

## EFEKTIVITAS ANTIBIOFILM TANIN KULIT MANGGIS TERHADAP BAKTERI *ENTEROCOCCUS FAECALIS*

(*THE ANTIBIOFILM EFFECTIVITY OF TANNIN EXTRACT FROM  
MANGOSTEEN PERICARP AGAINST ENTEROCOCCUS FAECALIS  
BACTERIA*)

### ABSTRACT

**Background:** Root canal treatment is a procedure performed to eliminate microorganisms in root canal of the tooth with necrotic pulp. Microorganisms in a biofilm on the root canal led to the failure of root canal treatment. One of microorganisms that were able to form biofilms and cause root canal treatment failure were the *Enterococcus faecalis* bacteria. Antimicrobial agents used as a root canal irrigation needed to eliminate microorganisms in the biofilms form. **Purpose:** The aim of this study is to find the antibiofilm effective concentration of tannin extract from mangosteen pericarp against *Enterococcus faecalis* bacteria. **Method:** This research is a laboratory experimental with the pretest-posttest control group design. *Enterococcus faecalis* cells were grown in microtiter plates for 5 days, then the wells were washed to remove planktonic bacteria. Cells remaining adhered to the wells were subsequently stained with crystal violet to verify the biofilm formation. Tannin extract in 100%, 50%, 25%, 12,5%, 6,25%, 3,125%, 1,56%, and 0,78% concentrations were put into the suitable labeled-well. After 24 hours of incubation, the optical density (OD) of each well were measured, then converted into % of biofilm degradation. **Results:** Tannin extract showed a decrease of OD value from positive control in all concentrations. The effective percentration of biofilm degradation is 91% at 12,5% tannin concentration. **Conclusion:** 12,5% tannin extract is the effective antibiofilm concentration against *Enterococcus faecalis* bacteria.

**Keywords:** *Enterococcus faecalis*, antibiofilm, tannin extract, mangosteen pericarp