



Inviragen and University of Texas Medical Branch Receive Funding for Development of a Novel Recombinant Chikungunya Virus Vaccine

*- Efficacy and Safety of Chikungunya Vaccine Highlighted in July 2011 PLoS Pathogens -
- License to UTMB Technology Acquired by Inviragen -*

Fort Collins, CO – August 15, 2011 – Inviragen, Inc. today announced that the National Institute of Allergy and Infectious Diseases (NIAID), a division of the National Institutes of Health, has awarded a four-year grant of over \$3 million for the characterization and development of a novel recombinant chikungunya virus (CHIKV) vaccine. The University of Texas Medical Branch (UTMB) in Galveston, which is collaborating with Inviragen on the development of a CHIKV vaccine, is the recipient of the grant, with over \$1.5 million directly funding product development activities at Inviragen.

The CHIKV vaccine is currently undergoing preclinical testing by scientists at Inviragen, the UTMB, the University of Wisconsin (UW) and the Division of Vector-Borne Diseases (DVBD) of the Centers for Disease Control and Prevention. Inviragen and UTMB have recently executed an exclusive world-wide license agreement for the development and commercialization of this novel CHIKV vaccine.

“Through our collaboration with UTMB, UW and DVBD, we have established the preclinical safety, immunogenicity and efficacy of this chikungunya vaccine candidate in multiple animal models,” stated [Dr. Jorge Osorio](#), co-founder and chief scientific officer of Inviragen. “This grant from NIAID will partially fund efforts at UTMB and Inviragen to further characterize the vaccine, complete the remaining preclinical testing and manufacturing, and file an investigational new drug application with the U.S. Food and Drug Administration to begin human clinical testing.”

[Scott Weaver, Ph.D.](#), director of the Institute for Human Infections and Immunity and scientific director of Galveston National Laboratory, UTMB commented, “While chikungunya is currently endemic in Africa, Asia and other regions beyond our borders, we believe that there is a very real risk that an infected traveler might spur an epidemic in the U.S. The best way to prevent this would be with a vaccine, and the results we have seen so far from the Inviragen candidate are very encouraging. We believe the recent award of over \$3 million from the NIAID speaks to the need for an effective vaccine, and to the strength of our collaborative chikungunya research program.”

Key preclinical data demonstrating the safety and protective efficacy of the vaccine are reported in the July 2011 issue of [PLoS Pathogens](#). The paper characterizes the attenuation resulting from the engineered mutation of a viral promoter of the CHIKV and insertion of an independent ribosomal entry site (IRES) in its place. The resulting virus fails to replicate in its mosquito vector, an important safety feature when immunizing travelers or laboratory personnel in non-endemic locations. Further, it is highly attenuated in multiple models of CHIKV infection and the candidate vaccine generates protective immune responses after a single dose.

PLoS Pathogens is an open-access, peer-reviewed journal published monthly by the Public Library of Science (PLOS). The article, titled "Novel Chikungunya Vaccine Candidate with an IRES-Based Attenuation and Host Range Alteration Mechanism," may be accessed free of charge on the PLOS website at www.plospathogens.org.

About Chikungunya

[Chikungunya](#) (CHIKV) is a mosquito-borne virus that can cause fever, headache, fatigue, nausea, vomiting, muscle pain, rash, and joint pain in those infected. Approximately 30% of patients experienced incapacitating joint pain, or arthritis that may persist for weeks, months, or in some cases years. On rare occasions, CHIKV infection may lead to neurologic and hepatic disease with high illness and mortality rates. No approved treatment or vaccine currently exists for CHIKV, which is considered endemic in 34 countries in Europe, Australia, Asia and Africa. For more information on CHIKV, visit the [Division of Vector-Borne Diseases](#) of the Centers for Disease Control and Prevention.

About Inviragen, Inc.

Inviragen is focused on developing vaccines to protect against infectious diseases worldwide. Inviragen's lead product candidate is a vaccine to protect against dengue fever. Inviragen is also developing vaccines to protect against hand, foot and mouth disease and Japanese encephalitis, both of which affect millions of children in Asia. Vaccines in preclinical research stages include a chikungunya vaccine, a low-cost human papilloma virus vaccine, vaccines to protect against new forms of influenza, a vaccine to protect against West Nile and a combination plague/smallpox vaccine for biodefense. Inviragen has offices in Colorado, Wisconsin and Singapore. Please see www.inviragen.com for more details.

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