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Cytotoxic activity; a comparison between aerial parts and roots of three different *Digitalis* species

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In the Flora of Turkey, the genus *Digitalis* is represented by nine species. *Digitalis* species contain biologically active compounds such as cardenolides, phenylethanoid glycosides, flavonoids and anthraquinones. Leaves of *Digitalis* species are still the major source for the isolation of cardenolides used to treat cardiac insufficiency in humans. This study is a comparative cytotoxic activity study on the aerial parts and the roots of three different *Digitalis* species; *D. davisiana*, *D. viridiflora* and *D. grandiflora* against two different cancer cell lines. While *D. davisiana* is endemic to the south coast of Turkey, *D. viridiflora* and *D. grandiflora* are endemic species for Balkans. Cytotoxic activity was determined through the HEP-2 and Hep G2 cancer cell lines by MTT method. Methanol extracts of the aerial parts and the roots of three plants were used for cytotoxic activity tests. It was found that these three plants have different potentials for cytotoxicity. Aerial parts were found to be more active than the roots on tested cancer cell lines. As a result, the aerial parts, rich in cardenolides and phenolic compounds, have been shown to be responsible for the cytotoxic activity of tested *Digitalis* species in our study.

Biography

Vahap Murat Kutluay graduated from Faculty of Pharmacy, Hacettepe University, Turkey, in 2010. At the age of 22 he started his PhD study and still he is a PhD student at Department of Pharmacognosy, Faculty of Pharmacy, Hacettepe University. He has been continuing his studies as a researcher in Laboratory of Medicinal Resources, School of Pharmacy, Aichi Gakuin University, Japan since September, 2013. He has one oral and four poster presentations in international conferences. His PhD thesis and his study in Japan have been supported by two different grants from The Scientific and Technological Research Council of Turkey.

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