

CITOTOXICITY STUDIES OF CaO NANOPARTICLES USING MTT ASSAY

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Calcium oxide nanoparticles has found a wide application in the field of detection and diagnostics, antimicrobials, therapeutics, catalysis and microelectronics. The use of nanomaterials in many applications highlights the importance of understanding its potencial toxic effects. In vitro cytotoxicity assays measure whether a test compound is toxic to cells in culture, usually by determining the number of viable cells remaining after a defined incubation period. Calcium oxide nanoparticles were synthesized by the sol-gel method. The particles were characterized by DRX and FTIR analysis. The cytotoxicity analysis was carried out in human fibroblast cell lines using MTT assay, the sample content in the wells was analyzed after 24 and 72 hours. The absorbance values were measured by using microplate reader at a wavelength of 540 nm, the percentage viability of the samples was compared with control. Calcium oxide nanoparticles were synthesized by the sol-gel method, without the presence of secondary phases. The cytotoxicity analysis showed that the CaO nanoparticles did not show cytotoxic effects in the fibroblast cells at 24 and 72 h of exposure. The effect that occurs is the promotion of cell growth, this being greater at 24 h.

Keywords: MTT assay, nanoparticles, calcium

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