

Bioactive compounds and antioxidant activity of different extracts from *Vitex negundo* leaf

ABSTRACT

The study was conducted to assess the antioxidant activity of methanol and hexane extract and essential oil from *Vitex negundo* leaf using different in vitro antioxidant assays. Antioxidant property was tested using 2,2-diphenyl-1-picrylhydrazyl (DPPH) free radical scavenging capacity, ferric ion reducing antioxidant power (FRAP) and α -carotene-linoleic acid assays. Total phenolic contents (TPC) were measured using Folin-Ciocalteu method. Flavonoids, tocopherols, α -carotene and lycopene were analyzed using high performance liquid chromatography (HPLC). Results of the present study showed that methanol extract of *V. negundo* leaf exhibited significantly ($p < 0.05$) higher antioxidant activity in terms of measurements of DPPH free radical (IC₅₀), FRAP and α -carotene-linoleic assays than those of hexane extract and essential oil. Methanol extract of *V. negundo* leaf also contained high amounts of bioactive compounds including total phenolic compounds (363 mg GAE/g), epicatechin (16.98 mg/g), quercetin (13.45 mg/g), catechin (8.95 mg/g) and myricetin (3.32 mg/g) while the concentrations of tocopherol, α -carotene and lycopene were found to be lower.

Keyword: *Vitex negundo* leaf; Antioxidant activity; Bioactive compounds; Methanol extract; Essential oil