

## Genetic Immunity, Retrospective: Next generation DNA vaccine - DermaVir nanomedicine for the treatment of HIV/AIDS

BUDAPEST, Hungary, February 26, 2009 – Power of the Dream Ventures, Inc. (OTC BB: PWRV), Hungary's premier technology acquisition and development company, is pleased to present this Genetic Immunity release based on a previously announced agreement whereby Power of the Dream Ventures will issue communications for Genetic Immunity on a going forward basis.

### **Genetic Immunity's next generation of DNA vaccine - The DermaVir Patch**

"We have been developing the DermaVir Patch as our lead product candidate for the treatment of HIV/AIDS," Julianna Lisziewicz begins telling her Company's story. "The DermaVir Patch is the next generation of DNA vaccine patented for the treatment of chronic diseases. Based on FDA classification, it is a combination of our new biologic product (DermaVir) and our new medical device (DermaPrep). DermaVir contains a novel plasmid DNA that encodes most, but not all HIV genes. It is administered topically using our DermaPrep medical device. The discovery behind DermaVir began with clinical observations and extensive examinations of one particular patient known as the 'Berlin Patient.' He showed us that (i) induction of long-term immune control in HIV-positive individuals is feasible, and (ii) antiviral T-cells can control HIV replication in HIV-positive individuals. Shortly after he became infected we treated the Berlin Patient with antiretroviral drugs, followed by two interruptions in his drug therapy, which resulted in controlled viral load rebounds. By Christmas of 1996, although he permanently interrupted his therapy, his viral load remained undetectable because his HIV-specific immune response was capable of killing virus infected cells. Blood tests showed that he developed gag-specific memory T-cell responses that were capable of controlling virus replication. To date, he has not resumed antiretroviral treatments, and his immune system still keeps viral replication in bay. This initial observation, and subsequent primate studies, provided the rationale for our next generation nanomedicine-based immune therapy," added Dr. Lisziewicz, finishing the origins of Genetic Immunity's work.

"Proof of concept" for the immunological and antiviral activities of Genetic Immunity's product was demonstrated in infected macaques, some of them with advanced stages of AIDS. Analysis of data derived from these animal trials suggested that repeated DermaVir administration results in a cumulative strengthening of the antiviral immune response without adding significant toxicities or adverse effects. Among all animal studies, the monkey model is thought to be superior to other commonly used animal models (e.g., mice, rats, rabbits) because the disease's progression and response to treatments in macaques is very similar to the human disease. Genetic Immunity believes that the DermaVir Patch has the potential to be the next generation of DNA vaccines designed to inhibit HIV replication by cytotoxic killing of HIV-infected cells. Currently, there are no approved immune therapy or nanomedicine products on the HIV market.

Next generation of DNA vaccine: DermaVir nanomedicine

Plasmid DNA based vaccines have been proven safe but poorly immunogenic in human subjects. Genetic Immunity developed several technologies to improve the immunogenicity of DNA-encoded antigens, including:

- Antigeneering of plasmid DNA to safely and authentically express most of the antigens of HIV or other pathogens.
- The formulation of plasmid DNA to a pathogen-like nanoparticle called NanoComp. These nanoparticles target professional antigen-presenting cells, like Langerhans cells and dendritic cells.
- A targeted transdermal delivery device called DermaPrep. It targets NanoComp in vivo to the organ where new immune responses are to be initiated. It has been shown that topical DermaPrep administration of NanoComp results in antigen expression in the lymph nodes by dendritic cells.

“Following the successful completion of our preclinical studies, in 2005 we initiated Phase 1 human trials. The clinical trial data obtained confirmed and extended our pre-clinical results. We successfully demonstrated that a single DermaVir Patch treatment induced new HIV-specific memory T-cells that correlated to the amount of nanomedicine the subject received. An exceptional increase in the number of long-lived HIV-specific memory T-cells was also detected in all of the nine DermaVir-treated individuals, in a dose-dependent manner. We believe that this is the first demonstration of a product that can induce such high quantity and memory quality T cells,” Dr. Lisziewicz continued. “In addition, a separate, second study conducted in collaboration with colleagues at Virostatics srl (Italy), also demonstrated that the quantity of such HIV-specific memory T-cells showed significantly correlation with the level of viral load in HIV-infected individuals. In both tests DermaVir-induced T-cells remained in the body even after a year, albeit at lower levels, but still at a significant 6 to 18,000 times above pre-treatment values. The treatments were well tolerated and toxicities were limited to mild transient erythema thereby meeting both end points of the trial.” concluded Dr. Lisziewicz.

The macaque and Phase 1 human data constitute the basis of Genetic Immunity’s Phase II clinical development program. The Company believes that the studies performed to date support their proof of concept, the relationship between DermaVir-induced antiviral immune responses and clinical benefit. Based on historical data the Company believes the DermaVir Patch will be most effective when administered nine times a year, for a period of three hours per treatment. Clinical data further suggest that DermaVir can also be beneficial for different types of HIV-positive individuals, including patients at early stages that have not yet been treated with drugs and patients with late stages of disease.

For further information please visit the Company’s official website at <http://www.geneticimmunity.com>

## **About Genetic Immunity**

Genetic Immunity is a US/Hungarian development stage biopharmaceutical company establishing leadership in Nanomedicines for immune amplification. Nanomedicine, an offshoot of nanotechnology, refers to highly specific medical intervention at the molecular scale for treating disease or repairing damaged tissues. By leveraging its proprietary immune amplification platform technology, the company aims to address new markets for infectious diseases, cancer and allergies through the discovery, development and commercialization of topically administered nanomedicines. These indications represent a significant unmet medical need and the potential for alternative treatment approaches. For more information please visit Genetic Immunity’s website at <http://www.geneticimmunity.com>

## **About Power of the Dream Ventures**

Power of the Dream Ventures, Inc. is a leading technology holding company. We identify and harness the unique technological prowess of Hungary's high-tech industry, turning promising ideas and ready to market products/technologies into global industry leaders. We focus on developing, acquiring, licensing, or co-developing technologies that originate exclusively in Hungary that are in prototype stage based on existing patents; in prototype stage prior to patenting; existing products that require expansion capital to commercialize; emerging science and high-technology research projects that require help in patenting, developing the product and marketing, University spin-off technologies, and ideas from the very early stage that represent "disruptive technologies." We primarily focus on providing enabling solutions in the fields of environmental technologies, power generation and storage, software products and services, biotechnology, medical devices and what we call 'disruptive technologies.'

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