The DARPin® Difference

Offering Patients a New Dimension of Protein Therapeutics

Patrick Amstutz, CEO Molecular Partners

JP Morgan Healthcare Conference, January 2017

Presentation of Molecular Partners AG, Switzerland (Ticker: MOLN)

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Molecular Partners: Who We Are

Teamwork

- Swiss biotech
- 100 team members
- Discovery to phase 2 (POC)

- Science & patients first

DARPin® Therapies

- High patient value
- DARPin® Difference

- Abicipar in phase 3 (ophtha)
- MP0250 in phase 2 (onco)
- Broad preclin. I/O* portfolio

Long-term Partnerships

- Alliance with Allergan
- Swiss listing (MOLN)

- Cash CHF186mn**
- Financed well beyond key value inflection points

DARPin® Platform

- DARPin® Difference: unlock novel modes of action
- Proof of Platform in the eye and systemically
- Fast and cost effective drug discovery engine

*I/O, immuno-oncology; **as of Q3/16.

DARPin® Difference

Patient Benefit	Differentiation	Status
I/O* DARPin® protein – opening new therapeutic window for combinations	Localized activity, …	Preclin
MP0274: forcing Her2+ cancer cells into apoptosis with a new mode of action (MoA)	Molecular Master switch / Handcuff	Ph1
MP0250: new solution when cancers become resistant to standard therapies	Blocking two escape pathways	Ph2
Abicipar: less frequent ocular injections	Long-acting DARPin® protein	Ph3

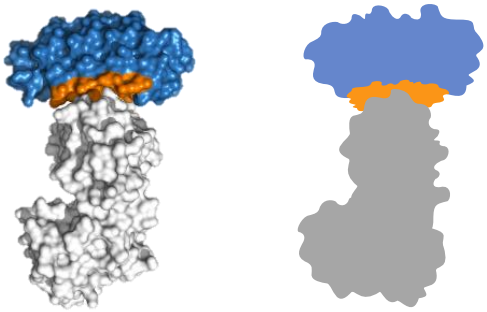
Our Strategy: Differentiated DARPin products with high patient value

*I/O, immuno-oncology.

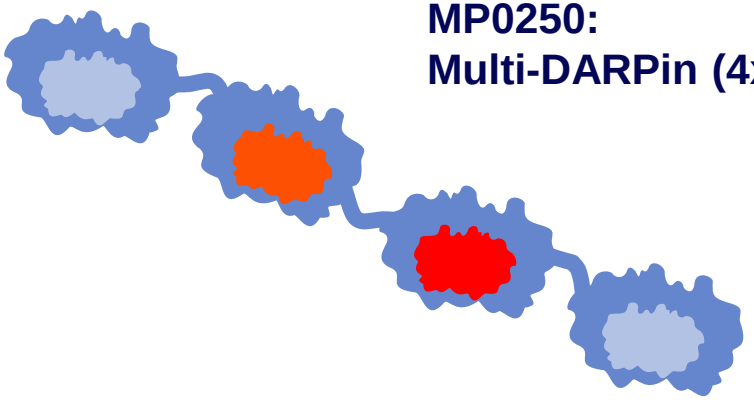
DARPins® Proteins: A Different Class of Therapeutics

DARPin® is a registered trademark owned by Molecular Partners AG

Abicipar:
Mono-DARPin



MP0250:
Multi-DARPin (4x)



- **Mono-DARPin®**: selected to bind a given target with high affinity & specificity (large libraries)
- **Multi-DARPin®**: linked mono-DARPins® (**up to six**) & directly used for **functional screening**
- **Ideal properties**: mono- & multi-DARPins® are soluble, stable with a high-yield production

- **Natural principle**: repeat proteins were evolved as binders in multifunctional contexts

Proof of Platform: Low immunogenicity* and long half-life in bloodstream and eye**

*MP0250 phase 1 study results show sustained exposure indicating absence of clearing antibodies;
**Systemic half-life of ~12 d (MP0250 phase 1), 14 d in the eye (Abicipar).

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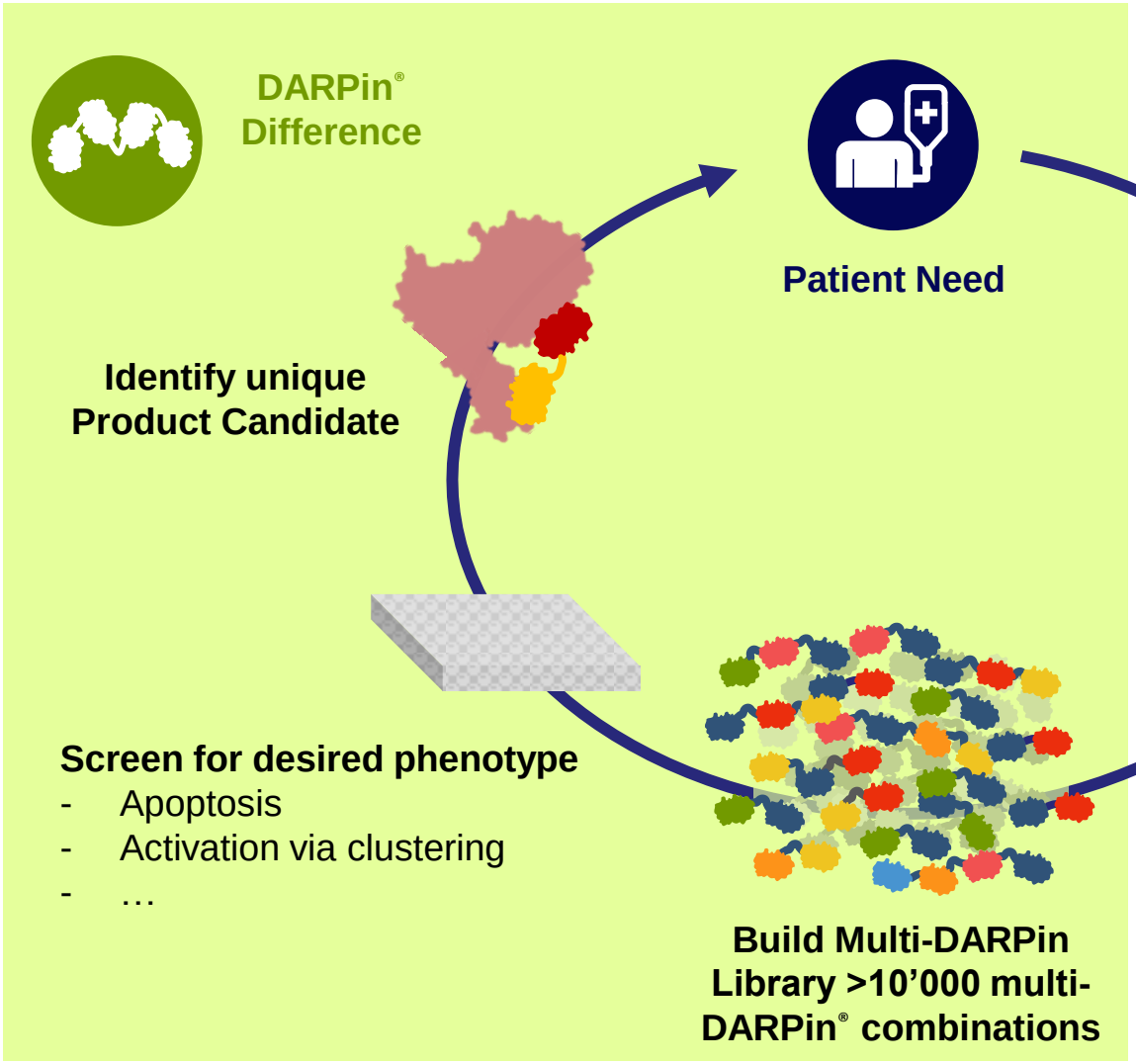
Pathway to the DARPin® Difference



Long-term Partnerships: Investors & Pharma

Balance capital markets and pharma partnering as sources of capital

- > CHF 360mn collected so far from investors and partners
- Remain in strong cash position to fund pipeline progress

