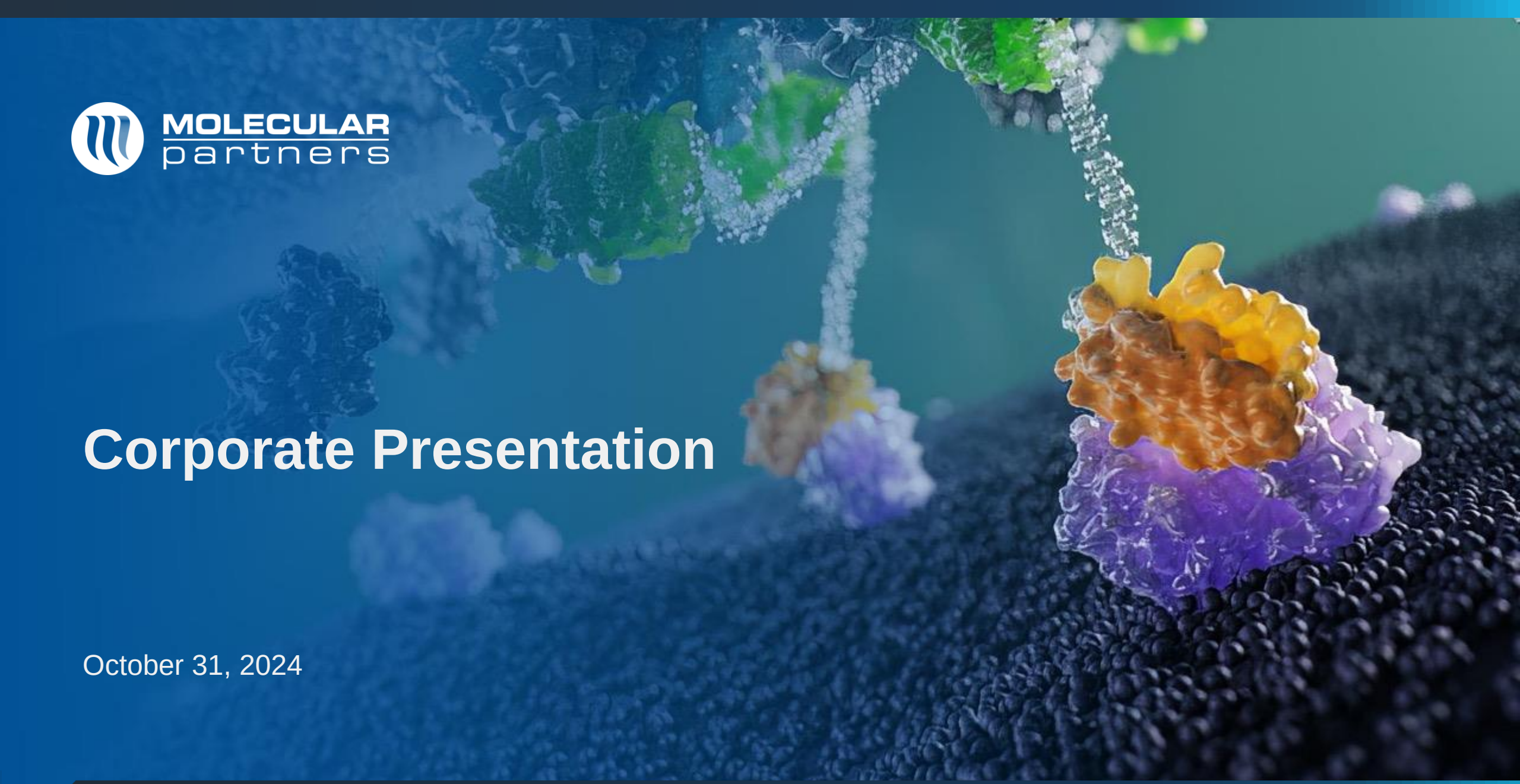

Corporate Presentation

October 31, 2024

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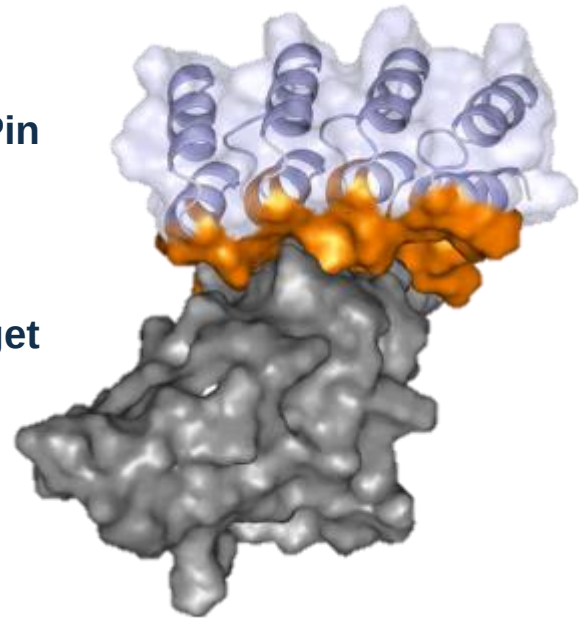
The DARPin Modality and Molecular Partners' Strategy



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

Corporate Highlights – Q3 2024

Radio-DARPin Therapy (RDT) & MP0712	• Successful RDT platform optimization to **reduce kidney accumulation** and **increase tumor uptake** • **Strengthened collaboration with Orano Med** to co-develop four ^{212}Pb-labeled RDTs, incl. MP0712 • **MP0712, lead RDT targeting DLL3,** demonstrates attractive BioD, efficacy & safety profile (EANM 2024)
MP0533	• Novel **tetra-specific T-cell engager** for AML patients with high unmet need • **Encouraging initial clinical data** (safety & efficacy) despite suboptimal exposure • Phase 1/2a study on track (**DR 8** enrolling), dose intensification planned to explore the full potential of MP0533
Switch-DARPin & MP0621	• Demonstrated logic-gated immune activation for **Switch-DARPin platform** • Proof-of-mechanism *in vivo* shown for **MP0621**, a **cKit x CD16a x CD47 Switch-DARPin** for next-gen HSCT • **CD3 Switch-DARPin** as new platform for T cell engagers with enhanced function for solid tumors
MP0317	• Bi-specific CD40 agonist targeting FAP: **Favorable safety profile** and confirmed tumor-localized CD40 activation leading to **remodeling of tumor microenvironment** in patients
Operations	• Strong financial position with CHF 143.6 M in cash as of September 30, 2024, and proforma CHF 158 M following an offering on October 25, 2024, allowing **runway into 2027**

AML, acute myeloid leukemia; BioD, biodistribution; DLL3, Delta-like ligand 3;,DR, dose-regimen; FAP, fibroblast activation protein; HSCT, hematopoietic stem cell transplantation; EANM, European Association of Nuclear Medicine.

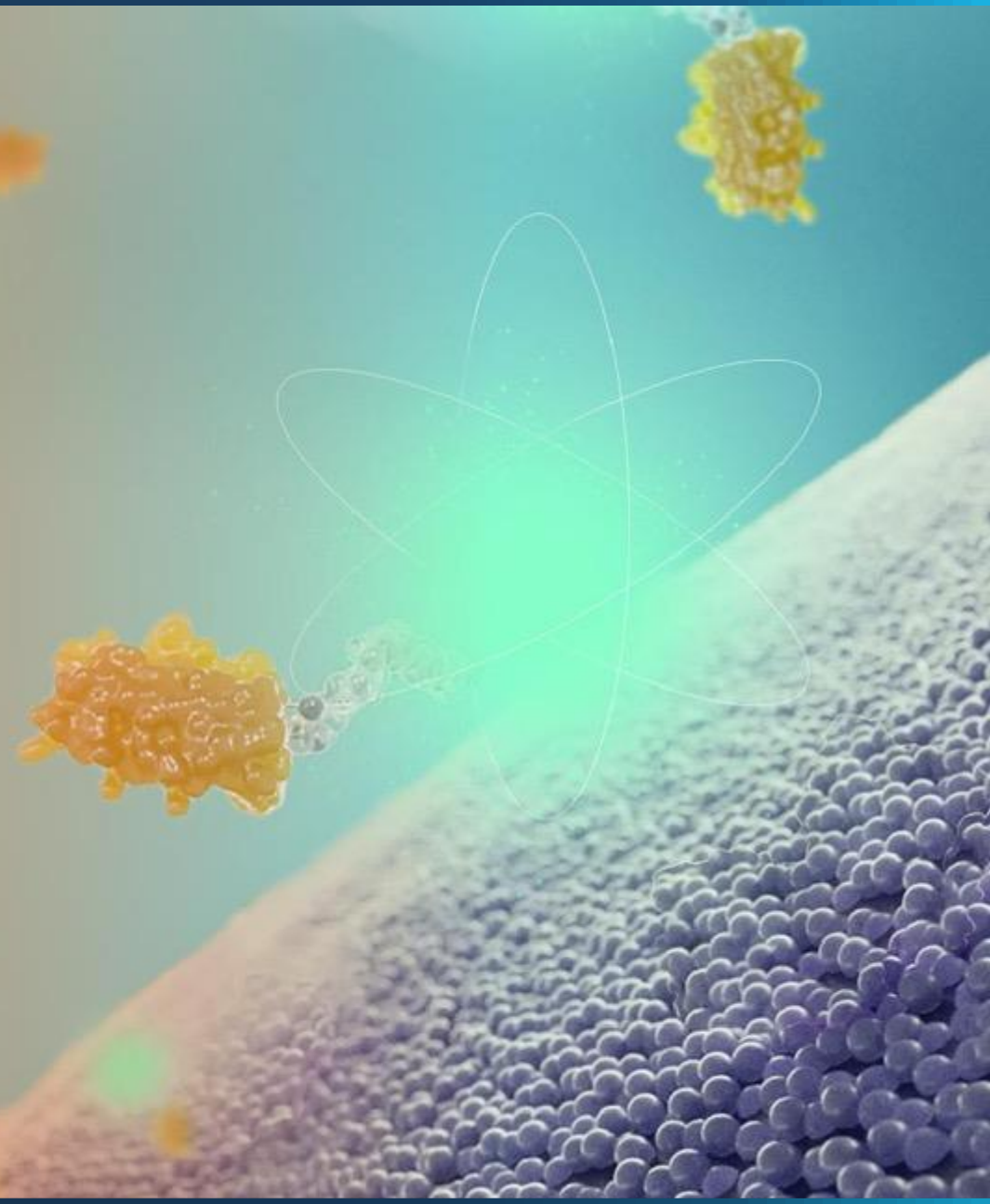
Pipeline

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.

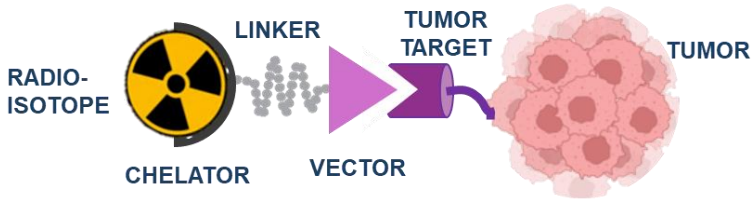
Radio-DARPin Therapy & MP0712 as first program

Platform & Pipeline



Targeted Radiotherapy: “Old” Modality Turned Hot Through Precision

A TARGETED RADIOTHERAPEUTIC:

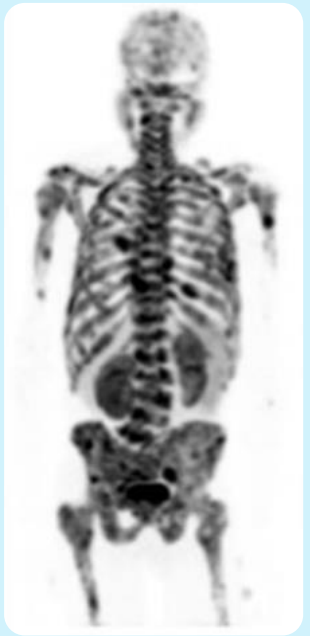


- Potential to **“see what you treat”** and **“treat what you see”** in a powerful and targeted manner
- Proven clinical **benefit for oncology patients**;
  - Therapies with beta emitters established, data with alpha emitters on the rise
- **Supply chain** challenges remain

- **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

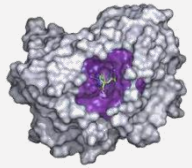
LMW Molecules

Generally good affinity and tumor uptake, low accumulation in kidneys

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

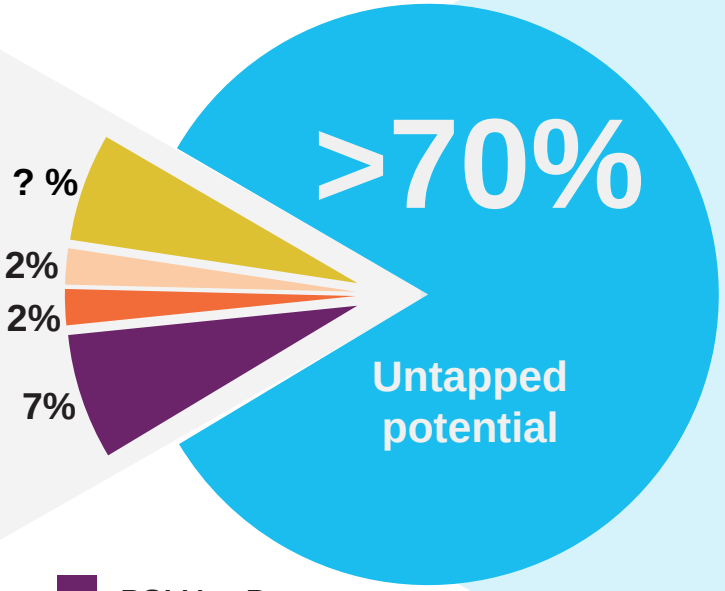
Target Examples:

PSMA
SSTR2



PSMA (1Z8L)

