TOXICITY ASSAY OF MANGOSTEEN PERICARP EXTRACT ON BHK-21 FIBROBLAST CELL CULTURE
(Experimental Laboratory Research)

ABSTRACT

Background. Mangosteen (Gracina mangostana) is tropical fruit which known as “Queen of fruit” in Indonesia and Southeast Asian countries. It’s pericarp is reported to have antibacterial, antifungal, antioxidant and anti-inflammatory activity. Before used in medical purpose, herbal material must be studied from every aspect to make sure that they meet the criteria of non-toxic, non-irritant, and non carcinogenic. Purpose. This study aimed to explore the toxicity of Garcinia mangostana pericarp extract against BHK-21 fibroblast cell culture. Method. This study was designed as post test only control group laboratory experiment. Garcinia mangostana was extracted using maceration method and diluted into 700 μg/ml, 800 μg/ml, and 900 μg/ml dose. Toxicity was observed after 24 hours using MTT Assay technique. Viable cells were measured by optical density of their MTT absorbency, and observed by ELISA reader on 620 nm.

Result. Percentage of viable BHK-21 fibroblast cell culture exposed to 700 μg/ml, 800 μg/ml, and 900 μg/ml dose were 86.83%, 107.05 %, and 110.58% respectively. Conclusion. Crude Garcinia mangostana pericarp extract from 700 μg/ml to 900 μg/ml show non-toxic activity against BHK-21 fibroblast cell culture.

Keywords: Garcinia mangostana, toxicity, BHK-21 cell culture, MTT Assay