

**BIOCOMPATIBILITY OF 0,78% TANNIN EXTRACTS OF
MANGOSTEEN PERICARP (*Garcinia mangostana* Linn.) AND 0,2%
Chlorhexidine gluconate AGAINST BHK-21 FIBROBLAST CELLS
CULTURE**

**UJI BIODKOMPATIBILITAS TANIN EKSTRAK KULIT MANGGIS
(*Garcinia mangostana* Linn.) 0,78% DAN *Chlorhexidine gluconate* 0,2%
TERHADAP KULTUR SEL FIBROBLAS BHK-21**

ABSTRACT

Background. *Chlorhexidine gluconate* is one of endodontic irrigants potential due to its antibacterial activity. Although it is an effective antibacterial agent, *chlorhexidine gluconate* can not dissolve organic substances and necrotic tissue present in the root canal. In addition, same as other chemicals, *chlorhexidine gluconate* also cause a cytotoxic effect. Tannin extracts of mangosteen pericarp (*Garcinia mangostana* L.) demonstrated various biological activities including antibacterial, antioxidant, anticancer and anti-inflammatory. Tannin extracts of mangosteen pericarp can be considered as an alternative endodontic irrigation for dental application. **Purpose.** The aim of this study was to compare the biocompatibility between 0,78% tannin extracts of mangosteen pericarp and 0,2% *chlorhexidine gluconate* to BHK-21 fibroblasts cell. **Method.** Tannins obtained from extracts of mangosteen pericarp. Preliminary test by testing the biocompatibility of tannin extracts of mangosteen pericarp in various concentrations of the BHK-21 fibroblasts. Tannins extracts of mangosteen pericarp at concentrations of 0,78% less toxic than the other concentrations. Then biocompatibility of 0,78% tannin extracts of mangosteen pericarp compare with 0.2% *chlorhexidine gluconate* using cytotoxicity test on BHK-21 fibroblasts cells with MTT method and observed by ELISA reader. **Results.** 0,78% tannins extracts of mangosteen pericarp showed good biocompatibility with fibroblasts BHK-21 than 0,2% *chlorhexidine gluconate*. There is a significant differences between the results of treatment with 0,78% tannin extracts of mangosteen pericarp and 0.2% *chlorhexidine gluconate*. **Conclusion.** 0,78% tannin extracts of mangosteen pericarp has better biocompatibility than 0,2% *chlorhexidine gluconate* as an endodontic irrigants.

Keywords: Mangosteen pericarp extract (*Garcinia mangostana* L.), Tannin, *Chlorhexidine gluconate* 0,2%, BHK-21, Biocompatibility, MTT assay.