Record Nr. UNINA9910786508603321 Biomaterials for bone regenerative medicine / / edited by Nandyala **Titolo** Sooraj Hussain, Jose Domingos da Silva Santos Pubbl/distr/stampa Stafa-Zuerich:,: Trans Tech,, [2010] ©2010 **ISBN** 3-03813-442-2 Descrizione fisica 1 online resource (206 p.) Collana Materials science foundations, , 1422-3597;; volume 62 617.4710592 Disciplina Soggetti Bone substitutes Bone regeneration Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Includes bibliographical references. Nota di bibliografia Biomaterials for Bone, Regenerative Medicine; Dedicated; Contents; Nota di contenuto Forward; Preface; Contributors; Table of Contents; CHAPTER 1 Skeletal Regenerative Nanobiomaterials; 1. Introduction; 2. Basics of Bone Biology; 3. Current Scenarios of Bone Grafting; 4. Concept of Biomimetics in Skeletal Regeneration; 5. Mechanism of Biological Mineralization; 6. Biomimetic Mineralization - Rationale and Benefits; 7. Processing of Biomineralized Nanobiomaterial Systems; 8. Biomineralization of Electrospun Nanofibers - A New Approach; Conclusions and Future Challenges; Glossary; References CHAPTER 2 Silica-Based Materials as Precursorsof Nanoapatites1. Bioactive glasses; 2. Sol-Gel Glasses: Components of Mixed Materials; 3. Organic-Inorganic Hybrids to Expand the Clinical Application of Bioactive Glasses; 4. Star Gels Bioactive Materials; 5. Silica Based Ordered Mesoporous Materials; 6. Synthesis of Templated Glasses; 7. Considerations on Materials Eligible for Bone Regeneration Duties; References; CHAPTER 3 Phytochemicals for Bone Regeneration; 1.

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Sommario/riassunto

The aim of ""Biomaterials for Bone Regenerative Medicine"" is to review extensively the latest developments in Biomaterials and their application to bone regeneration in vivo. Indeed, research on biomaterials and their novel applications is essential because of the health issues related to the aging population. A wide range of worldwide investigations is being undertaken by eminent scholars in order to develop further innovative materials for next-generation applications. In future, it is expected that a tissue engineering approach, associating novel biomaterials with stem cells, will be avail