A 3D molecular model of an antibody, showing two heavy chain domains in tan and two light chain domains in blue, connected by flexible linkers. A small red structure is visible at the bottom of the antibody, possibly representing a payload or a specific binding site. The background is a light blue sky with soft white clouds.

**FROM BENCH TO BREAKTHROUGH:  
THE EVOLUTION OF AMANITIN ADCS –  
INSIGHTS FROM HDP-101 PHASE I/II  
& THE FUTURE OF PAYLOAD DIFFERENTIATION**

**Andreas Pahl, CEO Heidelberg Pharma**

**16<sup>th</sup> World ADC Conference – San Diego**

# Safe Harbor

## FORWARD LOOKING STATEMENTS

This communication contains certain forward-looking statements, relating to the Company's business, which can be identified by the use of forward-looking terminology such as "estimates", "believes", "expects", "may", "will", "should", "future", "potential" or similar expressions or by general discussion of strategy, plans or intentions of the Company. Such forward-looking statements involve known and unknown risks, uncertainties and other factors, which may cause our actual results of operations, financial condition, performance, achievements or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements.

Such factors include, among others, the following: uncertainties related to results of our clinical trials, the uncertainty of regulatory approval and commercial uncertainty, reimbursement and drug price uncertainty, the absence of sales and marketing experience and limited manufacturing capabilities, attraction and retention of technologically skilled employees, dependence on licenses, patents and proprietary technology, dependence upon collaborators, future capital needs and the uncertainty of additional funding, risks of

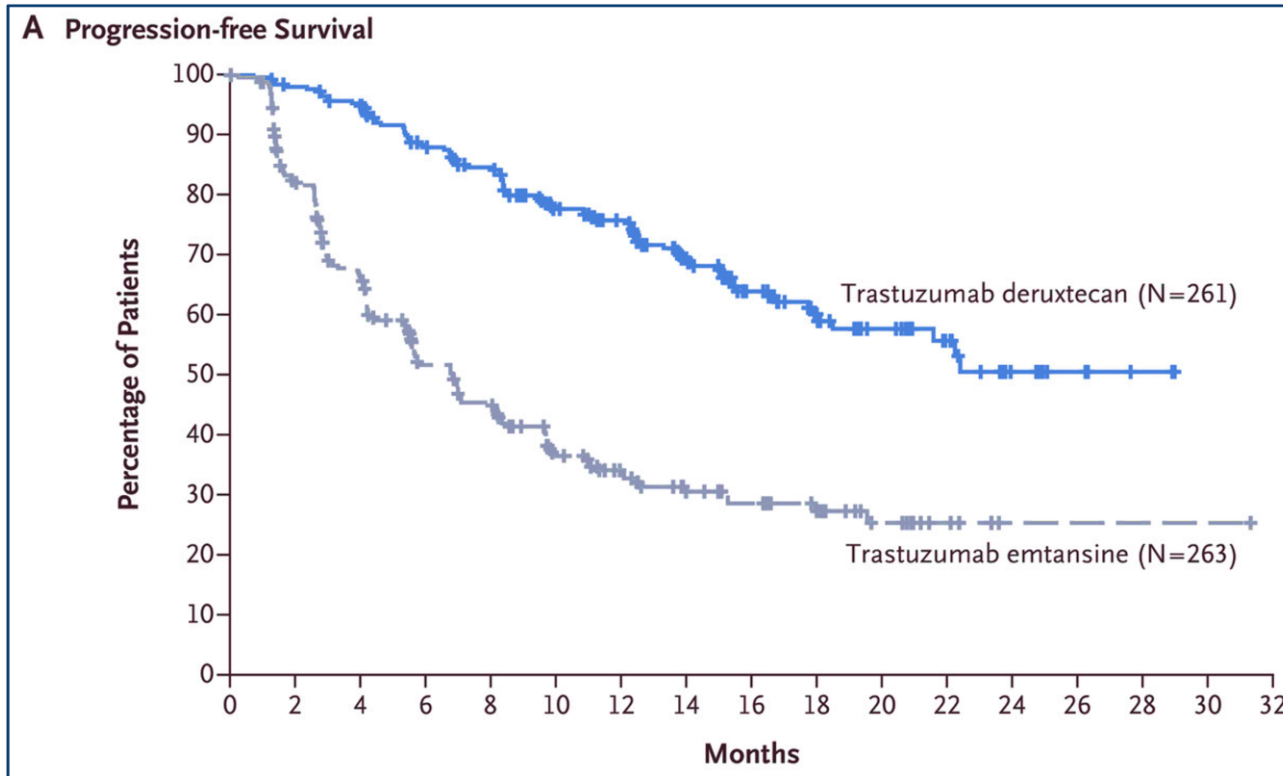
product liability and limitations of insurance, limitations of supplies, competition from other biopharmaceutical, chemical and pharmaceutical companies, environmental, health and safety matters, availability of licensing arrangements, currency fluctuations, adverse changes in governmental rules and fiscal policies, civil unrest, acts of God, acts of war, and other factors referenced in this communication.

Given these uncertainties, prospective investors and partners are cautioned not to place undue reliance on such forward-looking statements. We disclaim any obligation to update any such forward-looking statements to reflect future events or developments.

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ATAC® is a registered trademark of Heidelberg Pharma Research GmbH.

# The ADC Payload MOA Dramatically Impacts Tumor Response



- Enhertu®  
Payload: deruxtecan (Topo 1 inhibitor)
- Kadcyra®  
Payload: emtansine (Tubulin inhibitor)

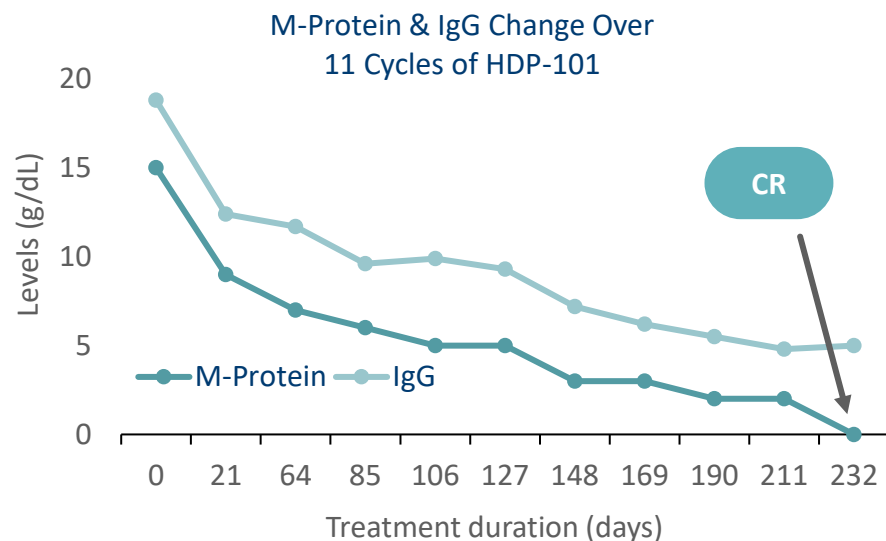
Cortés, J. et al, N Engl J Med 2022; 386:1143-1154

