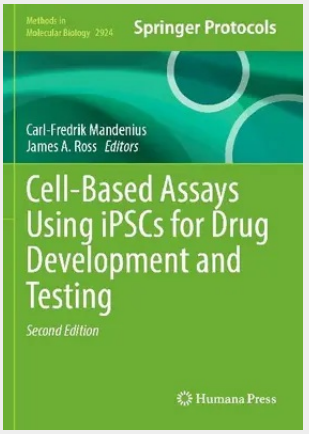
Mandenius / Ross

Cell-Based Assays Using iPSCs for Drug Development and Testing



This up-to-date volume presents a set of differentiation and assay protocols useful to researchers involved in disease modeling, drug discovery, and the cell biology of a variety of tissues. The book begins with chapters on culture of induced pluripotent stem cells (iPSCs) and iPSC-derived cells with detailed protocols for culturing and differentiation of iPSC-derived endoderm, hepatocytes, vascular endothelial cells, cardiomyocytes, renal podocytes, neurons, and astrocytes. This is accompanied by newer protocols for the use of 3D cultures in assays adapted for drug development purposes, with new techniques such as high content analysis and microphysiological systems. Written for the highly successful Methods in Molecular Biology series, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step and readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls. Authoritative and practical, Cell-Based Assays Using iPSCs for Drug Development and Testing, Second Edition serves as an ideal guide for scientists working to develop human iPSC-derived cellular models for drug discovery, efficacy, and safety purposes.

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