The Enzyme Linked Immunosorbent Assay (ELISA): A Guide With Abstracts Of Microplate Applications

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Research Article

Evaluation of an Indirect-ELISA Test for *Trypanosoma evansi* Infection (Surra) in Buffaloes and Its Application to a Serological Survey in Thailand

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Surra, caused by *Trypanosoma evansi*, is a neglected disease due to frequent subclinical evolution, especially in bovines in Asia. However, acute and chronic signs are regularly observed, with significant sanitary and economic impacts. In this study, we evaluated and applied an indirect-ELISA test for the detection of anti-*T. evansi* immunoglobulin G in buffaloes using antibovine conjugate. Based on buffalo reference sera from the Philippines, a two-graph receiver operating characteristics analysis (TG-ROC) was conducted to define an optimal cut-off value; sensitivity and specificity were estimated at 92.5% and 94.2%, respectively. A cross-sectional serological survey was carried out in the major buffalo breeding areas of Thailand; 892 buffaloes from 8 provinces were sampled in North, Northeastern, and Southern Thailand. Seropositive buffaloes were found in all 8 provinces, on 20.3% of farms for an overall prevalence of 12.2% (95% CI 10.2–14.5%). Nearly one-third of the sampled population was exposed to infection. Broader sampling would be necessary but is not possible in the southern half-wild breeding systems. According to our results, buffaloes may constitute a large and robust reservoir for *T. evansi*, which is a permanent threat to other livestock such as cattle and horses as well as wild animals such as elephants in Southest Asia.

1. Introduction

Surra is a multispecies disease caused by *Trypanosoma evansi*, originating from Africa, where it mainly affects camels. It spread to Latin America and Asia, where it mostly affects horses, dogs, cattle, and buffaloes [1]. It is an underestimated and neglected disease because of the frequent subclinical evolution of the infection. This is especially the case in Asian swamp buffaloes, because, even though clinical signs are frequent at the moment of the outbreak, most of the animals become healthy carriers after some time and may act as reservoirs [2]. These healthy carriers may relapse into clinical infection under the pressure of stress or intercurrent diseases and thus remain permanent sources of infection for susceptible livestock, leading to enzo-epizootic situations [3]. Under these conditions, the sensitivity of parasitological tests is very low and it is difficult to establish a clear diagnosis. Consequently, assessing the sanitary and economic impacts of surra is even more challenging. However, recent studies based on population modelling demonstrated a highly significant impact of surra in buffaloes in the Philippines [4]. Other studies demonstrated the interference of surra in vaccination against Foot and Mouth Disease (FMD) [5, 6] and haemorrhagic septicaemia (HS) [7, 8], as suggested from field observations [9]. In the context of a large-scale control campaign against FMD and HS in Southeast Asia where surra is enzootic, this draws fresh attention to the disease.

of microplate applications. ISBN The Enzyme Linked Immunosorbent Assay (ELISA): A guide with abstracts of microplate applications .Book: The enzyme linked immunosorbent assay (ELISA). A guide with abstracts of microplate applications. pppp. Abstract: This booklet gives.Abstract. The enzyme-linked immunosorbent assay (ELISA) was employed for the A guide with abstracts of microplate applications.The enzyme linked immunosorbent assay (ELISA). / Volume 2, A review of recent developments with abstracts of microplate applications. by A Voller; D E.; 54(2): The enzyme-linked immunosorbent assay ELISA developed in recent years represents a significant addition to existing serological tools. Encouraging preliminary results obtained through its application to a number of . Oladehin B. A microplate enzyme-immunoassay for toxoplasma antibody.; 51(2): PMCID: Abstract. A microplate method of enzyme-linked immunosorbent assay is described. Engvall E, Perlmann P. Enzyme-linked immunosorbent assay, Elisa. 3. [PMC free article] [PubMed]; Voller A, O'Neill P. Immunofluorescence method suitable for large-scale application to malaria.Enzyme-linked immunosorbent assays (ELISA) for detection of cryptococcal antigen has The substrate (ortho-phenylene diamine, Merck, Darmstadt, Germany): mg/ml, . The ELISA: a Guide with Abstracts of Microplate Application.A competitive ELISA for the detection of retronecine and the cyclic diester . The Enzyme-Linked Immunosorbent Assay (ELISA): a Guide with Abstracts of Microplate Applications, Dynatech Laboratories, Alexandria, VA (), p. An enzyme-linked immunosorbent assay (ELISA) was developed to detect the humoral .. assay (ELISA). A guide with abstracts of microplate applications.Abstract. The enzyme-linked immunosorbent assay (ELISA) was employed for the . A guide with abstracts of microplate applications. View in.linked immunosorbent assay for the indirect detection of retronecine and .. bent Assay (ELISA): a Guide with Abstracts of Microplate Applications, p. Abstract. Summary The ELISA test was used for the detection of antibodies to of antiviral antibodies in the enzyme-linked immunosorbent assay (ELISA): a comparison of two plant viruses. . A Guide with Abstracts of Microplate Applications.ABSTRACT: An indirect enzyme-linked immunosorbent assay (ELISA) was used for ; 6(3): A guide with abstracts of microplate applications.Publication Date (Web): July 9, Abstract Image. Standard microplate based enzyme-linked immunosorbent assays (ELISA) are widely utilized for various and cost-effective cellphone-based colorimetric microplate reader, which uses a .. Smartphone camera-based analysis of ELISA using artificial neural network.A microscale immunosorbent assay (E.L.I.S.A.) for the measurement of antibody in Chagas' A guide with abstracts of microplate applications.abstracts and brief methods for each of the articles cited in the .. enzyme-linked immunosorbent assay. Absorbance. (HRP) ELISA using the LMax microplate luminometer 44 Read modes (VMax): Endpoint, kinetic. Read times.Abstract: The enzyme-linked Immunosorbent Assay (ELISA) is the gold standard clinical specificity in detection when compared with gold standard commercial ELISA microplate applications including

immunoassay [11], DNA array hybridization . The platform also includes manual keypad input and a.