Abstract

Focusing on the Chemical Characterization, Antioxidant and Cytotoxic Properties of Two Geophytes: *Crocus Pallasii* and *Cyclamen Cilicium* [†]

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Abstract: Species of the *Crocus* and *Cyclamen* genus have been reported to possess diverse biological properties. In the current work, the antioxidant and cytotoxic effects of the methanolic extracts of *C. pallasii* and *C. cilicium* aerial and underground parts were evaluated. The flower extracts of *C. pallasii* and *C. cilicium* possessed highest flavonoid content. Highest phenolic content was recorded from *C. cilicium* root extract (47.62 mg gallic acid equivalent/g extract). *C. cilicium* root extract showed significantly ($p < 0.05$) high radical scavenging (94.28 and 139.60 mg trolox equivalent [TE]/g extract, against DPPH and ABTS radicals, respectively) and reducing potential (173.30 and 109.53 mg TE/g extract, against CUPRAC and FRAP, respectively). Methanolic extracts of *C. pallasii* and *C. cilicium* showed toxicity against breast cancer cell lines. In the light of the above findings, *C. cilicium* might be considered as an interesting candidate in the development of anti-cancer agent, possessing antioxidant properties.

Keywords: *Crocus*; *Cyclamen*; antioxidant; cell assay; natural agents

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