

SUMMARY OF THESIS*

KIRCHGATTER, Karin – Análise de seqüências *var* de populações naturais de *Plasmodium falciparum* da Amazônia Brasileira. São Paulo, 2001.
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ANALYSIS OF VAR SEQUENCES FROM NATURAL PARASITE POPULATIONS OF *Plasmodium falciparum* IN THE BRAZILIAN AMAZON

Plasmodium falciparum var genes code for PfEMP1, a protein expressed on the surface of infected erythrocytes, and which mediates cytoadherence and rosetting. Both phenomena are directly associated with severe malaria and the most N-terminal domain, DBL1 α , specifically mediates rosetting. DBL1 α sequence analysis from Brazilian and worldwide isolates revealed that sequence similarities cannot predict geographical origin. To determine whether there are DBL1 α sequences associated with severe malaria, we examined expressed *var* DBL1 α sequences in patients with severe malaria from the Brazilian Amazon

and found that the predominantly expressed DBL1 α sequences from these parasites lacked 1-2 cysteine residues. Significantly, these sequences were amply found on the genomic repertoire of parasites from patients with mild malaria and yet they were rarely expressed. These data demonstrate the first association of particular PfEMP1 expressed sequences and severe malaria in patients from the Brazilian Amazon.

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