VIABILITY OF SAPONIN MANGOSTEEN PERICARP
(Garcinia mangostana L.) TOWARD BHK-21 FIBROBLAST CELLS

ABSTRACT

Background: One of the compounds contained in the pericarp of mangosteen (Garcinia mangostana Linn.) is saponin. Saponins are natural detergent found in many plants and naturally can form a lather when shaken with water, can clean the necrotic tissue and dentin debris. Additionally, saponins are active substances that can increase the permeability of the cell membrane, causing hemolysis, if saponin interact with cells, the cells will rupture or lysis. Based on the above properties of saponins, saponins can support the success of root canal treatment.

Purpose: This study aimed to determine the concentration of saponin mangosteen pericarp against viability of BHK-21 fibroblasts cell.

Method: Saponins obtained by extracting the mangosteen pericarp that has been dried by maceration method then dilution to obtain a concentration of 100%, 50%, 25%, 12.5%, 6.25%, 3.13%, 1.56%. Viability seen from the ability of cells to viable after treatment and calculated as the percentage of cell life. Cells absorb yellow MTT solution through reduction reaction thus broken into blue formazan crystals indicating that the cells alive.

Result: Percentage of viable BHK-21 fibroblast cell exposed to concentration 100%, 50%, 25%, 12.5%, 6.25%, 3.13%, 1.56% of saponin mangosteen pericarp were 157.33%, 46.27%, 32.83%, 26.44%, 57.76%, 50.49%, 90.35%.

Conclusion: Saponin mangosteen pericarp at 6.25% concentration can maintain the viability of fibroblasts BHK-21.

Keywords: Saponin mangosteen pericarp, viability, BHK-21.