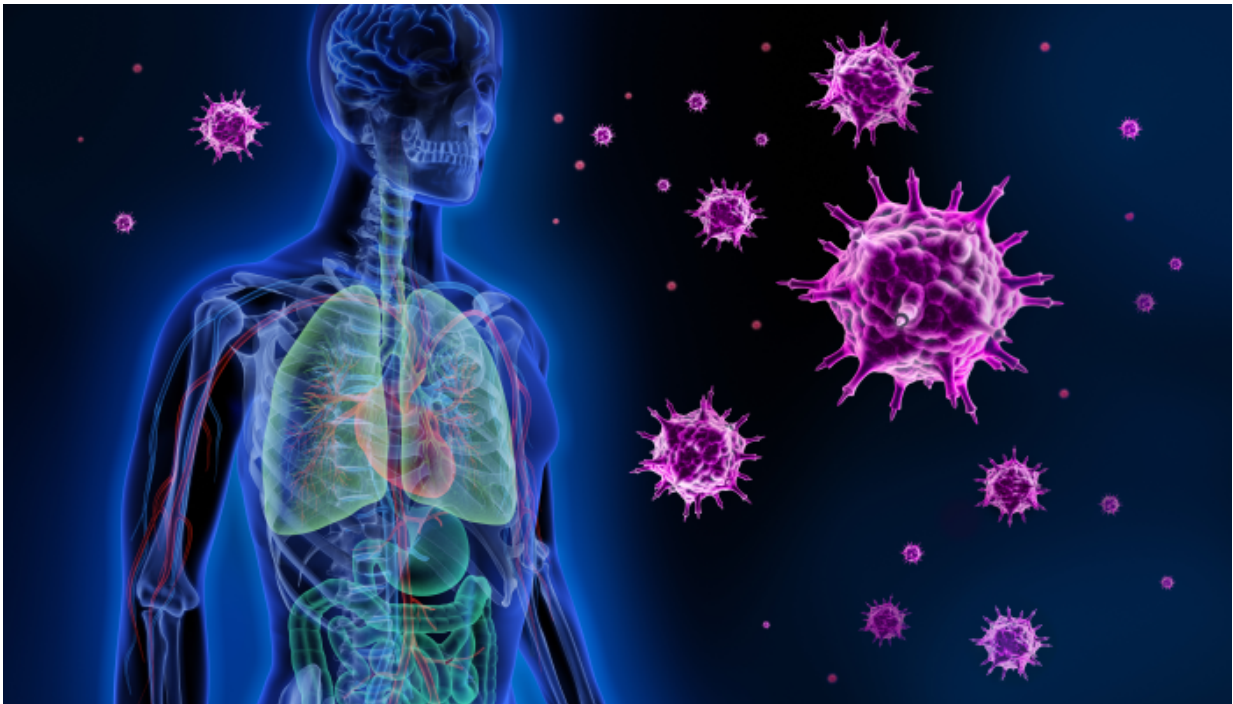


Researchers develop Lassa fever treatment effective eight days after infection

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Credit: University of Texas Medical Branch at Galveston

A collaborative team of scientists, led by a group at The University of Texas Medical Branch at Galveston, have successfully protected nonhuman primates against one of the most deadly viruses in the world, Lassa fever, eight days after they became infected. The findings are now available in *Nature Medicine*.

The virus, for which there are no approved vaccines or treatments, infects hundreds of thousands of people every year and is estimated to kill approximately 34 percent of those infected, according to the Centers for Disease Control and Prevention. Also, military and science experts say that the virus could be used as a biological terror weapon.

"In this study, we tested a combination of three [monoclonal antibodies](#) by giving them to [nonhuman primates](#) beginning up to eight days following exposure to a lethal amount of Lassa virus," said UTMB's Thomas Geisbert, a professor in the Department of Microbiology and Immunology. "We found that the treatments were well-tolerated and provided 100 percent protection from Lassa fever. Without treatment, the animals show evidence of the virus in their bodies by day four after exposure."

Monoclonal antibodies are widely used for treating cancers and autoimmune diseases and more than 45 different types are approved by the U.S. Food and Drug Administration and European Medicines Agency.

"The fact that the treatment was able to rescue 100 percent of the animals more than a week after infection with Lassa virus suggests that this therapy may benefit patients with Lassa fever in West Africa, who often arrive at the clinic at a late stage of disease," said Robert Garry, a professor in the department of microbiology and immunology at Tulane. "We are accelerating further development so that this promising treatment can be introduced into clinics in West Africa and deployed as a deterrent against the use of Lassa virus as a bioweapon."

Recently, travelers on commercial airlines have imported Lassa fever into Europe and the U.S., highlighting the potential for spread of the disease. The disease is classified as a Category A pathogen - an organism that poses the highest risk to national security and public health - by

several U.S. government agencies because of the concern for deliberate misuse.

More information: Chad E Mire et al. Human-monoclonal-antibody therapy protects nonhuman primates against advanced Lassa fever, *Nature Medicine* (2017). [DOI: 10.1038/nm.4396](https://doi.org/10.1038/nm.4396)

Provided by University of Texas Medical Branch at Galveston

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