

Characterization of *Astragalus membranaceus* L. Commercial Samples According to Their Phenolic Profile and Biological Activities

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Abstract : *Astragalus membranaceus* L. is one of the medicinal plants that is used in food and medicine. In this study, the phenolic characteristics of commercial samples of *A. membranaceus* were compared in relation to their antioxidant potential, AChE, and BChE activity with a chemometric approach. For this purpose, the HPLC method was used to identify ten major phenolic compounds. Total flavonoid content, total phenolic content, and total phenolic acid content were determined. The antioxidant activity was assessed by DPPH (2,2-Diphenyl-1-picrylhydrazyl), FRAP (ferric-reducing antioxidant power), ABTS (2,2'-Azino-bis(3-ethylbenzthiazoline-6-sulfonic acid)), and CUPRAC (cupric-reducing antioxidant capacity) methods, while the AChE and BChE inhibitory activity was determined by the Ellman's method. The results showed that the water extracts of *A. membranaceus* had more phenolic compounds and biological activities than the hydromethanolic extracts. Also, there was a correlation between phenolic composition and antioxidant activity.

Keywords : *Astragalus membranaceus* L., phenolic composition, antioxidant activity, anti-enzymatic activity

Conference Title : ICMPPNP 2024 : International Conference on Medicinal Plants, Pharmacognosy, Phytochemistry and Natural Products

Conference Location : Rome, Italy

Conference Dates : October 10-11, 2024