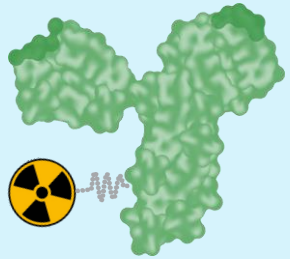
Target Space*



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

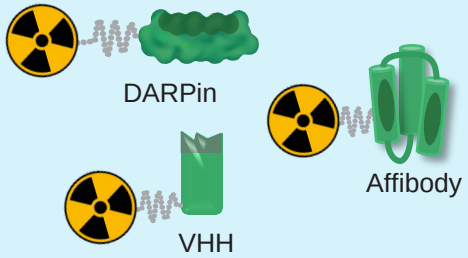
Expanding with other targeting moieties

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



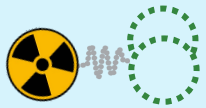
Antibodies

- *Long circulation → risk of bone marrow toxicity*
- *Low tumor penetration*



Small proteins

- *High kidney accumulation → risk of renal toxicity*
- *Suboptimal tumor uptake*



Cyclic-peptides

- *High kidney accumulation → risk of renal toxicity*
- *High affinity & selectivity can be challenging → target space?*

* 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:

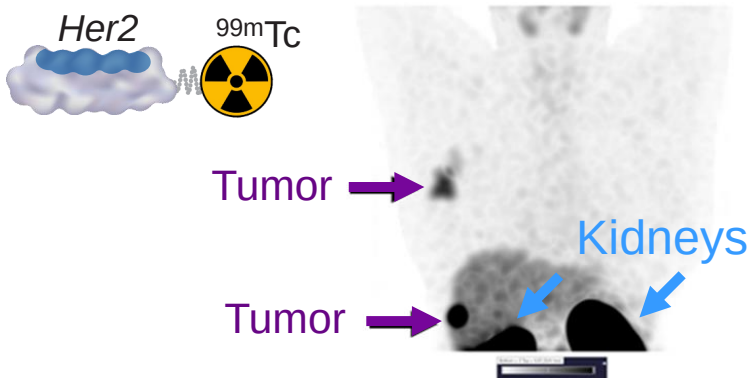
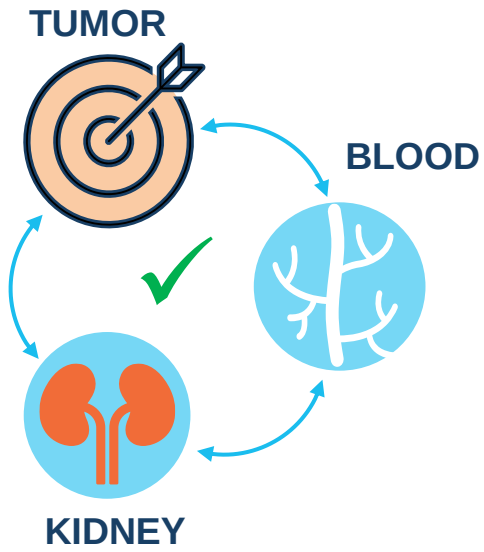


Image kindly provided by Dr. Bragina
Research Centrum for Oncotheranostics, Tomsk

Unlocking DARPins for radiotherapeutic applications

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



Intrinsic DARPin properties

✓ **Small size** (~15 kDa)
→ *Deep tumor penetration*
→ *Short systemic half-life*

✓ **High affinity** (pM range)
→ *Long tumor retention*

✓ **High selectivity**
→ *Low accumulation in other tissues*

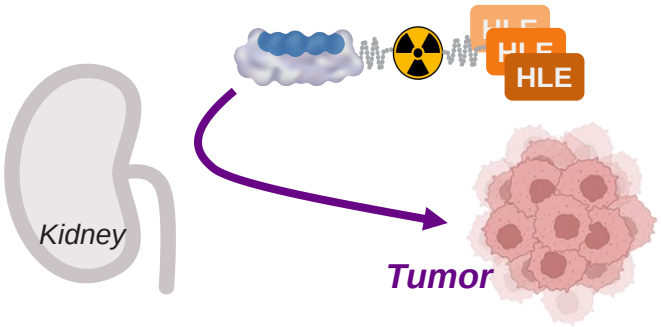
✓ **High stability**
→ *Surface engineering*

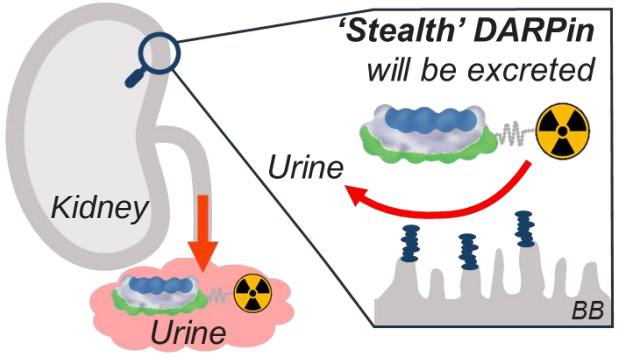
Her2, human epidermal growth factor receptor 2; kDA, kilodalton; pM, picomolar; Tc, technetium.

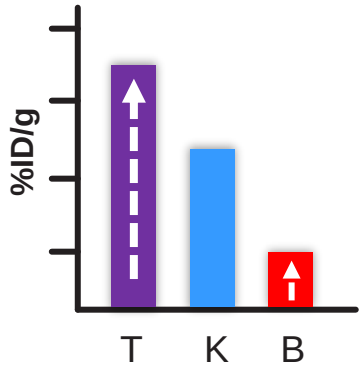
Radio-DARPin Platform Ready to Deliver Product Candidates

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

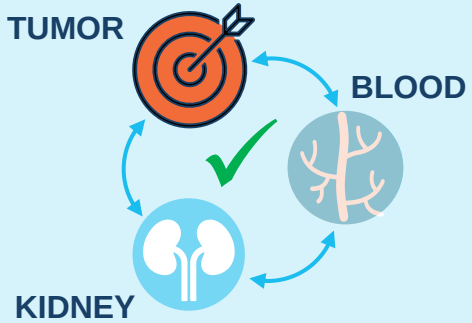
Reduced kidney accumulation
by surface engineering (*Stealth-DARPin*)*

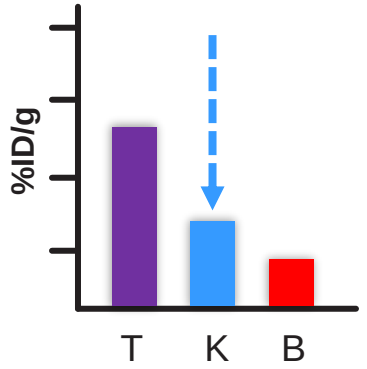






Optimized biodistribution properties





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.

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]

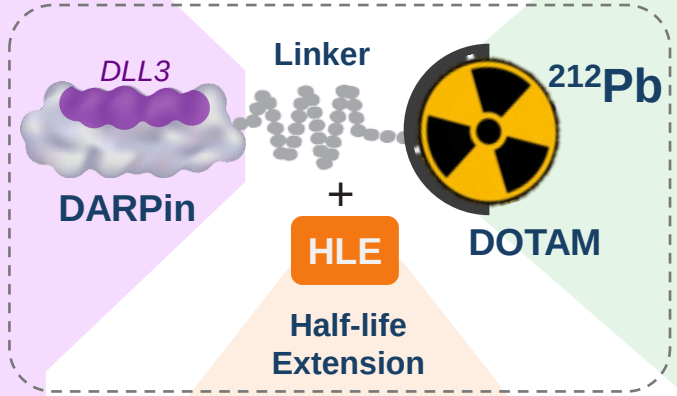
DLL3: a promising target

- **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)

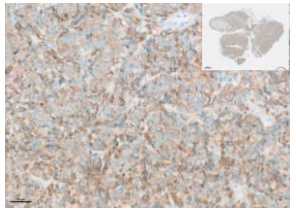
***ASCO**: Ph2 clinical data **^{212}Pb-DOTAMTATE** (AlphaMedix™) showed an **ORR of 55.6%** [4]*

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.

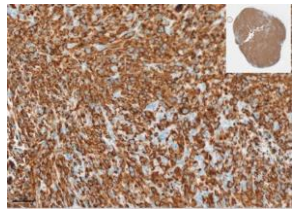
MP0712: Attractive BioD Profile and Tumor Specificity

DLL3 expression & distribution by IHC

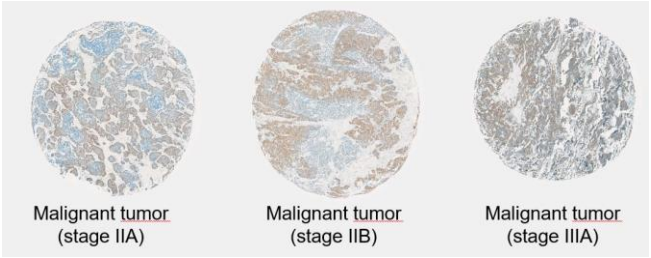
NCI-H82 tumors



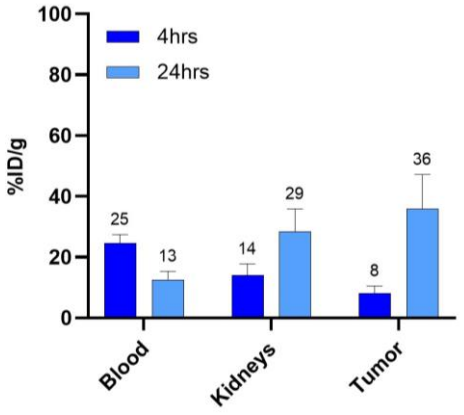
hDLL3-MC38 tumors



Human SCLC tumors

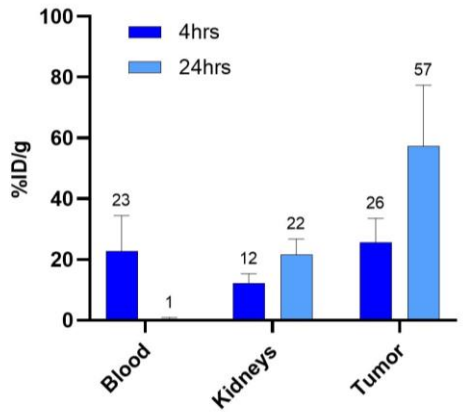


*R2G2 mice xenografted **s.c.** with **NCI-H82***

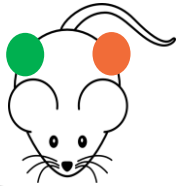


T:K at 4h = 0.6 / at 24h = 1.2

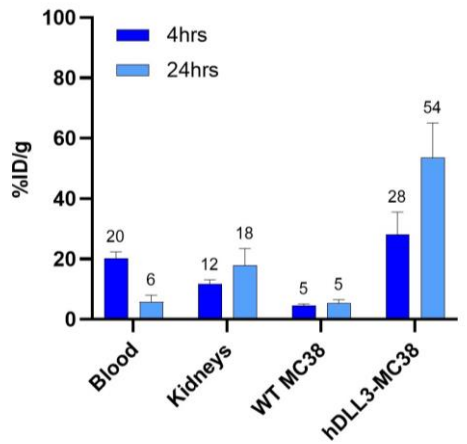
*R2G2 mice xenografted **i.v.** with **NCI-H82***



