UJI BIOKOMPATIBILITAS EKSTRAK KULIT MANGGIS 
(Garcinia mangostana L.) DAN NaOCl 2,5% PADA SEL 
FIBROBLAS BHK-21

BIOCOMPATIBILITY OF MANGOSTEEN PERICARP 
EXTRACTS (Garcinia mangostana L.) AND NaOCl 2,5% 
TOWARD BHK-21 FIBROBLAST CELLS

ABSTRACT

Background. NaOCl is one of the most popular and widely used endodontic irrigants due to its antibacterial activity and capacity of dissolving necrotic tissue remnants. Although it is an effective antibacterial agent, NaOCl is harmful outside the root canal and causes damage when in contact with periradicular tissue. Otherwise, mangosteen pericarp extract (Garcinia mangostana L.) demonstrated various biological activities including antibacterial, antiinflammatory, and antifungal. Considered to be apply as an irritant for dental application. Purpose. The aim of this study was to compare the biocompatibility between mangosteen pericarp extract and NaOCl to BHK-21 fibroblast cell. Method. Mangosteen pericarp extract at the concentration 100ug/ml, 200ug/ml, 300ug/ml, and NaOCl 2,5% applied on BHK-21 fibroblast cell. Biocompatibility of the irrigants can be seen from the ability of cells to proliferate after treatment and was calculated by the % cell viability formula. Cell which is capable to proliferate will produce mitochondrial enzyme through the respiration process that can be measured using the MTT assay method by ELISA reader. Result. At the concentration of 100ug/ml, 200ug/ml and 300ug/ml showed good biocompatibility with fibroblast BHK-21 cell than NaOCl 2,5% through the ability of cells to proliferate. Conclusion. The mangosteen pericarp extracts in every concentration has better biocompatibility than NaOCl 2,5% as endodontic irrigants.

Keywords: Mangosteen pericarp extract (Garcinia mangostana L.), NaOCl 2,5%, BHK-21, biocompatibility.