Proceedings of the 2nd International Conference on Natural Products for Cancer Prevention and Therapy, Kayseri, Turkey
8–11 November, 2017
npcpt2017.org/
Abstract

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

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† Presented at the 2nd International Conference on Natural Products for Cancer Prevention and Therapy, Kayseri, Turkey, 8–11 November 2017

Published: 10 November 2017

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 $5.0 \times 10^4$ 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

Acknowledgement: This work was supported by the Ahi Evran University Scientific Research Projects Coordination Unit. Project Number: FEF.A4.17.018

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