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Characterization and toxicity assesment of date pit activated carbon

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Nanotechnology is a significant area of widespread interest in the realm of medical, industrial, environmental and agricultural applications. Nanomaterials from activated carbon is widely used for different applications such as adsorption of materials in health and industry. Due to the extensive use of nanomaterials in biomedical applications, toxicity studies were conducted to check if these materials show any deleterious effect on human cells. Our studies deal with the characterization of activated carbon (AC) from date pit and screening of cytotoxicity assay with carbon nanoparticles on hepatocytes namely, THLE2 and Hep G2. The AC was prepared by physical activation method at 900◦C in a tube furnace. The surface morphology analysis by SEM (Scanning Electron Microscopy) showed that after activation, the porosity increased with pores of uniform size. In the biological assays the apoptotic severity of nanoparticles on the cells were conducted by histological staining and TEM (Transmission Electron Microscopy) studies were done from which we could conclude that the cells showed regaining capacity even when the particles were ingested by the cells.

Biography

Betty Titus Mathew has completed her Masters in Applied Microbiology from Periyar University, India and pursuing Ph.D. in Cellular and Molecular Biology from Department of Biology, College of Science, UAE University, UAE. She is working as a Research Assistant in the Department of Mechanical Engineering. She has two papers published of her thesis and has presented one for conference.

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