

Role of nanoparticles in the drug delivery system

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Nano technology, a newly evolved discipline aims the creation, manipulation and application of structures in the nanometer size range. Nanotechnology has tremendous applications in various field of science; its importance has been also realized in drug delivery via nanoparticle.

Drug delivery is a very efficient process, but it is facing different challenges. For the effective drug delivery it requires stabilization, extended circulation and the proper targeting of the drug. In this regard use of nanoparticle has evolved a best alternative. A variety of nanoparticles like metal based, lipid based, polymer based etc. are extensively studied for their role in drug delivery. Nanoparticle can easily enter most cells and circulate through the body, are suitable for targeted delivery vehicles to carry large doses of chemotherapeutic agents or therapeutic genes into the target site. Among the newly developed nanomedicine and nanodevices such as quantum dots, nanowires, nanotubes, nanocantilevers, nanopores, nanoshells, the nanoparticles are the most promising applications. The present article reveals the medicinal aspects of nanotechnology especially nanoparticle and highlighting its importance in drug delivery systems.

Keywords: Nanotechnology, drugs delivery, nanomedicine.

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Molecular markers a tracking contrivance for mycorrhizal fungi

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Arbuscular mycorrhizal (AM) fungi are diversified groups of symbiotic soil fungi of phylum Glomeromycota. AM fungi not only increase the acquisition of P and mineral nutrition and also had an adverse effect of the soil borne pathogenic microorganisms. AM fungi having the genetic inequality at the species level and its colonization amongst the species level also differ from plant to plant. The tacking of AM fungi in the various ecological and geographical conditions needs a reliable tracking approach which given a real story of this below ground symbiosis. The microsattellites are the short tendom sequences repeat of nucleotides present is almost all the groups of eukaryotic fungi and play a significant role in the identification of mycorrhizal biodiversity. This tracking scheme of microsattelite markers is very reliable in the biodiversity studies of these symbiotic fungi because its gives the real portrait of the different strains of AM fungi at the species level differing only in one or two base pair sequences.

Keywords: AM fungi, Biodiversity, Genetic inequality, Microsatellite, Soil Symbionts.

Biography

Mohd. Sayeed Akhtar did his Ph.D. from Aligarh Muslim University, Aligarh, India and post-doctoral studies from University of Basel, Switzerland and Chonbuk National University Republic of Korea. Presently working as Assistant Professor in Department of Biology, College of Natural Sciences, Jimma University, Jimma, Ethiopia. He is the leading scientist in field of Microbial biotechnology and Nano-biotechnology. He has published several published several research articles in Journals of International repute and books from internationally recognized publishers. His research interest includes plant-microbe interactions, microbial and mycorrhizal biotechnology, bioremediation, soil biological health indicators, microbial molecular biology and nano-biotechnology.

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