

DETERMINATION OF SERUM IONIC CALCIUM (Ca^{2+})
IN GOATS EXPOSED TO LIVE ATTENUATED
Brucella abortus 82

DEWI CHANDRA

FAKULTI SAINS DAN TEKNOLOGI
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DETERMINATION OF SERUM IMMUNOGLOBULIN A (IgA) IN GOATS
EXPOSED TO LIVE ATTENUATED *Pasteurella multocida* B2

By
Devika Chinayah

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Faculty of science and Technology
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FAKULTI SAINS DAN TEKNOLOGI
UNIVERSITI MALAYSIA TERENGGANU

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Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk:
DETERMINATION OF SERUM IMMUNOGLOBULIN A (IgA) IN GOATS EXPOSED
TO LIVE ATTENUATED *Pasteurella multocida* B2
oleh **DEVIKA CHINAYAH**, no. matrik: **UK9040** telah
diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan
kepada Jabatan Sains Biologi sebagai memenuhi sebahagian daripada keperluan
memperolehi Ijazah **SARJANA MUDA SAINS (SAINS BIOLOGI)**, Fakulti Sains dan
Teknologi, Universiti Terengganu Malaysia.

Disahkan oleh: /Verified by:

Penyelia Utama/Main Supervisor

Nama: **PROF. MADYA DR. MOHD EFFENDY ABD. WAHID**

Cop Rasmi:

Tarikh: **30th APRIL 2007**

PROF. MADYA DR. MOHD. EFFENDY ABD WAHID
Pengerah
Institut Bioteknologi Marin
Universiti Malaysia Terengganu
21030 Kuala Terengganu, Terengganu.

Ketua Jabatan Sains Biologi/Head, Department of Biological Sciences

Nama: **DR. AZIZ AHMAD**

Cop Rasmi: **DR. AZIZ BIN AHMAD**
Ketua

Jabatan Sains Biologi
Fakulti Sains dan Teknologi
Universiti Malaysia Terengganu
21030 Kuala Terengganu

Tarikh: **30/4/07**

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LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
BHI	Brain Heart Infusion
CFU	Colony Forming Unit
ELISA	Enzyme Linked Immuno Sorbent Assay
HRP	Horseradish Peroxidase
HS	Hemorrhagic Septicaemia
IgA	Immunoglobulin A
LPS	Lipopolysaccharide
od	Optical Density
PBS	Phosphate Buffer Saline

ABSTRACT

The importance of this study is to find out the involvement of serum IgA in protecting goats against intranasally exposed *Pasteurella multocida* B2 antigen, because IgA plays a major role in protecting surface tissues against infectious microorganisms. This study was conducted to determine the IgA responds in the respiratory tract of the goats following intranasal exposures to formalin killed *Pasteurella multocida* B2 and lives attenuated *Pasteurella multocida* B2. Nine clinically healthy goats were divided into three groups. Goats in group 1 and 3 were respectively subjected to double intranasal exposures to formalin killed *Pasteurella multocida* B2 and live attenuated *Pasteurella multocida* B2. Goats in group 2 were unexposed control. After one week of acclimation period exposure was done on week 2 and week 4 of the study duration. Serum samples were collected twice during acclimation period and every week after acclimation period. The serum samples were subjected to Enzyme Linked Immuno sorbent Assay (ELISA) to determine the level of IgA. The IgA level in all three groups does not show any significant differences in its IgA level ($p > 0.05$). Therefore it was concluded that IgA level in blood serum does not increase following the exposures to formalin killed *Pasteurella multocida* B2 and lives attenuated *Pasteurella multocida* B2.

ABSTRAK

Kepentingan kajian ini adalah untuk mengetahui pengelibatan serum IgA dalam menjaga ketahanan imun terhadap antigen dari *Pasteurella multocida* B2 apabila antigen ini didedahkan di bahagian perantaraan hidung kambing. Ini adalah sebab, IgA memainkan peranan penting dalam menjaga sistem ketahanan di permukaan tisu menentang microorganisma yang berjangkit. Kajian ini adalah untuk menentukan gerak balas IgA pada salur pernafasan kambing berikutan dengan pendedahan di bahagian perantaraan hidung dengan *Pasteurella multocida* B2 yang telah dimatikan dengan formalin dan *Pasteurella multocida* B2 yang dilemahkan. Sembilan ekor kambing dibahagikan kepada tiga kumpulan. Kambing dalam kumpulan 1 dan 3 telah masing –masing didedahkan dengan *Pasteurella multocida* B2 yang telah dimatikan dengan formalin dan *Pasteurella multocida* B2 yang dilemahkan. Kambing dalam kumpulan 2 adalah kawalan tanpa pendedahan. Selepas satu minggu masa peralihan pendedahan dilakukan pada minggu kedua dan minggu keempat. Sampel serum diambil dua kali pada waktu peralihan dan setiap minggu selepas minggu peralihan. Sampel serum kemudian diuji dengan Enzyme – Linked Immuno Sorbent Assay (ELISA) untuk menentukan paras IgA. Paras IgA tidak menunjukkan perbezaan yang bererti ($P > 0.05$) pada ketiga – tiga kumpulan kambing. Oleh yang demikian dapat disimpulkan bahawa paras IgA dalam serum darah tidak meningkat berikutan dari pendedahan kepada *Pasteurella multocida* B2 yang telah dimatikan dengan formalin dan *Pasteurella multocida* B2 yang dilemahkan.