Same target (Her2), same antibody (Trastuzumab), in the same patient population

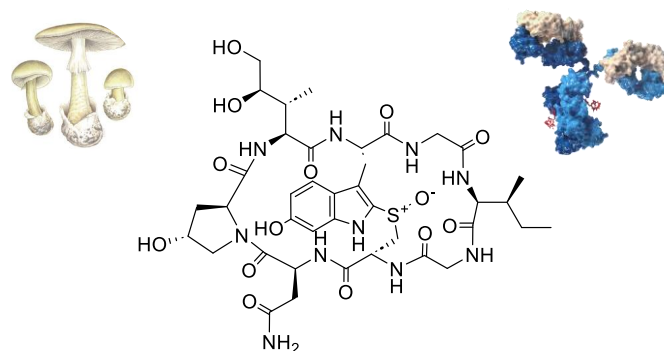
\* MOA = mode of action

# Heidelberg Pharma's Proprietary Amanitin Payload Technology to Generate a Disruptive New Class of ADCs

## Novel MoA Overcoming resistance

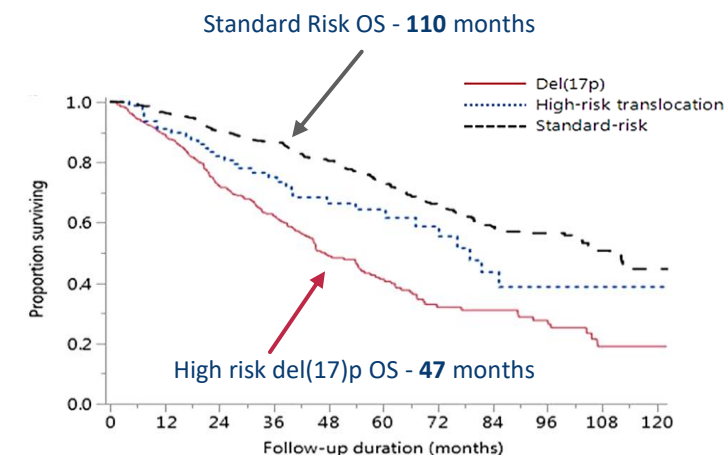


## Single Player



**26** Patent families  
**>500** Family members

## Biomarker for Stratification of High-risk Patients



Lakshman et al., 2019; Blood Cancer J. PMID 30846679

First Amanitin-based ADC led to CR  
in 10th Line in a RRMM Patient

Exclusivity on Compound and  
Mode of Action

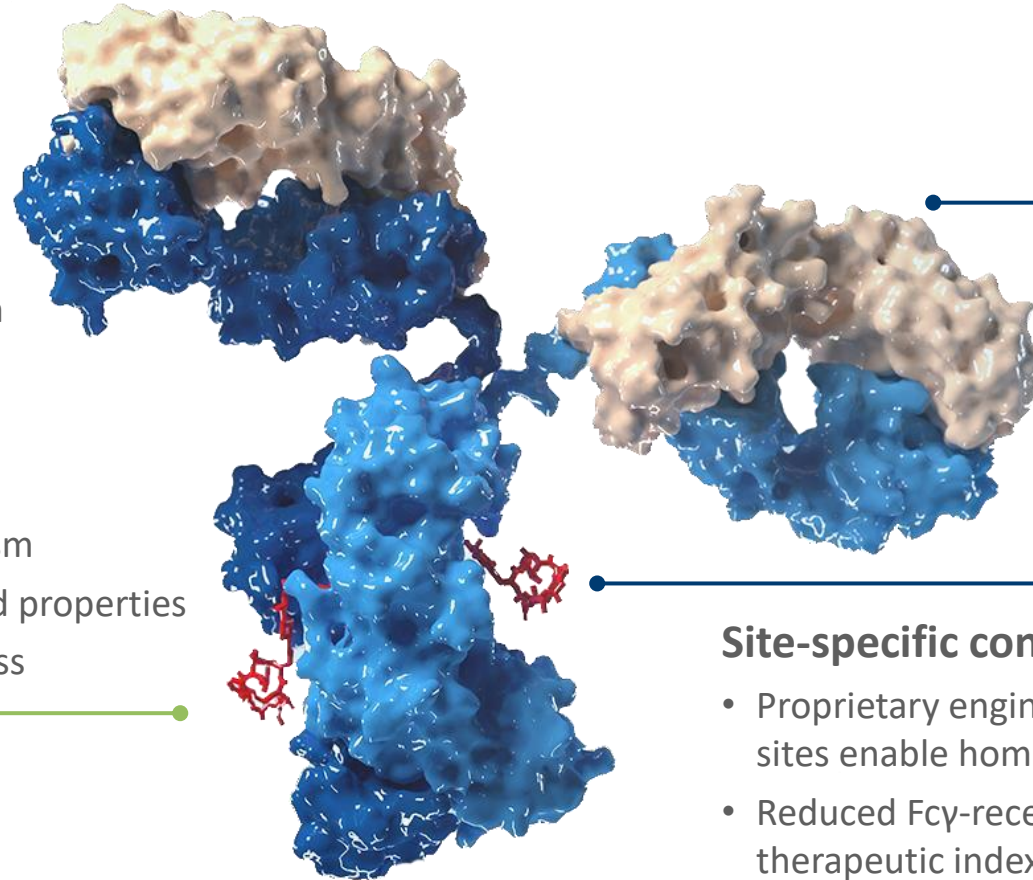
Amanitin is More Effective in  
del(17p) Patients

# ATAC - Innovative ADCs With Amanitin Payload



## Payload: $\alpha$ -Amanitin

- Identified in Amanita phalloides mushroom
- Completely novel MOA:
  - Inhibition of RNA Polymerase II
  - Kills dormant/non-dividing tumor cells
  - Circumvents resistance via new mechanism
- Synthetic amanitin derivatives with improved properties
- GMP manufacturing via fully synthetic process



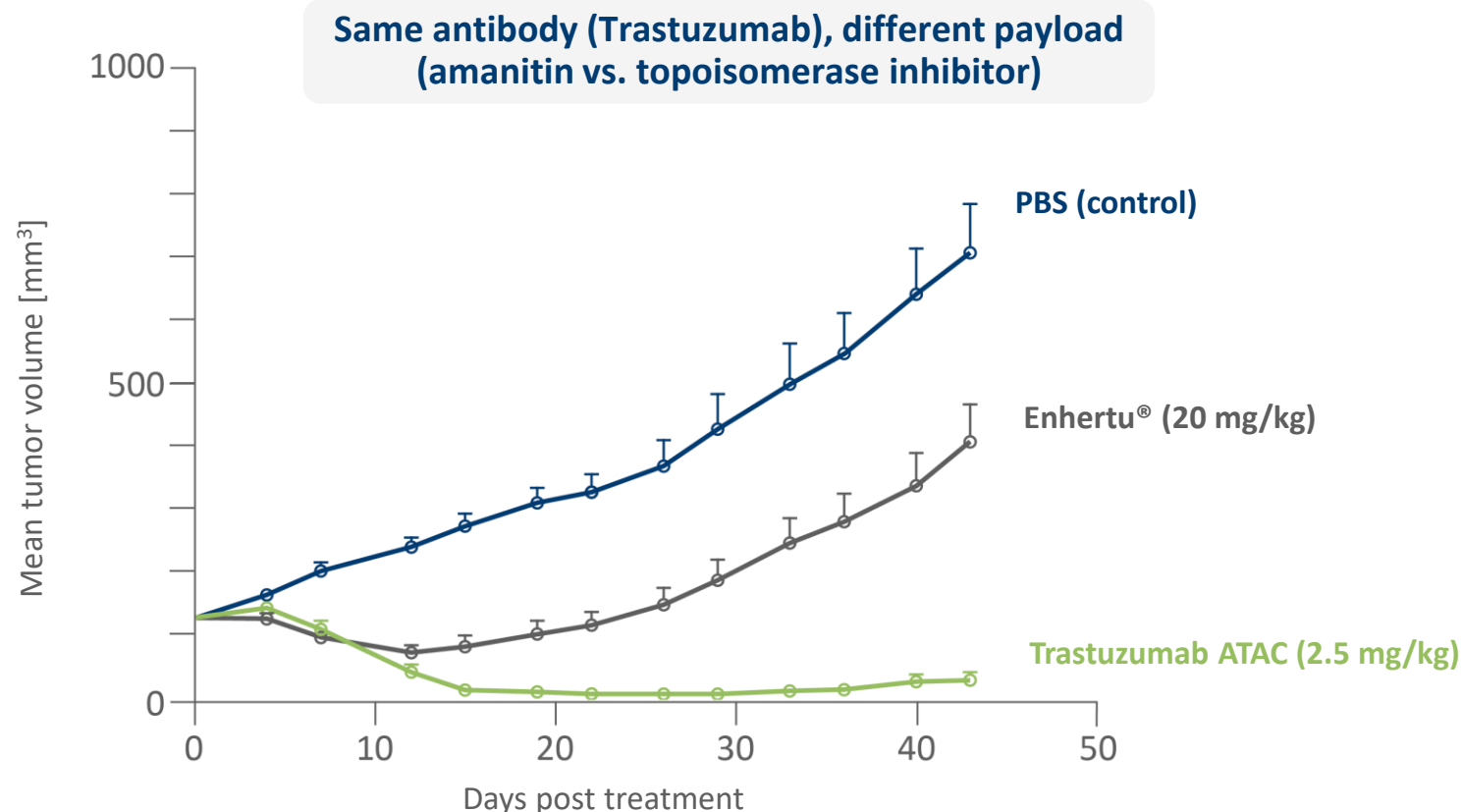
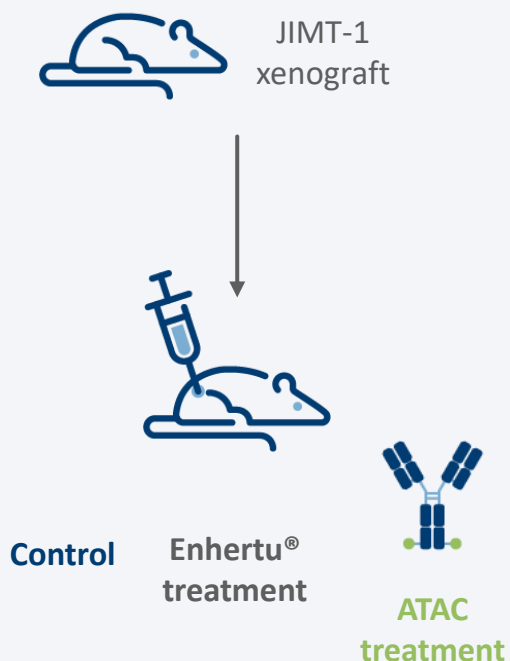
## HDP-101 – anti-BCMA

### Site-specific conjugation

- Proprietary engineered cysteine conjugation sites enable homogenous ADC production
- Reduced Fc $\gamma$ -receptor binding for improved therapeutic index (TI)
- Drug-Antibody Ratio (DAR) = 2.0

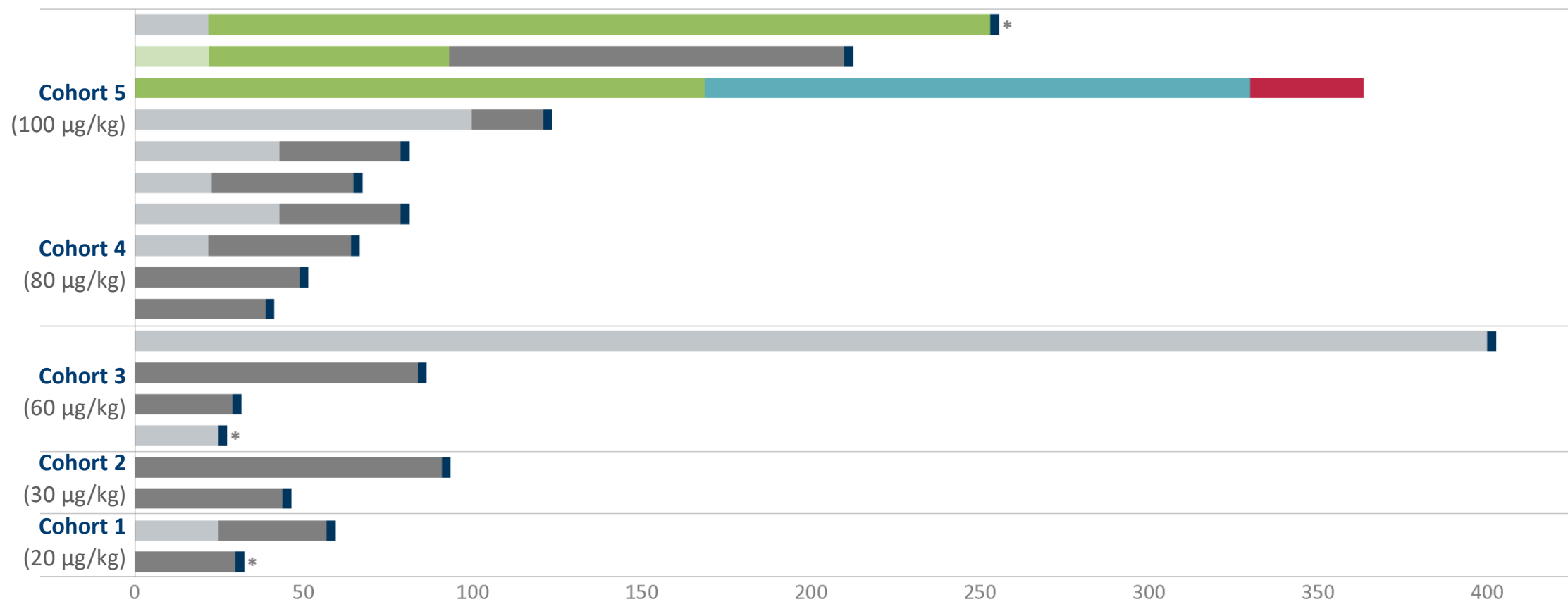
# The Payload Makes the Difference

Breast Cancer Model (JIMT-1 Xenograft) is resistant to Kadcyra® and Enhertu®



Trastuzumab ATAC leads to complete remission in resistant mouse model after single-dose

# HDP-101-01 – Phase I Preliminary Efficacy Data (Cohort 1-5)



Readout: November 2024

Treatment duration (days)

