

# rences in dihydrofolate reductase but not dihydropteroate synthase alleles in *Plasmodium falciparum* isolates from geographically distinct areas in Malaysia.

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## Abstract:

Dihydropteroate synthase (dhps) and dihydrofolate reductase (dhfr) alleles were typed in 67 Malaysian *Plasmodium falciparum* isolates. The isolates were collected from two geographically distinct locations: 51 from Sabah, Malaysian Borneo, where sulfadoxine/pyrimethamine (SDX/PYR) is used to treat uncomplicated malaria and 16 from Peninsular Malaysia where in vivo resistance to SDX/PYR has been reported. A total of seven dhps alleles were identified with no significant difference in allele frequency between the 2 populations. Two of the dhps alleles described here have not been previously reported. Four dhfr alleles were detected in 67 *P. falciparum* isolates. Eighty-seven percent of the isolates from the Peninsula, where clinical SDX/PYR failure has been reported, had dhfr alleles with triple point mutations while all of the isolates from Sabah had dhfr alleles with 2 or less point mutations. The difference in dhfr allele frequency between the two populations was highly significant. There was no correlation between in vitro PYR response and accumulation of dhfr point mutations.