong partner for RDTs

Co-development agreement signed in 2024:

- 50:50 cost and profit share
- Four RDT programs, including MP0712 (DLL3)
- Molecular Partners commercialization rights for DLL3

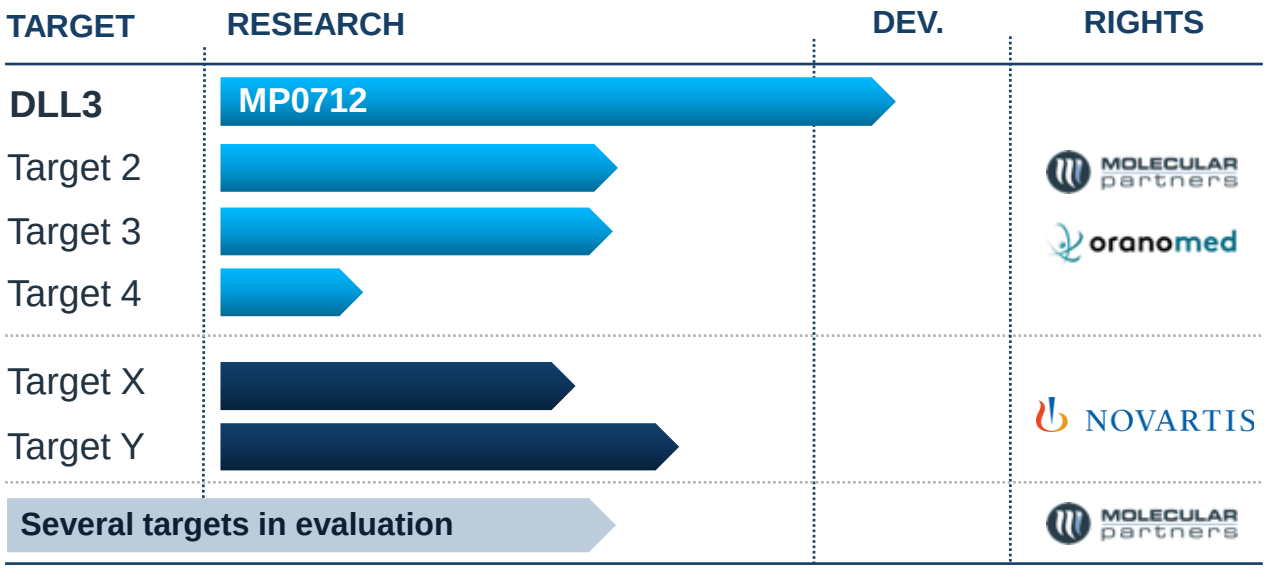
"Endless" starting material as basis for ^{212}Pb supply

Lead-212 is obtained **chemically** by **successive extractions and purifications** of the descendants of thorium-232

Orano Med owns more than 20,000 drums of highly purified thorium-232 offering virtually illimited supply

Summary – Radio-DARPin Therapy (RDT) & MP0712

- Successful RDT platform optimization **with attractive biodistribution profile** (tumor, kidney, blood)
- **MP0712 selected as Lead Candidate for targeted ^{212}Pb-DLL3** Radio-DARPin Therapy: encouraging safety & efficacy *in vivo*
- IND-enabling package working towards completion; **initial clinical data expected in 2025**

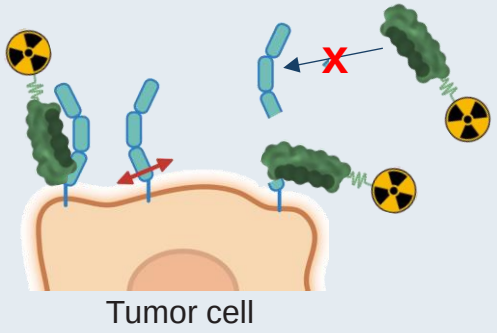


RDT Outlook:

- ***Advance MP0712*** *and additional* ***pipeline candidates***
- *Continue to evolve RDT platform for* ***next differentiated RDT programs***
- ***Progress collaboration projects*** *with Orano Med and Novartis*

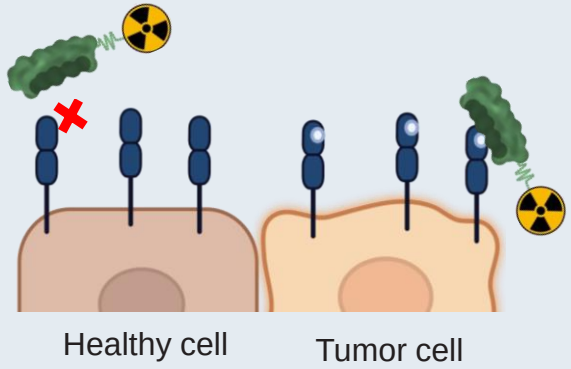
*The co-development agreement with Orano Med includes 4 RDT programs, including MP0712
IND, investigational new drug.

Outlook: Leverage DARPin Differentiation to build RDT portfolio

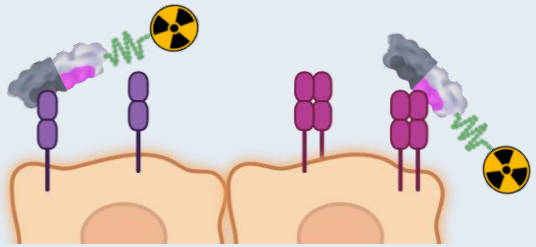


Selectivity for **membrane-bound antigen** vs **shed antigen** for high tumor uptake

Selectivity to antigens with **high surface homology** to other targets



2in1 DARPin



Bi-specific DARPins to achieve **broader distribution in tumors** & **overcome heterogeneity,** especially for targeted alpha therapy

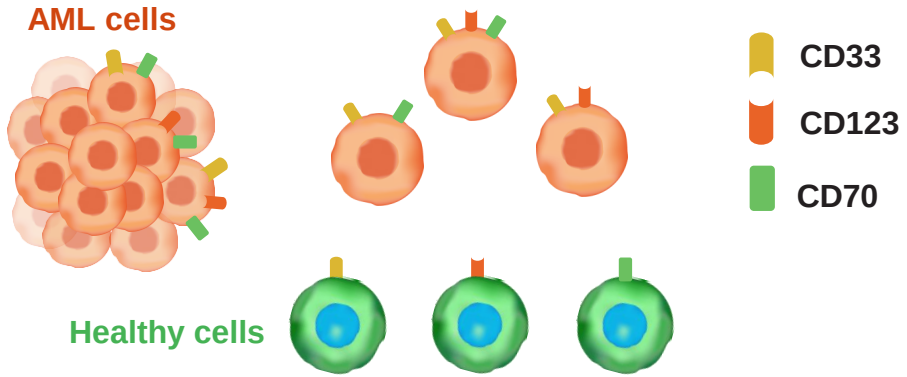
Created in part with BioRender.com

MP0533

Tetra-specific T-cell Engager for AML

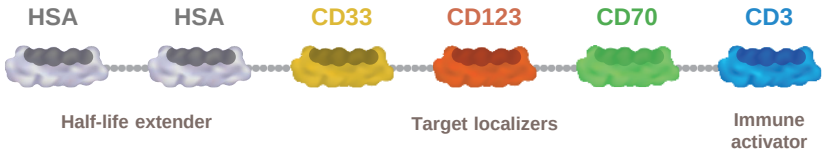
MP0533: Avidity-Driven Selectivity for Cancer Cells in AML

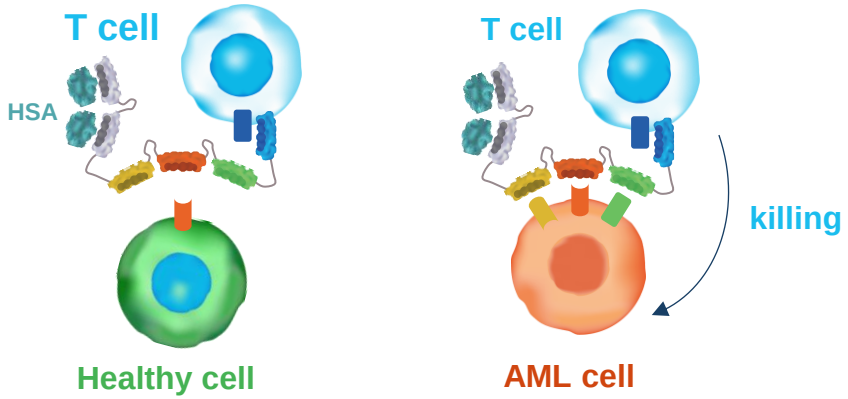
Problem: AML tumor-associated antigens are expressed on healthy cells



- **AML remains a deadly disease** and persistence of **leukemic stem cells (LSCs)** drives relapse
- **AML cell population is heterogeneous**: individual AML blasts and LSCs lack a clean target. AML cells can be differentiated from healthy cells (e.g. HSCs) by their **co-expression of specific targets** (e.g. CD33, CD123, CD70)

Solution: MP0533 – Avidity-driven selectivity and killing by T cells





- MP0533 is designed to induce **T cell-mediated killing preferentially when two or three target antigens (CD33, CD123, CD70) are co-expressed**
- MP0533 is hypothesized to preserve healthy cells hence **opening a therapeutic window**
- MP0533 has the potential to kill all AML cells (blasts and LSCs) despite heterogeneity, ensuring **long term disease control**

AML, acute myeloid leukemia; HSC, hematopoietic stem cell; HSA, human serum albumin.