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



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



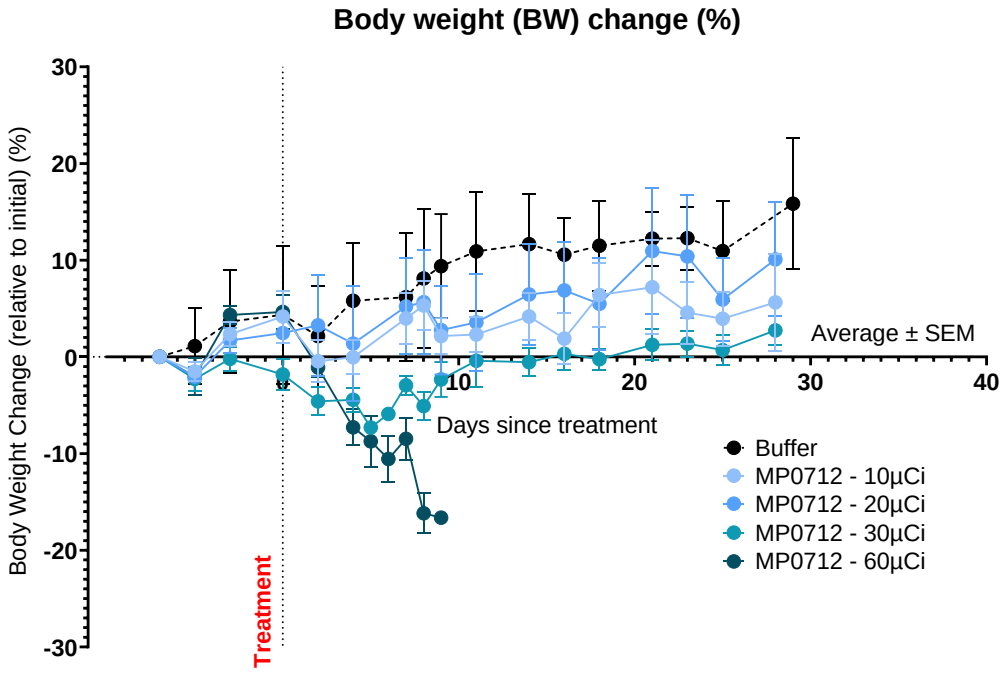
T:K at 4h = 2.4 / at 24h = 3

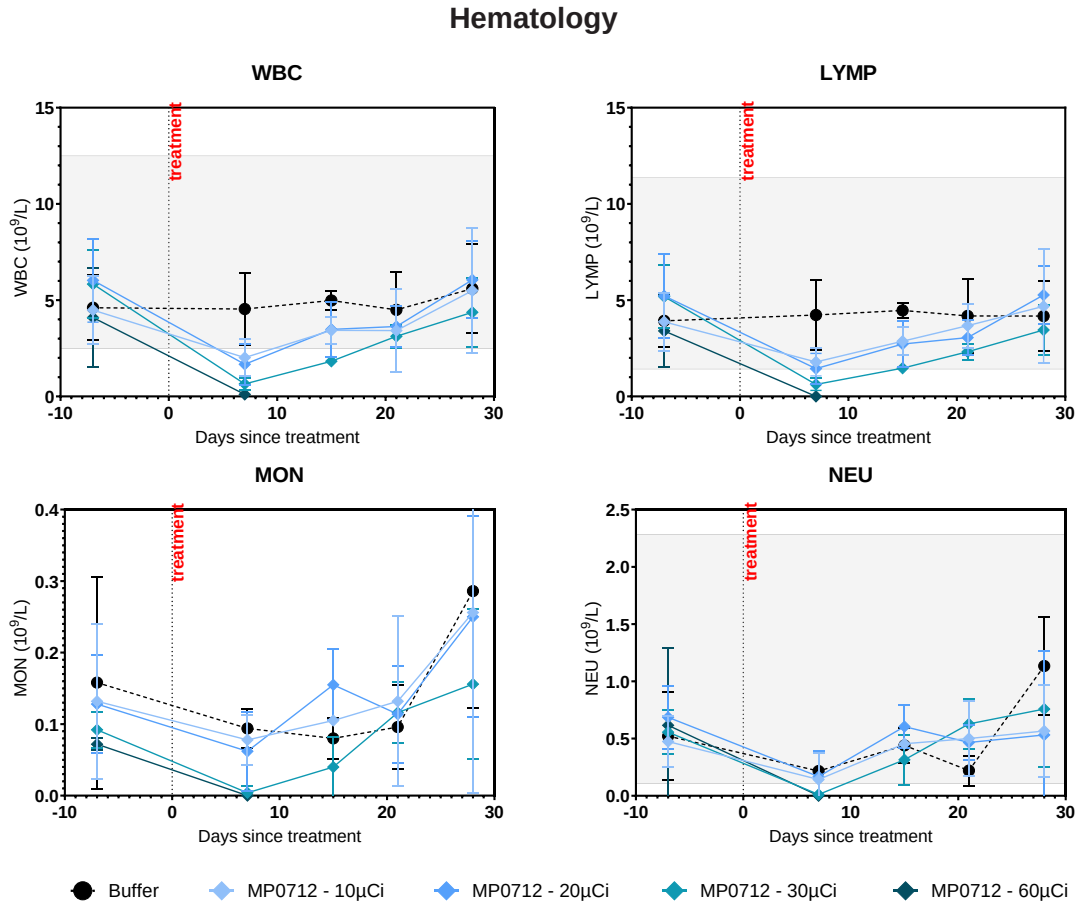
- **MP0712 reached T:K ratios > 2 in mouse model matching clinically relevant DLL3 expression levels**
- **Selective uptake in DLL3-expressing tumors confirmed high target specificity of MP0712**

Croset et al, EANM 2024 (oral presentation)

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

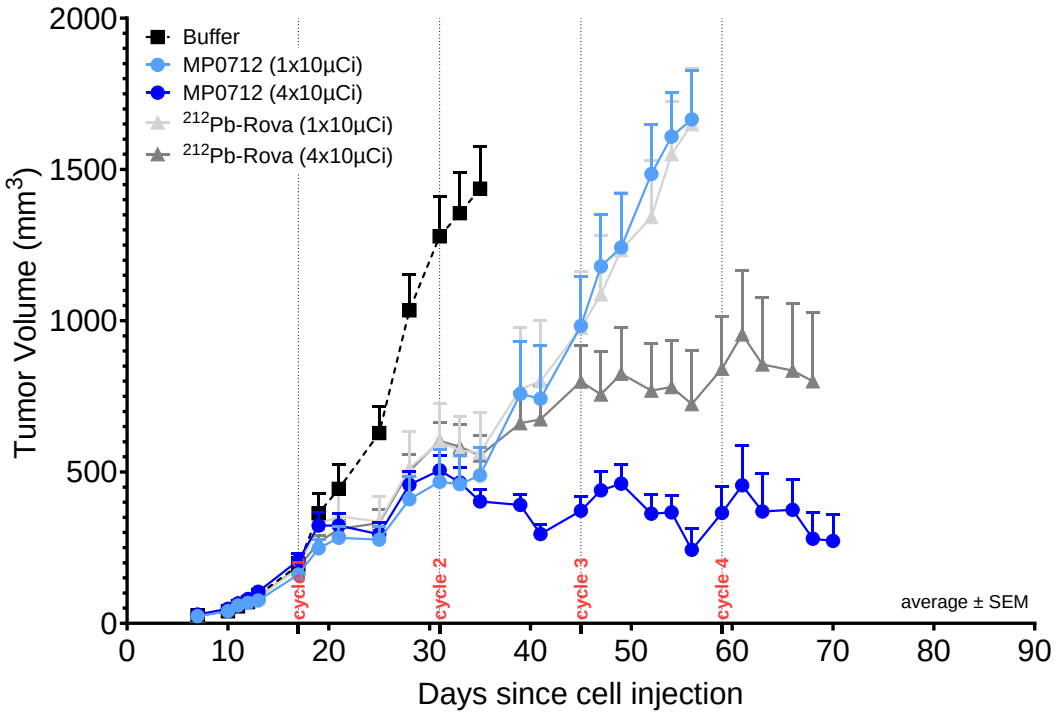
MP0712: Favorable Safety Profile





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

MP0712: Potent Efficacy at Clinically-Relevant Dose

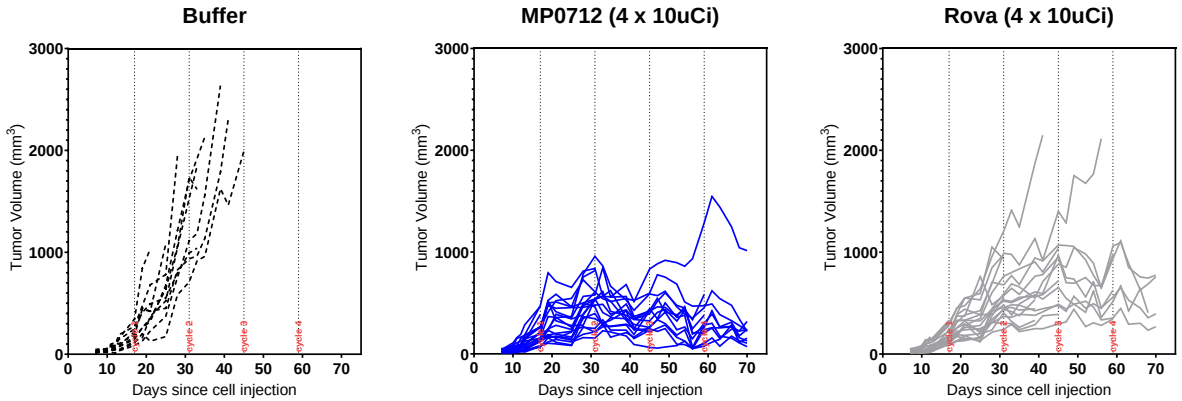


Median survival

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**

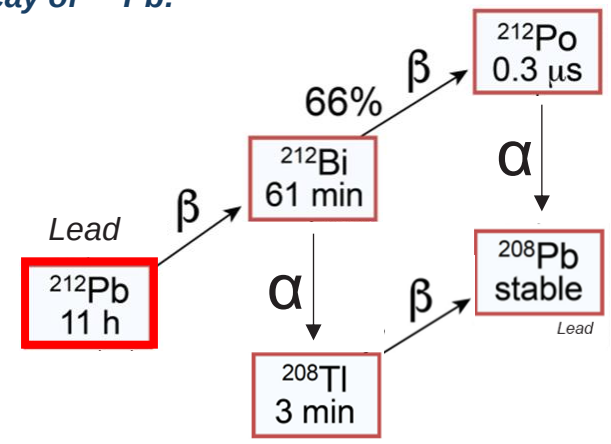
^{212}Pb has Key Advantages as Radioisotope Amenable to Radiotherapy

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:



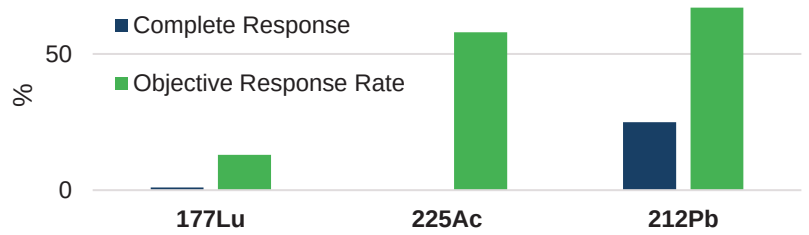
Adapted from Li et al., Current Medicinal Chemistry, 2020

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^{TM}: 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

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 (incl. 2 ATLabs)
- Excellent logistics

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

Strong partner for RDTs

Proven collaboration track record over past 2 years

- Trust, complementary and deep expertise

Co-development agreement signed in 2024:

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

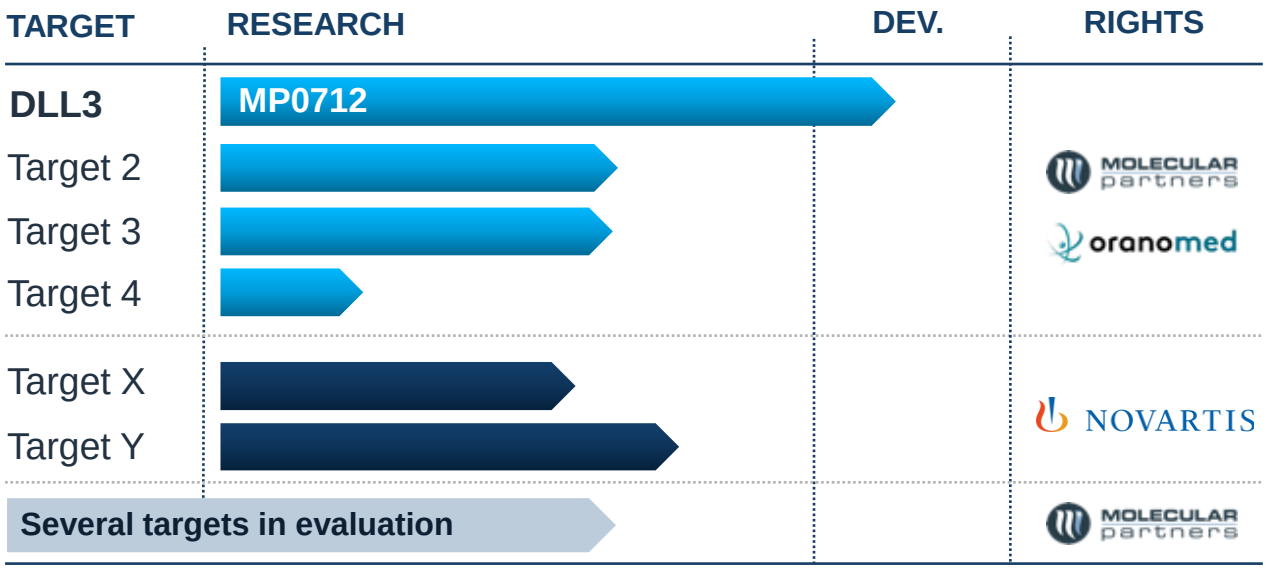
"Endless" starting material as basis for ^{212}Pb supply

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**

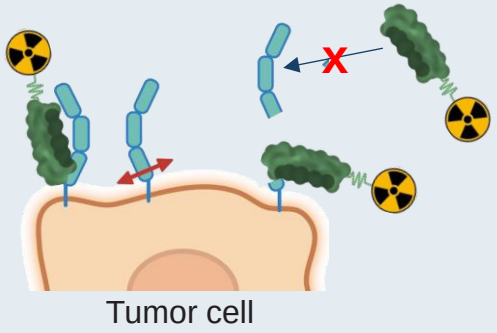


RDT Outlook:

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

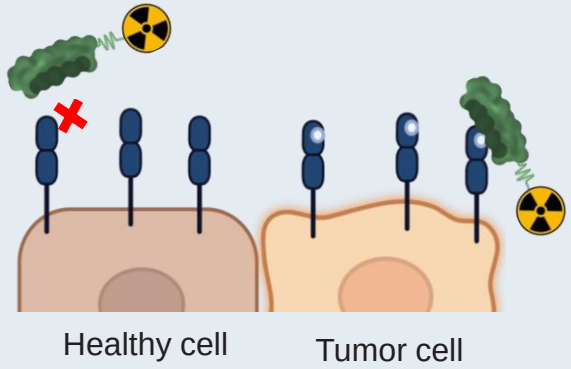
*The co-development agreement with Orano Med includes 4 RDT programs, including MP0712
IND, investigational new drug.

