ABSTRACT
Indonesia people have been used of Bay Leaves (S. polyanthum [Wight.] Walp.) to treat of antidiarrhea, cholesterol, hypertension, gastritis, and diabetes mellitus. Extrace of Bay Leaves can be inhibit growth of Escherichia coli, Vibrio Cholera, and Salmonella sp. It’s the bacterium that produce an entherotoxin so as to cause diarrhoea. Bioassay of antidiarrheal activity by using transit intestinal method and mice (Mus musculus) as an animal model induced by castor oil. The mice were grouped into five groups. Group I is received Na-CMC as control, group II, III, and IV are received of Ethanolic Extract of Bay Leaves (EEBL) with concentration 10%, 20%, and 30%, respectively and group V as positive control by received Loperamide-HCl. The charcoal used to marker as indicators. The result of the test indicate that EEBL have antidiarrheal activity to animal model. Refer to analysis of variant p=0.05, showing that concentration 30% has an activity non significant with loperamide-HCl as positive control.


INTRODUCTION
Diarrhea is one of the main problems in the case of child mortality to 19% and responsible for the deaths of children under five in developing countries such as Indonesia. Refers to WHO estimation for the year 1998, there were about 7.1 million deaths due to diarrhea. Diarrhea is a symptom of clinical and gastrointestinal disorders characterized by increased frequency of defecation, usually accompanied by changes in the shape and consistency.

Diarrhea is the most given dangerous symptom specially to children. Research to find active extracts antidiarrheal essential to achieving the treatment of diarrhea. Treating diarrhea using medicinal plant extracts have been widely used empirically. Bay Leaves (S. polyanthum [Wight.] Walp.) is one of the medicinal plant and believed efficacious for treating of diarrhea. Local name is Daun Salam. Based on the description, to prove the antidiarrheal activity of ethanolic extract of bay leaves (EEBL) should be research in vivo preclinical studies. The results of this preclinical study is expected to be a reference to scientific evidence and material development EEBL as antidiarrheal medication.

MATERIALS AND METHOD
Material: Mice as animal model (150-200 g) were purchase from Pharmacology Laboratory, Faculty of Pharmacy UMI, Bay Leaves (S. polyanthum [wight.] Walp.), aquabidestilled (Ikapharmindo Putramas, ethanol 70%, Loperamide-HCl, Na-CMC, Arabic gum suspension 20% and tinging with 5% carchoal as a marker. vortex (CAT.M. Zipper GmbH. Etzenbach, W. Germany), castor oil.

Preparation and determine sample test
Sample of Bay leaves was collected from Manyampa Village, District of Ujung Loe, Bulukumba Regency, Indonesia. It was determined by Mrs Aktsar Roskiana Ahmad in Botany Division, Pharmacognosy and Phytochemistry Laboratory Faculty of Pharmacy Universitas Muslim Indonesia Makassar Indonesia. The Bay Leaves is dryed, grinded, and Then powdered to making light of extraction process.

Extraction
Extraction using modified method from Fang. Bay leaves of 500 g extracted by maceration method using ethanol solution 70% and allowed to stand for 5 days, then remaceration to obtain more extract. The Liquid extract are collected and evaporated with rotary vacuum evaporator (rotavapor IKA® HB 10 Basic) to getting thick extract. Extraction concentration for assay is 10%, 20% and 30% in Na-CMC suspension.

Preparation and Grouping Animal Test
Animals model were purchase from pharmacology laboratory Faculty of Pharmacy UMI. It fasted about 18 hours, but drinking still receive. Animals were randomly divided into five groups and each group of three animal models. Group I is a control, group II, III, IV as a test group and group V as a positive control.

Testing of EEBL to Animals Models
Animals models were administering on orally. At time t=0, group I was given Na-CMC, Groups II, III and IV were each received EEBL a concentration of 10%, 20% and 30%, group V was given Loperamide-HCl suspension, respectively by volume 1.0 ml/100 gbw, 1 h before administration of castor oil. At time t = 45 min after administration of castor oil, all groups were given marker charcoal suspension 0.1 ml/100 g bw. At time t = 65 min, all groups were sacrificed by dislocation of cervical. Intestine removed then measured the total length of the intestine and creep distance marker charcoal. Then, calculated the ratio of the distance normal to the length of the colon charcoal marker entirely from pylorus to caecum.

Statistical Analysis
Statistical analysis was used one way anova (ANOVA). The results of Analisys of Variant obtained from experiment groups (p=0.05) and multiple comparisons of groups which cause different were calculated according to least significant different (LSD) (p=0.05) as post hock test.
RESULTS
In each group of mice, ratio of charcoal is measured with metric tools. Charcoal as marker indicated with black colours and then flow of line up charcoal equal entire size of colon from phundus to phylorus (Table 1). Value of Ration is shown that all group extract different compared to control Na-CMC (Fig.1).

DISCUSSION
Bay leaves (S. polyanthum [Wight.] Walp.) is a herbal widespread in Southeast Asia such as Indonesia country. It is used to flavoring agent and a native herbal medicine in Indonesia people to treat cholesterol, diarrhea, reduce of serum glucose, LDL, and increase of HDL. Bay leaves have active to Streptococcus sp, S. enterica dan E.coli. The extract activity of bay leaves may be related to the phenolic compounds present in the extracts. The phenolic such as tannin is potent as antiatdierrea actifty. The conclusion that EEBL have effect to diarrhea. This study can be supporting to develop of phytopharmac. According to Ministry of health in Indonesia country, Bay leaves is one of the several herb to must be develop as phytopharmac.

CONCLUSION
Bay leaves extract in 30% have best antidierrea activity to animal models.

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REFERENCES

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