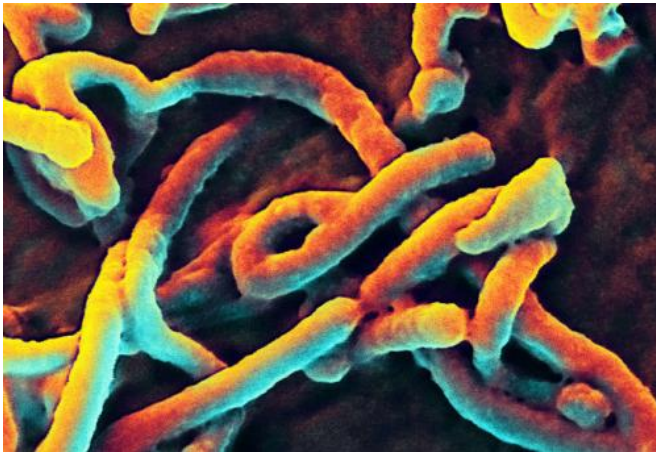


Combination therapy protects against advanced Marburg virus disease

25 March 2021



A scanning electron micrograph of Ebola virus budding from a cell (African green monkey kidney epithelial cell line). Credit: NIAID

A new study conducted at the Galveston National Laboratory at the The University of Texas Medical Branch at Galveston (UTMB) has shown substantial benefit to combining monoclonal antibodies and the antiviral remdesivir against advanced Marburg virus. The study was published today in *Nature Communications*.

"Marburg is a highly virulent disease in the same family as the virus that causes Ebola. In Africa, patients often arrive to a physician very ill. It was important to test whether a combination of therapies would work better with really [sick people](#), said Tom Geisbert, a professor in the Department of Microbiology & Immunology at UTMB and the principal investigator for the study. "Our data suggests that this particular combination allowed for recovery when given at a very late stage of disease."

Dr. Zachary A. Bornholdt, Senior Director of Antibody Discovery and Research for Mapp

Biopharmaceutical and a co-author on the study, said, "Often small molecules and antibodies are positioned to compete with each other for a single therapeutic indication. Here we see the benefit of pursuing both [treatment strategies](#) in tandem and ultimately finding synergy upon combining both approaches together."

Geisbert, Bornholdt and a [large team](#) at UTMB, Mapp Biopharmaceuticals and Gilead have been developing monoclonal antibody (mAbs) therapies to treat extremely dangerous viruses like Marburg and Ebola for several years. The treatments have proven to be highly effective in [laboratory studies](#) and emergency use, particularly when delivered early in the disease course.

In this study, using a rhesus model, treatment with [monoclonal antibodies](#) began six days post infection, a critical point in disease progression. The combination therapy with the antiviral remdesivir showed an 80 percent protection rate, indicating promise for treatment of advanced Marburg infections.

More information: Robert W. Cross et al, Combination therapy protects macaques against advanced Marburg virus disease, *Nature Communications* (2021). [DOI: 10.1038/s41467-021-22132-0](#)

Provided by University of Texas Medical Branch at Galveston

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