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Nota di contenuto	Preface -- I Cancer stem cells -- Histamine in the neural and cancer stem cell niches -- Emerging concepts of stem cell organization in the normal lung and in lung cancer. II Pluripotent stem cells -- Differentiation of dendritic cells from human induced pluripotent stem cells -- Molecular mechanisms underlying human somatic cell reprogramming to generate induced pluripotent stem cells -- Induced pluripotent stem cells differentiate into functional cardiomyocytes -- Characteristics of satellite cells and multipotent adult stem cells in the skeletal muscle. III Dendritic cells -- Notch signaling in differentiation and function of dendritic cells -- Suppression of differentiation and maturation of dendritic cells: stem cells from different sources vary in their effect -- Hypertensive emergencies in children after stem cell transplantation: care in selecting hypotensive drugs -- Decellularized stem cell matrix: a novel approach for autologous chondrocyte implantation cartilage repair -- Overcoming radioresistance of lung cancer stem cells. IV Regenerative medicine. - Phenotypic correction of

murine hemophilia a using cell-based therapy -- Improved renal revascularization outcomes in pigs using stem cells -- Generation of autologous multipotent endothelial-like cells from lipoaspirates of human adipose-derived stem cells and polymer microarrays technology: potential cardiovascular regeneration -- Adipose-derived stem cells as a novel tool for future regenerative medicine -- Repairing the stroke-damaged brain: from neural stem cells to tissue engineering. V General applications -- Epithelial plasticity regulation by microRNAs -- Methods in mathematical modeling for stem cells -- Preoptic regulatory factor-2, a rhogap domain protein that modifies cell cycle progression and apoptosis in the CNS -- Molecular and functional characterization of human adipocytes -- Soluble CD40L in stem cell products. Index.

#### Sommario/riassunto

Volume 12 in this series explores the latest experimental and clinical uses of stem cells in the treatment of disease and of injuries and reviews methods for isolating multipotent endothelial-like cells from human adipose tissue and discusses clinical applications in cell therapy and regenerative medicine. The book is organized in five parts: Cancer Stem Cells, Pluripotent Stem Cells, Dendritic Stem Cells, Regenerative Medicine and General Applications. The first section includes chapters on histamine in the neural and cancer stem cell niches, and emerging concepts of stem cell organization in the normal lung and in lung cancer. The section on Pluripotent Stem Cells includes discussion of the differentiation of dendritic cells from human induced pluripotent stem cell and the molecular mechanisms involved in reprogramming human somatic cells to generate induced pluripotent stem cells. Additional chapters cover the differentiation of induced pluripotent stem cells into functional cardiomyocytes, characteristics of satellite cells and multipotent adult stem cells in the skeletal muscle. The section on Dendritic Stem Cells explores the critical role of notch signaling in the differentiation and function of dendrite. Other chapters cover hypertensive emergencies in children after stem cell transplantation, and overcoming the radio resistance of lung cancer stem cells. The section on Regenerative Medicine reports on experiments on improved renal revascularization in pigs using stem cells and phenotypic correction of murine Hemophilia A using cell-based therapy. The concluding section, General Applications, discusses such topics as methods in mathematical modeling for stem cells, as well as molecular and functional characterization of human adipocytes. Like its eleven predecessors in the series, this volume stands out for its comprehensive approach, its roster of some 51 expert contributors representing a dozen different countries and its up-to-date review of leading-edge technology and methods.