OMICS Group Conferences
Accelerating Scientific Discovery

3rd World Congress on
Biotechnology

September 13-15, 2012 Hyderabad International Convention Centre, Hyderabad, India

Antioxidant, anticancer and antimicrobial activities of Vitex negund , Tinospora cordifolia and Acacia nilotica

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The aim of present study was to evaluate phytochemicals, antibacterial and antioxidant activity of different solvent extracts of leaves of Vitex negundo , Tinospora cordifolia and Acacia nilotica. Qualitative estimation was done to detect presence of alkaloids, proteins, tannins, steroids and triterpenoids, reducing sugars. Total phenolics and total flavonoids content was quantitatively estimated by Folin- Ciocalteau method and aluminum chloride colorimetric method respectively. Ethanolic extract of Acacia nilotica bark was found to contain highest amount of phenolics(307.54±2.67 mg GAE/ gm).Total antioxidant activity of different extracts was evaluated by phosphosmolybdenum method and was highest in Ethanolic extract of Acacia nilotica bark (416.60±8.28 mg AAE/ gm).Free radical activity of different extracts was determined by using DPPH (1,1-Diphenyl-2-picryl hydrazyl) method. Highest free radical scavenging activity was exhibited by Vitex negundo methanolic extract at concentration 1000ug/ml and was 71.9 ± 0.18 %. All theextracts were tested for their antibacterial activity against Bacillus cereus, Escherichia .coli, Staphylococcus aureus, and Klebsiella sp. Almost all the extracts were found to contain antibacterial activity. Methanolic extract of the plants showed inhibition against Staphylococcus aureus. Dose independent growth inhibitory activity of different solvent extracts of Aegle marmelos, Vitex negundo and Tinospora cordifolia, were tested on THP-1 leukemia cell line by using MTT assay. Methanolic extract of Vitex negundo was found to inhibit maximum anticancer activity.

Biography

Rebecca Thombre is Assistant Professor in Biotechnology at Modern College, Shivajinagar affiliated to University of Pune. She has pursued her Doctoral work on "Studies on Cyclodextrin glycosyl transferase by alkaliphilic bacteria" at Agharkar Research Institute, Pune. She was Gold medallist in M.Sc Microbiology at Mumbai University and received the Dr. Dhala Award and Eureka Forbes Scholarship for the same. She was awarded the First prize for highest marks in all faculties at the Graduate examinations conducted by University of Mumbai. Recently awarded the "BEST ORAL PAPER" award for work on Cyclodextrin glycosyl transferases in two National and International Conferences. She has a teaching experience of 9 years in reputed colleges of Mumbai and Pune University namely, Mithibai College, Juhu, Mumbai; VES College, Mumbai; Fergusson College, Pune and Modern College, Pune. Research Interest in Cyclodextrin glycosyl transferases, Nanotechnology and plant based anticancer compounds.

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