

Design and evaluation of silica coated gold shell-core nanoparticles as Anti-Aging Gel

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This research work is based on the applications of stable monodispersed silica coated goldshell-core nanoparticles gel for topical drug delivery as anti-aging agents. The research will emphasise on the designing and developing silica coated gold nanoparticles in gel formulation, optimise, characterize and expose them for drug targeting applications as an anti-aging agents. Looking on to the efficacy and safety profiles of functionalised silica nanoparticles we have planned to design and develop silica coated gold nanoparticles using 'green-clean' chemistry techniques, characterize using advanced spectroscopic and microscopic techniques. Optimize them for making highly biocompatible formulation as in clear gel form. The biologically designed and developed silica-gold shell-core nanoparticles will be characterized by UV-Vis absorption spectroscopy, FT-IR and SEM, TEM and AFM techniques. The formulated gel will be evaluated for various parameters like their size, shape, viscosity, pH, sterility, drug content uniformity and *in vitro* drug release studies. The results are highly significant and offer promising results for future cosmoceutical applications.

Biography

Raghunandan Deshpande received M. Pharm from VLCP, Raichur and PhD at JNTU, Hyderabad, in Pharmaceutical Sciences on the topic 'Silver Nanoparticles as Drug Delivery Systems'. Currently working as Professor In-charge and HOD in Pharmaceutical and Nano Chemistry, in HKES's Matoshree Taradevi Rampure Institute of Pharmaceutical Sciences, Gulbarga. He worked as a research assistant in many projects funded by UGC, DST and BRNS major projects. He has 30 publications and 3 patents on aspects related to nanobiotechnology and drug delivery systems. He is awarded as a Karnataka Young Scientist for the year of 2010-11.

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