Outlook: Leverage DARPin Differentiation to build RDT portfolio

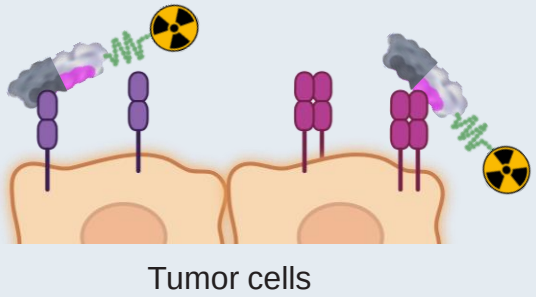


Selectivity for **membrane-bound antigen** vs **shed antigen** for high tumor uptake

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

Patients with AML Have a High Unmet Medical Need

69 YEARS OLD

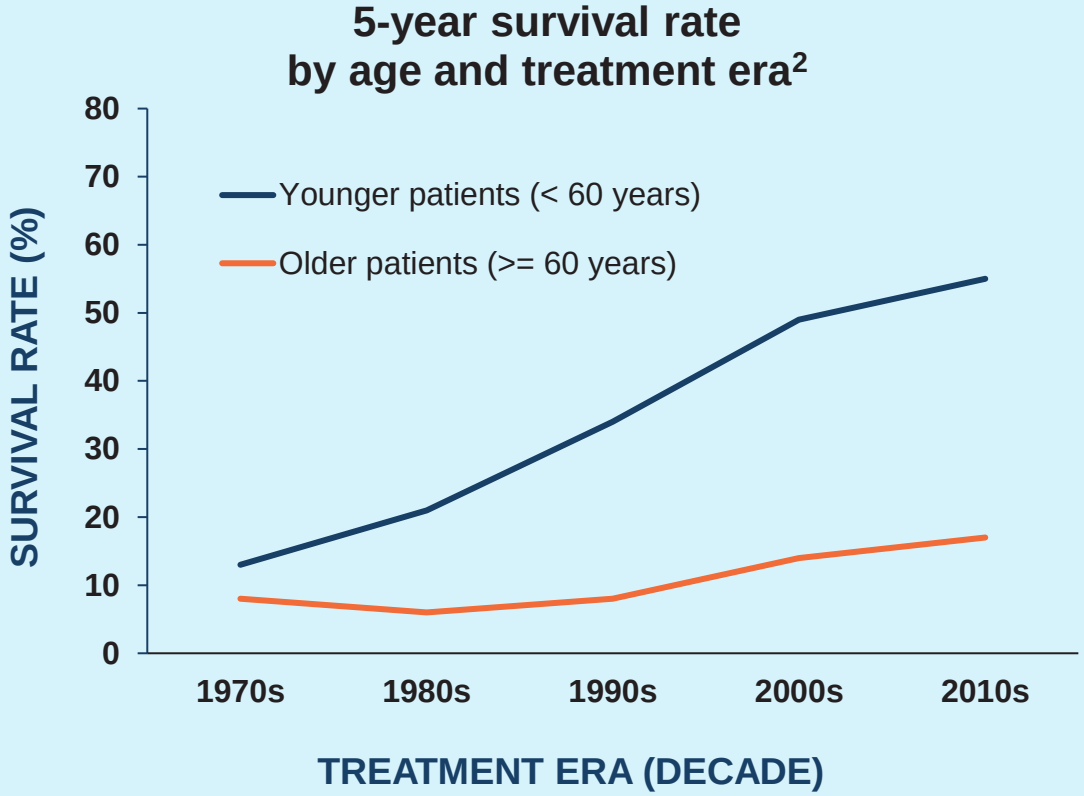
Median age of AML patients at diagnosis[1]

31.7%

Overall 5-year survival rate[1]

Despite 50 years of progress, elderly and frail patients are often not eligible for high-intensity conditioning and HSCT, and thus have limited treatment options and poor survival outcomes[2]

- Lack of broad and clean AML surface targets
- Risk of clonal escape even after high-intensity conditioning/HSCT

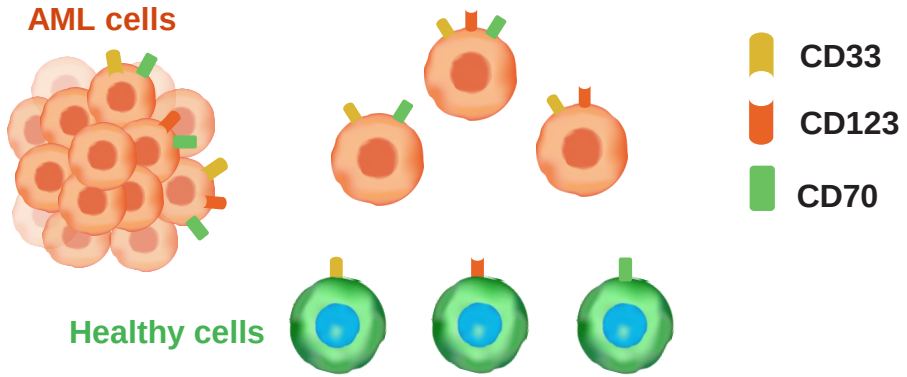


1. https://seer.cancer.gov/statfacts/html/amyl.html (based on data: 2016-2020; accessed 3 Jan 2024)
2. Kantarjian HM, *et al*. *Clin Lymphoma Myeloma Leuk* 2021; **21:**580–597.

AML, acute myeloid leukemia; HSCT, hematopoietic stem cell transplantation.

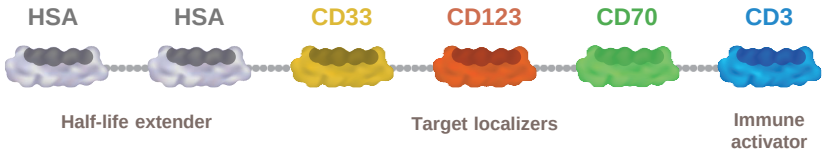
MP0533: Avidity-Driven Selectivity for Cancer Cells in AML

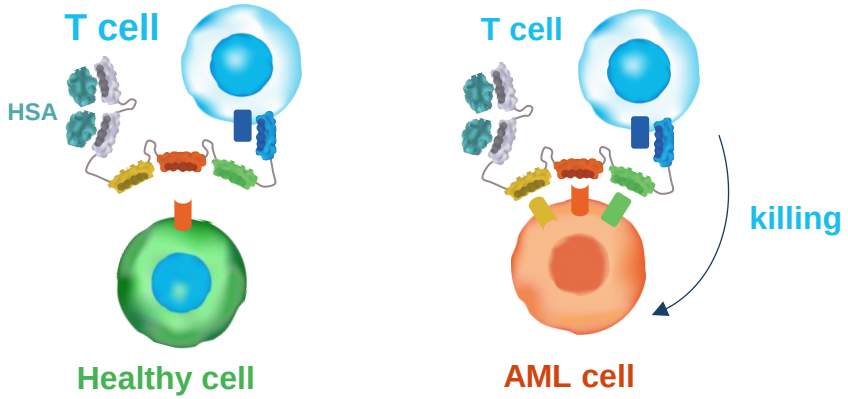
Problem: AML tumor-associated antigens are expressed on healthy cells



- **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

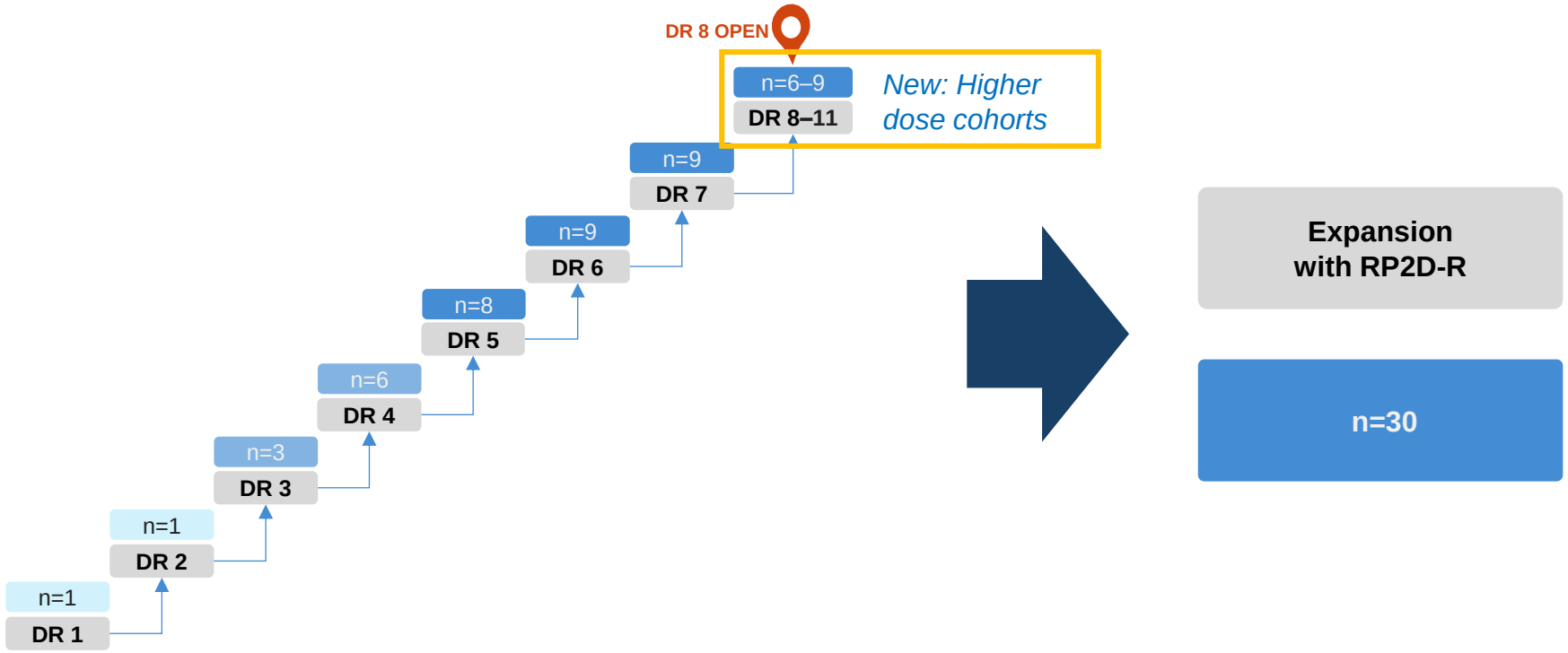
- FIH, single-arm, open-label, Phase 1/2a study of MP0533 monotherapy (NCT05673057)

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

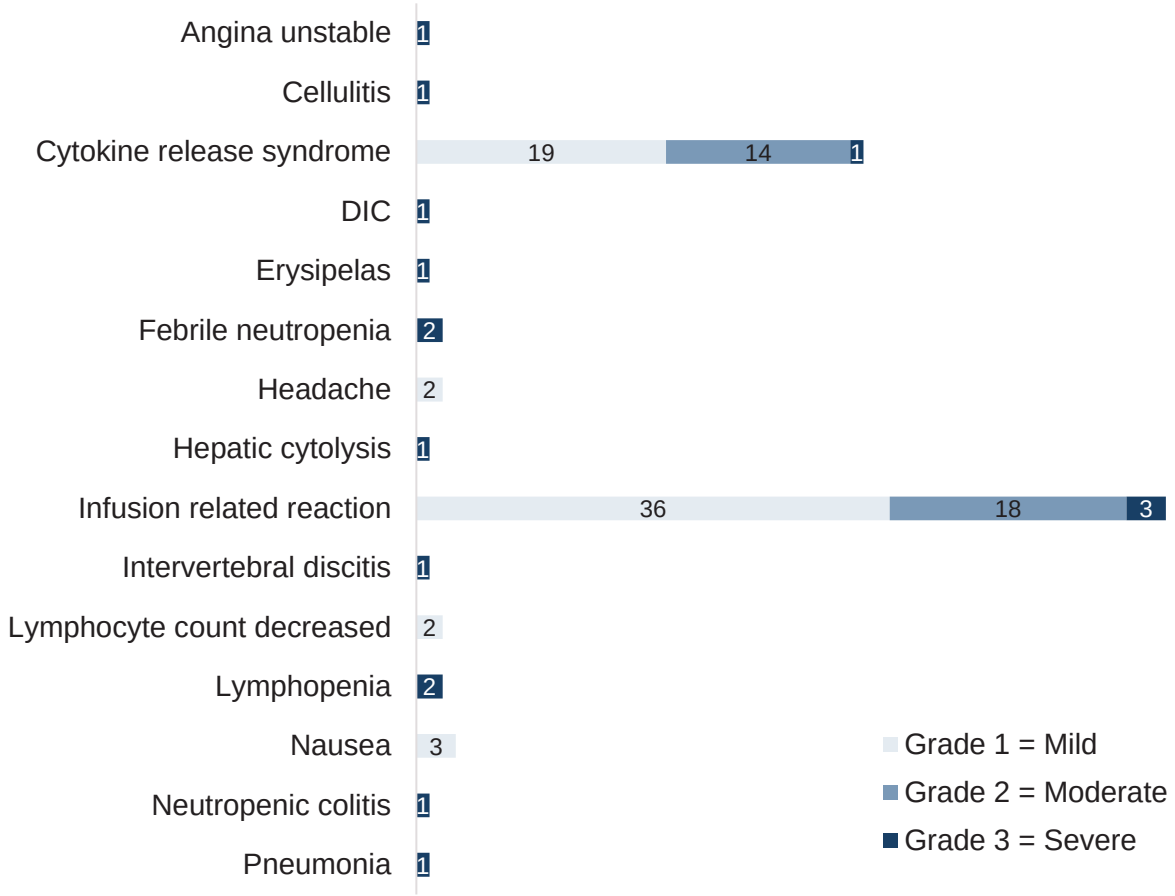
BASELINE CHARACTERISTICS	DR COHORTS 1–6 (n=28)
Sex, n (%)	
Female / male	14 (50) / 14 (50)
Age	
Mean / Median (range)	68 / 74 (22–82)
ECOG PS, n (%)	
0 / 1 / 2	11 (39) / 15 (54) / 2 (7)
Hematologic malignancy, n (%)	
AML / MDS/AML	19 (68) / 9 (32)
ELN risk category, n (%)	
Intermediate / adverse	4 (14) / 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‡

