ST. LOUIS, Sept. 13, 2013 /PRNewswire-USNewswire/ -- Saint Louis University's Center for World Health and Medicine has received a three-year $566,640 grant from the National Institutes of Health to study a new approach to treating malaria, a disease that puts about one billion people at risk worldwide, killing approximately one million annually.

The project investigates the potential of novel classes of antimalarial drugs to treat drug-resistant parasites that cause malaria and seeks to identify exactly how the drugs kill the parasites as they hide in red blood cells to evade the body's natural immune system.

It builds upon pilot research between the Center for World Health and Medicine and the Guangzhou Institutes of Biomedicine and Health that identified a compound with inherent antimalarial activity that has potential to be turned into a drug given as a pill.

"Although there are a number of drugs used to treat the disease, resistance to these drugs is becoming widespread," said Marvin Meyers, Ph.D., a medicinal chemist at the Center for World Health and Medicine, who is leading the research at SLU. "Because we need a superior long-term solution to combat resistant parasites, our research will study new antimalarial drugs that kill the parasite in new ways."

The team identified two classes of compounds with anti-parasitic activity in parasite-infected red blood cells. The compounds have chemical structures different from those currently used to treat malaria, which makes them promising candidates to treat drug-resistant parasites. The team will optimize the compounds for improved potency to kill the parasite in a mouse model of the disease.

Scientists also will probe the mechanism the new compounds use to kill the malaria parasite, which may help optimize the compounds and provide a means for identifying other new malaria drugs.

For this NIH-funded research project, Meyers will collaborate with the Guangzhou Institutes of Biomedicine and Health, a Chinese center of expertise in malaria biology, drug discovery and medicinal chemistry, and the Chinese Academy of Sciences.

The National Natural Science Foundation of China is funding the Guangzhou Institutes of Biomedicine and Health and will match the National Institutes of Health's funding for SLU's Center for World Health and Medicine, which means the research project is slated to receive more than $1.1 million in funding over the next three years.

SLU's Center for World Health and Medicine is dedicated to the discovery and development of safe, effective and affordable therapies for malaria and other diseases, especially those that afflict the poor and underserved. It is comprised of drug discovery scientist formerly employed in the pharmaceutical industry with expertise in translating discoveries made in basic science laboratories into novel drugs for rare and neglected diseases.

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