A-22: Genetic and immunological evidence for the conserved nature of *Plasmodium falciparum* Pfg 27/25 antigen

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Many of the plasmodial antigens characterised to date, have been shown to be polymorphic in natural parasite isolates. The gene coding for Pfg 27/25 (gametocyte specific cytoplasmic protein) was amplified by Polymerase Chain Reaction (PCR). A portion of 618 base pairs of Pfg 27/25 was amplified by PCR from laboratory cultured parasite isolates of 3D7A, HB3A and 7GB by PCR. Oligonucleotide

primers derived from the extremities of the coding sequence were used for PCR amplification. No size difference was found in amplified fragments, suggesting that gene is genetically conserved among different isolates. This could be confirmed further by DNA sequence analysis. The presence of antibodies to Pfg 27/25 antigen was also demonstrated in 35 out of 36 sera from an endemic area, by immunoprecipitation and SDS- PAGE analysis. This result shows that immunological response to Pfg 27/25 is universal. Pfg 27/25 is an internal gametocyte protein and is considered as a non-target antigen of transmission blocking immunity. In contrast, the immune response to target antigens of transmission blocking immunity of *P. falciparum* (of sexual stage parasites) have been shown to be greatly restricted in endemic populations. It appears from these findings that parasite antigens that are not targets of anti-parasite immunity, tend to be invariant (conserved) both immunologically and genetically. This contrasts with the findings on target antigens of anti-parasite immunity which are generally highly polymorphic in natural parasite isolates.