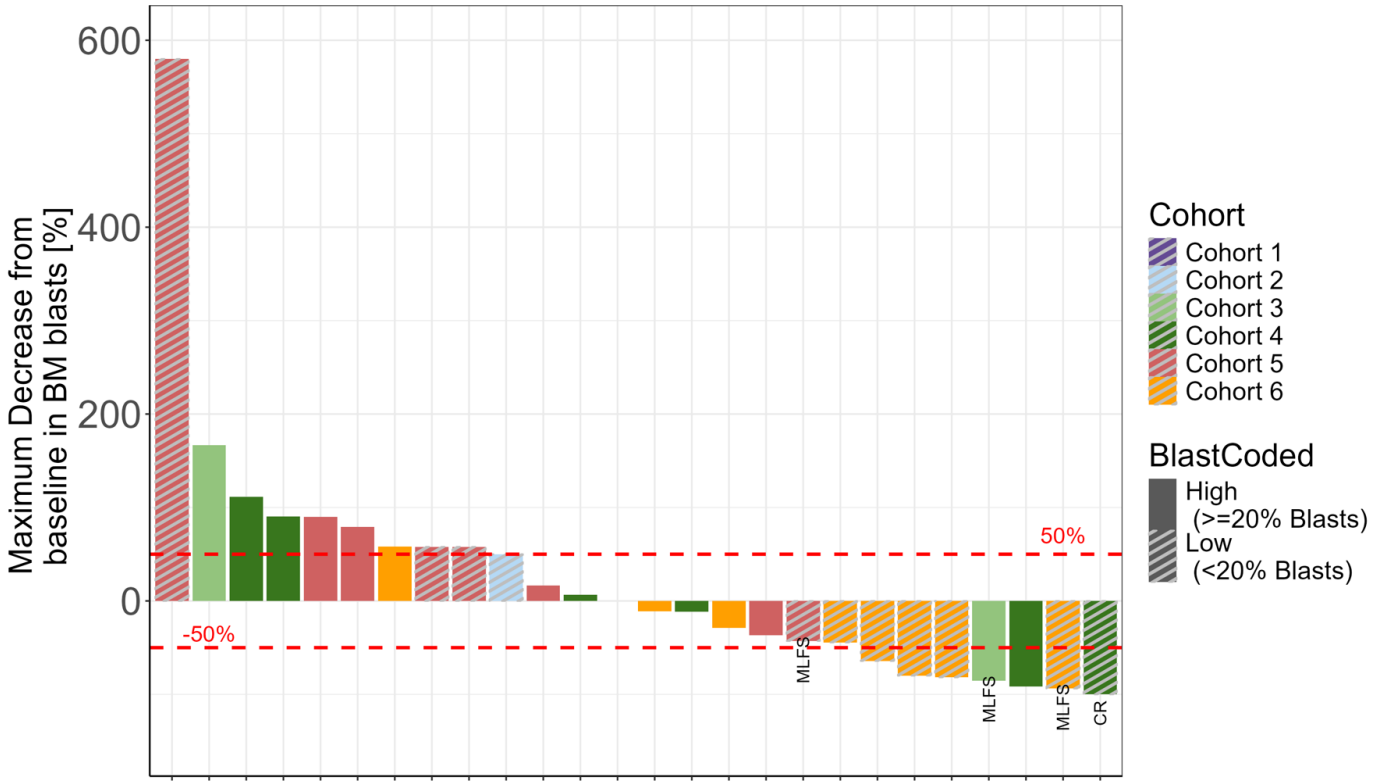


‡TEAEs of n=1 of grade 1 and 2 were removed from the graph for display purposes.

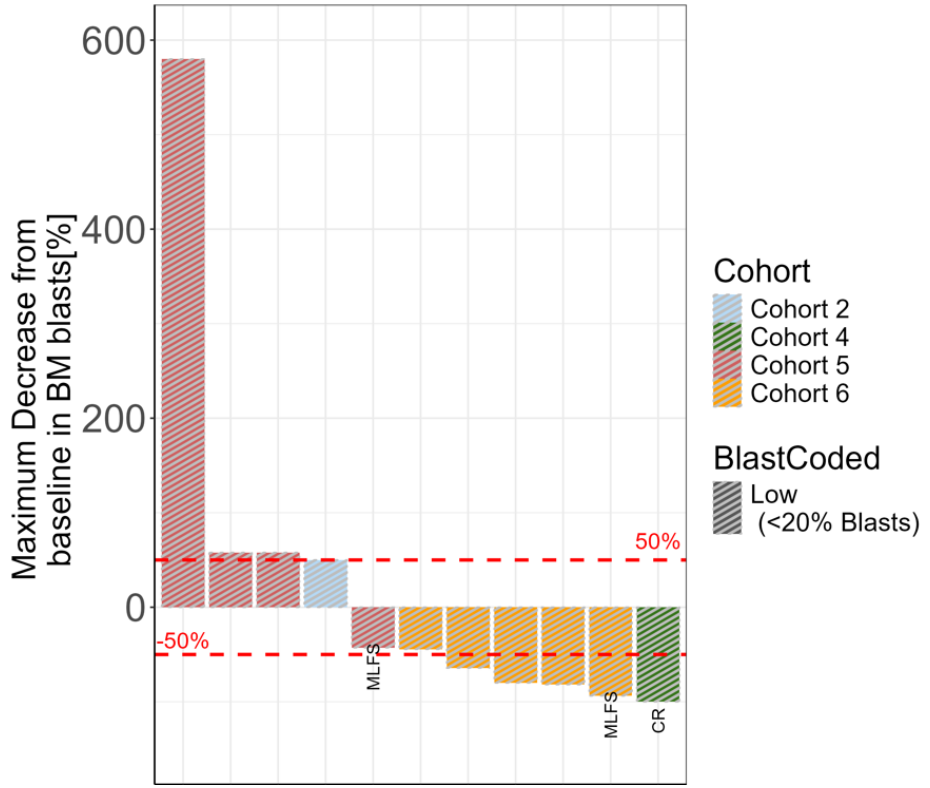
AE, adverse event; DIC, disseminated intravascular coagulation; DR, dose regimen; CRS, cytokine release syndrome; ELN, European LeukemiaNet; IRR, infusion-related reaction; TEAE, treatment-emerging AE.

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.

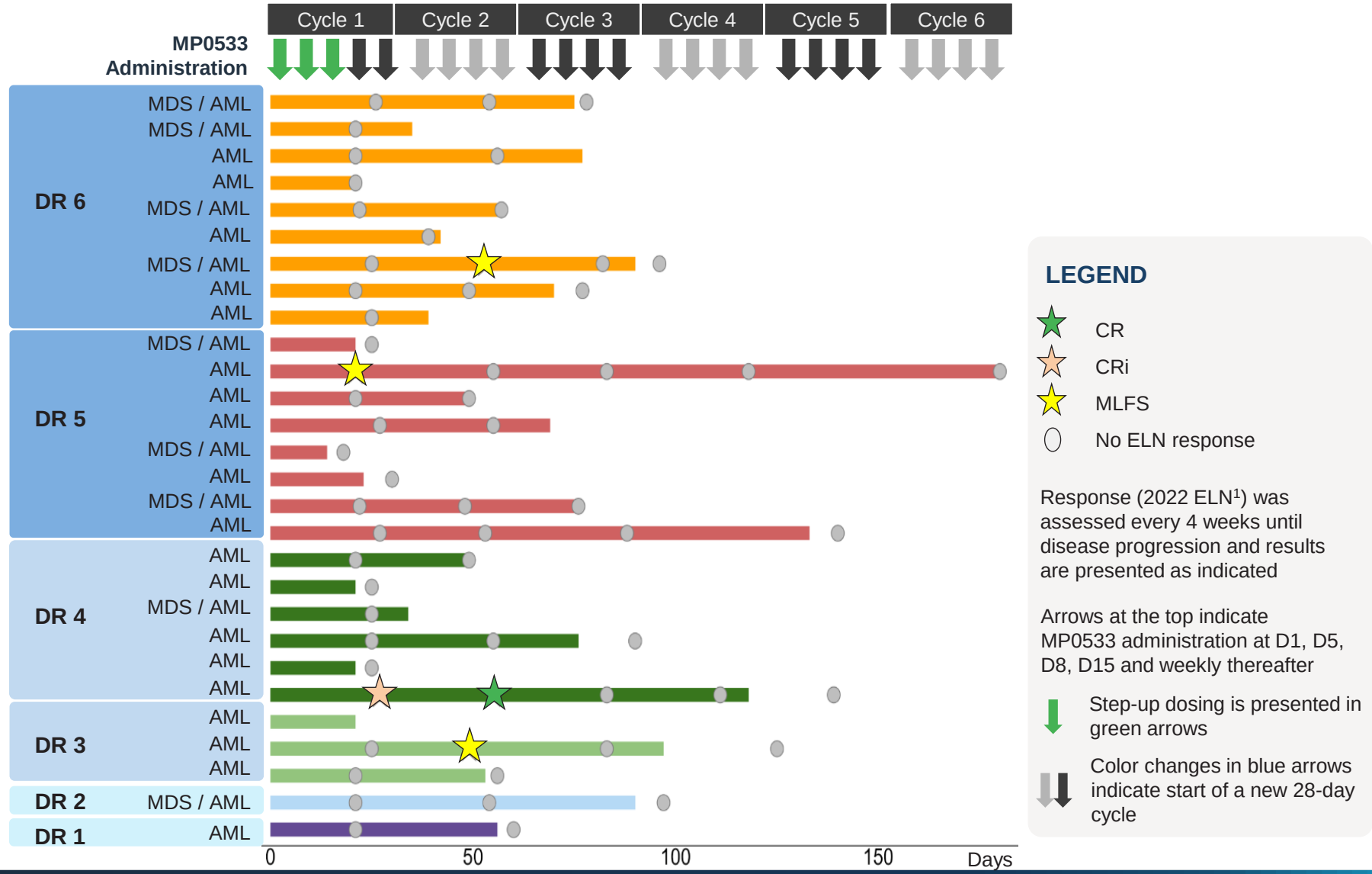
*Lower disease burden defined as patients with baseline blast <20% in bone marrow.
CR, Complete Remission; MLFS, Morphological Leukemia Free State.

MP0533 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

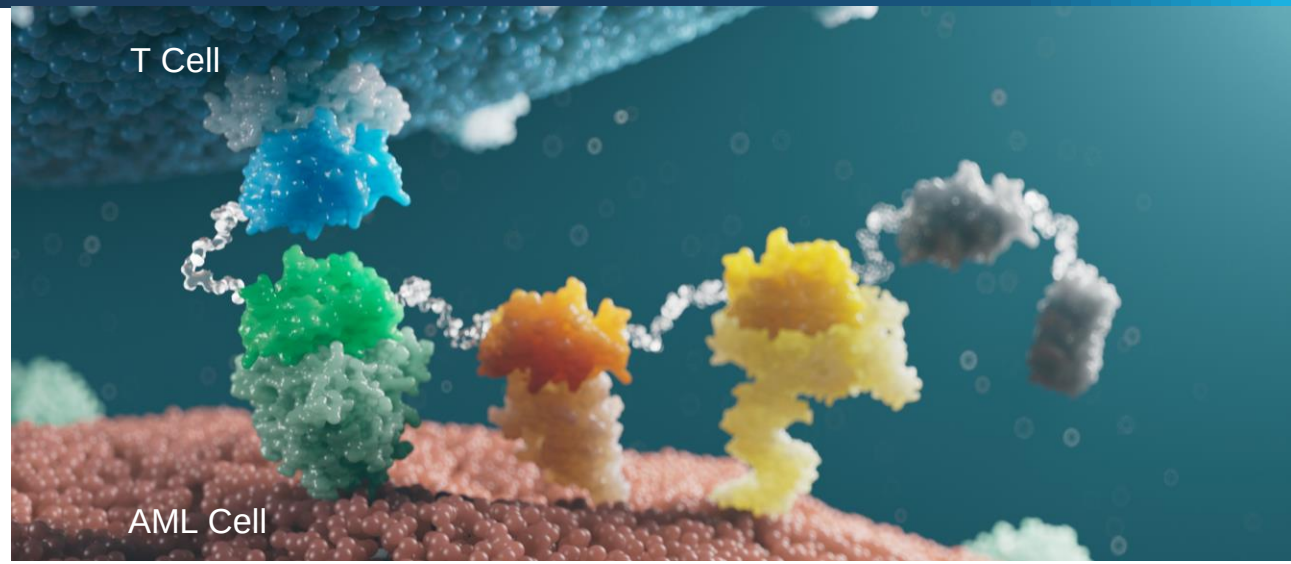
Preliminary data as study is ongoing, subject to final data validation.

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.

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

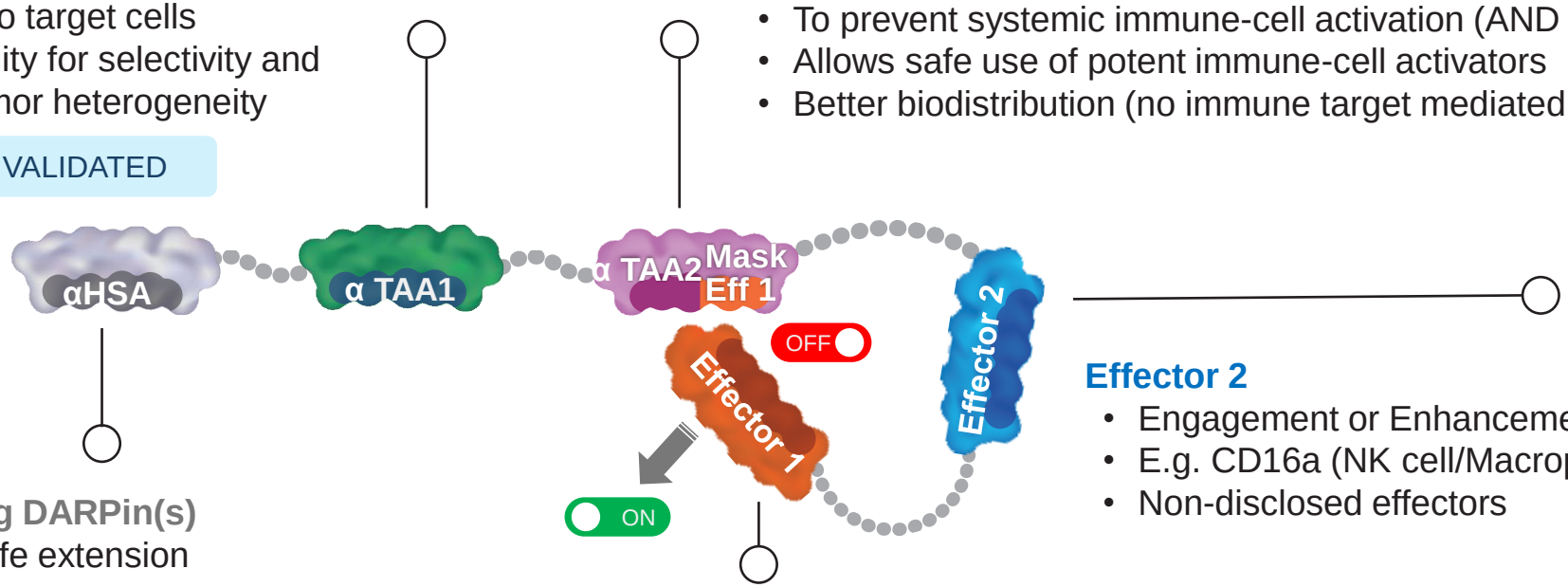
Logic-gated Switch-DARPins for Conditional Immune Activation

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.

