

Sethera Therapeutics and Receptor.AI Form Integrated Discovery Alliance for AI-Guided Polymacrocylic Peptide Medicines

Collaboration combines Sethera's proprietary enzymatic polymacrocyclization and trillion-scale encoded screening with Receptor.AI's physics-based modeling

SALT LAKE CITY, UT, UNITED STATES, August 3, 2026 /EINPresswire.com/ -- SALT LAKE CITY and CAMBRIDGE, Mass., AUG 3, 2026 - [Receptor.AI](#) Inc. ("Receptor.AI"), a TechBio drug discovery company developing integrated AI- and physics-based platforms for molecular design and preclinical discovery, and [Sethera Therapeutics](#) ("Sethera"), a biotechnology company developing a proprietary enzymatic platform for polymacrocylic peptide medicines, today announced a strategic research collaboration to establish a closed-loop discovery and optimization workflow for difficult therapeutic targets.

Under the collaboration, Sethera will generate and experimentally screen architecture-diverse polymacrocylic peptide libraries. Receptor.AI will apply physics-based modeling, artificial intelligence, and multiparameter optimization to interpret sequence, architecture, enrichment, and activity data; develop binding hypotheses; prioritize candidate series; and guide focused optimization cycles. The companies will then design, synthesize, and experimentally test new candidates, using the resulting data to inform each subsequent cycle.

Sethera's platform installs one to six stable cross-links to generate polymacrocylic, nested, in-line, and interpeptide structures across large, encoded libraries. Unlike constrained-peptide approaches centered on a predetermined structural motif, Sethera's platform explores multiple experimentally accessible topologies, allowing target biology and screening data to identify the most productive molecular architecture. By combining this chemical space with Receptor.AI's computational capabilities, the companies intend to advance screening-derived hits toward validated lead series with improved potency, selectivity, stability, permeability, and other developability characteristics.

The initial program will focus on a mutually selected hard-to-drug target. The companies will prospectively assess whether the integrated workflow improves hit confirmation, target selectivity, and lead optimization compared with conventional enrichment- and assay-led prioritization. Following validation of the initial workflow, Receptor.AI and Sethera intend to pursue additional internal programs and jointly structured discovery collaborations with pharmaceutical and biotechnology partners across selected target classes and therapeutic areas.

Additional terms of the collaboration were not disclosed.

"Sethera's platform creates experimentally accessible peptide architectures that conventional design approaches do not readily reach," said Dr. Alan Nafiiiev, Founder and CEO of Receptor.AI. "Our objective is to use physics and AI not as a substitute for experimentation, but to learn from each experimental cycle and direct the next one. That closed feedback loop is where we believe the collaboration can create distinctive value."

"Sethera can search enormous physical libraries and identify target-binding sequence and architecture families that cannot be generated through conventional peptide design alone," said Dr. Karsten Eastman, CEO and Co-Founder of Sethera Therapeutics. "Receptor.AI adds a powerful layer for understanding why those hits work and how they can be improved. Together, we intend to create a coordinated design-make-test-learn process that moves more efficiently from experimental discovery to validated lead series."

The collaboration is specifically focused on applying Receptor.AI's computational platform to Sethera's proprietary polymacrocyclic peptide chemistry, encoded screening data, and resulting therapeutic candidates. Each company will retain its background platform technologies, and joint programs will be conducted under coordinated research plans with defined experimental, computational, data, and program-management responsibilities.

Through the alliance, Receptor.AI and Sethera aim to establish a repeatable discovery system that continuously learns from sequence, architecture, counterselection, binding, functional, and developability data generated across experimental campaigns. The resulting workflow is intended to reduce the number of design cycles required to progress from initial screening hits to differentiated peptide lead series.

About Receptor.AI

Receptor.AI is a U.S.-based TechBio drug discovery company developing integrated AI- and physics-based platforms for preclinical discovery. Its technology combines generative AI, structure- and physics-based modeling, multiparameter optimization, and adaptive decision systems to help pharmaceutical and biotechnology partners define discovery strategies and design, prioritize, and optimize candidates for complex target biology. Receptor.AI supports programs across small molecules, peptides, and induced-proximity therapeutics.

More information: <https://www.receptor.ai>

About Sethera Therapeutics

Sethera Therapeutics is developing a proprietary enzymatic platform for the discovery and development of polymacrocyclic peptide therapeutics. Sethera's technology installs defined, stable thioether cross-links to create single-macrocyclic, nested, in-line, and interpeptide architectures. The platform integrates enzymatic macrocyclization, large-scale encoded-library screening, next-generation sequencing, peptide synthesis, and biological validation to discover differentiated candidates for difficult therapeutic targets. Sethera is advancing internal and

partnered programs in oncology, inflammation and immunology, metabolic disease, and other therapeutic areas.

More information: <https://setheratx.com>

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