

Special Issue on
**Stem Cells Derived Organoids: Generation and Application
2024**

CALL FOR PAPERS

In our preceding special issue of this journal, we underscored the pivotal role played by organoids in contemporary biomedical research. These miniature replicas of human tissues or organs have emerged as indispensable tools, providing a controlled experimental environment that was previously unattainable. They have proven to be instrumental in studying genetic disorders, conducting pathological investigations, screening, and developing drugs for therapeutic strategies, and advancing regenerative medicine. Despite persistent technical limitations within the *in vitro* culture system, recent years have witnessed notable breakthroughs in addressing challenges such as insufficient vascularization, lack of cellular diversity, and compromised tissue maturity.

These advancements collectively contribute to a more sophisticated and nuanced understanding of human organ development and pathology. We invite submissions of original research or review articles for our upcoming Special Issue, with a focus on technical breakthroughs, tools for studying disease mechanisms, testing potential therapeutics, and advancing personalized medicine. We eagerly anticipate contributions that enrich the discourse on these critical facets of organoid research, fostering advancements in the broader field of biomedical science.

Potential topics include but are not limited to the following:

- ▶ Technical advancements that enhance the quality and efficiency of generating a diverse array of organoids that represent key human organs
- ▶ Generation of human brain organoids, encompassing frontal brain, cerebral cortex, cortical brain, and their applications in modeling human brain development and neurological disorders
- ▶ Generation of cancer-derived organoids and their applications in modeling various cancers, for both pathological study and therapeutic development
- ▶ Generation of organoids for modeling infectious and immune diseases
- ▶ Organoids in modeling congenital diseases such as cystic fibrosis (CF), autism spectrum disorder (ASD), primary microcephaly, Leber congenital amaurosis, Alzheimer's disease (AD), Parkinson's disease (PD), motor neuron diseases, and frontotemporal dementia
- ▶ Application of gene editing techniques to organoids
- ▶ Epigenetic studies utilizing organoids
- ▶ Organoid-based drug screening for dissecting pathological pathways and therapeutic applications

Authors can submit their manuscripts through the Manuscript Tracking System at <https://review.wiley.com/submit?specialIssue=577295>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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