

Antioxidant and Antimicrobial Properties of Twenty Medicinal Plants

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Abstract : The aim of this study is to evaluate the antioxidant and antimicrobial activity of hydromethanolic extract of selected Algerian medicinal flora. The antioxidant activity of extract was evaluated in terms of radical scavenging potential (DPPH) and β -carotene bleaching assay. Total phenolic contents and flavonoid contents were also measured. Antimicrobial activity of these plants was tested against five microorganisms *Pseudomonas aeruginosa*, *Bacillus subtilis*, *Escherichia coli*, *Staphylococcus aureus*, and *Candida albicans*. The results showed that *Pistacia lentiscus* showed the highest antioxidant capacities using DPPH assay ($IC_{50} = 4.60 \mu g/ml$), while *Populus trimula* had the highest antioxidant activity in β -carotene/linoleic acid assay. The most interesting antimicrobial activity was obtained from *Sysimbrium officinalis*, *Rhamnus alaternus*, *Origanum glandulosum*, *Cupressus sempervirens*, *Pinus halipensis* and *Centaurea calcitrapa*. The results indicate that the plants tested may be potential sources for isolation of natural antioxidant and antimicrobial compounds.

Keywords : Algerian medicinal plants, antimicrobial activity, antioxidant activity, disc diffusion method

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