Antibody Discovery for Amylin Receptor GPCR Agonists

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Targeting Amylin Receptor

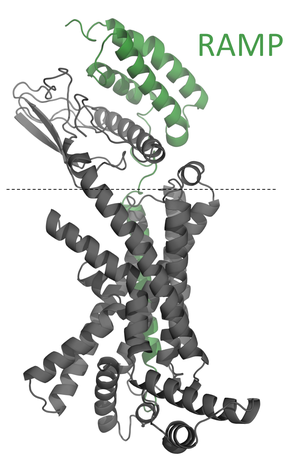
Amylin receptor is a next-generation obesity target with standalone and GLP-1 synergistic potential, but is challenging due to:

- **Receptor subtypes** requiring precise specificity and junctional epitope recognition
- **Deep Class B1 GPCR** ligand pockets poorly suited to direct antibody engagement

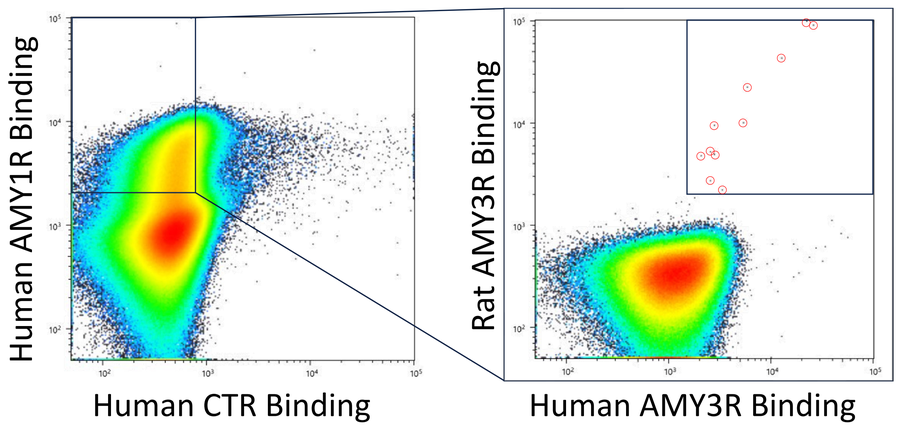
Our Approach

- **Soluble analogues** to embody receptor subtypes
- **Subtype-driven selections** with AMYR components
- **Mammalian display** to refine specificity, developability, and species cross reactivity
- **Peptide-antibody fusions** to enable agonism

Amylin Receptor



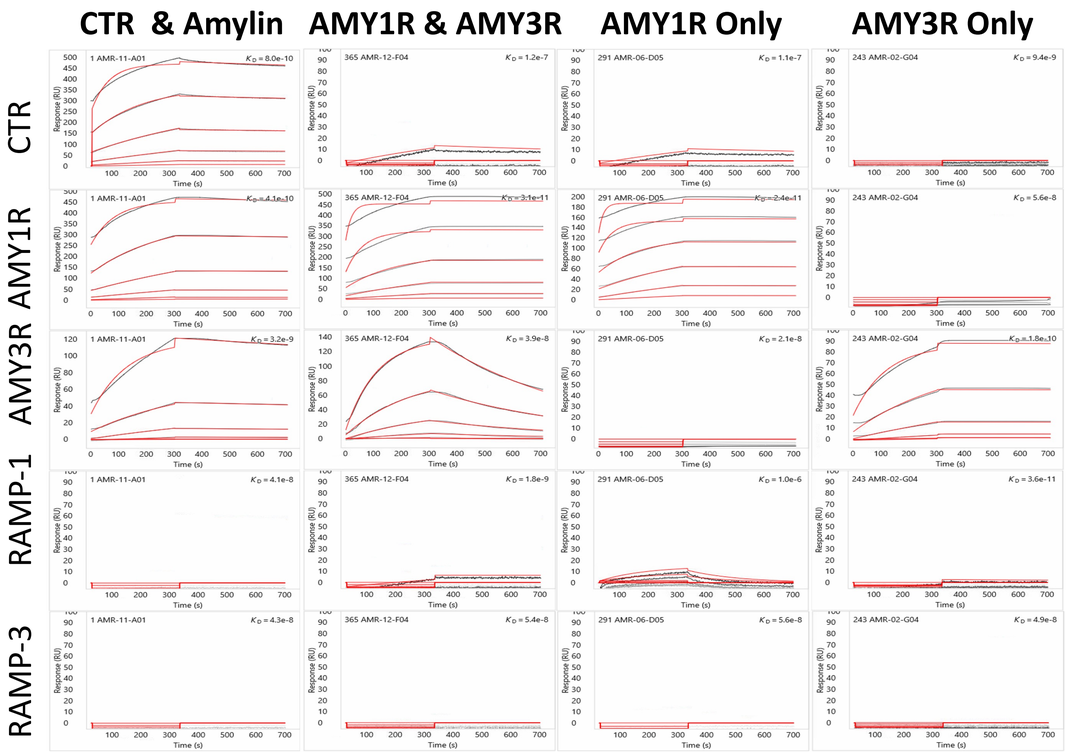
Sorting Resolves High-Dimensional Specificity



