

Abstract

Antioxidants are combinations that protect the body against damage caused by free radical activity. Phenolic compounds are plant secondary metabolites that have a high antioxidant power. Natural phenolic compounds play an important role in cancer prevention and treatment. In the present study the effect of different solvents (methanol, acetone, ethyl- acetate, hexane and chloroform) on the content of total phenolics and flavonoids and antioxidant activities of three organs (leaf, root and fruit) of *Momordica charantia* Linn. were investigated. Phenolic and flavonoid contents were measured by Folin–Ciocalteu and Aluminum chloride methods, respectively. In addition, the antioxidant activity was studied by several in vitro systems of assay, like DPPH radical-scavenging activity, ferric reducing/antioxidant power (FRAP) assay and Hydrogen peroxide scavenging activity. In all the methods, the methanolic extract showed higher antioxidant potential than Other extracts. These results indicated that solvents with different polarity had significant effects on of total phenol and flavonoid contents and antioxidant activities. High correlation between phenolic compositions and antioxidant activities of *M. charantia* extracts was observed. Overall, methanol was the most effective solvent for extraction of of phenolic compounds and flavonoids. *M. charantia*, particularly the fruit, can be a useful source of natural antioxidants.

Key words: Antioxidant, Phenolic compounds, Solvent, *Momordica charantia*.



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**The effect of different solvents on total phenolic and flavonoid
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