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MabVax Therapeutics HuMab-5B1 Based Diagnostic Imaging and Radioimmunotherapy Programs Featured at the 2016 World Molecular Imaging Congress

SAN DIEGO, Sept. 26, 2016 /PRNewswire/ -- MabVax Therapeutics Holdings, Inc. (NASDAQ: MBVX), a clinical-stage oncology drug development company, announces that its lead antibody development program, HuMab 5B1, was featured in three separate presentations at the recently held World Molecular Imaging Congress (WMIC) in September. The presentations were made by investigators from the Department of Radiology at Memorial Sloan Kettering Cancer Center (MSK) describing the novel use of MabVax's lead antibody as a PET imaging agent and as a radioimmunotherapy agent targeting pancreatic and bladder cancer.

Summaries of the investigator presentations and key points made are as follows:

- **"Utilizing antibody fragments for same-day pre-targeted immunoPET imaging in preclinical pancreatic cancer"** – Investigators demonstrated that the MabVax HuMab-5B1 antibody can be successfully produced as a smaller fragment called a F(ab')2 and coupled to multiple imaging agents without impacting immunoreactivity. This smaller fragment was coupled with Zirconium and Copper-based PET imaging agents, and a commonly used fluorescence imaging agent. All three constructs produced promising results for rapid immunoPET or immunofluorescent imaging. The potential advantage of using a smaller fragment is that imaging results could be obtained more rapidly and perhaps within the same day, giving physicians more real-time information and providing increased convenience for patients. This work was led by Jacob Houghton, Ph.D. of the Department of Radiology at MSK.
- **"Bioorthogonal click chemistry for the development of ^{225} Ac-radioimmunoconjugates and its application to pretargeting"** – Investigators demonstrated that the MabVax HuMab-5B1 antibody was successfully conjugated to the radioimmunotherapy agent ^{225}Actinium without losing immunoreactivity. Actinium has received increased interest among investigators as a potential therapeutic modality because of its alpha particle radiation has a limited range in tissue of a few cell diameters and a greater energy release for selectively killing cancer cells. This work was led by Sophie Poty, Ph.D. from the Department of

Radiology and the Molecular Pharmacology Program at MSK.

- **"Tumor-specific PET Imaging in a Bladder Cancer Model"** – The investigators demonstrated that the ^{89}Zirconium-labeled HuMab-5B1 labeled antibody can specifically bind to xenograft tumors of human bladder cancer in animal models, potentially leading to use as an immunoPET radiotracer. There is a large unmet medical need for new treatments for bladder cancer, with an estimated 76,900 new cases each year. MabVax's ^{89}Zirconium-labeled HuMab-5B1 antibody (MVT-2163) is now in a phase I clinical trial for evaluation as a PET imaging agent for pancreatic cancer targeting the CA19.9 epitope, which is expressed on one-third to one-half of bladder cancers. This work was led by Jeffrey Steckler and Jacob Houghton, Ph.D. of the Department of Radiology at MSK.

David Hansen, CEO of MabVax Therapeutics, said, "We are grateful to Jason S. Lewis, Ph.D. and his team for their continued pioneering work using the HuMab-5B1 platform. They are taking important steps in expanding the clinical utility of our HuMab-5B1 antibody, including (1) demonstrating that smaller fragments of our full-length antibody could provide significant advantages in speeding tumor imaging, (2) demonstrating the utility of our full length antibody with a new radioimmunotherapy approach, (3) helping MabVax to evaluate additional CA19-9 expressing cancers for which our antibody development program may have utility beyond our current focus on pancreatic cancer, and (4) completing investigations supporting our radioimmunotherapy product for which we plan to submit an Investigational New Drug Application later this year."

About MabVax

MabVax Therapeutics Holdings, Inc. is a clinical-stage biotechnology company focused on the development of antibody-based products to address unmet medical needs in the treatment of cancer. MabVax has discovered a pipeline of human monoclonal antibody products based on the protective immune responses generated by patients who have been vaccinated against targeted cancers with the Company's proprietary vaccines. MabVax's HuMab-5B1 antibody is fully human and was discovered from the immune response of cancer patients vaccinated with an antigen-specific vaccine during a phase I trial at Memorial Sloan Kettering Cancer Center, or MSK. In preclinical research, the 5B1 antibody has demonstrated high specificity and affinity, and has shown potent cancer cell killing capacity and efficacy in animal models of pancreatic, colon and small cell lung cancers. The antigen the antibody targets is expressed on more than 90% of pancreatic cancers making the antibody potentially broadly applicable to most patients suffering from this type of cancer. MabVax's two lead antibody clinical programs, currently in phase I clinical trials, utilize HuMab-5B1 as a therapeutic antibody (MVT-5873) and as an immuno-PET imaging agent (MVT-2163). Additional information is available at www.mabvax.com.

Forward Looking Statements

This press release contains "forward-looking statements" regarding matters that are not historical facts, including statements relating to the Company's lead development program, HuMab 5B1, and clinical development candidates MVT-5873, and MVT-2163. We have no assurance that all of the product development pipeline will be fully developed by the Company. Because such statements are subject to risks and uncertainties, actual

results may differ materially from those expressed or implied by such forward-looking statements. Words such as "anticipates," "plans," "expects," "intends," "will," "potential," "hope" and similar expressions are intended to identify forward-looking statements. These forward-looking statements are based upon current expectations of the Company and involve assumptions that may never materialize or may prove to be incorrect. Actual results and the timing of events could differ materially from those anticipated in such forward-looking statements as a result of various risks and uncertainties. Detailed information regarding factors that may cause actual results to differ materially from the results expressed or implied by statements in this press release relating to the Company may be found in the Company's periodic filings with the Securities and Exchange Commission, including the factors described in the section entitled "Risk Factors" in its Annual Report on Form 10-K for the fiscal year ended December 31, 2014, the Company's Quarterly Reports on Form 10-Q, the Company's Definitive Proxy Statement on Form 14A filed July 27, 2015, as such filings may be amended and supplemented from time to time, and other filings and reports by the Company with the SEC, copies of which may be obtained from the SEC's website at www.sec.gov. The parties do not undertake any obligation to update forward-looking statements contained in this press release.

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