

**UNIVERSITI TEKNOLOGI MARA (UiTM)**

**CYTOTOXIC ACTIVITY OF AQUEOUS EXTRACT  
OF *TERMINALIA CATAPPA* LEAVES AGAINST  
MCF-7 BREAST CANCER CELL LINE**

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## APPROVAL SHEET

I hereby recommend that the thesis prepared under my supervision by MunawwarahBinti Othman entitled “Cytotoxic activity of aqueous extract of *TerminaliaCatappa* leaves against MCF-7 breast cancer cell lines” be accepted in partial fulfilment of the requirements for Degree of Pharmacy from Faculty of Pharmacy, UiTM.

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## ABSTRACT

The major drawback in the usage of anticancer agents in chemotherapy to treat cancer is its adverse reaction. To counter with this problem, many research studies have focused on to search for new, effective and more selective anticancer agents. *T. Catappa* leaves from *Combretaceae* family is naturally widespread in subtropical and tropical climates zones is used traditionally used as drink and place the leaves in aquarium to give the animal's better health. Since the discovery of *T. Catappa* extracts, *T. Catappa* have been found to be potential sources of anticancer and antioxidants. In the present study, cytotoxic activities of green and yellow extracts were investigated. Extracts of *T. Catappa* were assessed for their cytotoxic potential against human breast adenocarcinoma cell line MCF7 using MTT assay for 24, 48 and 72 hours and apoptotic quantification using confocal micrograph stained with Acridine Orange and Propidium Iodide. In the present study, 72 hours treatment of yellow extract of *T. Catappa* showed strong cytotoxic activity against human breast adenocarcinoma towards human breast cancer adenocarcinoma cell line MCF7 with an  $IC_{50}$  value of 186.21  $\mu$ g/ml. However, there was no significance different in cytotoxic and apoptotic activity showed between yellow and green extracts of *T. Catappa*. This preliminary study shows that *T. Catappa* extracts was found to be potential anticancer drug candidate and further study of isolating its pure compounds should be conducted.