عنوان مقاله:

Design and optimization of diagnostic glanders cassette using immunoblotting method based on immunoreactive proteins of Burkholderia mallei

محل انتشار:

بیستمین کنگره بین المللی میکروب شناسی ایران (سال: 1398)

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خلاصه مقاله:

Introduction and Objectives: Glanders is one of the oldest contagious and dangerous zoonotic diseases manifesting ulcerative granulomatous lesions on the skin and mucous membranes. Early methods possessing desirable sensitivity and specificity is important to diagnose the disease considering the just only one case report and preventing disease by identification and eradication. The present study was aimed to design and optimize Dot-blot ELISA and Western blot methods using immunoreactive antigens of Burkholderia mallei. Materials and Methods: Three farm horses were subcutaneously immunized with a crude suspension of heat-inactivated B. mallei adjuvanted with incomplete Freund s adjuvant (IFA) to achieve a hyperimmune sera panel. The immunization was done for 1, 14, and 28 days with 1 dose of 1 ml antigen containing 106 cfu/ml. The hyperimmunity of sera was confirmed by ELISA and CFT. B. mallei whole-cell proteome was precipitated by trichloroacetic acid (TCA) followed by sonication method and quantified by Dot-blot ELISA and Western blot using HRP-conjugated rabbit anti-horse IgG. A comprehensive set of positive and negative horses sera validated the test. Results: 11 out of 121 sera samples were positive by Dot-blot ELISA and Western blot. A ladder pattern of the B. mallei immunoreactive proteins was seen within the region of 20-90 kDa and scored positive. The immunoblotting assay indicated a noticeably higher diagnostic specificity for positive or negative sera of glanders. Conclusion: Trustful methods possessing desirable sensitivity and specificity are important to diagnose the disease and eradicate infected cases. We assume the immunoblot assay was adaptable for serodiagnosis of glanders .in endemic areas and typically in less-developed countries

کلمات کلیدی:

Burkholderia mallei, glanders, Dot-blot ELISA, antibody

لینک ثابت مقاله در پایگاه سیویلیکا: