

**Determination Antioxidant Activities of Different Solvent Extracts
From *Verbascum glomeratum* Boiss.**

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Aim of the study: The genus *Verbascum* L. with nearly 360 species, is one of the largest members of Schrophulariaceae family. This study was aimed to determine the in vitro antioxidant activities of various solvent (ethanol and acetone) extracts obtained from *Verbascum glomeratum* Boiss.

Material and Methods: The extracts were screened for their possible antioxidant activities by four complementary tests; DPPH (2,2-diphenyl-1-picrylhydrazyl) free radical-scavenging β -carotene-linoleic acid, ABTS free radical scavenging and ferric reducing antioxidant power (FRAP) assays. In addition, total phenolic contents, flavonoid contents and tannin contents in all the extracts of *V. glomeratum* were determined.

Results: *Verbascum* species contain biologically active compounds, such as flavonoids, phenylethanoid and neolignan glycosides, saponins, and iridoid and monoterpene glycosides. The results indicated that acetone fraction exhibited stronger antioxidant activities than ethanol fraction. The highest DPPH free radical scavenging activity of 90.94% in acetone extracts. The means of total antioxidant activity for acetone extract was 58.5%. The scavenging of the ABTS radical by the acetone extracts (75.27) % was found to be much higher than that of ethanol extracts. The maximum ferric reducing ability at 200 μ g/ml for acetone extract. It also showed the highest FRAP value (4.151 μ M of trolox equivalents) in acetone extract. The total phenolics in the extracts were determined colorimetrically by using the Folin-Ciocalteu reagent. The highest total phenolic content and flavonoid of the acetone extracts was found 44.18 mg/g GAE and 87.14 mgQE/g equivalent. The highest total tannin content was found in acetone extract. With regard to the results of this present study the extract of *V. glomeratum* could be an important source of phenolic compounds with antioxidant capacity.

Keywords: *Verbascum glomeratum*, antioxidant activity, free radical scavenging activity