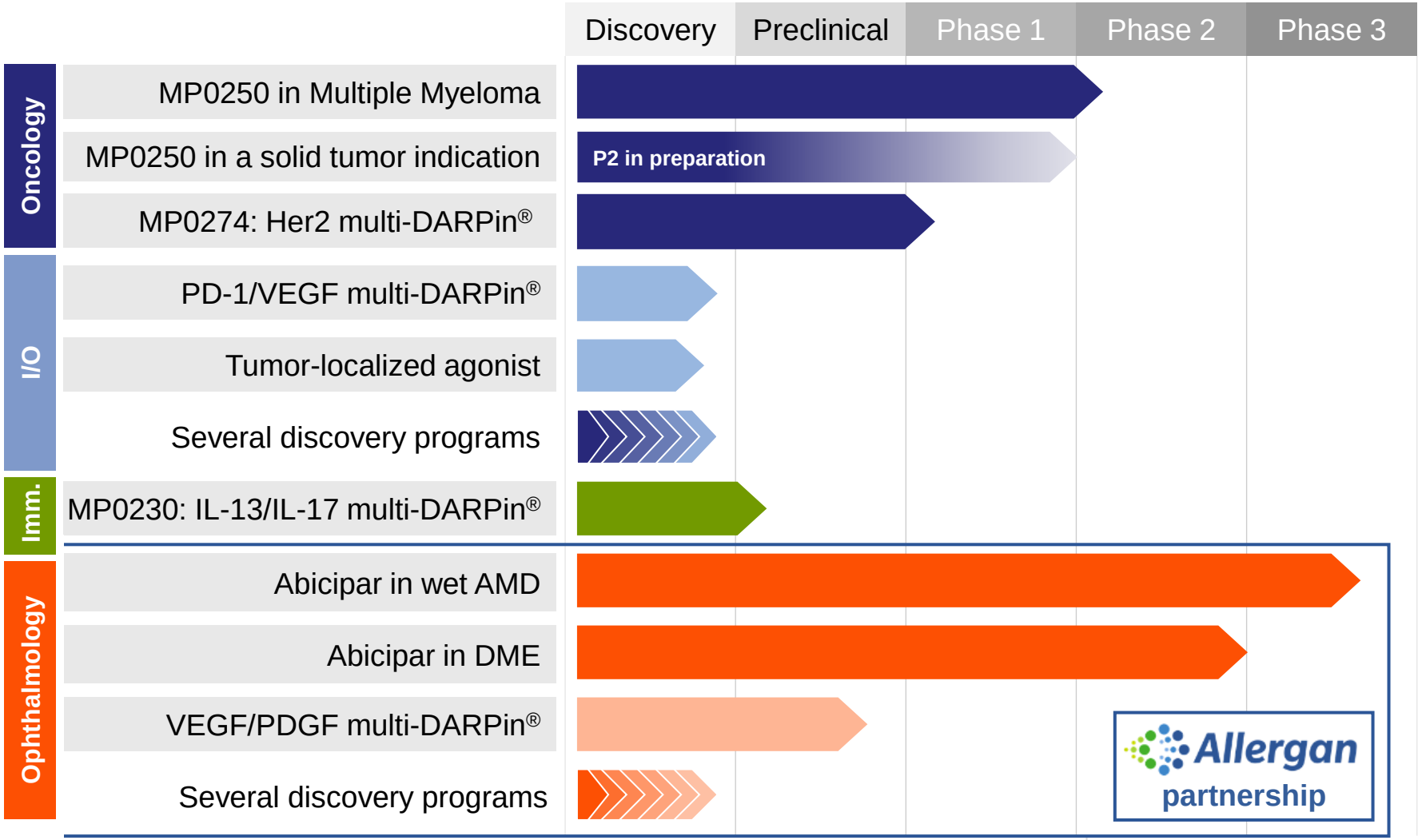
Strategic alliance with Allergan in ophthalmology

- Initiated with Abicipar in 2011
  - Up to $360mn open milestone potential & low double-digit to mid-teen tiered royalties
- Expanded into broad discovery alliance in 2012
  - Potential $1.7bn future milestone & tiered royalties to the mid-teens range

Partnering strategy: leverage the potential of the DARPin® platform

- Platform and pipeline are deeper than what Molecular Partners can access alone
- Partnering opportunities open on multiple levels

Balanced Portfolio



Oncology

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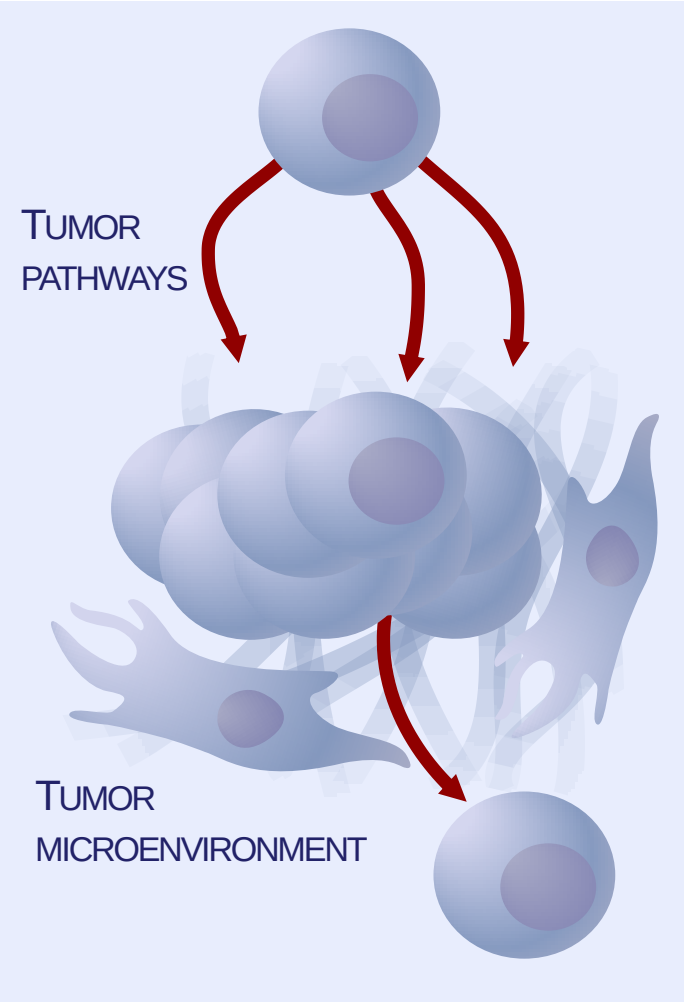
Cancer Is Complex and Difficult to Treat



Current Challenges
- Unlimited growth
- Sustained angiogenesis
- Tissue invasion & metastasis
- Evades body's immune defense

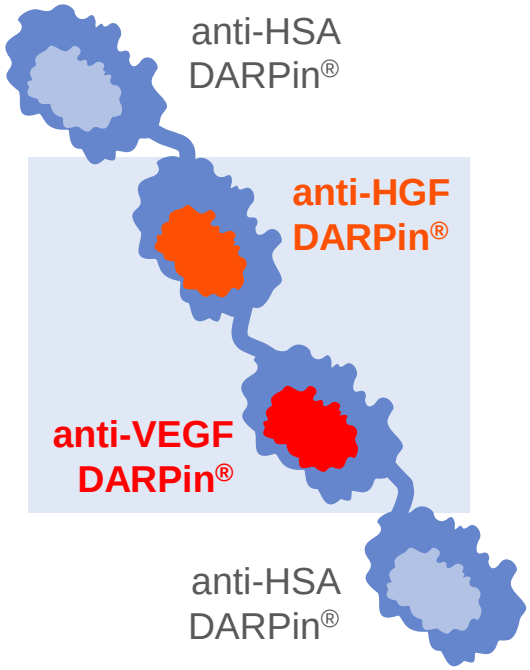
Current Strategies
- Attack from several angles (combo treatment)
- Activate immune system (immuno-oncology)

DARPin® Difference
- DARPin® candidates targeting multiple pathways
- Tumor-restricted multi-DARPin® candidates
- Novel Modes of Actions (MoAs)

MP0250: An Ideal Combination (anti-VEGF & HGF)

MP0250

- First bi-specific biologic targeting VEGF and HGF
- Molecular Partners holds all rights



