

Biogenic Synthesis, Characterization, Antibacterial Activity of Silver Nanocolloids Synthesized from Endophytic Fungus and its Host Plant †

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Abstract: Biogenic synthesis of AgNcs was done from the endophytic fungi cell filtrate isolated from a medicinal plantnanocolloidal synthesis from the same medicinal plant’s aqueous extract. The fungal cell filtrate consists of different phytochemical compounds such as Saponins, Steroids, Tannins, and proteins which acts as reducing agent and regenerate metal ions to metal nanocolloids. The synthesized green silver nanocolloids (AgNcs) from fungal cell filtrate and medicinal plant were characterized using UV-vis spectroscopy, FTIR Spectrum, Zeta Potential, and Particle Size Analyzer (PSA). Both green Ncs at a concentration of 1mg/ml were checked for their antibacterial activity. MIC, MBC, and Biofilm Assay results revealed that both the silver nanocolloids could inhibit the biofilm formation in both the strains of *E.coli*. Green nanocolloids were also found to inhibit the Amp C gene expression as compared to the untreated bacterial strains (control). Both the silver nanocolloids were found to be very efficient growth inhibitors for both strains of *E.coli*. Both the silver nanoparticles

Keywords: endophytic fungi; medicinal plant; antibacterial; biofilm.

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Conflicts of Interest

The authors declare no conflict of interest.