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Biological Activities of Gentiana brachyphylla Vill. Herba from Turkey

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Abstract : Gentiana, a member of Gentianaceae, is represented by approximately 400 species in the world and 12 species in Turkey. Flavonoids, iridoids, triterpenoids and also xanthones are the major compounds of this genus, have been previously reported to have antiinflammatory, antimicrobial, antioxidant, hepatoprotective, hypotensive, hypoglycaemic, DNA repair and immunomodulatory properties. The methanolic extract of the aerial parts of Gentiana brachyphylla Vill. from Turkey was evaluated for its biological activities and its total phenolic content in the present study. According to the antioxidant activity results, G. brachyphylla methanolic extract showed very strong anti-DNA damage antioxidant activity with an inhibition of 81.82%. It showed weak ferric-reducing power with a EC50 value of 0.65 when compared to BHT (EC50 = 0.2). Also, at 0.5 mg/ml concentration, the methanolic extract inhibited ABTS radical cation activity with an inhibition of 20.13% when compared to Trolox (79.01%). Chelating ability of G. brachyphylla was 44.71% whereas EDTA showed 78.87% chelating activity at 0.2 mg/ml. Also G. brachyphylla showed weak 27.21% AChE, 20.23% BChE, strong 67.86% MAO-A and moderate 50.06% MAO-B, weak 19.14% COX-1, 29.11% COX-2 inhibitory activities at 0.25 mg/ml. The total phenolic content of G. brachyphylla was 156.23 ± 2.73 mg gallic acid equivalent/100 g extract.

Keywords : antioxidant activity, cholinesterase inhibitory activity, Gentiana brachyphylla Vill., total phenolic content
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