

ANTIBIOFILM ACTIVITY OF FLAVONOID MANGOSTEEN PERICARP EXTRACT AGAINST *Porphyromonas gingivalis* BACTERIA

ABSTRACT

Background. Necrosis teeth need a procedure called the root canal treatment to eliminate microorganisms in root canal, so the inflammation process did not continue to the periapical. One of the microbes that exist in the necrosis teeth is *Porphyromonas gingivalis*, that capable of forming biofilm because it has the ability to communicate with bacteria signaling (quorum sensing). It is necessary to discover another antibiofilm agent as an irrigation material in root canal preparation deriving from nature. Flavonoid mangosteen pericarp extract can disrupt acyl-homoserine lactones (AHLs) so that quorum sensing bacteria will be disrupted and causing permanent attachment and the establishment of colonies on the surface of the teeth any barrier.

Purpose. The aim of this study was to find the antibiofilm activity of flavonoid mangosteen pericarp extract against *Porphyromonas gingivalis* bacteria. **Method.** This research has a laboratory experimental with post test only group design. *Porphyromonas gingivalis* ATCC 33277 was diluted according to Mc. Farland standard 10^6 CFU/ml in Tryptic Soy Broth (TSB) medium and inserted into microtiterplate flexible U bottom. *Porphyromonas gingivalis* was incubated for 6x24 hour and checked with a simple staining to see the formation of biofilm. Flavonoid mangosteen pericarp extract was added in various concentrations and OD (optical density) readings done with a wavelength of 595 nm. **Result.** Flavonoid mangosteen pericarp extract showed a decrease of OD value from control in all concentrations. **Conclusion.** Flavonoid mangosteen pericarp extract has antibiofilm activity against *Porphyromonas gingivalis* bacteria

Keywords : Flavonoid mangosteen pericarp extract, Biofilm, *Porphyromonas gingivalis*