TITLE: STUDY OF A VACCINE STRATEGY BASED ON PROTEIN ANTIGENS AGAINST *Streptococcus agalactiae*

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ABSTRACT:

Streptococcus agalactiae also known as group B streptococcus (GBS) is the leading cause of neonatal infections and is responsible for severe infections in elderly and immunocompromised patients. GBS colonization occurs approximately in 30% of healthy women in the vaginal and gastrointestinal tracts. In order to reduce the risk of GBS infections in newborns, pregnant women should be analyzed for the presence of the bacteria. If it is positive, pregnant women should receive intravenous prophylaxis with antibiotics during the intrapartum period. The practice of antibiotic prophylaxis in colonized pregnant women has reduced the incidence of infection in neonates, but currently there is major concern about the spread of isolates resistant to the antibiotics used in the prophylaxis. Also, it contributes with an emergence of infections by other pathogens, as well as having no effect against sepsis late onset. Despite advances in the prevention and treatment of neonatal infections, sepsis and meningitis caused by GBS are still a major clinical concern. Thus, the objective of this work is to develop a vaccine strategy based on recombinant GBS protein antigens capable of conferring protection against *S. agalactiae* colonization. For this, S8 antigens peptidase (54kDa) and PotD (38kDa) were chosen for expression and evaluation of the ability to induce immunological responses in mice. Initially, the chosen antigens were amplified, cloned into expression vector and expressed in strains of *Escherichia coli*. Of these, the recombinant S8 peptidase protein was purified by affinity chromatography and used for the generation of polyclonal serum in Balb/c mice. For the PotD antigen, its purification is still being standardized, in addition to that in vitro assays are also being standardized to evaluate the humoral responses induced by the vaccine antigens.

Keywords: *Streptococcus agalactiae*; Recombinant proteins; Subunit Vaccine; Surface Antigens; Neonatal Infection;

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