Chemical Profile and Biological Activities of Tragopogon latifolius var. angustifolius Boiss.

Abdulselam Ertas, a Mustafa A. Yilmaz, b Mehmet Boğa, c Meryem Seyda Kaya, d Yeter Yesil, e Mehmet Ozturk f and Ahmet C. Goren, g Hamdi Temel h

a Department of Pharmacognosy, Faculty of Pharmacy, Dicle University, 21280 Diyarbakir, Turkey
b Research and Application of Science and Technology Center (DUBTAM), Dicle University, 21280

Tragopogon L., which belongs to the family of Asteraceae and tribe Lactuceae, represented by 21 species in Turkey and 84 species in the World. 1 Tragopogon latifolius Boiss., mostly distributed in South and East Transcaucasia, was reported to exist by two varieties in Turkey that are T. latifolius Boiss. var. latifolius and T. latifolius Boiss. var. angustifolius Boiss. The second one is known as Ispınk and Yemlik 1,2 and used for wound healing and food source in Anatolia. 2 T. latifolius Boiss. var. angustifolius Boiss can be consumed either raw or cooked. 2 To the best of our knowledge, there is not any report about the chemical properties and biological activities of T. latifolius var. angustifolius in the literature. In the present study, the fatty acid compositions of T. latifolius var. angustifolius petroleum ether extract was examined by using GC/MS analyses, and in the next step related antioxidant, anticholinesterase, and antimicrobial activities; total phenolic and flavonoid content was studied. In addition to that, phenolic and flavonoid contents of T. latifolius var. angustifolius methanol extract was also determined using UHPLC ESI MS/MS for quantitative and qualitative purposes.

This report represents the first study on chemical compositions and biological activities of T. latifolius var. angustifolius. In studied eleven phenolic compounds, chlorogenic (2919.994 µg/g extract) was found to be the most abundant phenolic compound in T. latifolius var. angustifolius. The major component of the fatty acid composition that was obtained from petroleum ether extract of T. latifolius var. angustifolius was identified as palmitic acid (C16:0) (28.7%). The T. latifolius var. angustifolius methanol extract possesses moderate activity (inhibition zone <20-12) against C. albicans (14 mm inhibition zone diameter and 110 µg mL⁻¹ MIC value). Among all four extract, methanol extract was found as the most active compound in four antioxidant methods. Moreover all extracts showed weak Anticholinesterase activity.

Kaynaklar: