



Microfluidic Cell Assay Chips

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Message from the Guest Editors

Dear Colleagues,

Microfluidic technology has emerged as a state-of-the-art approach for cell biology because of precise micro-environment manipulation, minimal reagent usage, and high potential in scaling and automation. Recently, microfluidic cell assay chips have demonstrated the capabilities of drug screening, 3D cell culture, cell migration and invasion, cell-cell interaction, single cell analysis, transcriptomic and proteomic profiling, and clinical diagnostics. Though core functions were developed as prototypes, there is a recognized need to provide low-cost and reliable manufacturing methods for dissemination of the technology. Further development in automation and system integration will be required to realize full potential of high-throughput assays and readouts. In addition, the smart interface between microfluidics and conventional bulk machines is critical for handling small sample volumes and saving reagents. In light of these prevailing challenges, this Special Issue seeks to collect research papers, short communications, and review articles that focus on, but are not limited to, novel microfluidic cell assays, low-cost and reliable micro-manufacturing methods, 3D printed microfluidics, high-throughput experimentation, automation, and smart interface for microfluidic cell analysis.

