1. Record Nr. UNINA9910298323403321

Titolo	Stem Cells and Cell Therapy / / edited by Mohamed Al-Rubeai, Mariam Naciri
Pubbl/distr/stampa	Dordrecht : , : Springer Netherlands : , : Imprint : Springer, , 2014
ISBN	94-007-7196-7
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (194 p.)
Collana	Cell Engineering, , 2542-9515 ; ; 8
Disciplina	616.02774
Soggetti	Medicine - Research Biology - Research Cytology Stem cells Cytology - Technique Biomedical Research Cell Biology Stem Cell Biology Cytological Techniques
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 and index.
Nota di contenuto	Use of Human Embryonic Stem Cells in Therapy -- Human Neural Stem Cell-based Cell- and Gene-therapy for Neurological Diseases -- Vascular Stem Cell Therapy -- Bioprocessing of Human Pluripotent Stem Cells for Cell Therapy Applications -- Blood Cell Bioprocessing: The Haematopoietic System and Current Status of In-vitro Production of Red Blood Cells -- Bioprocessing Challenges Associated with the Purification of Cellular Therapies -- Separation Technologies for Stem Cell Bioprocessing.
Sommario/riassunto	With the discovery of stem cells capable of multiplying indefinitely in culture and differentiating into many other cell types in appropriate conditions, new hopes were born in repair and replacement of damaged cells and tissues. The features of stem cells may provide treatment for some incurable diseases with some therapies are already in clinics, particularly those from adult stem cells. Some treatments will

require large number of cells and may also require multiple doses, generating a growing demand for generating and processing large numbers of cells to meet the need of clinical applications. With this in mind, our aim is to provide a book on the subject of stem cells and cell therapy for researchers and students of cell biotechnology, bioengineering and bioproduction. This book is exceptional as it teaches researchers stem cells and cell therapy in that it covers the concepts and backgrounds necessary so that readers get a good understanding of the production of stem cells. The book covers three topics: The basics of stem cells and cell therapy, the use of stem cells for the treatment of human diseases, and stem cell processing. It includes chapters on neural and vascular stem vascular stem cell therapy, expansion engineering of embryonic stem cells, stem cell based production of blood cells and separation technologies for stem cells and cell therapy products. It is an informed and informative presentation of what modern research, science and engineering have learned about stem cells and their production and therapies. Addressing both the medical and production issues, this book is an invaluable contribution to having an academic and industrial understanding with respect to R&D and manufacturing of clinical grade stem cells.