Special Issue

Microfluidics Technologies for Cell-based Assays

Message from the Guest Editors

Microfluidic systems are increasingly used for conducting cell-based assays. Such systems enable monitoring cellular responses under well-controlled physical (mechanical, shear stress, thermal, optical) and chemical (drugs, chemicals, nanomaterials) stimuli to mimic various physiological and pathological cues, allowing for more realistic in vitro models. Furthermore, advancement of micro-fabrication technologies has facilitated highly integrated and multi-functional organ-on-chip systems that can replace the lengthy and expensive ex vivo and in vivo models. This Special Issue seeks to showcase research papers, short communications, and review articles reporting the latest developments in this exciting and multi-disciplinary field. The topics include but are not limited to (i) studying the viability, proliferation, metabolism, signaling, migration, and morphology of cells, (ii) sorting and patterning of cells, and (iii) development of disease-on-chip, organ-on-chip models using microfluidic technologies.

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