



NEWS RELEASE

Inovio Announces Treatment of First Patient in Immuno-Oncology Study for Glioblastoma (GBM) with INO-5401 in Combination with Regeneron's PD-1 Inhibitor

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Phase 1/2 clinical trial combines Regeneron's PD-1 inhibitor cemiplimab and Inovio's immunotherapy INO-5401 in brain cancer

PLYMOUTH MEETING, Pa., June 21, 2018 (GLOBE NEWSWIRE) -- Inovio Pharmaceuticals, Inc. (NASDAQ:INO) today announced that it has dosed its first patient as part of its Phase 1/2 immuno-oncology trial in patients with newly diagnosed glioblastoma (GBM). The efficacy trial is designed to evaluate Inovio's INO-5401 T cell activating immunotherapy encoding multiple antigens expressed by GBM and INO-9012, an immune activator encoding IL-12, in combination with cemiplimab (REGN2810), a PD-1 inhibitor developed by Regeneron Pharmaceuticals.

Dr. J. Joseph Kim, Inovio's President and Chief Executive Officer, said, "GBM is a devastating cancer, and malignant glioma has already claimed the lives of Senator Ted Kennedy and Beau Biden, the son of the former Vice President Joe Biden. GBM is also the cancer that Senator John McCain and thousands of other patients are battling every year. We are proud to have treated our first patient with a powerful combination of Inovio's T cell-generating immunotherapy INO-5401 with Regeneron's PD-1 checkpoint inhibitor this week. This is an important step for Inovio's plan to use its T cell-generating therapies in combination with PD-1/PD-L1 inhibitors for GBM and for multiple other cancers to improve overall efficacy. In preclinical studies, combination of Inovio's T cell-generating immunotherapies along with checkpoint inhibitors have shown to shrink tumors and improve overall survival of tumor-bearing animals. In this GBM trial, our goal is to increase the overall survival of patients facing a disease where neither the standard of care, nor clinical outcomes have not changed in a clinically significant way in more than a decade."

Dr. David Reardon, Associate Professor, Medicine, Harvard Medical School and Clinical Director, Center for Neuro-Oncology, Medical Oncology, Dana-Farber Cancer Institute and the trial's coordinating principal investigator, said, "The Inovio vaccine platform is highly innovative and uniquely designed with the potential to generate robust anti-tumor immune responses. We are very hopeful that this novel vaccine technology will translate into meaningful therapeutic benefit when integrated with standard radiation and temozolomide chemotherapy combined with anti-PD-1 treatment for newly diagnosed glioblastoma patients in our recently initiated

trial.”

Inovio holds clinical partnerships with MedImmune for INO-3112 (MEDI0457) (in HPV-related cancers) and collaborations, with Roche/Genentech and Regeneron for INO-5401 (in bladder cancer and GBM), each providing for clinical evaluation of Inovio immunotherapies combined with checkpoint inhibitors. In particular, the INO-5401 collaborations are based on a strong scientific rationale to combine two immunotherapies: INO-5401, which generates antigen-specific killer T cells, and a checkpoint inhibitor, which augments T cell activity.

The open-label trial of 50 newly diagnosed GBM patients will be conducted at approximately 25 U.S. sites, and the primary endpoint is safety and tolerability. The study will also evaluate immunological impact, progression-free survival and overall survival.

About Glioblastoma

Glioblastoma (GBM) is the most common and aggressive type of brain cancer and remains a devastating disease for both patients and caregivers. Its prognosis is extremely poor, despite a limited number of new therapies approved over the last 10 years. The median overall survival for patients receiving standard of care therapy is approximately 15 months and the average five-year survival rate is less than five percent.

About INO-5401

INO-5401 includes Inovio’s SynCon® antigens for hTERT, WT1, and PSMA, and has the potential to be a powerful cancer immunotherapy in combination with checkpoint inhibitors. The National Cancer Institute previously highlighted hTERT, WT1, and PSMA among a list of important cancer antigens, designating them as high priorities for cancer immunotherapy development. These three antigens are known to be over-expressed, and often mutated, in a variety of human cancers, and targeting these antigens may prove efficacious in the treatment of patients with cancer.

About Inovio Pharmaceuticals, Inc.

Inovio is a late-stage biotechnology company focused on the discovery, development, and commercialization of DNA immunotherapies that transform the treatment of cancer and infectious diseases. Inovio’s proprietary platform technology, ASPIRE, applies next-generation antigen sequencing and DNA delivery to activate potent immune responses to targeted diseases. The technology functions exclusively in vivo, and has been demonstrated to consistently activate robust and fully functional T cell and antibody responses against targeted cancers and pathogens. Inovio is the only immunotherapy company that has reported generating T cells whose killing capacity correlates with relevant clinical outcomes. Inovio’s most advanced clinical program, VGX-3100, is in Phase 3 for the treatment of HPV-related cervical pre-cancer. Also in development are Phase 2 immuno-oncology programs targeting head and neck cancer, bladder cancer, and glioblastoma, as well as platform development programs in hepatitis B, Zika, Ebola, MERS, and HIV. Partners and collaborators include MedImmune, Regeneron, Roche/Genentech, ApolloBio

Corporation, The Wistar Institute, University of Pennsylvania, the Parker Institute for Cancer Immunotherapy, CEPI, DARPA, GeneOne Life Science, Plumblin Life Sciences, Drexel University, NIH, HIV Vaccines Trial Network, National Cancer Institute, U.S. Military HIV Research Program, and Laval University. For more information, visit www.inovio.com.

This press release contains certain forward-looking statements relating to our business, including our plans to develop electroporation-based drug and gene delivery technologies and DNA vaccines, our expectations regarding our research and development programs, including the planned initiation and conduct of clinical trials and the availability and timing of data from those trials, our plans and expectations regarding partnerships and the plans of GENEOS Therapeutics, Inc. to raise capital. Actual events or results may differ from the expectations set forth herein as a result of a number of factors, including uncertainties inherent in pre-clinical studies, clinical trials and product development programs, the availability of funding to support continuing research and studies in an effort to prove safety and efficacy of electroporation technology as a delivery mechanism or develop viable DNA vaccines, our ability to support our pipeline of SynCon® active immunotherapy and vaccine products, the ability of our collaborators to attain development and commercial milestones for products we license and product sales that will enable us to receive future payments and royalties, the adequacy of our capital resources, the availability or potential availability of alternative therapies or treatments for the conditions targeted by us or our collaborators, including alternatives that may be more efficacious or cost effective than any therapy or treatment that we and our collaborators hope to develop, issues involving product liability, issues involving patents and whether they or licenses to them will provide us with meaningful protection from others using the covered technologies, whether such proprietary rights are enforceable or defensible or infringe or allegedly infringe on rights of others or can withstand claims of invalidity and whether we can finance or devote other significant resources that may be necessary to prosecute, protect or defend them, the level of corporate expenditures, assessments of our technology by potential corporate or other partners or collaborators, capital market conditions, the impact of government healthcare proposals and other factors set forth in our Annual Report on Form 10-K for the year ended December 31, 2017, our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018 and other regulatory filings we make from time to time. There can be no assurance that any product candidate in our pipeline will be successfully developed, manufactured or commercialized, that final results of clinical trials will be supportive of regulatory approvals required to market licensed products, or that any of the forward-looking information provided herein will be proven accurate. Forward-looking statements speak only as of the date of this release, and we undertake no obligation to update or revise these statements, except as may be required by law.

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