Alloy Therapeutics® | Mediar Therapeutics

Accelerated Drug Discovery for First-in-Class Fibrosis Therapy

How Mediar Therapeutics and Alloy Therapeutics advanced antibody programs from concept to clinic ahead of schedule

Introduction

Guided by CEO Rahul Ballal, PhD, Mediar Therapeutics was founded with one mission—pioneering a new approach and new therapies for patients with fibrotic diseases. By targeting and neutralizing fibrotic mediators, Mediar aims to stall or reverse disease progression. Supported by leading global investors, the company has assembled experts across disease biology, antibody discovery and engineering, and clinical development to accelerate the path from discovery to drug for devastating diseases.

Building on its prior success using Alloy's ATX-Gx™ human transgenic mouse platform for its lead drug program, MTX-463 (now in Phase II clinical trials) Mediar embarked on its next mission—to develop a drug against a new challenging target. **This new target was challenging for a number of reasons:**

- Quality recombinant reagents were unavailable for this target
- The target protein has high homology between human and mouse
- Previous antibody discovery attempts had proven unsuccessful

Emboldened by these challenges, Mediar was steadfast in its mission. However, its timelines had become urgent. Mediar sought a drug discovery partner that was innovative, experienced, agile, and highly collaborative. Armed with knowledge from its previous campaigns, success would require advanced tolerance-breaking protocols, the use of specialized transgenic strains, and proprietary genetic immunization strategies to elicit a robust immune response and identify antibodies with drug-like properties that would work with the highest likelihood of success.

Recognizing Alloy Therapeutics' expertise, Mediar partnered with the company, leveraging Alloy's innovative antibody discovery workflows, optimized ATX-Gx™ human transgenic mouse platform, and team of experienced discovery scientists.

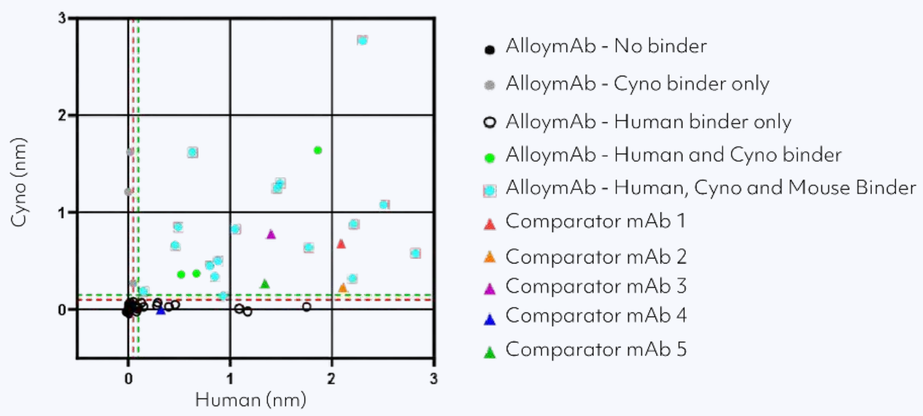
Turning Complex Targets Into Opportunity

Mediar's challenge was clear: fibrosis targets are highly complex, and success required discovery of a panel of novel antibodies with drug-like properties targeting various unique epitopes. Alloy's ATX-Gx™ platform was built for this kind of challenge. By delivering broad, high-quality antibodies alongside a flexible, partner-first collaboration model, Alloy enabled Mediar to accelerate into further downstream development with confidence.

Collaboration in Action

The partnership between Mediar and Alloy was defined by collaboration, agility, and focus on execution. For this challenging target, Alloy leveraged ATX-GKH mice, a hyperimmune strain capable of producing a robust immune response against a target with high human-mouse homology. Additionally, the Alloy team utilized a unique genetic immunization strategy that has demonstrated great success across various target classes.

Recombinant Binding of Antibody Panel to Human and Cyno Proteins



ATX-Gx™ antibodies demonstrated strong binding across human, cyno, and mouse proteins. This cross-species reactivity provided Mediar with a robust panel of candidates ready for advancement.

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With Alloy's ATX-GKH mouse strain and immunization strategy, the campaign delivered high-quality, therapeutic-grade antibodies with clean developability profiles, including clones with strong target selectivity, cross-species reactivity, and potency consistent with benchmark standards. Several sequences were prioritized for further evaluation and have progressed into development.

