ABSTRACT

Laor/ marine worms with scientific name polychaeta is a marine biota that appears once a year. Laor/polychaeta marine worms in a rao" village posisi only used as food that is believed to help the growth of the brain and there has never been research on the laava/polychaeta sea worms. This study aims to identify the compounds containet in the methanol extrac of laor/polychaeta marine worms. This research is a pure experimental research conducted in pharmacy laboratory stikes halmahera. By using the mecuration method as a separator, with methanol chemical solvent as a liquid and a method of gas chromatography mass spectrometry is used to identify the compounds contained in the methanol extrac of laor polycraeta marine worms. The result showed that the polychaeta Lauric acid contains 2,042%, myristic acid 3,388%, myristoleic acid 0,130%, palmitic acid 25,645%, palmitoleic acid 2,148%, figs 0,481%, ega 3,866%, dha 2,458%, medium chain 5,560%, saturates 40,316%, monoenes 18,968%, n-6 29,861%, n-35,294%,mg 2,132%, mg/ml 21,321%, nervonic acid 1,299%, erucic acid 12,891%, behenic acid 0,654%, cis-8,11,14-eicosatrienoic 9,956%, cis-11,14-eicosadienoic 4,056%, linolenic acid 2,356%, y-linolenic acid 0,400%, stearid acid 14,017%, oleic acid11,655%.

INTRODUCTION

Indonesia as archipelago country have the coastline approximately 81,000 increase km and marine areas that very wide. This makes the Indonesian waters have the potential of the natural wealth of the great sea with the level of high biodiversity, where inside there are many different types of marine organisms. The utilization of marine organisms is not only limited as food, but...
also as a source of natural ingredients that potential as the raw material of drug.

Some of the organisms are capable of producing chemical compounds to mempertahankan andindiriya attacks of the predator. The research results show many of the chemical compounds had the potential to inhibit the growth of bacteria and active inhibits the growth of cancer cells and bio activity of echelons. The chemical compounds with bioaktif is thought to be in the featured man as a natural drug materials. Organisms that already in the featured as ingredients in natural medicine including a sponge, seaweed, worms sea, kembangan pass pool do not forget, and molluscs.1

The sea worms or scientific name Polychaeta have value as important as the livestock for the parent of the shrimp, marine aquarium fish especially in the process of maturing gonad and hatchery. The type of Polychaeta that many used including worm eunicidae family Nereididae and Polychaeta Nereis sp. Is one type of which including Nereididae family, which is used as the livestock of the mother in pembenihan shrimp. Research also has been using the three types of extracting from the polychaeta 0.5 percent and neutral fat for livestock mother shrimp Marsupeneaus japonicas that shows extracting polychaeta especially fat neutral role in the process of the hatchery shrimp master windu compared to the fraction of the mother. In addition the womb steroid hormone on polychaeta high also played in the parent vitelogenesis shrimp.2

In addition to the wealth of the type of the aspects of reproductive biology laor worms in Maluku waters also not many are examined. Even though the knowledge of the aspects of the reproductive biology of worms malu can be the first step to know the potential of aquaculture business biota the sea. Remember this, on the business akuakultur, worms sea Polychaeta from Nereis virens type that naturally only once a year (memijah bridal week period is similar with worms laor), can be manipulated in order to able to memijah once a week in the laboratory scale.3

The Benefits of Laor/Worms Sea (Polychaeta) To the community

People consume laor as food ingredients that have been cooked in advance. They believe if consume laor/worms sea (polychaeta) can increase appetite and ability to learn. The waters of the village of posi Posi Rao*, South Morotai Sub- district, West Morotai Island is one of the coastal areas that berkarang. Each year, certain dimusim, the region where the marriage of worms laor. Thus these waters is one of the tempet enough to take samples.

An overview of the Library

<table>
<thead>
<tr>
<th>Classification of Laor or worms sea (polychaeta):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kingdom</td>
</tr>
</tbody>
</table>

Phyla : Annelida
The order of the Family : Eunicidae
Family : Eunicidae
The genus : Eunice
The species : Eunice Viridis
Class : Polychaeta

Laor or sea worms (polychaeta) is one of the unique biota Maluku waters. In April or may on the night of the full moon or a few days afterwards, biota is gathered together in the amount of abundance around the surface of the water to perform marriage externally. At that time, using traditional seser, this extraordinary animal was arrested by the local population in the beaches berkarang to made as a traditional food ingredients. The sea from the class polychaeta worms that most appears on when the season is Eunice Siciliensis with the green color on the type of female with brown color on the type of bull.

