



Abstract

Screening of *Onosma* Species for Cytotoxic Activity [†]

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Abstract: *Onosma* L. genus (Boraginaceae) comprises of 230 species that is represented by 102 species in the flora of Turkey with almost 50% endemism ratio (48 species), implying Anatolia as the gene center of *Onosma* species. In this study, we evaluated the petroleum ether, dichlorometane and methanol root extracts of 5 *Onosma* species (*O. mite*, *O. mollis*, *O. taurica* var. *taurica*, *O. frutescens*, and an unidentified *Onosma* member) collected from Southwestern Turkey for their cytotoxic activities. The extracts were screened versus seven human cancer cell lines, namely DU145, Capan-1, HCC-1937, MCF-7, HeLa, HEPG2, A-459 and a normal cell line, MRC-5, using MTT assay. As a result, the petroleum ether and dichlorometane extracts of *Onosma* species, rich in naphthoquinones, were more active than the methanol extracts in a dose range of 8 to 32 µg/mL. The petroleum ether and dichlorometane extracts of *O. taurica* and the unidentified species along with the petroleum ether extract of *O. mollis* showed strong cytotoxicity versus all the cell lines with IC₅₀ values lower than 8 µg/mL (the lowest test dose). Thus, *O. taurica* var. *taurica* and *O. mollis* were taken into cytotoxic activity-guided fractionation studies to isolate the bioactive compounds.

Keywords: *Onosma*; endemic; extraction; cytotoxic activity; in vitro; MTT



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