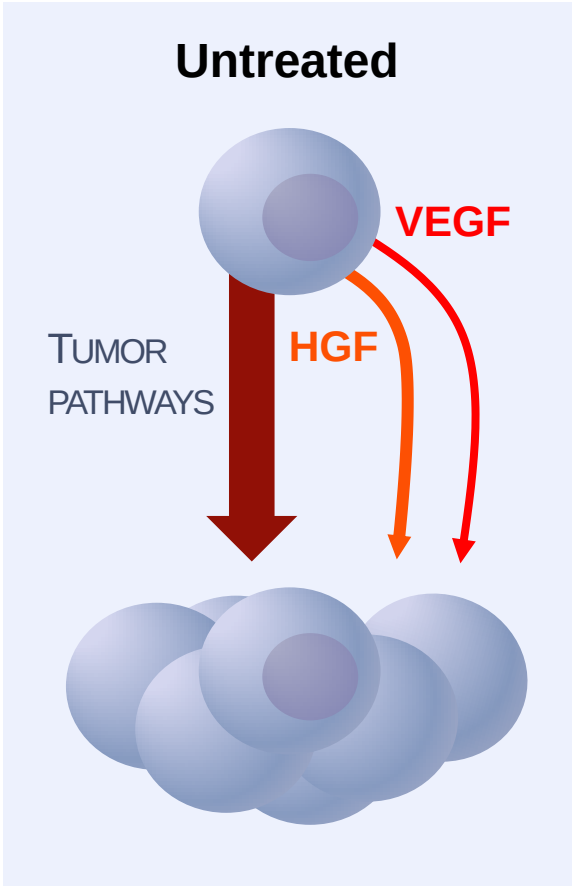
Development Stage

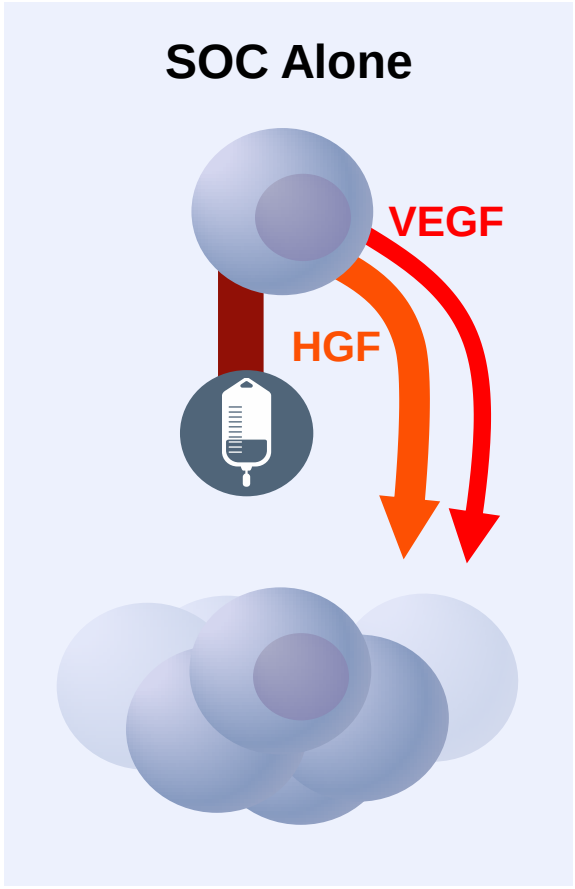
- Phase 1: solid tumor study
  - Demonstrated good tolerability and exposure, encouraging efficacy
- Phase 2: multiple myeloma study
  - Regulatory submission Q4/2016
  - Initial safety data expected 2017
  - Initial efficacy data expected 2018
- Additional Phase 2 for solid tumor indication planned for 2017

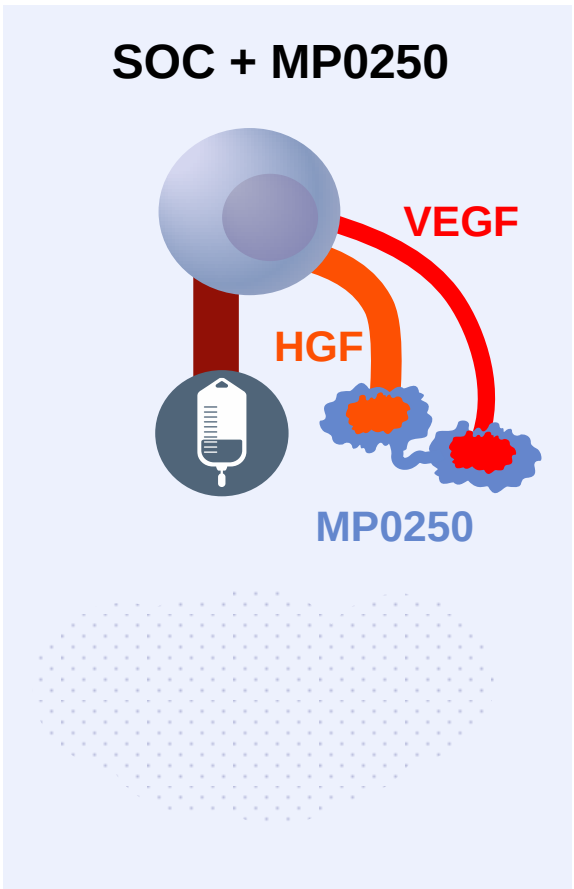
Differentiation & Potential Benefit

- Ideal for patients with likely VEGF- and/or HGF-mediated escape from previous treatment
- Can be combined with standard therapy

