UNIVERSITI TEKNOLOGI MARA

STUDY EFFECT OF ENDOPHYTE FROM Ficus deltoidea AS ANTINOCICEPTIVE

MOHAMAD ARIEF BIN MOHAMED ZAKI

Dissertation submitted in partial fulfillment of the requirement for the degree of Bachelor of Pharmacy

Faculty of Pharmacy

October 2007

ACKNOWLEDGEMENT

Alhamdulillah, all praises to Allah S.W.T., the Most Merciful and the Most Gracious. With His help and blessings, this study has been done successfully. Praises to Prophet Muhammad (may peace be upon him), the greatest creation who brought light and peace throughout the universe.

In the first place I would like to record my gratitude to my supervisor Cik Siti Alwani Ariffin and Pn. Aisyah Hasyila Jahidin for their supervision, advice, and guidance from the very early stage of this research as well as giving me extraordinary experiences through out the work. Above all and the most needed, she provided me unflinching encouragement and support in various ways.

Also special gratitude goes to En. Kamaruddin Salleh, coordinator of this course, Dr. Kalavathy and my Dean, Prof. Dr. Abu Bakar Abdul Majeed. Thanks for their support and advice. I pray Allah S.W.T. preserves your time in doing good deeds and charities. Thank you vey much.

TABLE OF CONTENTS

			Page
TITI	LE PAGE		
APP	ROVAL	SHEET	
ACKNOWLEDGEMENT			ii
TABLE OF CONTENTS			iii
LIST OF TABLES			V
LIST OF FIGURES			vi
LIST OF ABBREVIATIONS			vii
ABS	TRACT		viii
CHA	APTER O	NE (INTRODUCTION)	1
1.1	Ficus a	deltoidea	1
1.2	Phytoc	hemicals	5
1.3	Endophyte		6
	1.3.1	Endophyte-plant relationship	7
1.4	Pain	NT.	8
		Nociceptors Types of pain	9
1.5	Object	71 1	10
CHA	APTER T	WO (LITERATURE REVIEW)	11
2.1	Benefi	t of the Mas Cotek	11
2.2	Phytochemicals		13
	2.2.1		13
		Tannin	14
		Triterpenoid	15
	2.2.4	Phenols	15
CHAPTER THREE (MATERIALS AND METHODS)			16
3.1		ments/Materials	16
		Plant	16
	3.1.2	Extraction process	17
3.2	3.1.3 Drugs	Animal	18 18
3.3	Methods		19
	3.3.1	Abdominal Writhing Test in mice	19
CHA	APTER F	OUR (RESULTS)	20
4.1	Effects of SA1Svi(b) and its individual fractions on the writhing response		20
		ed by acetic acid	

ABSTRACTS

This study was carried out to determine the antinociceptive effect of endophytic fungus extracted from *Ficus deltoidea*. This study consists of two parts. First part involve the extraction of endophyte from the whole plant of Mas Cotek. Upon completion of the first stage; the abdominal writhing test was done to investigate their antinociceptive property on mice. The test done showed that the extract signicantly inhibits the writhing response, compare with the drug, aspirin and also the control. An increase in doses of the extract resulted in a greater inhibition. Hopefully, this study would open up opportunities for others to do more research on this plant towards developing new antinociceptive agents.

CHAPTER 1

INTRODUCTION

1.1 Ficus deltoidea

Ficus deltoidea, widely known as mistletoe fig or Mas Cotek in Malay term is the member of Moraceae, the Mulberry family (Delto, 2004). Eventhough Ficus deltoidea is indigenous to the southern Philippines, southward and westward to Southeast Asia, Malaysia and Indonesia, it has been cultivated in various part of the world as a houseplant or as an ornamental shrub (Starr et al. 2003). Scientists have discovered at least 80 species of the Ficus deltoidea family. Examples of the six varieties are Ficus deltoidea var bilobata, Ficus deltoidea var angustifolia, Ficus deltoidea var intermedia, Ficus deltoidea var kunstleri, Ficus deltoidea var motleyan, Ficus deltoidea var trengganuuensis (vAlternativeHealthCare, 2007). The name Mas Cotek is the popular local or vernacular name in the East Coast of Peninsular Malaysia. While in Sabah, Sarawak and Kalimantan Island, this plant is known as "sempit-sempit". There are also some native groups in Sabah who named this plant as "agoluran". In Indonesia, this plant is known as "tabat barito" and also some other names such as ara jelatih, ara tunggal, api-api telinga gajah dan api-api telinga kera. In Africa, it is known as "Kangkalibang" (Delto, 2004).