Molecular Partners:

Novel Therapeutic Designs Applied

Patrick Amstutz, PhD, CEO

JP Morgan Healthcare Conference

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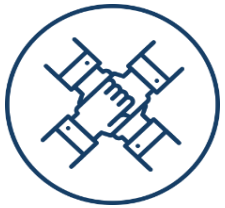
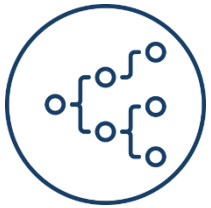
Molecular Partners in Brief



Strengthened Team, Solid Funding

- ✓ **Nicolas Leupin** as joined as **CMO** from Argenx
- ✓ **Daniel Steiner** assumed leadership of research department
- ✓ **Seth Lewis** joined Boston office to head up global IR, Comms & Strategy
- ✓ **Ana Cerdeira** heading up Portfolio Management and Global Strategy
- ✓ Well financed through mid-2021, **on-track towards recurring income** with expected abicipar launch in 2020 by Allergan



Burgeoning Oncology Pipeline

- ✓ **MP0250** focused on MM with unique activity in patients that did not benefit from other treatments
- ✓ **MP0310 (AMG 506)**: Collaboration with Amgen to co-develop MP0310 & first patient cohort dosed in Phase 1 trial
- ✓ New development candidate, **MP0317 (FAPxCD40), added to pipeline**
- ✓ First DARPin® candidates binding **peptide-MHC** passed specificity threshold

Progress Towards Approval

- ✓ **BLA** of **abicipar accepted** by FDA, MAA of abicipar validated by EMA
- ✓ **>90% of patients** show vision gains which were maintained in the 2nd year with **q12 dosing** of abicipar
- ✓ MAPLE data supports optimized manufacturing process for **improved tolerability**

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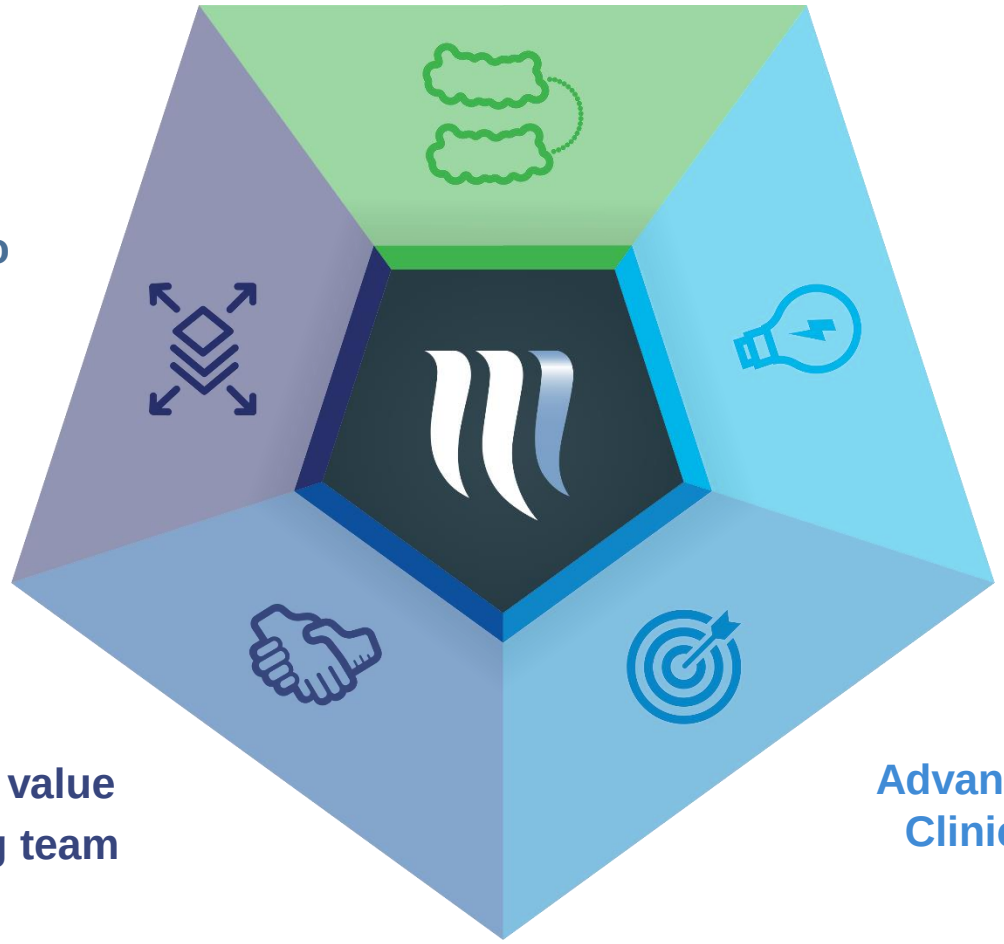
Key Advantages of Molecular Partners

Validated source of DARPin® Candidates

Flexible business model to maximize product value



Novel Therapeutic Designs

1. Tumor-local immune agonists
2. pMHC targeting platform
3. Next Gen T-cell engagers

Deliver patient value with our strong team

Advanced and balanced Clinical Development Portfolio

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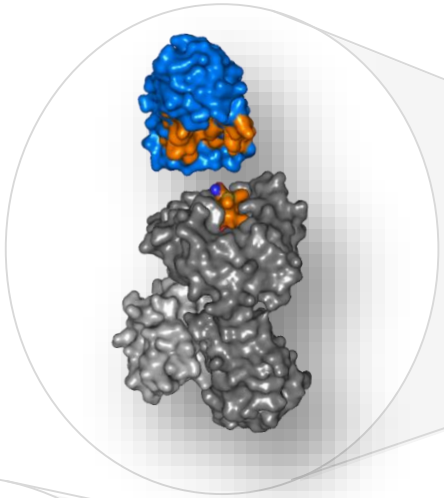
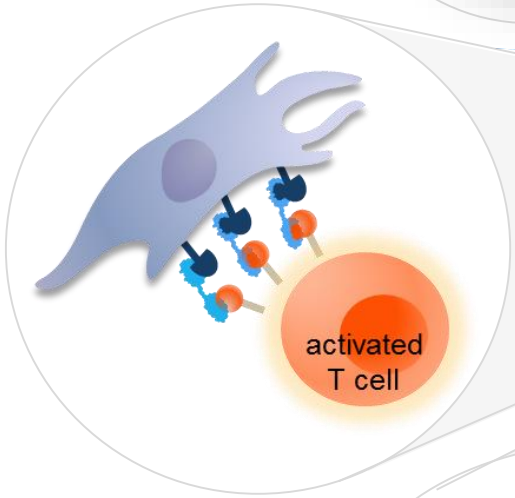
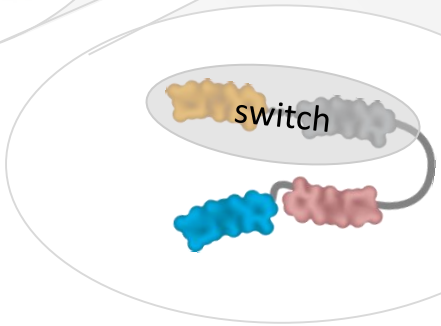
DARPin® Platform: A Validated Source for Drug Candidates

- **Abicipar: Ophthalmic validation**
  - Demonstrated safety and activity in >1,500 patients
  - Manufacturing at commercial scale established
  - Regulatory applications accepted by FDA and EMA
- **MP0250: Systemic validation**
  - Long half-life (HSA DARPin binder, 12 day half-life)
  - Low immunogenicity
  - Proof of multi-DARPin® potential to engage with multiple targets simultaneously
- **Novel Therapeutic Designs (NTD) applied**
  - Phase 1 enrolling for MP0310 (AMG 506)

Differentiated Products by Therapeutic Design

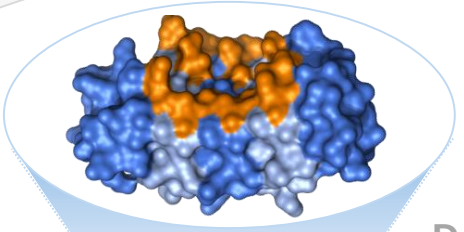






DARPin® Features

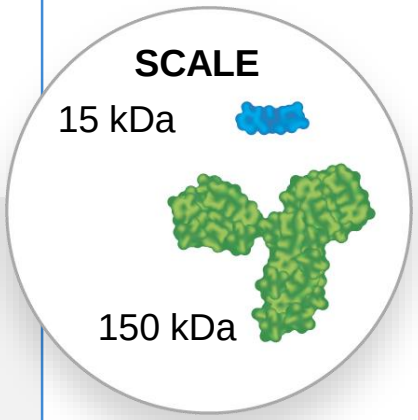
Rigid-body target binding



DARPin® domain

Multi-DARPin® formatting

- Small size: 15 kDa
- Simple repetitive architecture: 1 polypeptide
- High affinity and specificity
- Tunable half-life