MP0250 Blocks Tumor Escape





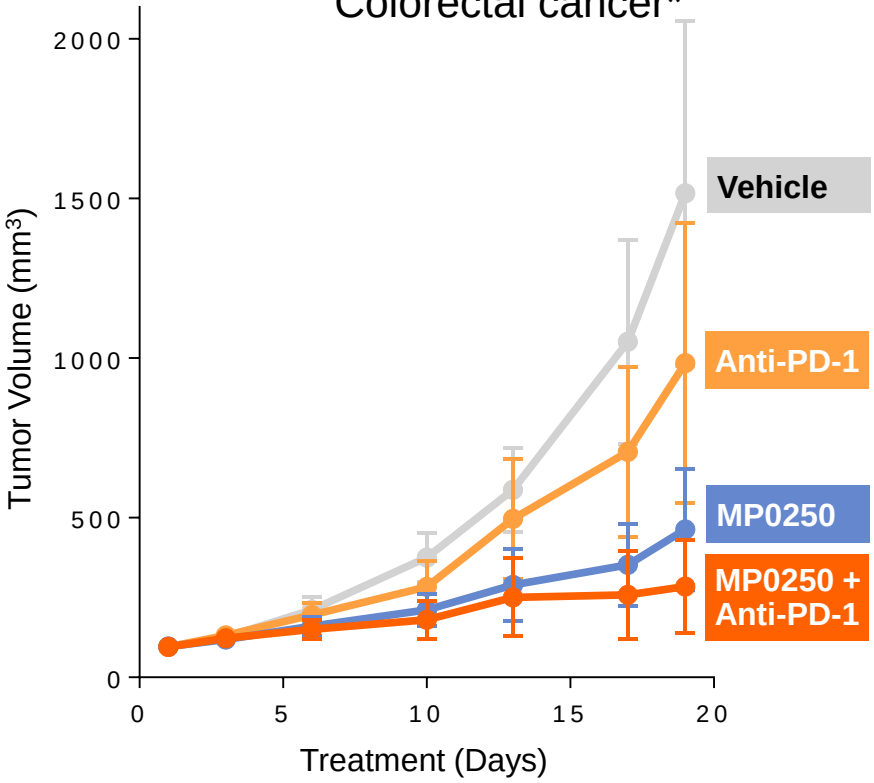


MP0250: Combination with Chemotherapy and Biologics Across Diverse Cancers

MP0250

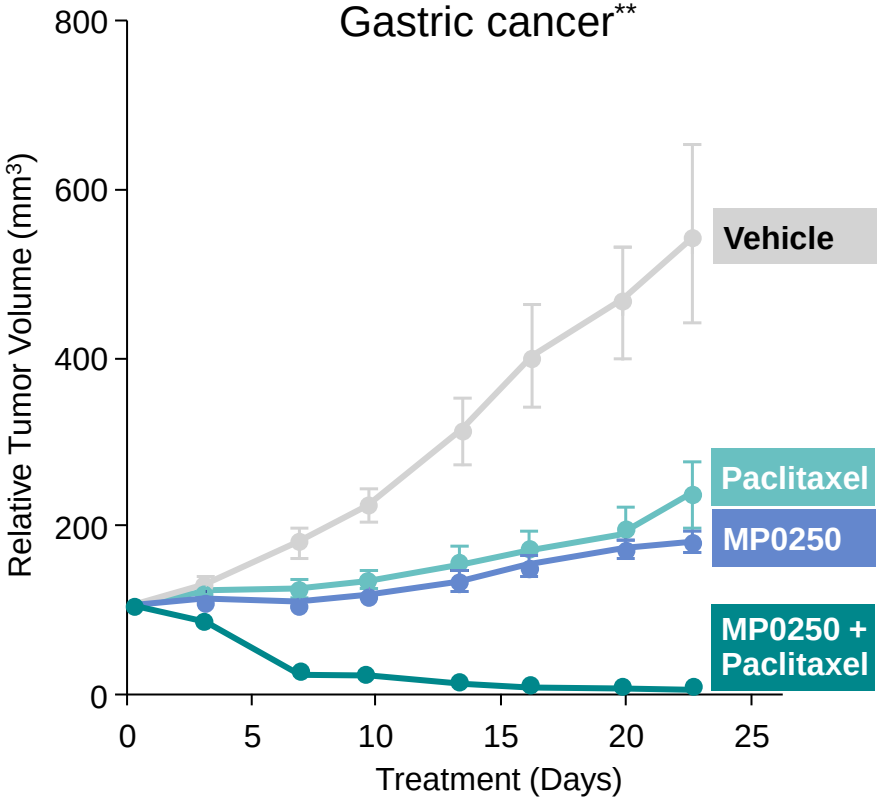
MP0250 + PD-1 mAb

Colorectal cancer*



MP0250 + Paclitaxel

Gastric cancer**



- MP0250 has also been tested in preclinical models of renal, liver and lung cancer

*MC38 syngeneic mouse model; **Patient-derived xenograft: GXA 3027.

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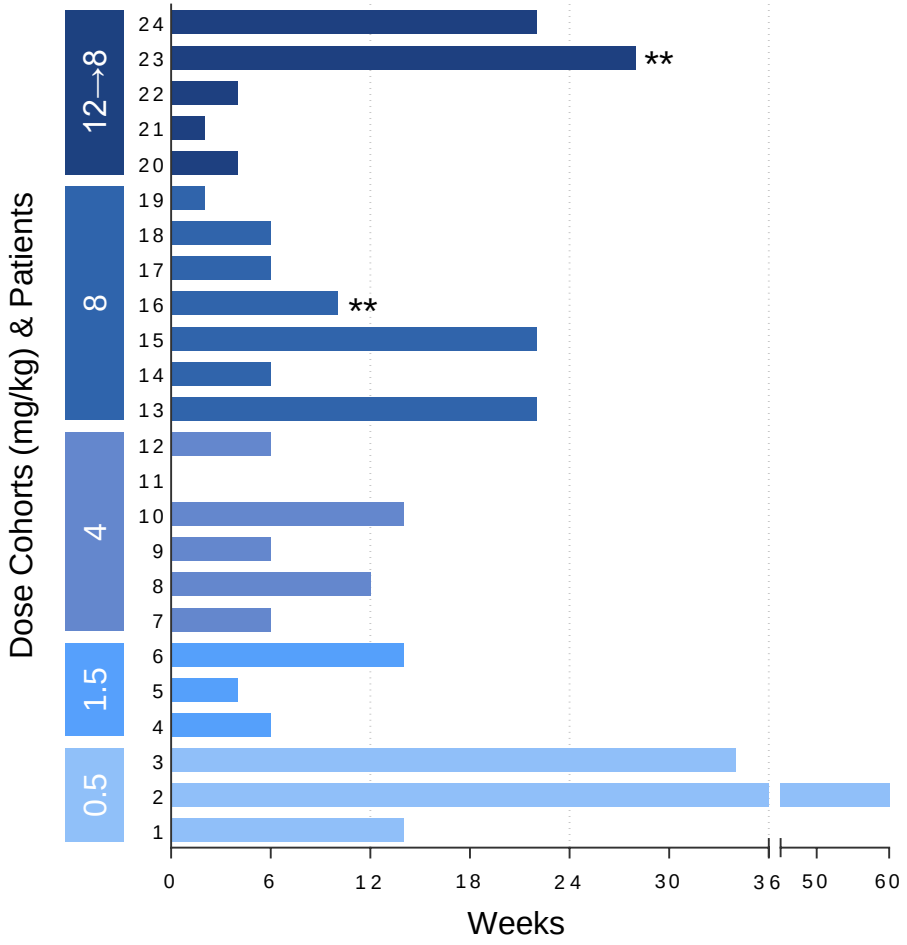
MP0250: Good Tolerability and Signs of Efficacy in Phase 1 Solid Tumor Study

MP0250

- Tolerability
  - MTD determined (8 mg/kg/q2w)
  - Main AEs consistent with profound VEGF pathway inhibition
    - Hypertension (66%), partially Grade 3
    - Proteinuria (29%), mainly Grade 1 or 2
- Systemic data
  - Half-life: 12 days
  - No clearing or neutralizing ADA
- Efficacy
  - Significant reductions in tumor volume in 2 patients with 1 confirmed PR
  - Stable disease at ≥12 wk in 10 patients (42%)

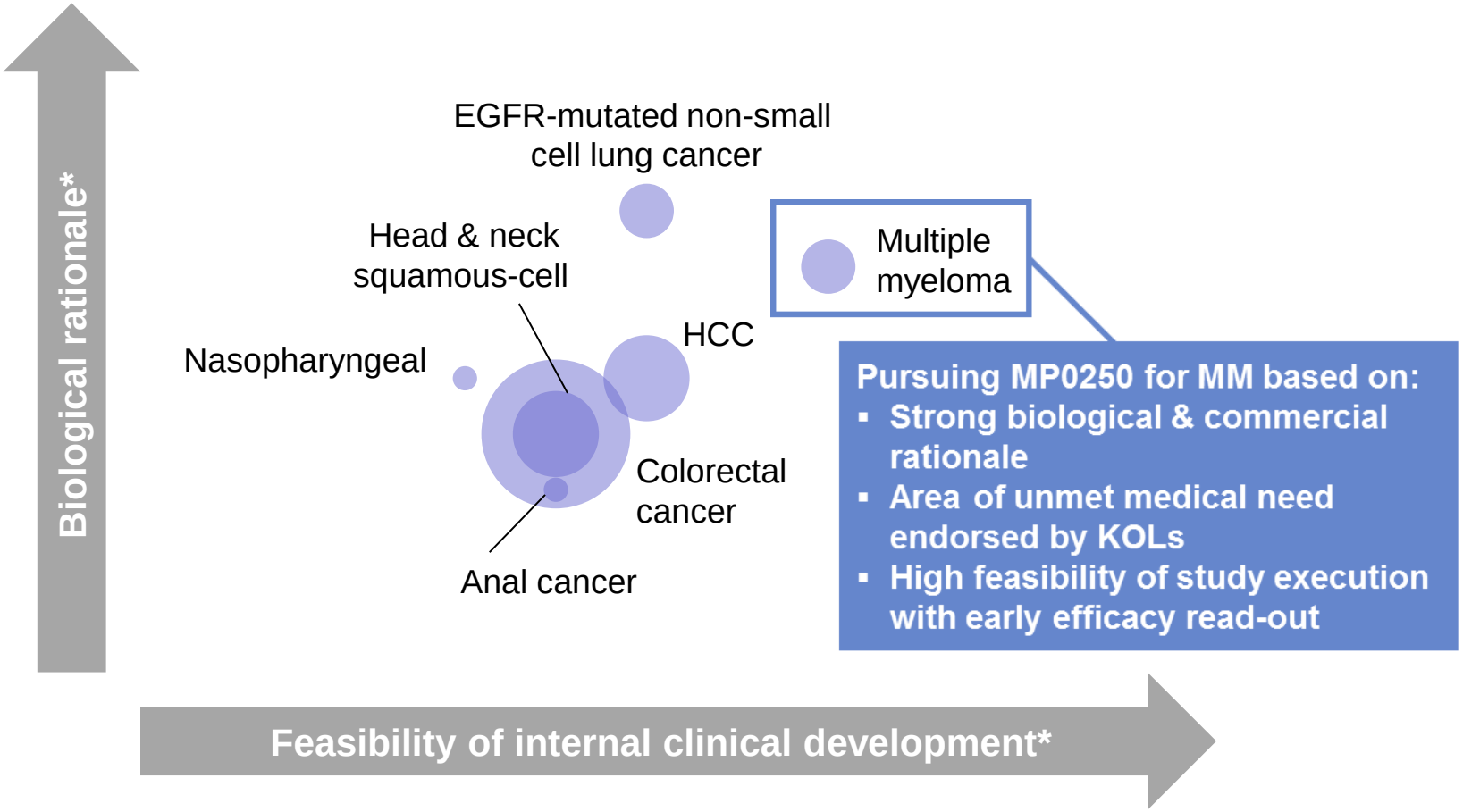
Treatment Duration of Individual Patients (N=24)*



*Study ongoing. Data cut-off June 2016 (N=24 patients). **Ongoing.

