

عنوان مقاله:

Development of a diagnostic indirect ELISA test for detection of Brucella antibody using recombinant outer membrane (protein ۱۶ kDa (rOMP_{۱۶})

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خلاصه مقاله:

Brucellosis is considered as one of the important global zoonotic diseases that causes medical as well as economic problems especially in tropical countries. The illness has no specific pathognomonic signs; therefore, the rapid and accurate diagnosis of the disease has a very important role in preventing the Brucella spillover and treatment. The purpose of this study was to design a new indirect ELISA test for detection of human brucellosis based on using recombinant Brucella abortus outer membrane protein ۱۶.۰۰ kDa (rOMP_{۱۶}) as an antigen. OMP_{۱۶} gene of B. abortus was initially synthesized and cloned in pET-۲۱d vector and then expressed in Escherichia coli cells. The expression was confirmed by the SDS-PAGE, western blotting and dot blotting. The purified protein was coated in ELISA plates and an indirect ELISA was performed on ۷۰ human serum samples. The results were evaluated with a commercial IgG ELISA kit and Rose Bengal plate agglutination tests as reference tests. Diagnostic performance of designed OMP_{۱۶} ELISA test in comparison with Rose Bengal plate test revealed ۱۰۰% of sensitivity, ۹۵.۰۰% of specificity and good Fleiss kappa agreement, whereas, where it was compared to commercial ELISA kit, it revealed very good kappa agreement with ۱۰۰% of sensitivity and ۱۰۰% of specificity in cut-off value of ۰.۱۳. It was concluded that OMP ۱۶.۰۰ kDa .could be acceptable alternative antigen for detecting Brucella IgG antibody with high accuracy

کلمات کلیدی:

Brucellosis, Indirect ELISA, OMP_{۱۶}, Sensitivity, Specificity

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