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Nota di contenuto	Primordial germ cells and germline stem cells -- Human amniotic fluid derived and amniotic membrane derived stem cells -- Mesenchymal stem cells and their Immunomodulatory properties -- Induced Pluripotent Stem Cell, a Rising Star in Regenerative Medicine -- Stem cells and hematopoietic cell engineering -- Signaling pathways regulating stem cells -- The concept of mesenchymal stem cell system: bring more insights into functional research of MSCs -- Human neural development and human embryonic stem cell neural differentiation -- Molecular Imaging: The Key to Advancing Stem Cell Therapy -- Stem cell and peripheral nerve regeneration -- Biomaterial Assisted Stem Cell Engineering for Tissue Construction and Regeneration -- Stem cells in the treatment of myocardial infarction and cardiomyopathy -- Mesenchymal stem cell therapy for bladder dysfunction -- Mesenchymal Stem Cells in Cancer Therapy -- Stem Cell Therapy for GVHD -- Clinical application and molecular mechanism of multipotent

stem cell therapy for liver disease -- Stem Cell Therapy for Cartilage Defects -- Stem Cell Transplantation for Crohn’s Disease -- Stem Cell Therapy for Optic Nerve Regeneration -- Stem cells and spinal cord regeneration -- Cell transplantation therapy for diabetes mellitus: from embryonic stem cells to transdifferentiation of Adult Cells.

Sommario/riassunto

This book provides a comprehensive review of the properties of various stem cell types, the mechanisms of their behaviors and their potential clinical application. Stem cells have a great capacity of self-renewal and differentiation. They represent new paradigms for disease treatment in the field of regenerative medicine since the day they were discovered. As stem cell research is complicated and making progress rapidly, it is important to have expertise in this field to share their views and perspectives. This book provides a wonderful platform for those who are interested in stem cells to learn from and communicate with experts. Particularly, it highlights the roles of stem cell based therapy for a variety of diseases. Furthermore, this book gives a detailed introduction to the great works related to stem cells in China. The readers could gain a profound knowledge of the state-of-art research done by scientists in the field of stem cells. Overall, this book will be a valuable reference resource for both experienced investigators pursuing stem cell research as well as those are just entering into this field. Dr. Robert Chunhua Zhao, a Cheung Kong Professor of Stem Cell Biology, is Professor of Cell Biology at the Institute of Basic Medical Sciences & School of Basic Medicine, Chinese Academy of Medical Sciences & Peking Union Medical College (PUMC), Beijing, China. He is Director of the Center for Tissue Engineering, PUMC and Chief Scientist of the National Basic Research Program of China (“973 Program”). He also serves as Regional Editor of Stem Cells and Development.