Biophysical Validation

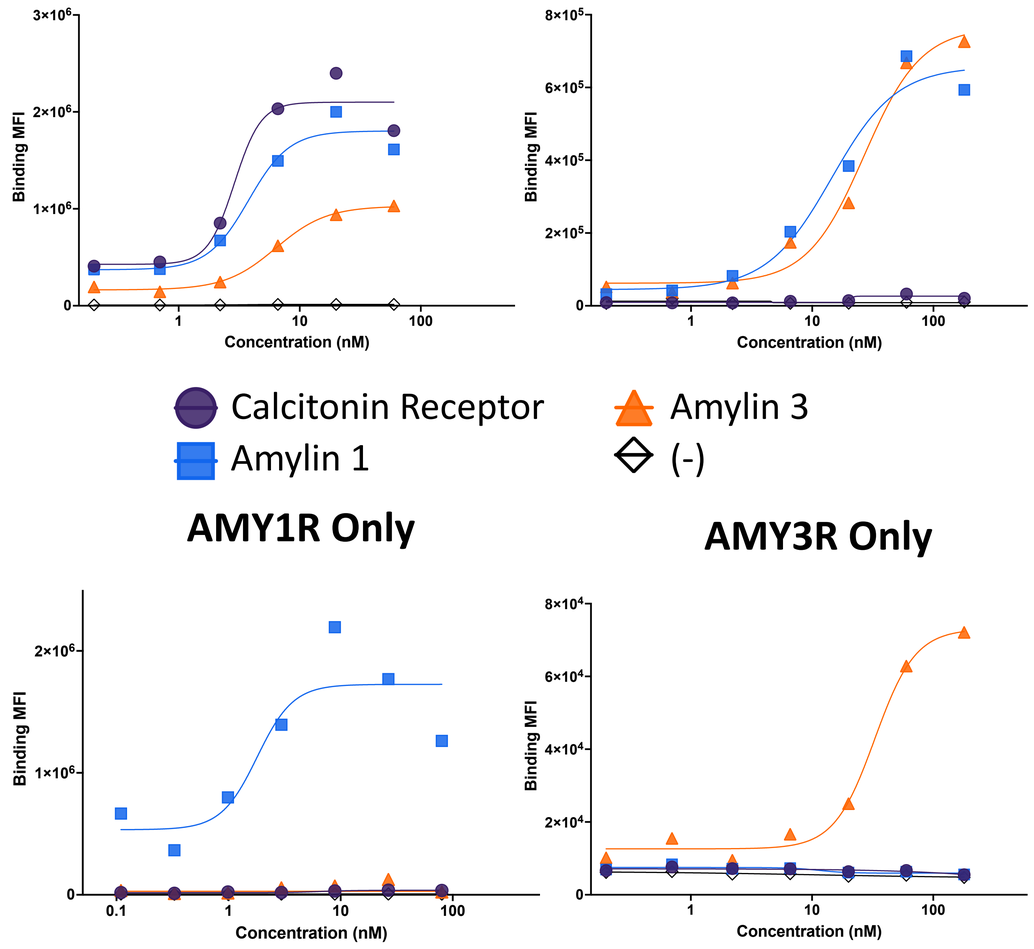
Soluble Antigens Identify 4 Specificity Profiles