Progressive disease (PD)
  Stable disease (SD)
  Minimal response (MR)
  End of treatment
  \* Adverse Event, most likely myeloma related
  Very good partial remission (VGPR)
  Complete response (CR)
  Partial response (PR)

# Study Case: Cohort 5 Stringent Complete Response

## 70 Year Old Patient with Stage II IgG- $\kappa$ Myeloma Since 2002

- 9 prior lines of therapies including transplant, IMiDs, PIs, and Daratumumab
- Last 3 treatment regimens & response:
  - 7<sup>th</sup> line:** BCMA CAR-T (Aug-2018) VGPR
  - 8<sup>th</sup> line:** GPRC5D/CD3 Bi-specific Antibody (Jul-2020) CR
  - 9<sup>th</sup> line:** Iber-Dex (Jan 2022) PR

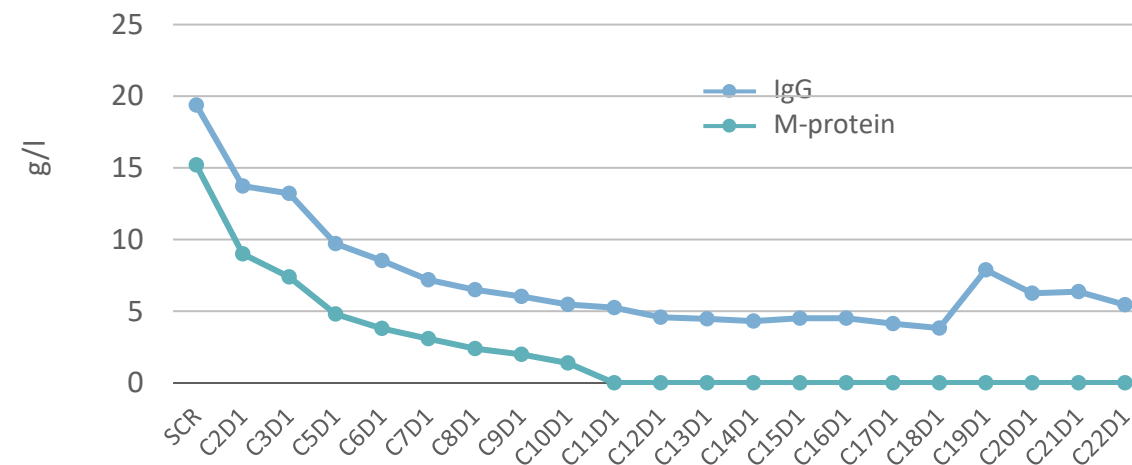
## Started HDP-101 (100 $\mu$ g/kg) in Oct 2023

- PR in cycle 2 (64 days of HDP-101)
- No detectable M-protein in blood from day 225
- sCR confirmed at day 344 (bone marrow biopsy)

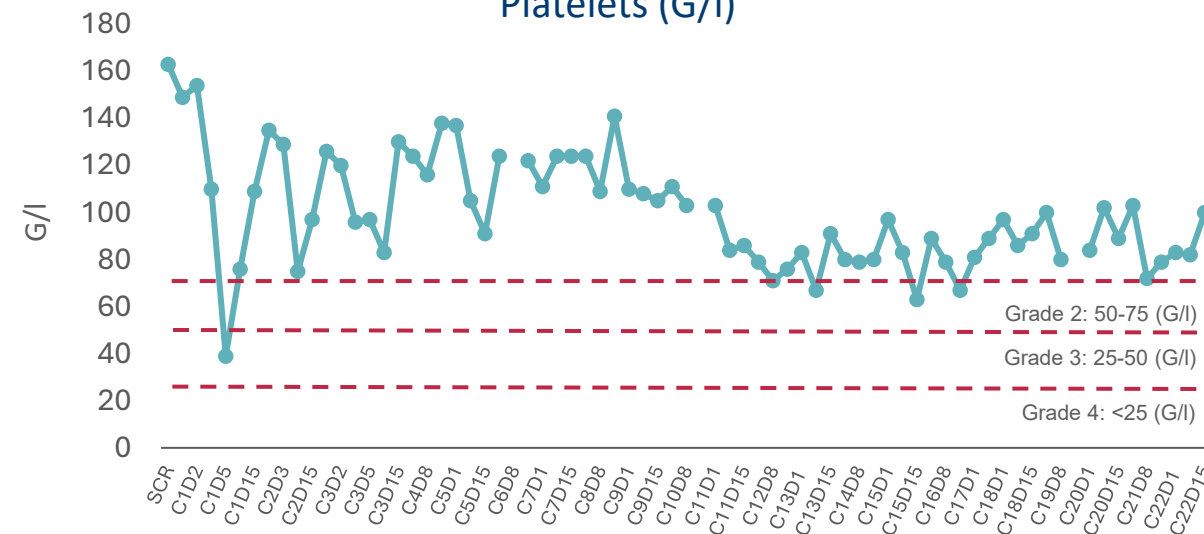
## Treatment well tolerated

- Overall mild AEs: No AESI, no DLT, no SAE
- No keratopathy, liver damage or lung toxicity
- No signs of ocular or renal toxicities
- Transient Grade 3 thrombocytopenia in cycle 1

M-protein (g/l) and IgG (g/l)



Platelets (G/l)



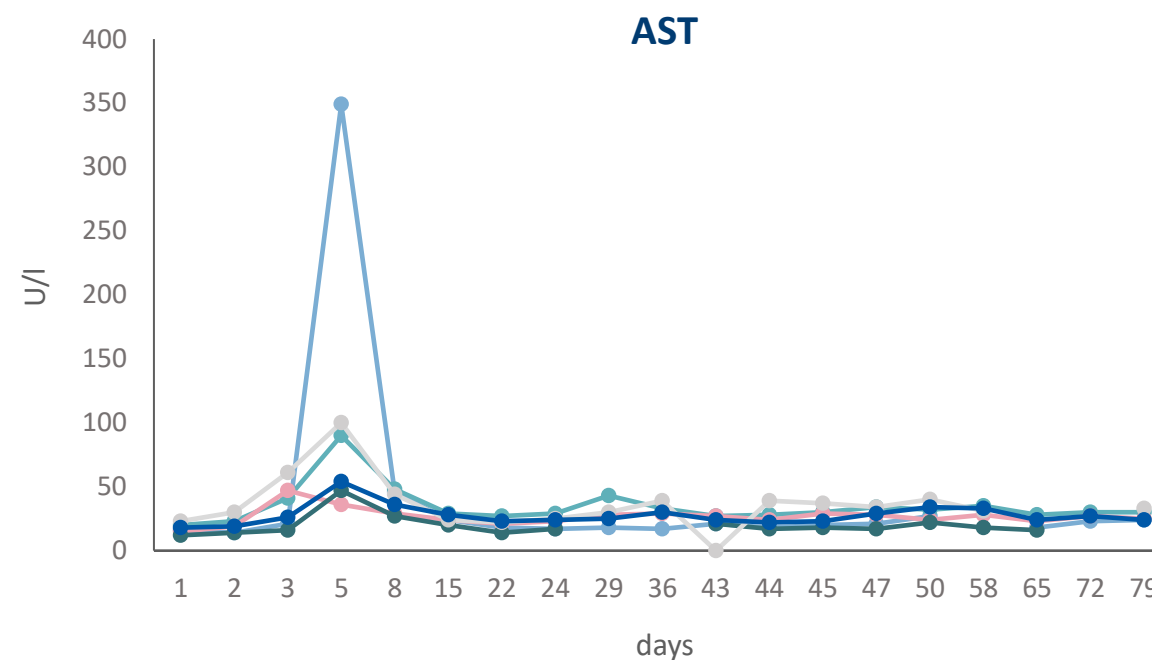
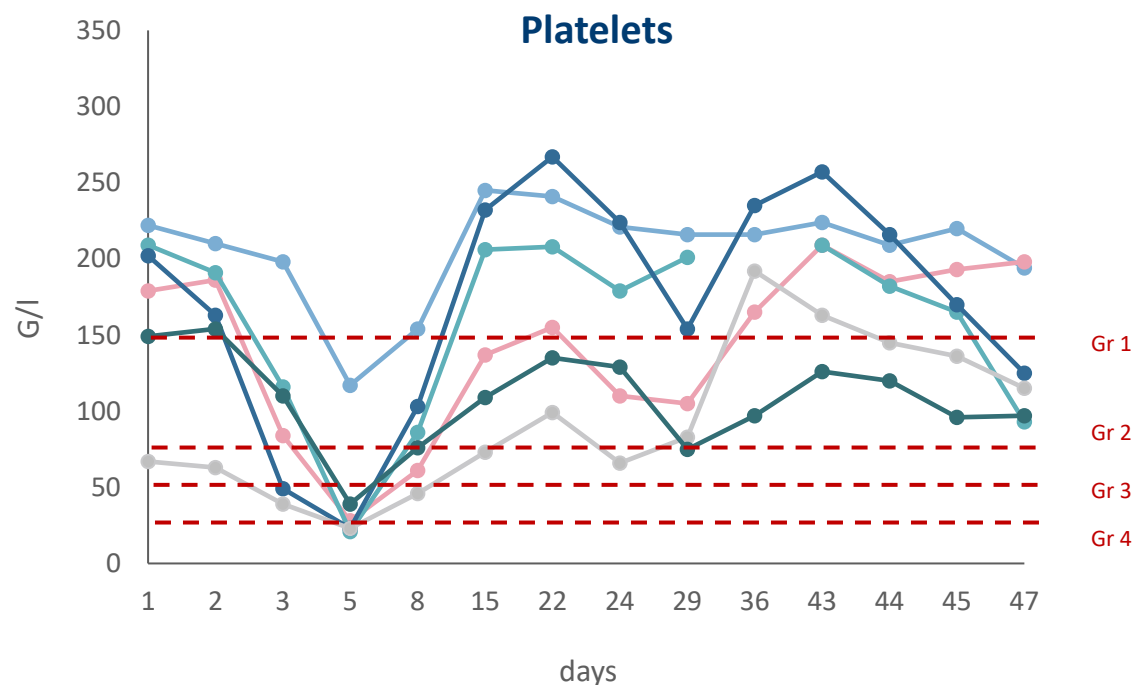
Readout: 15 May 2025

VGPR = very good partial response (>90% reduction from baseline of m-protein); IMiDs = immunomodulatory drugs; PIs = protease inhibitors; CR = complete response; PR = partial response;

sCR = stringent complete response – absence of clonal plasma cells in bone marrow; AESI = adverse event of special interest; DLT = dose limiting toxicity; SAE = serious adverse events; © Heidelberg Pharma AG

