

Total phenolic contents and antioxidant properties of some selected seaweeds from seacoast of mandapam, Tamilnadu

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From National Conference on Natural Products as therapeutics, Medical Microbiology, Nanobiology and System biology: Current Scenario & Emerging Trends, 'NATCON-2014'.

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18-19 September 2014.

American J of Bio-pharm Biochem and Life Sci 2014 September, Vol. 4 (Suppl 1): P 14

ABSTRACT

Many types of macroalgae contain a wide range of novel and biologically active compounds that have antioxidant potential. It is a great challenge to bring the marine chemical diversity to its therapeutic potential. Moreover, in contrast to terrestrial plants, only a few studies have reported the antioxidant activity of seaweeds. Therefore, in the present study, five marine seaweeds from the coastal area of Tamilnadu were selected and their extracts were prepared with ethanol, ethyl acetate and hexane. The total phenolic contents through Folin–Ciocalteu method, total antioxidants using phosphomolybdenum method and antioxidant activity using the 2, 2-diphenyl-2-picrylhydrazyl hydrate (DPPH) method and lipid peroxidation assay were evaluated. From the result obtained, it was seen that the total phenolic content was found to be comparatively higher in ethanolic extract of *Gracilaria sp.* and *turbinaria conoides* when compared to *Sargassum sp.*, *Kappaphycus alvarezii* and *Gracilaria corticata*. The maximum antioxidant activity was exhibited by the ethanol extract of *Turbinaria conoides*, followed by *Gracilaria sp.* and other three seaweeds. The radical scavenging effects were found to be more significant in ethanol extract of *Turbinaria conoides* followed by *Gracilaria sp.* at varying concentrations. The present study suggests that seaweeds may be considered as one of the potent antioxidant that can fight against oxidative stress.