ABSTRACT

Toxicity Test of Xanthones from Mangosteen Pericarp (Garcinia mangostana linn.) on BHK-21 Fibroblast Cell Culture

Background: Xanthones, from the pericarp of mangosteen (Garcinia mangostana linn., GML), are known to possess a wide spectrum of pharmacologic properties, including antioxidant, anti-tumor, anti-allergic, anti-inflammatory, anti-bacterial, anti-fungal, and anti-viral activities. In order to be applied as an alternative antimicrobial agents in the conservative treatment, the authors are interested in performing toxicity tests on the fibroblast cell culture BHK-21 (Baby Hamster Kidney - 21). Objective: To examine the toxicity effect of xanthones from pericarp extract in certain concentration against fibroblast BHK-21 cell culture. Methods: This study was designed as post test only control group laboratory experiment. GML was extracted using maceration method with ethanol 96%. That extract was serial diluted from 3.13%, to 100% concentration. 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 3.13%, 6.25%, 12.5%, 25%, 50%, and 100% concentration were 64.63%, 65.85%, 48.78%, 40.24%, 124.39%, and 132.92% respectively. Conclusion: Xanthones of GML from 3.13% to 6.25% show non-toxic activity against BHK-21 fibroblast cell culture.

KEYWORDS: crude mangosteen extract, xanthones, toxicity, BHK-21.