

Neural stem cells offer a valuable model system for delineating the cellular and developmental processes in normal and diseased states of the central nervous system. In particular, neural stem cells have huge potential in regenerative medicine, due to their expansion capability in culture and the ability to differentiate into multiple sub-neural lineages.

Neural Stem Cell Assays provides a detailed and comprehensive review of the basic methods for neural stem cell cultures. Including an overview of progress in the field over the past decade, *Neural Stem Cell Assays* is a one-stop reference for consistent methods and reliable tools that span the entire assay work flow, from isolation or generation of neural stem cells to characterization, manipulation, and final application of neural stem cells in disease paradigms such as Parkinson's disease, multiple sclerosis, and amyotrophic lateral sclerosis.

An excellent source of information for academic, pharmaceutical, and biotechnology researchers who are new to the neural stem cell field, *Neural Stem Cell Assays* is invaluable to experienced users who wish to integrate newly developed tools and technologies into their workflow. The book also covers important course material for students at the undergraduate and graduate level who are learning the basics of neural stem cell cultures, and differentiation to sub-neural lineages.

- Includes background on neurobiology and neural stem cell applications in cell therapy and drug discovery
- Provides comprehensive solutions to every part of the neural stem cell work flow, with detailed but easy-to-use protocols
- Features micro RNA analysis, cryopreservation of neural stem and progenitor cells, and gene expression analysis
- Covers isolation, derivation, expansion, and cryopreservation, as well as cellular and molecular characterization tools

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