Internal Evaluation of MP0250 Potential

MP0250



Bubble size indicates estimated relative market potential (incidences; source: Datamonitor).
*Based on internal assessment on speed to market and complexity of development program.
Potential of gastric cancer, renal cancer and other cancers under evaluation.

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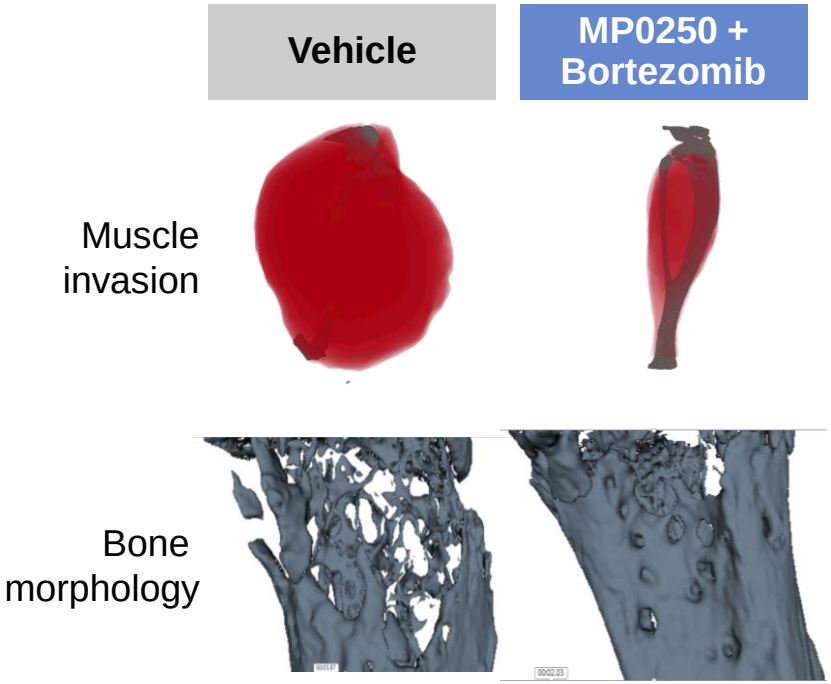
Preclinical and Clinical Data Support MP0250 + SOC for Multiple Myeloma

MP0250

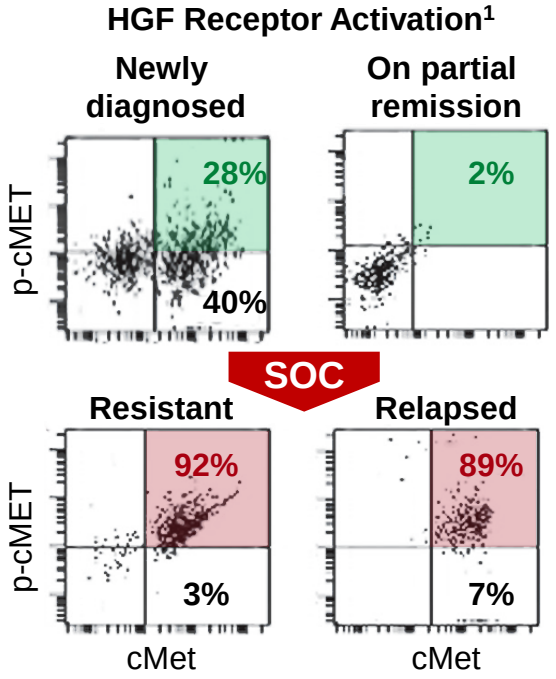
Preclinical Rationale

Tumor Growth
H929 Xenograft



Clinical Rationale

HGF Rationale



VEGF Rationale

A small MM study of bevacizumab (Avastin®) + bortezomib (Velcade®) demonstrated benefit over bortezomib alone[2]

1. Moschetta M, et al. Clin Cancer Res 2013;19:4371-82; 2. White D, et al. Cancer 2013;119:339-47.

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MP0274: Killing Her2+ Cells with New MoA

MP0274

- Multi-DARPin® protein binding two distinct HER2 epitopes
- Indications: patients with HER2-addicted tumors
- Molecular Partners holds all rights

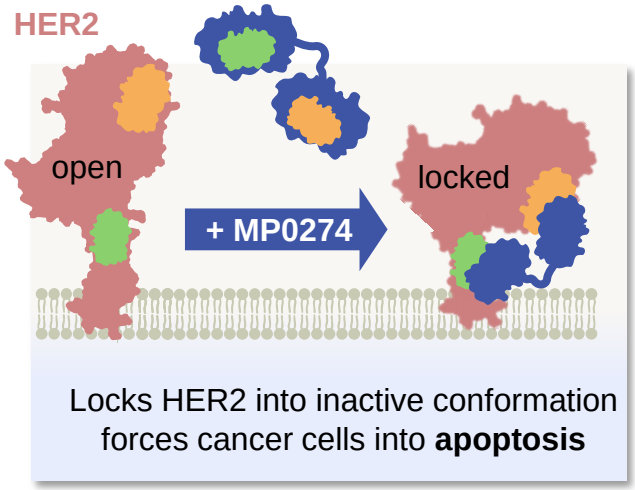
Development Stage

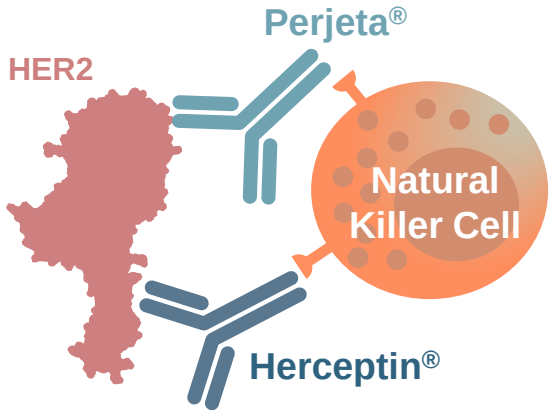
- First regulatory submission completed Q4/2016

Differentiation & Potential Benefit

- Induces apoptosis (cell death) in Her2 positive tumor cells without ADCC*
- New MoA may help patients not adequately responding to current therapies

DARPin® Handcuff as Master Switch



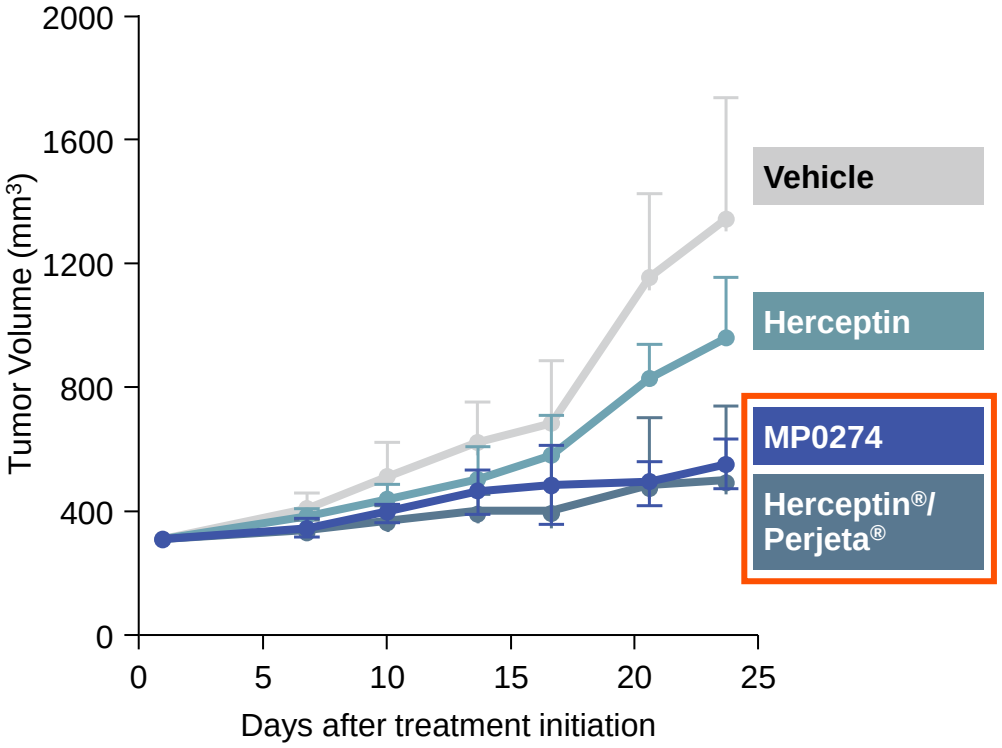


*ADCC, antibody dependent cell-mediated cytotoxicity.

