

Biological synthesis of silver nanoparticles using medicinal plants

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The synthesis of metal nanoparticles using biological systems is an expanding research area due to the potential applications in nanomedicines. Nanoparticles synthesized by chemical method is not eco-friendly. The biological synthesis of silver nanoparticles is convenient and extracellular method which is environmentally safe. In the present study the silver nanoparticles synthesizes rapidly by using the medicinal plants Boswellia ovalifoliolata, Svensonia hyderabadensis and Shorea tumbuggaia. After assessing the formation of silver nanoparticles with the help of UV-Visible spectroscopy and were characterized by using EDAX and SEM. Diversity has been observed in size and shape of the silver nanoparticles synthesized in three plants. These phytosynthesized silver nanoparticles were tested for their antimicrobial activity. The test cultures of bacterial species of Proteus, Pseudomonas, Klebsiella, Bacillus and E. coli and fungal sspecies of Fusarium oxysporum,

Curvularia lunata, Aspergillus niger and Rhizopus arrhizus were used. The microbial property of silver *nanoparticles* was analyzed by measuring the inhibitory zone. These silver nanoparticles synthesized from the plants of Boswellia ovalifoliolata showed moderately toxic to the E.coli and Pseudomonas species and highly toxic to Proteus species. Whereas the silver nanoparticles of Shorea tumbuggaia are highly toxic to Klebsiella species and moderately toxic to E.coli and Bacillus species. Svensonia hyderabadensis shows maximum inhibitory zone in Klebsiella followed by E. coli and Pseudomonas . The effect of silver nanoparticles synthesized from the selected plant species are varied on the growth of fungal species The important outcome of the study will be the development of value added products from medicinal plants of India for biomedical and nanotechnology based industries.

Biography

Prof. N.Savithramma has completed her M.Phil in 1987 and Ph.D in the year 1990 from Sri Venkateswara Univerisity; Tirupati. She is having 22 years of teaching and 26 years of research experience. She is the coordinator for Internal Quality Assurance Cell of S.V.University. She has published more than 65 papers in reputed National and International journals and the author of 3 books. She served as an editorial board member of repute journals. She visited number of countries and baged 6 awards for research work. Number of Ph.D and M.Phil degrees have been awarded under her guidance and the process has been continuing. She hold administrative positions in S.V.University and discharge her duties as special officer for University development. She is the member in number of Academic Societies and also organized national workshops. Being an active Academician and Administrator she has been extending her services to community development through NGOs and different developmental societies by holding various r of positions.

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