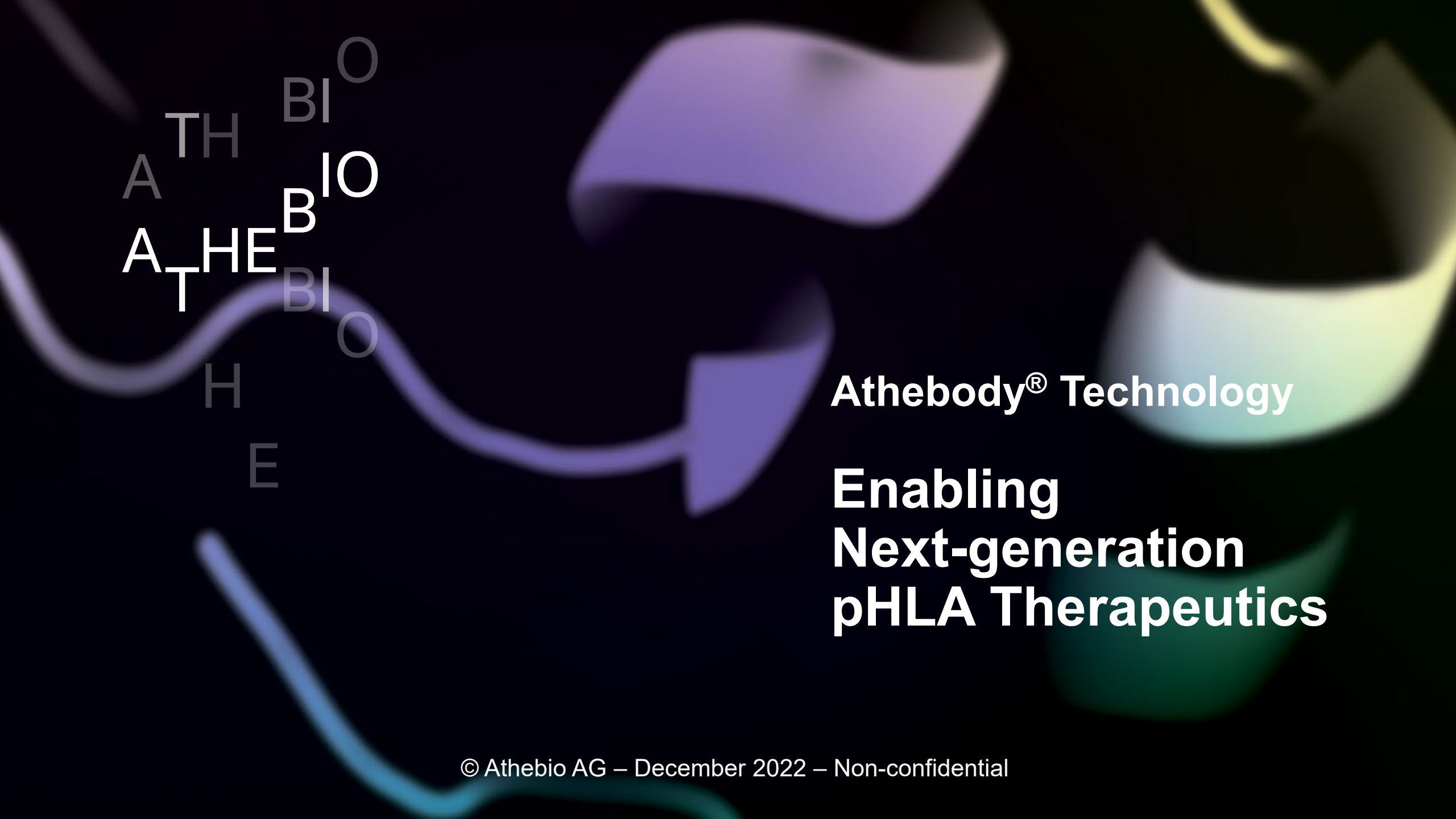
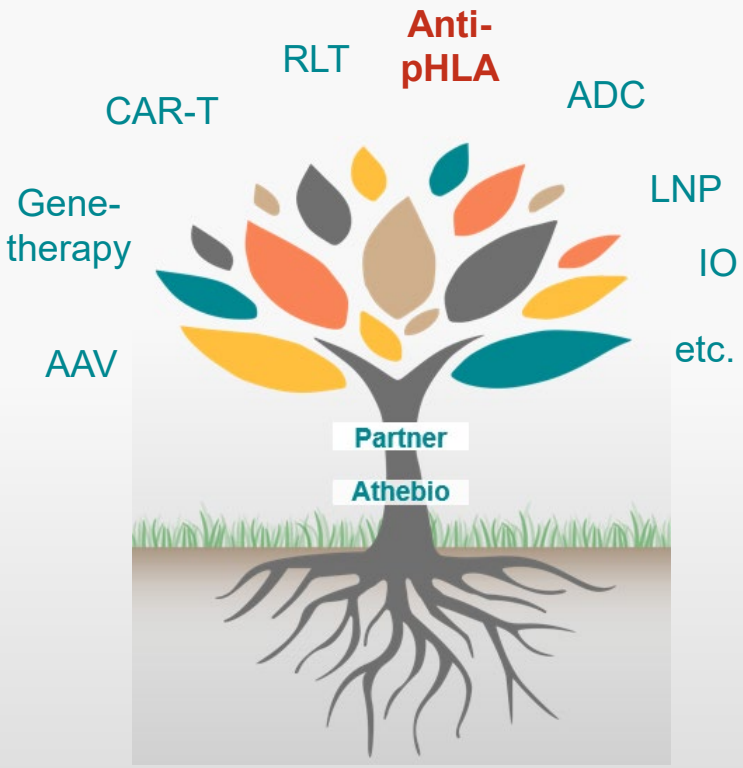


