

Special Issue

Organoids for Disease Studies and Drug Development

Message from the Guest Editor

The emerging technique of organoids has been developed to emulate the key functions of living organs. It paves an alternative and promising way to mechanistically study the pathogenesis of different organs and develop drugs. Moreover, it has been demonstrated that in vitro organoids derived from patients can inherit the heterogeneous gene expression pattern of the patients and capture the different drug responses of individual patients.

Enormous interdisciplinary efforts have been made to develop organoid culture systems. For example, various engineering techniques are applied to encapsulate the organoids efficiently and uniformly. The factors, including stiffness, shear, stretch/stress, and pressure, mimicking in vivo mechanical conditions, are integrated into the culture environment. Different platforms of 2D and 3D culture, immersed and air-liquid interface culture, organoid-on-a-chip, etc. are designed with different contexts. Additionally, special microscopies are tailored for efficiently imaging the 3D structure features and spatial distributions of organoids. Artificial intelligence and machine learning algorithms are developed for phenotyping the organoid data.

Guest Editor

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Biomedicines (ISSN 2227-9059) is an open access journal devoted to all aspects of research on human health and disease, the discovery and characterization of new therapeutic targets, therapeutic strategies, and research of naturally driven biomedicines, pharmaceuticals, and biopharmaceutical products. Topics include pathogenesis mechanisms of diseases, translational medical research, biomaterial in biomedical research, natural bioactive molecules, biologics, vaccines, gene therapies, cell-based therapies, targeted specific antibodies, recombinant therapeutic proteins, nanobiotechnology driven products, targeted therapy, bioimaging, biosensors, biomarkers, and biosimilars. The journal is open for publication of studies conducted at the basic science and preclinical research levels. We invite you to consider submitting your work to *Biomedicines*, be it original research, review articles, or developing Special Issues of current key topics.

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