Dentistry technology advancement is an urgent factor in making it a challenge for the dentist to continue learning the new knowledge.

To answer this, Hasanuddin University then held a large-scale meeting. Both the presentations and the newest cases are presented in the form of main articles.

This book is filled with various articles that have been submitted in this International Dental Scientific Meeting. All articles have been selected by the editors.

The article concludes...
PREFACE

Dentistry technology and innovation is growing along with strengthening of the international workshop in all fields. In one hand this phenomena is an urgent factor in improving patient management quality, in other it is a challenge for the dental person to follow, understand, and implemented the new knowledge and technology for problem solving.

To answer this challenge, the Dentistry Faculty of Hasanuddin University then held an international meeting which is the first international scale meeting. Both inviting main speakers from abroad and also presenter of the newest cases and researches all over Indonesia will participated in the form of main and short lecturers.

This book is intended to present some important scientific paper submitted in this International meeting. It covers all field in dentistry such as conservative, oral medicine, oral surgery, implant, esthetic, and so on. All article have been reviewed with only correction of the wrong spelling. The article completed with correspondence author for the greater detail.

Makassar, 28 May 2014

Editors
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The Comparison of Triterpene Glycoside Level with Various Extract Solvent Methods for Preparing *Stichopus Hermanni* Gel

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Abstract

Background: Triterpene glycoside is the compound of sea cucumber that has antiproliferative effect. It can inhibit wound healing process, including in the oral cavity. Solvent polarity plays an important role to determine the level of triterpene glycoside. Purpose: To compare the level of triterpene glycoside with various extraction methods for preparing *Stichopus hermanni* gel.

Methods: *Stichopus hermanni* body wall were cleaned, and then freeze-dried. After freeze-dried, all extraction divided by two equally, one part were extracted with ethanol solvent, and the other part were extracted by hexane solvent. The obtained extract product then condensed and tested its triterpene glycoside compound by ultra violet spektofotometri.

Result: The amount of triterpene glycoside in ethanol solvent extract was more than hexane solvent extract, but the level was higher in hexane solvent extract.

Conclusion: The level of triterpene glycoside in hexane solvent *Stichopus hermanni* extract was higher than by ethanol solvent extract.

Keywords: *Stichopus hermanni*, triterpene glycoside, ethanol, hexane, wound healing.
INTRODUCTION

Sea Cucumber is one of the local sea food commodities that have high market ability value and even has become a leading export commodity in Indonesian fishermen (1). Not only for consumption, recently, advanced researches have been performed on sea cucumbers to explore its basic ingredients for medicines. Some studies suggest that sea cucumbers have pharmacological effects, such as anti-inflammatory, antibacterial and antioxidants (2).

Among them any types of sea cucumbers (Echinodermata), Stichopus hermanni have active components that are widely used as a drug in wound healing. It has been believed that direct use of sea cucumber could reduce wound recovery time and help new tissue formation and regeneration in human just as the sea cucumber's ability to quickly regenerate its own body tissue when damaged (3). Active ingredients in Stichopus hermanni has been suspected to accelerate wound healing, such as glycosaminoglycans, eicosapentaenoic acid (EPA), docosahexaenoic acid (DHA) and some minerals contained in the crude extract of Stichopus hermanni (4).

The effectiveness of ethanol extract of Stichopus hermanni in accelerating the healing of ulcers of the oral cavity has been performed in Budijono research (5). In this research concentration of 60% was more effective than 80%. Along with these studies in vitro, the crude extract of Stichopus Hermanni up to 1% concentration proved not cytotoxic to mesenchymal stem cel (6). Based on this arises the curiosity of the existence of other content that inhibit wound healing process at high concentrations Stichopus hermanni extract.

Triterpene glycosides are the predominant secondary metabolites of the sea cucumber. These glycosides have been reported to have a wide spectrum of biological effects, including antifungal, cytotoxic, hemolytic, and immunomodulatory activities (7). Ds-echinoside A (DSEA), a non-sulfated triterpene glycoside, was isolated from the sea cucumber. These findings suggest that DSEA exhibits a specific inhibition of VEGF expressions (8). Others research showed Body wall and Cuvierian organ extracts of this species exhibited cytotoxic activities (9). Study of Rasyid (10) stated that triterpene may yield compounds that exhibit inhibitory activity against oral cancer cells, albeit in small amounts.

MATERIAL AND METHODS

This study was performed using Stichopus hermanni triterpenes dissolved hypolipemic effect. Sea cucumbers obtained from sea cucumbers obtained from the harvest of 2017 in the range of 400-500 g and length about 10 cm.

The tools used were: sieve with aperture size 0.5 mm, Erlenmeyere flasks, Kyeldahl, heating, apparatus soxhlet, vacuum filter, spectrometer, and gravimetric analyser.

Extract of sea cucumber contents and body was macerated with solvent smooth with the addition of the content to a sieve with aperture size 0.5 mm, inserted into freezer at -20°C for 39 hours (11). The first part was macerated with solvent smooth with the addition of the content to a sieve with aperture size 0.5 mm, inserted into freezer at -20°C for 24 hours, the filtrate was obtained maceration in the same way. Furthermore obtained extract were then analyzed by several methods of analysis.
stated that triterpenoids were not identified in the methanol extract, but in fact these compounds present in the crude extract of Stichopus hermanni albeit in small amounts (5).