Athebody® Technology

Enabling Next-generation pHLA Therapeutics

Our roots: Designed Ankyrin Repeat Proteins (DARPins)



Knowhow, Patents
Athebody® DARPins &
libraries

Purpose

- We are here to enable drug developers to create superior targeted therapeutics of advanced efficacy and safety and thereby increased probability of clinical success.

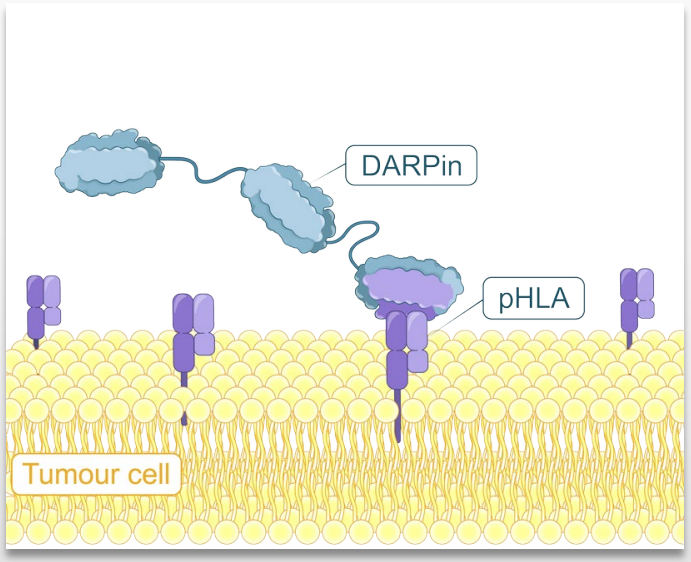
Vision

- We revolutionize drug development by bringing the design and selection of DARPins to perfection and establish them as state-of-the-art building blocks of targeted therapeutics. We aim for high return on investment for our partners and us through collaborative breakthrough innovation.

Mission

- We enable innovative drug developers to create superior targeted therapeutics by providing them with tailor-made “plug and play” DARPins, working together in a co-creative space, and supporting them with in-depth expertise and superb service.

Next-generation of pHLA Therapeutics



pHLA Therapeutics

- Complexes formed by the human leukocyte antigen (HLA) and peptides derived from intracellular proteins (pHLA complexes) extend the druggable target space.
- The development of pHLA therapeutics is extremely challenging because of possible toxic on- or off-target effects. Thus, increasing the therapeutic window of such drugs is key.
- T- cell receptor (TCR) mimetics (TCRms) are pHLA therapeutics engineered to overcome the limitations of natural TCRs (e.g., low affinity, low specificity and low stability).

Athebio

- We provide tailor-made DARPin building blocks to create superior TCRms of advanced efficacy and safety and thereby increase the probability of clinical success for our partners.

Limitations and Needs of pHLA Therapeutics

Needs

- Safety: manageable toxicity
- Efficacy: long-lasting response
- Good Manufacturability
- Strong protection and FTO

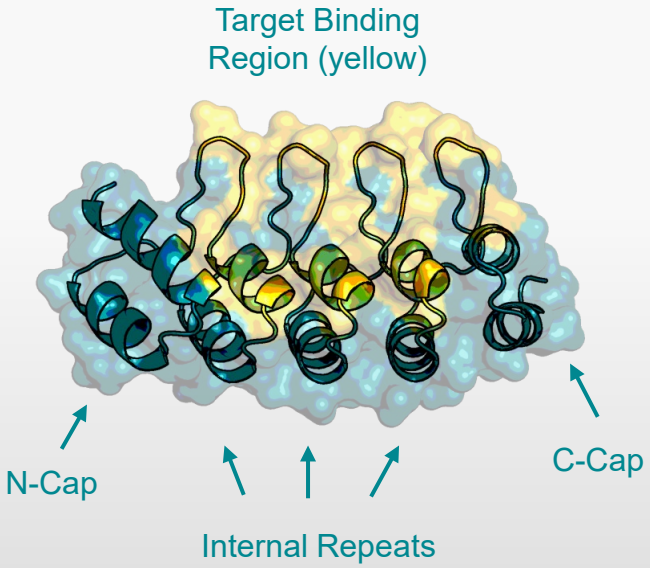
Our solution: Athebody® DARPin Building Blocks

Needs

- Safety: manageable toxicity
- Efficacy: long-lasting response
- Good Manufacturability
- Strong protection and FTO

- Unparalleled binding specificity and simple to generate multi-specificity; Straightforward “plug and play” format tuning, e.g., to prevent T cell exhaustion
- Best-in-class DARPins with superb and reliable developability properties
- Athebody® DARPins are covered by a strong IP portfolio and with good FTO prospects

Athebody® building blocks are based on clinically validated, hyper-versatile DARPins



Hyper-versatility

- DARPins are based on natural ankyrin repeat proteins and exceed the versatility of immunoglobulins by far (Stumpp M.T. et al. 2020).

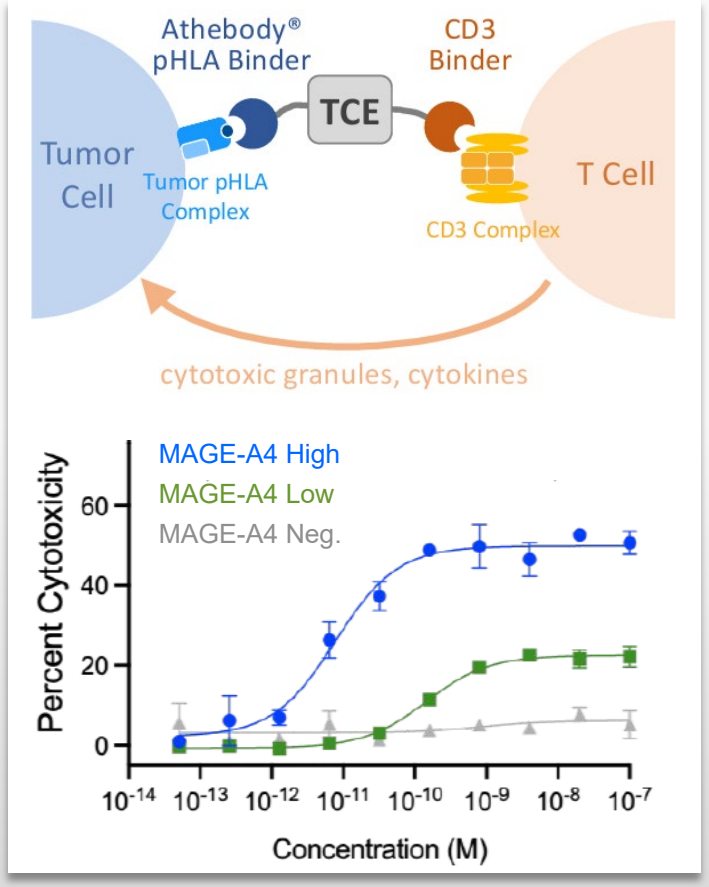
Clinical validation

- DARPins are clinically fully validated by Molecular Partners and their collaborators.

