

# Ayurveda, Homeopathy and Chinese Medicine

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## Antioxidant assay (MTT) of watercress (*Nasturtium officinale*) bioactive compounds in Duhok/Kurdistan Region of Iraq

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**Statement of the Problem:** Watercress (*Nasturtium officinale*) has been long used as a home remedy by different cultures as medicinal plant. The aim of this study is to investigate the antioxidant activity of watercress.

**Methodology & Theoretical Orientation:** Hexane and methanol extracts of plant dried materials were used which have been collected from three different villages in Duhok/Kurdistan Region of Iraq. The relationship between secondary metabolites contents and antioxidants were tested by MTT assay.

**Findings:** The highest antioxidant activity was observed in aerial parts at low altitude at 459 m Zawa village. Low amount of steroids compounds of methanol extract accompanied the weakest activity of antioxidant in the plants that were collected from Kanimasea village at 1340 m altitude. The isolation and purification were done for the hexane and methanol aerial parts extracts. As a result, white crystalline powder was obtained which was conformed to physical, chemical and spectral identification by <sup>1</sup>H-NMR; the compound was identified as  $\beta$ -sitosterol.

**Conclusion & Significance:** Due to antioxidant potential of *Nasturtium officinale* extract, it might find application in the prevention of free radical related diseases.

### Biography

Hadar S Faizy is an expert in Plant Extract and Tissue Culture. Currently she is PhD student jointly supervised by Prof. Muraleedharan G Nair, PhD, CChem, FRSC, Senior associate to the Dean of CANR, Horticulture at Michigan State University. She worked in Bioactive Natural Products and Phytochemicals Laboratory in the Department of Horticulture at Michigan State University. Her project is "Evaluation of phytochemical analysis, hypoglycemic and antioxidant activities of *Nasturtium officinale* plants produced by tissue culture techniques". At the meantime, she is working as a Lecturer at the Department of Horticulture/College of Agriculture, University of Duhok, Kurdistan Region of Iraq.

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