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**Green synthesis of mono dispersed silver nanoparticles and its applications****Afreen Banu**

Lincoln University College, Malaysia

**Introduction:** This topic focuses on the production of silver nanoparticles and its antimicrobial activity. Research in nanotechnology highlights the possibility of green chemistry pathways to produce technologically important nanomaterial.

**Methodology:** Synthesis and characterization of newly synthesized nanoparticles was made by UV-visible absorption spectroscopy, scanning electron microscope (SEM), transmission electron microscope (TEM), Fourier transform infrared (FTIR) spectroscopy and atomic force microscope (AFM). The extracellular synthesis of nanoparticles and its efficacy against multidrug resistant (MDR) strains isolated from burnt cases from hospitals at Gulbarga region, Karnataka, India is reported here. Two MDR strains of *Pseudomonas aeruginosa* (P1 and P2) from burnt patients were selected for the antibacterial study with nanoparticles. The anticancer activity of the synthesized compound was carried out on two cancer cell lines namely HT-29 (colon cancer) and EAC cell lines which were obtained from National Center for Cell Science (NCCS), Pune, India.

**Results & Discussion:** The biosynthesized silver nanoparticles (AgNPs) showed excellent antibacterial activity against ESBL-strains. The silver nanoparticles (AgNPs) from *Rhizopus stolonifer* showed excellent anti-cancer activity against HT-29 (colon cancer) and EAC cancer cell lines. The Nanosilver also showed potent activity against pathogenic fungi and an excellent anti-cancer activity against HT-29 (colon cancer) and EAC cancer cell lines.

**Conclusion:** The development of nanosilver and their use in wide array of applications such as antibacterial, antifungal, anti-cancer, on living organisms has recently attracted the attention of researchers towards nanobiotechnology.

drafreenbanu@gmail.com

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