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Antioxidant and Mutagenic Activities of *Mentha longifolia* Hudson Subsp. *longifolia* Ethanol Extract

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Aim of the study: Many natural antioxidant compounds from plants show great potential to preserve the oxidative stability of food products or treatment of many human diseases, but there is a little information about their potential risk to human health. Therefore, understanding the health benefits and/or potential toxicity of these plants is important. This study evaluates the antioxidant and mutagenic effects of *Mentha longifolia* subsp. *longifolia* ethanol extract that are consumed as spices.

Material and Methods: The leaves of *M. longifolia* subsp. *longifolia* were collected by local residents in Adana province of Turkey in August 2012 and the ethanol extract was obtained with soxhlet apparatus. The anti-oxidant activity of extract was investigated by its scavenging effect on 1,1-diphenyl-2-picrylhydrazyl (DPPH) radical and inhibition of β-carotene-linoleic acid bleaching assay. The total phenolic content was determined by the Folin–Ciocalteu colorimetric method and the mutagenic activity was evaluated by using *Ames Salmonella*/*microsome* test system.

Results: The IC_{50}values of DPPH radical scavenging of the extract and BHT were 0.25±0.11 mg/ml and 0.184±0.01 mg/ml, respectively. The results of β-carotene bleaching tests found the IC_{50} values of the extract and BHT to be 0.38±0.8 mg/ml and 0.05±0.012 mg/ml, respectively. The total phenolic content of the extract was evaluated spectrophotometrically and calculated in gallic acid equivalents (GAE) as 95.05± 0.63 mg/ml. In addition, the results showed that the ethanol extract of *M. longifolia* subsp. *longifolia* can be considered genotoxically safe because they do not have mutagenic activity at the tested concentrations.

Keywords: *Mentha longifolia* subsp. *longifolia*, antioxidant, mutagenicity