MP0533 Phase 1 Dose Escalation in R/R AML Patients

Rapid progress up to cohort 7 with need to explore higher doses

STUDY DESIGN

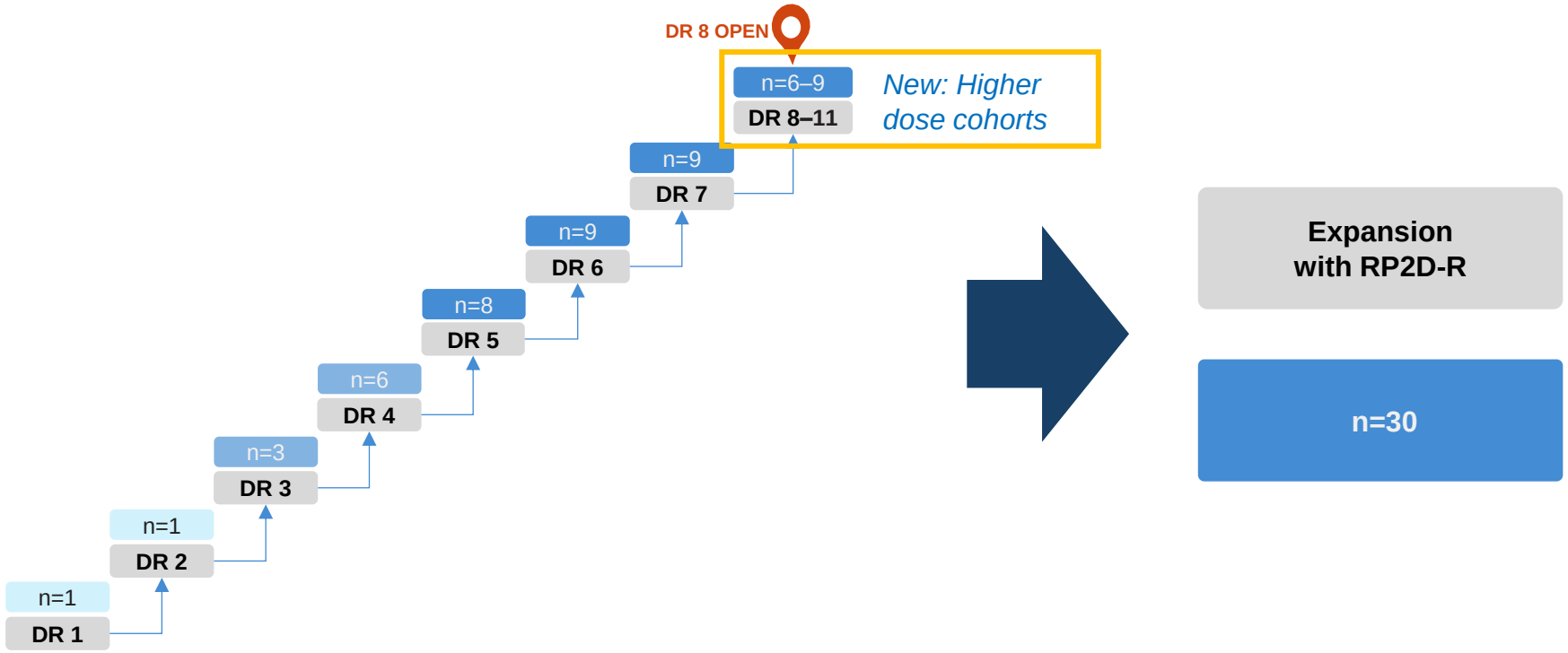
- FIH, single-arm, open-label, Phase 1/2a study of MP0533 monotherapy (NCT05673057)

STUDY OBJECTIVES

- Safety / tolerability
- PK / exposure
- Preliminary activity / PD
  - Clinical response as per ELN (incl. MRD status)
  - Blasts and LSCs counts
  - T-cell activity
  - MP0533 presence in BM
  - Target (co-)expression
  - Evolution of disease clonality

PHASE 1
DR ESCALATION OF MP0533 MONOTHERAPY

PHASE 2A
PoC OF MP0533 MONO- / COMBINATION THERAPY



Study on-going across 9 sites in EU, DR 8 enrolling

BM, bone marrow; DLT, dose limiting toxicity; DR, dose regimen; ELN, European LeukemiaNet; LSC, leukemic stem cell; MRD, minimal residual disease; n, number of patients; PD, pharmacodynamics; PoC, proof of concept; r/r, relapsed/refractory; RP2D-R, recommended phase 2 dose regimen.

MP0533 Phase 1 Patient Characteristics and Safety Profile

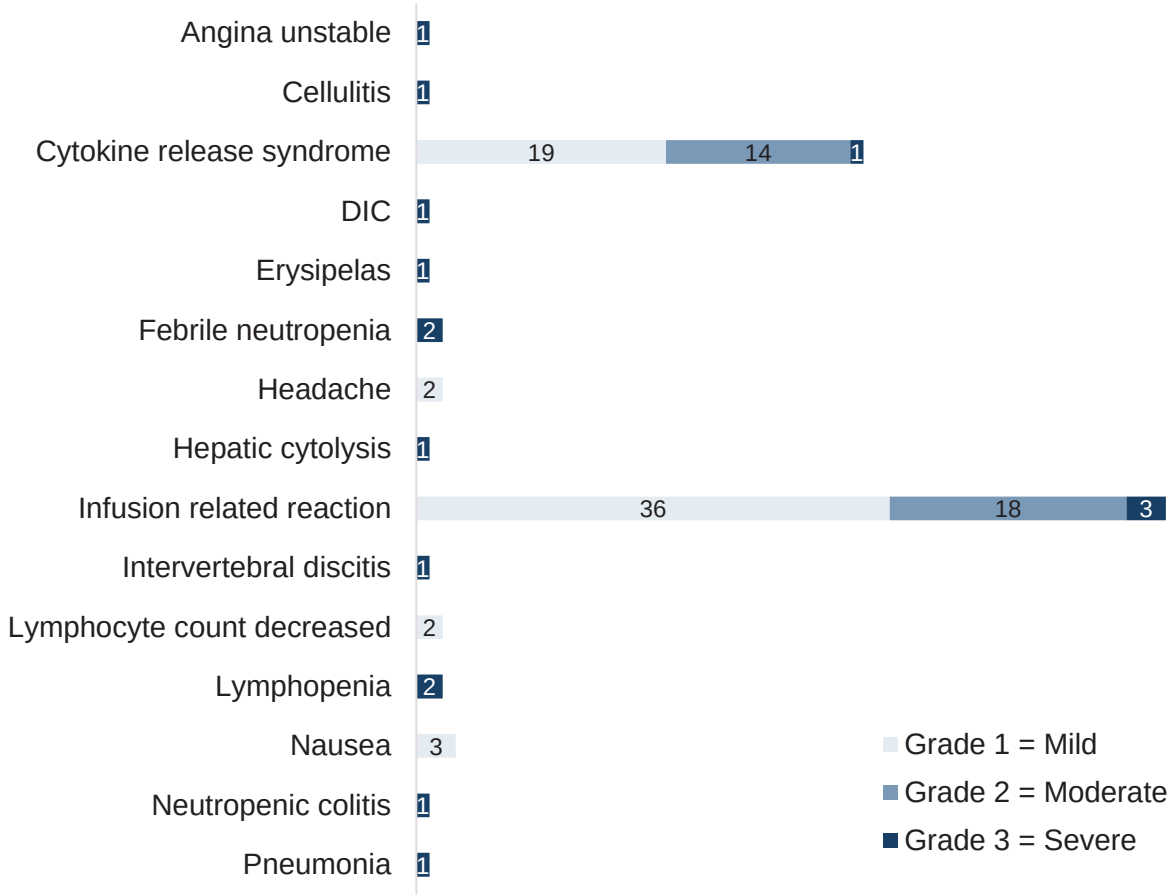
BASELINE CHARACTERISTICS	DR COHORTS 1–6 (n=28)
Sex, n (%)	
Female / male	14 (50) / 14 (50)
Age	
Mean / Median (range)	68 / 74 (22–82)
ECOG PS, n (%)	
0 / 1 / 2	11 (39) / 15 (54) / 2 (7)
Hematologic malignancy, n (%)	
AML / MDS/AML	19 (68) / 9 (32)
ELN risk category, n (%)	
Intermediate / adverse	4 (14) / 24 (86)*
No. of prior systemic treatment lines, n (%)	12 (43) / 10 (36) / 6 (21)
1 / 2 / ≥3	

*TP53 mutated: 7 (25%)

Acceptable safety profile for MP0533 reported for DR 1-6‡:

- IRR and CRS are the most frequent MP0533-related TEAEs (mostly Grade 1-2, occasional Grade 3)
- No DLTs up to DR 6

MP0533-RELATED TEAEs‡



Data cut-off: 29 July 2024

Preliminary data as study is ongoing, subject to final data validation.

