

Green synthesis and applications of silver nanoparticles from medicinal plant.

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ABSTRACT

The environmental friendly synthesis of nanoparticles is a revolutionary step in the field of nanotechnology. In this study, the green synthesis of silver nanoparticles was carried out using rare medicinal plant leaf extract as reducing agent. UV-visible spectroscopy was used for quantification of silver nanoparticle synthesis. The synthesized silver nanoparticles were characterized with Scanning electron microscopy (SEM), Transmission electron microscopy analysis (TEM), X-ray Diffraction (XRD) and Fourier transform Infrared Spectroscopy (FTIR). The invitro antioxidant properties of the green synthesized silver nanoparticles were evaluated by various antioxidant assays. The findings of the present study suggested that the nanoparticle from this plant could be a potential natural source of antioxidants and could have greater importance as a therapeutic agent in preventing or slowing oxidative stress related degenerative diseases, such as cancer. The Anticancer effects of silver nanoparticles from the medicinal plant on HEP 2(Human Epithelium cells of laryngeal cancer) and normal Vero (Verda Reno) Cell lines were evaluated by MTT (3-(4,5-Dimethylthiazol-2-Yl)-2,5-Diphenyltetrazolium Bromide) assay. The greater activity of the nanoparticles on HEP 2 cell line suggested further application of these nanoparticles as anticancer agents.