Athebody® DARPins

- Rigid-body binding provides exceptionally high (pHLA) target specificity and affinity (down to single digit pM).
- Ease to generate multi-specificity far beyond bi-specifics.
- Plug & play: Easily plug into immunoglobulin formats.
- Superb developability with no aggregation tendency based on exceptionally high thermal stability (Schilling J. et al. 2021)

Case Study: Athebody® DARPin T-cell engagers (TCEs)



DARPin-TCE and LDH release assay figures adapted from Ramirez A. et al. 2022

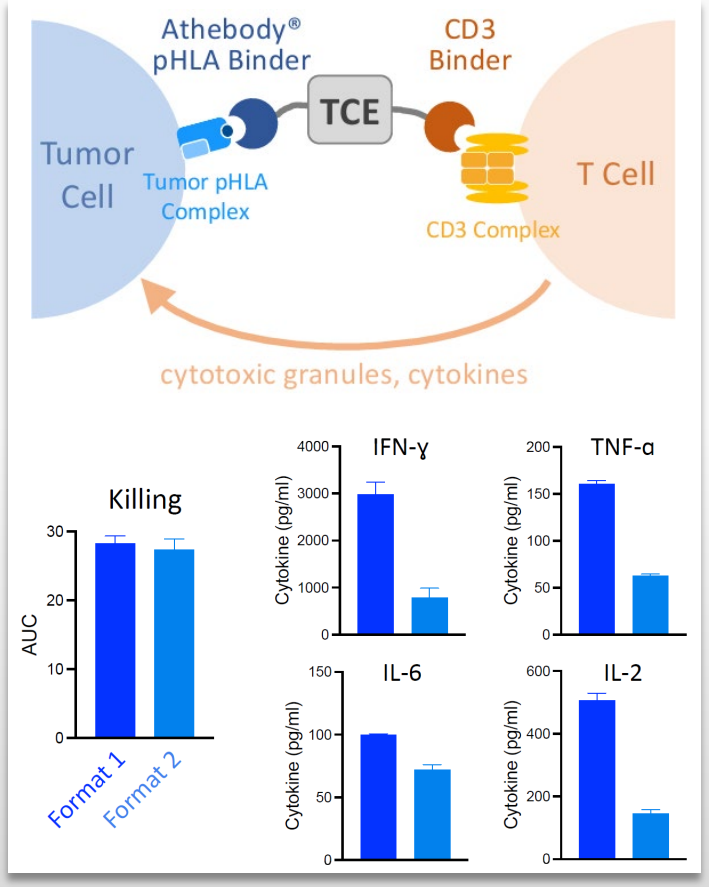
Generation of Athebody® DARPin TCEs

- 3T-Biosciences teamed up with us to generate next-generation of pHLA Therapeutics using our Athebody® DARPin building blocks.
- We selected highly specific Athebody® binders against a peptide from the cancer-germline antigen MAGE-A4 bound to HLA-A2.
- 3T-Biosciences easily plugged these Athebody® building blocks into their TCE formats comprising CD3 binding functionality.

Exceptional Therapeutic Window

- LDH release assay (E:T = 10:1, 48 hrs).
- The resulting DARPin-TCEs induce high potency killing of MAGE-A4-expressing cancer cell lines (MAGE-A4 Low: ~30 pHLA molecules/cell) with no detectable killing of corresponding antigen-negative cells (CRISPR/Cas9 k-o).

Case Study: Athebody® DARPin T-cell engagers (TCEs)



DARPin-TCE and cytokine release assay figures adapted from Ramirez A. et al. 2022

