



Contacts: Dr. Dan Stinchcomb, (970) 372-4754  
Dr. Jorge Osorio, (608) 890-0252

## **Inviragen Researching Vaccines to Protect Against Pandemic and Seasonal Influenza Viruses**

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Based on its ongoing avian influenza vaccine research, Inviragen is designing vaccines to protect against multiple influenza strains, including seasonal influenza and the recently emerged H1N1 influenza strain. The H1N1 influenza virus has caused nearly 30,000 cases worldwide in 74 countries leading to 144 deaths. In contrast, while no H5N1 avian influenza strain capable of human-to-human transmission has yet emerged, the high mortality of the virus represents a threat for future epidemics. In addition, conventional seasonal influenza continues to impact public health, causing an estimated 250,000 deaths worldwide every year. Inviragen will leverage its success in designing avian influenza vaccines to identify vaccine candidates that protect against pandemic and seasonal influenza viruses.

"Inviragen has successfully developed vaccines that protect animals from lethal H5N1 avian influenza with a single, low dose. Our technology is perfectly suited to engineer a vaccine that will induce protection from avian, swine and human influenza strains," said Dr. Jorge Osorio, Inviragen's Chief Scientific Officer and Assistant Professor at University of Wisconsin. "Our goal is to develop a vaccine that is easy to manufacture, simple to administer and provides broad protection against multiple influenza viruses."

"The recent outbreak of the H1N1 swine-origin influenza highlights the unpredictability of influenza viruses," said Dr. Dan Stinchcomb, Inviragen's Chief Executive Officer. "Current influenza vaccine manufacturers are scrambling to complete seasonal flu vaccine production and add production of a vaccine for the new H1N1 virus. In the future,

Inviragen's technology could permit manufacture of a single vaccine for both seasonal and pandemic use."

The novel H1N1 influenza A virus was first reported in two isolated cases in California and was then found to be identical to the virus causing a severe influenza epidemic in Mexico. In a matter of weeks, the virus spread worldwide, causing thousands of confirmed cases. While the future of the current pandemic is uncertain, it is likely that this H1N1 virus will continue to present a worldwide threat to human health. The avian H5N1 influenza virus emerged in Southeast Asia in 2003 and has caused 433 confirmed human cases leading to 262 deaths (a mortality rate of over 60%). Further virus reassortment or mutation might create an H5N1 virus capable of human-to-human transmission that could cause yet another worldwide flu pandemic. These threats highlight the need for a vaccine that is broadly protective against multiple influenza viruses.

### **About Inviragen**

Inviragen is developing life-saving vaccines to protect against emerging infectious diseases worldwide. In addition to the influenza project described here, Inviragen is developing a vaccine to protect against dengue fever for global markets, a vaccine to protect against West Nile for the U.S. markets and a combination plague and smallpox vaccine for biodefense. Inviragen has offices in Fort Collins, Colorado and Madison, Wisconsin. Please see [www.inviragen.com](http://www.inviragen.com) for more details.