

UNIVERSITI TEKNOLOGI MARA

**CYTOTOXIC ACTIVITY OF METHANOLIC
EXTRACT OF *TERMINALIA CATAPPA*. LEAVES
TOWARD MCF-7 BREAST CANCER CELL
LINES.**

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ABSTRACT

Terminalia catappa .L extract was popular among folk Chinese Medicine and has several proven activities as antioxidant, anticancer, antimicrobial and antiinflammatory effect. In this study cytotoxic effect of two different methanolic extract of *Terminalia catappa* .L which are green and yellow were tested *in-vitro* on positive estrogen receptor breast cancer cell line (MCF-7). By using MTT assay, MCF-7 cell line has been treated with various concentrations ranging from 10000µg/ml to lowest concentration at 24, 48 and 72 hours to evaluate the cell proliferation and viability. Methanolic extract of *Terminalia catappa* .L inhibited cell proliferation and reduced cell viability following the concentration and time dependent manner. Only 48 and 72 hours of treatment have shown IC₅₀ value for both methanolic extract. Yellow methanol extract seem to be more potent than green methanol extract where the IC₅₀ for 48 hour treatment were 1118.66 µg/ml ; 2019.57 µg/ml and 72 hours treatment were 245.54 µg/ml ; 274.46 µg/ml, respectively. Furthermore, the IC₅₀ for each treatment had been used to assess the apoptosis feature of MCF-7 by using AO/PI staining and observed under blue light of confocal microscope. The results indicated that methanolic extract of *Terminalia catappa* L. have cytotoxic effect towards MCF-7 cell line.