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Antioxidant and antimicrobial property of mango (*Mangifera indica* l.) ripe peel

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Abstract

The use of and search for drugs and dietary supplements derived from plants have accelerated in recent years. Ethnopharmacologists, botanists, microbiologists, and natural-products chemists are combing the Earth for phytochemicals and "leads" which could be developed for treatment of diseases. This study was designed to evaluate both the antioxidant/free-radical scavenging activities and antimicrobial activity of Mango (*Mangifera indica* L.) ripe peel. The extraction was done by individual cold percolation method using various solvents (like Petroleum ether, acetone, methanol and water) of increasing polarity. The antioxidant activity was evaluated using six antioxidant assays like 2, 2-diphenyl-1-picryl hydrazyl free radical scavenging assay, hydroxyl radical scavenging assay, superoxide anion radical scavenging assay, ABTS cation radical scavenging assay, ferric-reducing antioxidant power and reducing capacity assessment. Total phenol and flavonoid content was also measured. Antimicrobial activity was done by agar well diffusion method against 25 microorganisms. The MIC and MBC was also measured against selected bacteria. Acetone extract showed best antimicrobial and antioxidant activity and can serve as a potential source of antioxidants and antimicrobics for use in the preparation of dietary supplements or nutraceuticals, food ingredients, pharmaceutical, and cosmetic products. The results indicate that this peel possesses nutraceutical potential for the treatment of malnutrition.

Biography

Kalpna Rakholiya has done M.Sc. and M.Phil in 2008 and 2009 respectively in Microbiology from Saurashtra University, Rajkot, India. She has also submitted her Ph.D. thesis at March 2013 in Microbiology in the age of 26 years under the guidance of Dr. Sumitra Chanda, Professor, Department of Biosciences, Saurashtra University, Rajkot, India. Currently, she is working as a SRF at Dry Land Farming Research Center, Targhadia, Junagadh Agricultural University, Rajkot, India. She has published 8 research papers in different International Journals of repute and has contributed 2 Books and 5 Book chapters. Besides, she has good number of poster and oral presentations in National and International conferences to her credit and got prizes for best presentation.