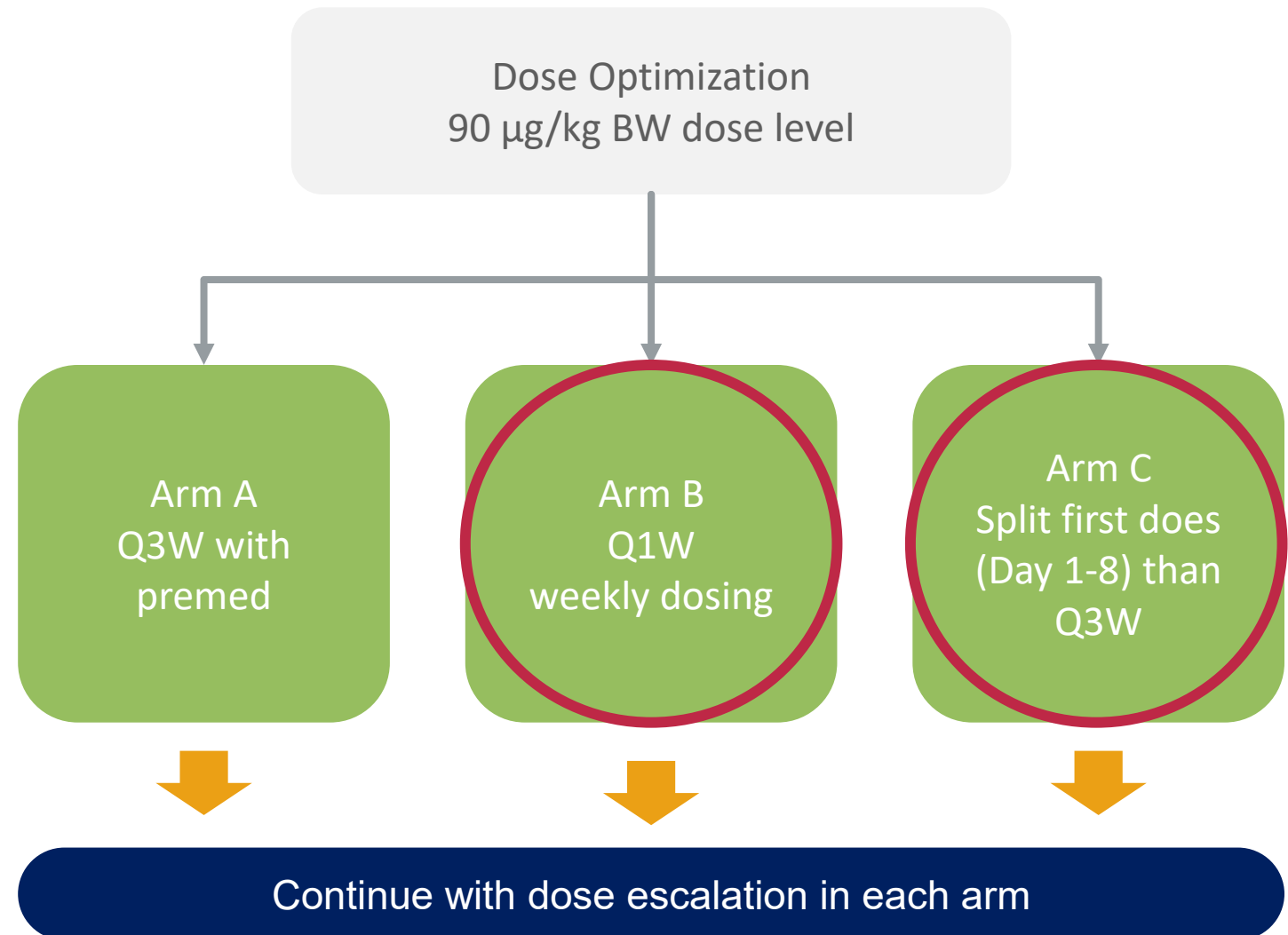
# 100 µg/kg Dosing Was Associated with Transient Thrombocytopenia and Liver Enzyme Elevation

## Cohort 5 (100 µg/kg)



# Dose Optimization Strategies from Cohort 6

- Post-Cohort 5 Safety review: SRC recommended study continuation with mitigation strategies for transient thrombocytopenia
- Mitigation: corticosteroid/antihistamine premed, weekly dosing, split first-cycle dose, adjusted escalation and additional safety measures
- Cohorts 7-8: Arms B and C continued (Arm C with optional premed)
- One arm may be selected as the optimal Phase II dose for further development



# HDP-101 Phase I/IIa Trial Design in Relapsed/Refractory Multiple Myeloma

## Phase I: Dose Escalation

Q3W intravenous dosing, BLRM Design

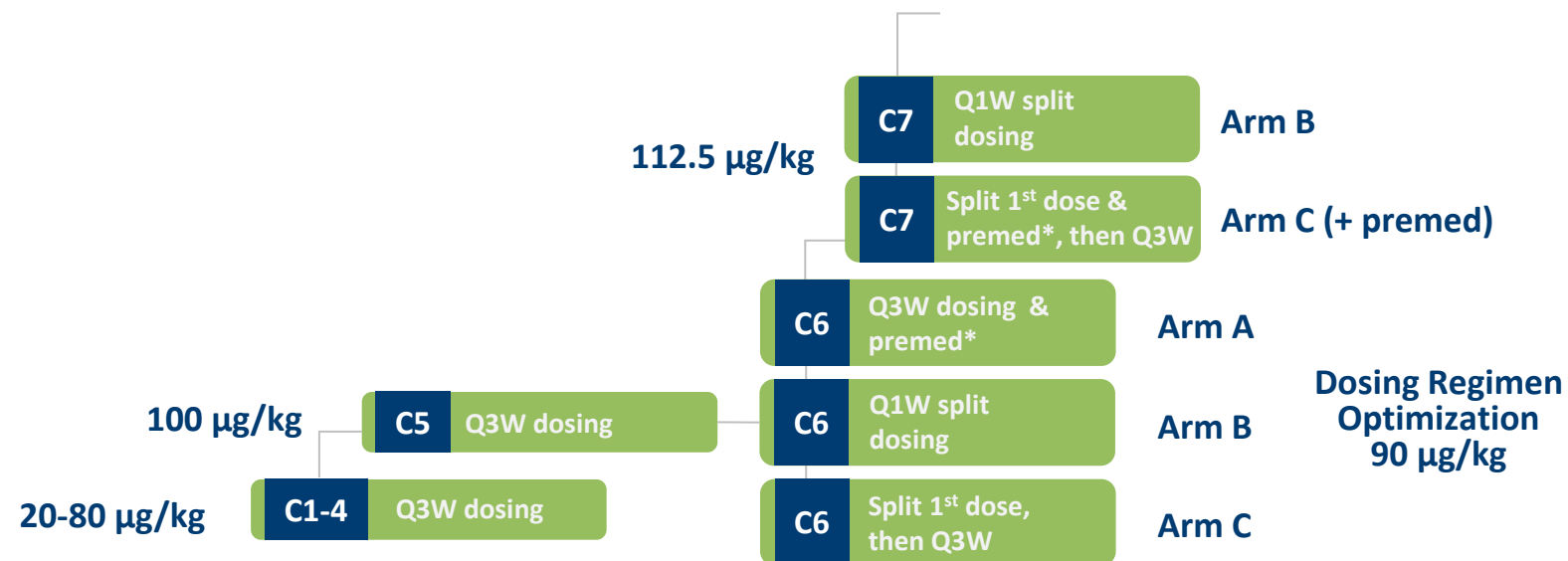
### Objectives

**Primary:** MTD, RP2D

**Secondary:** Safety, Tolerability, PK, anti-tumor activity

### RP2D Identification

## Phase IIa: Dose Expansion



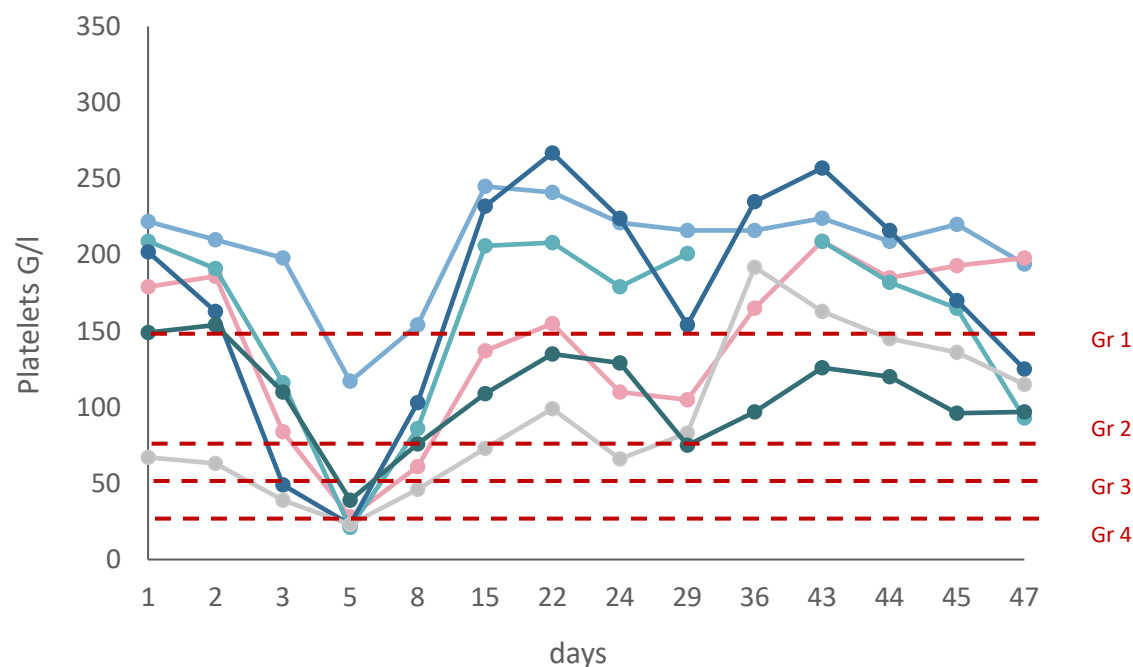
### Key Eligibility Criteria

- Prior SCT or transplant ineligible
- Prior treatment with an immunomodulatory drug, proteasome inhibitor, and anti-CD38 treatment, alone or in combination
- Refractory or intolerant to any established standard of care therapy providing a meaningful clinical benefit for the patient

