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The oral bioavailability behavior of AuNPs conjugated with chitosan

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The unique properties of gold nanoparticles (AuNPs) such as their controllable size, shape and surface chemistry among other metal alloys make them highly attractive models in many medical purposes. Due to the ease to functionalize, AuNPs could be coupled with different surface chemistry to be used as drug delivery systems (DDS), biological senses and biomedical imaging. In this project, we graft 3 nm AuNPs with chitosan as an enhanced oral absorption agent and investigate the AuNPs bioavailability behavior after an oral dose in rats. The syntheses of these particles are prepared using citrate method. In vitro characterization will be conducted using Transmission Electron Microscopy and Dynamic Light Scattering techniques. While detection of AuNPs in biological samples will be quantified using ICP-MS. Finally, the data will be assessed using a phoenix software to obtain the pharmacokinetic parameters.

Biography

Ahmed Alalaiwe has his expertise in evaluation of nano metals bioavailability. His open and contextual evaluation model based on IVIVC creates new pathways for improving new drug delivery systems. He has built this model after years of experience in research, evaluation, teaching and administration both in hospital and education institutions. He is currently a Vice-Dean for Preparatory Deanship in Prince Sattam Bin Abdulaziz University, Saudi Arabia beside his wok duty in researching/teaching in College of Pharmacy at the same university.

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