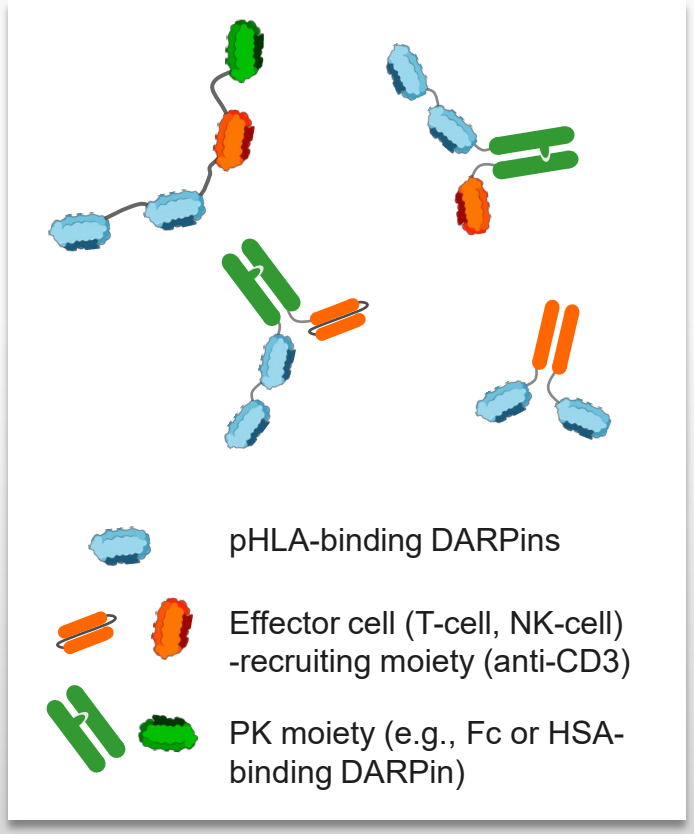
Killing Activity is Decoupled form Cytokine Release

- Whereas two Athebody® DARPin-TCE designs (Format 1 & 2) show equivalent killing activity, Format 2 induces significantly lower levels of cytokine release, which may reduce the risk of cytokine release syndrome in the clinic.

TCE Case Study: Conclusions

- Tailored Athebody® binder selection followed by simply plugging them into various TCE formats allowed 3T-Biosciences to identify DARPin-TCE leads of unparalleled efficacy and safety profiles.
- These DARPin-TCEs also exhibit favorable developability profiles (Ramirez A. et al. 2022).
- Low cytokine release likely translates into less severe T-cell exhaustion and thus long-lasting responses (Yi J.S. et al. 2010).

Next-generation of pHLA Therapeutics



Benefits of Athebody® DARPin Building blocks

- Potential to significantly increase clinical success rates by improving efficacy while reducing toxic side effects, by
  - Off-tumor off-target tox reduction (e.g., by increased on-target specificity based on their unparalleled binding specificity)
  - Off-tumor on-target tox reduction (e.g., by conditional activation)
  - Optimal exposure (e.g., by PK-engineering)
  - Addressing tumor heterogenicity (e.g., by multi-specific formats)
- Plug and play: Athebody® building blocks can be plugged into existing modalities (e.g., CAR-T cells, Fc-fusions, …) and allow accessing new design spaces.
- Excellent developability properties based on their superb folding and high thermostability.
- Beside oncology, Athebody® pHLA therapeutics could be applied in other fields such as virology.

Let’s co-create the next generation of pHLA Therapeutics!

- Our proprietary Athebody® platform & expertise
- Our innovation power and out-of-the-box thinking

DARPin-pHLA therapeutics with improved Safety and Efficacy

You

- Your product ideas and expertise to develop pHLA therapeutics
- Your commitment to innovation in drug development

Leadership team: Joining complementary forces around DARPin pioneers

Patrik Forrer

CEO, Board President

Initiator of the repeat protein technology; visionary and strategic thinker; co-founder of Molecular Partners AG (SIX: MOLN); strong background in protein sciences, preclinical drug development and IP/Legal.

Lorenz Kallenbach

Board Member, IP & Legal

Background in biochemistry; German and European patent attorney and senior patent counsel in Merck KGaA's healthcare division.

Johannes Schilling

VP Science Operations

Repeat protein and protein structure expert; former project leader for the Designed Ankyrin Repeat Protein platform at Molecular Partners AG.

Christian Jost

VP Early Partnering

Repeat protein, antibody & immuno-oncology expert. Former Senior Scientist at the Roche Innovation Center Zurich.

Joachim Schnabl

VP Information Technology

Bioinorganic chemist, structure expert; worked in Science Communication and as an Information Consultant for Chemistry and Pharmacy at ETH Zurich.

Lukas Wallacher

VP People, Team & Culture, VP Finance, Director BD

Background in medicine, business economics, and philosophy; former founder of a digital start-up and business model innovation consultant at BMI Lab AG, Zurich.

Team Athebio: We empower drug developers

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