

Pharmacology and Ethnopharmacology

May 02-04, 2016 Chicago, USA

Anticancer effect of *Ficus pumila* parts on human leukemic cell lines

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Cancer, a major public health issue with more than 12,000 Ghanaians dying from cancer each year as reported by the World Health Organization (WHO). Cancer is an abnormal growth and proliferation of cells, caused by a complex, poorly understood interplay of genetic and environmental factors. Cancer treatment is usually a combination of a number of different modalities including chemotherapy, radiotherapy and surgery. However, they produce side effects that prevent their extensive usage. Current phytochemical research on 50% aqueous ethanolic extract of *Ficus pumila* leaves and stem of Ghanaian cultivars has shown the presence of tannins, saponins, general glycosides, alkaloids, terpenoids, flavonoids (leaves) and sterols (stem), making it a potential candidate for antioxidant and anticancer analysis which serve as the objective of this study. Antioxidant activity was tested using DPPH scavenging activity by measuring the absorbance of the extracts of *Ficus pumila* Linn. and comparing it with a standard drug BHT. Total phenolic content was also determined and compared with the standard Gallic acid. The anticancer activity was also determined using MTT assay and compared with the standard drug curcumin. The extracts and the standard curcumin were also tested on normal PNT2 cells to determine its effect. The leaves [IC₅₀ values of 130.97 µg/ml, 56.31 µg/ml and >1000 µg/ml (Jurkat cells, HL-60 cells and CEM cells respectively)] and stem [IC₅₀ values of 204.37 µg/ml, 124.41 µg/ml and >1000 µg/ml (Jurkat cells, HL-60 cells and CEM cells respectively)] extracts of *Ficus pumila* Linn. all showed a positive activity with the leaves showing a higher activity. The extracts also promoted the growth of the normal cells while the standard curcumin damaged the normal cells. The antiproliferation activity of the *Ficus pumila* Linn. leaf extract can be attributed to the high phenolic content and antioxidant activity.

Biography

Samuel Eguasi Inkabi completed his Bachelor's from Kwame Nkrumah University of Science and Technology-Ghana. Currently, he is a Master's student at Linköping University, Sweden, studying Experimental and Medical Bioscience. He has co-authored a paper in a reputed journal and is currently on a project with a renowned Swedish Clinical disease investigator scientist at Linköping University, Sweden.

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