MP0274 Kills by Apoptosis, Not ADCC

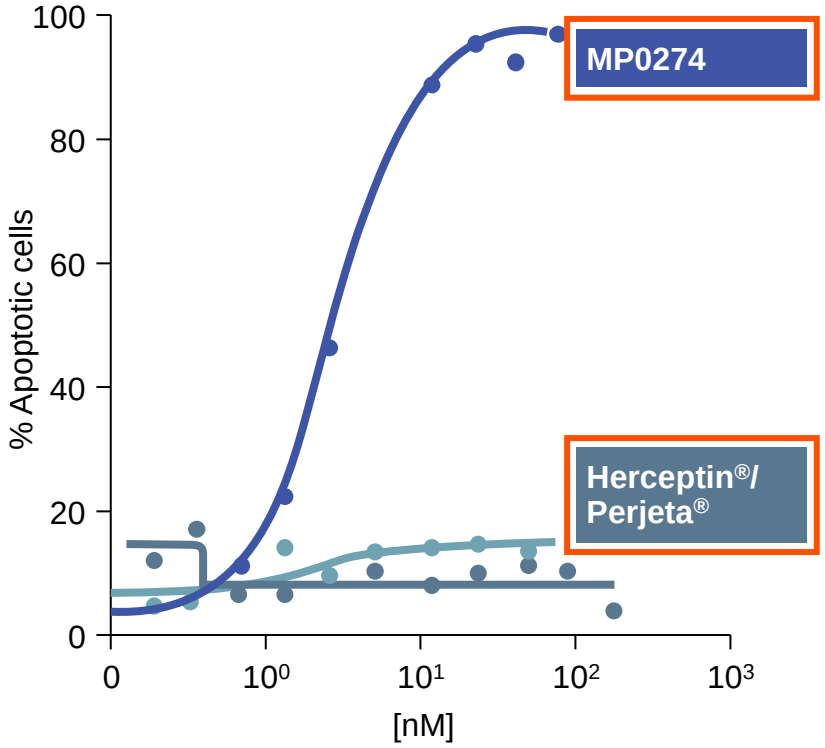
Tumor Volume

PDX: Breast Cancer HER2+



Tumor Cell Apoptosis

BT474



- MP0274 is as efficacious as SOC without the help of the immune system
- New MoA may help patients not adequately responding to current therapies

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Immuno-Oncology

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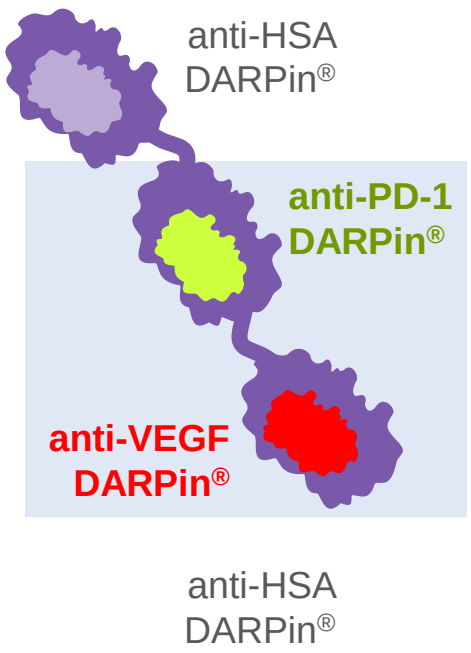
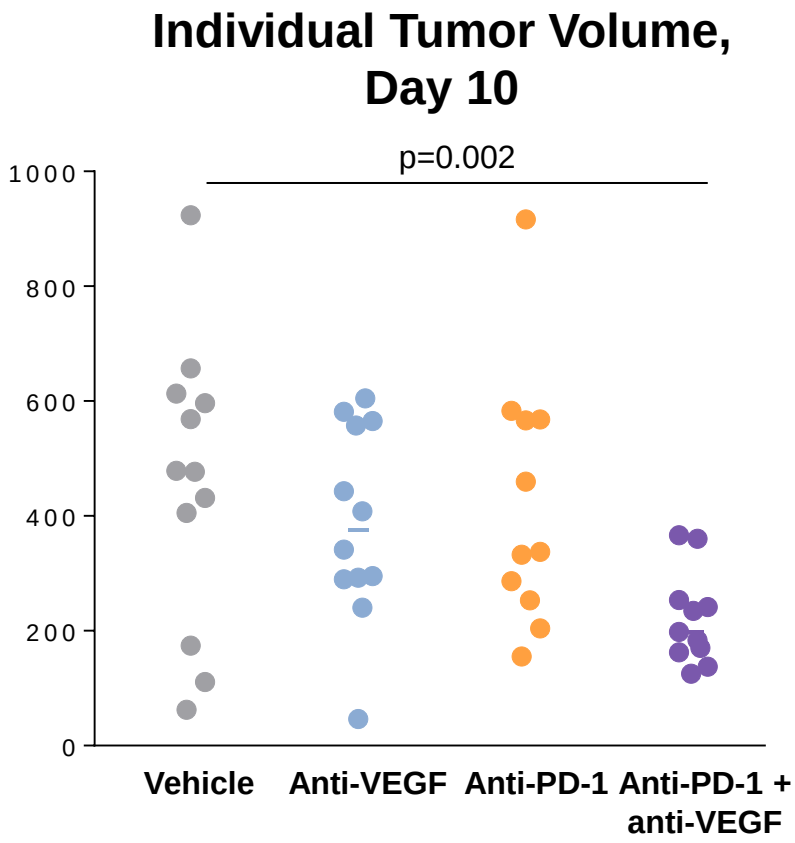
Activity of PD-1 and VEGF Multi-DARPin® Protein

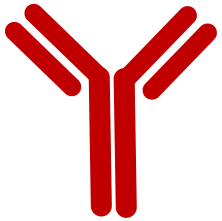


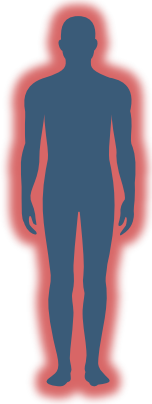


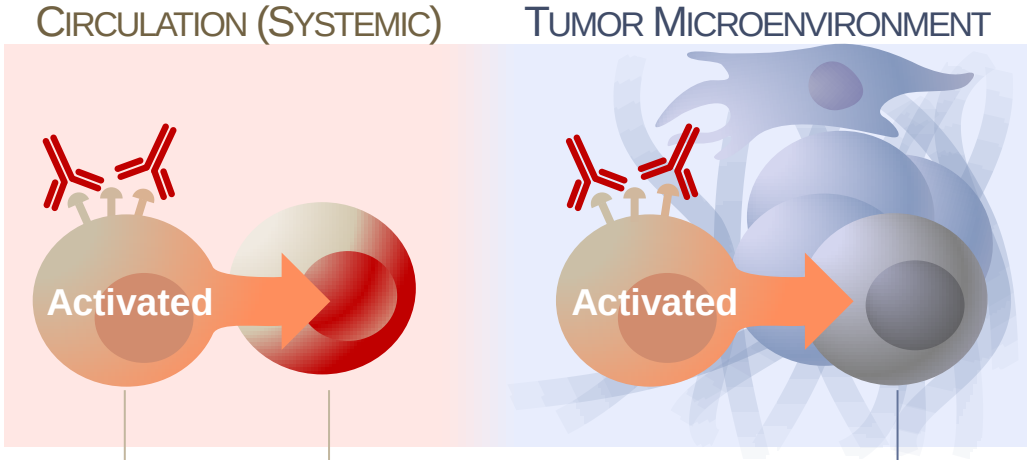
- PD-1 and VEGF show additive and/or synergistic activity

