

TOXICITY TEST ON TARO LEAF EXTRACT (COLOCASIA ESCULENTA L.SCHOOT) AS MOUTHWASH ON BHK-21 FIBROBLAST CELL CULTURE FOR DENTURE USERS

ABSTRACT

Background: One of requirements for a material to be used in dentistry is that the material must be not toxic and irritant, as well as have biocompatibility properties, not triggering a detrimental effect on the biological environment, both locally and systemically. The first-line tests that must be conducted is in vitro tests, one of which is MTT Assay. Samples used in this research were fibroblast cells (cultured BHK-21 cells) since fibroblasts are the most important and largest components in pulp, periodontal ligament, and gingiva. **Purpose:** This research aimed to determine toxicity effect of taro leaf extracts (*Colocasia esculenta* L. Schoot) on BHK-21 fibroblast cells. **Methods:** This research is an experimental laboratory research using Post Test Only Control Group design. The research treatment are the administration of Taro leaf extract (*Colocasia esculenta* L. Schoot) with 100%, 80%, 60%, and 40% concentration on BHK-21 fibroblast cell. For 6 treatment with a total of 24 samples have any 4 sample treatment. **Results:** The fibroblast cell life percentage in 100%, 80%, 60%, and 40% concentration respectively are 106,3%, 50,9%, 36,2%, and 33,1%. The toxicity results are obtained using MTT assay technique after 24 hours. The optical density absorbency values are read by ELISA reader and represent life cell viability. **Conclusion:** Taro leaf extract (*Colocasia esculenta* L. Schoot) at a concentration above 80% is considered as non-toxic material to BHK-21 fibroblast cells.

Keywords: taro leaf extract, toxicity test, MTT Assay, BHK-21 fibroblast cells