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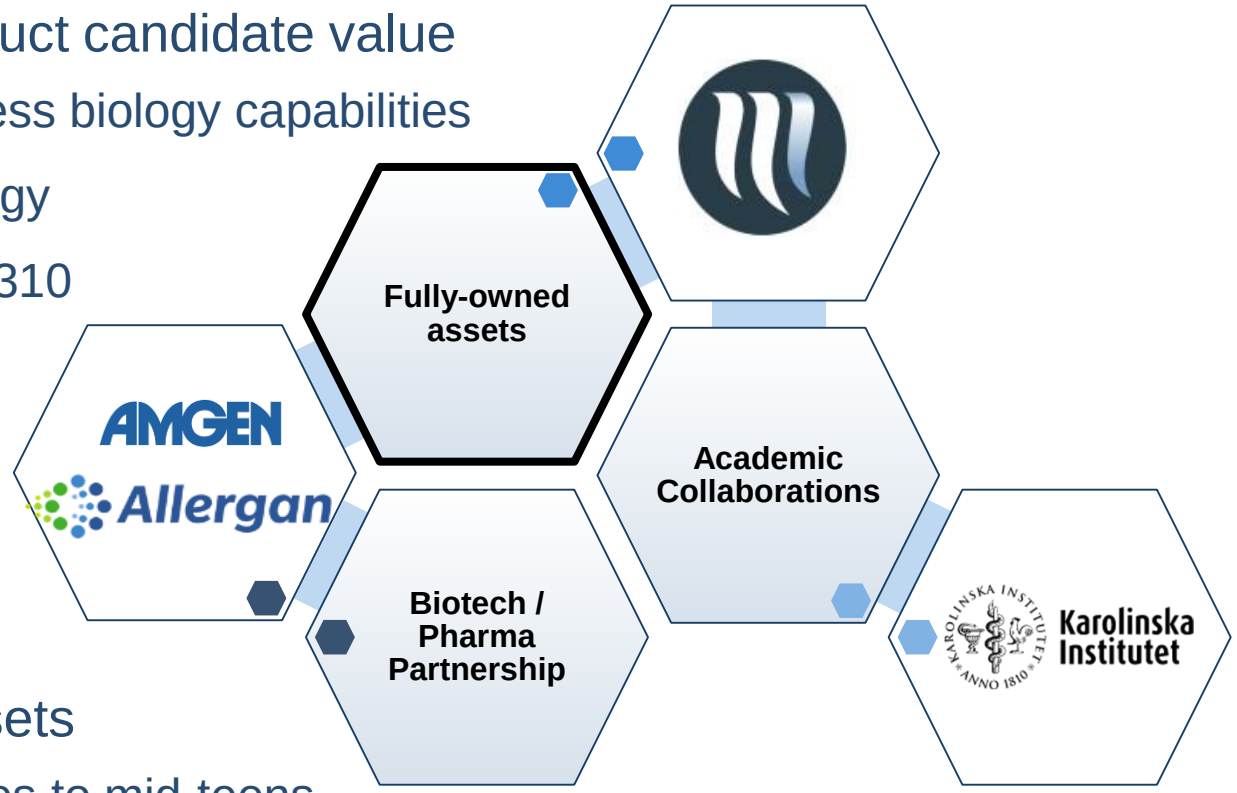
Flexible Business Model to Maximize Product Value

- Investment in **proprietary pipeline** to bring DARPin® candidates forward

- Engage in **collaborations** to maximize product candidate value
  - **Academic & industry collaborations** to access biology capabilities
  - **Allergan** is advancing abicipar in ophthalmology
  - Collaboration with **Amgen** to co-develop MP0310



- **Cross-funding** of pipeline via partnered assets
  - AGN: USD 360m in potential MS & DD royalties to mid-teens
  - AMG: USD 50m upfront payment, USD 497m in potential MS & DD royalties to high-teens

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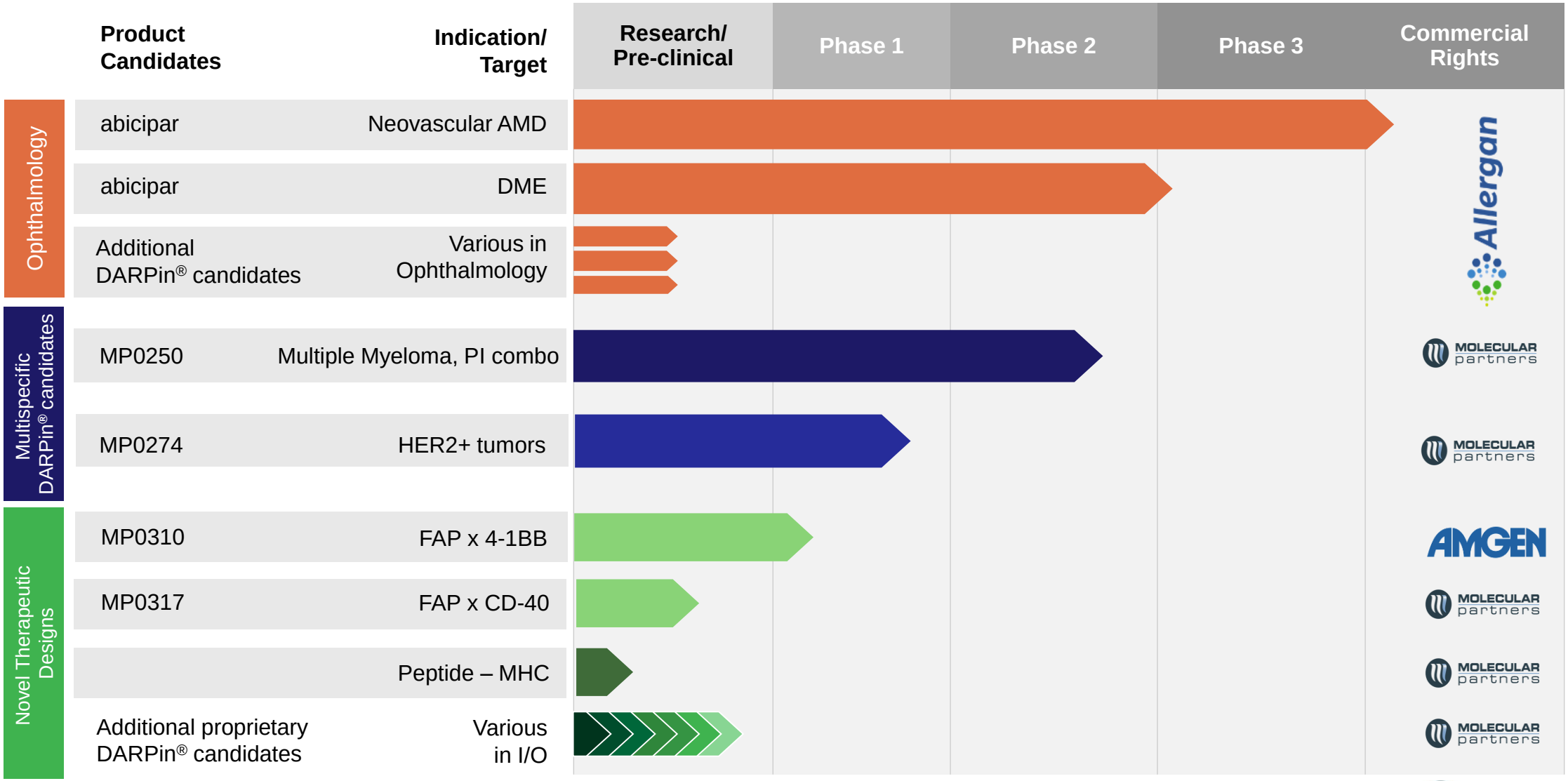
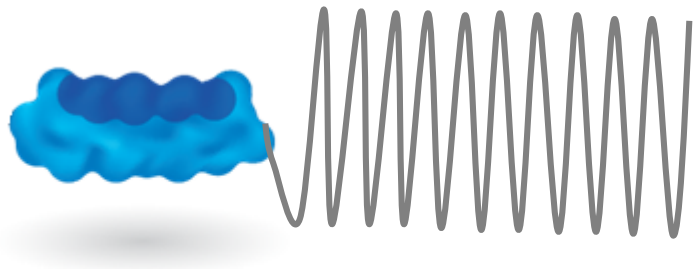
A Balanced and Robust Portfolio



Abicipar has the Potential to be the First Fixed 12 Week anti-VEGF

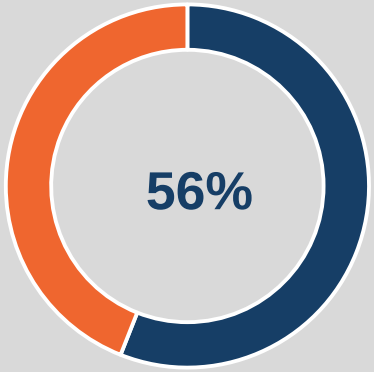
Allergan



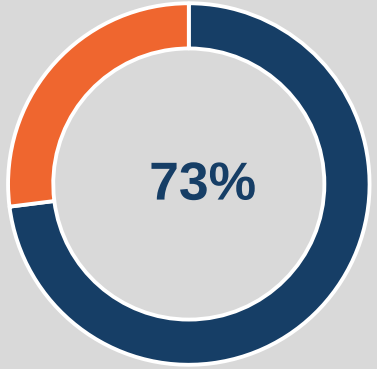
- Long-acting anti-VEGF
- Fix 12-week dosing
- Filed with FDA and EMA
- PDUFA date: summer 2020

When treating nAMD patients, Retina Specialists are looking for:

Long-acting / sustained delivery



Reduced Treatment Burden



American Society of Retina Specialists Preferences and Trends (PAT) Survey.

