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Metabolomic profiling, antioxidant capacity and *in vitro* anticancer activity of some Compositae plants growing in Saudi Arabia

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The present study was conducted to evaluate the metabolic profiling, antioxidant capacity and anticancer activities of some common widely grown plants of the family Compositae. The total phenolics, flavonoids, anthocyanins, saponins, total antioxidant capacity (TAC) and 2,2-diphenyl1picrylhydrazyl (DPPH) assays were determined in the selected plant extracts. *In vitro* anticancer activity was also assessed using human hepatocellular carcinoma (HepG-2) and breast adenocarcinoma (MCF-7) cell lines. The plant species revealed different metabolomic profiling. Artemisia showed the highest contents of the detected secondary metabolites compared to other plant extracts. *Pulcaria crispa* showed the highest inhibition concentration 50% (IC50) among the screened extracts against HepG-2 (8.9 µg/ml) and MCF-7 (8.14 µg/ml). The high performance liquid chromatography analysis (HPLC) of *P. crispa* extract revealed the presence of high content of three phenolic compounds, benzoic, chlorogenic acid and vanillic acid, along with two polyphenolic compounds, hesperidin and quercetrin. In summary, among the screened extracts, *P. crispa* has the most potent anti-tumor activity *in vitro* against HepG-2 and MCF-7 cell lines.

Biography

Mousa O Germoush has completed his PhD from Saudi Arabia in 2009 from King Saud University after 22 years experimental period as a Biology teacher. He is an Associate Professor in Biology Department in Aljouf University, KSA. He is very much interested in researching about anticancer drugs and liver functions. He is also a Member in associations, like ACCR, US, EACR, UK and INCTR, Belgium.

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