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Antioxidant and *in vitro* cytotoxic activities of bioactive compounds isolated from *Pittosporum eugenioides*

The study aims to evaluate the *in vitro* cytotoxic activity of methanolic, ethyl acetate extracts and pure isolates of *P. eugenioides* against brine shrimps and Hep G-2 cell lines using MTT (3-(4,5-Dimethylthiazol-2-Yl)-2,5-Diphenyltetrazolium Bromide) assay. Qualitative phytochemical screening was carried out to detect the phytochemical constituents in the methanol extract as well as its Total Phenolic Content (TPC), Total Antioxidant Capacity (TAC) and Total Flavonoid Content (TFC) for the tested extracts performed. Furthermore, TFC of the plant extracts has range 32.40 to 310.15 mg RE/g dry extract and TPC of the tested extracts has range 212.59 to 840.73 mg Gallic Acid Equivalent (GAE)/g dry extract. Moreover, TAC range was 185 to 567.33 mg ascorbic acid equivalent/g dry extract. The antioxidant activity was evaluated qualitatively using DPPH(2, 2-DiPhenyl-1-Picryl Hydrazyl) method, that revealed the butanol extract record the strongest and potent free radical scavenging one among the tested extracts with SC50 value of 26.38 µg/ml. Ten compounds were isolated from the n-butanol extract of *P. eugenioides*, they were identified as; 3-O-[α - L-arabinofuranosyl-(1→3)-α-L-rhamnopyranosyl(1→2)-α-L-arabinopyranosyl] hederagenin (1), 3β-4β-15,16,22-trihydroxy lean12-ene-17oic acid (2), rutin (3), isoquercetin (4), Eudesmine (5), (2S,3S,4E,6S,7R,8R,9S,11E,13S, 14S,15R)-7,8,9,14,15-pentaacetoxy-3-(benzoyloxy)-6-hydroxyjatropha-4,11-diene (6), β-Amyrin (7), limonene (8), α pinene (9) and kanesulone A (10). Compounds 1, 2, 3 and 4 showed the promising free radical scavenging activity SC50 value of 1.28, 3.21, 5.40 and 7.09 µg/ml respectively. Also, compounds 1-10 were evaluated for their cytotoxic activity against brine shrimps (*Artemia salina L.*). In conclusion *P. eugenioides* leaves showed a potent antioxidant and cytotoxic activity that guided to be useful for developing the plant for potential therapeutic liver cancer treatments.

Biography

Manal Mortady is a Professor of Medicinal Chemistry at Theodor Bilharz Research Institute, Egypt. She had completed her PhD in Organic Chemistry at Cairo University. She is a Member of Egyptian Society of Natural Toxins. She had published 30 research papers and is an Editorial Board Member of an international journal *The Public Science Framework* and *The Journal of Harmonized Research Publications*.

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