Specificity Profile – Representative Clone

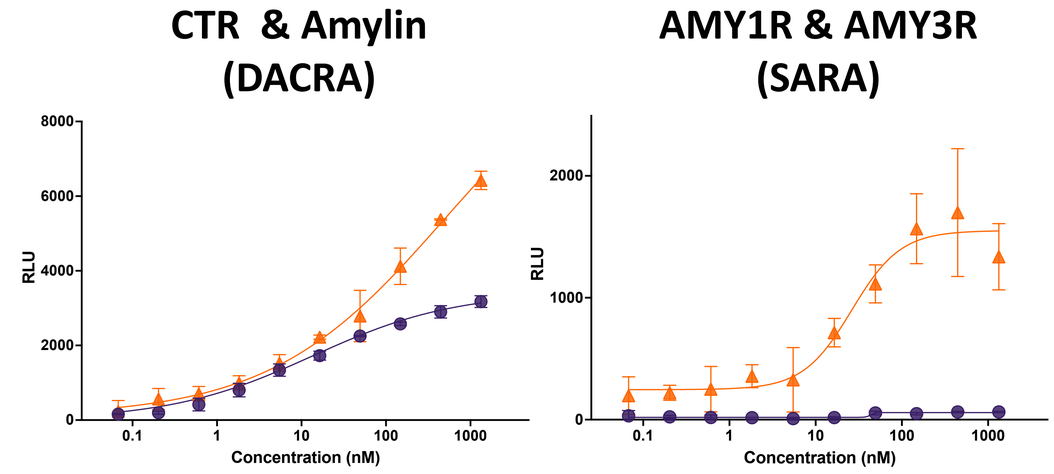


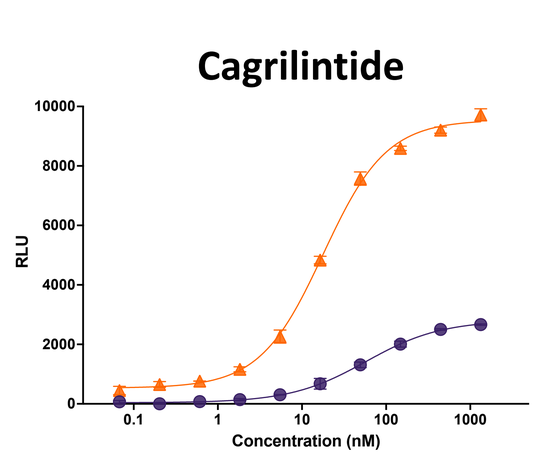
Cell-Based Validation

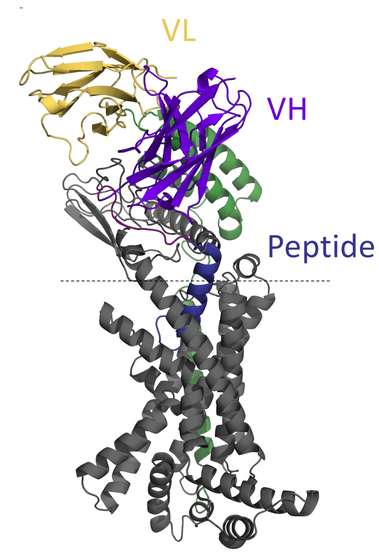
Specificity Profiles Translate to Cell Binding



Fusion with Engineered Peptide Generates Agonists while Maintaining Specificity







Cagrilintide is a dual Amylin and Calcitonin Receptor specific agonist (DACRA) in phase 3 clinical trials

Conclusion

Selective next-generation amylin agonists are discovered and refined through mammalian selection using logical combinations of soluble receptor analogues.