

Immunoglobulin G (IgG) Responses to *Plasmodium falciparum* Glycosylphosphatidylinositols Are Short-Lived and Predominantly of the IgG₃ Subclass

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Abstract

The induction of neutralizing immunity to *Plasmodium falciparum* toxins by vaccination has been proposed as a preventive strategy to limit the severity of malaria. For this approach to be successful, generation of a sustained immune response would be necessary. This study shows that immunoglobulin G (IgG)–subclass responses elicited by the proposed *P. falciparum* toxin glycosylphosphatidylinositol (GPI) in Papua New Guinean subjects 5–60 years old predominantly involve IgG₃, with a lesser contribution from IgG₁ and an absence of IgG₂ and IgG₄. IgG₃ levels declined sharply within 6 weeks of pharmacological clearance of parasitemia in all subjects, whereas a significant decrease in IgG₁ levels was seen only in subjects ≤19 years old. Because the natural antibody response to *P. falciparum* GPIs is skewed toward the short-lived IgG₃ subclass, a vaccination strategy with GPI analogues would likely require augmentation by costimulatory molecules, to induce a more persistent anti-GPI response

Topic: [Immune response](#) , [Drug clearance](#) , [Antibody formation](#), [Glycosylphosphatidylinositols](#)