Anti-Plasmodium Compositions and Methods of Use (E-049-2004)

Published date: Feb. 1, 2012

Technology description

Summary

This invention describes methods and compositions of peptides that inhibit the binding of Plasmodium falciparum (P. falciparum) to erythrocytes. Malarial parasites enter the red blood cell through several erythrocyte receptors, each being specific for a given species of Plasmodia . For P. falciparum , the erythrocyte binding antigen (EBA-175) is the ligand of the plasmodia merozoites that interacts with the receptor glycophorin A on the surface of red blood cells. Inhibiting this ligand/receptor interaction is one method of preventing further malarial attacks and is an active area of vaccine research.
This invention describes another specific peptide and antibodies that inhibit this ligand/receptor binding, thus is a potential source for vaccine development. The peptide described herein is a paralogue of EBA-175, identified as EBP2. Further, the invention includes antibodies and peptides that are specific for the claimed paralogue. Claims include the development of vaccines to the EBA-175 and EBP2. In addition, these antibodies and peptides can be developed as diagnostic and analytical reagents as well. Methods include the use of the peptides and the antibodies for the diagnosis, prevention and potential treatment of malaria. Further claims include their use in detection of P. falciparum in biological samples and culture methods.

Institution

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