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LESPEDEZA BICOLOR CULTIVATED IN UKRAINE: NEW SOURCE OF PHENOLIC COMPOUNDS

Mykhailenko O. [a,b,c] ***, Skybitska M.*** [d] ***& Georgiyants V.*** [c]

[a] UCL School of Pharmacy, London, United Kingdom;

[b] Kiel University, 24118 Kiel, Germany;

[c] National University of Pharmacy, Kharkiv, Ukraine;

[d] Botanical Garden of the Lviv National Ivan Franko University, 44-Cheremshini str., 79000, Lviv, Ukraine

o.mykhailenko@nuph.edu.ua

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Introduction. *Lespedeza bicolor* Turcz. (Fabaceae) is a perennial plant, originates from East Asia and is traditionally used in Chinese, Japanese and Korean medicine for the treatment of kidney diseases, detoxification and regulation of metabolism. Pharmacological use of the plant is due to the presence of various bioactive compounds (flavonoids, phenolic acids), which exhibit anti-inflammatory, antioxidant and cytotoxic properties [1]. In Ukraine, the cultivation of *L. bicolor* offers an important raw material base for the possible reduction of dependence on imported medicinal raw materials in the production of herbal preparations based on it (Lespenefril, etc.). Our initial studies have shown a rich phenolic composition of the aboveground part of the plant [2]. The aim of this study is to provide the first comprehensive profiling of phenolic compounds in L. bicolor grown in Ukraine

Material and methods. The above-ground part of *L. bicolor* cultivated in the Botanical Garden of Ivan Franko National University of Lviv (Ukraine) and harvested at 2021. The samples were analysed on the phenolic compounds profile using HPTLC and HPLC method.

Results and Discussion. Four phenolic compounds – chlorogenic acid, caffeic acid, rutin, and isoquercitrin – were identified and quantified. Rutin and chlorogenic acid were found to be the predominant compounds, with concentrations of 1.418 mg/g and 1.427 mg/g, respectively. The presence of phenolic compounds determines the pharmacological potential of the raw material. Identified compounds are potent antioxidants used in the treatment of metabolic disorders, including diabetes and obesity. Additionally, rutin has anti-cancer potential.

Conclusion. The results of the study showed the potential of *Lespedeza bicolor* as a source of valuable phenolic compounds. Research on biologically active substances of *Lespedecia* raw materials is being studied with the aim of developing new pharmacologically active substances.

References

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