Pluripotent Stem Cell for Novel Drug Discovery

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Message from the Guest Editor

Dear Colleagues,

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.

Dr. Kevin G. Chen
Guest Editor

Special Issue

Editor-in-Chief

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