



Cell Assay Chips and Applications

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Message from the Guest Editor

Dear Colleagues,

In this Special Issue, we aim to collect innovative microfluidic engineering solutions that offer unique functionalities in cell and molecular biology, cost-effective manufacturing approaches for technology dissemination, and the automation and integration of high-throughput assays and readouts. Beyond device advancements, we also welcome novel applications of these cell assay chips, spanning drug discovery, investigations into cancer and infectious diseases, studies of stem cell research and neuroscience, point-of-care diagnostics, the development of organ-on-a-chip models, and environmental monitoring.

Keywords

microfluidic cell assays
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micrototal analysis systems
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drug screening
point-of-care diagnostics
3D cell culture
environmental monitoring





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Message from the Editor-in-Chief

Functional human 3D tissue models are attractive platforms for disease studies, drug development and toxicity testing. They serve as a bridge between cell cultures, animal models and clinical trials. Such models are called organoids. Numerous scientists worldwide are currently researching the generation of new complex organoid models and improving culturing conditions to handle them in a way that is reproducible, cost-effective, and easy. Achieving this goal is still a major challenge, but the organoid field has developed rapidly in recent years, reaching a new level of complexity and playing a growing role in medical research. Organoids' goal is to create a platform to present new and exciting data covering all aspects of organoid, assembloid, embryoid, or organ-on-a-chip research.

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