MP0621: cKit x CD16a x CD47 Switch-DARPin

Next-Generation Conditioning Regimen for HSCT

Target cKIT to eliminate HSCs/LSCs

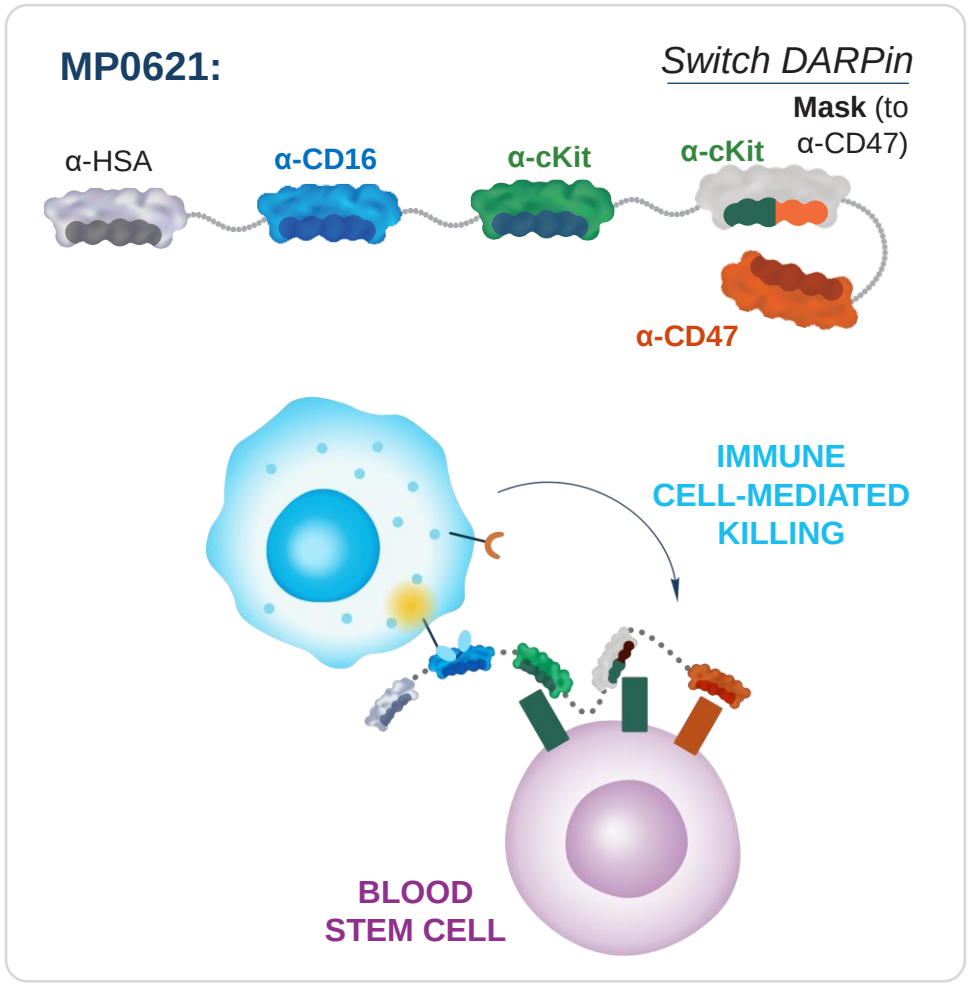
- cKIT is critical for stem cell maintenance and renewal[1, 2]
- Simple antagonists (mAbs) to cKIT are not potent enough

Engage NK cells and macrophages (MΦ) via CD16a to kill HSCs/LSCs

- Effective and safe approach
- NK and MΦ activity is limited by CD47 expression on HSC/LSCs[3]

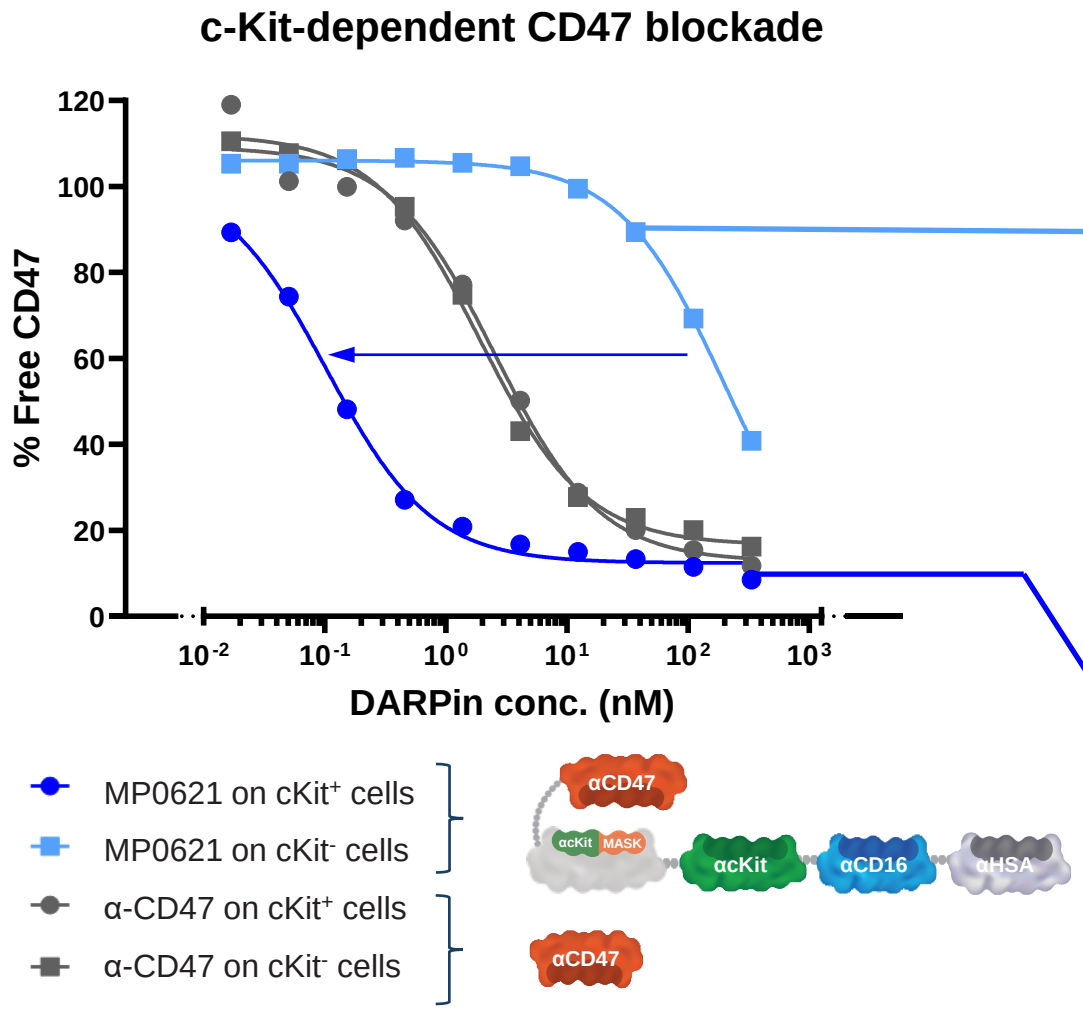
Conditionally block CD47 on LSCs/HSCs to boost NK cell and MΦ killing activity

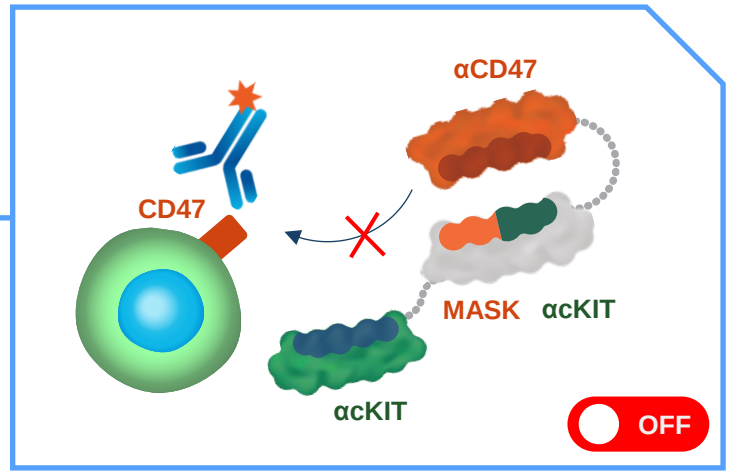
- CD47 is expressed as "do-not-eat-me signal" and prevents killing of HSCs/LSCs[1,3]
- Switch DARPin allows conditional local blocking of CD47 on HSCs/LSCs, prevents peripheral CD47 blockade



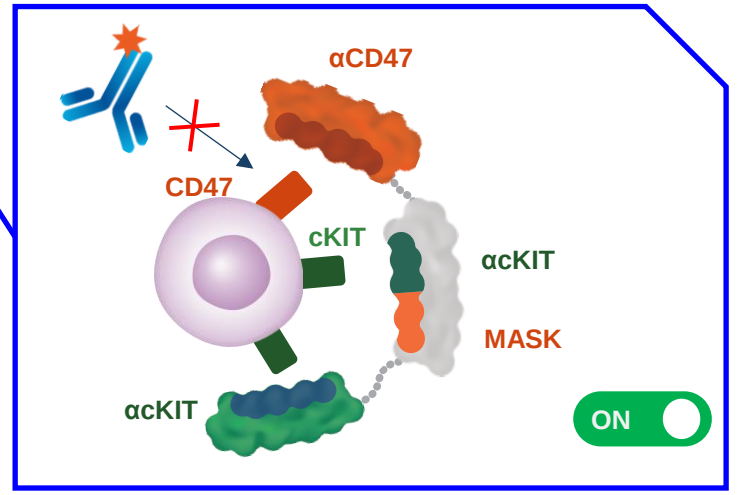
1- Valent et al., Int J Mol Sci 2019, 2- Rev in Kent et al., molecular pathways 2008, 3 - Chhabra, Weissman and Shizuru, STM 2016.
HSC, hematopoietic stem cell; LSC, leukemic stem cell; mAb, monoclonal antibody; MoA, mode of action; MΦ, macrophage.

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

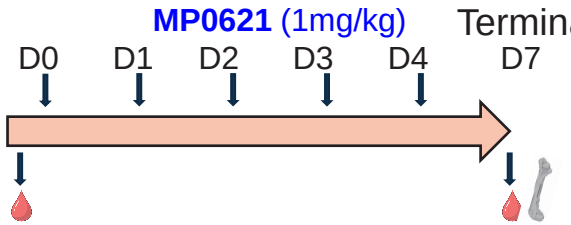
anti-CD47
detection agent

Link et al, EHA 2024 (poster presentation)

POC, proof-of-concept;

