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APPC -Antibacterial Potential of *Prosopis cineraria* (Linn.) Druce

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Antibiotic resistance in various pathogens has exhibited an imperative need for development of novel therapeutic agents from natural resources. Since antiquity, plants have been used to treat common infectious diseases. In this regard, the antibacterial activity of medicinal plant *Prosopis cineraria* was investigated against *Salmonella enterica* ser. Typhi (MTCC-733) and *Escherichia coli* (MTCC-433). Five different plant extracts (petroleum ether, chloroform, acetone, methanol and water) were prepared from leaves by using Soxhlet extraction method and examined using Resazurin based Microbroth Dilution Assay (RMDA) and Disk Diffusion Assay (DDA). According to results of RMDA, acetone extract showed highest activity against S. enterica and *E. coli* i.e., 0.195 mg/ml and 0.390 mg/ml respectively. In DDA, acetone extract exhibited significant zone of inhibition against *S. enterica* and *E. coli* at a concentration of 75.0 µg per disc and 125.0 µg per disc respectively. Whereas, petroleum ether, chloroform, methanol and water extracts showed mild activity. Phytochemical analysis of various plant extracts revealed the presence of many secondary metabolite including tannins, steroids, flavonoids, alkaloids, glycosides, terpenoids, etc. The spectrum of activity provides possible source to obtain new and effective herbal medicines to treat infections caused by *S. enterica* and *E. coli*.

Biography

Savita Khatri has completed her Graduation from Government College for Women, India and Post-graduation in Biotechnology from Centre for Biotechnology, Maharshi Dayanand University, India. She is currently pursuing her PhD from Centre for Biotechnology, Maharshi Dayanand University, India.

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Exopolysaccharide production, related gene *alr2882* expression and chemical characterization using FTIR in *Anabaena* sp. PCC 7120 under different $CaCl_2$ regimes

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Cyanobacterial EPS offer much advantage over EPS from other microbial origin. These polysaccharides protect microbial cells from dessication, penetration of toxic metals, antibiotic, phagocytosis, phage attack, salinity and many more stresses. In lieu of this, EPS isolation, production and its chemical characterization using FTIR along with expression analysis of *alr2882* encoding gene product *Exo*D through RT-PCR under different calcium chloride regimes have been investigated. SEM of cyanobacterial suggested that amount of EPS synthesis depends on the concentration of calcium ions in the immediate environment. EPS production was maximum at 10 mM $CaCl_2$ concentration, so was the expression of *alr2882*. FTIR analysis showed shift in the major band suggesting clearly that calcium levels in the external environment lead to change in the structure of EPS produced by the *Anabaena* sp. PCC 7120. Thus, the present findings may have fair possibilities of EPS with novel features that may offer biotechnological/industrial applications.

Biography

Savita Singh, a PhD student from Department of Botany, Banaras Hindu University specializes in the field of Stress Biology of Cyanobacteria.

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