MATERIAL AND METHODS

This study was a quantitative description research. The content of triterpeneglycoside of Stichopus hermanni extract was compared from the ones dissolved by polar and non-polar solvents. The sample was 65 golden sea cucumbers obtained from Bontang, East Kalimantan waters weight 400-500 g and length 25-35 cm in size.

The tools used in this study is a scalpel, digital scales, a blender, sieve with a particle size of 30-40 MES, balance sheet analysis, pump in Erlenmeyer freezer, measuring cup freeze dryer, furnace, flatdish, pumpkin Kyeldahl, heating, appliance ruling biuret, pipettes, spectrophotometric UV, sohxlet, vacuum filters, balance, rotary, shaker, flask extraction, extractor, pet, and gravimetric. The material used were Stichopus hermanni, sterile distilled water, ethanol, and hexane solvent.

Extract of sea cucumber were prepared by separate parts of the stomach contents and body then cleaned. Furthermore, sea cucumbers blended until smooth with the addition of distilled water then performed freeze dried by inserted into freeze dryer with a pressure of 20 Pa and a temperature of 40 C for 39 hours (11). Freeze dried product then divided into 2 treatment. The first part was macerated with 96% ethanol (polar) and the second part inaserated with solvent hexane (non-polar). Maserating process were done for 24 hours, the filtrate is then filtered and then stored so that the results obtained maceration I (solid color). Then performed 2 repetitions in the same way. Furthermore, the results maceration I, II, and III performed by means of an evaporator evaporation from maceration results are not solid, semi-solid, and the filtrate concentrated until fully discharged so thick extract obtained then stored in a refrigerator. Extract thick test content analysis were then performed using ultraviolet spectrophotometry.
RESULT

The total weight of wet Stichopus hermanni sample resulted in total weight of 150 grams after freeze dried, divided by two equally and performed maceration in ethanol solvent and n-heksane each of 75 grams. Extraction results are shown in table 1.

<table>
<thead>
<tr>
<th>Content</th>
<th>Ethanol</th>
<th>Hexane</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (mg)</td>
<td>615,50</td>
<td>65,13</td>
</tr>
<tr>
<td>Percentage (%)</td>
<td>3,57</td>
<td>5,24</td>
</tr>
</tbody>
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DISCUSSION

The use of polar and non-polar solvent was intended to figure out the better solvent for dissolving triterpene glycoside. Ethanol is a polar solvent with chemical formula (CH₃-CH₂-OH) has a boiling point of 79°C. Hexane is a non-polar solvent with chemical formula (CH₃-CH₂-CH₂-CH₂-CH₃) has a boiling point of 69°C. The solubility of a compound dissolved in an organic solvent is influenced by the number of double bonds and carbon chain length. The more the number of double bonds, the higher the solubility. Conversely, the shorter the chain, the lower the solubility of a compound. (12)

The amount of Stichopus hermanni extracted by solvent ethanol was more higher than polar solvents. This is because most of the content of the sea cucumber is a protein and carbohydrate high polarity. One is glycosid triterpene, which is a compound triterpenoids and glycosides (sugar). Glycosides (sugar) is very much contain-OH groups, so soluble in water. Moreover, because the sample used is a sample derived from marine organisms that contain a lot of salt particles. Therefore, the percentage is much higher fraction of water because the salt just dissolves into the water fraction when compared with the fraction of ethyl acetate and n-hexane.

Triterpeneglycoside containing D9 double bonds based holostane-3 containing up to 6 units of suquinovose, and can be a lipid-soluble component generally. Ethanol, oxygenated namely glycosides. Total extraction such as acetone, aq re-extraction with successive extraction.

Terpenoids are very common. Due to the geometric conformation around the ring, terpenoids. These substances in isolation procedure generally in hexane solvent SCS. Reference.

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Terpeneglycoside compound soluble in the solvent mixtures of 75°C. CH2-CH2-

acetate and n-hexane. (13)

Triterpeneglycoside composed ofoligosaccharide chainsandaglycone based holostane-3b-ol (14). Glycosideon Holothuroidea triter pene containing D9 double chain in the aglycone and carbohydrate chains wrap up to 6 units of sugars, including xylose, glucose, 3-O-methylglucose and quinovose, and can be branchedonky once (15). Terpenoids are chemically lipid-soluble compounds and they can be extracted with petroleum ether generally. Ethanol, methanol and water led to the extraction of highly oxygenated namely polar triterpenes as well as triterpenoid and sterol glycosides. Total extraction of the material carried out by any polar solvents such as acetone, aqueous methanol (%80) and aqueous ethanol and then re-extraction with hexane, chloroform and ethyl acetate is also leads to successive extraction of terpenoids and sterols (16, 17).

Terpenoids are generally alicyclic compounds and isomerism is common. Due to the twisted cyclohexane ring, in chair form, different geometric conformations are possible depending on the substitution around the ring. Therefore, stereochemistry is commonly found in terpenoids. These structural features may cause artifact formation during isolation procedure (16). This is the reason of level of triterpene glycoside in hexane solvent Stichopus hermanni extract was higher than by ethanol solvent extract.

References.
INTRODUCTION

Cleft lip is a congenital abnormality in which structures of the upper lip and palate fail to form properly. In this case, it was reported that the suture is removed. The tools used in the process are known as "stenotic" and this includes combing with antibiotics. It is also reported that the patient and their family have good psychological status.

Keywords: cleft lip, dental.