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Biocompatibility evaluation of nano hydroxyapatite-starch biocomposites.

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Source

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Abstract

In this work, we report the synthesis and characterization of nano hydroxyapatite (nHAp) in the presence of starch matrix via a biomimetic process for in vitro biocompatibility evaluation. Characterization of the samples was carried out using X-ray diffraction (XRD) and Fourier Transform infrared spectroscopy (FT-IR). The Size and morphology of the nHAp samples were determined using scanning and transmission electron microscopy (SEM and TEM). The results show that, the shape and morphology of nHAp is influenced by the presence of starch as a template agent. It leads to formation of rod-like nHAp. Cell culture and MTT assays were performed for in vitro biocompatibility. They show that n-HAp can affect the proliferation of cells and the n-HAp/starch biocomposites have no negative effect on the cell morphology, viability and proliferation.

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