‡TEAEs of n=1 of grade 1 and 2 were removed from the graph for display purposes.

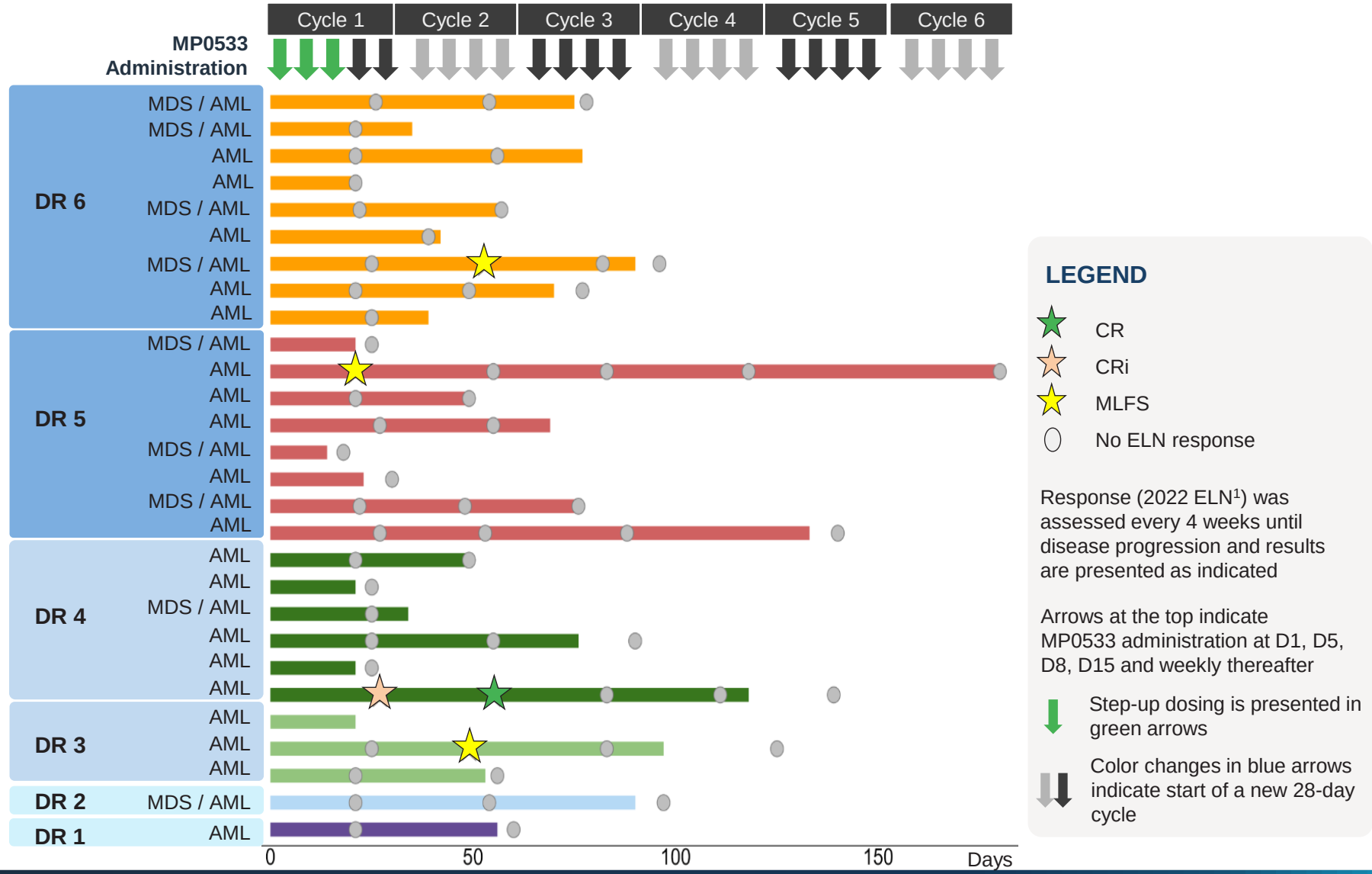
AE, adverse event; DIC, disseminated intravascular coagulation; DR, dose regimen; CRS, cytokine release syndrome; ELN, European LeukemiaNet; IRR, infusion-related reaction; TEAE, treatment-emerging AE.

MP0533 Treatment & Clinical Response

Four responders reported in DR 3-6:

- CR in 1 patient at DR 4
- MLFS in 3 patients, 1 each at DR 3, DR 5 and DR 6

DR 8 enrolling patients



LEGEND

- CR
- CRi
- MLFS
- No ELN response

Response (2022 ELN[1]) was assessed every 4 weeks until disease progression and results are presented as indicated

Arrows at the top indicate MP0533 administration at D1, D5, D8, D15 and weekly thereafter

- Step-up dosing is presented in green arrows
- Color changes in blue arrows indicate start of a new 28-day cycle

Data cut-off: 29 July 2024

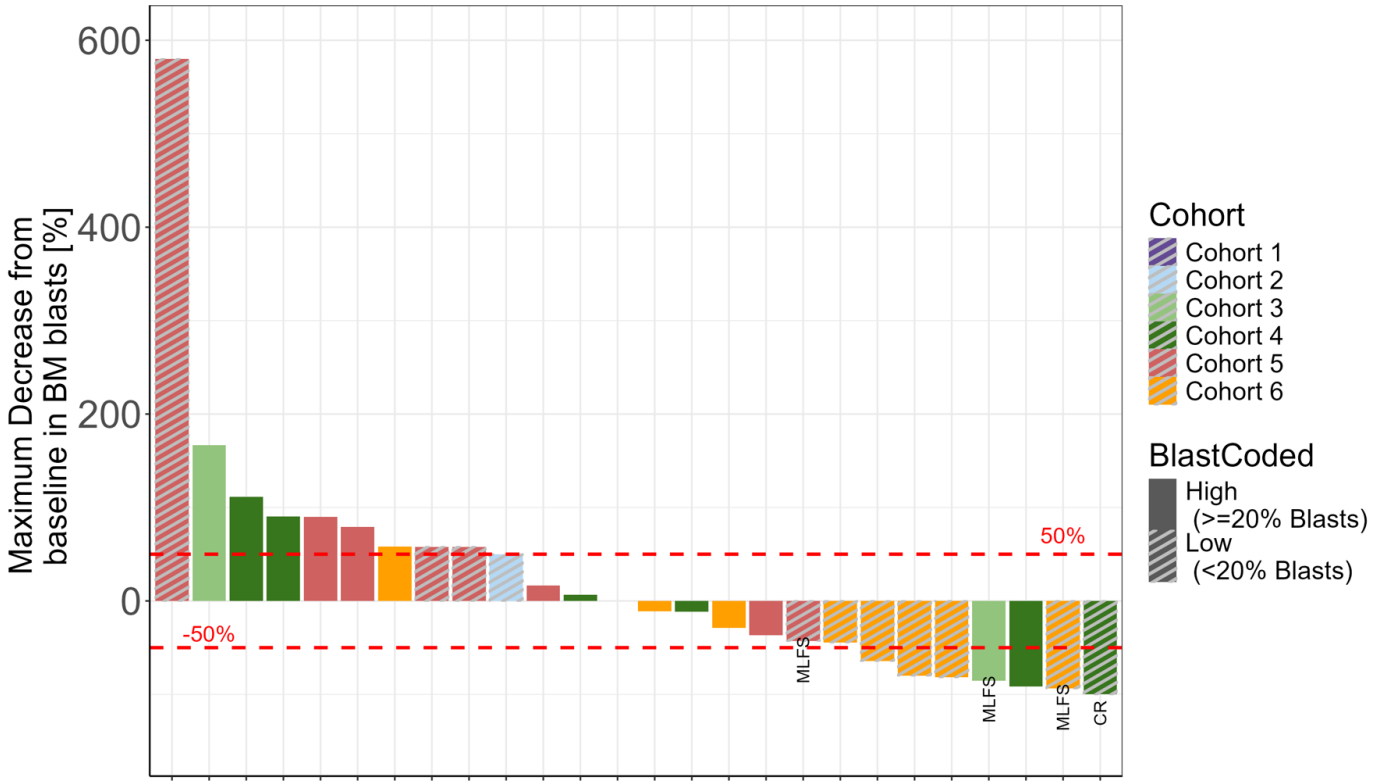
Preliminary data as study is ongoing, subject to final data validation.

1. Döhner et al. Blood 2022;140(12)1345-77.

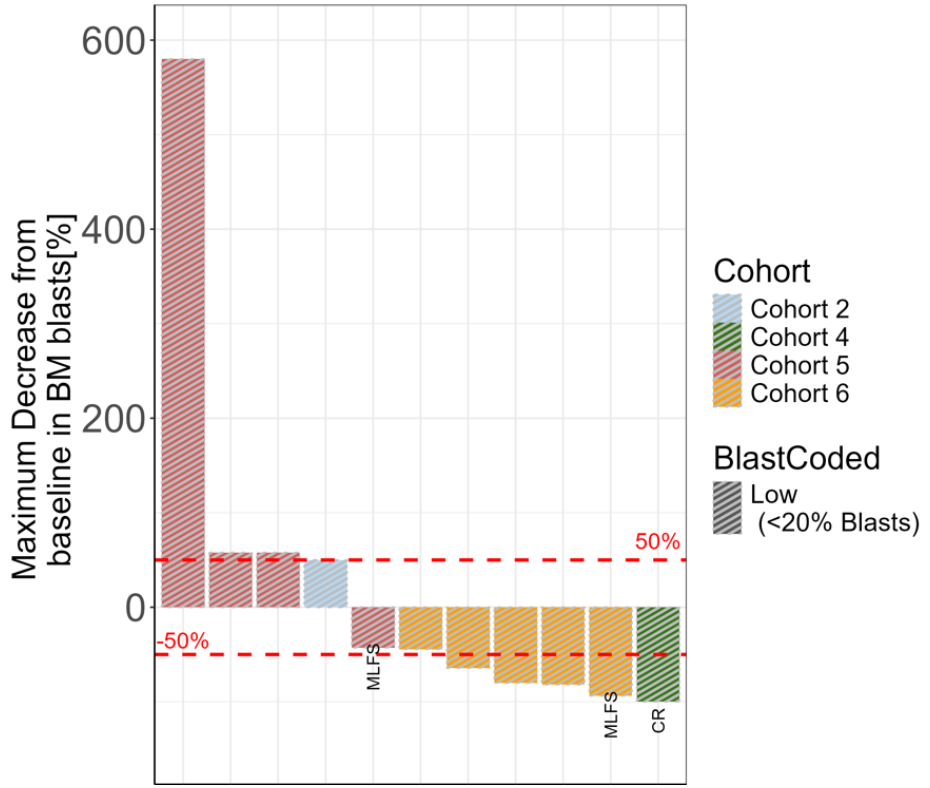
CR, complete response; CRi, CR with incomplete hematologic recovery; ELN, European LeukemiaNet; MLFS, morphologic leukemia-free state.

Encouraging Blast Reduction Observed, Particularly in Patients with Lower Disease Burden*

7 of 26 evaluable patients displayed >50% blast reduction in the bone marrow



5 of 11 patients with **lower disease burden*** displayed blast reduction >50 %



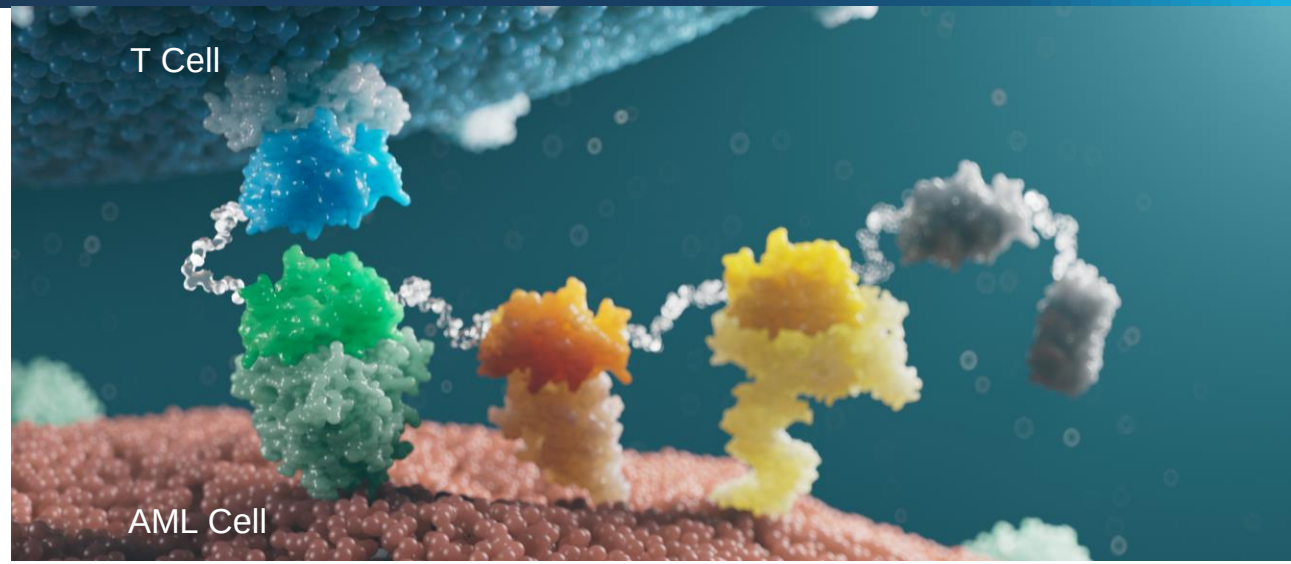
Data cut-off: 29 July 2024

Preliminary data as study is ongoing, subject to final data validation.

*Lower disease burden defined as patients with baseline blast <20% in bone marrow.
CR, Complete Remission; MLFS, Morphological Leukemia Free State.

MP0533 Summary

- **Rapid progress of MP0533 phase 1** with engaged clinical experts & sites
  - DR 8 enrolling, 28 patients treated in DR 1–6
- **Acceptable safety profile** supports higher dosing
  - IRRs & CRS as most frequent MP0533-related TEAEs
- **Initial antitumor activity** in highly heterogeneous r/r AML population
  - 4 responders reported (1 responder per cohort, DR 3–6)
  - Encouraging reduction in BM blasts observed
- Need to **improve suboptimal exposure** to **unleash the full potential of MP0533**
  - Increase response rate, depth and durability



Outlook

- Protocol being amended for **both higher & more frequent dosing** (in first weeks)
- Clinical update on the program at ASH 2024 and on the **amended dosing scheme in 2025**
- **Results** from these activities will **gate future development**

BM, bone marrow; CRS, cytokine release syndrome; TEAE, treatment-emerging adverse event.

Switch-DARPin Platform & MP0621

Targeted and conditional activation of immune cells

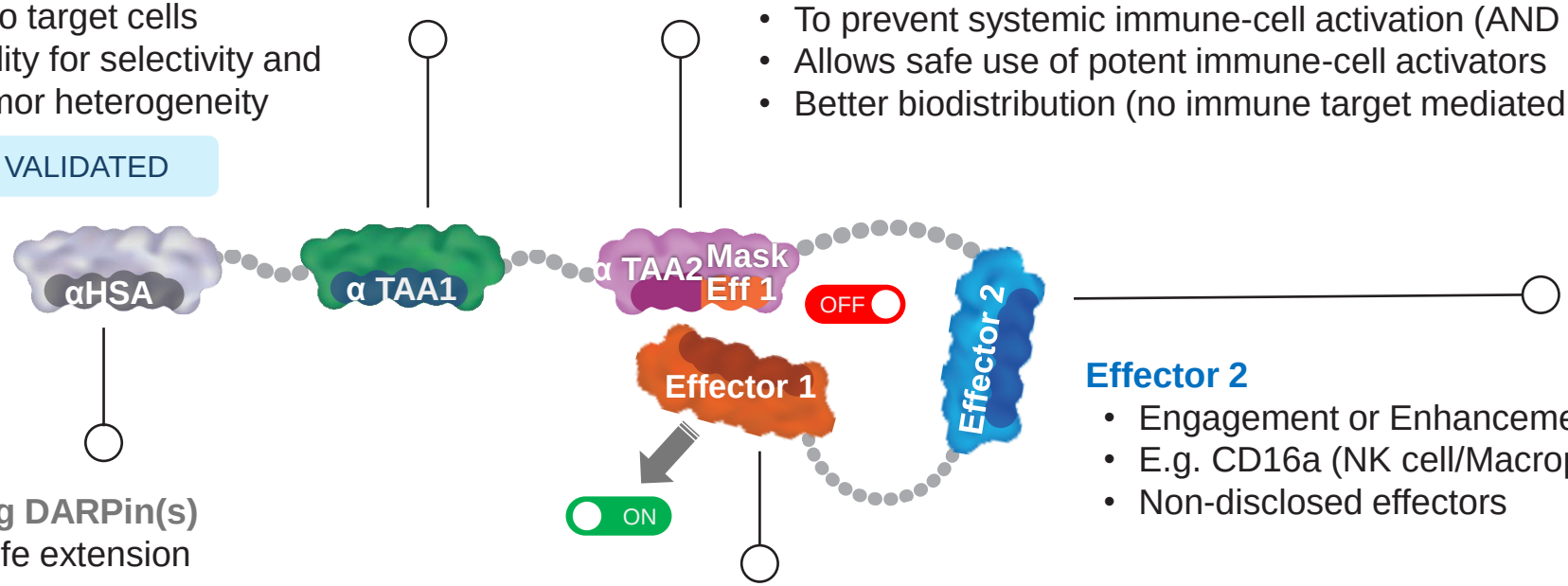
Logic-gated Switch-DARPins for Conditional Immune Activation

Swiss knives for enhanced immune engagers

1st Antigen Binder
- Anchoring to target cells
- Adding avidity for selectivity and address tumor heterogeneity

