

Tulane Receives \$7.07 Million NIH Grant to Develop Hemorrhagic Fever Virus Detection Kits

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Researchers at Tulane University, in collaboration with Corgenix Medical Corporation, a worldwide developer and marketer of diagnostic test kits, have received a five-year \$7,073,538 grant from the National Institutes of Health (NIH) for continued development of detection kits for Lassa viral hemorrhagic fever, a serious disease spread by contact with infected rodents. Viral hemorrhagic fevers are characterized by fever and bleeding disorders and can progress to high fever and shock. Lassa fever is estimated to infect 300,000 to 500,000 people per year across West Africa, resulting in approximately 5,000 deaths.

This is the second grant awarded to Tulane for Lassa virus products. Also collaborating with Corgenix and Tulane in this grant are Autoimmune Technologies, LLC (New Orleans), Vybion, Inc. (Ithaca, NY), and various partners in West Africa.

Under the original grant awarded in 2005, the group developed and patented new recombinant proteins for Lassa virus and developed several viral detection products which were deployed in Africa for clinical testing. Until the development of these detection kits, infection with this disease could be determined only by culturing live Lassa virus in a high-containment laboratory. Such testing is expensive, laborious and not commercially available, leaving no adequate options for laboratory diagnosis of viral hemorrhagic fevers in sub-Saharan Africa, where most of these diseases are endemic.

New outbreaks of the Lassa fever have been reported recently, including in Nigeria. "We are now seeing much broader presence of this disease in Africa," says Dr. Daniel Bausch, Director of the Tulane School of Public Health and Tropical Medicine Research and Training Program in West Africa. "Within the past year alone we have seen a significant increase in the number of cases in Nigeria, with increased

fatalities. It is critical that the assays we have already developed and are using in Africa, as well as others still in our development pipeline, become fully deployed to aid in this vital effort."

Joseph Fair, Ph.D., MPH, Director, Global Field Operations for Global Viral Forecasting Initiative, a recent graduate of the Graduate Program in Biomedical Sciences at Tulane and a consultant to the Lassa group, noted that "these recombinant-based serological assays designed for field deployment offer the public health and scientific communities a powerful tool to accurately assess the true disease burden and risks posed by Lassa and other especially dangerous pathogens, while collaterally improving upon their treatment and ultimately prevention."

Under the NIH grant, Tulane will conduct a five-year study designed to complete the tests for viral hemorrhagic fevers, some of which are potential bioterrorism agents due to their high fatality rate and ease of transmission from person-to-person.

"We have been very pleased with the results of our development effort," says Dr. Robert Garry, Professor of Microbiology and Immunology at the Tulane University School of Medicine and principle investigator of the program. "The products have shown to be remarkably effective in clinical settings in Africa and will have a meaningful impact on the health care in that part of the world, but will also fill a critical gap in bioterrorism defense. Now under the new NIH award, we will complete the development and move to commercialization of the Lassa fever detection products and expand our efforts across Africa."

The group intends to expand this program to address other important infectious agents—such as Ebola, Marburg and other hemorrhagic fever viruses—that are of concern to the public health and bioterrorism preparedness communities, according to Garry.

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