

**IMMUNOGENICITY AND PROTECTIVE EFFICACY OF
SLPS SUBUNIT VACCINE AND STRAIN RB51 VACCINE IN
MICE (*Mus musculus*) AGAINST
B. abortus FIELD ISOLATE INFECTION**

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ABSTRACT

This study was conducted to evaluate the immunogenicity and protective efficacy of smooth *Brucella abortus* lipopolysaccharide (SLPS) as a subunit vaccine. Subcutaneous injection of SLPS with Al(OH)₃ and montanide as adjuvant into BALB/c mice elicited both humoral and cellular immune responses. Animals injected with SLPS develop antibodies without statistical differences compared to animals vaccinated with *B. Abortus* vaccine SRB51, which exhibited a dominance of immunoglobulin G2b (IgG2b) over IgG3, IgG2a and IgG1. In addition, the SLPS subunit vaccine induce T-cell-proliferative response characterized by the production IL-2 and also induced the production of gamma interferon, suggesting the induction of a typical T-helper-1-dominated immune response in mice. The SLPS subunit vaccine induced a strong, significant level of protection in BALB/c mice against challenge with *B. Abortus* virulent; the protection unit was lower than the one induced by *B. Abortus* vaccine SRB51. Altogether, these data suggest that the SLPS subunit vaccine is a good candidate for use in future studies of vaccination against brucellosis.

Key words: *Brucella abortus*, SLPS, subunit vaccine, immunoglobulin, protection unit.