✓ CLINICALLY VALIDATED

2-in-1 DARPin: Exclusive Binding to 2nd Antigen or Masking Effector 1
- To prevent systemic immune-cell activation (AND gate)
- Allows safe use of potent immune-cell activators
- Better biodistribution (no immune target mediated sink)



HSA Binding DARPin(s)
- For half-life extension

✓ CLINICALLY VALIDATED

Effector 2
- Engagement or Enhancement of immune response
- E.g. CD16a (NK cell/Macrophage engagement)
- Non-disclosed effectors

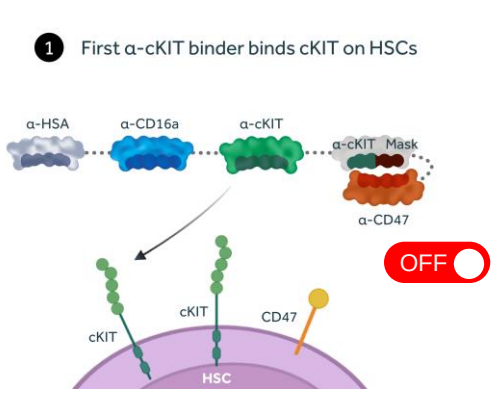
Effector 1 (Switched on/off by Masking DARPin)
- Engagement or enhancement of immune responses
- E.g. CD47 (block don't-eat-me signal)
- E.g. CD3 ("Signal 1" T-cell engagement)

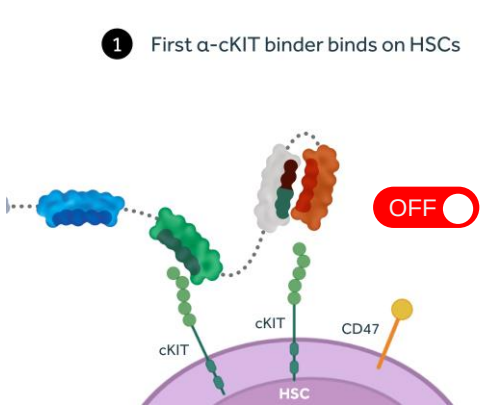
✓ CD3 TCE CLINICALLY VALIDATED

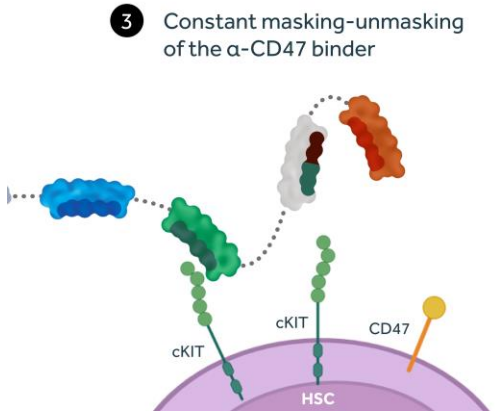
HSA, human serum albumin; NK, natural killer cell; TAA, tumor-associated antigen.

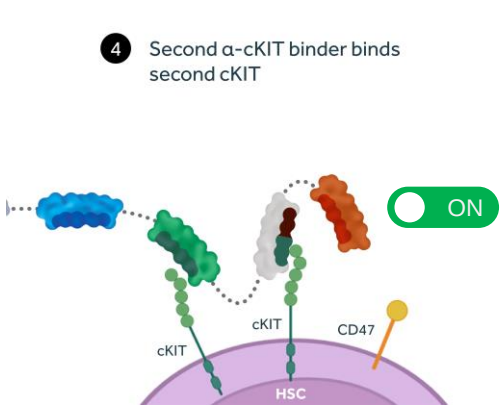
cKIT x CD16a x CD47 Switch-DARPin MoA

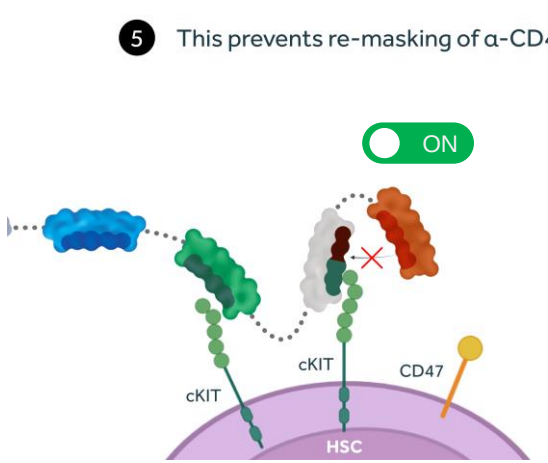
Targeted, conditional and potent elimination of HSCs

