

# OU professor developing vaccine to protect global communities from malaria

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Credit: CDC

A University of Oklahoma professor studying malaria mosquito interaction has discovered a new mosquito protein for the development of a new vaccine that is expected to stop the spread of the disease in areas where it is considered endemic. Malaria is transmitted by mosquitoes, and it infects millions of people in Africa, Asia and South America every year, causing a global health crisis. In addition to the

local populations, U.S. military personnel stationed in these areas and travelers to these malaria-prone areas are at risk of becoming infected.

Jun Li, assistant professor in the Department of Chemistry and Biochemistry, OU College of Arts of Sciences, will travel to Kenya this July to test the newly-developed vaccine in the field. Since [mosquitoes](#) are essential for [malaria](#) transmission, Li and his colleagues from the OU Norman campus, the OU Health Sciences Center and John Hopkins University have found that an antibody used against a key mosquito protein inhibited malaria parasite invasion in mosquitoes. The antibody blocks the [malaria parasite](#) from the protein, which is needed for the parasite to invade mosquitoes.

"Vaccination with this mosquito protein would stop the spread of malaria in communities where it is most needed," says Li. "The vaccine should protect an entire community by keeping mosquitoes from transmitting the disease, and it has the potential to dramatically reduce the number of malaria cases around the world."

According to the World Health Organization, there were about 198 million cases of malaria in 2013 and an estimated 584,000 deaths. Most deaths occur among children living in Africa, where a child dies every minute from malaria. Approximately half of the world's population is at risk of malaria. In 2014, 97 countries and territories had ongoing [malaria transmission](#).

A technical paper on this research will be published in the July 3, 2015, issue of the *Journal of Biological Chemistry*, Volume 290, Number 27.

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Provided by University of Oklahoma

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