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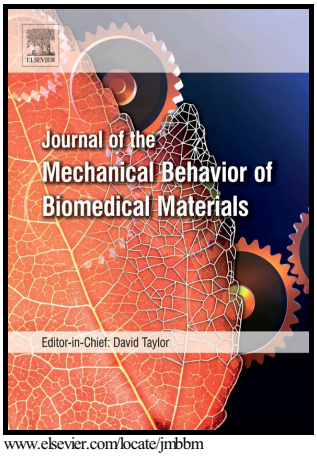

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Preparation and in vivo biocompatibility studies of different mesoporous bioactive glasses

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Abstract

A new generation of nanostructured glasses called mesoporous bioactive glasses (MBGs) exhibit superior surface texture, porosity and bioactive characteristics. The present study is carried out to develop and detailed characterize of ternary SiO_2-CaO-P_2O_5 MBG structure, fabricated by three different variations using different surfactants, e.g., hexadecyltrimethylammonium bromide (CTAB), poly-ethylene glycol,(PEG) and Pluronic P123. After thorough physico-chemical characterization , MBG granules were investigated for *in vivo* bone regeneration in animal bone defect model (rabbit) where standard S53P4 bioactive glass was used as control. All the synthesized MBG powders showed nano-range median particle size of 80-120 nm (MBG-CTAB), 50-70 nm (MBG-PEG and MBG-P123 while their specific surface area as 473.2, 52.2

[1] Equally contributed