

UNIVERSITI TEKNOLOGI MARA

**IDENTIFICATION OF NATURAL COMPOUND IN
AGAR WOOD AND ARABIC GUM WITH RESPECT
TO ANTI-CANCER PROPERTIES**

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ABSTRACT

For the cancer treatment, the further analysis of anti-cancer plant had been conducted. For natural component related with anti-cancer, phenolic compound as well as sesquiterpenes and flavonoid compound have potential in reducing cancer cells as well have great potential to minimize the cancer level to its safe level. Thus there is the demand on finding an alternative method to treat this chronic disease without utilizing the needs of chemical treatment such as chemotherapy, radiology and many more. Because of this satiation, many plants have been researched thoroughly to find their potential against cancer. For this research, Agar wood and Arabic gum plant has taken for analysis of these properties. By using hydro distillation process, the grounded agar wood and Arabic gum were extracted with the product of these extraction were collected. The hydrosol and condensate of both plant was taken and analysed using GC-MS for determination of compound. The resulting analysis found that there is presence of sesquiterpenes compound such as Caryophyllene, α -Farnesene, α -Vatirenene and α Caryophyllene that have roles in inhibiting the cancer cells inside body. It can be concluded that the condensate and hydrosol of Agar wood and Arabic gum does capable to serve as anti-cancer and can be utilized in medicine and treatment.

TABLE OF CONTENTS

DECLARATION	i
ACKNOWLEDGEMENT	ii
ABSTRACT	v
TABLE OF CONTENTS	vi
LIST OF FIGURES	vii
LIST OF TABLES	ix
LIST OF ABBREVIATIONS	x

CHAPTER 1: INTRODUCTION

1.1	Background of Study	1
1.2	Problem Statement	2

CHAPTER 2: LITERATURE REVIEW

2.1	Anti-Cancer Plant	4
	2.1.1 Garlic	4
	2.1.2 Ginseng	5
	2.1.3 Green Tea	5
2.2	Natural Compounds in Plant	6
	2.2.1 Glycosides	6
	2.2.2 Terpenoid	7
	2.2.3 Alkaloid	8
	2.2.4 Flavonoid	8
	2.2.5 Phenol	9
	2.2.6 Sesquiterpenes	9
2.3	Agar wood	10
2.4	Arabic Gum	11
2.5	Essential oil	12
2.6	Essential Oil Extraction	13

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND OF STUDY

Plant has been a major contribution to human being, and one of them is the major sources of medicine creation. It has been one of the biggest factor that contribute to the development of civilization. In this present days, scientist and doctor has conduct many herbs and medicine that is based on plant natural component. In Islam, the benefits of plant are already stated in Quran, “And in the earth are the parts of the adjacent vineyards, crops and palm trees that branched and not, watered with the same water. And we have made some crops on some of the others to eat. Verify in this are signs (the greatness of God) for people who reflect “(Ar-Ra’d, 4). With this, it has been proved that there are many benefits in plant that contribute to the changes in civilization

Herbal medicine are also called as herbalism or study of medicinal properties of plant. From civilization history, the earlier civilization that applies herbalism comes from Egypt. Most of their medicinal records are written on papyrus scroll (Izharul, 2011). The famous papyrus scroll is called *Edwin Smith Papyrus*, which is one of the principal record on Ancient Egyptian medicine, and the *Ebers Papyrus*, which contains general information regarding medicinal healing, stomach ailments, head, dentistry, gynecology, and diseases of the extremities (Izharul, 2011).

Malaysia is rich with its natural resources. 40% of peninsula Malaysia is only represents the country’s land area while the balance, including Sabah and Sarawak are in the borders with the island of Borneo, adjacent Indonesian territory and the Kingdom of Brunei. The climate in Malaysia is hot and humid, make 58% of Peninsula Malaysia is covered with tropical rainforest. No wonder