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Nota di contenuto	Preface -- Editorial -- Disease modeling and drug development using patient-derived and genome-edited pluripotent stem cells -- Advances in Stem Cell Research for MECP2-Related Disorders -- Genome editing and human induced pluripotent stem cells facilitate Parkinson's Disease modeling -- Orchestrating the interactions between stem cells and bioengineered materials: treatment and modelling of neurodegenerative diseases -- Stem cell-derived 3D models to study Alzheimer’s disease.-The application of directly induced neurons to neurodegenerative disease research -- Breakthroughs in Stem Cell-Based Treatments for ALS and FTD: Promises and Challenges Ahead --

Retinal organoid development: disease modelling and therapeutic strategies -- Retinal Organoid Differentiation Strategies and Their Application in Retinal Degenerative Disease Modelling -- Cell therapy for Parkinson’s disease with pluripotent stem cells -- Drug Discovery and Development for Neurodegenerative Diseases Using Induced Pluripotent Stem Cells -- Cellular reprogramming to stimulate retina regeneration.

Sommario/riassunto

This book dives into the forefront of stem cell research, uncovering the tremendous potential of stem cell technology for neural regeneration. This comprehensive volume offers valuable insights into diverse strategies for using stem cells to study neurodegenerative and neurodevelopmental disorders, as well as advances in research of neural regeneration strategies. Advances in Using Stem Cells to Treat Neural Diseases includes a collection of chapters carefully curated by leading experts in the field. These chapters explore the progress made in stem cell research and highlight recent advances in cell reprogramming and tissue engineering to develop disease modeling and regenerative therapy for the study and treat neural disorders. This book offers an unparalleled snapshot of the current landscape of stem cell research and an overview of up-and-coming technologies that could revolutionize the field. This unique resource would provide an important reference for stem cell biologists, neuroscientists, tissue engineers, molecular biologists, as well as students, academics and clinicans with an interest in neural regeneration.