

New antibiotic proves to be effective against river blindness in mice

January 8 2019, by Bob Yirka



Credit: CC0 Public Domain

A team of researchers from the U.K., the U.S., Japan and Germany has developed an antibiotic that kills a type of bacteria necessary for larval growth in the parasitic worm that causes river blindness. In their paper

published in *Proceedings of the National Academy of Sciences*, the group describes their development of the antibiotic and how effective it was in treating river blindness in mice.

River [blindness](#) is a disease caused by *Onchocerca volvulus*, a [parasitic worm](#). People become infected when the larvae make their way under the skin. In many cases, infections lead to serious itching that can result in disfigurement; when the larvae make their way to the eye, blindness generally results.

Because it is so rare, little research has been conducted into river blindness [treatment](#) and prevention, but in this new effort, the researchers sought to cure it by targeting bacteria that the worm larva need to survive—Wolbachia—which just so happens to be the same bacteria that causes problems for mosquitoes that carry diseases such as dengue fever.

Prior research has led to the development of antibiotics that target Wolbachia, but they have required patients to take them daily for four to six weeks. The new effort led to the development of an antibiotic called AWZ1066S—it is based on a molecule selected as the best from a group of over 10,000 that were tested. In addition to being effective at killing Wolbachia, it can also be taken orally, and for a shorter time. As a bonus, the researchers found that it did not upset the gut biome, either.

The researchers note that thus far, the antibiotic has only been tested in lab animals. And because it is being championed as a treatment for a very [rare disease](#), it is not likely the team will be able to secure funds for development of clinical trials anytime soon. But they also note that Elephantiasis is caused by a Wolbachia-dependent parasitic worm similar to the one that causes [river blindness](#). Thus, a cure for one could result in a cure for the other.

More information: W. David Hong et al. AWZ1066S, a highly specific anti-Wolbachia drug candidate for a short-course treatment of filariasis, *Proceedings of the National Academy of Sciences* (2019). [DOI: 10.1073/pnas.1816585116](https://doi.org/10.1073/pnas.1816585116)

[Press release](#)

© 2019 Science X Network

Citation: New antibiotic proves to be effective against river blindness in mice (2019, January 8) retrieved 27 April 2024 from <https://medicalxpress.com/news/2019-01-antibiotic-effective-river-mice.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--