

rBCSP31 Antibody Response in Patients with Brucellosis: A Candidate for Brucella Vaccine

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Abstract

Background and Objective: One of the proteins shared in all strains of Brucella is 31 kDa surface protein (BCSP31) that could be an appropriate target for immunization and serological diagnosis.

Material and Methods: In the present study, BCSP31 produced as a recombinant protein in pET28a (+) expression system was utilized, using ELISA, to detect trace specific antibody (IgG) in brucellosis patients' serum that was confirmed by culture. We also evaluated cytokine response of peripheral blood lymphocytes to this protein in the cell culture.

Results: The results indicated a significant amount of surface protein antibodies (IgG) in the serum of patients with brucellosis. Evaluation of lymphocyte responses to rBCSP31 also showed a significant IL-12 and IFN- γ production in patients' lymphocyte cultures.

Conclusion: These results suggest that BCSP31 can elicit specific humoral and cellular responses during host infection and it can be used in designing immunization and serologic diagnosis systems.

Keywords: Brucellosis, 31kDa Cell Surface Protein, Brucella, Cytokine