

Promising technologies for exploring stem cells

Scientists believe that stem cells have the potential to repair specific tissues and to grow organs, revolutionizing the treatment of cardiovascular disease, neurodegenerative disease, musculoskeletal disease, diabetes, and cancer. A core reference for researchers, *Chemical and Functional Genomic Approaches to Stem Cell Biology and Regenerative Medicine* consolidates the latest information on functional genomics and chemical biology approaches that are used to study and control the fate of stem cells. It discusses new technologies and their recent applications in various areas of stem cell biology, covering:

- The use of both embryonic and adult stem cells
- A vast array of technologies, including: genome-wide expression analysis, functional genomic profiling with arrayed cDNA and RNAi expression libraries, informatics, chemical genomics, mass spectrometry, and proteomics
- The applications of advanced technologies in various areas of stem cell biology, encompassing: self-renewal, differentiation, and reprogramming of different types of embryonic and adult stem cells, as well as regeneration in model organisms
- Technological tools for studying the biology of stem cells

With chapters contributed by leading authorities, this book is a hands-on reference for chemists, biologists, biochemists, bioinformaticians, clinicians, and managers involved in stem cell research. It is also an excellent text for interdisciplinary courses such as functional genomics, stem cell biology, and chemical biology.

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