



NEWS RELEASE

Inovio Presents Progression Free Survival & PSA Doubling Time Improvements in Prostate Cancer Patients Treated with INO-5150

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Study Results Presented at a Major European Cancer Conference (ESMO)

PLYMOUTH MEETING, Pa., Oct. 22, 2018 (GLOBE NEWSWIRE) -- Inovio Pharmaceuticals, Inc. (NASDAQ:INO) today announced that new data from the company's recently completed Phase 1b study with INO-5150 demonstrated a slowing of Prostate-Specific Antigen Doubling Time (PSADT) in men with prostate cancer. Eighty six percent (86%) of patients remained progression-free at Week 72 of the study. These data were presented in a poster entitled "Synthetic DNA immunotherapy in Biochemically Relapsed Prostate Cancer" at the European Society for Medical Oncology (ESMO) 2018 congress in Munich today.

In this study, Inovio evaluated the tolerability and immunogenicity of INO-5150, a DNA vaccine encoding PSA and PSMA, with or without INO-9012 (encoding IL-12 immune adjuvant), in men with biochemically relapsed prostate cancer. The study demonstrated a slowing of PSA doubling time, a measure of disease progression, in a majority of patients on the study. In addition, 86% of patients were progression-free at Week 72 of the study, which in this treatment-refractory, high-risk patient population, is thought to be clinically promising. Importantly, analyses demonstrated that immunogenicity was observed in 77% (47/61) of patients by multiple immunologic assessments.

Previous results from the Phase 1b study were presented at the 2018 American Society of Clinical Oncology (ASCO) annual meeting and demonstrated that of the 61 evaluable patients, 77% (47/61) demonstrated T cell immunogenicity, and 38% (19/50) exhibited CD38+, Perforin+CD8+ T cell responses. Results presented at ASCO provided clinical data through week 72 and immunology data through week 27. The latest results being presented at ESMO update these data and report that 80% of evaluable patients in the trial demonstrated either INO-5150 specific T cell or antibody reactivity.

Dr. J. Joseph Kim, Inovio's President and Chief Executive Officer, said, "The follow-up data and opportunity to showcase INO-5150 from our Phase 1 prostate cancer study further helps Inovio's efforts to enter into a strategic development partnership to expand into a Phase 2 study. These follow-up results support the rationale for further development and provides the basis for a novel

checkpoint combination cancer trial.”

This patented approach of INO-5150 in combination with CELLECTRA® delivery device is designed to help the body's immune system overcome its "self-tolerance" to prostate cancer cells and mount a strong targeted CD8+ killer T cell response to eliminate the cancerous cells displaying these antigens. Moreover, PSMA is also one of 3 antigens comprising INO-5401, which is being tested in two separate Phase 1/2 trials as an immunotherapy to treat glioblastoma and metastatic bladder cancer in combination with Regeneron and Genentech/Roche's checkpoint inhibitors, respectively.

About Prostate Cancer and Biochemically Recurrent Prostate Cancer (BRPC)

Prostate cancer is the second most frequently diagnosed cancer in men. Nearly three-quarters of the registered cases occur in developed countries. Accounting for nearly 300,000 deaths each year, prostate cancer is the sixth leading cause of death from cancer in men. There are about 60,000 patients each year in the US that develop biochemically recurrent prostate cancer (BRPC). The development of a new treatment for prostate cancer would be a significant medical advance given that current standard-of-care treatment options (surgery, radiation and hormone deprivation), while somewhat effective, all carry deleterious side effects and are often not a long-term cure.

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 immunotherapy platform technology 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 Bill & Melinda Gates Foundation, 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, and our plans and expectations regarding partnerships. 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 June 30, 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.

CONTACTS:

Investors: Ben Matone, Inovio, 484-362-0076, ben.matone@inovio.com

Media: Jeff Richardson, Inovio, 267-440-4211, jrichardson@inovio.com

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