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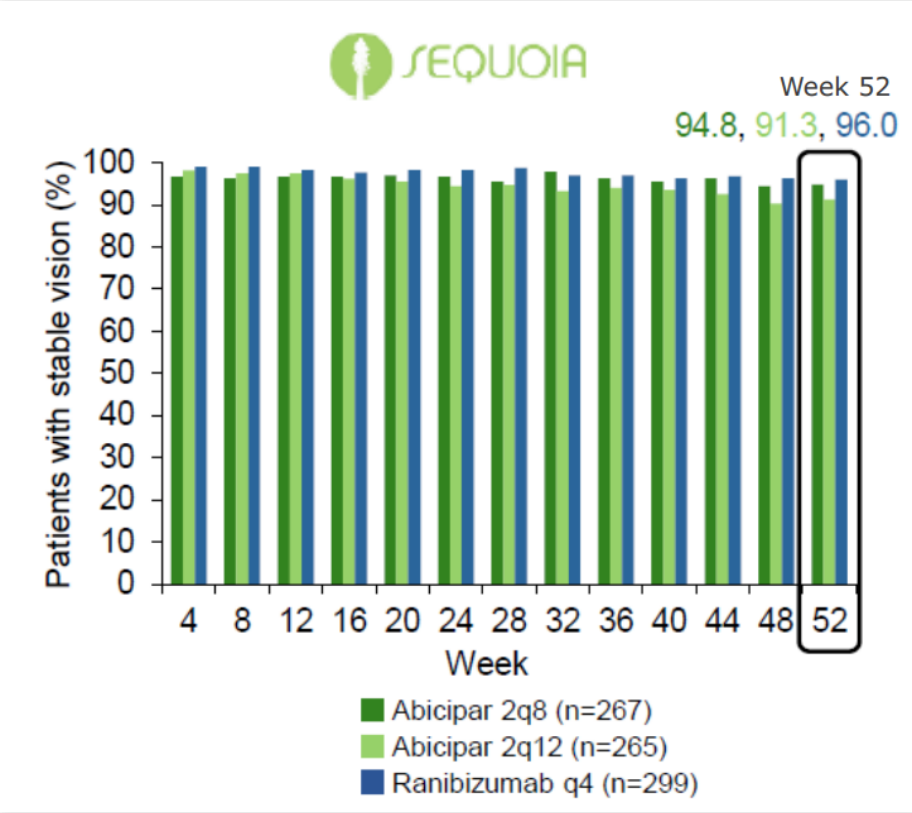
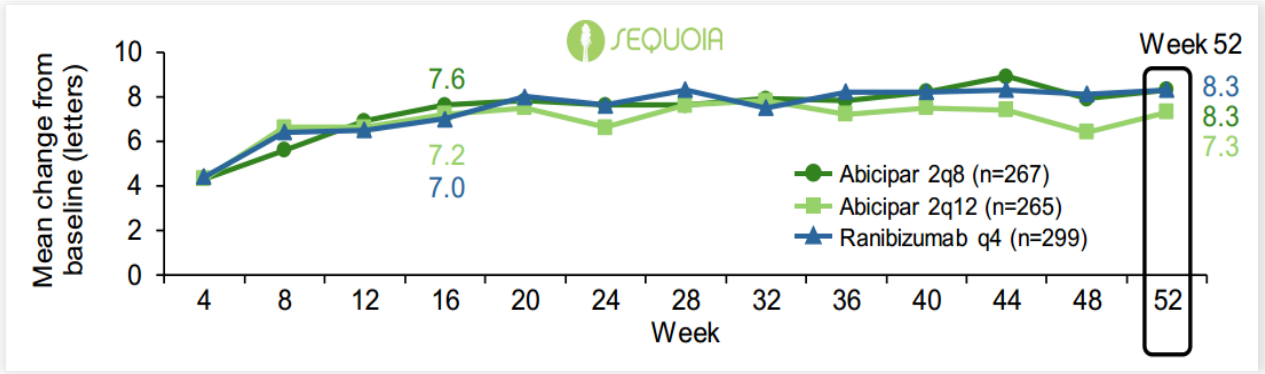
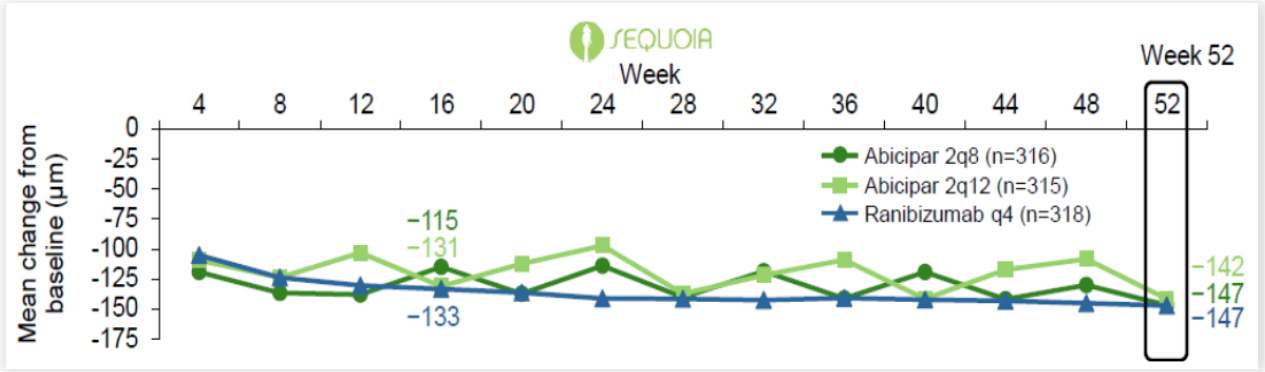
Phase 3 Efficacy Results (SEQUOIA study, 1yr data)



Primary Endpoint: STABLE VISION Abicipar Q8 and Q12 Non-Inferior to Ranibizumab Q4



Secondary Endpoint: Change in BCVA From Baseline Abicipar Q8 and Q12 in SEQUOIA Non-Inferior to Ranibizumab



Secondary Endpoint: Change in CRT similar across in all groups

- Source: Allergan July, 2018 and October 2018

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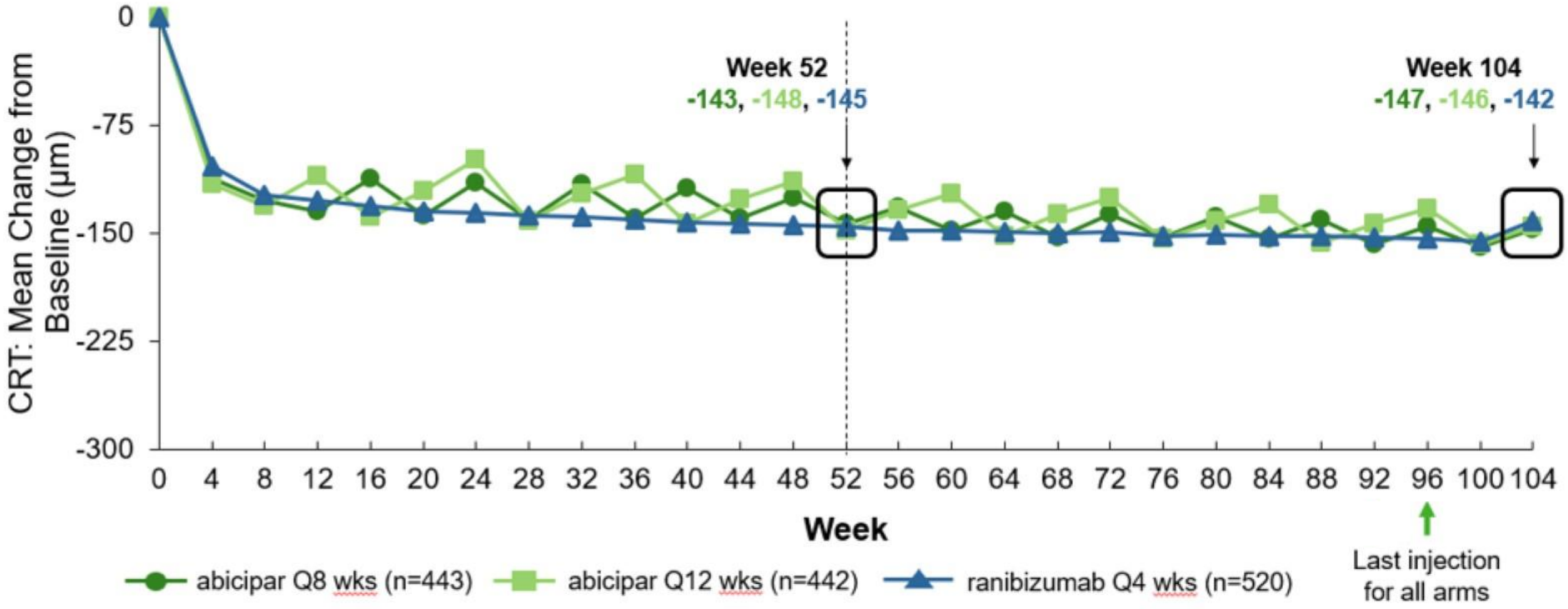
Secondary Endpoint: Mean Change in CRT From Baseline at Weeks 52 and 104

Phase III CEDAR & SEQUOIA



CRT improvement after initial doses were maintained to Week 104 with quarterly abicipar injections (10) vs. monthly ranibizumab injections (25)

CRT = central retinal thickness

Abicipar is under investigation and the safety and efficacy of this product have not been established.

1. Khurana RN, et al. Presented at AAO 2019 Annual Meeting in San Francisco, CA, USA; Oct 12-15, 2019.

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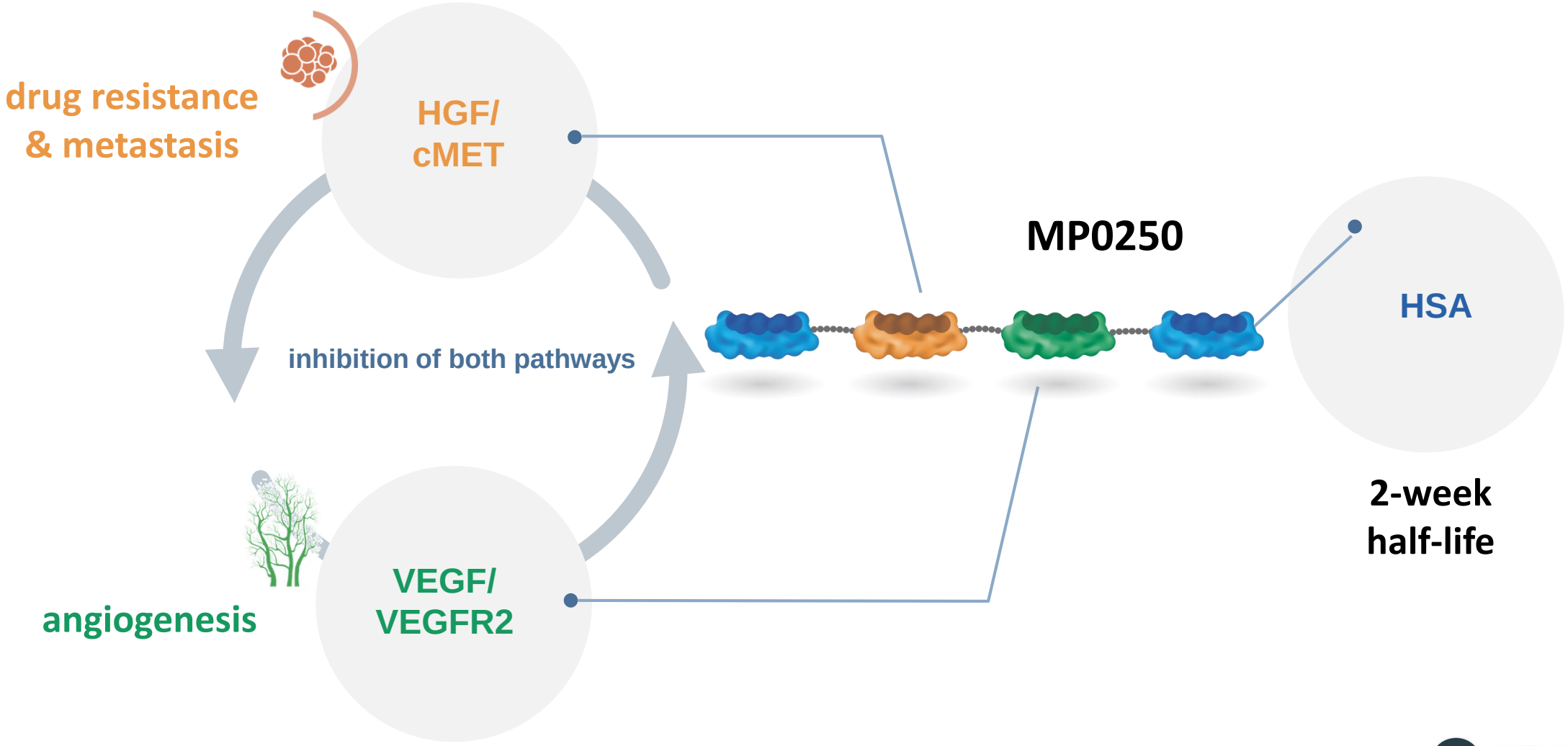
MP0250: Our First Multi-DARPin® Product Candidate



