

*P. vivax*, 8 *P. falciparum*, and 1 mixed infection. All infections except 1 *P. vivax* occurred in placebo recipients, giving tafenoquine a protective efficacy of 97% for all malaria (95% confidence interval [CI], 82%-99%), 96% for *P. vivax* malaria (95% CI, 76%-99%), and 100% for *P. falciparum* malaria (95% CI, 60%-100%). Monthly tafenoquine was safe, well tolerated, and highly effective in preventing *P. vivax* and multi-drug-resistant *P. falciparum* malaria in Thai soldiers during 6 months of prophylaxis.

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## **A HIGHLY SENSITIVE METHOD FOR MEASURING THE RESPONSE OF *PLASMODIUM FALCIPARUM* TO ANTIMALARIALS**

**Krairojananan P, Jones JW, Russell BM, Barends M and Khuntirat B**

Real time quantitative PCR (rtqPCR) is the most sensitive method for determining the quantity of malaria parasites in a sample. RtqPCR (cybergreen) has successfully applied to determine *Plasmodium falciparum* sensitivity to chloroquine, as reported previously. We have developed an optimized rtqPCR drug assay utilizing an 18S rRNA Taq probe set/ABIprism system to determine the sensitivity of *P. falciparum* to antimalarials. By comparing the copy number of the 18S rRNA gene of parasites grown in the control and drug treatment we were able to provide a direct measurement of parasite growth. In a parallel study, we compared the drug sensitivity data of *P. falciparum* field isolates from Northwest Thailand using rtqPCR, and other methodologies (HRP2 ELISA and *pf*PLDH DELI methods). There was no significant difference in the overall drug response trends shown by the rtqPCR, HRP2 ELISA and *pf*PLDH DELI methods. However, these current methodologies for *in vitro* drug sensitivity testing are indirect methods with poor sensitivity and limited to screening profile and have significant shortcomings, which may lead to inaccurate and potentially dangerous data on drug efficacy. We are confident that the rtqPCR technique is a sound candidate for use as a gold standard not only to measure IC50 of randomly selected isolates and clones (QA), but also to measure the accuracy of the current (Hypoxanthine) and other future drug assays (PicoGreen). (ACMCIP abstract)

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## **A HISTIDINE-RICH PROTEIN 2-BASED MALARIA DRUG SENSITIVITY ASSAY FOR FIELD USE**

**Noedl H, Bernhard A, Walther HW, Herwig K and Robert SM**

With the spread of antimalarial drug resistance, simple and reliable tools for the assessment of antimalarial drug resistance, particularly in endemic regions and under field conditions, have become more important than ever before. We therefore developed a histidine-rich protein 2