

Chemical Characterization and Pharmacological Investigations of *Medicago orbicularis* Extract

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Abstract:

"*Medicago orbicularis* is an annual plant that grows in different regions including Palestine. So far very scarce publications on this plant are available in the medical literature. The aim of this project was to investigate the presence of the main phytochemical classes, and to screen some potential pharmacological effects. In this project the extract of *Medicago orbicularis* was found to contain proteins, carbohydrates, glycosides, flavonoids, phytosteroids, volatile oils, phenolic compounds, tannins and alkaloids. However, there was no detectable level of saponins. The extract of this plant showed a potent antioxidant activity with 80% inhibitory concentration (IC₈₀) of 8.12 µg/ml, an antibacterial activity against the Gram positive bacteria *S. aureus* and MRSA with MIC of 12.5 and 25 mg/ml respectively, and an antibacterial activity against the Gram negative bacteria *E. coli* and *P. aeruginosa* with MIC of 50 and 25 mg/ml respectively. Further studies are recommended to pinpoint some of the active ingredients that could stand behind the observed pharmacological effects."