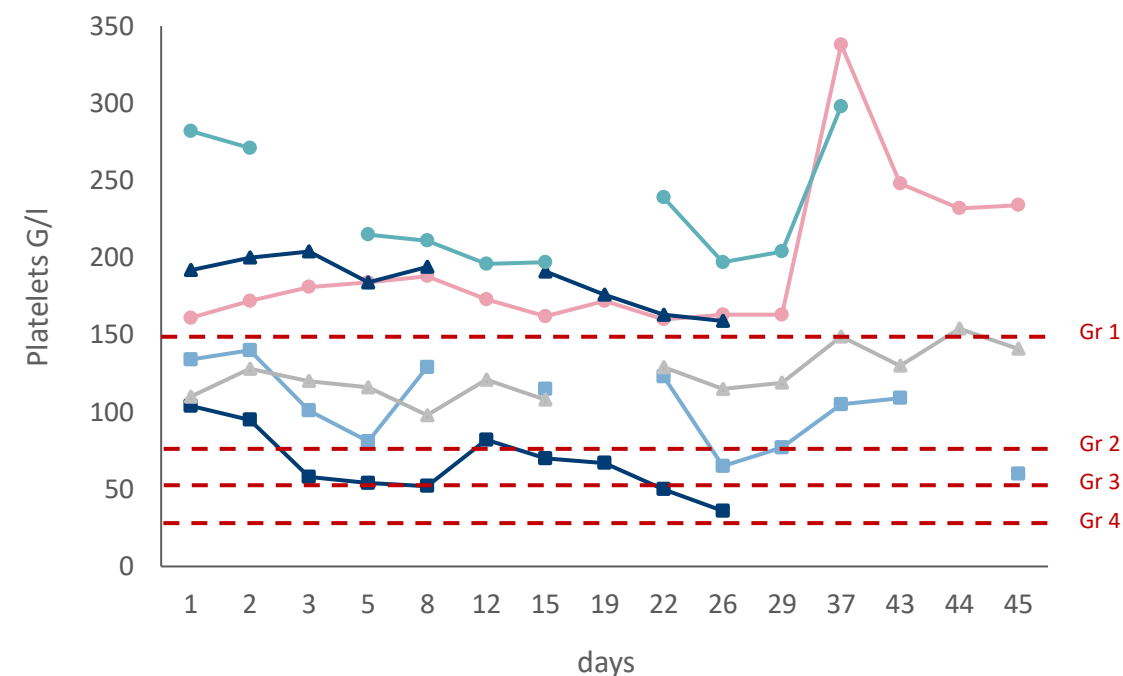
\* NCT04879043; BLRM = Bayesian logistic regression model; DLT = dose-limiting toxicity; ORR = Objective response rate; PFS = progression free survival; OS = overall survival

# New Treatment Strategies Had a Positive Effect on Thrombocytopenia

**Cohort 5**  
(100 µg/kg)

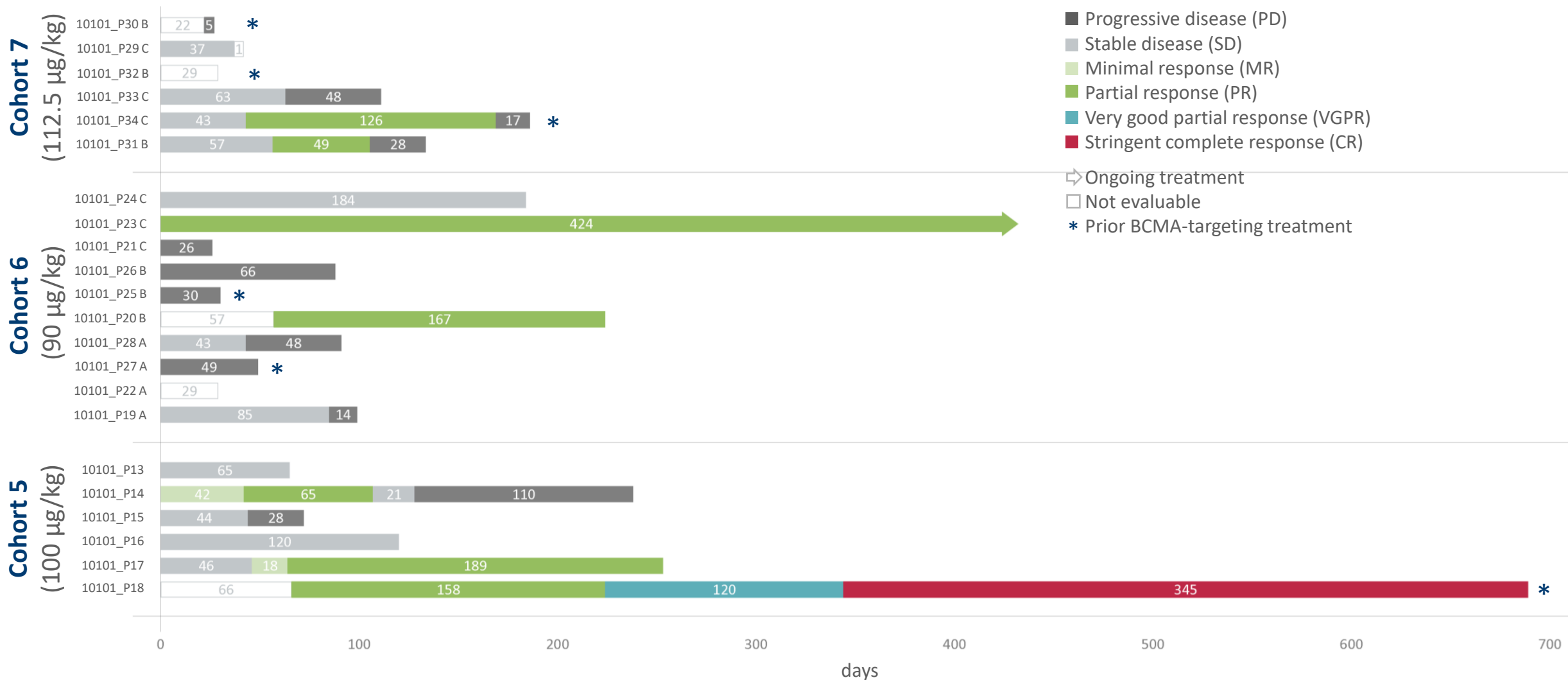


**Cohort 7**  
(112.5 µg/kg)

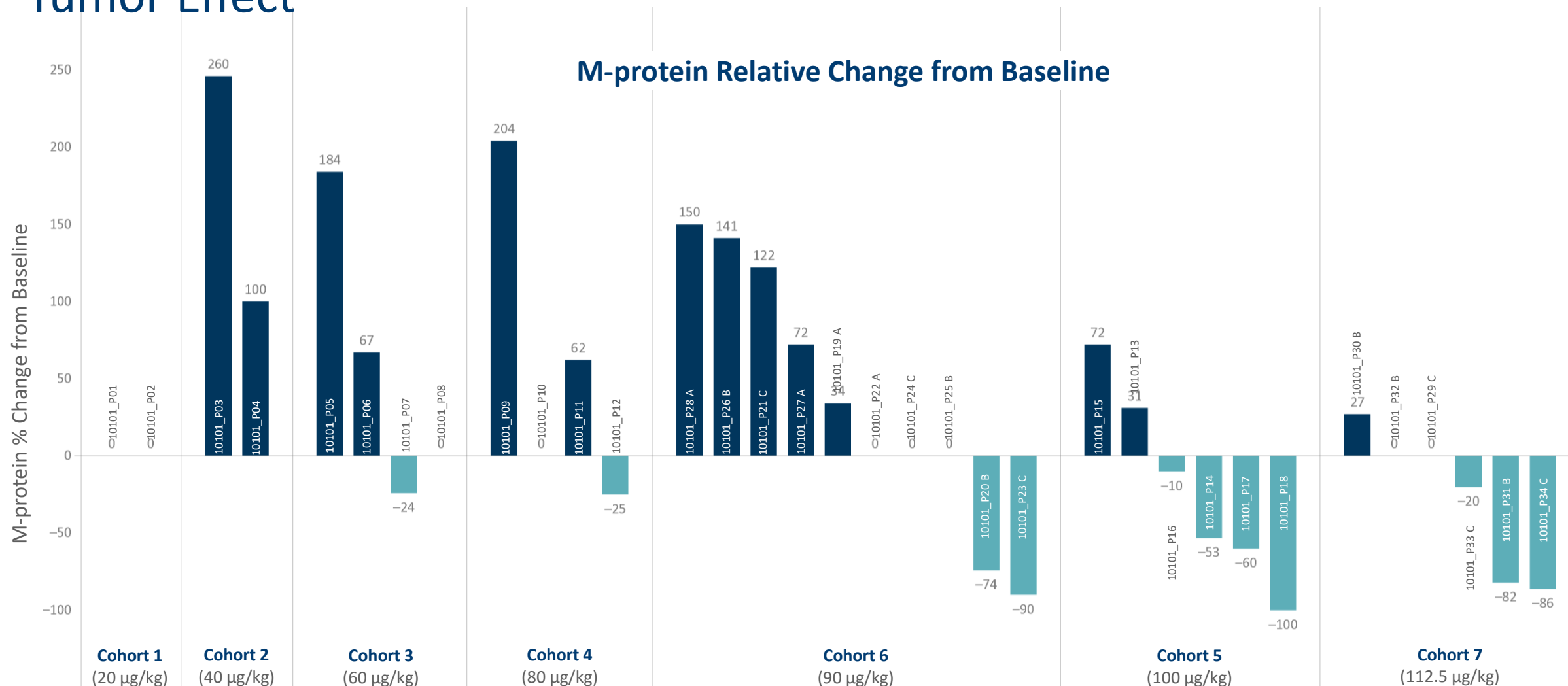


Dose Optimization from Cohort 6 to overcome transient thrombocytopenia after Cycle 1 and continue dose escalation

# HDP-101 – Phase I Efficacy Data Cohort 5-7



# Changes in the Dose Distribution Maintained the Anti-Tumor Effect



Note: Patients displayed with '0%' were not evaluable or not measurable for M-protein but had evidence of progressive disease and discontinued the study for progressive disease

