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Ra Pharmaceuticals Unveils Hereditary Angioedema as Lead Program Leveraging Its Cyclomimetic Discovery Platform

Closes \$8.6M Second Tranche of \$27M Series A

Presentation at TIDES to Highlight Lead Program and Technology

CAMBRIDGE, Mass.--(BUSINESS WIRE)--Ra Pharmaceuticals today announced it is pursuing hereditary angioedema (HAE) as a lead program, leveraging the Company's proprietary Cyclomimetic™ drug discovery and development platform. HAE is a rare, but serious and often fatal disorder of the innate immune system that causes intermittent attacks characterized by swelling and pain of the face, airways and intestinal tract. Ra Pharma has discovered HAE drug candidates designed to prevent these attacks by inhibiting plasma kallikrein, which controls the release of bradykinin, a mediator of swelling and pain associated with HAE attacks. Cyclomimetics are a new drug class with the diversity and specificity of antibodies, coupled with the beneficial properties of small molecules.

“We see great potential for their unique platform to provide valuable candidates for both Ra Pharmaceuticals and potential partners.”

“Ra Pharmaceuticals is developing Cyclomimetics to address diseases with significant unmet medical need, such as HAE,” said Doug Treco, Ph.D., Co-Founder, President and CEO, Ra Pharmaceuticals. “The only FDA-approved treatment for the prevention of HAE attacks is delivered intravenously every 3 to 4 days and produced from human blood. Our synthetic Cyclomimetics are easily produced, and could offer a stable, highly potent option for patients suffering from HAE. In addition, Cyclomimetics have the potential to be orally-available, which would significantly increase the quality of life for patients with HAE.”

Treco continued, “We will continue to build out our pipeline using our high-diversity drug discovery platform capable of generating optimized lead candidates in a matter of weeks, but also hope to secure discovery and development partnerships as we gain momentum with our internal programs. The Company is on sturdy ground with the recent 2nd tranche closing of our \$27M series A financing and a strong IP portfolio covering our lead candidates, display technologies and the ability to generate peptidomimetic libraries with multiple non-natural amino acids.”

Dr. Treco will present “Direct selection of cyclic peptidomimetics from *in vitro* display libraries” at TIDES, the Oligonucleotide and Peptide Research, Technology and Product Development Conference on Wednesday, May 23, 2012, at 10:00 am PT at the Mandalay Bay Resort & Casino in Las Vegas, NV.

About Cyclomimetics™

Cyclomimetics are peptide-like molecules characterized by their cyclic structure and backbone and side-chain modifications that provide unique, beneficial properties not found in natural peptides. The result is a highly specific and stable molecule with improved cell permeability and the potential for greatly increased bioavailability.

Cyclomimetics result from the Company’s proprietary Extreme Diversity™ platform. The platform is unique in that it combines *in vitro* display technology, a completely defined translation system and a wide variety of non-natural amino acids. Unlike certain other display technologies, *in vitro* display does not require the use of a bacterial or yeast host, and it can produce libraries of 10 to 100 trillion members. Further, the technology has the potential to address protein-protein interactions and other previously undruggable targets.

“Ra Pharma has made outstanding progress in establishing its drug discovery platform and generating candidates for four programs, and we are pleased to continue our investment with the Company,” said Jim Broderick, M.D., Morgenthaler Ventures. “We see great potential for their unique platform to provide valuable candidates for both Ra Pharmaceuticals and potential partners.”

About Ra Pharmaceuticals

Ra Pharma™ is developing Cyclomimetics™, a new drug class with the diversity and specificity of antibodies, coupled with the many benefits of small molecules. Ra Pharma's peptide-like molecules are highly-stable, synthetic products with chemical structures that offer intrinsic cell permeability. Ra Pharma is leveraging its ability to rapidly generate drug candidates to develop its own portfolio of products and partnerships focused on intracellular protein-protein interactions and other innovative approaches for addressing unmet medical needs. For more information, please visit: www.rapharma.com.

Ra Pharma was incorporated in 2008 and secured a \$27M Series A in February of 2010 led by New Enterprise Associates with Morgenthaler Ventures, Novartis Venture Funds and Amgen Ventures participating.

Contacts

MacDougall Biomedical Communications
Michelle Avery, 781-235-3060