

1. Record Nr.	UNINA9910437851603321
<b>Titolo</b>	Regenerative Medicine : From Protocol to Patient / / edited by Gustav Steinhoff
<b>Pubbl/distr/stampa</b>	Dordrecht : , : Springer Netherlands : , : Imprint : Springer, , 2013
<b>ISBN</b>	94-007-5690-9
<b>Edizione</b>	[2nd ed. 2013.]
<b>Descrizione fisica</b>	1 online resource (1211 p.)
<b>Disciplina</b>	610.28
<b>Soggetti</b>	Medicine Stem cells Surgery Nanotechnology Biomedicine, general Stem Cells
<b>Lingua di pubblicazione</b>	Inglese
<b>Formato</b>	Materiale a stampa
<b>Livello bibliografico</b>	Monografia
<b>Note generali</b>	Description based upon print version of record.
<b>Nota di contenuto</b>	Foreword, Gustav Steinhoff et al. -- 1 History of Regenerative Medicine, Raymund E. Horch et al. -- Part I Biology of Tissue Regeneration -- 2 Extracellular Matrix and Tissue Regeneration, Yrjö T. Konttinen et al. -- 3 Stem Cell Niche, Chenhui Wang et al. -- 4 Stem Cells and Asymmetric Cell Division, Frank Hirth -- 5 Stem Cells in the Developing and Adult Nervous System, Fumitaka Osakada et al. -- Part II Stem Cell Science and Technology -- 6 Characterization and Classification of Stem Cells, Ute Bissels et al. -- 7 Human Embryonic Stem Cells, Mikael C.O. Englund et al. -- 8 Induced Pluripotent Stem Cells, Keisuke Okita et al. -- 9 Spermatogonial Stem Cells, Ilya Chuykin et al. -- 10 Hematopoietic Stem Cells, Mary Clarke et al. -- 11 Cardiovascular Stem Cells, Christoph Brenner et al. -- 12 Neural Stem Cells, Yoko Arai et al. -- 13 Liver Stem Cells, Tohru Itoh et al. -- 14 Gastrointestinal Stem Cells, M. Sasikala et al. -- 15 Cancer Stem Cells, Murali MS Balla et al. -- 16 Mesenchymal Stem Cells, Patrick Wuchter et al. -- 17 Musculoskeletal Stem Cells, Gerben M. van Buul et al. -- Part III Tissue Engineering, Biomaterials and Nanotechnology -- 18 When Stemness Meets Engineering, Maurizio Pesce et al. -- 19 Vector Technology and

Cell Targeting, Julia Bäder et al. -- 20 Regenerative Chimerism Bioengineered through Stem Cell Reprogramming, Timothy J. Nelson et al. -- 21 Biodegradable Materials, Michael Schroeter et al. -- 22 Biomaterials, Naresh Polisetti et al. -- 23 Functionalized Nanomaterials, Jie Zhou et al. -- 24 Biointerface Technology, Joachim Rychly -- Part IV Regenerative Therapies -- 25 Emerging Concepts in Myocardial Pharmacoregeneration, Laura C. Zelarayan et al. -- 26 Blood, Michael Schmitt et al. -- 27 Regenerative Medicine in the Central Nervous System, Seung U. Kim -- 28 Regenerative Therapy for Central Nervous System Trauma, Kewal K. Jain -- 29 Regenerative Therapies for the Ocular Surface, Geeta K Vemuganti et al. -- 30 Lacrimal Gland Regeneration, Shubha Tiwari et al. -- 31 The Development of a Stem Cell Therapy for Deafness, Nopporn Jongkamonwiwat et al. -- 32 Dental, Kristina Arvidson et al. -- 33 Trachea, Silvia Baiguera -- 34 Lung, Lavinia Iuliana Ionescu et al. -- 35 Vascular Regeneration, Masaaki Ii, Atsuhiko Kawamoto et al. -- 36 Heart, Gustav Steinhoff et al. -- 37 Liver, Amar Deep Sharma et al. -- 38 Kidney, Sajoscha Sorrentino et al. -- 39 Gastrointestinal Tract and Endocrine System, Nonsikelelo Mpofu-Mätzig -- 40 Preclinical Animal Models for Segmental Bone Defect Research and Tissue Engineering, Johannes C. Reichert et al. -- 41 Constraints to Articular Cartilage Regeneration, Georg N. Duda et al. -- 42 Muscle and Ligament Regeneration, Thomas Mittlmeier et al. -- 43 Skin, Hans-Günther Machens et al. -- Part V Regulation and Ethics -- 44 Regulatory Frameworks for Cell and Tissue Based Therapies in Europe and the USA, Gudrun Tiedemann et al. -- 45 Ethics and Law in Regenerative Medicine, Greg Becker et al.

---

#### Sommario/riassunto

The field of regenerative medicine has developed rapidly over the past 20 years with the advent of molecular and cellular techniques. This textbook, *Regenerative Medicine: From Protocol to Patient*, aims to explain the scientific knowledge and emerging technology as well as the clinical application in different organ systems and diseases. International leading experts from four continents describe the latest scientific and clinical knowledge of the field of regenerative medicine. The process of translating science of laboratory protocols into therapies is explained in sections on regulatory, ethical and industrial issues. This textbook is organized into five parts: (I) Biology of Tissue Regeneration, (II) Stem Cell Science and Technology, (III) Tissue Engineering, Biomaterials and Nanotechnology, (IV) Regenerative Therapies and (V) Regulation and Ethics. The textbook aims to give the student, the researcher, the health care professional, the physician and the patient a complete survey on the current scientific basis, therapeutic protocols, clinical translation and practiced therapies in regenerative medicine.

---