Readout: 02 September 2025

# HDP-101 Phase I/IIa Trial Design in Relapsed/Refractory Multiple Myeloma

## Phase I: Dose Escalation

Q3W intravenous dosing, BLRM Design

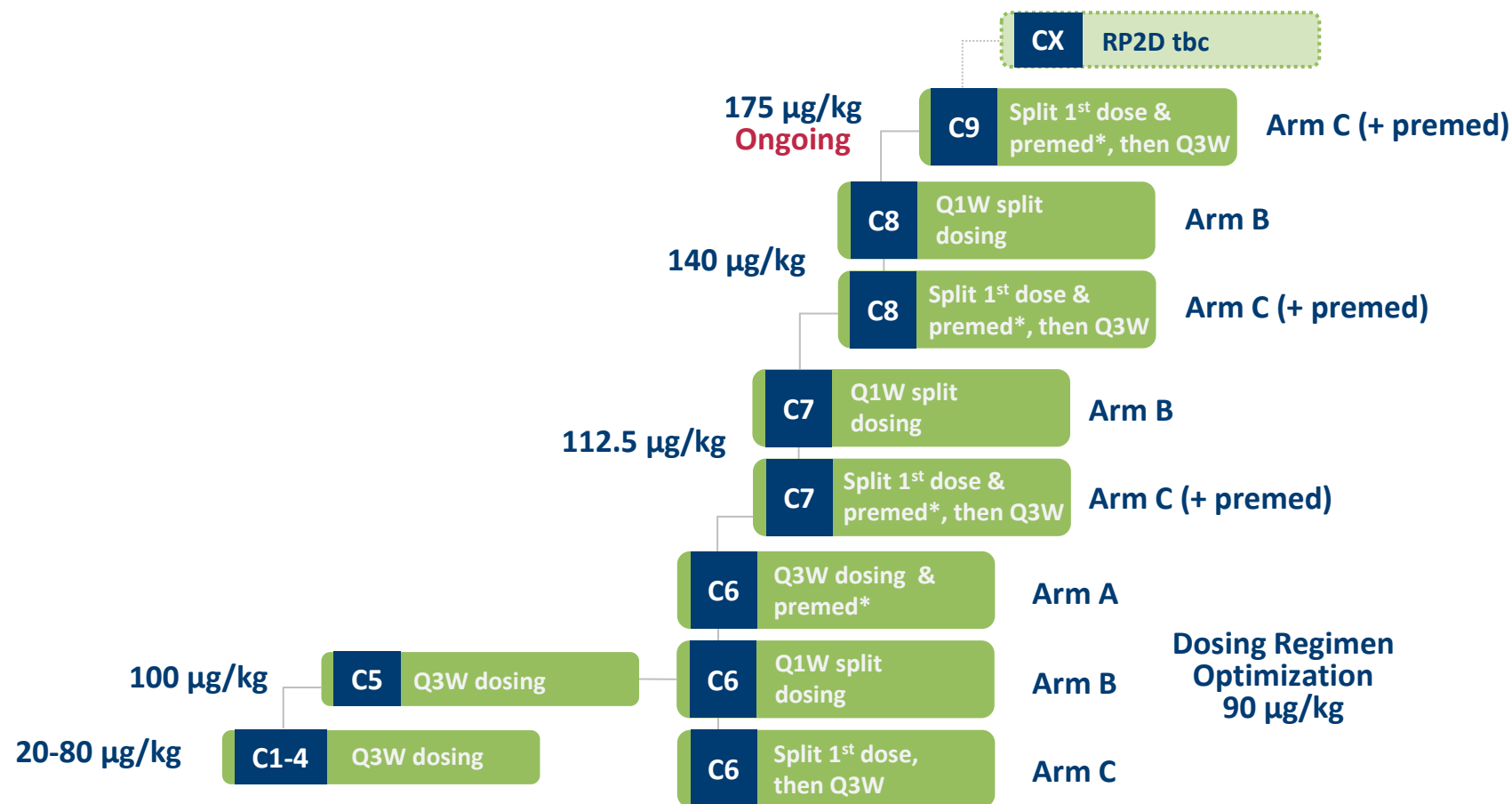
### Objectives

**Primary:** MTD, RP2D

**Secondary:** Safety, Tolerability, PK, anti-tumor activity

### RP2D Identification

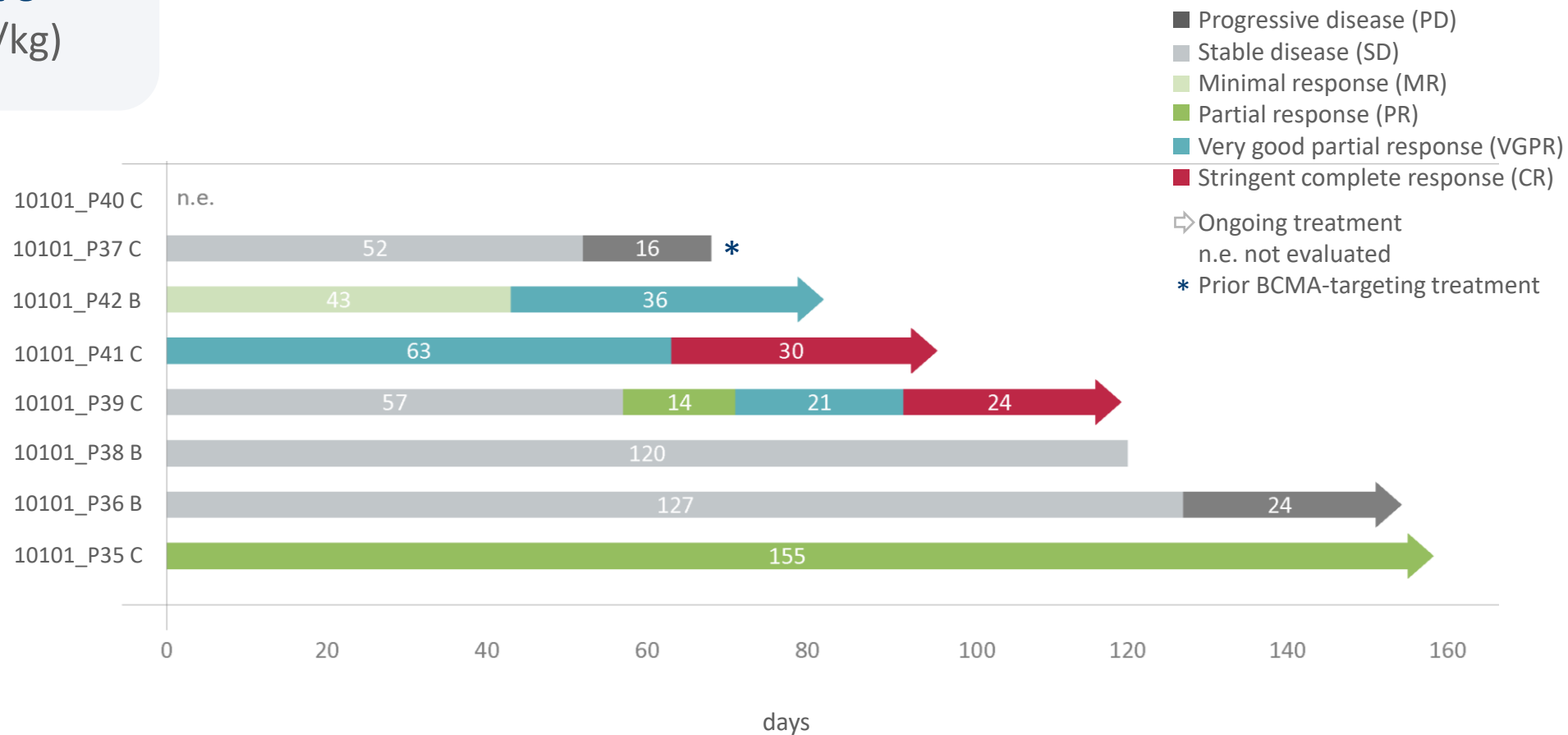
## Phase IIa: Dose Expansion



\* NCT04879043; BLRM = Bayesian logistic regression model; DLT = dose-limiting toxicity; ORR = Objective response rate; PFS = progression free survival; OS = overall survival

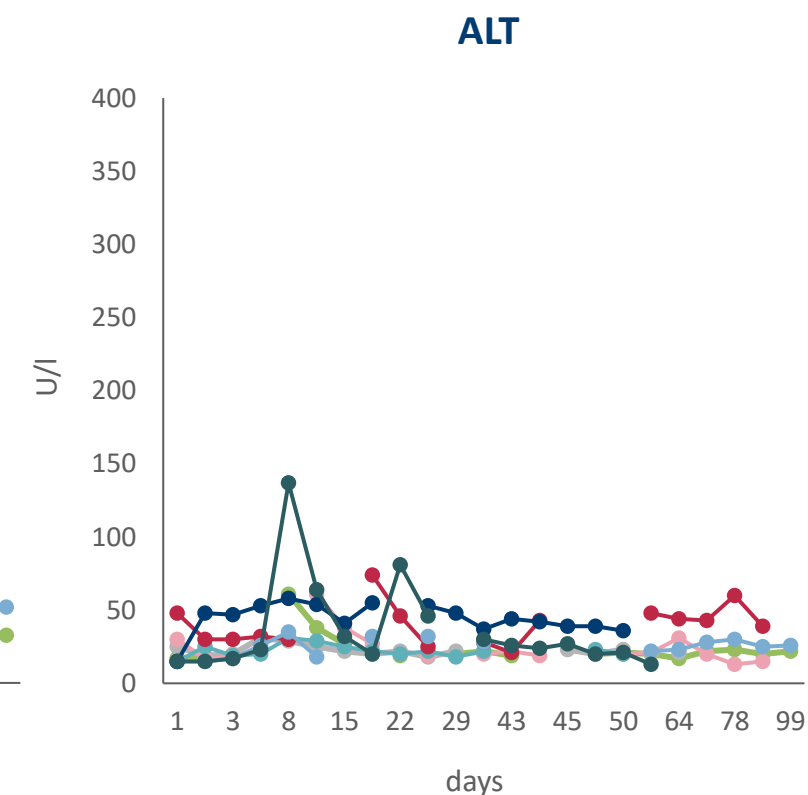
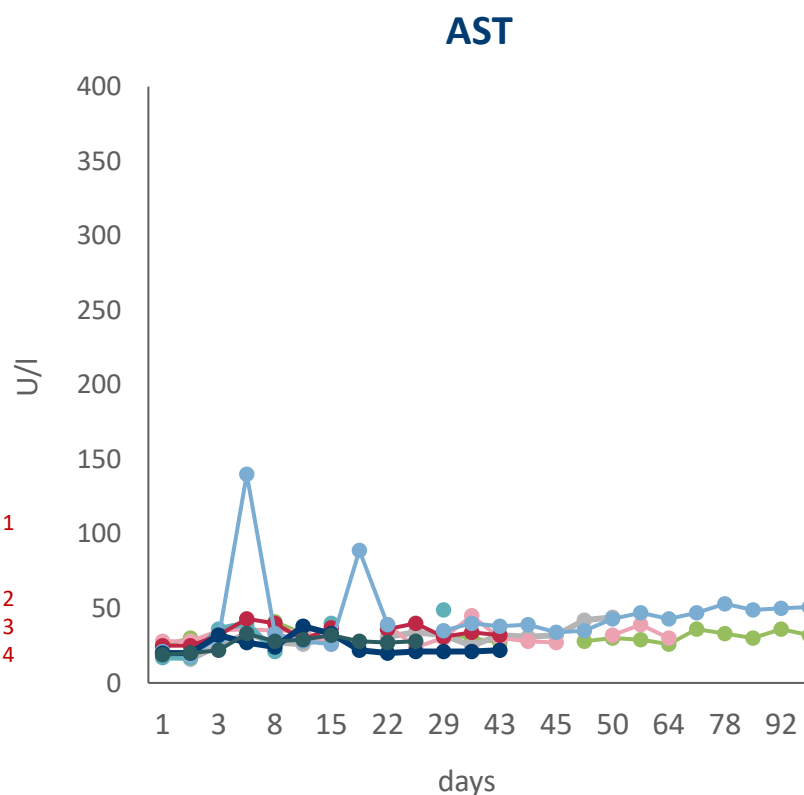
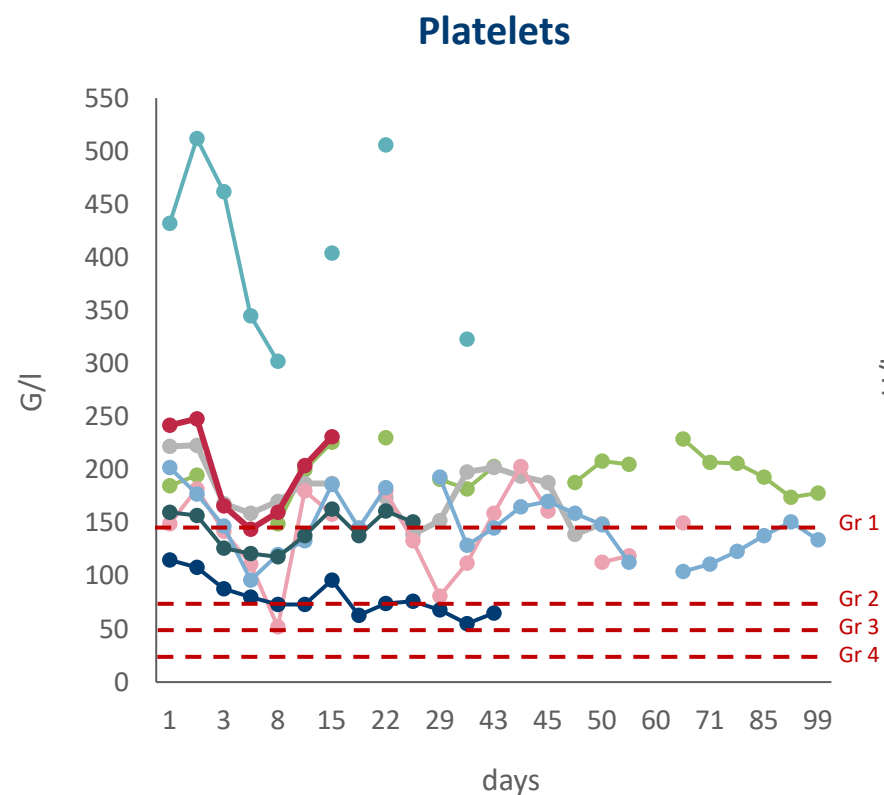
# HDP-101 – Phase I Preliminary Efficacy Data (Cohort 8)

