

**DAYA HAMBAT EKSTRAK KULIT MANGGIS (*Garcinia Mangostana L.*)
TERHADAP AKTIVITAS ENZIM GLUKOSILTRANSFERASE
*Streptococcus mutans***

**(THE INHIBITION OF MANGOSTEEN PERICARP EXTRACT ON THE
ACTIVITY OF STREPTOCOCCUS MUTANS GLUCOSYLTRANSFERASE
ENZYME)**

ABSTRACT

Background: *Streptococcus mutans* is a bacteria that has the biggest role in dental caries formation. It produces glucosyltransferase enzyme which is capable to catalyze glucan synthesis in the progression of dental caries. Researchers have found some treatment to eradicate *Streptococcus mutans* hoping to prevent the formation of dental caries for example the use of traditional plants. One of those is mangosteen pericarp extract. Mangosteen pericarp extract contains polyphenols that believed to have capability as antibacterial agent. These polyphenols are *tannin, α mangostin, and flavonoid*. **Purpose:** The aim of this study was to investigate the inhibition of mangosteen pericarp extract on the activity of *Streptococcus mutans* glucosyltransferase enzyme. **Method:** This research used mangosteen pericarp extract at concentration 0.39% and 0.78% as the treatment, 0.12% chlorhexidine gluconate as positive control, and distilled water as negative control. Glucosyltransferase enzyme activity assays through fructose extensive area analysis by using High Performance Liquid Chromatography (HPLC). Fructose extensive area is determined based on time retention from each groups. The data was analyzed by Kruskal-Wallis Test. **Results:** There is significant difference between treatment groups with negative control ($p < 0.05$). **Conclusion:** Mangosteen pericarp extract capable of inhibiting glucosyltransferase enzyme activity of *Streptococcus mutans*.

Keywords: *Streptococcus mutans*, glucosyltransferase enzyme, glucan synthesis, mangosteen pericarp extract, polyphenols.