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OCTADECADIENOIC ACID COMPOUND IDENTIFICATION CONTAINED IN THE SEEDS OF THE FRUIT SKIN (Lansium Domesticum)

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ABSTRACT

The utilization of the plant as a medicinal ingredient already for a long time performed by people in Indonesia. With the kind of diversity there is, then the utilization but the number of plants as medicines in Indonesia to date not yet known definitively, so that the required documentation is thoroughly against the use of plants as a raw material treatment then that is used as a natural remedy for the treatment of certain Plant Seeds fruit Langsat (*Lansium domesticum*) contains Octadecadienonic acid with 9.12. Research objectives to identify compounds alkaloids contained in the seeds of the fruit (*Lansium domesticum*). By using the Kromotografi method of Gas-Gas Spectrometer (GCMS). This research is eksperimen research, research results of samples taken from fresh fruit picked directly. Made of powder and soaked with methanol after it was made so that evaporation occurs extract kentan methanol. Conclusion using GcMs and proven that the seeds of the fruit Langsat (*Lansium domesticum*) 9.12 contains compounds Octadecadienonic acid (linolik acid) and its content (41.17%). The advice researchers advise that the results of this research may provide an input or an addition to other friends especially friends pharmaceuticals especially in adding to the knowledge of medicinal plants.

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INTRODUCTION

Based on previous research it is known that herbal medicine has been widely accepted by almost all states. As stated by the WHO in the hotnida journal of the states of africa, asia, and latin amirica using herbal medicine as a complement to primary medicines.

Indonesia has many types that hold some knowledge about the use of plants as a medicine. As an example of traditional Malay tribe that exist around the national plant Thirty hills, Riau utilizes 138 species of plants as medicine Dayak Tunjung in East Kalimantan utilize 47 types of plants as a drug Then in the Moronece tribe community in the National Rawa Aopawatumohai, Southeast Sulawesi mengshock 65 species as medicine.

Langsat is a typical tropical plant that has high economic value and health value. In Indonesia, these plants are spread in Sumatra, Kalimantan, Sulawesi and Java. Even in the Province of South Sumatra, langsat plant is one of the leading fruit and important commodity known as Palembang langsat because it has a sweet taste, fresh, a little seed and has a thin skin. The name of this plant is different in some countries such as langsat, (Indonesia), langsak (Burmese), langsat, (lanon), lanzon, lansones, lansone, fern (Filipino), langseh, langsep, lansa (Malay), langsat (Thai) , and bonbon (Vietnamese) 3 The domesticum or common lung in Indonesia known as langsat is reported to have a wide range of pharmacological activities such as antimalarial, antitumor, anticancer, antibacterial, antimelanogenesis, antimutagenic and antioxidant.4 The bark of this plant has been widely used in Indonesia as a drug of dysentery, diarrhea, malaria and as an antidote to Scorpion venom.

Distribution of this plant spreads widely in Southeast Asia, in some areas langsat planted as one of the important fruits. Even wild varieties of this plant can be found in nature.5 This plant is also cultivated in several countries such as Vietnam, Burma, Sri Lanka, India, Australia, Hawaii, Suriname and Puerto Rico.

Langsat in the clan category based on the observation of leaves, flowers, and fruit placed on the clan Aglaia Lour. And the three are three different types of *A. dookkoo* Griff. (duku), *A. aquea* (Jack) Kosterm. (kokosan), and *A. domestica* (Corr. emend Jack) Pellegrin (pisitan / langsat). *Lansium* is expressed as a section of the clan of *Aglaia* Lour. however6 shows that *Lansium* and *Aglaia* can be distinguished by their interest structure. based on the anatomy of leaf langsat collected from the Bogor, Condet, and Purworejo places langsat as the clan of *Lansium*. The same result fits in

the clan of *Lansium* based on the ornamentation of the pollen eksin.

Characteristic of this herb concoction is safe so it does not require medical help in doing the treatment, but it is enough done by family members if the diagnosis is clear.

METHODS

This type of research is a type of experimental Research. The experiment is penilitian which gives much more freedom to do research modification/intervention to a variable in a controlled condition.

