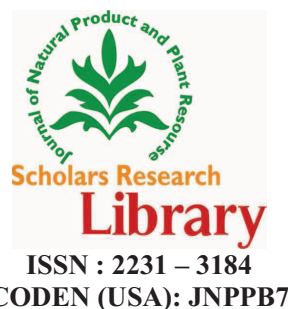




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*J. Nat. Prod. Plant Resour.*, 2012, 2 (1):175-181  
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# Antioxidant activity and phenolic content in methanol crude extracts from three Lamiaceae grown in southwestern Algeria

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## ABSTRACT

The present study estimated *in vitro* antioxidant activities of methanolic extracts of some Algerian medicinal plants (*Saccocalyx satureioides*, *Teucrium polium* and *Salvia verbenaca*) (Lamiaceae) using Folin–Ciocalteu, ferric-reducing/antioxidant power (FRAP) and 2,2-diphenyl-1-picrylhydrazyl (DPPH) radical-scavenging assays. The results showed that methanolic extract of *Teucrium polium* with a total content of polyphenols (3.81 GAE/g) and an  $IC_{50}$  of 5.70  $\mu\text{g/mL}$  was more antioxidant. In power reduction, the antioxidant activity of *T. polium* and *S. satureioides* extract's, at all the concentrations were average compared to controls used (BHA, BHT).

**Keywords:** Algerian medicinal plants; Total phenolic content; Flavonoids; FRAP; DPPH.

## INTRODUCTION

Active oxygen and free radicals exist in human body in the form of superoxide anion ( $\text{O}_2^{\cdot-}$ ) hydrogen peroxide ( $\text{H}_2\text{O}_2$ ) and hydroxyl radical ( $\cdot\text{OH}$ ) and so on. As normal metabolic action going on in human body, active oxygen and free radicals are constantly formed. If they reach high levels, oxidative stress in human body would be created, which leads to a variety of biochemical and physiological lesions and often results in metabolic impairment and cell death [1]. Also, lipid oxidation by radicals results in food deterioration, especially in high fat foods [2].

The interest in antioxidants has been increasing because of their high capacity in scavenging free radicals related to various diseases [3]. Synthetic antioxidants such as butylated hydroxyanisole (BHA) and butylated hydroxytoluene (BHT) and so on are used as antioxidants, but they have been suspected of possessing certain toxicity and being responsible for liver damage and carcinogenesis [4, 5, 6].

Therefore, the development and isolation of natural antioxidants from natural plant has become the focus of the research of antioxidant, and many studies have suggested that