FOR IMMEDIATE RELEASE

Merrimack Pharmaceuticals Initiates Enrollment in a Phase 1 /2 Combination Study of MM-111 and Herceptin® in Patients with Advanced Her2 Positive Breast Cancer

CAMBRIDGE, Mass., May 17, 2010 – Merrimack Pharmaceuticals, Inc. announced today that the first patient has received an initial dose in a Phase 1 /2 clinical study combining MM-111 with Herceptin® (trastuzumab) in patients with advanced Her2 positive breast cancer.

MM-111 is a bi-specific antibody that targets tumor cells over-expressing ErbB2/HER2. MM-111 is designed to inhibit the signaling between ErbB2/HER2 and ErbB3/HER3 thus disabling the phosphatidylinositol 3-kinase (PI3K) pathway and preventing tumor proliferation.

"Our team is quite excited to test this combination in clinical trials given the preclinical data we have produced showing that MM-111 and Herceptin® have very complementary mechanisms of action," said Clet Niyikiza, Ph.D., Executive Vice President of Development at Merrimack. "We believe that by combining the two candidates, we have the potential to treat a number of HER2 positive breast cancer patients who are not benefiting from current treatments."

The Phase 1 /2 study will initially evaluate the human safety and pharmacokinetics of MM-111 in combination with Herceptin® and establish a safe regimen. The Phase 2 portion of the study will then investigate the regimen's efficacy in the advanced Her2 positive breast cancer patient population. The trial is based on preclinical work showing that MM-111 and Herceptin® positively combine to inhibit the growth of ErbB2 over-expressing breast cancer cells. The Gabrail Cancer Center in Canton, Ohio, Huntsman Cancer Institute in Salt Lake City, Utah, and the Massachusetts General Hospital in Boston, Massachusetts will participate in this study. The first patient in the study was enrolled at Huntsman Cancer Institute.

About MM-111

MM-111, a bi-specific antibody, binds to two different target proteins: ErbB2 and ErbB3. By binding to ErbB2 and ErbB3, MM-111 stops the signaling between these two cell receptors and disables their impact on the PI3K pathway. Deactivating the PI3K pathway has been shown to inhibit tumor growth. There are bi-specific antibodies in development that bind to different target proteins on different cells, but MM-111 is unique in that it binds to two different target proteins on the same cell. Pre-clinical data exhibiting MM-111's impact on several ErbB2 positive cancer models, both as a monotherapy and in combination with Herceptin®, were presented at the 2009 and 2010 Annual Meeting of the American Association of Cancer Research. Merrimack has developed a broad intellectual property position around MM-111. This portfolio includes U.S. and international patent filings relating to compositions of matter and methods of use as well as licensed patents and pending patent applications, trade secrets and proprietary know-how.

About Merrimack

Merrimack Pharmaceuticals, Inc. is a biopharmaceutical company dedicated to the discovery and development of novel medicines for the treatment of cancer and inflammation. The Company is advancing a robust pipeline of engineered therapeutics paired with molecular diagnostics. Merrimack's first two oncology candidates, MM-121, partnered with sanofi-aventis, and MM-111, are in Phase 1 clinical testing with multiple pre-clinical development and research stage programs in the pipeline. MM-121 and MM-111 are investigational drugs and have not been approved by the U.S. Food and Drug Administration or any international regulatory agency. The Company's proprietary Network Biology discovery platform, developed with the help of leading scientists from MIT and Harvard, integrates the fields of engineering, biology and computing to enable mechanism-based model driven discovery and development of both therapeutics and diagnostics. Merrimack is a privately-held company based in Cambridge, Massachusetts. For additional information, please visit http://www.merrimackpharma.com.

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