

1. Record Nr.	UNINA9910299848303321
Titolo	Biomaterials for Cardiac Regeneration // edited by Erik J. Suuronen, Marc Ruel
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2015
ISBN	3-319-10972-3
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (333 p.)
Disciplina	610.28 612 620 620.11
Soggetti	Biomedical engineering Biomaterials Human physiology Biomedical Engineering and Bioengineering Human Physiology
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 at the end of each chapters.
Nota di contenuto	The Role of Extracellular Matrix in Cardiac Development -- The Role of Embryonic and Differentiated Cells in Cardiac Development -- Spatial and Electrical Factors Regulating Cardiac Regeneration and Assembly. - Microenvironmental Control of Stem Cell Fate -- Matrix Therapies for Cell Support and Cardiac Repair -- Growth Factor Delivery Matrices for Cardiovascular Regeneration -- Whole-Heart Tissue Engineering: Use of Three Dimensional Matrix Scaffolds -- Immunological and Phenotypic Considerations in Supplementing Cardiac Biomaterials with Cells -- Imaging of the Biomaterial Structure and Function -- Autologous Bioengineered Heart Valves: An Update -- Safety, Regulatory and Ethical Issues of Human Studies.
Sommario/riassunto	This book offers readers a comprehensive biomaterials-based approach to achieving clinically successful, functionally integrated vasculogenesis and myogenesis in the heart. Coverage is multidisciplinary, including the role of extracellular matrices in cardiac

development, whole-heart tissue engineering, imaging the mechanisms and effects of biomaterial-based cardiac regeneration, and autologous bioengineered heart valves. Bringing current knowledge together into a single volume, this book provides a compendium to students and new researchers in the field and constitutes a platform to allow for future developments and collaborative approaches in biomaterials-based regenerative medicine, even beyond cardiac applications. This book also: Provides a valuable overview of the engineering of biomaterials for cardiac regeneration, including coverage of combined biomaterials and stem cells, as well as extracellular matrices Presents readers with multidisciplinary coverage of biomaterials for cardiac repair, including the role of extracellular matrix in cardiac development, whole-heart tissue engineering, and spatial and electrical factors regulating cardiac regeneration and assembly Provides a platform to allow for future developments and collaborative approaches in biomaterials-based regenerative medicine.
