1. Record Nr. UNINA9910845482403321

Titolo	Handbook of Stem Cell Applications [[electronic resource] /] / edited by Khawaja H. Haider
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2024
ISBN	981-9971-19-5
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (167 illus., 47 illus. in color. eReference.)
Disciplina	571.6 616.02774
Soggetti	Stem cells Regenerative medicine Nervous system - Diseases Stem Cell Biology Regenerative Medicine and Tissue Engineering Neurological Disorders
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1_ The application of stem cells for the therapy of Parkinson’s disease -- Chapter 2_Stem cell therapy after neurological injuries -- Chapter 3_Strategies of Stem cell therapy in nervous system injuries repair and regeneration -- Chapter 4_Neural regeneration therapies for Alzheimer's and Parkinson's disease-related disorders -- Chapter 5_Emerging Stem Cell Therapy and Tissue Engineering Approaches in Neurodegenerative Diseases -- Chapter 6_Next Generation of Science with Stem Cell-based Neural Organoids -- Chapter 7_Mesenchymal stem cells for ocular disorders -- Chapter 8_Keratocytes evolution in advanced regenerative corneal therapy with keratoconus -- Chapter 9_Latest advances in mesenchymal stem cell-based therapy of eye diseases -- Chapter 10_Stem cells in ophthalmology: from the bench to the bedside -- Chapter 11_Stem cells in periodontal regeneration -- Chapter 12_Dental pulp stem cells in Endodontics – Advances, applications and challenges -- Chapter 13_Significance of inflammatory milieu during regeneration of periodontal tissues using dental mesenchymal stem cell -- Chapter 14_3D bioprinting in conjunction

with bone marrow mesenchymal stem cells for the treatment of bone defects -- Chapter 15_Allogenic Stem Cells: Advances in Knee Osteoarthritis -- Chapter 16_Mesenchymal stem cells for bone and cartilage regeneration: state-of-the-art -- Chapter 17_Clinical trials of cell therapy in muscular dystrophies -- Chapter 18_Scaling Stem Cells to Cure Millions of Patients with Diabetes – Approaches, Technology, and Future Directions -- Chapter 19_Restoring -cells population through in situ differentiation of the resident pancreatic cells -- Chapter 20_Stem Cell-Based Regenerative Therapies for Functional Endocrine System Organs: Tissue Engineering Applications and Future Strategies -- Chapter 21_Recent advance in regenerativemedicine of the liver and bile duct system by chemically induced liver progenitor cells (CLiPs) -- Chapter 22_Advantages of a novel hepatic stem/progenitor cell population for fibrotic/cirrhotic liver repair and regeneration -- Chapter 23_ Evolving Understanding of Renal Progenitor (Stem) Cells in Renal Physiology and Pathophysiology -- Chapter 24_The regenerative potential of human adult renal stem/progenitor cells -- Chapter 25_Role of Exosomes as a biomarker in cardio-metabolic and renal diseases -- Chapter 26_Renovascular applications of stem cells -- Chapter 27_Reversing the aged Immune system with Stem cells -- Chapter 28_Germline stem cell technology in fertility preservation -- Chapter 29_One-stop shop for salivary gland regeneration and other exocrine organs -- Chapter 30_ Epithelial Stem Cell for Regeneration in Acute and Chronic Airway Injury -- Chapter 31_Genetic Cell Therapy in Anti-Aging Regenerative Cosmetology -- Chapter 32_Polytrauma and Stem Cells -- Chapter 33_The Multifaceted Role of Induced Pluripotent Stem Cells in Pre-Clinical Cardiac Regeneration Research -- Chapter 34_Stem cell-based regenerative medicine therapy in cancer -- Chapter 35_Novel Prognostic and Predictive Biomarkers in Oncology -- Chapter 36_Mesenchymal stem cells, cancer stem cells (CSCs), and circulating tumor cells (CTCs): roles and combinations in tumor growth and dissemination -- Chapter 37_ Participation of mesenchymal stem cell in the tumor process -- Chapter 38_Pre-enrichment of Adipose Tissue Grafts with Adipose Derived Stem Cells: Potential and Limitations -- Chapter 39_Matrix mechanical cues affect cell behavior and tissue regeneration -- Chapter 40_Biophysical regulators of mesenchymal stem cell fate -- Chapter 41_Influence of microbiota of donors and recipients in mesenchymal stem cell behavior regarding epigenetic pattern, stemness and secretome -- Chapter 42_Mesenchymal stem cells as modern off-the-shelf products: From research perspectives to clinical practice -- Chapter 43_Application of single-cell sequencing on stem cell research -- Chapter 44_Proteomics investigations on stem cell-based regenerative medicine -- Chapter 45_Phospholipid metabolism in stem cells and its application to pathological analysis -- Chapter 46_The role of stem cells in exercise enhanced organogenesis and regeneration -- Chapter 47_Mesenchymal stem cell-derived exosomes: A novel remedy for the treatment of Parkinson’s Disease -- Chapter 48_Time of cell injection -- Chapter 49_Novel Preconditioning approach to promote donor cell survival.

Sommario/riassunto

This handbook reviews the clinical applications of stem cell-based therapy. The book covers the clinical applications of stem cells in cardiovascular diseases, neurological and ocular diseases, pediatrics, and the role of cancer stem cell-derived exosomal microRNA payload in lung cancer. The chapter reviews emerging stem cell therapy and tissue engineering approaches in neurodegenerative diseases. The book further examines the applications of stem cells in various fields of dentistry, and for the regeneration of oral and non-oral tissues. The chapters also explore the application of 3D bioprinting in conjunction

with bone marrow mesenchymal stem cells for the treatment of bone defects and state-of-the-art technology for bone and cartilage regeneration using mesenchymal stem cells. The book presents stem cell-based therapy against renal, pancreatic, and kidney diseases and examines the advantages of a novel hepatic stem for cirrhotic liver repair and regeneration. Lastly, the book provides methodological and procedural advancements in stem cell-based therapy, including the applications of single-cell sequencing in stem cell research. This handbook is a major one-stop reference for researchers working in regenerative medicine, cellular pharmacology, stem cell research in general, and those involved in specific areas of adult stem cells as well as embryonic and induced pluripotent stem cells.