

Belalai Gajah

(CLINACANTHUS NUTANS)

SCIENTIFIC EVIDENCE OF CANCER PREVENTION

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TABLE OF CONTENT

TABLE OF CONTENTS	ii
LIST OF TABLES	iv
LIST OF FIGURES	v
PREFACE	vii
ACKNOWLEDGEMENT	viii
1. INTRODUCTION	1
2. BELALAI GAJAH (<i>CLINACANTHUS NUTANS</i>)	4
2.1 Botanical Overview	4
2.2 Acanthaceae	4
2.3 Genus <i>Clinacanthus</i>	5
2.4 <i>Clinacanthus nutans</i>	7
2.5 Traditional Medical Use	8
2.6 Phytochemicals of Genus <i>Clinacanthus</i>	9
2.7 Bioactivites of <i>Clinacanthus nutans</i>	19
2.7.1 Anti-inflammatory, analgesic, antibacterial and antimicrobial activities	19
2.7.2 Anti-viral Activitiy	20
2.7.3 Antioxidant Activity	21
2.7.4 Anticancer Activity	23
3. EXTRACTION AND ISOLATION	24
3.1 Plant Material	24
3.2 Extraction of <i>C. nutans</i>	25
3.3 Isolation of Compounds	26
3.3.1 Compound (8)	27
3.3.2 Compound (46)	28
3.3.3 Compound (42)	29

4. CHEMICAL CHARACTERIZATION	30
4.1 β - sitosterol (8)	30
4.2 Clinamide D (46)	34
4.3 Entanamide C (42)	37
5. BIOLOGICAL ACTIVITIES	42
5.1 Total phenolic content (TPC)	42
5.2 Antioxidant Activity	44
5.3 Cytotoxicity Effect	49
6. CONCLUSIONS	51
7. REFERENCES	52
8. INDEX	57

LIST OF TABLE

2.1 The taxonomy of <i>C. nutans</i>	4
2.2 Phytochemical constituents of <i>C. nutans</i>	12-18
3.1 Fraction from the column chromatography of Fraction II	26
4.1 ¹ H (500 MHz, CDCl ₃ and ¹³ C of β-sitosterol (8)	32
4.2 ¹ H (500 MHz, CDCl ₃) and DEPTQ of Compound (46)	37
5.1 Total Phenolic Content (TPC) and Total Flavonoid Content (TFC)	43
5.2 Antioxidant activity of all extracts from <i>C. nutans</i>	46
5.3 IC ₅₀ values of DPPH assay and FRAP assay	47
5.4 IC ₅₀ μg/mL values after 72 hours of incubation of entanamide C and clinamide D against MDA-MB-231 and MCF-7, breast cancer cell lines	50

LIST OF FIGURE

2.1	Whole plant and simple lanceolate leaves of <i>C. nutans</i>	8
3.1	Extraction of <i>C. nutans</i> leaves	25
3.2	Purification of compound (8)	27
3.3	Purification of compound (46)	28
3.4	Purification of compound (42)	29
4.1	Mass Spectrum of β - sitosterol (8)	30
4.2	Infrared Spectrum of β - sitosterol (8)	31
4.3	^1H -NMR of β - sitosterol (8)	32
4.4	^{13}C -NMR of β - sitosterol (8)	32
4.5	β -sitosterol (8)	33
4.6	Infrared Spectrum of Clinamide D (46)	34
4.7	^1H -NMR Spectrum of Clinamide D (46)	35
4.8	^{13}C -NMR Spectrum of Clinamide D (46)	35
4.9	HMQC Spectrum of Clinamide D (46)	36
4.10	HMQC Spectrum of Clinamide D (46)	36
4.11	HMBC correlations of compound (46)	37
4.12	^1H -NMR Spectrum of Entanamide C (42)	38
4.13	^{13}C -NMR Spectrum of Entanamide C (42)	39
4.14	COSY Spectrum of Entanamide C (42)	39
4.15	HMQC Spectrum of Entanamide C (42)	40
4.16	HMBC Spectrum of Entanamide C (42)	40
4.17	COSY and key HMBC correlations of compound (42)	41

PREFACE

This book contains information about the traditional used and phytochemicals of belalai gajah (*Clinacanthus nutans*). This report had scientifically supported the testimonies of Malaysian who claimed that *C. nutans* possesses antitumour effects and has saved many cancer patients. The uses of plant in traditional medicine and current studies had been discussed. Single compounds had been isolated by purification using chromatographic techniques. Apart from that, a brief review of concept between chemical composition and biological activities is also described in this book.

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CHAPTER 1

INTRODUCTION

Natural products have a vital role as medicine and prevention of diseases. Natural product is a chemical compound produced by the organisms such as a plant, a fungus, a bacterial species or even marine creatures found in the nature that are produced by the pathways of primary and secondary metabolism (Ganesan 2008). Natural products have been the major sources of chemical diversity in pharmaceutical discovery over the past centuries (Baker et al. 2007). In addition, natural product also has vital role in pharmacological area and commercial industries, which provide a lot of health benefits and medicinal products like antibacterial, anti-hepatotoxic, nutraceuticals, flavour and food additives (Catalani et al. 2016).

Various studies had been conducted by using plants and animals in order to know their biological effects. Crude extracts were found to have healing power in reducing diseases. The biological effect of crude extracts may lead to the discovery of new bioactive compounds and contribute to drugs development (Patwardhan, Vaidya, and Chorghade 2004). However, based on previous reports, very little effort has been made to establish the scientific basis of traditional medicine and develop the availability of the plants into useful and valuable pharmaceutical products (Yuan et al. 2016).

According to the World Health Organization (WHO), around 80% of the world population in the developing countries use plants as a source for the treatment of various diseases and ailments such as cancer treatment, anti-inflammatory, malaria and other chronic diseases such as