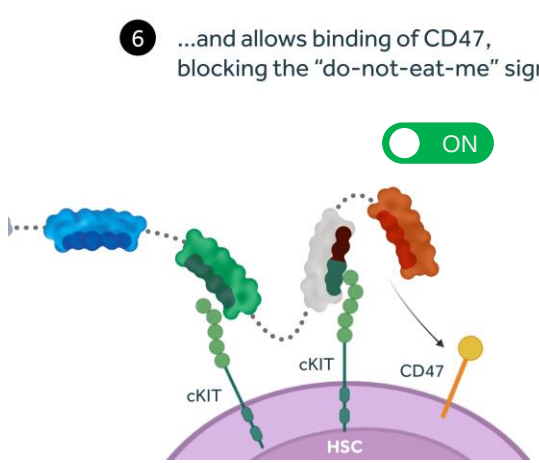


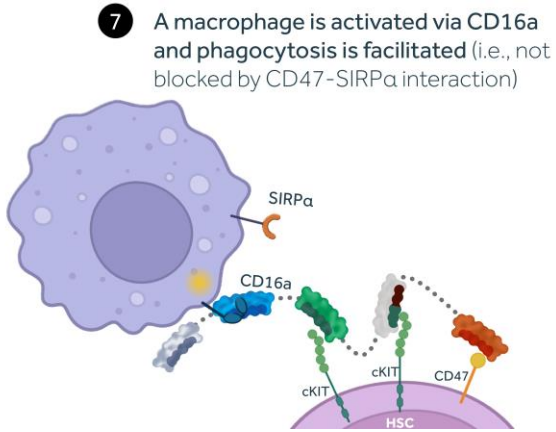


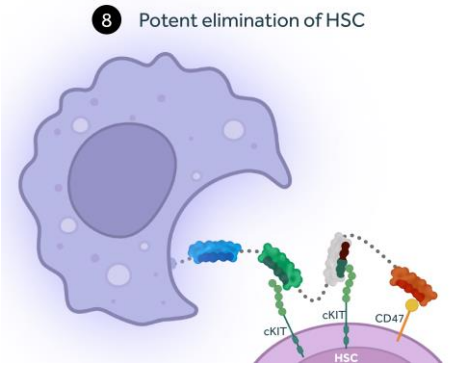






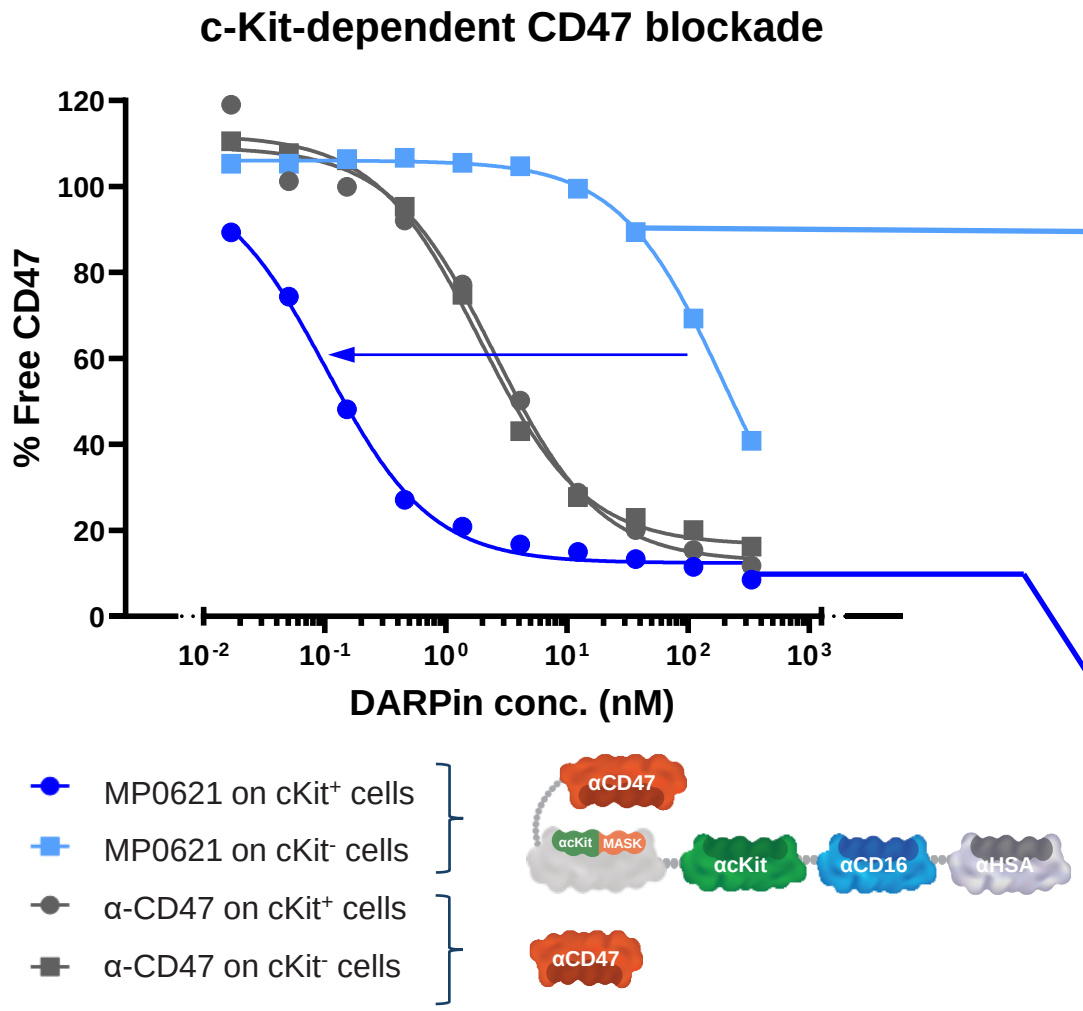


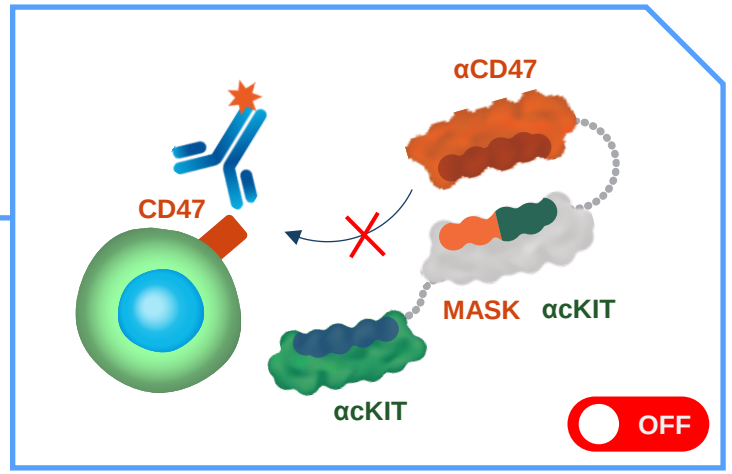




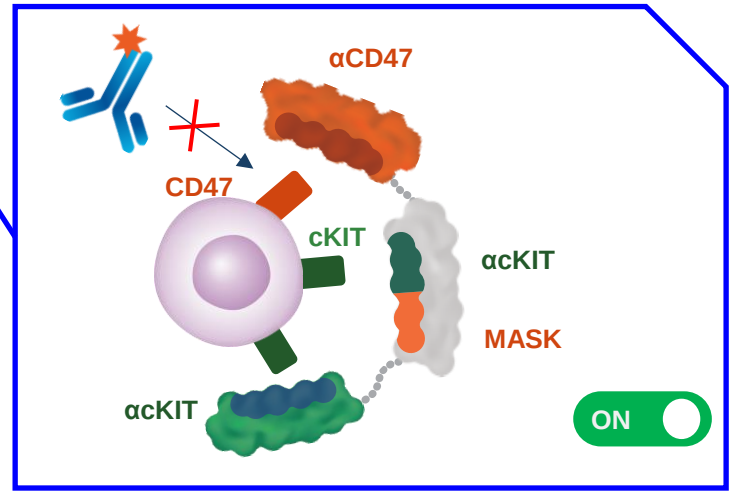
HSA, human serum albumin; HSC, hematopoietic stem cell; MoA, mode of action.

Switch-DARPin POC – CD47 is Blocked Only on cKit Positive Cells





cKit Negative cells
Switch is OFF
CD47 is NOT blocked

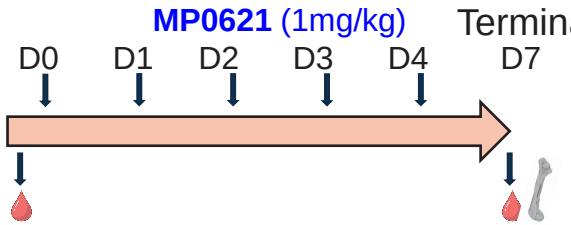


cKit Positive cells
Switch is ON
CD47 is Blocked

anti-CD47
detection agent

MP0621 Depletes cKit+ Cells in Bone Marrow Without Affecting Circulating Immune Cells in Humanized Mice

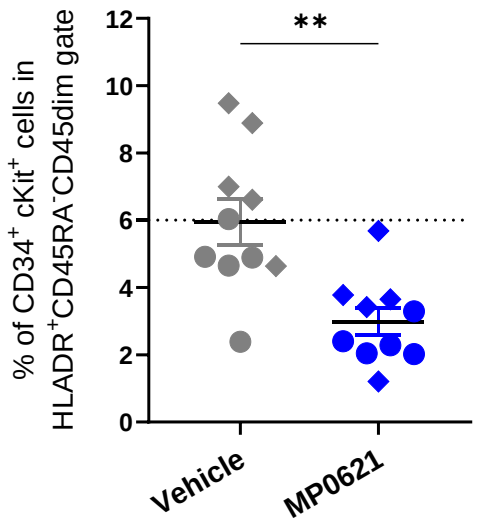
hCD34⁺ NSG mice



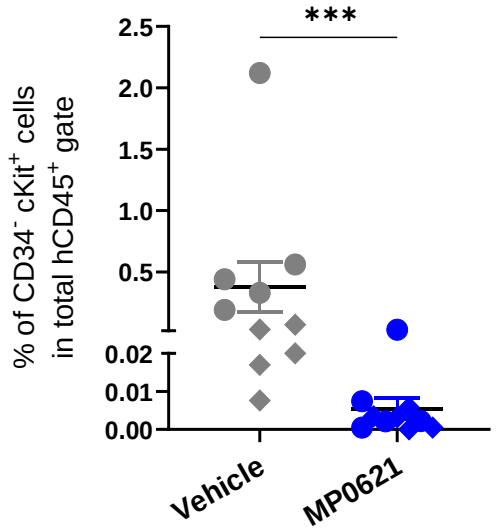
Flow cytometry analysis of blood and BM

Targeted cKit+ cells depleted in bone marrow

hcKit+ hCD34+ cells, incl. HSCs

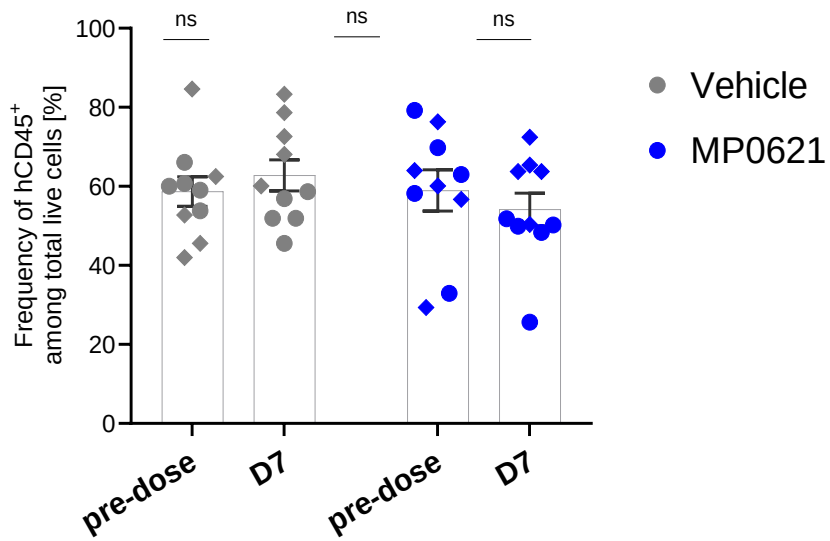


hcKit+ hCD34- cells



Immune cells in blood

hCD45+ immune cells

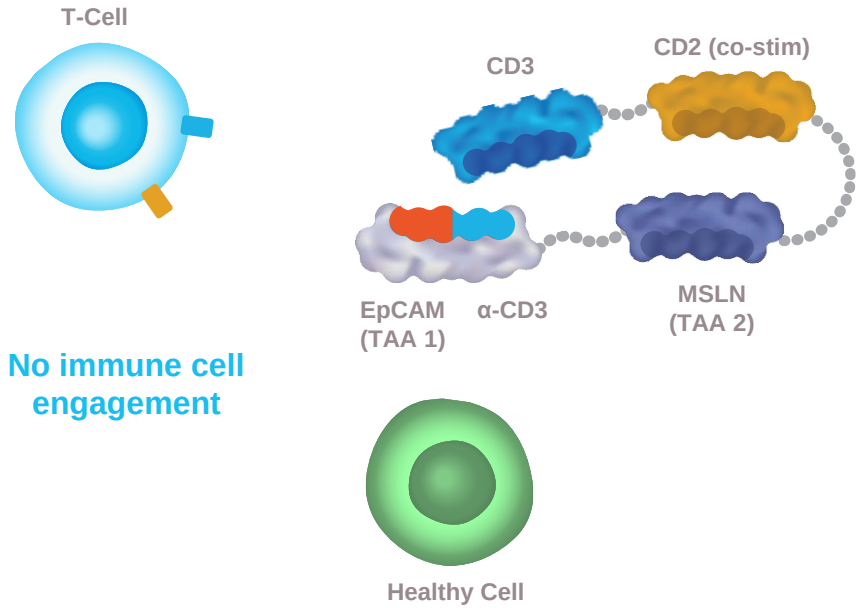


Link et al, EHA 2024 (poster presentation)

