عنوان مقاله:

Evaluation of antioxidant activity of methanol extracts from different organs of Ajuga chamaecistus subsp. Scoparia

محل انتشار:

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خلاصه مقاله:

This study was designed to examine in vitro antioxidant activity of methanol extracts from, flower tops, leaves, stems and roots of Ajuga chamaecistus subsp. scoparia. The samples were subjected to a screening for their possible antioxidant activities using 2, 2-diphenyl-1-picrylhydrazyl (DPPH) scavenging assay, β-carotene-linoleic acid assay, H2O2 scavenging assay and Ferric reducing antioxidant power (FRAP) assay. In the first case, the IC50 value of the A. chamaecistus subsp. Scoparia methanol extracts were determined to be 795.21 ± 1.52 µg/ml toward flower tops, 635.16 ± 0.77 µg/ml for leaves, 214.35 ± 1.47 µg/ml for stems and 148.67 ± 0.76 µg/ml toward roots. In the β-carotene-linoleic acid system, the plant exhibited 72.21% ± 0.21, 72.83% ± 0.96, 77.15% ± 1.52 and 79.47% ± 0.99 inhibitions against linoleic acid oxidation, respectively. In the H2O2 experiment, the IC50 values were measured as 150.14 ± 1.06 µg/ml, 148.04 ± 0.22 µg/ml, 144.33 ± 0.39 µg/ml and 101.98 ± 0.60 µg/ml, respectively. Finally, FRAP experiment demonstrated EC50 values in the range of 282.00 ± 2.00 µg/ml (roots) to 719.33 ± 0.58 µg/ml (flower tops) for the plant. Ascorbic acid and synthetic standard antioxidant BHT were used as reference compounds in these tests. Total phenolic content of the plant extracts as gallic acid equivalents were 23.16 ± 1.46 µg/mg, 17.28 ± 0.12 µg/mg, 21.38 ± 1.98 µg/mg and 34.72 ± 0.77 µg/mg, for flower tops, leaves, stems and roots, respectively. The results showed a positive correlation between total phenolic content and antioxidant activity of the plant methanol extracts.

کلمات کلیدی:

Ajuga chamaecistus subsp. scoparia, Antioxidant activity, 2, 2-Diphenyl-1-picrylhydrazyl hydrate, linoleic acid/β-carotene, H2O2 scavenging, FRAP, Total phenolic