Gudikandula Krishna et al., Madridge J Nanotechnol Nanosci. 2018
http://dx.doi.org/10.18689/2638-2075.a3.004

3rd International
Nanotechnology Conference & Expo
May 7-9, 2018 Rome, Italy

Immobilization of Silver Nanoparticles Synthesized using White Rot Fungi on Cotton Cloth for Bactericidal Activity

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Silver nanoparticles (AgNPs) were synthesized using two white rot fungi; the extract was acted as a reducing and stabilizing agent. The formation of AgNPs was observed by UV- Vis spectroscopy and surface plasmon resonance (SPR) occurred at 420 nm. The SEM analysis revealed that fixing of synthesised nanosilver in treated fabrics. Furthermore, the biologically synthesized AgNPs were immobilized on cotton fabrics and screened for antibacterial activity. The immobilized AgNPs on cotton cloth showed high antibacterial activity against *S. aureus, M. leutes, K. pneumoniae and P. aeruginosa* species. Therefore, they could be a viable alternative source in treating wounds or may help in replacing pharmaceutical band-aids.

Keywords: Bioreduction, silver nanoparticles, cotton fabric, Agar well diffusion, Antibacterial activity

Biography:

Dr. Gudikandula Krishna did Ph.D in Nanotechnology from microbiology background. He has published more than 20 research articles in reputed journals.