CD3 Switch-DARPin for Next-gen TCEs with Enhanced Function

Tackling current limitations of TCEs in solid tumors

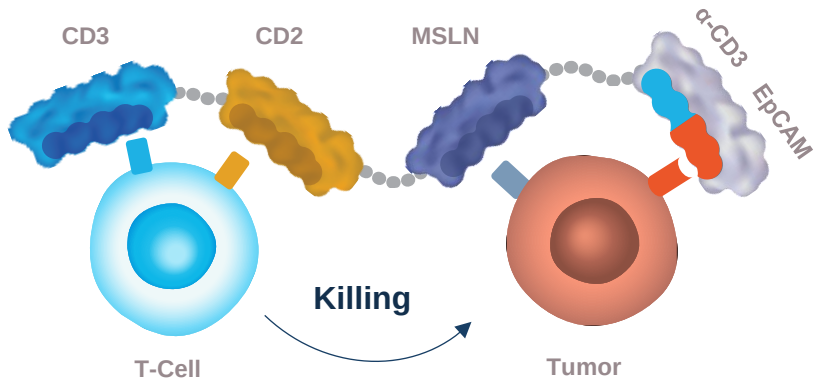
OFF **CD3 DARPin masked by 2-in-1 Switch in absence of TAAs**



No immune cell engagement

- **TCE is silent and inactive in circulation**

ON **Binding to TAAs releases CD3 Switch-DARPin**



Immune cell-mediated killing

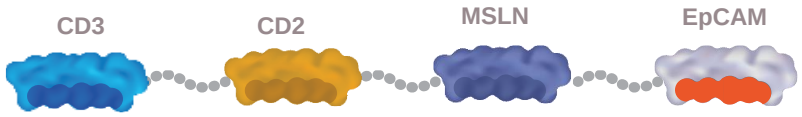
- **TCE is activated to kill the tumor cell**
- **TCE is stimulated (no exhaustion)**

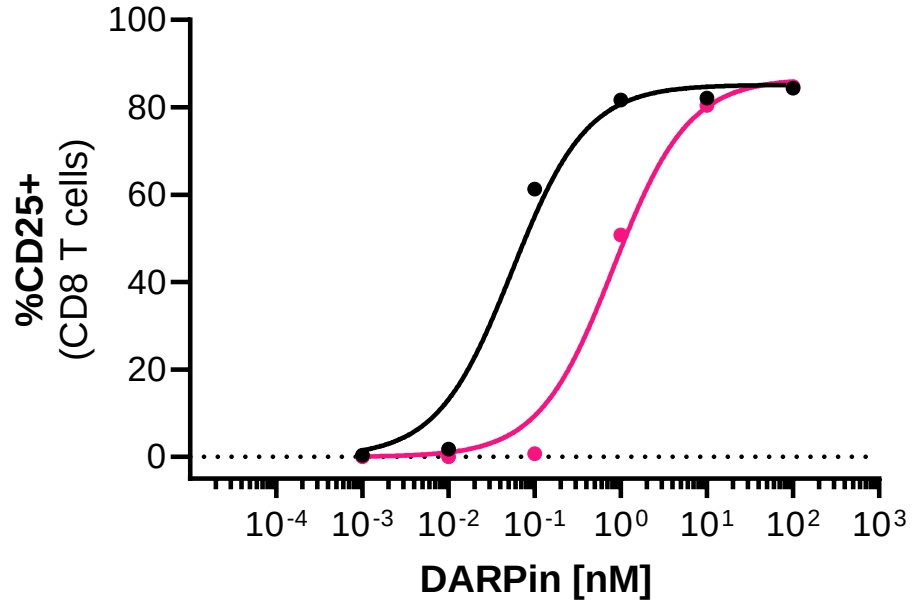
Outlook: Preclinical proof-of-concept to be presented at SITC 2024

TAA, tumor associated antigen; TCE, T cell engager.

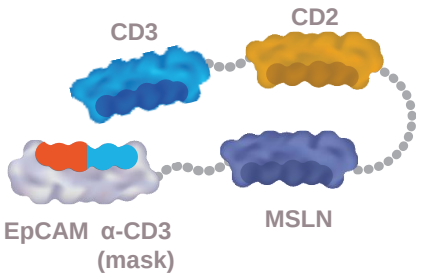
CD3 Mask prevents T cell activation in the absence of TAAs

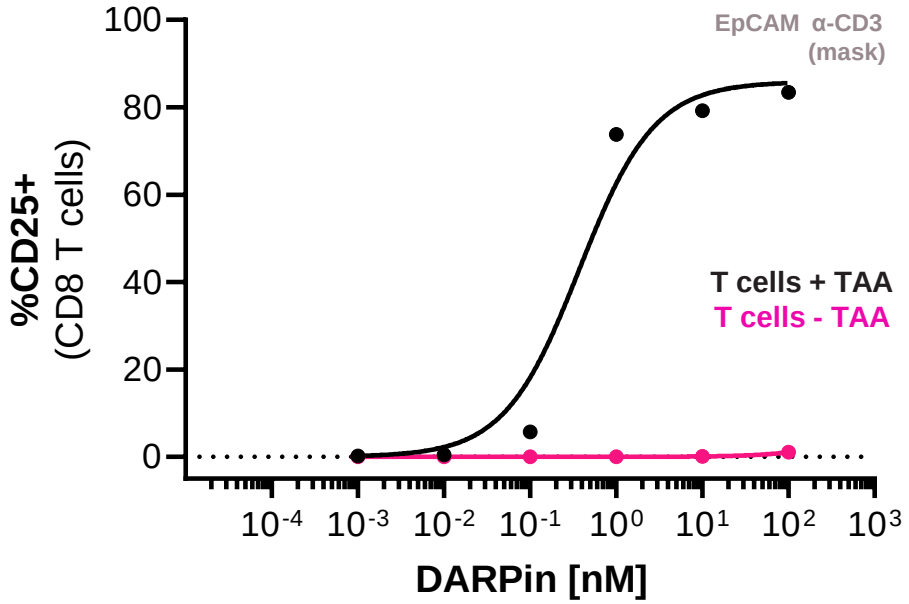
CD2/CD3 DARPin construct





CD2/CD3 Switch-DARPin (masked CD3 DARPin)





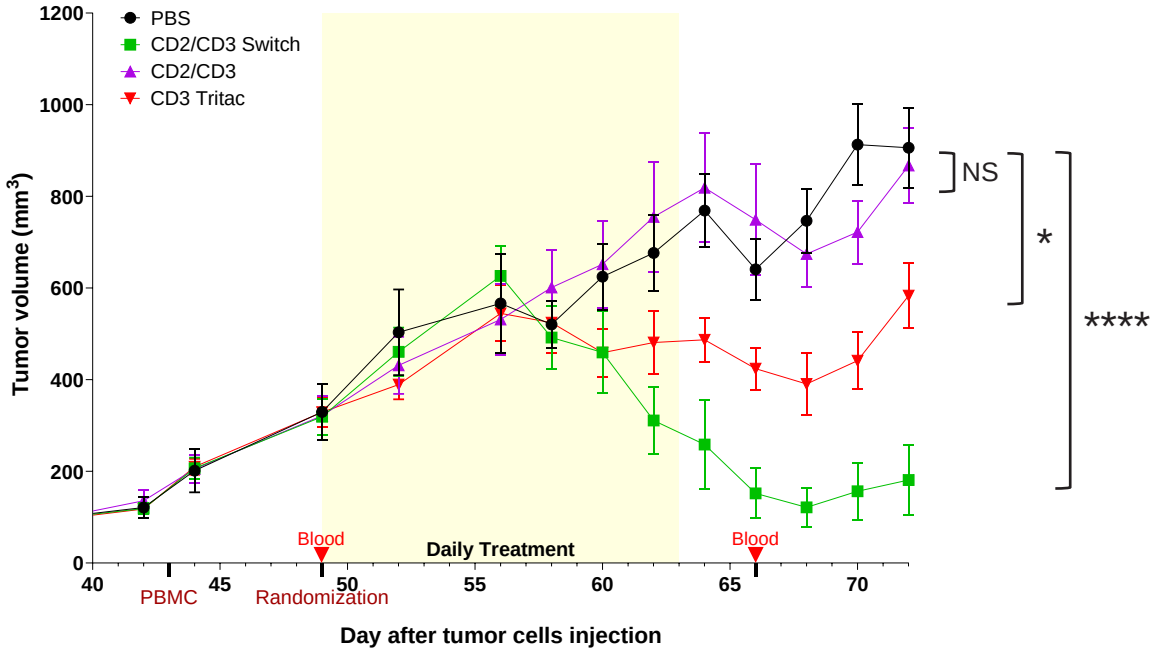
- **Co-engagement of CD2 leads to sustained T cell activation** and cytotoxic capacity *(not shown)*
- CD2/CD3 co-stimulation induces non-specific activation of T cells in absence of TAAs
- **Masking CD3 allows to have T cells activated only in presence of TAAs**

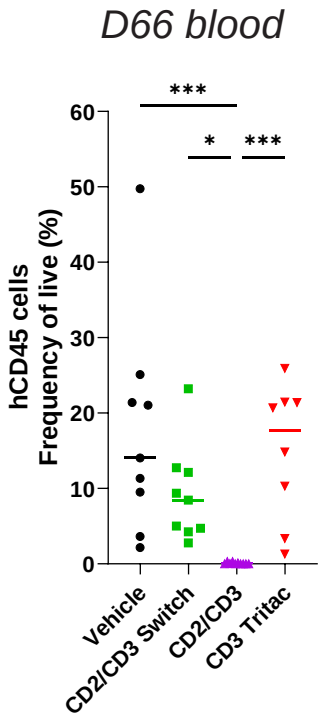
Pan T cells co-cultured with or without target cells (OVCAR-3 WT, 5:1). Activation (CD25) of CD8 T cells measured by Flow Cytometry after 48h.

