



## **PaxVax Signs R&D Collaboration with UC San Diego to Develop a Vaccine to Prevent Herpes Simplex Virus Infections**

**Redwood City and San Diego, Calif., -- June 10, 2014 --** PaxVax Inc., a specialty vaccine company with a commercial focus on travel and biodefense and a social mission to ensure global access to its vaccines, today announced that it has entered into a research and development collaboration with the University of California, San Diego to develop a combination vaccine to prevent genital herpes simplex virus (HSV) infections. PaxVax will license intellectual property and work together with Deborah Spector, Ph.D., distinguished professor in the UC San Diego Skaggs School of Pharmacy and Pharmaceutical Sciences and the university's Department of Cellular and Molecular Medicine to select the optimal vaccine combination and take this vaccine candidate into clinical trials. Financial terms of the collaboration were not disclosed.

HSV is one of the most common sexually transmitted diseases in the United States and throughout the world, with approximately 750,000 new infections annually in the U.S. alone. Approximately 20 percent of the U.S. population is infected with HSV. There are two types of HSV, including HSV2, which is most commonly associated with genital herpes. HSV1 is generally responsible for "fever blisters" or cold sores around the mouth and face, but can also cause genital herpes. After the initial infection, HSV becomes latent or dormant, but can reactivate periodically causing local skin lesions and the shedding of virus that can be spread by sexual contact. Prescription medicines are available to inhibit virus replication, lessen symptoms and decrease transmission to others, but a treatment does not exist to block the initial infection or onset of HSV. It has been shown that people who are infected with HSV are more susceptible to HIV infection, and thus an effective vaccine for HSV could also reduce HIV transmission rates.

"Dr. Spector and her laboratory at UC San Diego have carried out basic and vaccine-related research with herpes simplex virus and cytomegalovirus for many years, and have developed impressive vaccine strategies, which in animal models show encouraging safety and efficacy," said Jonathan Smith, executive vice president and chief scientific officer at PaxVax. "We believe that there are synergies between Dr. Spector's approach and technologies developed at PaxVax, such as our oral, adenovirus-based vaccines, that could lead to an effective vaccine for HSV. PaxVax also has the necessary manufacturing, regulatory and clinical capabilities and expertise that would allow us to manufacture such an HSV vaccine and test it in a clinical setting."

PaxVax's proprietary vector-based technology platform, which would be leveraged to develop the HSV vaccine, has helped the company develop several vaccine candidates that have reached clinical trials, including candidates for pandemic influenza, HIV, and anthrax. As described in a proof-of-principle study published in the journal *Lancet Infectious Disease* (see [http://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(12\)70345-6/fulltext](http://www.thelancet.com/journals/laninf/article/PIIS1473-3099(12)70345-6/fulltext)), the oral adenovirus-vectored vaccine candidate as part of a prime-boost regimen has the potential to generate more robust antibody responses than traditional vaccine methodologies. PaxVax intends to pursue a similar prime-boost approach using the PaxVax adenovirus technology in conjunction with booster antigens developed by Dr. Spector.

“Currently, there is no available vaccine to help prevent HSV infections,” said Dr. Spector. “My laboratory has been studying various aspects of herpes viruses for many years, and it’s gratifying to see that our work has been recognized and identified as a potential option that matches well with PaxVax’s technology.”

“We will continue to expand our specialty product portfolio to include vaccine candidates, such as a combination vaccine for herpes, if it means that we can address diseases that currently lack affordable and easy-to-access solutions,” said Kenneth Kelley, chief executive officer of PaxVax. “For this patient population, there may be effective therapeutic drugs available to help manage the disease, but we’re particularly interested in helping to prevent this unaddressed infectious disease, which not only affects areas of the developed world, but more severely impacts developing areas such as sub-Saharan Africa where it contributes to the transmission of HIV.”

### **About PaxVax**

PaxVax is a privately held specialty vaccine company founded in 2007, and has raised nearly \$75 million from investors and is supported by grants, contracts, and awards from the NIH, the Wellcome Trust, and the Bill and Melinda Gates Foundation. PaxVax is focused on travelers’ vaccines with an emerging pipeline in vaccines for infectious diseases coupled with a social mission to ensure global access to its products. PaxVax’s clinical-stage product portfolio includes its lead product PXVX0200, which is an oral, single-dose cholera vaccine in Phase 3 clinical trials, a pandemic oral vectored H5N1 influenza vaccine that recently concluded a successful Phase 1 clinical trial, as well as oral vectored vaccines for anthrax and HIV, which are currently in Phase 1 clinical trials in collaboration with the U.S. National Institutes of Health. The company also has a pipeline of early-stage travelers’ vaccine candidates for dengue and rabies.

The company’s proprietary adenoviral-based technology platform enables the rapid development of oral vaccines that can target viral or bacterial protein antigens. PaxVax’s vaccine candidates are designed to enhance immune responses and offer an easier way to manufacture, store, distribute, administer, and deliver vaccines globally compared to conventional injectable vaccines. PaxVax is headquartered in Redwood City, California and has research and development laboratories and state-licensed Good Manufacturing Practice (GMP) production facilities in San Diego, California. More information about PaxVax is available at [www.PaxVax.com](http://www.PaxVax.com).

### **About UC San Diego**

The University of California, San Diego is a student-centered, research-focused, service-oriented public institution that provides opportunity for all. Recognized as one of the top 15 research universities worldwide, a culture of collaboration sparks discoveries that advance society and drive economic impact. Our students, who learn from Nobel laureates, MacArthur fellows and National Academy members, are committed to public service. For the fourth consecutive year, UC San Diego has been ranked first in the nation based on research, civic engagement and social mobility. We are one campus with multiple pillars of excellence, a top ten public university that

is transforming lives, shaping new disciplines and advancing the frontiers of knowledge. Learn more at [www.ucsd.edu](http://www.ucsd.edu).

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