

# ELISA FOR BRUCELLOSIS DETECTION BASED ON THREE *BRUCELLA* RECOMBINANT PROTEINS

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**Abstract.** Control of brucellosis among farm animals, wildlife and humans require reliable diagnosis. Rose Bengal serological test (RBT) is based on lipopolysaccharide antigen of *Brucella*, which may cross react with other gram-negative bacteria and produce false positive result. Immunoreactive proteins, such as outer-membrane protein BP26, ribosome recycling factor protein CP24 and *Brucella* lumazine synthase (BLS), previously reported to be recognized by infected sheep sera, were selected for production of recombinant proteins for use in an ELISA in order to investigate immune response among goats and cows, in comparison with commercial RBT. Cut-off value for ELISA was based on the immune response of *in vitro* fertilized goats and cows. Goats positive for *Brucella* culture or by RBT were ELISA positive for either IgG or IgM against at least one recombinant protein. For animals with negative RBT, animals with positive ELISA could be detected, and 61.6% possessed ELISA values as high as in infected animals. Thus, this ELISA procedure is proposed as an alternative to RBT for screening of brucellosis in farm animals.

**Keywords:** brucellosis, diagnosis, ELISA, recombinant protein

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