Mersana Announces FDA Clearance of IND Application for XMT-1536, a First-in-Class Antibody Drug Conjugate Targeting NaPi2b

Second IND Clearance from Mersana's Novel Dolaflexin ADC Platform Within the Past Year

Cambridge, Mass., October 30, 2017 – Mersana Therapeutics, Inc., (NASDAQ:MRSN) a clinical-stage biopharmaceutical company focused on discovering and developing a pipeline of antibody drug conjugates (ADCs) based on its proprietary Dolaflexin® platform, today announced that the U.S. Food and Drug Administration (FDA) cleared the company's Investigational New Drug (IND) application to begin Phase 1 clinical trials for XMT-1536.

"We are excited to be moving XMT-1536 into clinical development as a first-in-class and potentially best-in-class ADC against NaPi2b, a target with outstanding properties for ADC development on the Dolaflexin platform," said Donald A. Bergstrom, Chief Medical Officer. "Currently, patients with advanced epithelial ovarian cancer, non-squamous NSCLC and other NaPi2b-expressing tumors have a poor prognosis, and there's a clear need for better treatment options. We look forward to beginning the clinical investigation of XMT-1536, which has shown promising results in preclinical models."

XMT-1536 is a first-in-class ADC targeting NaPi2b, a clinically validated ADC target broadly expressed in epithelial ovarian cancer, non-squamous non-small cell lung cancer (NSCLC), as well as a number of other tumor types. XMT-1536 is comprised of Mersana's Dolaflexin platform conjugated to a proprietary NaPi2b antibody. Each antibody molecule carries 10-15 molecules of Mersana's proprietary DolaLock payload, resulting in a balance of meaningful preclinical efficacy and preclinical tolerability. In preclinical studies, XMT-1536 induced greater than 50% median tumor regression in 10/19 (53%) primary patient-derived ovarian cancer xenograft models unselected for NaPi2b protein expression, with 10/12 (83%) tumor responses in NaPi2b-expressing models. In patient-derived NSCLC xenograft models, XMT-1536 achieved durable tumor regressions in 6/9 (75%) tested models.

"The clearance of this IND, our second in a year, marks an important milestone for the company as we continue to move our novel pipeline of product candidates into the clinic," said Anna Protopapas, President and Chief Executive Officer of Mersana. "This achievement is a result of our dedicated employees who are focused on executing on our important mission of creating therapies with meaningful clinical benefit for patients."

About Mersana Therapeutics
Mersana Therapeutics is a clinical-stage biopharmaceutical company using its differentiated and proprietary ADC platforms to develop highly targeted drugs with increased tolerability and expanded opportunities to deliver meaningful clinical benefit to patients. Mersana's lead product candidate, XMT-1522, is in Phase 1 clinical trials in patients with advanced tumors expressing HER2, including breast cancer, non-small-cell-lung-cancer (NSCLC) and gastric cancer patients. The Company expects that its second product candidate, XMT-1536, will enter clinical trials in early 2018. In addition, multiple partners are using Mersana's leading platform to advance their ADC pipelines.

Forward-Looking Statements
This press release contains forward-looking statements and information within the meaning of the Private Securities Litigation Reform Act of 1995. The words ''anticipate,'' ''believe,'' ''continue,'' ''could,'' ''estimate,'' ''expect,'' ''intend,'' ''may,'' ''plan,'' ''potential,'' ''predict,'' ''project,'' ''target,'' ''should,'' ''would'' and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. The Company may not actually achieve the plans, intentions or expectations disclosed in these forward-looking statements, and you should not place undue reliance on these forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in these forward-looking statements as a result of various factors, including: uncertainties inherent in the initiation and completion of preclinical studies and clinical trials and clinical development of the Company's product candidates; availability and timing of results from preclinical studies and clinical trials; whether interim results from a clinical trial will be predictive of the final results of the trial or the results of future trials; expectations for regulatory approvals to conduct trials or to market products; and availability of funding sufficient for the Company's foreseeable and unforeseeable operating expenses and capital expenditure requirements. These and other risks are described in greater detail under the caption "Risk Factors" included in the Company's most recent Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on August 11, 2017, and in other filings that the Company may make with the Securities and Exchange Commission in the future. Any forward-looking statements contained in this press release speak only as of the date hereof, and the Company expressly disclaims any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise.

Contacts:

Media Contact
Paul Kidwell, 617-680-1088
paulkidwell@mersana.com

or

Investors Contact
Stern Investor Relations, Inc.
Christina Tartaglia, 212-362-1200
christina@sternir.com