

HAMBATAN PEMBENTUKAN *EXTRACELLULAR POLISACCHARIDE* (EPS)
BIOFILM *PORPHYROMONAS GINGIVALIS* AKIBAT PAPARAN EKSTRAK
KULIT MANGGIS (*GARCINIA MANGOSTANAL L*)
(*THE EFFECT OF MANGOSTEEN PERICARP EXTRACT AGAINST THE*
AMOUNT OF EXTRACELLULAR POLYSACCHARIDE (EPS)
PORPHYROMONAS GINGIVALIS BIOFILM)

ABSTRACT

Background. Biofilm is a trap nutrient for the growing population of microorganisms and help the bacterial adhesions to the surface to produce a molecular chain Extracellular Polysaccharide (EPS). Mangosteen pericarp extract affects decreasing porphyromonas gingivalis biofilm. **Purpose.** The aim of this research is to prove influence of mangosteen pericarp extract against the EPS of porphyromonas gingivalis biofilm. **Methods.** Initially, biofilms were grown for 48h; then, the early-formed biofilms were treated for dextran alexa fluor conjugate 647 staining. Biofilms were harvested at 72h with one of the following: (i) mangosteen pericarp extract 0,2%; (ii) mangosteen pericarp extract 0,8%; (iii) mangosteen pericarp extract 1,2%; (iv) control group (biofilm). Confocal Laser Scanning Microscopy (CLSM) determined EPS per biofilm. **Results.** The EPS biofilm treated with the test agents were significantly less than those treated with control group ($P < 0,05$). Biofilms treated with the test agents also resulted in lower amount of polysaccharide. **Conclusion.** Mangosteen pericarp extract (*Garcinia Mangostana*) affected the accumulation and polysaccharide content of *P. Gingivalis* biofilms without major impact on the bacterial viability.

Keywords: *garcinia mangostana*, *EPS*, *porphyromonas gingivalis*, *biofilm*, *polysaccharide*