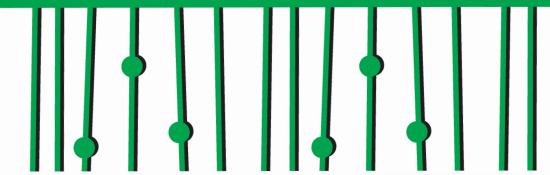


BOOK OF ABSTRACTS

THE 2ND BALKANS - CHINA MINI-SYMPOSIUM ON NATURAL PRODUCTS AND DRUG DISCOVERY











11-13 April, 2019 Belgrade, Serbia

Institute for Biological Research "Siniša Stanković", University of Belgrade, Belgrade, Serbia

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Phytochemical investigations of *Salvia transsylvanica*, *Salvia glutinosa*, and *Salvia officinalis* from Romania and their bioactivities

Andrei Mocan¹, Anca Pop¹, Ionel Fizeşan¹, Alina Diuzheva², Simone Carradori², Marcello Locatelli², Marina Soković³, Gokhan Zengin⁴, Gianina Crişan¹

In the Romanian traditional medicine sage species are used as remedies for coughs, rheumatism, inflammatory and bacterial diseases, as well as antidiabetic remedies.

In this study, an HPLC method was applied for determination of 22 phenolic compounds in extracts of *S. glutinosa*, *S. transsylvanica*, and *S. officinalis*. The enzyme inhibitory potential of the extracts was evaluated using microtiter assays, and the antimicrobial potential was tested using the microdiluation assay for eight microorganisms. These extracts were further tested on three different cancer cell lines (A549, HepG2 and MCF-7) at increasing concentrations (1.56-200 µg/mL) for 24h/48h.

The chromatographic fingerprint revealed that among investigated compounds, the dominant compounds of *Salvia* species are rutin (1357.9 - 4070.2 μ g g⁻¹) and catechin (1112.6 - 1911.1 μ g g⁻¹). Concerning the enzyme inhibitory assays, both *S. officinalis* and *S. transsylvanica* extracts exhibited an important inhibitory potential against alphaglucosidase (27.01 mmolACAE/g extract, and 25.62 mmolACAE/g extract, respectively). The most sensitive bacteria to the extracts were *Enterobacter cloacae* (MIC = 0.01 mg/mL, MBC = 0.02 mg/mL for *S. officinalis*) and Bacillus cereus (MIC = 0.09 mg/mL, MBC = 0.18 mg/mL), while *Penicillium funiculosum* was the most sensitive fungal strain to *S. officinalis extract* (MIC = 0.06 mg/mL, MFC = 0.12 mg/mL). From the three extracts, the *S. officinalis* extract exhibited the most potent cytotoxic effect. Interestingly, when testing on the estrogenic responsive cell line MCF-7, an increase in the viability was observed for intermediary doses which we hypothesize to be related to the estrogenlike compounds present in *Salvia* species.

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