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

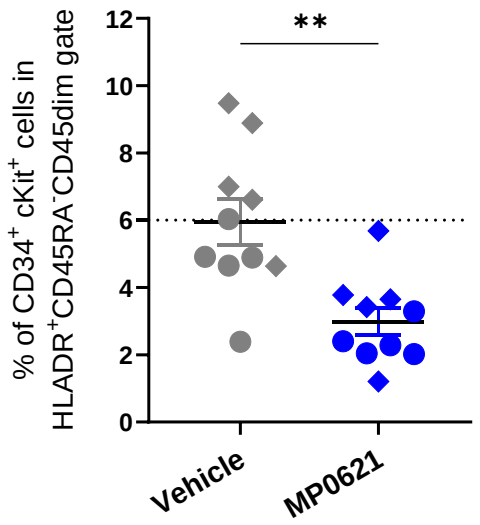
hCD34⁺ NSG mice



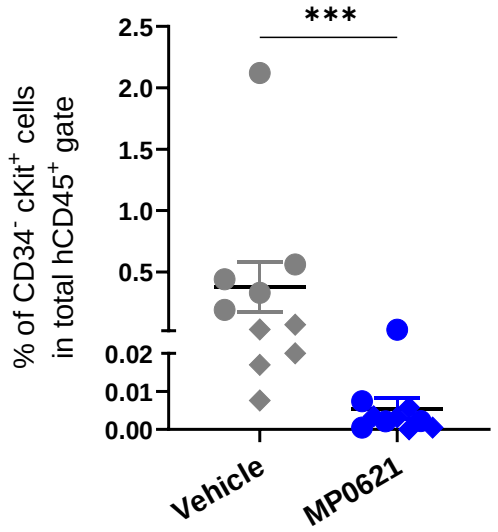
Flow cytometry analysis of blood and BM

Targeted cKit+ cells depleted in bone marrow

hcKit+ hCD34+ cells, incl. HSCs

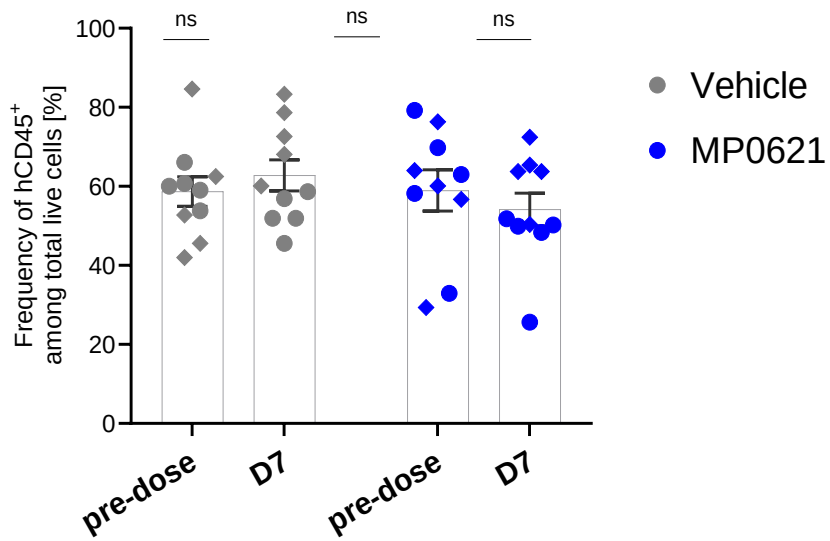


hcKit+ hCD34- cells



Immune cells in blood

hCD45+ immune cells

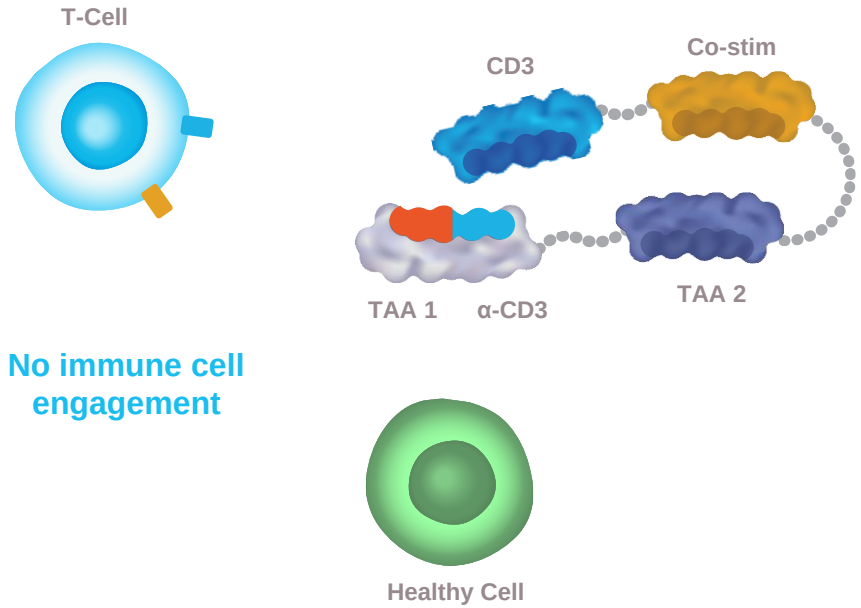


Link et al, EHA 2024 (poster presentation)

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

Tackling current limitations of TCEs in solid tumors

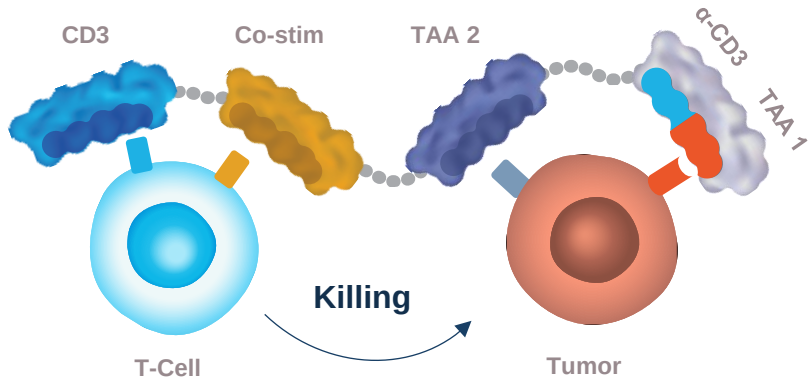
OFF **CD3 DARPin masked by 2-in-1 Switch in absence of TAAs**



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 active and boosted in tumor

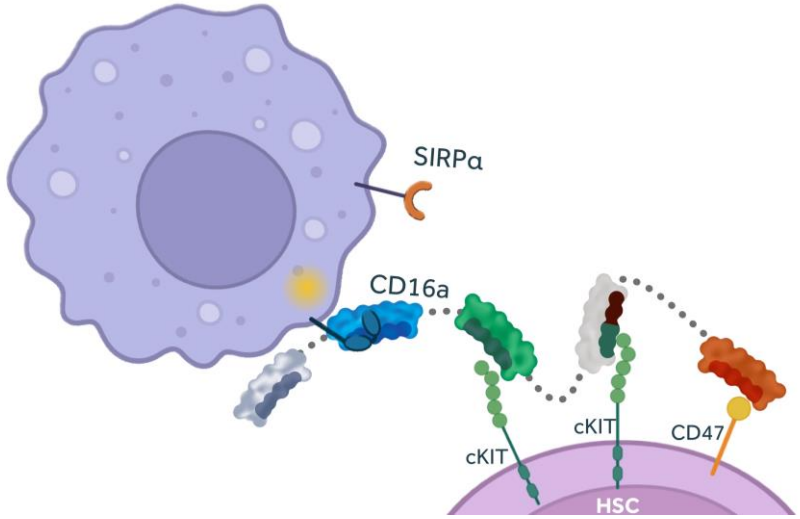
Outlook: Preclinical proof-of-concept to be presented at SITC 2024

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

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

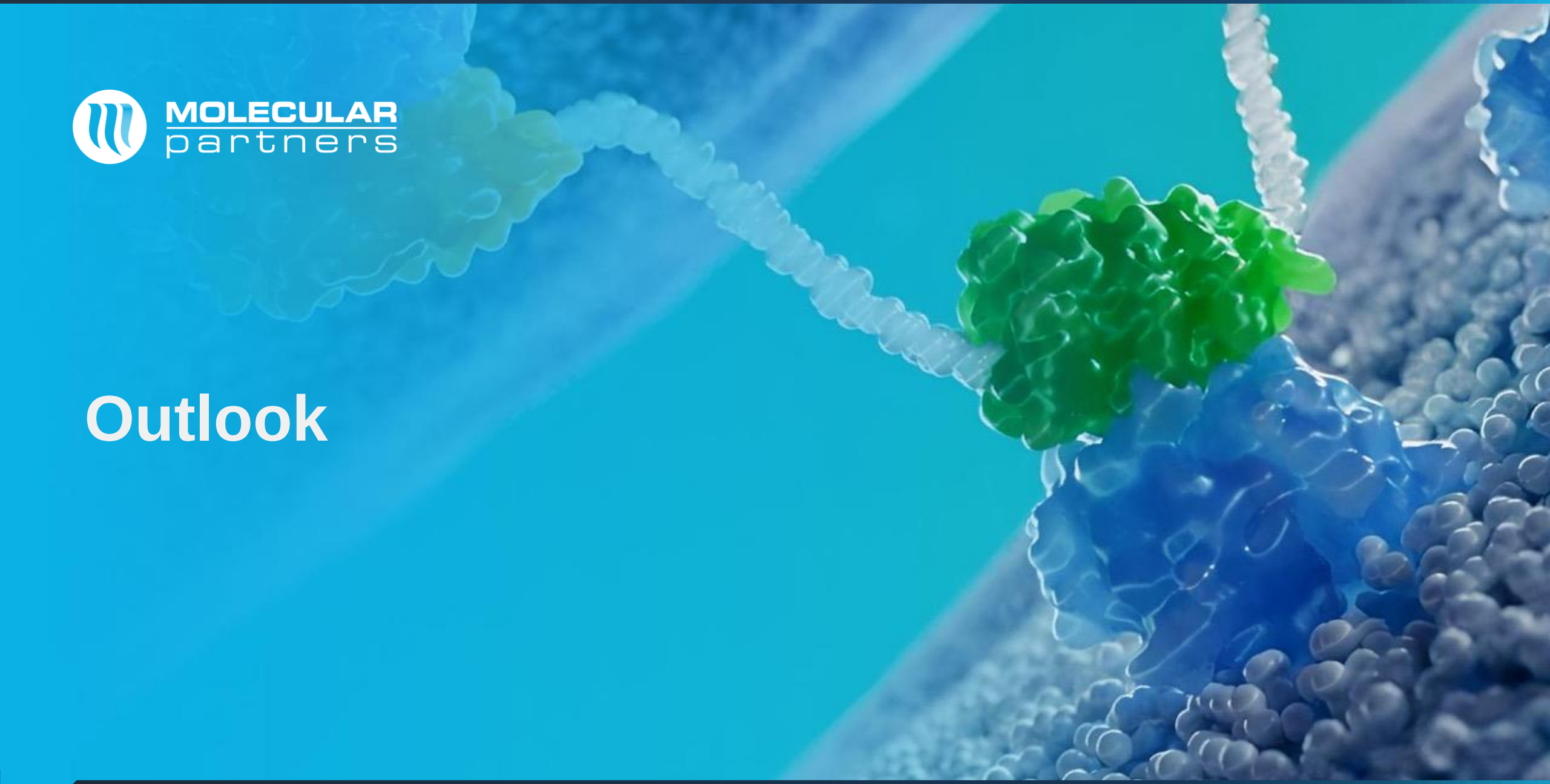


Outlook

- 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** • Preclinical proof-of-concept on **CD3 Switch-DARPin platform** to be 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.

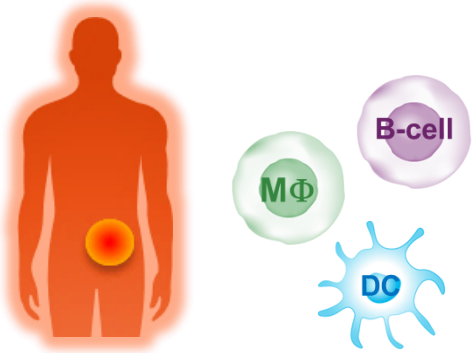
Thank You

MP0317

Tumor-localized Immunotherapy

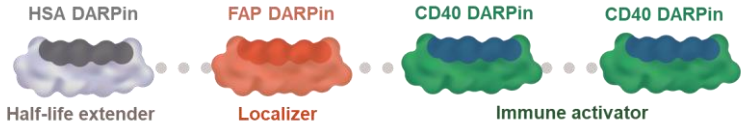
MP0317: Unlocking CD40 Activity Through Local Activation

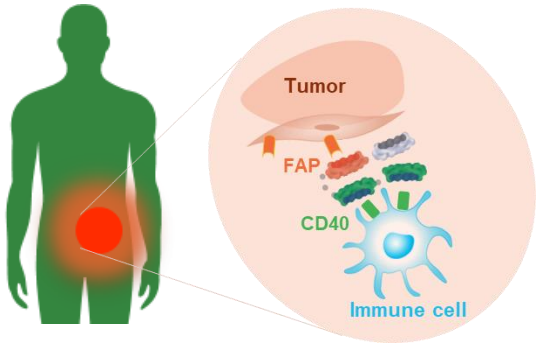
Problem: Toxicity of CD40 Antibodies Has So Far Limited Their Activity



- **CD40 agonists** can activate **B cells, DCs and MΦ** to enhance the efficacy of IO drugs, especially in “cold tumors”
- **Systemic activation of CD40 via mAbs** has been hampered by **significant toxicities,** therefore **limiting their potential of reaching a therapeutically active dose**

Solution: MP0317 – FAP-dependent tumor-localized CD40 activation

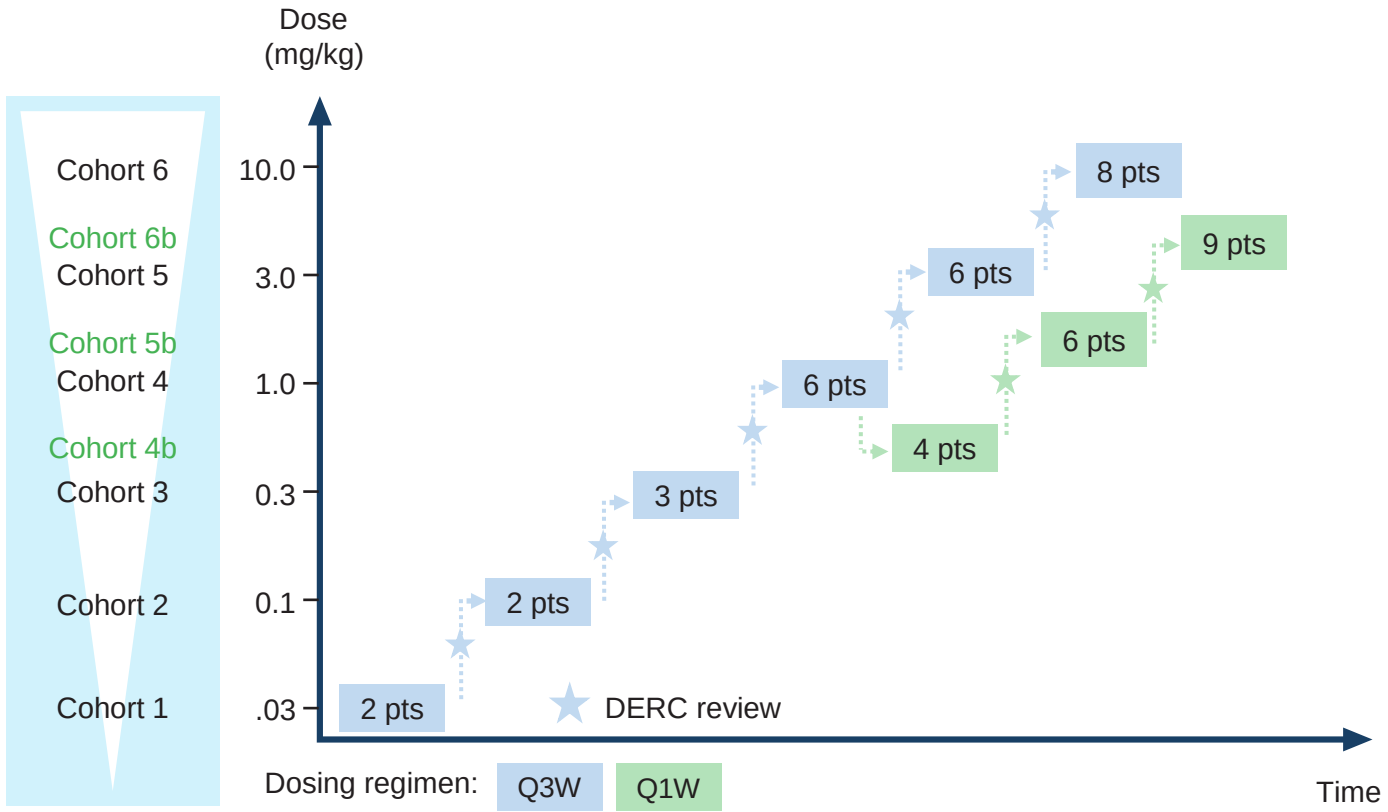




- **FAP is a validated tumor target** overexpressed in at least 28 different cancer types and its expression is not downregulated during disease progression
- **MP0317** is designed to bind tumor-localized FAP and induce CD40-mediated **activation of immune cells in the tumor**, thereby overcoming systemic toxicity and allowing a **wider therapeutic dosing range**

DC, dendritic cell; FAP, fibroblast activation protein; HSA, human serum albumin; MΦ, macrophage; mAb, monoclonal antibody; IO: immuno-oncology.

