

HEB

Evaluation of Hydroxyl Radical Scavenging Potential of Ethanolic Extract of *Spilanthes acmella*

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Tanuj Joshi¹, Vijay Juyal²

¹*Teaching Personnel, Department of Pharmaceutical Sciences, Bhimtal (Kumaun University), Uttarakhand.

² Professor, Department of Pharmaceutical Sciences, Bhimtal (Kumaun University), Uttarakhand.

Email Id: tanujjoshi34@yahoo.co.in

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CONFLICT OF INTEREST

There is no conflict of interest among the authors.

ABSTRACT

There is a very important role of free radicals in metabolism, life and death of cells. Free radicals are those species which have unpaired electrons in their outermost shells and may become highly reactive. Free radicals are now known to be involved in the pathophysiology of a number of diseases. There is a balance between oxidants and antioxidants in the body which is necessary to maintain a normal healthy condition of the body. Disturbance in this balance can lead to a number of complications and pathological conditions. If there is excess of oxidant production then it can lead to a variety of pathological conditions like ageing, diseases of the reproductive system, Alzheimer's disease, Parkinson's disease, cardiovascular diseases, joint disorders etc. The increase in oxidant production can be counteracted by antioxidant mechanisms of the body but if the load of oxidants become too much then antioxidants have to be supplied by external sources. Plants, spices and herbs have been known to possess significant antioxidant properties. Thus, finding newer sources of antioxidants can help in the elimination of a variety of diseases. The purpose of the present study is to evaluate the antioxidant potential of *Spilanthes acmella* by hydroxyl radical scavenging method. In the present study ethanolic extract of *Spilanthes acmella* was evaluated for its ability to scavenge hydroxyl radicals at various concentrations (0.0001 µg/ml, 0.001µg/ml, 0.01µg/ml, 0.1µg/ml, 1µg/ml, 10 µg/ml and 50 µg/ml). It was found that the extract of *Spilanthes acmella* demonstrated almost comparable percentage scavenging or inhibition at 0.1µg/ml (28.77%) and 1 µg/ml (32.59%), when compared with the standard drug ascorbic acid, which produced 28.59% and 32.84% inhibition at 0.1 µg/ml and 1 µg/ml respectively. Thus the extract of *Spilanthes acmella* demonstrated reasonable antioxidant activity in the present study. Newer drugs developed from *Spilanthes acmella* can

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be explored for the treatment of diseases involving excess oxidant production.