

**Ra Pharmaceuticals Forms First Corporate Alliance, Strikes \$200M Deal With Merck***Brian Gormley**April 02, 2013*

**Ra Pharmaceuticals Inc.**, whose technology may enable drug-makers to take aim at difficult targets such as protein-protein interactions, has signed its first corporate collaboration, a \$200 million drug-development deal with Merck & Co.

The company's Cyclomimetics compounds are designed to be as specific for their targets as antibodies but to have the beneficial attributes of small-molecule drugs. This combination may enable it to develop drugs that disrupt protein-protein interactions, a target not easily accessible today.

Drug-developers see several intracellular protein-protein interactions as attractive targets. In cancer, for example, Ras-Raf interactions are crucial to uncontrollable cellular proliferation, said Ra co-founder and Chief Executive Doug Treco.

Today's drugs aren't ideal for preventing these interactions. Small-molecule therapies enter cells but typically don't prevent interactions between large-molecules. Large-molecule drugs can interfere with protein-protein interactions, but they don't readily enter cells.

Ra and other startups are developing new types of drugs that may be up to this task. They include **Ensemble Therapeutics Corp.**, a developer of "Ensemblin" drugs, and **Aileron Therapeutics Inc.**, which is advancing "stapled peptide" therapies. **Novartis** Venture Funds has invested in Ra and Aileron.

Ra's compounds are peptide-like molecules that are notable for their cyclic structure and backbone and side-chain modifications, the company said. The company, which can make compounds with natural and unnatural amino acids, can develop oral drugs that are highly specific for their intracellular target, according to Dr. Treco.

The company, based in Cambridge, Mass., formed in 2008 and has raised \$27 million through a tranced Series A round closed in 2010. Ra is two-thirds of the way through that financing and expected to call down the third tranche this summer, according to Dr. Treco. This alliance extends its runway and enables it to wait longer for that third tranche, he said, but he didn't give specifics.

Ra may receive up to \$200 million from Merck, including upfront and research funding and discovery, development, regulatory and commercialization milestones. The companies didn't reveal the diseases they planned to target.

Ra is also developing its own pipeline. It includes an oral drug for hereditary angioedema, a rare and potentially fatal disorder of the innate immune system. That program is in preclinical studies, Dr. Treco said.

In addition to **Novartis**, Ra investors include Amgen Ventures, **Morgenthaler Ventures** and **New Enterprise Associates**.

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