

Title of Research

Correlation of artesunate and amodiaquine pharmacokinetics with *CYP2A6* and *CYP2C8* genotypes in Malaysian subjects.

Research Background

Malaria is a disease caused by any of four species of *Plasmodium* parasites that can infect the red blood cells. Annually, malaria infects 300 million to 500 million people and causes 1.5 million to 3 million deaths. The most commonly fatal strain of the malaria parasite is showing considerable resistance to current treatments, making development of new drugs a priority. Many antimalarial drugs are of herbal in origin such as quinine, artesunate and amodiaquine. Currently, artesunate and amodiaquine are the best treatment options for malaria (Médecins, 2002).

Objectives**i) General objective**

The aim of the study is to determine the disposition of artesunate and amodiaquine in Malaysian subjects in loose and fixed dose combinations and to investigate the influence of the *CYP2A6* and *CYP2C8* alleles on their pharmacokinetics.

ii) Specific objectives

- 1) To investigate the suitability of a fixed dose formulation of artesunate and amodiaquine as antimalarial drugs.
- 2) To investigate the influence of the *CYP2A6* and *CYP2C8* alleles on the disposition of artesunate and amodiaquine in Malaysian subjects using Polymerase Chain Reaction (PCR).

Expected outcomes

- 1) The suitability of a fixed dose formulation of artesunate and amodiaquine as antimalarial drugs can be determined.
- 2) The influence of the *CYP2A6* and *CYP2C8* alleles on the disposition of artesunate and amodiaquine in Malaysian subjects can be elucidated.