

DOI:

10.22301/IJHMCR.2528-3189.165

Article can be accessed online on:
<http://www.ijhmcr.com>

ORIGINAL ARTICLE

**INTERNATIONAL JOURNAL
OF HEALTH MEDICINE AND
CURRENT RESEARCH**

**IDENTIFICATION OF OLEIC ACID CONTAINED
IN GEDI EXTRACT**
(*Abelmoschus Manihot L Medik*)

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ARTICLE INFO

Article History:

Received 27th October, 2016
Received in revised form
12th November, 2016
Accepted xxxth xxx, 2016
Published online 30th December,
2016

Key words:

Gedi Leaf (*Abelmoschus manihot L. Medik*), *Oleic acid*

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ABSTRACT

At the past time, mostly people used herbal because of tradition or they were unable to pay the doctor. Apparently, those reasons begin going move and there are most societies use herbal as a treatment after they are aware of it's special quality and safety. It has lower side effect than chemical medicine. Traditional society of China assumed that food was one of cause of diseases. Therefore, it wasn't surprised that herbal not only more popular in Indonesia but also in other countries which conducted any research about special quality of herbal.

Research Result: This research was done with extraction by using maserasi method with methanol, then followed by active testing toward *Oleic acid* (oleat acid) with Gas- chromatography- Mass spectrom (GCMS).

Conclusion : From the identification research with GCMS method, it could be concluded that methanol extract of gedi leaf (*Abelmoschus manihot L. Medik*) contained *Oleic acid* (oleat acid). By the further research about factors related to health in the pharmacy field, it needed of increasing information about using rationale medicine for the societies in order to manage medicine consumption attitudes so that could prevent mistreatment.

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Citation: AverousF.Budiadji¹, Arend L. Mapanawang², Fani N. Ngetje³, Margalina Wattimury⁴, 2016 "Identification Of Oleic Acid Compound Contained In Gedi Extract (*Abelmoschus Manihot L Medik*)", International Journal of Health Medicine and Current Research. 1. (02). 165-169.

INTRODUCTION

Tradition of societies in the past who preferred using herbal medicine because they were unable to pay the doctor, nowadays begin to be changed. Right now, mindset of the societies begins to be developed in line with people's awareness about the benefit of herbal medicine. Herbal treatment, which has lower side effect than chemical medicines, was more and more popular not only in Indonesia but also in other countries which conducted any research about special quality of herbal.

Chemotaxonomy approach could be done in selecting the plants, based on the closeness of genetic relationship that had been known containing certain chemical element. It was often found that plants or other organisms in one family produced compound that was naturally identical. Etno-botanical approach was the most often done as the beginning exploration of active material inside certain plant based on the knowledge and habit of traditional societies in using plant to care certain disease.

Gedi (*Abelmoschus manihot L. Medik*) is tropical plant of *malvaceae* family which traditionally known in North Maluku especially Halmahera as vegetable plant. Indonesian societies, mostly, haven't known or been aware that any vegetables had special quality as medicine because contained certain chemical compound. This chemical compound had pharmacologic effect to help caring any kind of diseases. Bioactivity was a method that mostly used by big industries in finding bioactive compound in the nature. This way would be more effective if the selection of plant was combined with the criteria of plants that traditionally had been used as medicines in the developed countries, that nowadays directly downed from the compounds inside of the plants or in the form of it's synthetic according to the selection process (*Screening*).

Societies used gedi leaf that boiled without salt as traditional medicine, such as for kidney, stomach disorder, and high cholesterol. Theoretical review showed that fitochemical review of gedi plant as traditional medicine in North Sulawesi hadn't been reported yet previously. Degenerative diseases caused by free radical effect were increasing. Therefore, it was very important to get potential antioxidant compounds. Polifenol and flavonoid inside the plants considered prospective as antioxidant sources. Such as the research done by Mamahit L. (2009), that inside the isolation result of gedi extract (*Abelmoschus manihot L*) there was Eikodekana compound. According to research, fenolik compound in gedi leaf was polar so that produced the

highest antioxidant activity and it was supported by the research of Elly Suoth, et.al. (2013), which stated that gedi extract contained plifenol and Flavonoid. Flavonoid is polifenol compound contained in seeds, fruits, and vegetables. Flavonoid, which containing flavones cluster, flavanon katekin and antosianin inside it's molecule structures, had good activity as antioxidant.

METHODS

This was experiment research which would conduct in Integrated Laboratory of Pharmacy Department Sekolah Tinggi Ilmu Kesehatan Halmahera. Sample in this research was fresh Gedi (*Abelmoschus manihot L. Medik*) taken from Gayok Village Malifut Sub district.

TOOLS AND MATERIALS RESEARCH

a. TOOLS :

1. Oven
2. Spatula
3. Chemical Glass
4. Bunsen
5. Erlenmeyer
6. Rotavapor
7. GC-MS tool
8. Measurement Glass
9. Aluminium foil
10. Three ports

b. MATERIALS :

