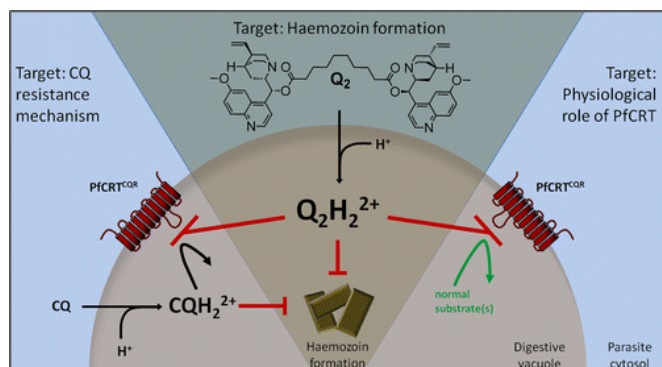


New strategy emerges for fighting drug-resistant malaria

15 January 2014



In the lab, the scientists designed and tested a set of molecules called quinone dimers, which were effective against sensitive parasites, and, surprisingly, even more effective against resistant ones. The compounds have an additional killing effect on the drug-resistant parasites because the [compounds](#) bind to and block the resistance-conferring protein. This resensitizes the [parasites](#) to chloroquine, and appears to block the normal function of the resistance protein, killing the parasite. "This highlights the potential for devising new antimalarial therapies that exploit inherent weaknesses in a key resistance mechanism of *P. falciparum*," they state.

More information: "Quinine Dimers are Potent Inhibitors of the Plasmodium falciparum Chloroquine Resistance Transporter and are Active against Quinoline-Resistant *P. falciparum*" ACS *Chem. Biol.*, Article ASAP. [DOI: 10.1021/cb4008953](#)

Malaria is one of the most deadly infectious diseases in the world today, claiming the lives of over half a million people every year, and the recent emergence of parasites resistant to current treatments threatens to undermine efforts to control the disease. Researchers are now onto a new strategy to defeat drug-resistant strains of the parasite. Their report appears in the journal *ACS Chemical Biology*.

Provided by American Chemical Society

Christine Hrycyna, Rowena Martin, Jean Chmielewski and colleagues point out that the parasite *Plasmodium falciparum*, which causes the most severe form of malaria, is found in nearly 100 countries that, all totaled, are home to about half of the world's population. Every day, *P. falciparum* and its relatives hitch rides via mosquitoes to find a human home. An effective vaccine remains elusive and the continuing emergence of drug-resistant parasites is cause for alarm. The good news is that these scientists have designed compounds that work against *P. falciparum* strains that are resistant to drugs such as chloroquine. The team wanted to understand how these compounds worked and to develop new candidate antimalarials.

APA citation: New strategy emerges for fighting drug-resistant malaria (2014, January 15) retrieved 11 November 2019 from <https://phys.org/news/2014-01-strategy-emerges-drug-resistant-malaria.html>

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