Discovery isn't always predictable, and timelines in drug discovery rarely follow a straight path. During initial characterization, the Alloy team encountered an assay challenge. Rather than risk delay, the Alloy team pursued a parallel track, quickly developing, validating and pivoting to the alternative screening approach. This problem-solving mindset preserved timelines, minimized project risk, and kept detailed characterization moving forward.

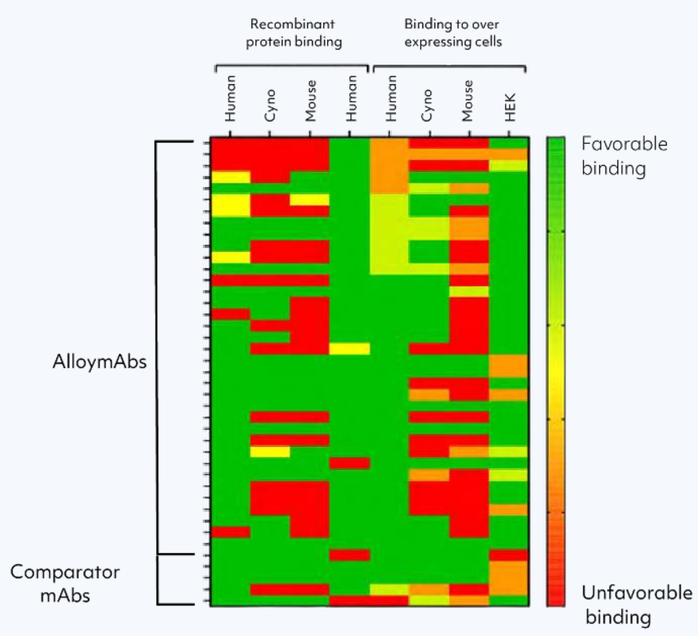
Collaboration extended beyond the science. Alloy piloted streamlined logistics, including same-day material transfer, to accelerate data generation and decision-making. Just as important, Alloy's disciplined project management, with weekly partner touchpoints to review progress and align on critical decisions, ensured momentum was high even when challenges weren't visible from the outside.

This combination of scientific rigor, adaptive problem-solving, and operational urgency enabled Mediar to move high-quality assets into clinical development ahead of schedule.

Results & Clinical Progress: A Shared Vision for Fibrosis

Alloy delivered differentiated binders that enabled Mediar to move faster than competitors and secure a first-in-class position in fibrosis.

Alloy mAb Antibody Binding Profile



From 36 initial human-targeted binders, Alloy identified 26 with human/cyno reactivity and 14 with full human/cyno/mouse cross-reactivity. Only a single binder showed off-target activity, underscoring the panel's specificity and clean developability profile.

To identify these binders, Alloy leveraged their proprietary, AI/ML-enabled, discovery workflows. These models can parse high-dimensional sequence space to identify antibodies with the greatest pharmacological potential. Of 36 initial binders from the AI/ML prioritized pool, 26 demonstrated human/cyno reactivity and 14 of these also bound mouse for triple-species cross-reactivity. Antibodies with these characteristics will offer an expedited and de-risked path to the clinic.

For Mediar, the collaboration has been transformational. As CEO Rahul Ballal reflects, "Alloy's urgency and flexibility allowed Mediar to execute on its bold vision and translate science into clinical progress faster than anticipated."

Accelerating Partners, Advancing Patients

This partnership reflects Alloy's mission: to empower the drug discovery community with the platforms, tools, and expertise to bring new medicines to those who need them. With the ATX-Gx™ platform and innovative antibody discovery and development capabilities, partners can move drug discovery and development further, faster.

As Errik Anderson, CEO, Alloy Therapeutics states, "Our success is measured in the clinical progress of our partners."

Together, Mediar and Alloy have shown what's possible when science and urgency align to advance new medicines that have the potential to redefine the future of fibrosis treatment.

Alloy Therapeutics has over 200+ partners, 100+ active drug programs declared by partners and progressing, and 20 INDs filed by partners since our first platform.

About Mediar Therapeutics

Mediar Therapeutics, is advancing new antibody approaches to fibrosis by targeting the myofibroblast, the central driver of scarring and disease progression.

The Cambridge-based company has raised over $175MM to date and pairs novel targets with accessible blood biomarkers and established modalities to develop precision anti-fibrotic therapies.

 Since 2019, We've helped over 170+ partners make medicine.

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