1. ABSTRACT
Blood cockle (Anadara granosa) contains antibacterial compounds that can inhibit the growth of Streptococcus sanguinis as a pioneer in the formation of dental plaque. In Dentistry, blood cockle has potency to be used as a source of active ingredients mouthwash. The purpose of this study was to find out the minimum inhibitory concentration of ethyl acetate extract of blood cockle (A.granosa) on the growth of S.sanguinis ATCC 10556. The study was laboratory experimental using serial dilution method. The concentrations of ethyl acetate extract of blood cockle used in this experiment were 0.5 mg/mL, 0.25 mg/mL, and 0.125 mg/mL. The result of this study shows that bacteria colonies were reduced ≥ 50% in 0.25 mg/mL. On the other hand, 0.125 mg/mL unable to inhibit the growth of Streptococcus sanguinis ATCC 10556. It is concluded that 0.25 mg/mL ethyl acetate extract of blood cockle was minimum inhibitory concentration to inhibit the growth of Streptococcus sanguinis ATCC 10556.

Keywords: Streptococcus sanguinis, Ethyl acetate extract of blood cockle, Minimum inhibitory concentration (MIC)

2. INTRODUCTION
Streptococcus sanguinis is an opportunistic normal flora in human mouth and known as pioneer bacteria in the formation of dental plaque. Dental plaque can causes dental caries and periodontal disease, therefore, it should be controlled by brushing teeth and gargling a mouthwash contains antibacterias. The mouthwash can be made from synthetic or natural ingredients, but now many people are more choosing natural medication due to its safety. Indonesia has a lot of natural resources, one of them is blood cockle (Anadara granosa). The quantity of blood cockles in Indonesia is very abundant, so it is very easy to find out the blood cockle. Beside that, the price for blood cockles are cheap enough. The new study said that blood cockle contains antibacterial compounds such as alcaloid and steroid that can inhibit bacteria growth including Streptococcus sanguinis. As a initial test before used in human, the ethyl acetate extract of blood cockle should be known its safety and activity by find out the minimum inhibitory concentration (MIC).

3. METHODOLOGY
Ethyl Acetate Extract of Blood Cockle

4. RESULT
The result of this study shows that the number of bacteria colonies were reduced ≥ 50% in 0.25 mg/mL. On the other hand, 0.125 mg/mL unable to inhibit the growth of Streptococcus sanguinis ATCC 10556.

5. DISCUSSION
The most substantial reduction in the number of bacteria colonies was shown by 0.5 mg/mL of blood cockle extract. Five data not show the bacteria growth and three others show bacteria growth as much as 1-100. In other hand, 0.25 mg/mL of blood cockle extract show variation bacteria growth with range number 101-300, while the bacteria growth at 0.125 mg/mL was infinity. The infinity count of colony bacteria can be assumed as 300 or more than 2. If the maximum limit of the bacteria growth we assume as 300, the median value of the bacteria growth is 150. MIC is a minimum concentration of an antibacterias that can inhibit the growth of bacteri. An antibacteria has good activity if they can inhibit the growth of bacteria ≥ 50%. Beside this study we consider that 0.25 mg/mL has bacteriostatic activity.

6. CONCLUSION
It is concluded that 0.25 mg/mL ethyl acetate extract of blood cockle was minimum inhibitory concentration to inhibit the growth of Streptococcus sanguinis ATCC 10556.

References: