

Screening of Antiviral Compounds in Medicinal Plants: Non-Volatiles

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Abstract : Antiviral effect of substances accumulated by plants and natural products is known to ethno-pharmacy and modern day medicine. Antiviral properties are usually assigned to volatile compounds and polyphenols. This research work is divided into several parts and the task of this part was to investigate potential plants, potential substances and potential preparation conditions that can be used for the preparation of antiviral agents. Sixteen different medicinal plants, their parts and two types of propolis were selected for screening. Firstly, extraction conditions of non-volatile compounds were investigated: 3 pre-selected plants were extracted with 5 different ethanol - water mixtures (96%, 75%, 60%, 40%, 20 %, vol.) and bidistilled water. Total phenolic content, total flavonoid content and radical scavenging activity was determined. The results indicated that optimal extrahent is 40%, vol. of ethanol - water mixture. Further investigations were performed with the extrahent of 40%, vol. ethanol - water mixture. All 16 of selected plants, their parts and two types of propolis were extracted using selected extrahent. Determined total phenolic content, total flavonoid content and radical scavenging activity indicated that extracts of *Origanum Vulgare* L., *Mentha piperita* L., *Geranium macrorrhizum* L., *Melissa officinalis* L. and *Desmodium canadense* L. contains highest amount of extractable phenolic compounds (7.31, 5.48, 7.88, 8.02 and 7.16 rutin equivalents (mg/ ml) respectively), flavonoid content (2.14, 2.23, 2.49, 0.79 and 1.51 rutin equivalents (mg/ml) respectively) and radical scavenging activity (11.98, 8.72, 13.47, 13.22 and 12.22 rutin equivalents (mg/ml) respectively). Composition of the extracts is analyzed using HPLC.

Keywords : antiviral effect, plants, propolis, phenols

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