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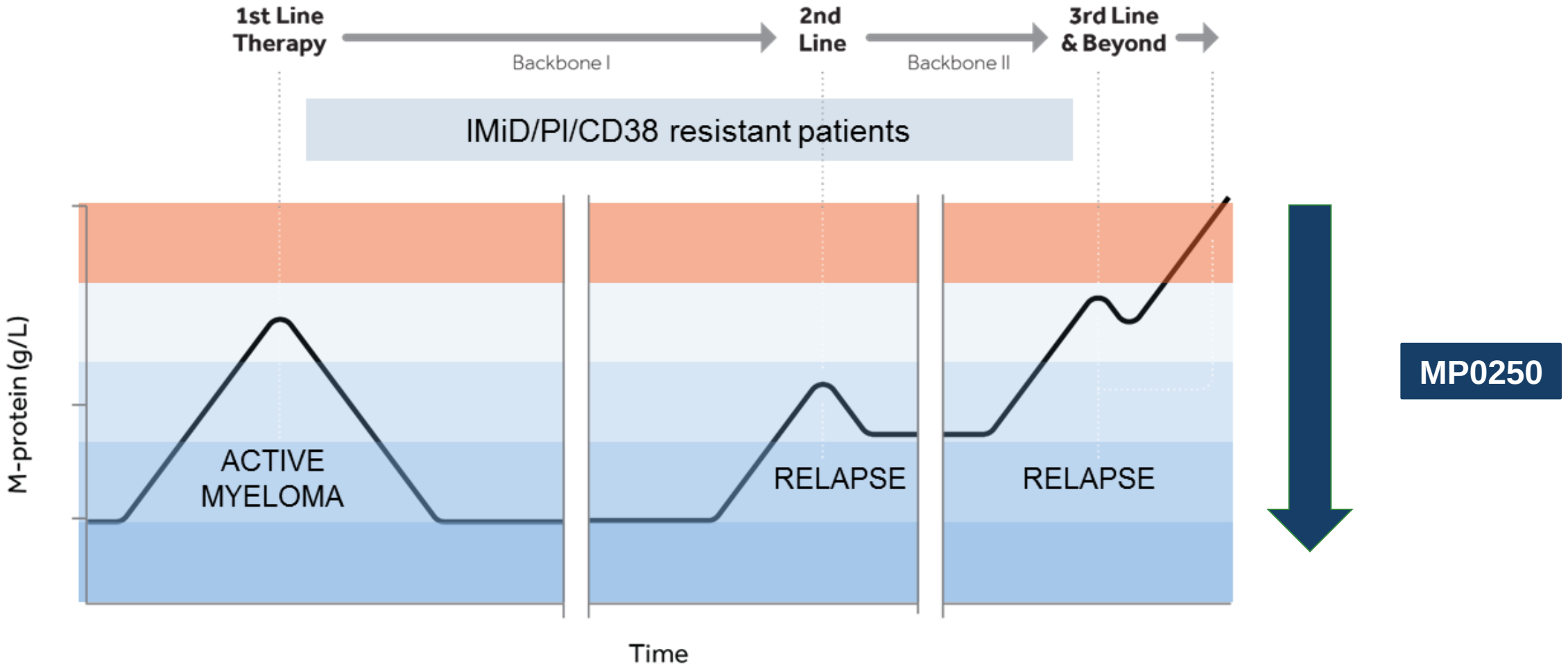
Illustrative course of disease of a MM patient*



* adapted from: Hajek, R. Strategies for the Treatment of Multiple Myeloma in 2013: Moving Toward the Cure. In “Multiple Myeloma: A Quick Reflection on the Fast Progress” (2013).

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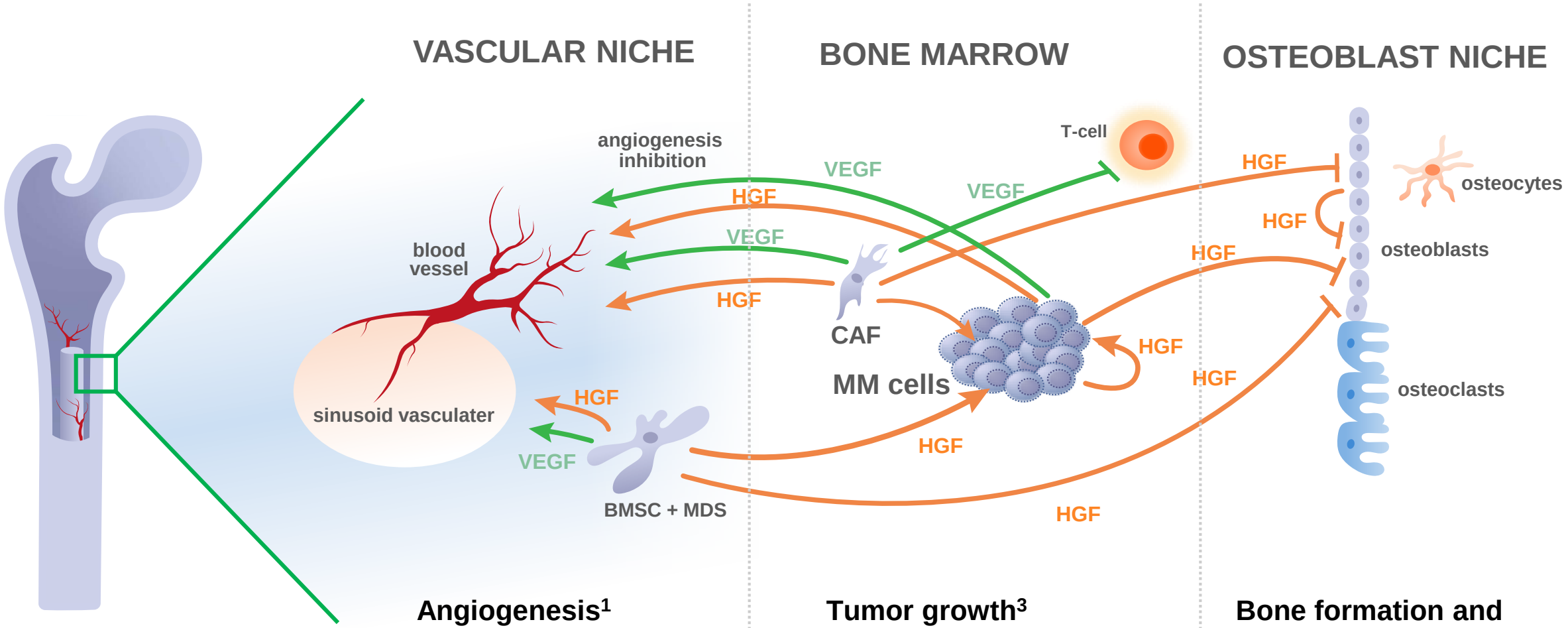
Paradigm Shift from “Chasing Clones” to Tackling Underlying Disease



1. Ria et al., 2011; Ferrucci et al., 2014
2. Xu et al., 2018; Toscani et al. 2015; Ghorial et al., 2018; Wang et al., 2019
3. Nass & Efferth, 2018; Palumbo et al., 2011; Rampa et al., 2014; Gotwals et al. 2017

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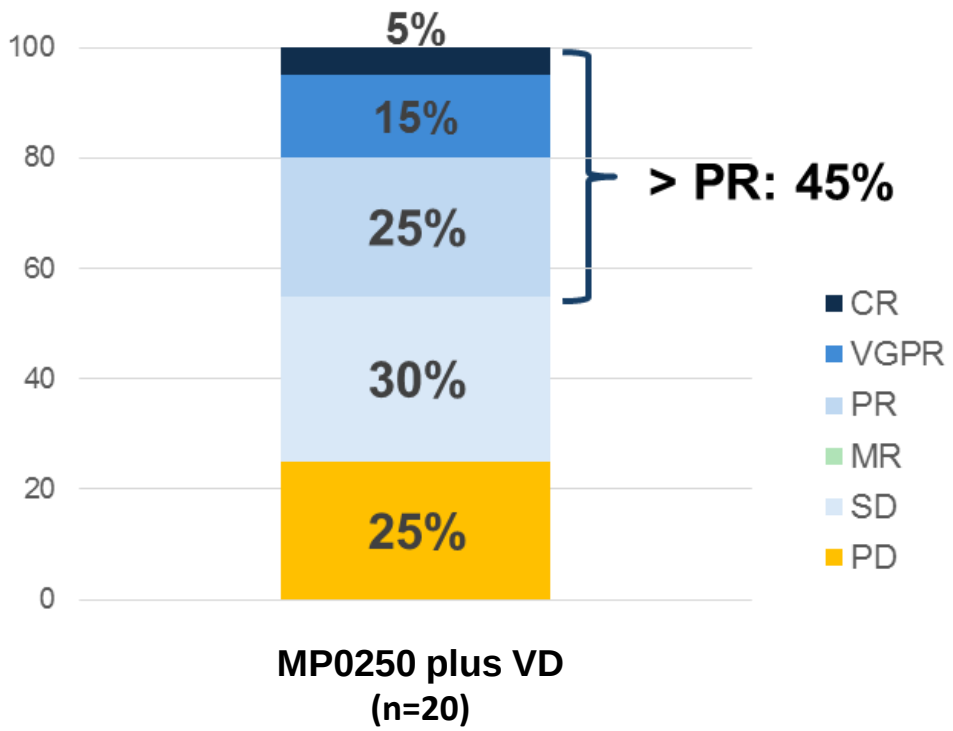
MP0250: Durable & Deep Responses in Diverse MM Phenotypes

