1. Record Nr. UNINA9910876525503321

Titolo	Micro and nanotechnologies in engineering stem cells and tissues / / edited by Murugan Ramalingam ... [et al.]
Pubbl/distr/stampa	Hoboken, N.J., : John Wiley & Sons, c2012
ISBN	1-118-57480-X 1-118-57497-4
Descrizione fisica	1 online resource (328 p.)
Collana	IEEE Press series in biomedical engineering
Altri autori (Persone)	RamalingamMurugan
Disciplina	612.6/4018
Soggetti	Nanotechnology Stem cells
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Stem cells and nanotechnology in tissue engineering and regenerative medicine / Rocky Tuan -- Nanofiber technology for controlling stem cell functions and tissue engineering / Seeram Ramakrishna, Shayanti Mukherjee -- Micro- and nanoengineering approaches to developing gradient biomaterials suitable for interface tissue engineering / Ali Khademhosseini, Serge Ostrovidov -- Microengineered polymer and ceramic-based biomaterial scaffolds : a topical review on design, processing, and biocompatibility properties / Bikramjit Basu, Garima Tripathi -- Synthetic enroutes to engineer electrospun scaffolds for stem cells and tissue regeneration / Seeram Ramakrishna, Radhakrishnan Sridhar -- Integrating top-down and bottom-up scaffolding tissue engineering approach for bone regeneration / Esmaiel Jabbari, Yunzhi Yang -- Characterization of the adhesive interactions between cells and biomaterials / John Fisher -- Microfluidic formation of cell-laden hydrogel modules for tissue engineering / Shoji Takeuchi, Yuya Morimoto -- Micro- and nanospheres for tissue engineering / John Jansen -- Micro and nano technologies to engineer bone regeneration / Balaji Sitharaman -- Micro and nanotechnology for vascular tissue engineering / Laura Suggs -- Application of stem cells in ischemic heart disease / Gangapatnam Subrahmanyam, Ravi Shankar.

Sommario/riassunto

A cutting-edge look at the application of micro and nanotechnologies in regenerative medicine The area at the interface of micro/nanotechnology and stem cells/tissue engineering has seen an explosion of activity in recent years. This book provides a much-needed overview of these exciting developments, covering all aspects of micro and nanotechnologies, from the fundamental principles to the latest research to applications in regenerative medicine. Written and edited by the top researchers in the field, Micro and Nanotechnologies in Engineering Stem Cells and Tissues de