Part of the body (epitoke laor) worms brown male and female worms green up to the surface of the water while pan the body or dancing.

Earlier Research explained that the reproduction on worms sea polychaeta outline can be done in two ways, namely by klonal (asexual beings) and by epitoky (sexually). Reproduction in klonal done good with regenerate part of the body that is cut off and with formed stolon while on reproduction in epitoky, half or all parts of the body of worms, at certain times, will become mature gender.3

Invertebrates sea producing chemical compounds (chemical defense) that function to England holding themselves from the predator, Prevent bacterial infections, help production process and prevent electric shock ultra violet Ray. Worms that live in the sea Benthos produce bromophenol and bromopyrrole. In addition to these compounds produced by the polychaeta also in produce by another, coral, and tunicate. Worms from perirairan Nahalia has a protein content of 17,13%. In China worms sea has long been used as a traditional medicine in treating tuberculosis, officers function of the stomach and the spleen and the restoration of the health of that caused by pathogens. Extracting ethanol worms sea has the potential as anti diabetes by tests in vitro which may inhibit the activity of the enzymes α-glukosidase of 16-24 vat. non-essential amino acids and the highest there on glutamate acid namely 6,53% on fresh sea worms and worms sea freeze dry 8,53%. Amino acid content of the highest tambelo there on glutamate acid namely 4.35%.4

Table 1. The chemical composition of the sea worms4.

<table>
<thead>
<tr>
<th>The womb %</th>
<th>Fresh sea worms %</th>
<th>The sea worms freezedry %</th>
</tr>
</thead>
<tbody>
<tr>
<td>The level of water %</td>
<td>85,25 ±</td>
<td>13,69 ±</td>
</tr>
<tr>
<td></td>
<td>0,42</td>
<td></td>
</tr>
<tr>
<td>The level of protein %</td>
<td>10,11 ±</td>
<td>56,35 ±</td>
</tr>
</tbody>
</table>

International Journal of Health Medicine and Current Research | 836
Decosahexaenoic Acid (DHA)

Decosahexaenoic acid is the omega-3 fatty acids which is the main structural components of the human brain, cerebral cortex, skin and the retina. This can be obtained from linoleic alpha acid or obtained directly from the breast milk, fish oil or algae. The structure of the DHA is amino acid (karboksilat oats) with 22 carbon (decosa chainis the Greek for 22) and six (hexa) cis double bon (-en-). With the first phrase ties that is located on the third carbon from the end of the omega.

On man DHA can be obtained from the food or can be converted in a small amount of Eicosapentaenoic Acid (EPA) through Decosapentaenoic acid (DPA claims) as the substance test, separating the ions into the appropriate spectrum with a comparison of the mass of the load and record the relative abundance of each type of ions exist. Generally only positive ions in learn because of negative ions produced from the tangle of little.

Decosahexaenoic acid is the omega-3 fatty acids which is the main structural components of the human brain, cerebral cortex, skin and the retina. This can be obtained from linoleic alpha acid or obtained directly from the breast milk, fish oil or algae. The structure of the DHA is amino acid (karboksilat oats) with 22 carbon (decosa chainis the Greek for 22) and six (hexa) cis double bon (-en-). With the first phrase ties that is located on the third carbon from the end of the omega.

On man DHA can be obtained from the food or can be converted in a small amount of Eicosapentaenoic Acid (EPA) through Decosapentaenoic acid (DPA claims) as the substance test, separating the ions into the appropriate spectrum with a comparison of the mass of the load and record the relative abundance of each type of ions exist. Generally only positive ions in learn because of negative ions produced from the tangle of little.

The working principles of mass Spektroskopi (Mass Spektrometry)

Generally in mass spectrum acquired by changing the compound a sample to the ions that moves quickly separated based on the comparison of the masses against electrostatic. The ion menghasilkanberkas Spektroskopi capable of a substance test, separating the ions into the appropriate spectrum with a comparison of the mass of the load and record the relative abundance of each type of ions exist. Generally only positive ions in learn because of negative ions produced from the tangle of little.

Decosahexaenoic Acid (DHA)

Decosahexaenoic acid is the omega-3 fatty acids which is the main structural components of the human brain, cerebral cortex, skin and the retina. This can be obtained from linoleic alpha acid or obtained directly from the breast milk, fish oil or algae. The structure of the DHA is amino acid (karboksilat oats) with 22 carbon (decosa chainis the Greek for 22) and six (hexa) cis double bon (-en-). With the first phrase ties that is located on the third carbon from the end of the omega.

