

# Malaria drug treatment breakthrough

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An international study, involving researchers from Griffith University's Eskitis Institute, has discovered a molecule which could form the basis of powerful new anti-malaria drugs.

Professor Vicky Avery from Griffith University's Eskitis Institute is co-author of the paper "Quinolone-3-Diarylethers: a new class of drugs for a new era of [malaria eradication](#)" which has been published in the journal *Science Translational Medicine*.

"The 4(1H)-quinolone-3- diarylethers are selective [potent inhibitors](#) of the parasite mitochondrial cytochrome bc1 complex," Professor Avery said.

"These compounds are highly active against the types of malaria parasites which infect humans, *Plasmodium falciparum* and *Plasmodium vivax*," she said.

"What is really exciting about this study is that a new class of drugs based on the 4(1H)- quinolone-3- diarylethers would target the [malaria parasite](#) at different stages of its lifecycle."

This provides the potential to not only kill the parasite in people who are infected, thus treating the clinical symptoms of the disease, but also to reduce [transmission rates](#).

"Just one of these properties would be of great benefit but to achieve both would really make a difference in reducing the disease burden on

developing nations," Professor Avery said.

"There is also the real possibility that we could begin to impact on the incidence and spread of malaria, bringing us closer to the ultimate goal of wiping out malaria altogether."

The selected preclinical candidate compound, ELQ-300, has been demonstrated to be very effective at blocking transmission in the mouse models.

There is a further benefit in that the predicted dosage in patients would be very low and it's expected that ELQ-300, which has a long half-life, would provide significant protection.

The development of a new chemical class of anti-malarial drugs is very timely as the parasite is becoming increasingly resistant to currently available treatments.

Eskitis Director Professor Ronald J Quinn AM said "I congratulate Professor Avery on her contribution to the discovery of this new class of anti-malarials.

"This is an exciting discovery that closely aligns with the Institute's focus on global health and fighting diseases that burden the developing world. We are continuing to take the fight to [malaria](#) along a number of fronts, including targeting its many life cycle stages."

Provided by Griffith University

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