Abstract: The genus Nepeta (Lamiaceae) comprises 280 species that are distributed over a large part of Europe, and Asia and is represented in Turkey by 33 species. Nepeta species are widely used in folk medicine because of their diuretic, antiseptic and antiasthmatic activities.

In this study, our purpose is to investigate and compare the in vitro antioxidant activities of methanol extracts of Nepeta italic, Nepeta ciliaria and Nepeta ceasera. The antioxidant capacities of 3 different species collected from different locations and extracted with methanol were assayed by 1,1-diphenyl-2-picrylhydrazyl (DPPH) radical-scavenging activity and cupric reducing antioxidant capacity (CUPRAC) assay.

The total phenolic contents of Nepeta italic, Nepeta ciliaria, Nepeta ceasera extracts measured by Folin-Ciocalteu method were 24.8, 21.4 and 17.3 µg/mg (extract) as gallic acid equivalent whereas the antioxidant activities found by CUPRAC expressed as trolox equivalent antioxidant capacity and DPPH assay expressed as IC₅₀: 114.5, 90.4, 80.4 µmol/g and 25.5 µg/ml, 33.4 µg/ml, 39.1 µg/ml, respectively.

It was found that all extracts have radical scavenging activities and extract of N. italic has higher radical-scavenging activity and cupric reducing capacity than others. The present results show that the extracts exhibit antioxidant properties.

Keywords: Nepeta species, Antioxidant activity, DPPH, Folin-Ciocalteu, Cuprac