

Special Issue

Pluripotent Stem Cell for Novel Drug Discovery

Message from the Guest Editor

The discovery of new drugs for diverse human diseases remains a significant challenge. A poor understanding of human pathology and inadequate representation of human diseases in animals impede the development of therapeutic drugs. Currently, the use of human pluripotent stem cell (hPSC)-based derivatives and disease modeling has revolutionized our drug discovery paradigms. Thus, hPSC-based models define a new pathway to enable the rapid development of effective small molecules or therapies for individual patients. In this Issue, we cover the mechanism of discovery of new drugs and highlight various hPSC platforms, which include 2D-monolayer culture, 3D tissues, and complex organoids, in the modeling of a broad range of diseases for preclinical drug development. We discuss the remaining challenges in the use of the above models and the opportunities in shaping ongoing pharmacological research.

Guest Editor

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Deadline for manuscript submissions

closed (22 April 2025)



Pharmaceuticals

an Open Access Journal
by MDPI

Impact Factor 4.8
CiteScore 7.7
Indexed in PubMed



mdpi.com/si/174659

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Prof. Dr. Amélia Pilar Rauter

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