Unleashing Potential of Agonists in I/O

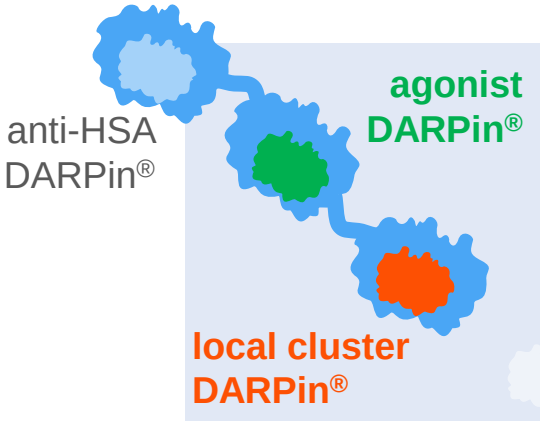
Agonistic mAb: Limitations

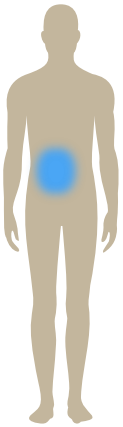


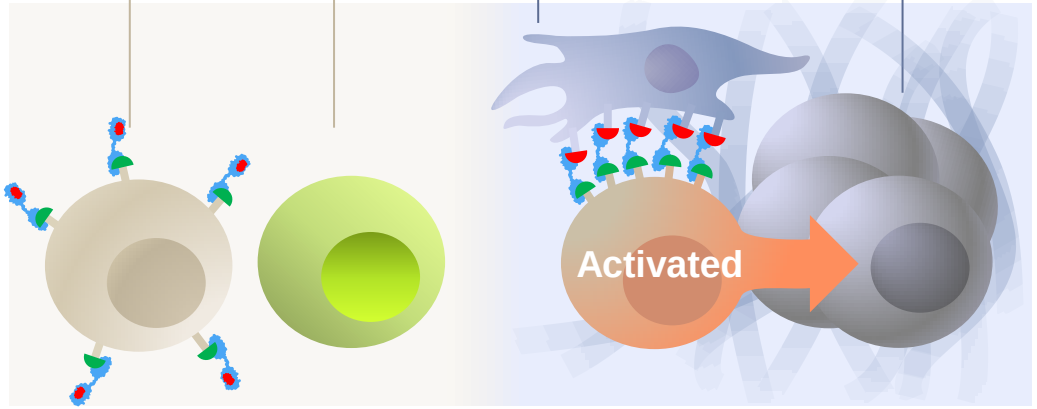




Tumor-localized DARPin® Agonists







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Ophthalmology

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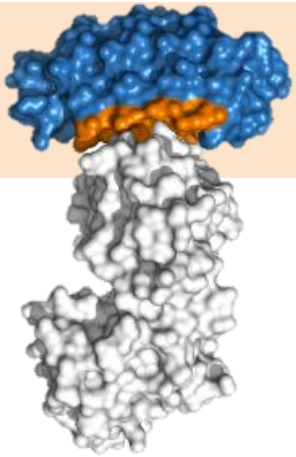
Abicipar: Most Advanced DARPin® Therapy

Abicipar

- Long-acting pegylated mono-DARPin® protein blocking VEGF
- Indications: Wet AMD & DME
- Global license agreement with Allergan
- All development costs with Allergan

anti-VEGF DARPin®



Development Stage

- Phase 3
  - 2 registration-enabling studies in wet AMD initiated July 2015
- Phase 2
  - DME data presented at AAO 2016, Start of Phase 3 in 2017

Market & Potential Differentiation

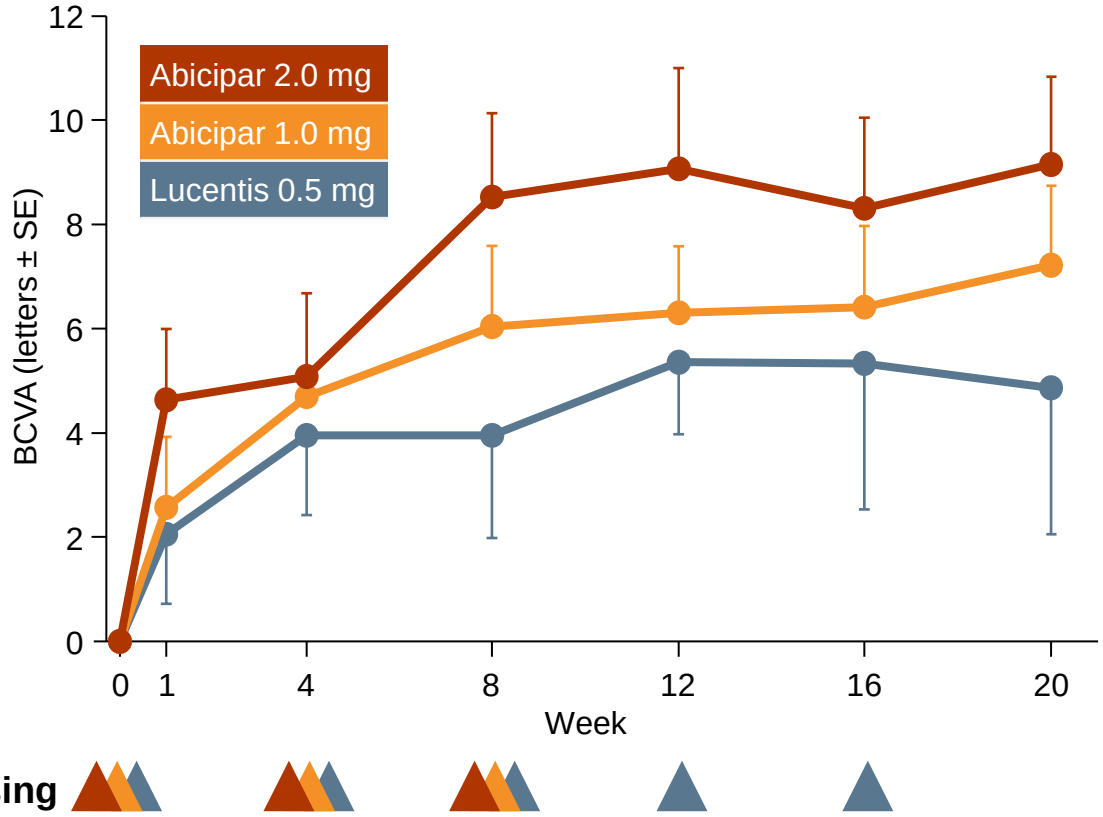
- Current anti-VEGFs (Lucentis & Eylea) market: > 8 bn USD *
- SOC require intensive monitoring & frequent intravitreal injection
- Significant unmet medical need for less frequent injections and doctors visits

* Reported by EvaluatePharma®, a service of Evaluate Ltd. (UK), www.evaluategroup.com. Accessed 27 Apr 2015.

Phase 2 Data Suggest Quarterly Dosing for Wet AMD

Abicipar

Change of Best-Corrected Visual Acuity (BCVA)*



Safety Data

Vision gain (letters)		Safety (n/N)
Wk 16	Wk 20	AEs†
8.2	9.0	2/23
6.3	7.1	3/25
5.3	4.7	0/16

The abicipar formulation has been further optimized for safety for use in Ph 3 trials

Allergan, 12 August 2014.
*Study not powered to reach statistical significance; †Ocular inflammation.
AE, adverse event.