MP0317 Phase 1 Study Design and Status



STUDY DESIGN

- **FIH, multi-center, dose-escalation study of MP0317 monotherapy** (9 dose cohorts; Q1W and Q3W dosing; NCT05098405)
- **Eligible patients:** adults with advanced solid tumors
- **Primary objectives:** safety/tolerability, recommended dose for expansion & combination
- **Secondary objectives:** PK, PD, and preliminary antitumor activity
- **Centers:** 4 sites in France and The Netherlands

FIH, first-in-human; PK, pharmacokinetics; PD, pharmacodynamics; Q1W, weekly dosing; Q3W, every-3-weeks dosing.

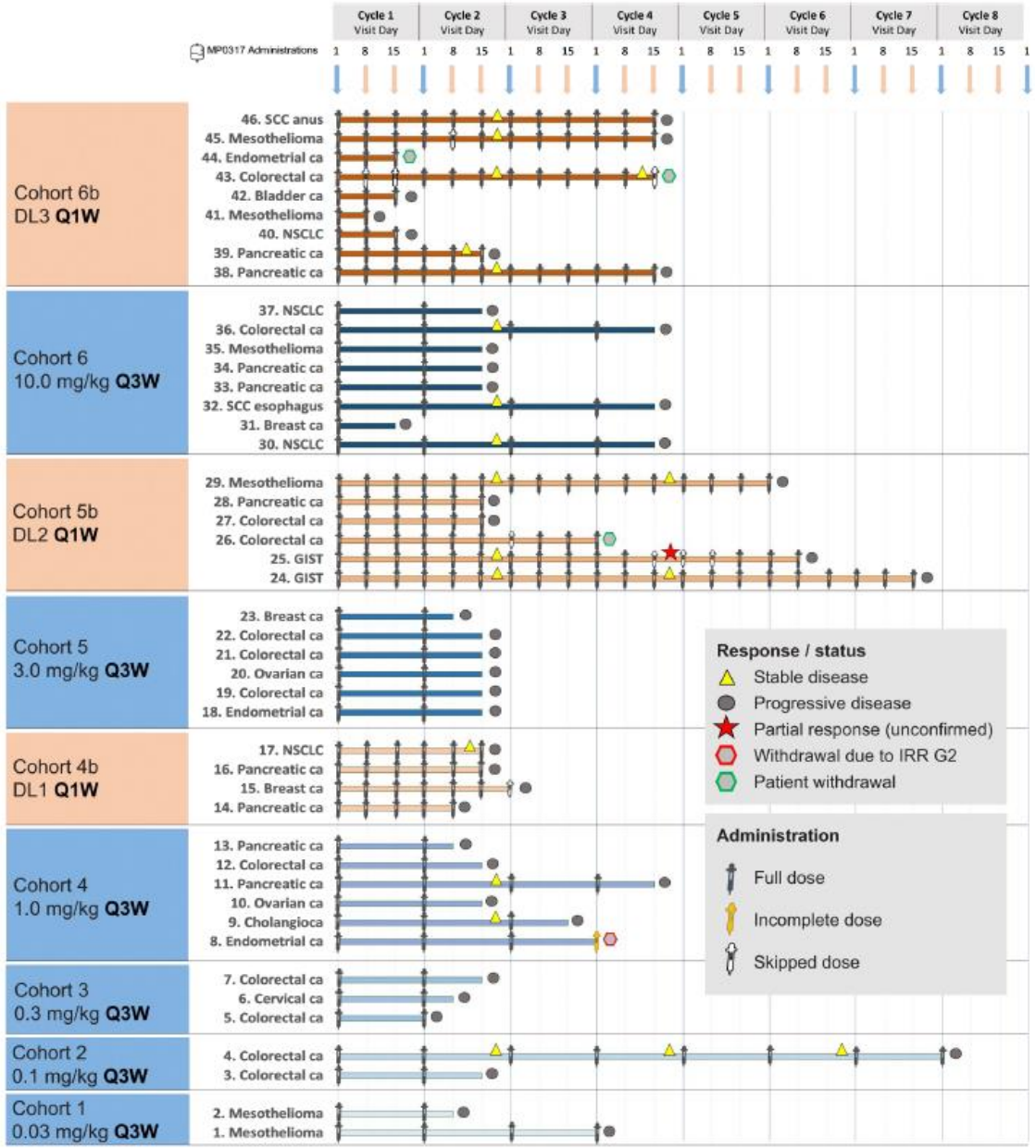
MP0317 Phase 1 Study

Summary:

- A total of **46 patients treated** in 9 cohorts
  - Median age (range): 63 years (35–79)
  - Medial prior regimen (range): 4 (1–13)
- **Favorable safety profile** across all tested dose cohorts up to highest planned dose (10 mg/kg)
  - Only 1 patient with a DLT (cohort 6; Grade 3 AST and ALT increase)
  - Most frequent Ars: fatigue and Grade 1–2 IRRs
- **Clinical evidence** of tumor-localized CD40 pathway and immune cell activation, leading to **TME remodeling**

Outlook:

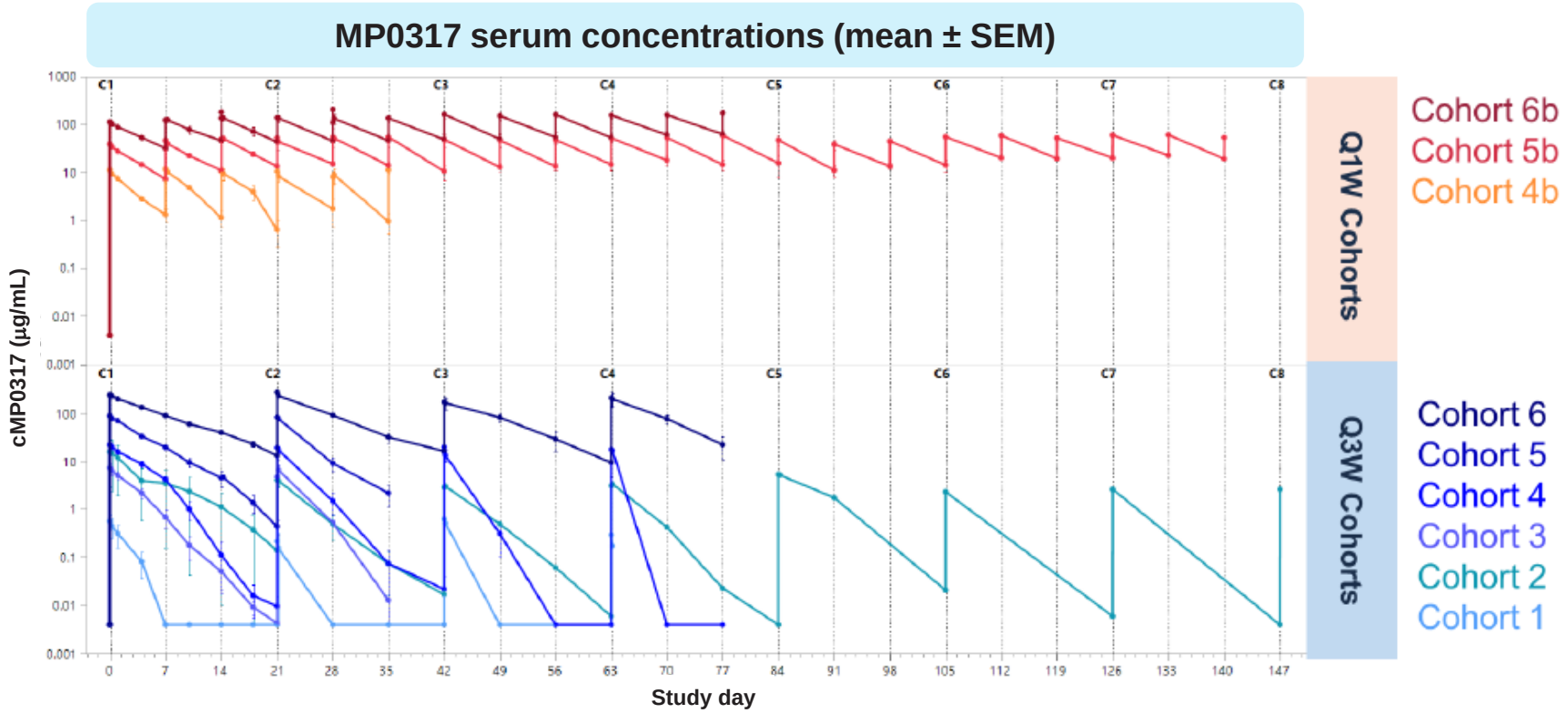
- Final data to be presented at **SITC 2024**
- Clinical exploration of combinations possibly via **investigator-initiated trials**



Steeghs et al. ASCO 2024 poster presentation.

ALT, alanine aminotransferase; AR, adverse reaction; AST, aspartate aminotransferase; DLT, dose-limiting toxicity; IRR, infusion-related reaction; PD, pharmacodynamic; TME, tumor microenvironment; Q1W, weekly dosing; Q3W, every-3-weeks dosing.

MP0317 Serum PK is Suitable for Q3 and Q1 dosing



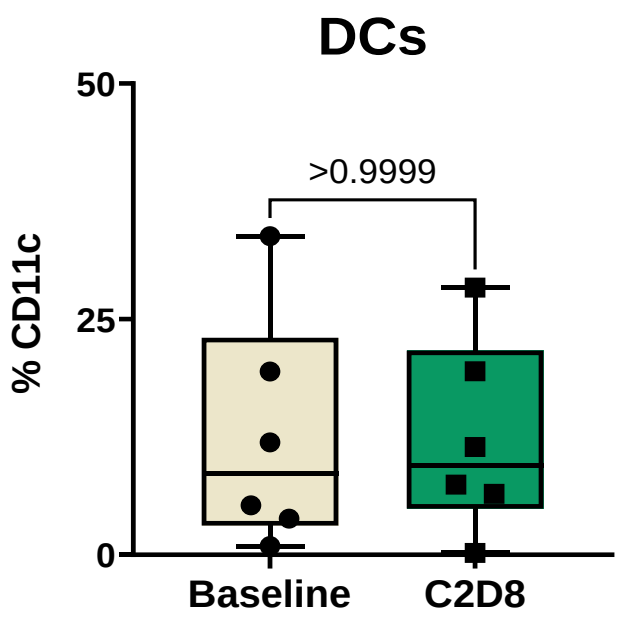
- PK profile is consistent with **half-life extended properties of DARPins**
- **MP0317 exposure shows dose-proportionality** throughout the treatment period analyzed
- **Sustained exposure** is observed at higher doses with both regimens overcoming TMDD and the impact of ADAs

Steeghs et al. ASCO 2024 poster presentation.

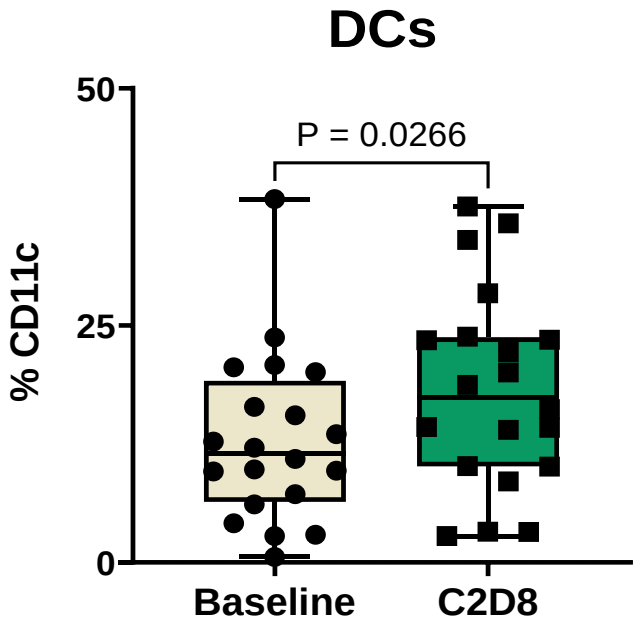
ADA, anti-drug antibodies; PK, pharmacokinetic; Q1W, weekly dosing; Q3W, every-3-weeks dosing; SEM, standard error of mean; TMDD, target-mediated drug disposition.

MP0317 Tumor-localized CD40 Activation and TME Modulation

MP0317 low doses or not detected in tumor (n=6)



MP0317 higher doses and detected in tumor (n=20)



Evaluable paired tumor biopsies from treated patients were analyzed with mIF.
Low doses: ≤0.1mg/kg; higher doses: ≥0.3mg/kg. Upper (75%), median, and lower (25%) percentiles are indicated. P-values are derived from paired ranked sum Wilcoxon test.

- Bulk RNA sequencing in paired tumor biopsies (n=19) shows that MP0317 presence tends to be associated with:
  - Increase in abundance of plasma and T follicular helper cells
  - DC maturation gene signature
  - IFNγ downstream activation gene signature scores
- Increases observed in CXCL10 serum levels corroborate these findings

Steeghs et al. ASCO 2024 poster presentation.

DC, dendritic cell; mIF. multiplex immuno-fluorescence; TME, tumor microenvironment.