

In vitro antiproliferative activity of *Annona reticulata* roots on human cancer cell lines

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ABSTRACT

Background The phytochemical and pharmacological activities of *Annona reticulata* components suggest a wide range of clinical application in lieu of cancer chemotherapy. **Materials and Methods** Ethanol and aqueous extracts of roots of *Annona reticulata* Linn were studied for their in vitro antiproliferative activity on A-549 (human lung carcinoma), K-562 (human chronic myelogenous leukemia bone marrow), HeLa (human cervix) and MDA-MB (human adenocarcinoma mammary gland) cancer cell lines by MTT [3-(4,5-dimethyl thiazol-2-yl)-2,5-diphenyl tetrazolium bromide] colorimetric assay. **Results** The ethanol extract exhibited a prominent inhibitory effect against A-549, K-562, HeLa and MDA-MB human cancer cell lines at a concentration range between 10 and 40 µg/ml, whereas the aqueous extract showed a lower activity at the same concentration. Simultaneously, the effect of the ethanol extract toward the inhibition of Vero cell line proliferation was lower in comparison with the cancer cell lines. **Conclusion** The significant antiproliferative activity of the ethanol extract of *Annona reticulata* roots against A-549, K-562, HeLa and MDA-MB human cancer cell lines may be attributed toward the collective presence of acetogenins, alkaloids and lower inhibitory effect on Vero cell line, which suggests *Annona reticulata* be used as a chemopreventive agent in cancer therapy.

KEYWORDS

A-549 . *Annona reticulata* . antiproliferative activity . HeLa and MDA-MB human cancer cell lines . K-562 . MTT assay

REFERENCES

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