



NEWS RELEASE

Inovio's Cancer Immunotherapy (INO-5151) Targeting Prostate Cancer in Innovative Cancer Combination Trial

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PLYMOUTH MEETING, Pa., July 29, 2019 -- Inovio Pharmaceuticals, Inc. (NASDAQ: INO) announced today that as part of its clinical collaboration agreement with Parker Institute for Cancer Immunotherapy (PICI) and the Cancer Research Institute (CRI), Inovio's prostate cancer immunotherapy INO-5151 will be combined with an immune modulator (CDX-301, FLT3 ligand, a dendritic cell mobilizer) and a PD-1 checkpoint inhibitor (nivolumab) targeting metastatic castration resistant prostate cancer (mCRPC) in a PICI sponsored platform study.

This innovative combination trial is an open-label, non-randomized, exploratory platform study designed to assess the safety and antitumor activity of multiple immunotherapy based combinations in participants with mCRPC who have received prior secondary androgen inhibition. Evaluating biomarkers of immune activity and clinical outcomes using a multi-omic, multi-parameter approach is an important aspect of the study. INO-5151 is a combined formulation of INO-5150 (with SynCon® antigens encoding for PSA and PSMA) and INO-9012 (DNA vector expressing interleukin 12). Inovio's immunotherapy is one arm (Cohort C) of this broad PICI-supported study which is a multi-arm, multi-stage platform design (called PORTER Study: ClinicalTrials.gov Identifier: NCT03835533).

Dr. J. Joseph Kim, Inovio's President and CEO, said, "Inovio is pleased that PICI selected our novel DNA-based immunotherapies to join in this unique combination trial targeting a major unmet medical need. This study demonstrates how Inovio is working with top cancer immunotherapy pioneers to investigate the potential significance of Inovio's T cell activating immunotherapy in an innovative immuno-oncology combination regimen. Our collaboration with PICI allows us to leverage strategic partnerships with academia, non-profits, and pharma while working with PICI's team of world-renowned experts from leading cancer centers at the forefront of cancer research."

Metastatic castration resistant prostate cancer, the lethal form of prostate cancer, has shown limited benefit from immune checkpoint inhibition as a monotherapy, with two randomized Phase 3 trials with ipilimumab failing to show a clinically meaningful survival benefit, and a large Phase 2 trial with pembrolizumab demonstrating a modest rate of objective responses.

Under the agreement, PICI will design and execute the clinical study, working in collaboration with its established network of the

most pre-eminent clinical academic and industry cancer centers, and with funding support from CRI. Based on PICI's novel approach to accelerating studies of cancer immunotherapies, Inovio will provide financial contributions if Inovio's product(s) studied under the collaboration reaches the initiation of a Phase 3 study.

About Inovio Pharmaceuticals, Inc.

Inovio is an innovative clinical stage biotechnology company focused on the discovery, development, and commercialization of its synthetic DNA technology targeted against cancers and infectious diseases. Inovio's proprietary technology platform applies antigen sequencing and delivery to enable in vivo protein expression, which can activate potent immune responses to targeted diseases. The technology has been demonstrated to consistently activate robust and fully functional T cell and antibody responses against targeted cancers and pathogens. Inovio's most advanced clinical program, VGX-3100, is in Phase 3 development for the treatment of HPV-related cervical pre-cancer. Also in development are Phase 2 immuno-oncology programs targeting HPV-related cancers and glioblastoma, as well as externally funded platform development programs in Zika, MERS, Lassa and HIV. Partners and collaborators include AstraZeneca, Regeneron, Roche/Genentech, ApolloBio Corporation, GeneOne Life Science, The Bill & Melinda Gates Foundation, Coalition for Epidemic Preparedness Innovations (CEPI), Defense Advanced Research Projects Agency, National Institutes of Health, National Institute of Allergy and Infectious Diseases, National Cancer Institute, HIV Vaccines Trial Network, Walter Reed Army Institute of Research, Medical CBRN Defense Consortium (MCDC), The Wistar Institute, and the University of Pennsylvania. For more information, visit www.inovio.com.

This announcement contains certain forward-looking statements relating to our business, including our plans to develop DNA-based immunotherapies, 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. 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 immunotherapies, 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, 2018, our Quarterly Report on Form 10-Q for the quarter ended March 31, 2019 and other filings we make from time to time with the Securities and Exchange Commission. 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 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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