March 9, 2022

Mustang Bio Announces City of Hope, University of Alabama at Birmingham and Nationwide Children's Hospital Abstract Accepted for Late-Breaker Poster Presentation at the American Association for Cancer Research (AACR) Annual Meeting 2022

WORCESTER, Mass., March 09, 2022 (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 an abstract reporting on Phase 1 trials being conducted at the University of Alabama at Birmingham (UAB) and City of Hope of Mustang Bio's exclusively licensed oncolytic viral and CAR T-cell therapies for the treatment of patients with glioblastoma (GBM), has been selected as a late-breaking poster presentation at the American Association for Cancer Research (AACR) Annual Meeting 2022, taking place April 8 – 13, 2022, in New Orleans, Louisiana. The abstract will also be published in the online *Proceedings of the AACR*.

Manuel Litchman, M.D., President and Chief Executive Officer of Mustang, said, "We look forward to the upcoming data to be presented by City of Hope's Dr. Christine Brown at the AACR Annual Meeting about the potential of our MB-108 oncolytic virus to enhance the efficacy of our MB-101 CAR T cell therapy for GBM. Each program is actively enrolling patients in respective investigator-sponsored UAB and City of Hope Phase 1 trials, and we believe that the clinical data from those trials, together with results from the *in vivo* combination studies currently underway at City of Hope, will support the first ever industry-sponsored trial of an oncolytic virus with a CAR T for the treatment of cancer patients. Mustang will refer to the combination therapy as MB-109, and we anticipate filing an Investigational New Drug application for MB-109 later this year."

Details of the presentation are as follows:

Title: Oncolytic viral reshaping of the tumor microenvironment to promote CAR T cell therapy for glioblastoma

Abstract Number: CT541
Session Title: Phase I Trials in Progress 2
Session Date and Time: Wednesday, April 13, 2022 from 9 a.m. – 12 p.m. CT
Location: New Orleans Convention Center, Exhibit Halls D-H, Poster Section 35
Poster Board Number: 19
Presenter: Christine Brown, Ph.D., Deputy Director, T Cell Therapeutics Research Laboratory, Professor, Departments of Hematology & Hematopoietic Cell Transplantation and Immuno-Oncology and The Heritage Provider Network Professor in Immunotherapy at City of Hope, one of the largest cancer research and treatment organizations in the United States

For more information, please visit the AACR Annual Meetingwebsite.

About MB-101 (IL13Rα2-targeted CAR T cells)
MB-101 is an IL13Rα2-targeted CAR T cell therapy developed by Dr. Brown and her City of Hope colleagues for the treatment of GBM. It is the first CAR T cell therapy to demonstrate durable complete responses in GBM based on a 54-patient Phase 1 trial conducted by City of Hope (NCT02208362), with Dr. Behnam Badie, Professor and Chief, Division of Neurosurgery, as the Principal Investigator. IL-13Rα2 is a GBM restricted receptor expressed abundantly on over 75% of GBM patients. Mustang is developing MB-101 as an optimized CAR T product incorporating enhancements in CAR design and T cell engineering to improve antitumor potency and T cell persistence. MB-101 includes a second-generation hinge optimized CAR containing mutations in the IgG4 linker to reduce off-target Fc interactions, the 4-1BB (CD137) co-stimulatory signaling domain for improved persistence of CAR T cells and the extracellular domain of CD19 as a selection/safety marker. To further improve persistence, central memory T cells are enriched and genetically engineered using a manufacturing process that limits *ex vivo* expansion to reduce T cell exhaustion and maintain a memory T cell phenotype. Ongoing MB-101 malignant glioma clinical trials under City of Hope's IND include a study in patients with leptomeningeal disease (NCT04661384) and a combination study with checkpoint inhibitors (NCT04003649).

About MB-108 (C134 oncolytic virus)
Developed by Dr. Kevin Cassady, Professor of Pediatrics at Nationwide Children's Hospital, and his colleagues for the treatment of malignant brain cancers, MB-108 (C134 oncolytic virus) is a second-generation attenuated herpes simplex virus type 1 (HSV-1) oncolytic virus that has improved replication in tumors in murine models, but with the same toxicity profile as its first-generation predecessors. MB-108 can replicate in tumor cells, but not in normal cells, which kills the infected tumor cells and causes the tumor cell to act as a factory to produce new virus. MB-108 can also induce pro-inflammatory signals and chemotaxis, thereby improving CAR T infiltration into the tumor mass. In February 2019, Mustang Bio entered into a licensing agreement with Nationwide Children's Hospital for worldwide development rights to C134 oncolytic virus, including but not limited to developing MB-108 for the treatment of GBM, and a Phase 1 clinical trial is currently ongoing at the University of Alabama at Birmingham in patients with recurrent disease (NCT03657576), with Dr. James Markert, Professor and Chair, Department of Neurosurgery, as the Principal Investigator.

About MB-109 (MB-101 (IL-13Rα2) + MB-108 oncolytic virus)
MB-109 is a treatment that combines MB-101 (IL13Rα2-targeted CAR T cells) CAR T cell therapy with MB-108 (C134 oncolytic virus). The combination is designed to leverage MB-

108 to make cold tumors “hot,” as described above, and thereby improve the efficacy of MB-101 CAR T cell therapy. MB-108 oncolytic virus is first injected to infect tumor cells which, in turn, leads to inflammation of the tumor microenvironment and cytokine production. MB-101 CAR T cells are injected into and around the hot tumor to better allow MB-101 to infiltrate into, undergo activation and kill the tumor. Mustang intends to file a Phase 1 Investigational New Drug application for MB-109 in the second half of 2022.

About Mustang Bio

Mustang Bio, Inc. 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 therapies across multiple cancers, as well as lentiviral gene therapies for severe combined immunodeficiency. Mustang is registered under the Securities Exchange Act of 1934, as amended, and files periodic reports with the U.S. Securities and Exchange Commission (“SEC”). 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: 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, and we claim the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995.

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