

LEVELS OF *BRUCELLA* ASSOCIATED Lymphoid
Tissue Counts in Wild Borneo White Bats which
were Infected with *PASTEURELLA MULTOCIDA*
by First-Order Reproduction in the Bats

THE AUTHOR

FAHMI SAMS DAN TEKNOLOGI
UNIVERSITI SAINS DAN TEKNOLOGI MALAYSIA
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Perpustakaan
Universiti Malaysia Terengganu (UMT)



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Different preservatives and dna extraction methods for tissues of littorina sp. in per amplification / Cheah Hup Yee.

PERPUSTAKAAN
KOLEJ UNIVERSITI SAINS & TEKNOLOGI MALAYSIA
21030 KUALA TERENGGANU

1100046011		

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HAK MILIK
PERPUSTAKAAN KUSTOMER

**DEVELOPMENT OF BRONCHUS-ASSOCIATED LYMPHOID TISSUE
(BALT) IN NON-PRIMED WHITE RATS WHICH WERE MIXED WITH
Pasteurella multocida B: 2 DUST CRUDE PREPARATION WHITE RATS**

By

Cheah Hup Yee

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**Department of Biological Sciences
Faculty of Science and Technology
KOLEJ UNIVERSITI SAINS DAN TEKNOLOGI MALAYSIA
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1100046011



**JABATAN SAINS BIOLOGI
FAKULTI SAINS DAN TEKNOLOGI
KOLEJ UNIVERSITI SAINS DAN TEKNOLOGI MALAYSIA**

**PENGAKUAN DAN PENGESAHAN LAPORAN
PROJEK PENYELIDIKAN I DAN II**

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk:
DEVELOPMENT OF BRONCHUS-ASSOCIATED LYMPHOID TISSUE (BALT) IN

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NON-PRIMED WHITE RATS WHICH WERE MIXED WITH *Pasteurella multocida* B: 2

.....
DUST CRUDE PREPARATION WHITE RATS

.....
CHEAH HUP YEE

UK8078

oleh:, No. Matrik:

telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Biologi sebagai memenuhi sebahagian daripada keperluan memperoleh Ijazah SARJANA MUDA SAINS (SAINS BIOLOGI)

.....
Fakulti Sains dan Teknologi, Kolej Universiti Sains dan Teknologi Malaysia.

Disahkan oleh:

Penyelia Utama

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

Cop Rasmi:

**Pengarah
Pusat Bioteknologi Marin
Kolej Universiti Sains dan Teknologi Malaysia
21030 Kuala Terengganu.**

Tarikh: **28 Mei 2006**

Ketua Jabatan Sains Biologi

Nama: **PROF. MADYA DR. NAKISAH BT. MAT AMIN**

Cop Rasmi:

**Ketua
Jabatan Sains Biologi
Fakulti Sains dan Teknologi
Kolej Universiti Sains dan Teknologi Malaysia
(KUSTEM)
21030 Kuala Terengganu.**

Tarikh: **28/5/06**

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TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENT	ii
LIST OF TABLE	vi
LIST OF FIGURES	vii
LIST OF ABBREVIATION	viii
LIST OF APPENDICES	ix
ABSTRACT	x
ABSTRAK	xi
CHAPTER 1 INTRODUCTION	1
1.1 Introduction	1
1.2 Importance of Study	1
1.3 Objectives of Study	2
CHAPTER 2 LITERATURE REVIEW	3
2.1 Bronchus-Associated Lymphoid Tissue (BALT)	3
2.2 <i>Pasteurella multocida</i> B: 2	5
2.2.1 Diseases Caused by <i>P. multocida</i> B: 2	6
2.2.1a Haemorrhagic septicaemia	7
2.2.1b Pneumonic pastuerellosis	9
2.2.2 Economic Importance	9

2.3 Immunization	10
2.3.1 Cross-immunization	11
CHAPTER 3 METHODOLOGY	12
3.1 <i>P. multocida</i> B: 2 Dust Crude Preparation	12
3.2 Preparation of Live <i>P. multocida</i> B: 2	12
3.3 Experimental Design	13
3.3.1 Administration of the white rats	14
3.3.2 Challenge of the white rats	14
3.3.3 Slaughter and samples collection	15
3.4 Microbiology Test	15
3.4.1 Materials	15
3.4.2 Methods	15
3.5 Histology Slides Preparation	17
3.5.1 Fixation of the samples	17
3.5.2 Embedding of the samples	17
3.5.3 Sectioning and of the samples	17
3.5.4 Staining of the samples	18
3.5.4a Materials	18
3.5.4b Methods	18
3.6 Observation and Calculation of BALT	18

CHAPTER 4 RESULTS	19
4.1 Observation of the untreated rats' organs	19
4.2 Determination of <i>Pasteurella</i> species by biochemical test	20
4.3 Determination of the significance of differentiation of BALT areas and lymphocytes between untreated and control rats	21
4.3.1 Group A	21
4.3.2 Group B	25
4.3.3 Group C	30
CHAPTER 5 DISCUSSION	38
5.1 Cross-immunization induced in the untreated rats	38
CHAPTER 6 CONCLUSION	43
REFERENCES	44
APPENDICES	46
CURICULUM VITAE	51