CP-201 trial: MP0250 in combination with bor/dex in R/RMM patients



- **Responses** in patients who had **never responded**
- **Heavily pretreated patients**, representative of typical RRMM population; median of 4 prior lines (n=20)
- 4/6 patients coming **directly from Dara** had clinical benefit (incl. 4/5 Dara-refractory patients)
- 2 Patients with **17p deletion** progressed quickly

MP assessment based on IMWG criteria data cut-off Sep 2019 – as presented at ASH 2019

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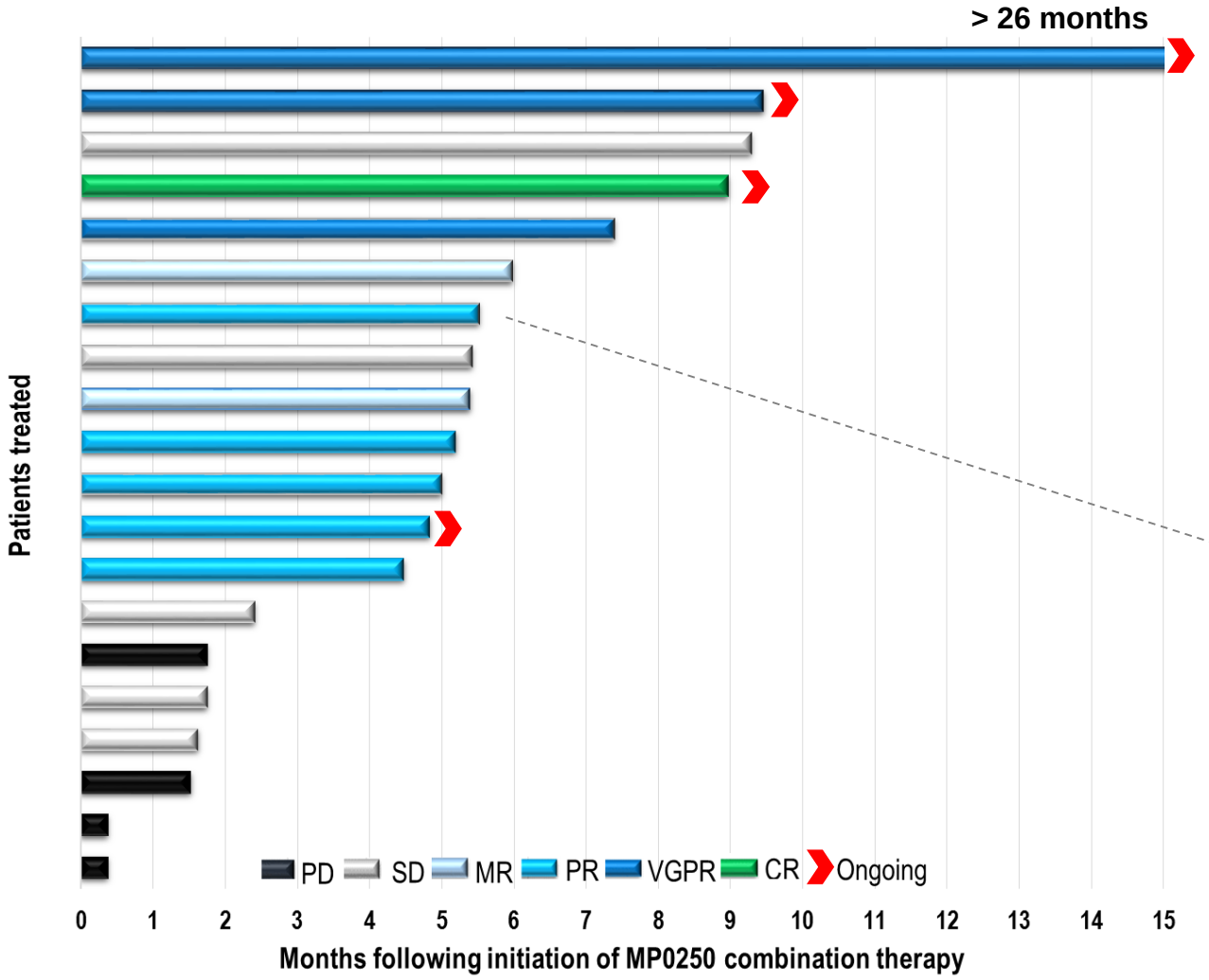
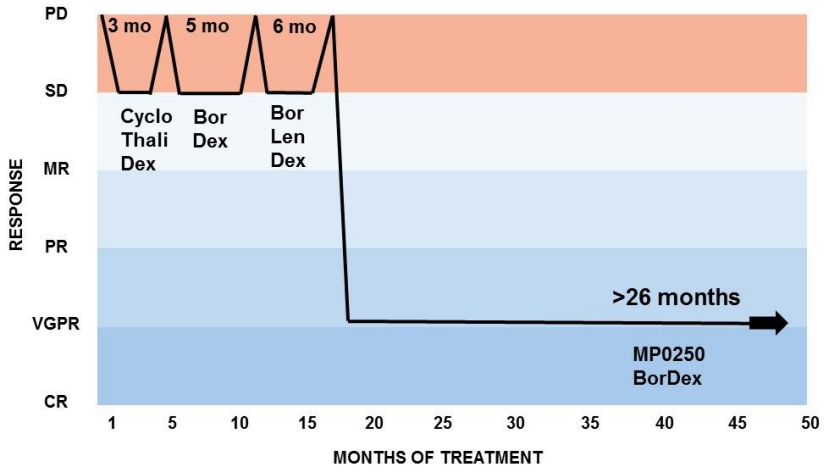
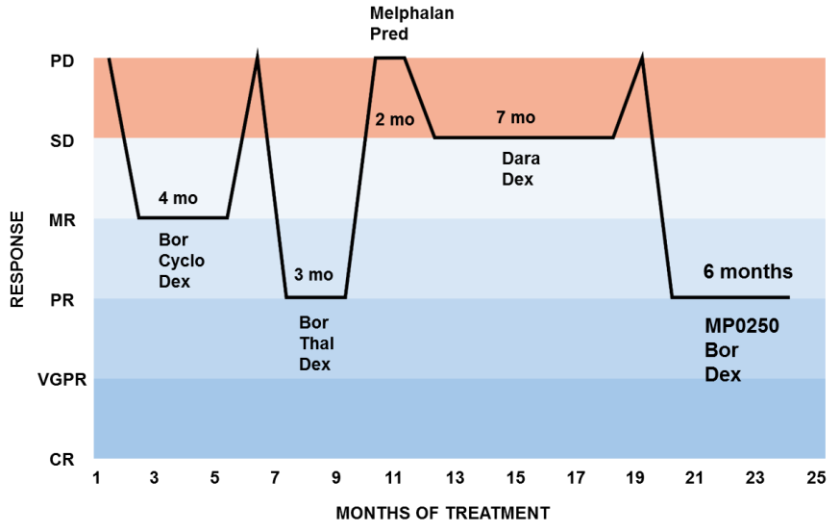
MP0250: Deep and Durable Responses







as presented at ASH 2019

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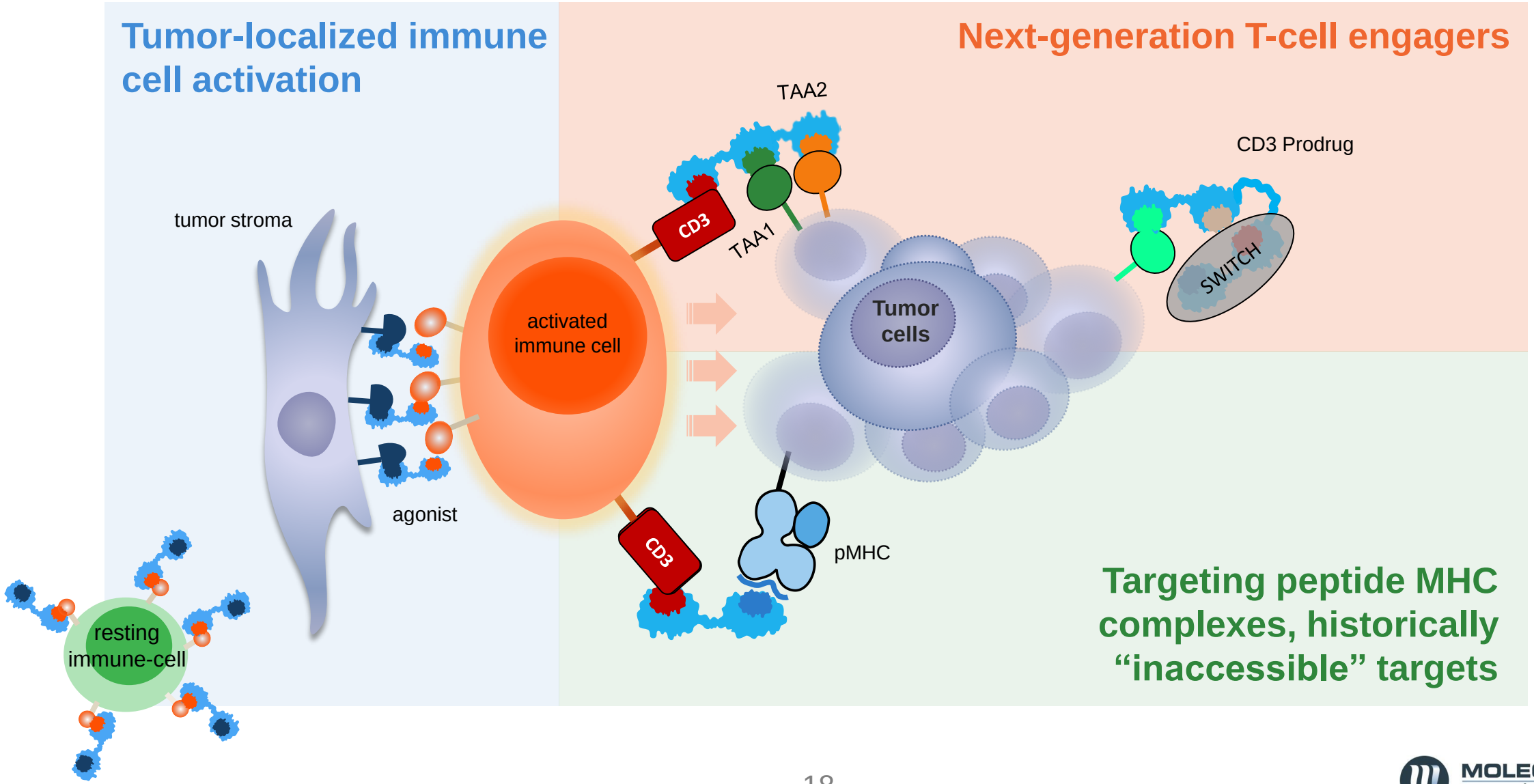
Novel Therapeutic Designs in Immuno - Oncology

Applying our Therapeutic DARPin® Designs



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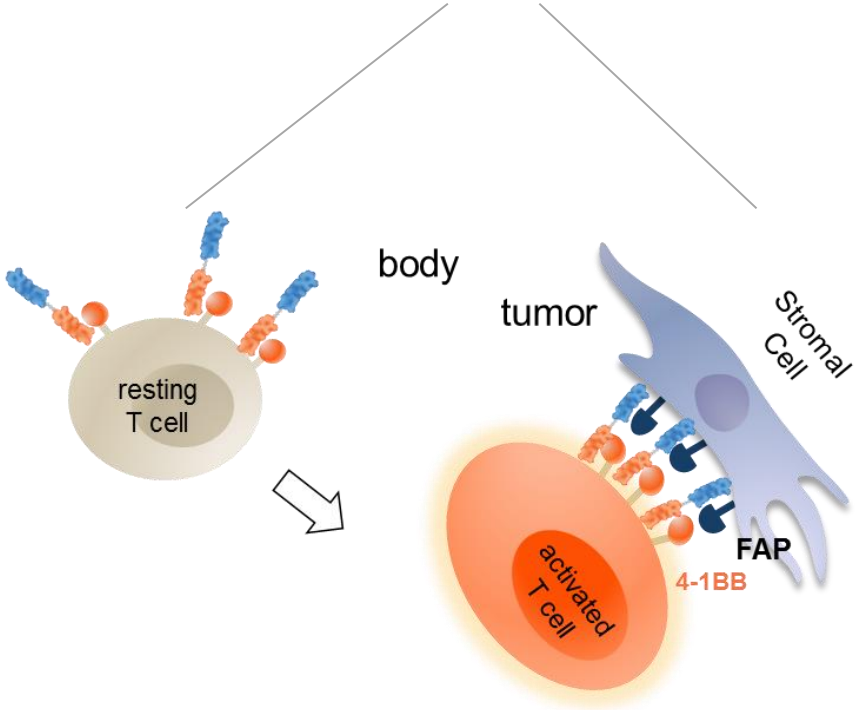
MP0310 (AMG 506; FAP x 4-1BB): Activating T cells in the Tumor

MP0310 (AMG 506)
DARPin® modules

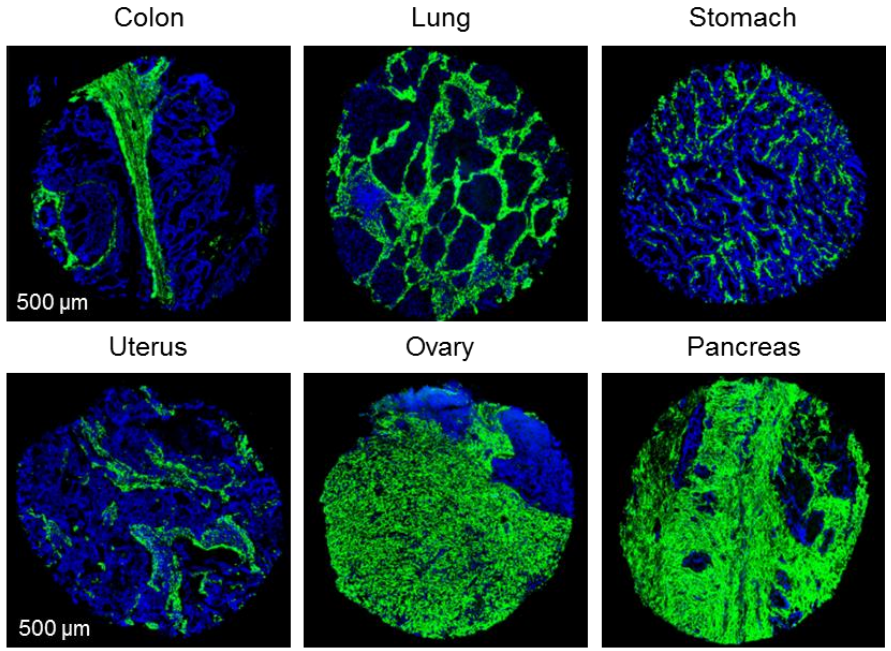
Immune modulator | Localizer | Half-life extender

4-1BB + FAP + HSA

Illustrative graphic



FAP expression in human tumor sections



Human FAP, DAPI

HSA, human serum albumin.

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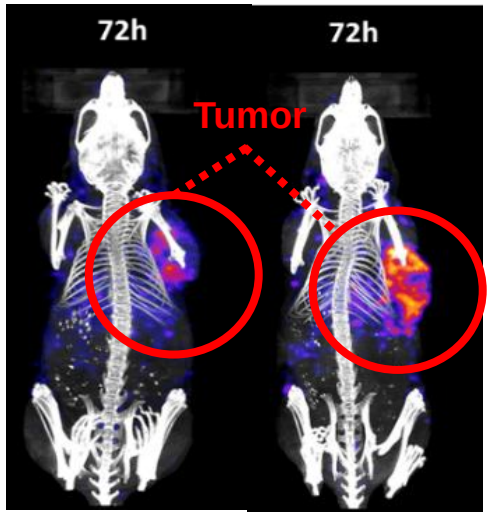
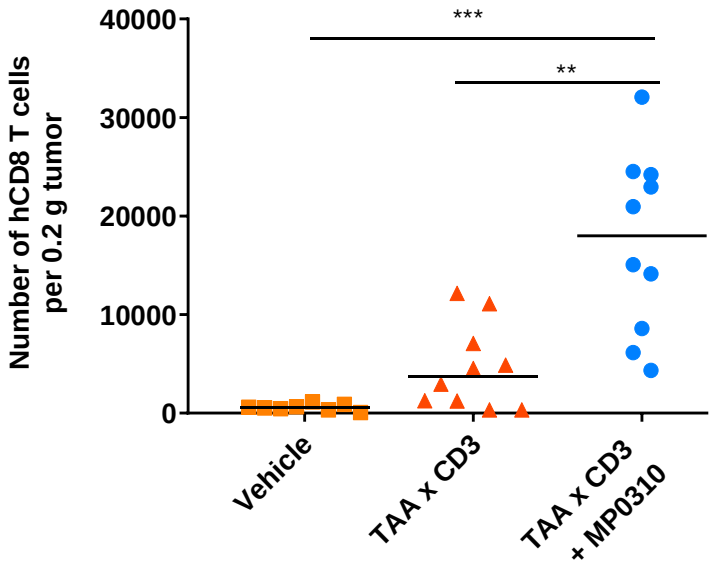
Combined Therapy with MP0310 and TAA x CD3 Bi-Specific Results in Significant Increase of Intratumoral CD8+ T Cells

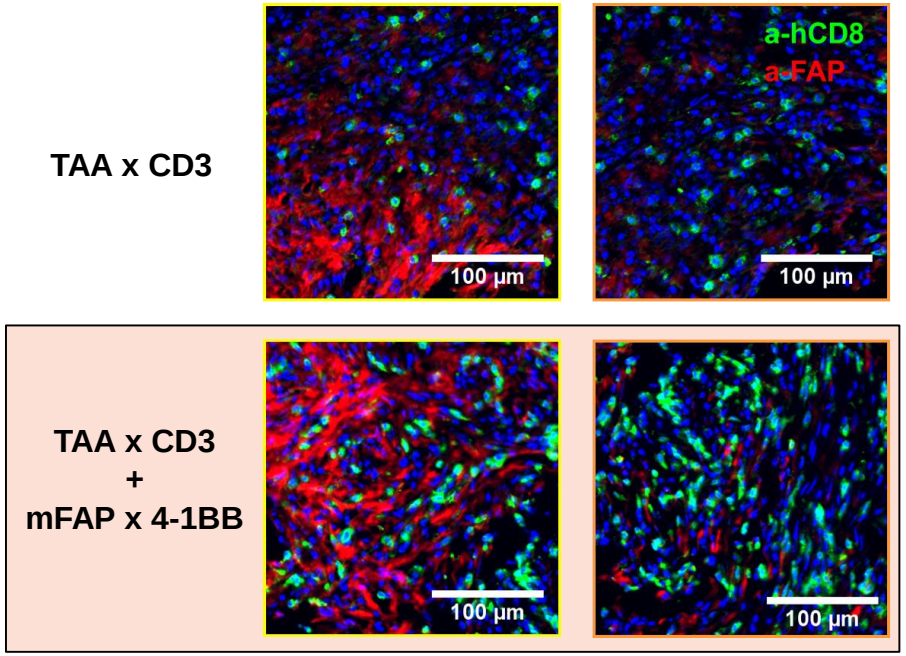
FAP-Mediated Tumor Accumulation of MP0310
HT-29-T-implanted NSG mice



no-FAP x 4-1BB **mFAP x 4-1BB**

Intratumoral CD8 T cells





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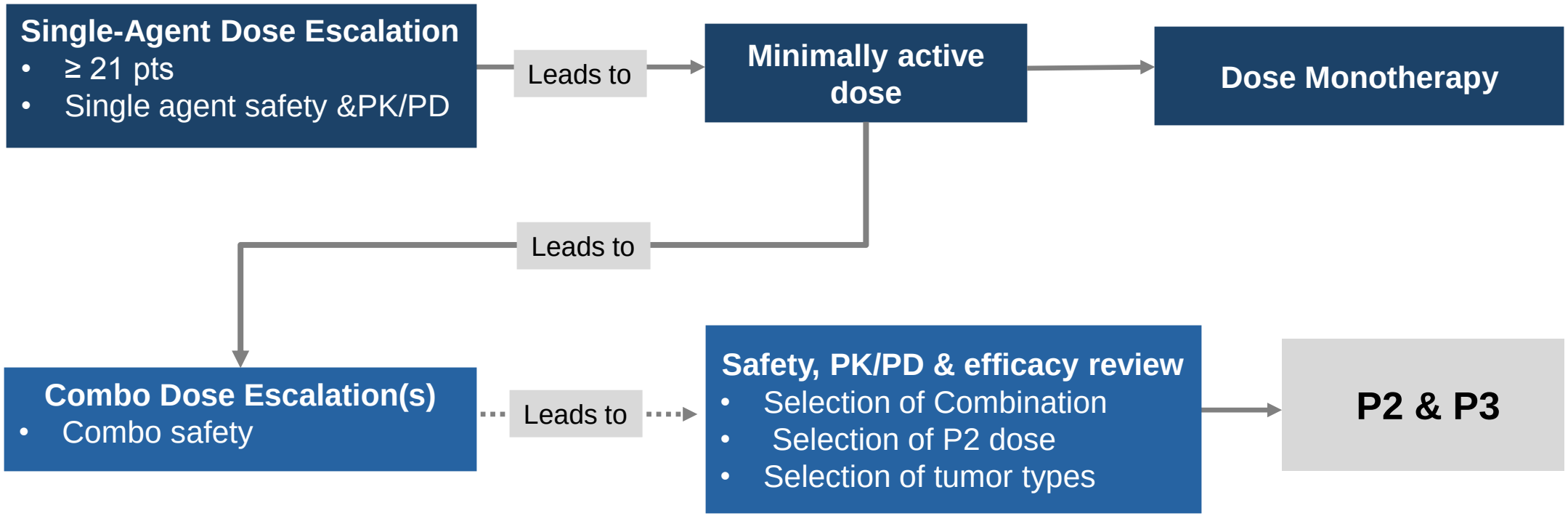
MP0310 (AMG 506) Clinical Study Design



- Dose escalation ongoing
- Expected to start MP0310 (AMG 506) combination trials in 2020

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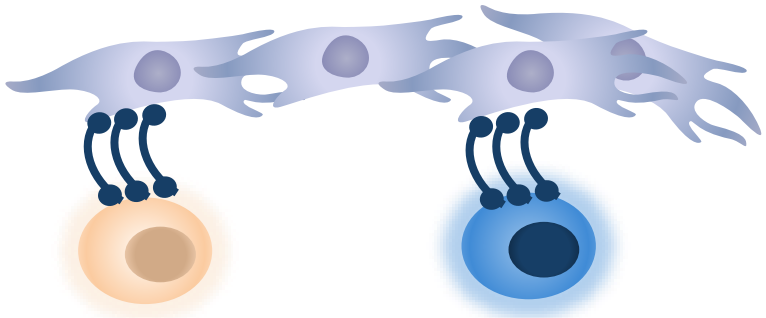
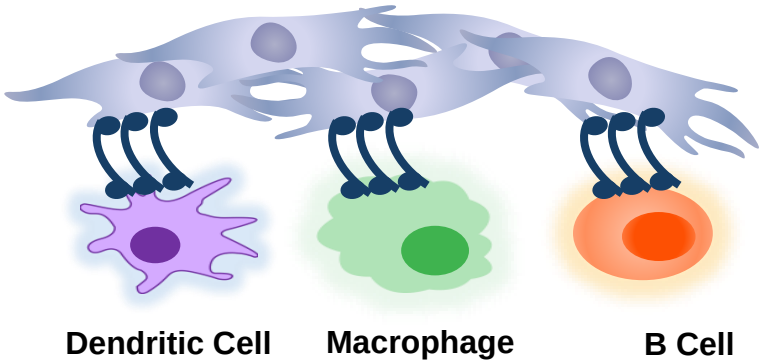
Expanding from Adaptive to Innate Principles: CD40 agonists

FAP x 4-1BB
(MP0310 / AMG 506)

FAP x CD40
(MP0317)





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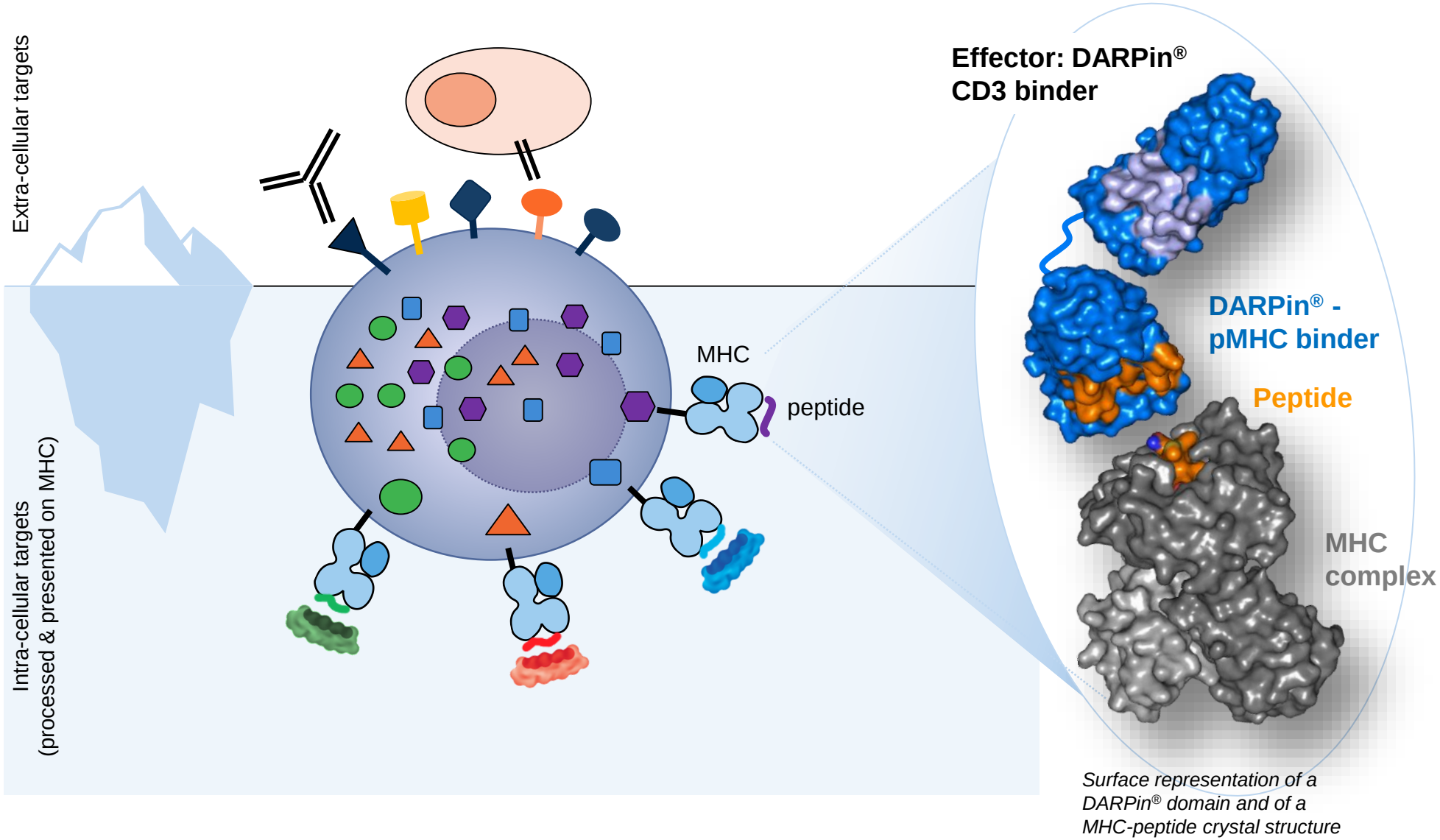
pMHC: Approach for “Inaccessible” Highly Selective Targets



Surface representation of a DARPin® domain and of a MHC-peptide crystal structure

