BACKGROUND

Malaria is an infectious disease caused by a protistan parasite of the genus *Plasmodium* and is mainly transmitted by mosquitoes. *Plasmodium* invades the red blood cells of its host, which causes symptoms such as fever, anemia and in severe cases, coma potentially leading to death. In the blood-stage forms of the malarial parasite *Plasmodium falciparum*, the merozoite surface protein 1 (MSP-1) is a major surface component. In preparation for erythrocyte invasion, MSP-1 undergoes selective proteolytic processing and reassembly. A glycosylphosphatidylinositol (GPI) anchor links MSP-1 to the parasite plasma membrane. MSP-1 contains mono- or oligosaccharides in O-linkage to serines or threonines. N-linked carbohydrates also associate with asparagines on MSP-1, despite the lack of N-glycosylating machinery in *P. falciparum* parasites. The peptide ligand T cell epitopes of MSP-1 mutually inhibit IFN-γ secretion as well as proliferation of CD4+ T cells in a majority of malaria cases, making it a good vaccine candidate antigen.

REFERENCES


SOURCE

MSP-1 (PEM-1) is a mouse monoclonal antibody raised against recombinant *Plasmodium falciparum* merozoite surface protein 1.