## Cohort 8 (140 µg/kg)



# No Signs of Thrombocytopenia or Liver Damage

## Cohort 8 (140 µg/kg)



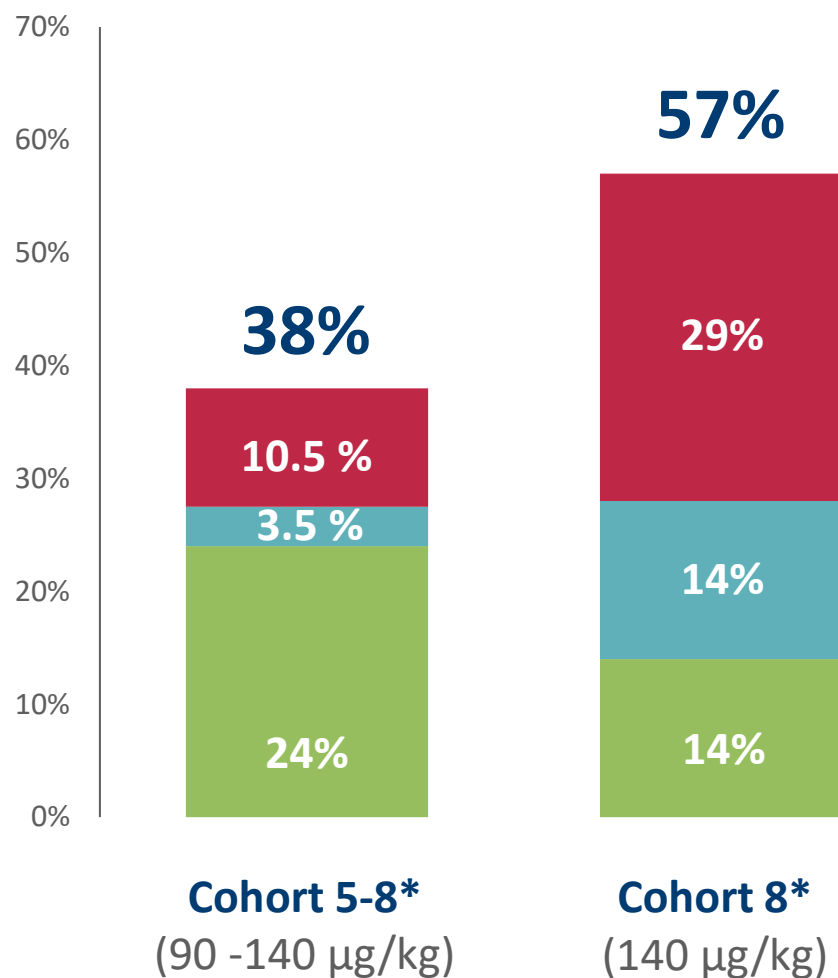
# Most Common Treatment-Emergent AEs - Cohort 8 only

Preferred Term (N=8)	Any CTCAE	Grade 3-4
Thrombocytopenia	2	0
Anaemia	1	0
Arthralgia	0	0
Fatigue	1	0
Nausea	1	0
Aspartate aminotransferase increased	1	0
C-reactive protein increased	1	0
Platelet count decreased	2	0
Back pain	1	0
Diarrhoea	1	0
Urinary tract infection	0	0
Neutropenia	0	0
Hypophosphataemia	2	0
Leukopenia	1	0
Upper respiratory tract infection	0	0
Neutrophil count decreased	1	0
Constipation	1	0
White blood cell count decreased	1	0
Cough	0	0
Lymphocyte count decreased	1	0
Alanine aminotransferase increased	0	0
Decreased appetite	1	0
Headache	1	0

## FAVORABLE SAFETY OF HDP-101

- Overall **mild AEs: no signs of ocular or renal tox, myelosuppression or liver damage**
- The implementation of new treatment optimization from Cohort 6 **mitigated thrombocytopenia** observed in Cohort 5 after initial dose
- **No cumulative or delayed toxicity** in three long-term treated patients (12+ months)
- No lung toxicity (at higher doses than MGTA-117)

# Objective Response Rates (ORR)



## PRELIMINARY EFFICACY

- Multiple responses were seen (from 90 µg/kg) across different dosing arms, confirming that changes in the dose distribution **maintained the anti-tumor effect** while improving drug tolerability
- We observed **38% ORR in Cohort 5 to 8** with 11 responders out of 29 patients (7 PR, 1 VGPR and 3 sCR)
- At the current **highest dose of 140 µg/kg**, we observed **57% ORR**, with 4 responders out of 7 patients (1 PR, 1 VGPR, 2 sCR)

- Partial response (PR)
- Very good partial response (VGPR)
- Stringent complete response (sCR)

\* Response data from Cohort 8 remain immature. Current follow-up is too limited to draw definitive conclusions on efficacy in Cohort 8 and additional data collection is ongoing.

# HDP-101 Phase I/IIa Trial Design in Relapsed/Refractory Multiple Myeloma

## Phase I: Dose Escalation

Q3W intravenous dosing, BLRM Design

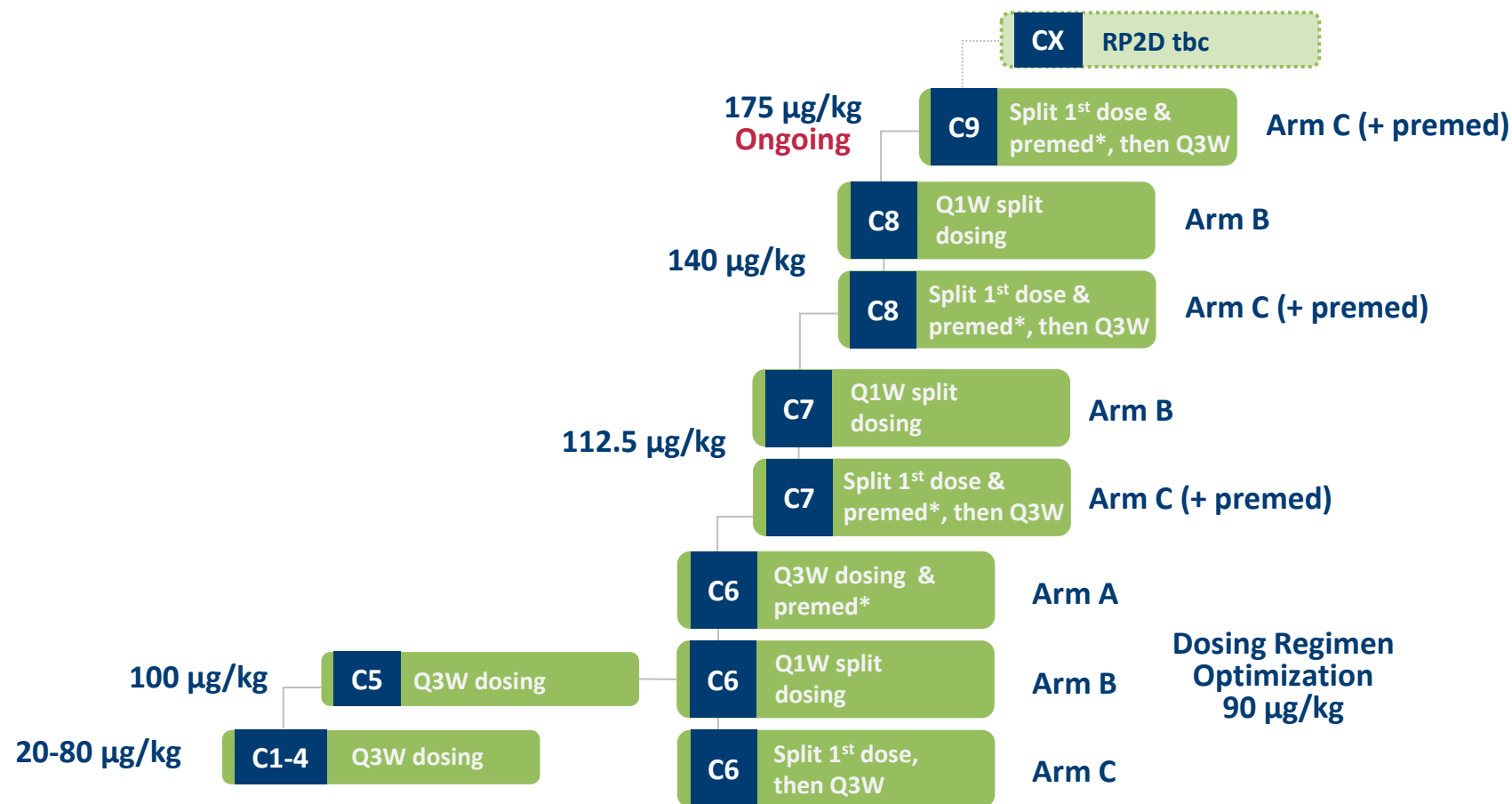
### Objectives

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**Secondary:** Safety, Tolerability, PK, anti-tumor activity

