بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

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Cairo University

Faculty of Veterinary Medicine
Department of Microbiology

Development of Lateral flow immunochromatographic kits for rapid detection of *Pasteurella multocida* and *Mannheimia hemolytica from cattle suffering respiratory infections*

A thesis presented by

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(B.V.Sc., 2013, Faculty of Veterinary Medicine, Cairo University)
For the degree of M.V.Sc. in Veterinary Medical Sciences
(**Bacteriology- Mycology -Immunology**)

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Abbasia – Cairo

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Approval sheet

This is to certify that the dissertation presented by Mai Anwar Abd El-Samea to Master Degree (Bacteriology-Mycology- Immunology) has been approved by the examining Committee.

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Abstract

Bovine respiratory disease is a major cause of economic losses in dairy beef and feedlot cattle due to increase mortality rate, intensive cost of treatment and prevention in addition to reduction of carcass value . In the present work it was planned to improve the control of these infections through acceleration of the field identification of some of the important pathogens causing these infections . this work was planned for development of simple rapid field test. The developed test was designed for identification of two members of the Pasteurellaceae family, Mannheimia haemolytica (formerly Pasteurella haemolytica biotype A) and Pasteurella multocida, these two species are frequently associated with BRD.In the present work a fully identified pure culture of P.multocida and M. hemolytica was obtained and a pathogen specific antigens was prepared. . *P.multocid* and *M.hemolytica* specific polyclonal antibodies were prepared raised in rabbits and guinea pig .The pathogen specific IgG was purified by caprylic acid method and the titer of this pathogen specific IgG was determined using ELISA. The pathogens specific rabbit polyclonal IgG antibodies were conjugated with colloidal gold nanoparticles and used for preparation of lateral flow kits for detection of *P.multocida* and *M. hemolytica.* The sensitivity, specificity and accuracy of the developed kits were determined using bacteriological examination as astandard gold test It was 88.2%, 92.4% and 91% respectively For *P.multocida* and for *M.hemolytica* 80.6%, 94.2% and 90% respectively.

Key words: Lateral flow immune diffussion kit,P.multocida,M.hemolytia ,gold chloride

nanoparticles

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