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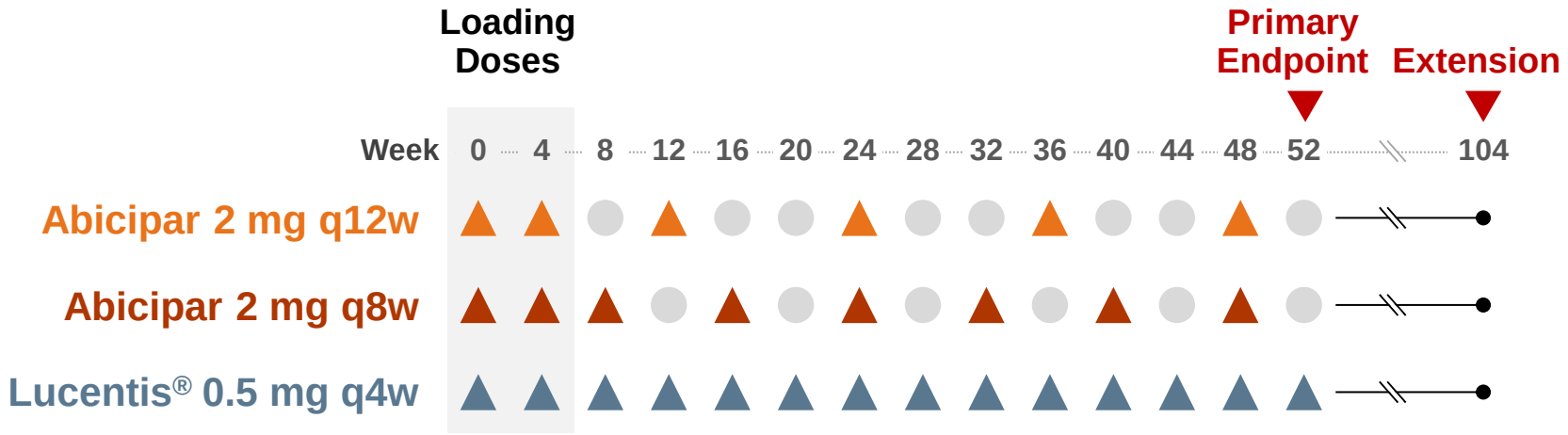
CEDAR and SEQUOIA: Abicipar Registration Studies in Wet AMD

Abicipar



- 2 parallel, randomized, double-blind phase 3 studies
  - Expected global enrollment: 900 patients/study
  - Estimated study completion: Aug 2018 – expected launch in 2020*

- Drug Safety Monitoring Committee (DSMC): no changes recommended Q4/16
- Next milestone: full enrollment of the study expected Aug 2017

*Abicipar under development and control of Allergan.

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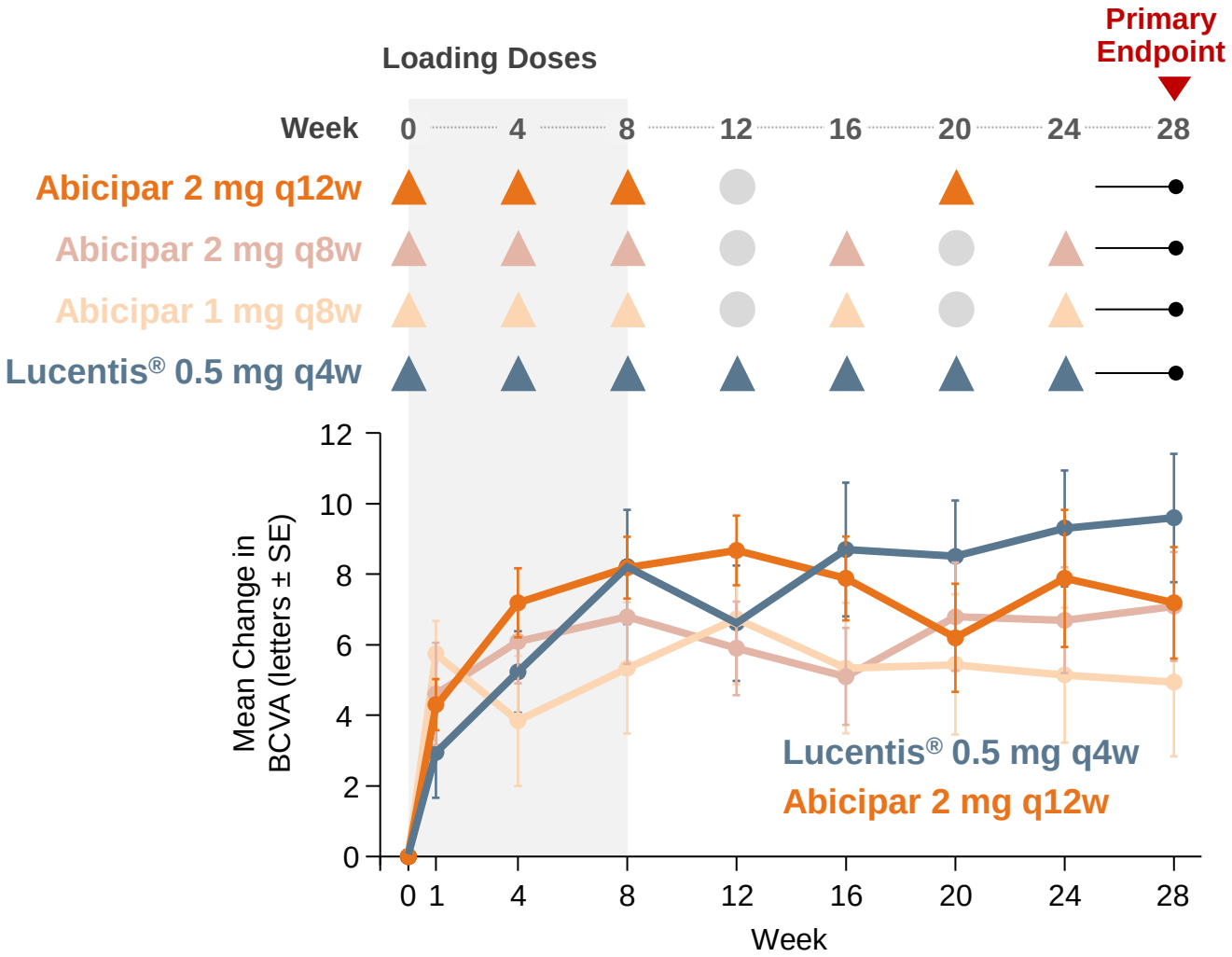
Phase 2 Data: Long Duration of Action in DME

Abicipar



Vision gain (letters)	Safety
Wk 28	AEs (n/N)
7.2	4/45
7.1	5/41
4.9	7/43
9.6	0/21

The abicipar formulation has been further optimized for safety for use in Ph 3 trials

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AGN View on Abicipar at JPM 2017

STRONG R&D PIPELINE TO DRIVE FUTURE GROWTH WITH "6 STARS" IN PHASE 3 IN 2017

ALLERGAN
GROWTH PHARMA LEADER

JPMORGAN CONFERENCE
January 9, 2017

Brent Saunders
Chairman and CEO

Allergan

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DARPin® Strategy in Ophthalmology

	Value	Status
Discovery Alliance: Multi-DARPin® concepts in the eye	**Next generation products**	**Preclin**
Abicipar in DME: less frequent ocular injections	**Start of phase 3 as early de-risking for safety read-out**	**Ph2**
Abicipar in wet AMD: less frequent ocular injections	**Low biology risk with meaningful differentiation**	**Ph3**

Extract from ALLERGAN Presentation; JP Morgan Conference; January 9, 2017 by Brent Saunders; Chairman and CEO

ABICIPAR	AMD DME	Recombinant designed ankyrin repeat protein. Potent blocker of all forms of soluble VEGF-A	2020 2022	$1.5B-$3B	• Reduction in injection burden is a significant unmet need • Offers sustained efficacy with fewer injections

Summary

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Outlook 2017 & Beyond

	2017	2018
MP0250: Multiple Myeloma	Initial safety data Ph2	Initial efficacy data Ph2
MP0250: additional solid tumor ind.	Submission for Ph2	Initial data Ph2
MP0274: Her2 multi-DARPin®	First dosing in Ph1	Initial data Ph1
PD-1/VEGF multi-DARPin®	Preclinical data	
Tumor-restricted agonist		
Several discovery programs		
MP0230: IL-13&IL-17 multi-DARPin®	Decision on development strategy	
Abicipar*: wet AMD	Full enrollment of Ph3	1-year efficacy data Ph3
Abicipar*: DME	Start of Ph3	

Cash CHF 186mn (Q3/16)

Financed well beyond key value inflection points

*Abicipar under development and control of Allergan.

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Conclusions

- Balanced & differentiated clinical DARPin® portfolio:
  - Abicipar in phase 3 in wet AMD and phase 2 concluded in DME
  - MP0250 phase 2 submitted in MM and solid tumor phase 2 in prep.
  - MP0274 phase 1 submitted in Her2 positive cancers
- Broad DARPin® portfolio in immuno-oncology

- Financed well beyond key value inflection points
- Full pipeline allows exploration of collaboration opportunities

- Strong and experienced team
- Culture of teamwork and «science and patients first»

- With proof of platform, we now focus on making the “DARPin® Difference” real for patients

Thanks!

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