1. Gedi Extract (*Abelmoschus manihot L. medik*)
2. Methanol
3. Methylated Spirit

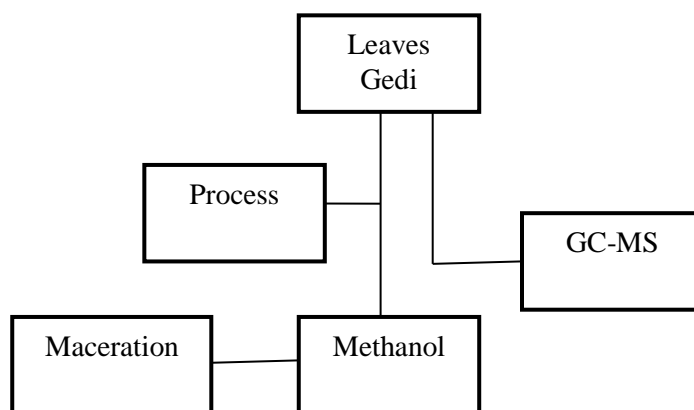


Figure 1. Plot Of Making Gedi Leaf Extract

PROCEDURES

Process of making Gedi extract (*Abelmoschus manihot l. medik*) started with taking the gedi leaf in the

morning, those were the green leaf from the fifth of peak until downward, picked directly with hands. The leafs collected from Gayok village were wet sorted or washed with flowing water, then dried. Then the dry leaf were dry sorted and powdered. Gedi leaf powder extracted with maserasi method in methanol during 3 X 24 hours in different glass containers until 1-3 cm above the powder. The filtrate were gathered then evaporated with retavavor until getting thick extract of methanol.

a. The Process of Identification of Octadecadienoic acid by using GCMS The Process of Identification of Oleic acid by using GCMS

Thick extract of methanol were fractioned in the chemical glass, then processed by using GC tool which functioned to test the purity of certain material, or separated any components from the mixture and was able to help in identifying complex compound. Next, it followed by using MS tool that functioned to change a sample of compound into positive and negative ions and it produced from any plants.

RESULTS

This research conducted for gedi plant (*Abelmoschus manihot L.Medik*) from Gayok, Village Malifut Sub district taken in the morning at 7:10 WIT. Three stalks of green gedi leafs taken from the peak move downward, directly picked used hands. After being taken, the gedi leaf was wet sorted or washed in the flowing water. After that, it dried under the sun at 7-10 WIT during 3 days. After getting dry, it grinded by using mortar until became soft powder and filtered to get soft powder of Gedi leaf 800 grams.

After becoming soft powder, sample of gedi leaf was soaked with methanol during three days in the pharmacy laboratory (STIKES). After getting soaked, it would be followed with making extract by using liquid methanol. Gedi leaf powder was extracted by using maserasi method of 800 grams with methanol during 3 X 24 hours in the different chemical glasses, then followed by evaporation. Gedi leaf, which had been proceed with maserasi, then filtered into chemical glass and evaporated by using Erlenmeyer and stirred by using spatula until becoming thick extract of methanol.

Table 1. Compounds that contained in gedi extract (*Abelmoschus manihot l medik*)

Kinds of Sample	Compound	Content %
GEDI LEAF	Estra-1,3,5(10)-TRIEN-17- onc,3,15- bis(trimethylsilyl)oxyl- (15alpha)	3,48
	1,3,3,3-tetrachloro-1-bromo- 2,2-difluoropropane (-)-isolongifolol methyl ester	1,97
	Cyclohexene,4-(4- ethylelohexyl)-1-pentyl- 2,6,10-Trimethyl,14-	2,46
	Ethylene-14-pentadecane Hexadecanoic Acid	1,13
		1,97
		12,26
	11-Heradecanoic acid	2,97
	(2E)-3,7,11,15-Tetramethyi- 2-Hexadecen-1-Ol	4,96
	9;12-Octadecadicnicic acid,ethyl ester	1,13
	1-Cyelododecyne	1,23
Gedi Leaf	(9E,12E)-9,12- octadecadienoic acid	31,64
	2-1(hydroxy methyl)ethyl palmitate Oleic acid	4,57
		3,95
	Z,Z-10,12-Hexadecadien-1-ol acctat	4,58
	(6E,10E,14E,18E)- 2,6,10,15,19,23-haxamethyl- 2,6,10,14,18,22- tetracosahexaene	3,20
	2-hydroxy-1- (hidroxymethyl)ethyl(9z,12z)- 9-12-octadecadienoate (24 zeta.)-24-methyl-24- homocholestanol	4,95
		1,35
28,33-dinorgorgoxdcz sta- 5,7-dien-3-ol.(3 beta,22R)	3,66	

DISCUSSION

From the compounds identification by using GC-MS tools, had been found that in fact, inside Gedi leaf (*Abelmoschus manihot L. Medik*) contained 3,95% of *Oleic acid* (oleat acid) which functioned for anyone with problems of kidney, cholesterol, and stomach disorder.

There was not a few of societies who hadn't known or aware that any kinds of vegetables, in fact, had special function as medicine because contained certain chemical compound. This chemical compound had pharmacology effect to help caring any kinds of diseases. Therefore, one way that done was by conducting research about any kinds of plants/vegetables that had certain compound referred as herbal treatment alternative. One kind of plant that used by the society as vegetable was Gedi leaf (*Abelmoschus manihot L. medik*), where in this research had been done the compound identification test contained inside by using GC-MS tools.

It was hoped that the research result could give input and information for the comparison of next research. Thereby, the next researchers could get much information in order to wide knowledge and could apply one of knowledge branch of pharmacy field especially knowing medicine plants and using them for the interest of processing to be herbal medicine for caring treatment.

CONCLUSIONS

Gedi leaf which previously only used as vegetable, nowadays began introduced about it's compounds identification contained inside through this research result. This research gave important information that in fact, Gedi leaf (*Abelmoschusmanihot L. medik*) contained *Oleic acid* (oleat acid) 3,95% which had been identified by using Gc-MS tools, where gedi leaf (*Abelmoschusmanihot L. medik*) also contained other important compounds.

Based on the research result, it could be concluded that gedi leaf extract had *Oleic acid* (oleat acid) which was kind of the best plant used as medicine.

ACKNOWLEDGEMENTS

Government of North Government of North Halmahera Regency, Medika Mandiri halmahera Foundation, Lipi's Botani Laboratory of West Java, Laboratoty of DKI Jakarta, Pharmacy Laboratory of

Stikes Halmahera North Maluku.

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