

In vitro antioxidant activity, phytochemical screening and total phenolic and flavonoid content from the leaves extracts of *Stachys germanica subs*

cordigera briq

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Abstract

This study is planned to perform phytochemical screening, evaluate antioxidant activity and assess total phenolics and flavonoids content of methanolic and ethyl acetate extracts from the leaves of *Stachys germanica subs cordigera briq*. The dried powdered leaves of *Stachys germanica subs cordigera briq* (80 g) were extracted exhaustively by Soxhlet apparatus with increasing polarity of solvents (hexane, ethyl acetate and methanol). The total phenolic and flavonoid contents in the methanolic and ethyl acetate extracts were determined by using the Folin-Ciocalteu reagent and aluminum chloride method, respectively. The antioxidant activities were examined by three different methods, namely 2,2-diphenyl-1-picrylhydrazyl (DPPH) free radical scavenging activity, reducing power scavenging activity (FRAP) and total antioxidant capacity. Phytochemical analysis of all extracts showed the presence of major classes of phytochemicals such as, flavonoids, tannins and polyphenols. Total phenolic and flavonoid contents results are showed in a large dominance in ethyl acetate extract. In vitro antioxidant activities of both extracts (ethyl acetate and methanol) were significant and ethyl acetate extract showed a higher potency than reference antioxidant Butylated Hydroxy Toluene (BHT) in total antioxidant capacity essay. It can be concluded that the crude extracts from the leaves of *Stachys germanica subs cordigera briq*. are a potential source of natural antioxidants which can be used in preventing the progression of many diseases.

Keywords: *Stachys germanica subsp cordigera briq*, phytochemical screening, total phenolics and flavonoids content, antioxidant activity.