

INVESTIGATING THE ANTIOXIDANT CAPACITIES OF *VIBURNUM OPULUS* L. FRUITS CULTIVATED IN KAYSERİ, TURKEY

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Viburnum opulus L. fruits contain high amounts of polyphenolics, including phenolic acids and anthocyanins, as well as organics acids such as ascorbic and L-malic acids. The aim of this study was to assess antioxidant and phytochemical characteristics of ten different samples of *V. opulus* L. cultivated in four regions of Kayseri, Turkey. To achieve this aim the main objectives were to evaluate total contents of phenolics and flavonoids and total antioxidant capacities measured by four different methods in 10 locally grown *V. opulus* L. samples. *V. opulus* L. samples collected from Vekse, Ağırnaz, Turan and Gesi regions of Kayseri, Turkey. Total phenolic contents (TPC) and total flavonoid contents (TFC) were evaluated by Folin-Ciocalteu and AlCl₃ coloration methods, respectively. Total antioxidant capacities were investigated by DPPH[•], ABTS^{•+}, ferric reducing antioxidant power (FRAP) and cupric reducing antioxidant capacity (CUPRAC) assays. TPC results varied in the range of 5.49-9.17 mg gallic acid equivalents/g and TFC results varied in the range of 10.10-16.12 mg catechin equivalents/g. Total antioxidant capacities investigated by DPPH[•], ABTS^{•+}, FRAP and CUPRAC methods were varied in the range of 6.52-9.45, 10.51-15.55, 5.27-8.97 and 17.97-28.81 mg trolox equivalents/g, respectively. In conclusion, *V. opulus* L. fruits are good sources of valuable biologically active substances possessing high antioxidant capacity. Assessment of antioxidant capacities by four different *in vitro* methods demonstrated that CUPRAC method gives the highest results. This study expands our knowledge about the content of valuable phytochemicals in *V. opulus* L. fruits and assists in the use of further food applications.

Keywords: *Viburnum opulus* L., phenolic, flavonoid, antioxidant capacity

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