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Antioxidant and anti-Alzheimer activities and total phenolic-flavonoid contents of 4 different Achillea species

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A chillea L. (Asteraceae) is a widely distributed medicinal plant in the world and represented by 140 species in the world. Achillea L. species are commonly used in Turkish Traditional Medicine for the treatment of wounds, bleedings, headache, inflammation, pains, spasmodic diseases, flatulence and dyspepsia and hemorrhoids for years. In this study, methanol extracts of underground and overground parts of 4 different Achillea species (A. monocephala, A. nobilis, A. goniocephala and A. sintenisii) were investigated in terms of their antioxidant activities by using DPPH free radical scavenging assay, ABTS radical cation decolorization assay, β -carotene lipit peroxidation test system and CUPRAC copper reduction capacity methods. For DPPH A. nobilis-underground (IC50: 12.23±0.24), for ABTS A. monocephala-underground (<10) and A. nobilis-underground (IC50: 12.23±0.24), for ABTS A. monocephala-underground (<10) and A. nobilis-underground (3.675±0.130) extracts were the most active extracts for the studied methods. And for β - carotene lipid peroxidation test system all of the studied species were low or moderately active. Moreover, total phenolic content (A. nobilis-underground (282.97±3.14 µg pyrocatechol equivalent/mg extract)) and total flavonoid content (A. nobilis-overground (24.77±0.71 µg quercetin eqivalent/mg extract)) of the studied species were investigated. According to the anticholinesterase activity results the highest activity in both butyrylcholinesterase and acetylcholinesterase enzyme inhibition was shown by overground extract of A. monocephala (39.73±1.51 and 19.60±0.44 respectively).

Biography

Hamdi Temel is working as a full Professor since 2008 at Dicle University, Diyarbakir, Turkey. He is dean of the Faculty of Pharmacy in Dicle University. His research areas are synthesis and characterization of biologically active compounds, antioxidant studies..etc. He has published more than 90 papers in reputed journals.

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