

Antiviral favipiravir successfully treats Lassa virus in guinea pigs

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Favipiravir, an investigational antiviral drug currently being tested in West Africa as a treatment for Ebola virus disease, effectively treated Lassa virus infection in guinea pigs, according to a new study from National Institutes of Health (NIH) scientists and colleagues. Lassa fever is endemic to West Africa and affects about 300,000 people annually, killing roughly 5,000. In some parts of Sierra Leone and Liberia, it is believed nearly 15 percent of people admitted to hospitals have Lassa fever, according to the Centers for Disease Control and Prevention. No vaccine or licensed treatment exists for Lassa fever, although ribavirin, licensed for hepatitis C treatment, has been used with limited success.

In the new study, published Oct. 12, 2015, in *Scientific Reports*, favipiravir not only effectively treated [guinea pigs](#) infected with Lassa virus, it also worked better than ribavirin.

Two days after infecting groups of guinea pigs with a lethal dose of Lassa virus, the scientists treated the rodents daily for two weeks with either ribavirin, low doses of favipiravir, or high doses of favipiravir. They also evaluated the effect of high-dose favipiravir in the rodents that began treatment five, seven or nine days after infection. All of the animals that received high-dose favipiravir were completely protected from lethal infection; animals treated seven or nine days after infection had begun showing signs of disease, but their conditions quickly improved when treatment began. Those animals in the low-dose favipiravir group showed mild to moderate signs of disease, but those symptoms resolved after about one week of treatment. The animals

treated with ribavirin appeared normal during the treatment phase but developed severe disease shortly after treatment ended.

Further testing and human clinical trials are needed to determine if favipiravir, also known as T-705 and Avigan, could effectively treat Lassa virus infection in people.

More information: David Safronetz et al. The broad-spectrum antiviral favipiravir protects guinea pigs from lethal Lassa virus infection post-disease onset, *Scientific Reports* (2015). [DOI: 10.1038/srep14775](https://doi.org/10.1038/srep14775)

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