

UNIVERSITI TEKNOLOGI MARA

**EFFECTS OF VARIOUS RECEPTOR
ANTAGONISTS ON THE AQUEOUS EXTRACT OF
Bauhinia purpurea PERIPHERAL
ANTINOCICEPTIVE ACTIVITY IN MICE**

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TABLE OF CONTENTS

	Page	
TITLE PAGE		
APPROVAL		
ACKNOWLEDGEMENTS	ii	
TABLE OF CONTENTS	iii	
LIST OF FIGURES	v	
LIST OF ABBREVIATIONS	vi	
ABSTRACT	vii	
CHAPTER ONE (INTRODUCTION)		
1.1	Natural products	1
1.2	Medicinal plants	3
1.3	<i>Bauhinia purpurea</i>	6
1.4	Definition of pain	8
1.5	Objective of the study	10
CHAPTER TWO (LITERATURE REVIEW)		
2.1	Pain transmission	11
2.2	Nociception and pain	13
2.3	Animal studies of pain	15
	2.3.1 Behavioral study	16
	2.3.2 Physiological study	
2.4	Analgesic	17
	2.4.1 Opioid analgesics	18
	2.4.2 Non-opioid analgesics	20
2.5	Analgesic compound	
	2.5.1 Natural analgesic compound	22
	2.5.2 Plant-derived analgesic compound	24
2.6	Drug receptors	26
	2.6.1 Opioid receptors	27
	2.6.2 Serotonergic receptors	32
	2.6.3 Cholinergic receptors	34
	2.6.4 Adrenergic receptors	39
	2.6.5 Dopaminergic receptors	42
2.7	Non-steroidal anti-inflammatory drugs	43

ABSTRACT

The effects of various receptor antagonists on the antinociceptive activity of the *Bauhinia purpurea* leaves' aqueous extract (BPAE) were examined using the mouse abdominal constriction test. Crude dried BPAE was prepared in the doses of 300, 500 and 1000 mg/kg and administered subcutaneously 30 min prior to the test. From the antinociceptive profile obtained, all doses of BPAE exhibited significant ($p < 0.05$) antinociceptive activity with the 300 mg/kg BPAE producing an activity that is equivalent in strength when compared to the 150 mg/kg ASA. Based on the profile, the 500 mg/kg BPAE was chosen for the next study involving the various receptor antagonists. The mice were pretreated subcutaneously with different types of antagonists for 10 min followed by the 500 mg/kg BPAE administration and 30 min later subjected to the test. Based on the results obtained, naloxone (3 and 10 mg/kg), haloperidol (1 mg/kg), yohimbine (5 mg/kg) and reserpine (2 mg/kg) significantly reversed the 500 mg/kg BPAE antinociceptive activity. In conclusion, the BPAE antinociceptive activity is suggested to be involved in modulation of opioid, dopaminergic, α -adrenergic and monoaminergic receptor systems.

CHAPTER 1

INTRODUCTION

1.1 Natural Products

Natural is defined as produced or existing in nature. There are two types of products that often carry this natural label. The first are products that use natural materials to produce a product that would appear on its own without human intervention, which is the true definition of natural. The second are products made from natural ingredients but that would not otherwise exist on its own, without human intervention (Jardins, 2000).

Drug discovery has always relied in the richness and extravagance of nature to find new molecules to treat old and new diseases. Natural products play an important role in alleviating human sufferings and the use of medicinal plants in the treatment of one of the commonest symptoms in medicine, pain; in the remote areas have been widely known. The reason being due to the high cost of allopathic medicines and various unpleasant side effects (Khan and Zaidi, 1994).

Natural products utility as sources of novel structures, but not necessarily the final drug entity, is still significantly important and well known. However, even if we only consider the impact of the discovery of the penicillin, obtained from micro-organisms, on the development of anti-infection therapy, the importance of natural