D-45: A comparision of the sequence of two allelic forms of a merozoite surface antigen in Sri Lankan isolates of *Plasmodium falciparum*

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The 2 major antigens present on the surface of the *Plasmodium falciparum* merozoites, 195kDa MSA-1 (PMMSA) and 45kDa MSA-2 (GYMSSA) are potential vaccine candidate molecules. They exhibit significant structural diversity in different isolates. The MSA-2 is composed of highly conserved C and N termini together with a centrally located region of repetitive sequence that is flanked by 2 variable regions. When considering the variable region and the repeats which vary in number, length and sequence, the MSA-2 appears to fall into 2 major allelic families.

In our study, the structural diversity of *P. falciparum* MSA-2 of Sri Lankan isolates from different parts of the country was investigated and compared to that in well established laboratory isolates. A knowledge of the structural diversity in Sri Lanka isolates is necessary for developing a vaccine against malaria.

The MSA-2 gene was directly PCR amplified from blood using 2 oligonucleotide primers corresponding to the 3' and 5' ends of the translated region of this gene and analysed the DNA sequence by a PCR double stranded DNA sequencing technique using 35$ labelled deoxy ATP, a technique which was established in our laboratory.

In the Sri Lankan isolates 2 different sequences were observed. The Dambulla isolate and the Polgahawela isolate were related to K1 and 3D7 laboratory isolates respectively, but not identical, showing that at least 2 allelic forms of the MSA-2 are present in Sri Lanka.

In designing a vaccine based on MSA-2, the regions of the molecule that are shared between alleles, might therefore be preferred.