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Onosma aucheriana dc. As a novel sources of biologically important molecules

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The objectives of this study were to define the phenolic profile, antioxidant, antimicrobial and cytotoxic properties of *O. aucheriana* extracts, which has never been comprehensively examined before. HPLC-DAD assay system was used in order to define the polyphenolic profiles of obtained extracts. Among all other identified compounds, the most dominant were rosmarinic acid, galic acid and p-hydroxybenzoic acid. Antioxidant activity was determined by five different assays. All results were comparable to well-known synthetic antioxidants. Antimicrobial properties of extracts were examined using 23 selected indicator strains and for all extracts minimum inhibitory concentration were in the range between 7.81 and 62.50 µg/ml. Using three different cells: human rhabdomyosarcoma cells (RD), cell line derived from human cervix carcinoma Hep2c (HeLa) and cell line derived from murine fibroblast (L2OB), cytotoxic activity of examined extracts was determined. The IC50 values for observed extracts ranged from 25.54 to 40.34 µg/ml. Soil and extracts of O.aucheriana were analyzed for the content of micro, macro and toxic elements by inductively coupled plasma mass spectrometry (ICP-MS). Obtained results showed the presence of heavy metals within permissible limits. Furthermore, the presence of any pesticides in the soil or in plant extracts was not identified.

Biography

Pavle Maskovic is Associate Professor in Chemistry from 2012. On the Faculty of Argonomy, Čačak, University of Kragujevac. At 2015 he finished post doctorial studies at Aristotle University of Thessaloniki, Faculty of Pharmacy, Department of Pharmacognosy, Thessaloniki, Greece. He finished Ph.D. studies in Chemical Sciences, Major in Biochemistry, Faculty of Natural Sciences and Mathematics, University of Kragujevac. RESEARCH AREAS OF INTEREST: Microbiological Chemistry, Chemistry of Natural Products, Plant Biochemistry, Biochemistry of Primary and Secondary Metabolites.

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