RESULTS

Langsat (*Lanium domesticum* has a perfect plant shape and structure that has roots, stems, branches, branches, twigs, leaves, flowers and fruits. Sweet fruit is a bit sour usually eaten apabila fruit has been cooked. But reversed Not only the fruit, bark from langsat tree can also be used for drug injuries caused by insect stings. Like dysentery, malaria, as well as overcoming scorpion venom poison. It turns out many know that fruit langsat has a lot of benefits for the human body. Nutritional Content Langsatsebagai following: Calories as much as 70 cal, Total carbohydrates 13 gr, Minerals to 0.7 gr, Protein amount of 1 gr, total Fat 0.2 gr, Calcium as much as 18 mg, Phosphorus to 9 mg, and Content of iron as much 0 , 9 mg.f Langsat fruit (*Lansium doesticum*) contained in the alkaloid compound contains a compound of 9.12 Octadecadienoic acid (linolic acid). with a content of 41.17% tested using the Gc-Ms toola Is a substance formed from the incorporation of elements with certain divisions. The compound is produced by a chemical reaction between two or more elements through the formation. Compounds have properties different from the constituent elements. For example, 2 hydrogen atoms with 1 oxygen atom can combine to form water molecules (H₂O).

Octadecadienoic acid (linolic acid) is a polyunsaturated fatty acid (PUFA) compound composed of chains of 18 carbon atoms. One isomer of linolic acid, α -linolenic acid (ALA), is an omega-3 fatty acid known to have more efficacy than other fatty acids, especially in preventing cell membrane damage. Vegetable α -linolic acid can be obtained for example from flax seed oil (*Linum usitatissimum*) (55%), cannabis (*Cannabis sativa*) (20%), and raps (*Brassica napus*) (9%). These

fatty acids are also the precursors of other Omega-3 fatty acids found in the human body: eicosapentaenoic acid (EPA), and docosahexaenoic acid (DHA) useful for preventing Alzheimer's disease. Alzheimer's disease is a condition of abnormalities in marked with decreased memory, decreased ability to think and speak, and behavioral changes in patients due to disorders in the brain that are progressive or slow.

Samples that were macerated or soaked with methanol liquid were filtered off and then taken Langsat (*Lansium domesticum*) liquid methanol with clear yellow color after it was evaporated and obtained extract of thick seeds of lignum (*lansium domesticum*) and extract obtained Brown color with total weight of 7gram.

Followed by testing of active substances in Gc - Ms (Gass cromotography mass Spectrometry) the sample extract is given pressure with heliun or nitrogen so that the sample before being injected into the column (Gc) is already in the vapor form.

The steam-shaped sample is injected into the column after from the column to the detector (Ms) the separation occurs into fragments. The resulting fragment will indicate that the resulting fragment compound is matched with the result already present in Gc- Ms then the apparatus which offers some emerging compounds then all that has to be done is to look for the most emerging compounds with the percentage > 80%.

Table 1. Results Test Gc-Ms Seed Fruit Langsat (*Lansium domesticum*).

SAMPLE	COMPOUND	CONTENTS %
Seeds of Fruits	Alpha-Copaene	1,84
	Germacrene D	7,47
	Hexadecanoid Acid	13,29
	9,12-Octadecadienoic Acid	41,17
	Methyl (9Z,12Z)-9,12 Octadecadienoate	3,89
Seeds of Fruits	13- Tetradec-11-yn-1-ol	4,12
	2(IH) Naphthalenone, octahydro-4a-methyl-7-(1 methylethyl)-, (4a, alpha., 7. beta., 8a. beta.)	1,97
	24-methyl-13-oxo-5. beta.-cholestan-1,4,6-trione	2,13
	Stigmasta-5,22-dien-3-ol, acetate, (3. beta.)	1,94
	Stigmasta-5-en-3-ol	4,20
	1-(p-tolyl)-3,6-dimethyl-2-quinoline	6,08
	1,4-methanobiphenyl-9-one, 1,4,4,8B-Tetrahydro-2-methyl-1,3,4-triphenyl	4,53

CONCLUSION

Based on the results of the research, using Gc-Ms method (Gass Cromotography Mass Spectrometer), it is concluded that Halmahera Langsat Fruit (*Lansium*

domesticum) contains Octadecadienoic acid compounds used in the health field and can be useful to prevent Alzheimer's.

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