On man DHA can be obtained from the food or can be converted in a small amount of Eicosapentaenoic Acid (EPA) through Decosapentaenoic acid (DPA claims) as the substance test, separating the ions into the appropriate spectrum with a comparison of the mass of the load and record the relative abundance of each type of ions exist. Generally only positive ions in learn because of negative ions produced from the tangle of little.
METHODS

Work Procedures
The making of Extracting Worms Sea (Polychaeta)

Laor or sea worms (polychaeta) taken is still fresh, cleaned or in the dishwasher, then dried. Laor or sea worms (polychaeta) that have dried up in the chop after that in the create with powder using the blender. Laor powder or worms sea (polychaeta) diekstraksi using methods macerasion.

First 100gr laor powder or worms sea (eta) dimaserasi polycha with solvent methanol for 5 days on glass container or bottled 1-3cm above the debris. The results from meserasi 5 days in store and oily residues in add with the solvent methanol while in stir then in maceration again for 2 days. The results from maceration for 2 days in the sieve, oily residues in squeeze excess and results filtrat macerasion into two in the mix with the result of the filtrat macerasion first and in uapkan using rotavator until obtained extracting thick methanol.

How to work of the identification of a compound Decosahexaenoic Acid using the appliance GC-MS

Thick methanol difraksinasi extract in the beaker chemicals, and done with how to merge updates the GC that function to test the purity of certain ingredients, or separate from the various components of the mixture and can help in mengidentifikasi complex compounds.

And then dilanjutks using the appliance MS function because pangubah compound a sample become positive ions and negative ions produced from the source laor or sea worms (polychaeta).
RESULTS

This research is done in the integrated laboratory pharmaceutical study program high school health science halmahera. In this research the sample used laor/worms sea (polychaeta) which was taken from the waters of the village of posi posi rao”. Samples laor/worms sea (polychaeta) in take on the morning hour 6-7 and night 6-7. After the sample take washed and cleaned with clean water after that laor/worms sea (polychaeta) that clean already plugged into the leaf boku and in the smoke until dry for 1 days. Laor/worms sea (polychaeta) who embarked on the dry chop after that in the create with powder use the blender to produce fine powder. Samples suda become dimaserasi powder using the solvent methanol for 5 days. Then the samples in macerasion for 5 days in the sieve and in take filtratnya. From laor Filtrat/worms sea (polychaeta) with green elders then carried out the evaporation during 3 hours until elector extractiing thick, unpacking with thick laor/worms sea (polychaeta) green elders.

Laor/worms sea (Polychaeta) containing in the phylum annelida class polychaeta, family eunicidae. Laor/worms sea (Polychaeta) in the consumption as food ingredients by the community. Laor/worms sea (Polychaeta) contains a compound decosahexaenoic acid (no jenu fatty acid omega-3) compound is a combination of some of the elements that formed through chemical reactions have compounds that berbedah nature with the elements constructors 2 hydrogen atoms and 1 oxygen atom can be joined to form the water molecules (H2O). Compound decosahexaenoic acid (no jenu fatty acid omega-3) found on the grass of the sea, know of canned sardine and breast milk.

The results of the previous research explains that the compound decosahexaenoic acid can help the growth of the brain and nervous coir and the function of the vision in the first 6 months of life. In adults DHA also help the work of the brain and the ability to learn. In addition DHA useful in lowering heart disease, DHA benefits the other is to prevent the accumulation of plaque on the walls of the blood vessels by fat heart (LDL), so that decrease the risk of heart disease and stroke, besides DHA also help prevent the emergence of cancer diseases and slow down the aging.

CONCLUSION

Based on the results of research using the method GC-MS in deduce that laor/worms sea (Polychaeta) contains a compound decosahexaenoic acid 2,458%
(fatty acid unsaturated fats omega-3) is useful to help the growth of the brain and nervous coir and the function of the vision in the first 6 months of birth, on adults dha also help the work of the brain and the ability to learn besides decosahexaenoic acid useful in lowering the risk of heart disease, decosahexaenoic acid also helps to prevent the emergence of cancer diseases and slow down the aging process.

**Suggestions**

Based on the conclusion above then the author meberi suggestions as follows:

1. **For educational institutions**
   
   The results of this research can be an additional reference for students of pharmacy especially to increase the knowledge about the benefits of laor/worms sea (Polychaeta).

2. **For research location**
   
   So that the results of this research become inputs for the community and are able to take advantage of the laor/worms sea (Polychaeta) to the interests of the modifications given to drugs.

3. **For the next researcher**
   
   The results of this research can become the material inputs as a reference in developing further research can develop the results of this Scientific Paper better.

**REFERENCES**