Guzman et al, SITC 2024 (poster presentation)

Pre-clinical Proof-of-Concept of CD2/CD3 Switch-DARPin

CD2/CD3 Switch induces regression of established tumors





- **Masking CD3 DARPin allows for "silent" T cell engager (TCE) in the periphery** while demonstrating potent efficacy on tumors, potentially allowing for better safety profile of TCEs

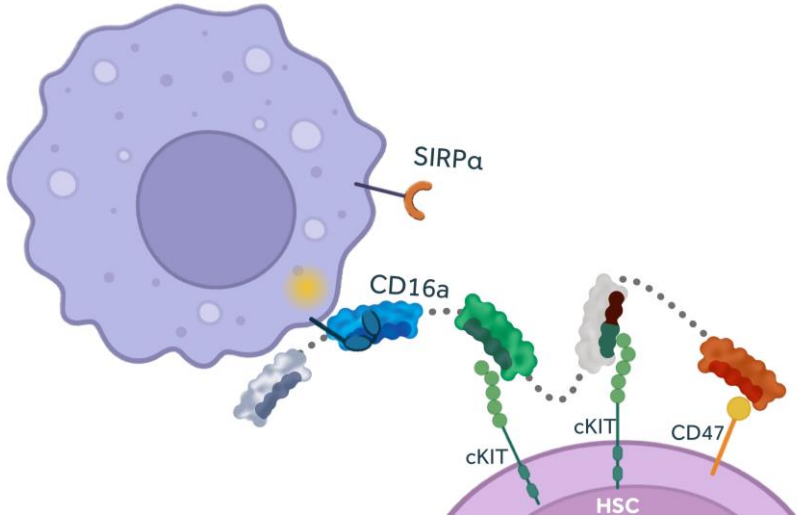
OVCAR-3 s.c. model: 10 mice/group, 2 PBMC donors engrafted at 100mm^3, average +/- SEM, two-way ANOVA. Daily i.v. treatment from d49: DARPin @ 3.8mg/kg, CD3 Tritac @ 0.25 mg/kg

Guzman et al, SITC 2024 (poster presentation)

Switch-DARPin & MP0621 – Summary

Summary

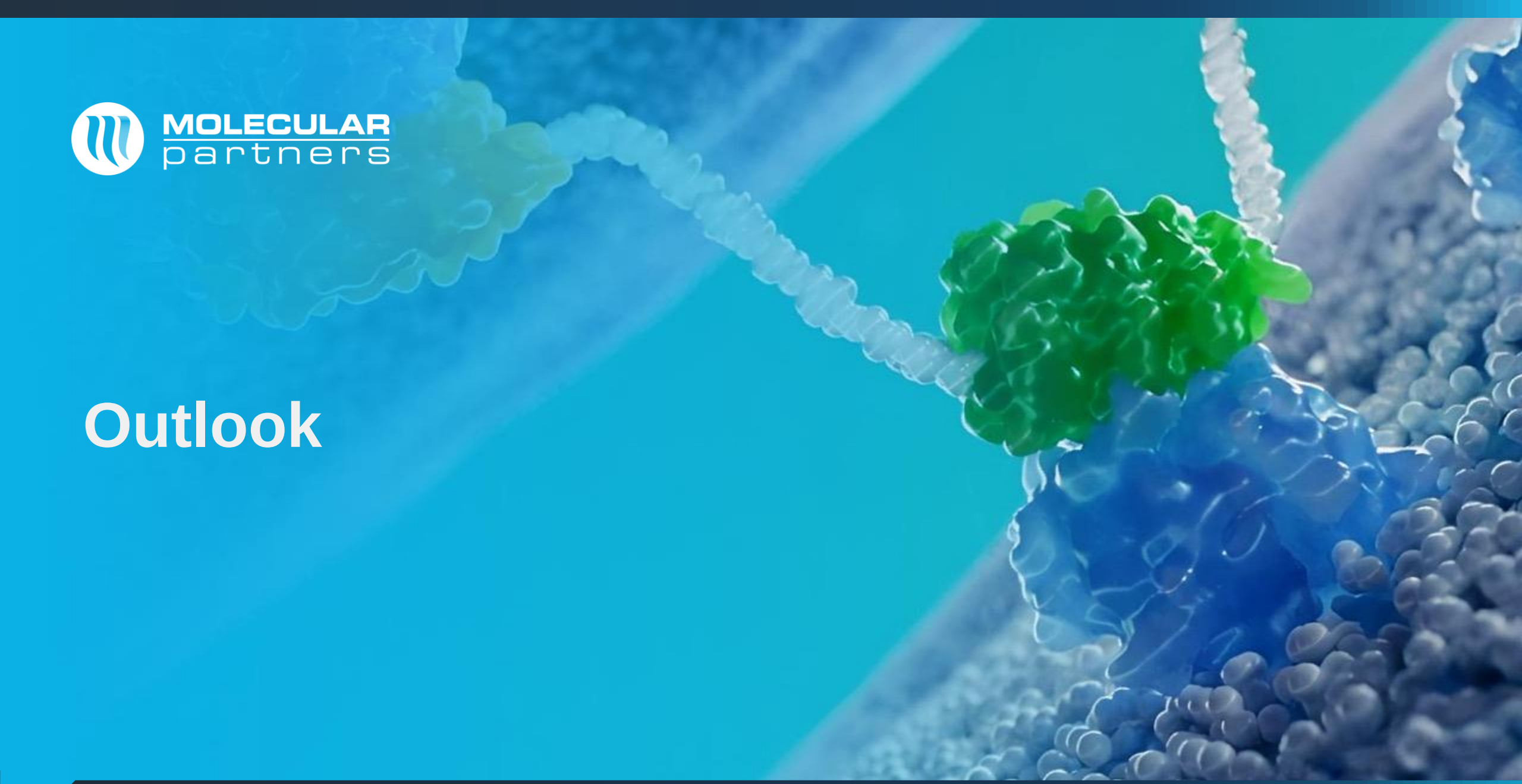
- ✓ Dual-binding DARPin (the “Switch”) provides a **logic-gated “on/off” function** to a multi-specific DARPin
- ✓ Conditional, target-specific immune activation demonstrated for **Switch-DARPin platform** *in vitro*
- ✓ MP0621: a **cKit x CD16a x CD47 Switch-DARPin** as next-gen conditioning for HSCT
- ✓ MP0621 effectively depletes targeted cells *in vivo* with a safe profile (EHA 2024)
- ➢ Introducing **CD3 Switch-DARPin as next-gen T cell engagers with enhanced function** to tackle current limitations in solid tumors



Outlook

- Update on MP0621 preclinical studies at ASH 2024
- Preclinical proof-of-concept on CD3 Switch-DARPin platform to be presented at SITC 2024

AML, acute myeloid leukemia; HSCT, hematopoietic stem cell; NHP, non-human primate.



Outlook

2024 Outlook and Upcoming Milestones

Radio-DARPin Therapy (RDT) & MP0712	• Advance MP0712 into IND-enabling studies with **initial clinical data expected in 2025** • Expand portfolio with additional **differentiated RDT programs,** update in H1 2025 • Continue to progress RDT collaborations with Orano Med and Novartis
MP0533	• Protocol being amended for both **higher & more frequent dosing** (in first weeks) • Clinical update at ASH 2024, data on **amended dosing scheme expected in 2025**
Switch-DARPin & MP0621	• Update on MP0621 preclinical studies at **ASH 2024,** opportunity for HSCT partnership • Preclinical proof-of-concept on **CD3 Switch-DARPin platform** presented at SITC 2024
MP0317	• Final data from the FIH dose-escalation Phase 1 study to be presented at SITC 2024 • Clinical exploration of combinations possibly via **investigator-initiated trials**

CHF ~158 million cash* (incl. short-term time deposits) ensures **funding into 2027**

*Proforma including audited financials as per Sept 30 2024 and capital raise on Oct 25 2024.
IND, investigational new drug.

Thank You