Analysis of Outer Membrane Protein in *Neisseria meningitis* serogroup B Vaccine Using 1D and 2D Electrophoresis

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Meningococal meningitides and septicemia disease represents a serious public health problem. In Brazil, serogroup B is especially important, and vaccines for this serogroup are necessary. The classic approach to menigococcal vaccines, use of capsular polysaccharide, was unsuccessful in serogroup B. Type B polysaccharide is similar to sialic acid-like structures on human cells. These problems have prompted the search of alternative cell surface antigens as vaccine candidates. OMV (outer membrane vaccines) have been show to elicit serum bactericidal antibody responses in humans and to confer protection against group B meningococcal disease. A limitation of this approach is that most immunogenic components are highly variable, and during fermentation process proteins could be expressed or not, and in different amounts. In this work, we have development a methodology for vaccine OMV. Initially, vaccines were treated to remove stabilizers and bacterial lipids. Proteins samples were analyzed using one-dimensional SDS-PAGE and two-dimensional electrophoresis under different experimental conditions. The results demonstrated that porins type A and B, in monomeric and trimeric forms, were the most abundant protein components. Other bands were also present, with same PI and MW of other minor surface antigens. Less abundant spots of the hydrophobic portion had the same MW of GNA 1870, a recent identified surface antigen in good immune response in animal models. This protein is more conserved between different strains than porins. These proteins are under characterization by mass spectrometry. These results demonstrated that better antigens to meningoccocal immunizations are present in less concentration in the traditional vaccine.

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