

Evaluation of phytochemical constituents and antioxidative properties of herbal plant a. monophylla.

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**ABSTRACT**

The work was carried out to evaluate the phytochemical constituents and Antioxidative properties of herbal plant A. Monophylla. A number of in vitro and in vivo assays have been developed to measure the antioxidant activity of plant extracts.

In this area, the assessment of the effectiveness of potential antioxidants, using vegetable oils and fats as oxidation substrates has been the focus of intense research.

Direct extraction with hexane, ethyl acetate and methanol following the method of Eloff, 1998 was used as an extraction method for the purpose of preliminary screening of the A.monophylla. The extract of A.monophylla plant was subjected to Phytochemical screening by various tests like detection of alkaloids, saponins, glycosides, phenolic compounds etc. Also the crude extract of A.monophylla was subjected to preliminary screening by TLC and Bioautography was also done. The RSA activity of different extracts was determined using DPPH assay according to Nenadis and Tsimidou (2002), with small modification. Following this, TBA & FTC methods were performed for the assessment on decrease in lipid peroxidation by the free radical scavenging activity of A.monophylla plant.

The phytochemical analysis showed the presence of major compounds like Phenols, Carbohydrates and glycosides and also minor compounds like proteins. In the Bioautography, it was observed that the whole extract had the free radical scavenging activity and thus a broad spectrum was obtained at the Rf of 0.57. The best results of radical scavenging activity were obtained with a maximum of 75% for ethyl acetate sample which was nearly equal to the radical scavenging activity of the standard  $\alpha$ -tocopherol (84%). In the analysis of metal chelating activity it has been reported that A.monophylla has the ability for iron binding and could reduce the generation of hydroxyl radicals.

The preliminary phytochemical screening of A.monophylla has revealed the presence of phenolics, carbohydrates and glycosides in high amounts, whereas, proteins was present in trace amount. Thus the

antioxidant activity may be because of the above phytochemicals present in the extract. Possible applications of the selected target plant extract as food supplement for human health care are also under evaluation. However, further analysis on various compounds and their mechanism of action must be studied extensively to bring out these essential plant components in food industries.

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