### RP2D Identification

## Phase IIa: Dose Expansion



\* NCT04879043; BLRM = Bayesian logistic regression model; DLT = dose-limiting toxicity; ORR = Objective response rate; PFS = progression free survival; OS = overall survival

# High Tolerability and Good Efficacy at Doses below MTD

## A Comparative Analysis with Multiple Myeloma Approved Therapies

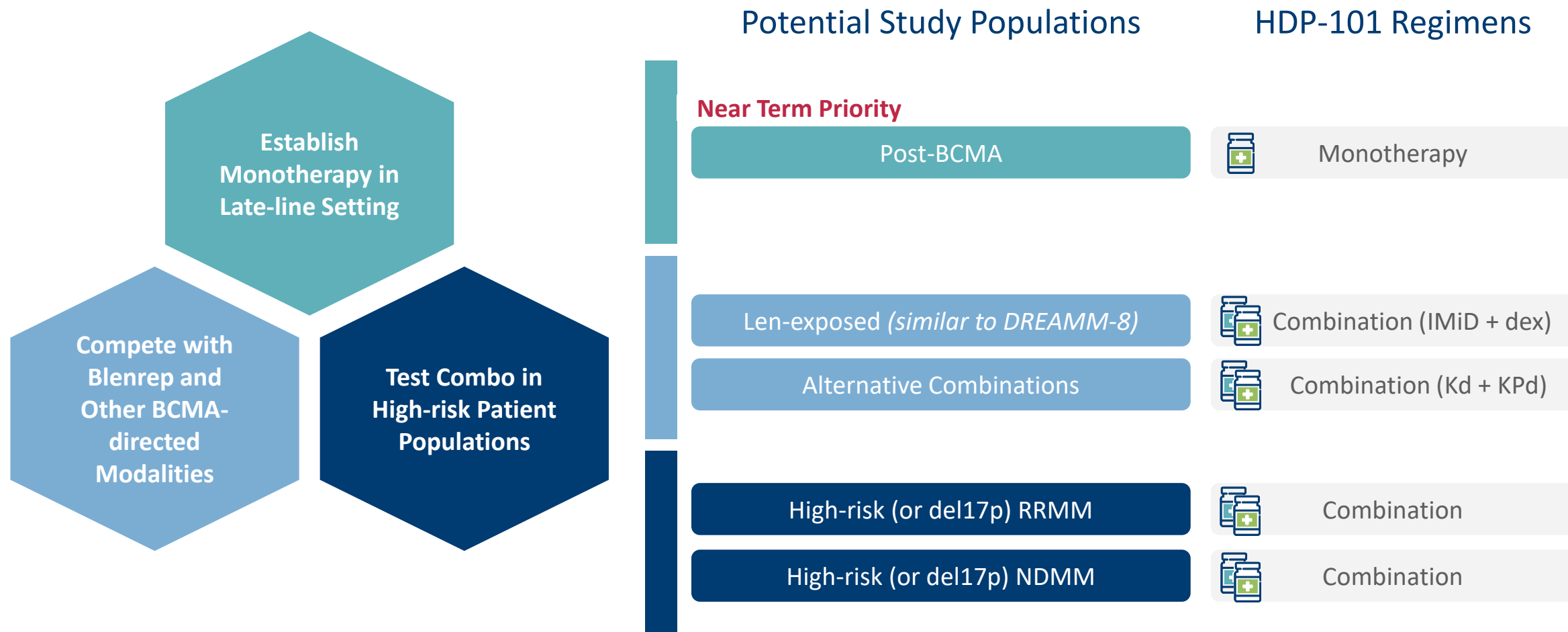
	HDP-101	Blenrep	Tecvayli	Carvykti
ORR	57%	30-35%	63%	90%
Dose	0.140 mg/kg Q3W	2.5/3.4 mg/kg Q3W	1.5 mg/kg QW (opt. Q2W)	2.5/3.4 mg/kg
TEAEs	Cohort 8 – Phase I TEAEs –grade 3 or higher <ul style="list-style-type: none"> <li>• <b>No grade 3 or higher TEAEs</b></li> <li>• <b>No ocular tox</b></li> </ul>	DREAMM-2 <sup>1</sup> TEAEs –grade 3 or higher <ul style="list-style-type: none"> <li>• Keratopathy 27%</li> <li>• Anemia 25%</li> <li>• Thrombocytopenia 24%</li> </ul> AE-related dose reduction 40% AE-related dose delays 58% AE related permanent discontinuation 7% TAES any grade <sup>3</sup> Keratopathy 73%	MajesTEC-1 <sup>2</sup> TEAEs –grade 3 or higher <ul style="list-style-type: none"> <li>• Neutropenia 65%</li> <li>• Anemia 38%</li> <li>• thrombocytopenia 22%</li> <li>• Lymphopenia 33%</li> <li>• Infections 52%</li> </ul> Additional TEAEs CRS occurred in 72% of pts (0.6% gr 3; no gr 4/5); 5 (3%) pts reported 9 ICANS events (all gr 1/2; all resolved)	CARTITUDE-2 (Cohort A and B) <sup>3</sup> TEAEs –grade 3 or higher <ul style="list-style-type: none"> <li>• Neutropenia 18%</li> <li>• Lymphopenia 65%</li> <li>• Thrombocytopenia 33%</li> <li>• Anemia 46%</li> <li>• Leukopenia 45%</li> </ul> AESI (gr1-2/gr3-4) <ul style="list-style-type: none"> <li>• CRS 89%/7.5%</li> <li>• ICANS 10%/-</li> <li>• Other neurotoxicities 20%/5%</li> </ul>

1: <https://ashpublications.org/blood/article/140/Supplement%201/7301/488005/Single-Agent-Belantamab-Mafodotin-in-Patients-with>

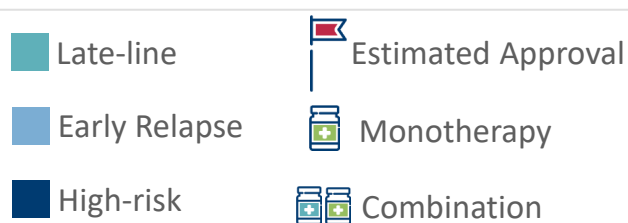
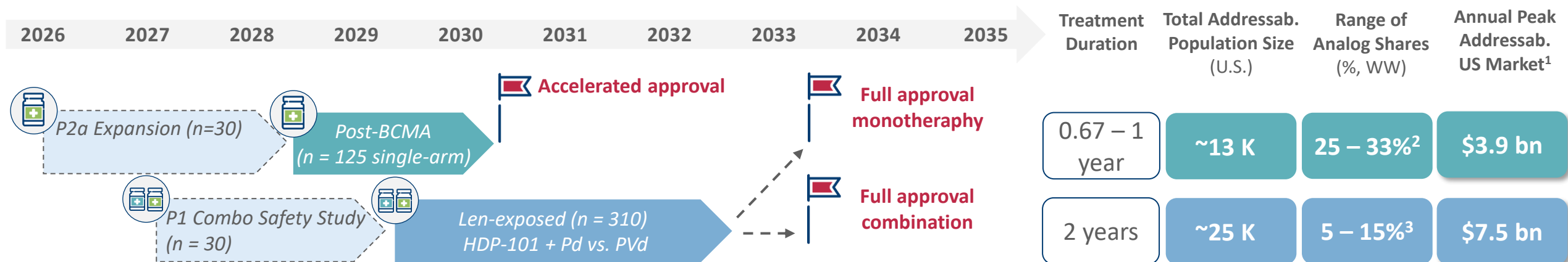
2: [https://ascopubs.org/doi/pdfdirect/10.1200/JCO.2023.41.16\\_suppl.8011](https://ascopubs.org/doi/pdfdirect/10.1200/JCO.2023.41.16_suppl.8011)

3: <https://ashpublications.org/blood/article/142/Supplement%201/1021/499006/The-Phase-2-CARTITUDE-2-Trial-Updated-Efficacy-and>

# HDP-101 Relevant Throughout the Spectrum of Treatment in Early Relapse with Combination Regimens



# Planned Studies Tap into Large, Growing Patient Populations, with High Unmet Need to Prolong Survival



## Other Study Options, Contingent on Combination Efficacy/Safety Readouts

<sup>1</sup> Calculated using the price of Blenrep as reference (~\$300k per year); Assumes similar market penetration as projections for other BCMA modalities (Tecvyli, Carvykti). <sup>2</sup> Assumes HDP-101 launches into post-BCMA setting competing with GPRC5D, FcRH5, XPO1 and secures 1/4 to 1/3 of market. <sup>3</sup> Assumes similar market penetration as projections for other BCMA modalities (Tecvyli, Carvykti). <sup>4</sup> Assumes 50% of Darzalex share in NDMM setting, an entrenched regimen and a treat-to-progression regimen. <sup>5</sup> Assumes a treat-to-progression regimen.  
 NDMM: Newly Diagnosed Multiple Myeloma; RRMM: Relapse Refractory Multiple Myeloma.  
 Source: Clarivate DRG; ClearView Analysis.

# Amanitin-ADC Shows Deep Responses Below MTD



- Phase I dose escalation data demonstrates **therapeutic window** in patients
- HDP-101 data provide **clinical validation** for the Amanitin platform



- **Promising safety profile:** no ocular tox, no renal tox, no myelosuppression, no liver damage
- **Overcome resistance:** complete response in patients refractory to other therapies against the same target
- HDP-101 received **Fast Track Designation** by FDA



- MTD not reached yet, dose escalation continuing
- **Therapeutic potential** of the drug likely to increase
- Delivery of **RP2D** is expected in early 2026

**THANK YOU**



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