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SEPRATION AND IDENTIFICATION OF MANY NATURAL PRODUCTS OF IRAQI PLANT PLANTAGO LANCEOLATA AND STUDY OF ITS ANTIOXIDANT AND ANTICANCER THERAPY

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Phytochemicals are well known that plant produce these chemicals to protect themselves but recently many researchers work to isolated, separation and identification many natural products which are very important to human. The phytochemical research is an effective approach of the bioactive and therapeutic assay. Natural products chemistry and research deals with chemical compounds found in nature that usually has a pharmacological or biological activity for use in pharmaceutical drug discovery and drug design. The plant under study is *Plantago lanceolata* (PI) is grown in the Iraqi environment profusely and they are widely used in folk medicine. We carried out the extraction of chemicals of volatile oils from dried plant parts by using cleavanger apparatus, while other chemical separation have been acquired continuously by soxhlet, using different organic solvents (petroleum ether, chloroform, ethanol and also hot ethanol). We also obtained the fractions from the crude extracts by using column chromatography technique, and extracted fatty acids from the extracts of petroleum ether and it's parts of each plants after saponification process, while phenols and organic acids were obtained from the parts of the crude extracts (chloroform, ethanol, and hot ethanol) after acid hydrolysis process. The NMR spectroscopy technique was also used for identification of these isolated compounds from the obtained fractions using $^1\text{H-NMR}$ and $^{13}\text{C-NMR}$, then we obtained several pure compounds which are identified as followings; luteolin, pheophytin B, sitosterol, daucosterol, bezoic acid, coumarin, dihydrocoumarin. The experimental results of antioxidant and anticancer showed that luteolin compound has antioxidant activity of 72.68% at 8 μL concentration compared with standard sample which was 80.06% at the same concentration. On the other hand, the anticancer result of the same compound was 60% on the normal cells (PNT2a), while its activity on the cancer cells (A2780) was 80%.

Biography

Muthanna Jasim Mohammed is an Assistant Professor of Natural Products in University of Mosul, College of Education for Pure Science, Biology Department. He completed his PhD in Natural Products at University of Mosul in 2013. He worked a part of his PhD research in Strathclyde University in Glasgow, UK. He completed his MSc in Plant Sciences at University of Mosul in 2000 and BSc in Biology at University of Mosul in 1997. He have many article publications in natural products isolation and identification of compounds which used in drug. He has published more than 20 papers in reputed journals.

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