

Transgene, ChronTech Pharma and Inovio Pharmaceuticals to Collaborate on Heterologous Prime-Boost Therapeutic Vaccination Against Hepatitis C

Phase I study to assess safety and immunogenicity

Parc d'Innovation, Illkirch, France, April 18 2011 – Transgene S.A. (Euronext Paris: FR0005175080) announced today it has signed a collaboration agreement with ChronTech Pharma AB (CTEC.ST) and Inovio Pharmaceuticals, Inc. (NYSE Amex: INO) to evaluate a novel therapeutic vaccination strategy against genotype 1 hepatitis C virus (HCV) in a Phase I clinical study.

It is common to follow an initial “prime” vaccination with a “boost” of the same vaccine to achieve the required level and durability of immune protection. In this collaboration, the strategy is to use different prime and boost vaccines with the goal of obtaining a clinical effect by inducing different immune responses. A Phase I study, to be started later this year, will use ChronTech’s ChronVac-C® plasmid DNA vaccine delivered by *in vivo* electroporation using Inovio’s Medpulsar® DDS as the “prime” and Transgene’s therapeutic vaccine TG4040, a modified vaccinia Ankara (MVA), as the “boost”.

DNA based vaccines delivered using electroporation and MVA based vaccines have been separately shown to be safe and immunogenic in clinical studies. The ChronVac-C DNA vaccine delivered by *in vivo* electroporation using the Medpulsar® was recently reported to be safe and generate antigen specific immune responses as well as antiviral effects in a Phase I/IIa clinical trial. Rapid virologic responses were seen in 5 out of 7 of the patients receiving a post-vaccination standard of care interferon-ribavirin therapy. TG4040 was itself shown to be safe and immunogenic in a Phase I program. Phase II studies in combination with the standard of care are ongoing for both products. In preclinical studies, the novel combination of these DNA and MVA vaccine approaches demonstrated greater immune responses than those observed with the vaccines injected separately.

In the planned Phase I clinical study, each company will contribute their respective products and equally share study related costs. The study will enroll 12 treatment-naïve patients with chronic hepatitis C at a site in Germany.

Dr. J. Joseph Kim, Inovio's president and CEO, said: *"We are pleased to participate in this collaboration to develop a potentially more potent HCV vaccine combination approach and to contribute Inovio's electroporation delivery technology and its well-validated ability to transform the potency of DNA vaccines. We look forward to entering the clinic with this prime-boost approach that has demonstrated much promise in preclinical studies."*

"It is our strategy to continuously enhance the efficiency of our technology platforms. We are using the opportunity of this study to explore the prime-boost approach in the context of therapeutic vaccination against HCV," stated Philippe Archinard, Chairman and CEO of Transgene.

"We are very pleased to combine our ChronVac-C® vaccine delivered using Inovio's Medpulsar® with Transgene's TG4040 MVA-based vaccine in a new vaccination regimen. The extensive preclinical studies that have been performed by the companies together with their unique clinical experience has paved the way for this very exciting clinical trial," says ChronTech's CEO Anders Vahlne.

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About chronic hepatitis C virus (HCV):

Chronic hepatitis C, with a disease prevalence exceeding 170 million worldwide, is notoriously difficult to treat. Current standard of care (a combination of pegylated interferon α and ribavirin) causes serious side effects and cures only 45% of genotype-1 patients. New and more effective drugs are in late stage development, but there remains a need for an effective therapeutic vaccine with lower side effects relative to drug regimens and that is better able to manage the chronic aspects of the disease, prevent its progression to cancer, and reduce long term treatment costs.

In this collaboration, ChronTech's ChronVac-C[®] DNA vaccine consists of a codon-optimized NS3/4A gene. It is delivered using Inovio's MedPulser[®] electroporation DNA Delivery System. Inovio's electroporation-based DNA delivery systems dramatically increase cellular uptake of a DNA vaccine and resulting gene expression (i.e. production of the coded protein) and increase immune responses by 100 times or more compared to plasmid DNA delivered without other delivery enhancements.

About TG4040:

Transgene's TG4040 vaccine candidate is a recombinant vector based on the MVA virus carrying and expressing three of the major non-structural proteins (NS3, NS4 and NS5B) of the hepatitis C virus ("HCV"). The MVA vector is a highly attenuated strain of vaccinia virus, which has been tested extensively in humans as a vaccine against smallpox and is known to strongly stimulate innate and adaptive immune responses to antigens.

About Transgene:

Transgene, a member of the Institut Mérieux Group, is a publicly traded French biopharmaceutical company dedicated to the development of therapeutic vaccines and immunotherapeutic products in oncology and infectious diseases and has five compounds in clinical development: TG4010 and JX-594/TG6006 having completed initial Phase II trials, TG4001 in Phase IIb trial, TG4040 in Phase II trial and TG4023 in Phase I trial. Transgene has concluded strategic agreements for the development of two of its immunotherapy products: an option agreement with Novartis for the development of TG4010 to treat various cancers; and, an in-licensing agreement with US-based Jennerex Biotherapeutics, Inc., to develop and market JX-594/TG6006, an oncolytic product. Transgene also has bio-manufacturing capacities for viral-based products. Additional information about Transgene is available at www.transgene.fr.

About ChronTech Pharma:

ChronTech develops the therapeutic DNA vaccines ChronVac-C[®] and ChronVac-B for chronic hepatitis C virus and hepatitis B virus infections, i.e. chronic infections of hepatitis viruses that can lead to cirrhosis and liver cancer. ChronTech has developed a patent-pending new type of needle for a more efficient uptake of DNA vaccines. ChronTech is also a partner in wound healing with its ChronSeal[®] product, and the new platform technology RAS[®]. ChronTech's shares are listed on First North. For more information, see www.chrontech.se

About Inovio Pharmaceuticals, Inc.:

Inovio is developing a new generation of vaccines, called DNA vaccines, to treat and prevent cancers and infectious diseases. Its SynCon™ vaccines are designed to provide broad cross-strain protection against known as well as newly emergent strains of pathogens such as influenza. These vaccines, in combination with Inovio's proprietary electroporation delivery devices, have been shown to be safe and generate significant immune responses. Inovio's clinical programs include three separate programs in Phase II clinical studies, including VGX-3100 for treating cervical dysplasia and cancer. Other Inovio clinical programs include those for avian flu (preventive) and HIV vaccines (both preventive and therapeutic). Inovio is developing universal influenza and other vaccines in collaboration with scientists from the University of Pennsylvania. Other partners and collaborators include Merck, ChronTech, National Cancer Institute, U.S. Military HIV Research Program, NIH, HIV Vaccines Trial Network, University of Southampton, and PATH Malaria Vaccine Initiative. More information is available at www.inovio.com.

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