Inovio and Roche initiate clinical trial for chronic hepatitis B infection

Inovio Pharmaceuticals {NASDAQ: INO} and **Roche** are to Initiate Clinical Trials for Inovio's DNA Immunotherapy To Treat Chronic Hepatitis B Infection

This trial triggers a $3 million milestone payment to Inovio from Roche as part of their 2013 agreement to jointly develop INO's Hepatitis B immunotherapy.

Comment

Inovio are certainly generating lots of positive news releases, and positive ones at that.

Here once again is a partnership with a blue chip partner of substance, and generating cash for Inovio via milestone payments.

This positive newsflow is probably the reason the shareprice has risen from its March low of $6.50 by 60% to yesterday's $10.32!

News release

PLYMOUTH MEETING, Pa. – April 21, 2015 – **Inovio Pharmaceuticals, Inc. (NASDAQ: INO)** announced today that it has initiated a phase I trial to evaluate Inovio's DNA immunotherapy in patients who are chronically infected with hepatitis B. In 2013, Roche and Inovio entered into a partnership to co-develop and commercialize Inovio's hepatitis B immunotherapy. This trial initiation triggers a $3 million milestone payment from Roche to Inovio.

This phase I, randomized, open-label, active-controlled, dose escalation study will evaluate the safety, tolerability, and immunogenicity of Inovio's hepatitis B immunotherapy, INO-1800, alone or in combination with INO-9112, Inovio's IL-12-based immune activator. This international study will enroll patients in the United States and Asia Pacific region with a primary endpoint of safety and tolerability of the therapy. The secondary endpoints will evaluate the cellular and humoral immune response to INO-1800 and investigate the therapy's effect on several viral and antiviral parameters. All trial subjects are also medicated with standard-of-care antiviral therapies.

Dr. J. Joseph Kim, President and CEO, said, "*We are pleased our partnership has achieved this initial clinical advance emanating from the collaborative efforts at Roche and Inovio. While this is primarily a safety study, we will also investigate our therapy's impact on antibody and T-cell responses, which will help advance the product into further trials. Recent developments have seen several successful drugs built on hepatitis C treatments. Hepatitis B has a prevalence nearly double that of hepatitis C and antiviral treatment can control but usually does not eliminate the virus. A successful immunotherapy for hepatitis B holds significant potential*."

About INO-1800 for Hepatitis B

Inovio has reported pre-clinical data showing its hepatitis B immunotherapy (INO-1800) generated strong T-cell and antibody responses that led to the elimination of targeted liver cells in mice. These results indicate that the immunotherapy may have potential in the treatment of hepatitis B infection. In a pre-clinical study, researchers found hepatitis B-specific T-cells exhibited a killing function, and could migrate to and stay in the liver and cause clearance of target cells without evidence of liver injury. This was the first study to provide

evidence that intramuscular immunization can induce killer T-cells that can migrate to the liver and eliminate target cells.

Hepatitis B and Liver Cancer

One of the major causes and risk factors for liver cancer is infection by hepatitis B. The virus is extremely infectious – 100 times more so than HIV – and 240 million people are chronically infected worldwide. Hepatitis B contributes to an estimated one million deaths worldwide each year. Liver cancer is the third most common cancer and the most deadly, killing most patients within five years of diagnosis. About 600,000 new cases arise each year.

About Inovio Pharmaceuticals, Inc.

Inovio is revolutionizing the fight against cancer and infectious diseases. Our immunotherapies uniquely activate best-in-class immune responses to prevent and treat disease, and have shown clinically significant efficacy with a favorable safety profile. With an expanding portfolio of immune therapies, the company is advancing a growing preclinical and clinical stage product pipeline. Partners and collaborators include Roche, MedImmune, University of Pennsylvania, DARPA, Drexel University, NIH, HIV Vaccines Trial Network, National Cancer Institute, U.S. Military HIV Research Program, and University of Manitoba. For more information, visit www.inovio.com.

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N.B.

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 and our capital resources. 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 (including, but not limited to, the fact that pre-clinical and clinical results referenced in this release may not be indicative of results achievable in other trials or for other indications, that the studies or trials may not be successful or achieve the results desired, including safety and efficacy for VGX-3100, that pre-clinical studies and clinical trials may not commence or be completed in the time periods anticipated, that results from one study may not necessarily be reflected or supported by the results of other similar studies and that results from an animal study may not be indicative of results achievable in human studies), 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 broad pipeline of SynCon® active immune therapy and vaccine products, our ability to advance our portfolio of immune-oncology products independently, including INO-5150, and to commence a phase I clinical trial for INO-5150 in the first half of 2015, the adequacy of our capital resources, the availability or potential availability of alternative therapies or treatments for the conditions targeted by the company or its collaborators, including alternatives that may be more efficacious or cost-effective than any therapy or treatment that the company and its collaborators hope to develop, our ability to enter into partnerships in conjunction with our research and development programs, evaluation of potential opportunities, issues involving product liability, issues involving patents and whether they or licenses to them will provide the company 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 the company can finance or devote other significant resources that may be necessary to prosecute, protect or defend them, the level of corporate expenditures, assessments of the company’s 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, 2014, and other regulatory filings from time to time. There can be no assurance that any product in Inovio’s pipeline will be successfully developed or manufactured, that final results of clinical studies 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.