LIST OF TABLE

Table		Page
3.1	Experimental Design of Administration	13
3.2	Differentiation of Important <i>Pasteurella</i> Species	16
4.1	Observation of Heart, Lung, Liver and Kidneys of Untreated Rats	19
4.2	Determination of <i>Pasteurella</i> Species by Biochemical Test	20
4.3	BALT Area and Lymphocytes Quantity of Group A Lung Samples	21
4.4	BALT Area and Lymphocytes Quantity of Group B Lung Samples	25
4.5	BALT Area and Lymphocytes Quantity of Group C Lung Samples	30

LIST OF FIGURES

Figure		Page
2.1	Lungs with abscesses due to a <i>Pasteurella</i> infection.	8
4.1	BALT area.	34
4.2	Slide view of a treated rat's lung.	35
4.3	Slide view of an untreated rat's lung.	36
4.4	Slide view of a control rat's lung (lesion).	37

LIST OF ABBREVIATION

Administartion	-	admin
Brain-heart infusion	-	BHI
Bronchus-associated lymphoid tissue	-	BALT
Degree Celsius	-	°C
Hypothesis null	-	H_0
Hypothesis alternative	-	H_a
Micrometer	-	μm
Milliliter	-	ml
US dollar	-	US \$

LIST OF APPENDICES

Appendix		Page
1	Calculation of blood agar contents	46
2	Compositions of brain-heart infusion (BHI) broth	47
3	Compositions of peptone water	47
4	Compositions of Mac Conkey agar	48
5	Determination of bacteria loads by serial dilution methods	49
6	Formula use for t test	50

ABSTRACT

Bronchus-associated lymphoid tissue (BALT) is a conspicuous part of the local immune system of the lung. The development of this unique mucosal tissue is able to protect the mucosal surface of organism respiratory system from invaded pathogens. 39 clinically healthy white rats were divided equally into 3 groups, Group A, B and C. All rats of each group were then divided into 5 treated rats, 5 untreated rats and 3 control rats. On day 0, all treated rats of each group were administrated by 0.03mg of *P. multocida* B: 2 dust intranasally. While, all the untreated rats were isolated and mixed again with the treated rats after the administration. All the control rats were totally isolated all the while in this study. Second administration were carried out to the treated rats of Group A on day 14, the treated rats of Group B on day 21, and the treated rats of Group C on day 28. After a week of interval from the second administration, all rats from a particular group were challenged by 1ml of live *P. multocida* B: 2. Challenged rats were observed from while to while. All the dead rats after challenged were dissected and the remained survivors were slaughtered after a week from the challenged date. Blood samples of heart, lung, liver and kidneys were taken for biochemical test and the lung samples were collected for histological slide preparation. BALT of each slides were observed by image analyzer and were calculated. The results showed that cross-immunization occurred and there is an induced protection against *P. multocida* B: 2 infections in non-primed rats after they were mixed with the *P. multocida* B: 2 dust crude preparation rats.

**PERKEMBANGAN BROCHUS-ASSOCIATED LYMPHOID TISSUE (BALT)
PADA TIKUS PUTIH YANG TELAH BERCAMPUR DENGAN TIKUS
PUTIH YANG DIBERI HABUK MENTAH *Pasteurella multocida* B: 2**

ABSTRAK

Bronchus-associated lymphoid tissue (BALT) merupakan tisu yang paling ketara bagi sistem imunisasi tempatan peparu. Perkembangan tisu ini dapat melindungi permukaan mukosal sistem respiratori sesuatu organisma daripada patogen yang terceroboh. 39 ekor tikus yang sihat secara klinikal dibahagikan kepada 3 kumpulan iaitu Kumpulan A, B dan C. Setiap kumpulan itu dibahagikan lagi kepada 5 tikus yang dirawat, 5 tikus yang tidak dirawat dan 3 tikus pengawalan. Pada hari ke-0, semua tikus yang dirawat setiap kumpulan diberi dengan 0.03mg habuk mentah *P. multocida* B: 2 secara intranasal. Manakala semua tikus yang tidak dirawat diasingkan dan dicampurkan balik selepas administrasi. Semua tikus pengawalan pula diasingkan sepenuhnya sepanjang masa penyelidikan. Administrasi kedua dijalankan hanya untuk tikus yang dirawat Kumpulan A pada hari ke-14, Kumpulan B pada hari ke-21 dan Kumpulan C pada hari ke-28. Selepas seminggu administrasi kedua, semua tikus kumpulan berkenaan dicabar dengan 1ml *P. multocida* B: 2 hidup. Tikus yang dicabar diperhatikan daripada semasa ke semasa. Tikus dicabar yang terdapat mati dibedahkan serta-merta untuk mendapatkan sampel. Tikus yang tidak mati pula disembelihkan selepas seminggu. Semua sampel jantung, peparu, hati dan ginjal diproseskan dan dianalisiskan. Keputusan penyelidikan ini menunjukkan terdapat perkembangan BALT dan pengimunan silang berlaku diantara tikus yang tidak dirawat dan tikus yang dirawat dengan habuk mentah *P. multocida* B: 2.