IMMUNOLOGICAL MAPPING OF B EPITOPES OF THE *P. falciparum* PFGDV1 PROTEIN FOR THE CONSTRUCTION OF A NEW TARGET FOR THE RAPID DIAGNOSIS OF MALARIA.

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Introduction: Malaria is an infectious disease considered a public health problem due to its wide geographical distribution and prevalence. According to WHO, 3.2 billion people live in endemic areas. The WHO recommends diagnostic confirmation for *P. falciparum* in all suspected malaria cases before antimalarial therapy is indicated. Although the gold standard for diagnosis is thick smear, rapid diagnostic tests (RDTs) greatly aid the diagnosis of malaria, especially in remote areas. However, RDTs based on PfHRP2 have presented false-negative results due to the circulation of *P. falciparum populations* with deletions in the gene that encodes and expresses this protein, causing a major diagnostic problem. Thus, the identification and characterization of new *P. Falciparum antigens* are fundamental to the development of new biotechnological inputs for the diagnosis of malaria. **Objective:** To identify and characterize linear B epitopes of the Pfgdv1 protein, using peptide microarrays, aiming to develop a new target or chimeric proteins for the rapid diagnosis of malaria. **Method:** A library of 379 peptides was synthesized on a cellulose membrane through a parallel synthesis strategy using the Spot- Synthesis technique. The membrane was probed with a pool of sera from patients infected with *P. falciparum. Bound antibodies* were quantified with secondary antibodies by chemiluminescence. Bioinformatics was used to analyze sequence similarity with other proteins in the database. Specific epitopes were synthesized and tested for sensitivity and specificity by ELISA. **Results:** Twenty-five epitopes containing between 10-15 aa were revealed. BLAST analysis identified 12 epitopes not present in proteins from other human pathogens. One epitope, Pfgdv1/19, when synthesized using the multi-antigenic peptide strategy (MAP-4) and incorporated into an ELISA test presented a sensitivity of 93% and a specificity of 83.08%. **Conclusions:** The Pfgdv1/19 peptide displayed the characteristics of a good target for the diagnosis of malaria. By applying the same techniques to the other 11 epitopes, it will be possible to define a group of peptides to develop a new rapid diagnostic test for malaria using a chimeric protein that combines them into a single recombinant protein that immunologically represents *P. falciparum*.

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