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Cytotoxic activity of Euphorbia balsamifera with two new phenolic compounds

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Abstract

OBJECTIVES: The aim of the present study is to evaluate the biological activities of different extracts from the plant Euphorbia balsamifera and isolate and identify the active compounds in the plant.

METHODS: Dry samples of the aerial parts of Euphorbia balsamifera plant was extracted with hexane, ethyl acetate, chloroform, methanol/H2O, respectively to obtain different crude extracts with different polarity. cytotoxicity was performed for the plant fractions to isolate the most active constituents. Different chromatographic isolation from ethyl acetate fractions leads to isolation five compounds. The structure determination was accomplished by NMR spectroscopy and mass spectrometry.

RESULTS: Two new phenolic compounds, 1-(4-(4-tert-butylphenoxy)-3,6-dihydroxy-2-methoxyphenyl) ethanone and 4-hydroxyphenethyl 4-hydroxybutanoate were obtained with another three known compounds, 3β-cycloartanol,1-(2,4-dihydroxy-6-methoxyphenyl)ethenone and glutanol from ethyl acetate fraction. cytotoxic activity against three cancer cell lines exhibited that chloroform fraction the most active fraction against HePG2 while hexane fraction exhibited to against MCF7 where the latex showed lowest activity against MCF7.

CONCLUSIONS:

The present study demonstrates that E. balsamifera plant extract/ fractions consider a promising plant that might be used in pharmaceutical industry.

Biography:

She has passed out BDS (2000) (gold medalist) and MDS (2005).. She has 100 published papers to her contribution.

Total no. of citation: 501, Total no. of impact factor: 128.4155, i-10 indexed-11, h-indexed- 11, No. of Original article: 54, No. of Review article: 23, No. of case reports: 22, Book contributions -2. Additional courses: Certificate course in Bio Medical Waste Management, Forensic Odontology, Forensic Biology and Toxicology, Cyber forensic & digital crime investigation, Forensic Psychology, Forensic DNA fingerprinting. She has bagged many paper and poster presentations award at various National and International Conferences.

Speaker Publications:

1. "Curvature properties of Melvin magnetic metric"; December 2020Journal of Geometry and Physics 150:103593 DOI: 10.1016/j.geomphys.2019.103593

2." A new phenothiazine-based selective visual and fluorescent sensor for cyanide", December 2020BMC Chemistry 14(1) DOI: 10.1186/s13065-019-0656-x

3. Well-posedness of stochastic modified Kawahara equationDecember 2020Advances in Difference Equations 2020(1) DOI: 10.1186/s13662-019-2485-6

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