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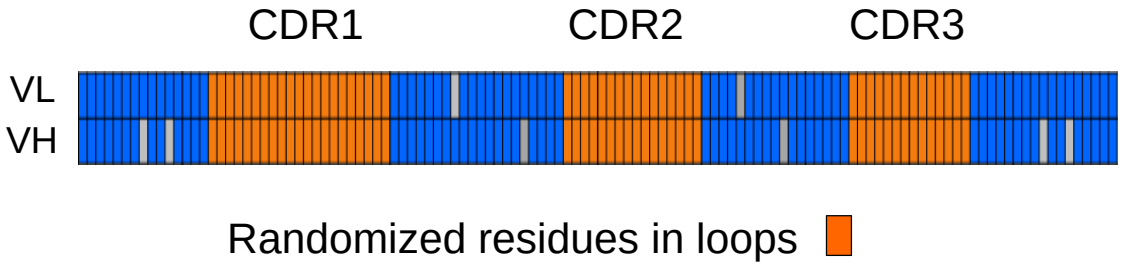
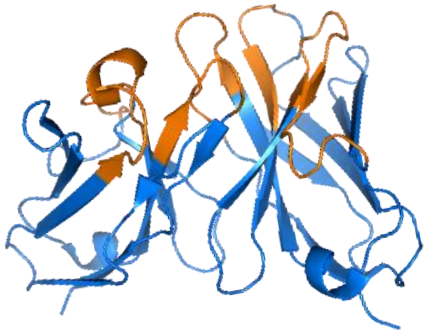
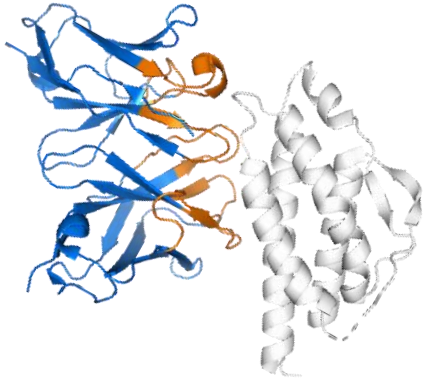
Leveraging DARPin® Features for pMHC

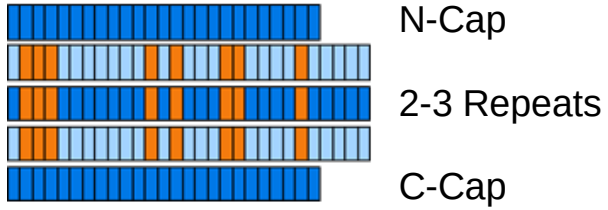
Antibody (Ig-) Domain: binding via flexible loops

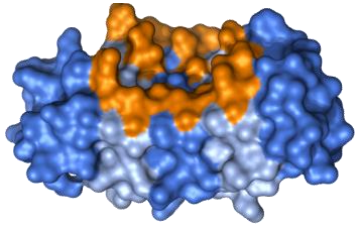


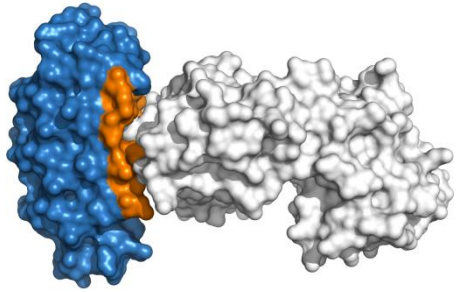




DARPin® Domain: binding via rigid surface







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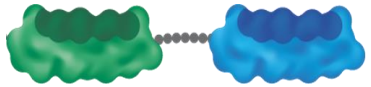
pMHC: Rapid and Straightforward Selection of Diverse DARPin® pMHC Binders with High Selectivity

DARPin® candidate



anti-pMHC anti-CD3

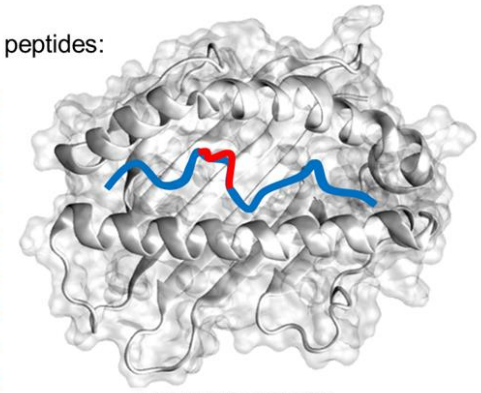
The Alanine Scanning Approach

Wild-type peptide embedded in MHC comples:

RIMYFIENA

Alanine mutated peptides:

AIMYFIENA
RAMYFIENA
RIAYFIENA
RIMAFIENA
RIMYAIENA
RIMYFAENA
RIMYFIANA
RIMYFIEAA
RIMYFIENA

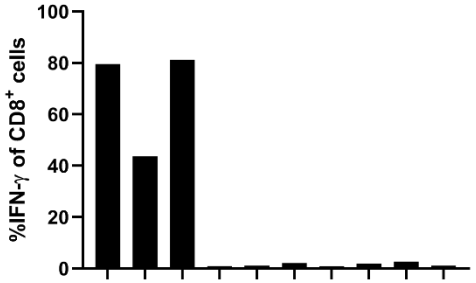


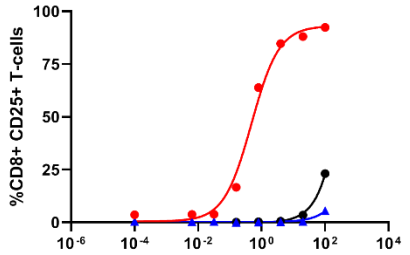
adapted from **Knapp B et al**. 2014, PLOS Computational Biology

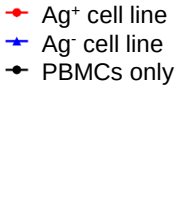
Selectivity
(binding pattern by Alanine scanning)

Activity & Selectivity
(T cell activation assay)

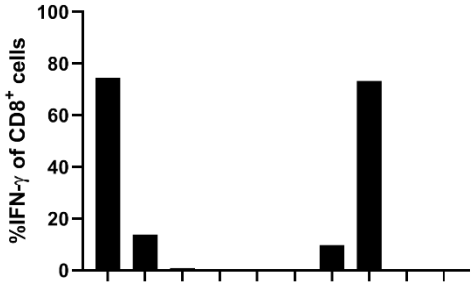
pMHC-A x CD3

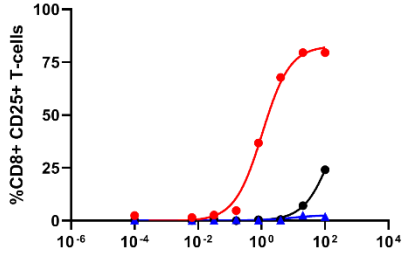


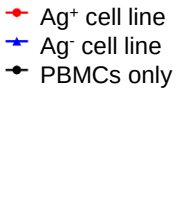




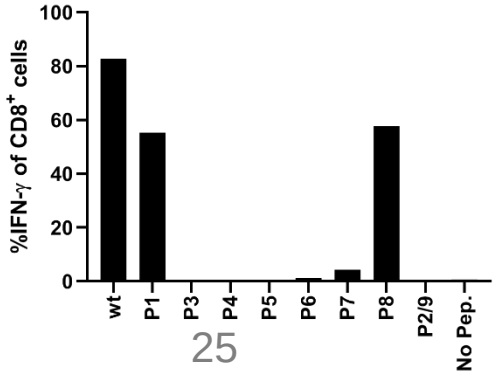
pMHC-B x CD3

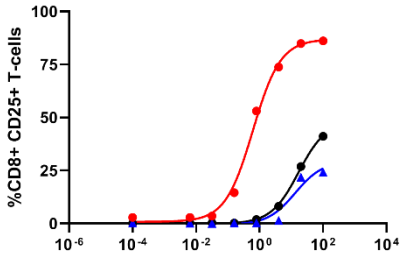


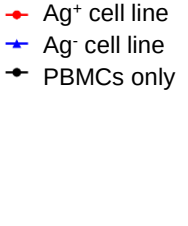




pMHC-C x CD3







DARPin® T-cell engager [nM]

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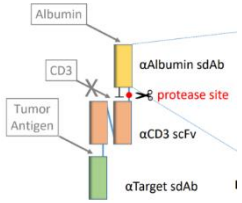
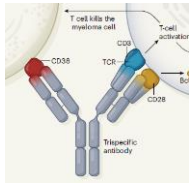
Building Next Generation of DARPin® T-Cell Engagers

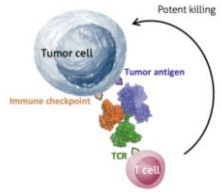
T-cell engager field is progressing to the next level to address key limitations



Tumor Activate T-Cell Engager
(e.g. Prodrug by Harpoon)

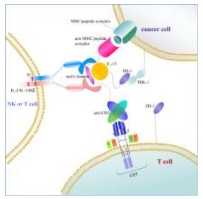
Co-stimulate T Cell Receptor
(e.g. CD28 by Sanofi)





Block Checkpoint in Synapse
(e.g. LocATE by CDR-life)

Integrate Stimulating Features
(e.g. TriTE by TIMMUNE: IL-15 fusion)



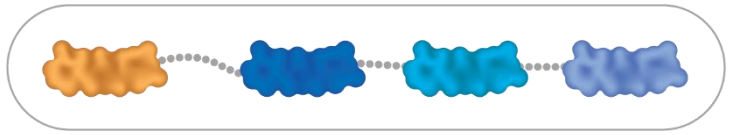
Improving Safety

Boosting Activity

Removing Brake

Sustained Activity

Multi-DARPin® T-Cell Engagers for better safety and increased efficacy



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Key Advantages of Molecular Partners

Validated source of DARPin® Candidates

Flexible business model to maximize product value

Novel Therapeutic Designs

1. Tumor-local immune agonists
2. pMHC targeting platform
3. Next Gen T-cell engagers

Deliver patient value with our strong team

Advanced and balanced Clinical Development Portfolio

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Expected 2020 Catalysts

	2020
Abicipar	▪ Approval and launch in nAMD (US and EU) ▪ Initiation of Abicipar Phase 3 in DME patients
MP0250	▪ Additional P2 data from PI-combo trial ▪ Continued development of MP0250 in partnership
MP0274	▪ Establish dose and define path forward
MP0310	▪ Identify MP0310 dose in ongoing phase 1 ▪ Initiation MP0310 combination trials
Research	▪ Prepare for MP0317 IND submission ▪ Selection of 1st pMHC candidate for development ▪ Multiple updates at AACR & other international conferences

Funding into H2 2021 (excl. any future proceeds related to Abicipar and partnerships; Cash Q3 19: CHF112mn)

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Thank You!

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Molecular Partners AG
Wagistrasse 14
8952 Zürich-Schlieren
Switzerland
www.molecularpartners.com
T +41 44 755 77 00

IR Agenda

February 6, 2020	Publication of Full-year Results 2019 (unaudited)
April 29, 2020	Annual General Meeting