

Abstract

The Cytotoxic Effect of *Annona muricata* Leaf Extract on Triple Negative Breast Cancer Cell Line [†]

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Abstract: *Annona muricata*, also known as soursop, has been reported to show cytotoxic activities against cancer cell lines. In this study, we evaluated the antiproliferative effect of *Annona muricata* leaf extract on the triple negative breast cancer cell line (MDA-MB-231). The antiproliferative effects of leaf extracts on MDA-MB-231 cell line were evaluated by means of cell proliferation assay with XTT Reagent (Biological Industries, Israel). The assay was a colorimetric test based on the reduction tetrazolium salt, XTT to colored formazan products by mitochondria of live cells. In brief, cells were seeded into 96-well microtiter plates (Greiner) at a concentration of 5.0×10^4 cells/well and incubated for 72 h in medium containing horizontal dilutions of leaf extract. In each plate, the assay was performed with a column of blank medium control and a cell control column. Then, XTT reagent was added and the soluble product was measured at 500 nm with Biotek Elisa Reader, 96-well plate reader. IC₅₀ value was calculated 320 µg/mL on MDA-MB-231 cells. In conclusion, these results may suggest that *Annona muricata* is a promising candidate for metastatic breast cancer treatment.

Keywords: *Annona muricata*; Breast cancer; cytotoxicity

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