February 18, 2020

Mustang Bio Announces First Subject Treated in Phase 1/2 Trial with the Optimized CD20-targeted CAR T Cell Therapy MB-106

The subject achieved a complete response

NEW YORK, Feb. 18, 2020 (GLOBE NEWSWIRE) -- Mustang Bio, Inc. ("Mustang") (NASDAQ: MBIO), a clinical-stage biopharmaceutical company focused on translating today's medical breakthroughs in cell and gene therapies into potential cures for hematologic cancers, solid tumors and rare genetic diseases, today announced that the first subject treated with the optimized MB-106 (CD20-targeted, autologous CAR T cell therapy) manufacturing process, developed in collaboration between Mustang and Fred Hutchinson Cancer Research Center ("Fred Hutch"), has achieved a complete response (CR) at the lowest starting dose in an ongoing Phase 1/2 clinical trial. The trial is evaluating the safety and efficacy of MB-106 in subjects with relapsed or refractory B-cell non-Hodgkin lymphomas.

Manuel Litchman, M.D., President and Chief Executive Officer of Mustang, said, "We are thrilled to announce that we have achieved a complete response in the first subject dosed with MB-106 following Mustang and Fred Hutch's enhancement to the cell process. MB-106 targets CD20, a commercially validated target on the surface of cancer cells that has lacked a strong CAR T-based clinical focus in the U.S. The complete response was seen on Day 28 in a subject with relapsed follicular lymphoma, and no cytokine release syndrome or neurologic toxicity were observed. The response was especially encouraging, since the subject received a dose of only 3.3×10^5 CAR T cells/kg. While this initial success of the optimized MB-106 is important, additional clinical testing is necessary. We are looking forward to follow-up data, as well as continuing to establish the safety of the therapy, which appears to be well tolerated to date. We are excited to work further with Fred Hutch to develop MB-106 and anticipate providing additional clinical results by year end."

The Phase 1/2, open-label, dose-escalation trial is evaluating the maximum tolerated dose of MB-106. Secondary endpoints include safety and toxicity, preliminary antitumor activity as measured by overall response rate and complete remission rate, progression-free survival, and overall survival. Fred Hutch intends to enroll approximately 30 subjects on the trial, which is being led by principal investigator Mazyar Shadman, M.D., M.P.H., Assistant Member of Fred Hutch's Clinical Research Division.

About B-cell Non-Hodgkin Lymphoma (NHL)
There are several forms of NHL, including follicular lymphoma, mantle cell lymphoma, marginal zone lymphoma, lymphoplasmacytic lymphoma and small lymphocytic lymphoma, which account collectively for about 45% of all cases of NHL. Most types of NHL are incurable with available therapies, except for allogenic hematopoietic stem cell transplant (allo-SCT). More than 70,000 new cases of B-cell NHL are diagnosed each year in the United States, and more than 19,000 patients die annually due to this group of diseases.

About MB-106 (CD20-targeted CAR T Cell Therapy)
CD20 is a membrane-embedded surface molecule which plays a role in the differentiation of B-cells into plasma cells. The CAR T was developed by Mustang's research partner, Fred Hutchinson Cancer Research Center, in the laboratory of Oliver Press, M.D., Ph.D., and Brian Till, M.D., in the Clinical Research Division and exclusively licensed to Mustang Bio in 2017. MB-106 has been optimized as a third-generation CAR derived from a fully human antibody and is currently in a Phase 1/2 open-label, dose-escalation trial at Fred Hutch in B-cell non-Hodgkin lymphoma patients. Additional information on the trial can be found at www.clinicaltrials.gov using the identifier NCT03277729.

About Mustang Bio
Mustang Bio, Inc. ("Mustang") is a clinical-stage biopharmaceutical company focused on translating today's medical breakthroughs in cell and gene therapies into potential cures for hematologic cancers, solid tumors and rare genetic diseases. Mustang aims to acquire rights to these technologies by licensing or otherwise acquiring an ownership interest, to fund research and development, and to outlicense or bring the technologies to market. Mustang has partnered with top medical institutions to advance the development of CAR T and CRISPR/Cas9-enhanced CAR T therapies across multiple cancers, as well as a lentiviral gene therapy for XSCID. Mustang is registered under the Securities Exchange Act of 1934, as amended, and files periodic reports with the U.S. Securities and Exchange Commission. Mustang was founded by Fortress Biotech, Inc. (NASDAQ: FBIO). For more information, visit www.mustangbio.com.

Forward-Looking Statements
This press release may contain "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, each as amended. Such statements include, but are not limited to, any statements relating to our growth strategy and product development programs and any other statements that are not historical facts. Forward-looking statements are based on management's current expectations and are subject to risks and uncertainties that could negatively affect our business, operating results, financial condition and stock value. Factors that could cause actual results to differ materially from those currently anticipated include: the risk that the response in the first patient dosed with MB-106 following the enhancement to the cell process may not be repeated, or may not be achieved within the time table we anticipate, due to the results of research and development activities, the timing of starting and completing clinical trials, and uncertainties relating to preclinical and clinical testing generally; risks relating to our growth strategy; our ability to obtain, perform under and maintain financing and strategic agreements and relationships; risks relating to the results of research and development activities; risks relating to the timing of starting and completing clinical trials; uncertainties relating to preclinical and clinical testing; our dependence on third-party suppliers; our ability to attract, integrate and retain key personnel; the early stage

of products under development; our need for substantial additional funds; government regulation; patent and intellectual property matters; competition; as well as other risks described in our SEC filings. We expressly disclaim any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements contained herein to reflect any change in our expectations or any changes in events, conditions or circumstances on which any such statement is based, except as required by law.

Company Contacts:
Jaclyn Jaffe and William Begien
Mustang Bio, Inc.
(781) 652-4500
ir@mustangbio.com

Investor Relations Contact:
Daniel Ferry
LifeSci Advisors, LLC
(617) 430-7576
daniel@lifesciadvisors.com

Media Relations Contact:
Tony Plohoros
6 Degrees
(908) 591-2839
tplohoros@6degreespr.com

Source: Mustang Bio, Inc.