Special Issue

Modeling Lung Regeneration and Injury Responses Using Organoids and Engineered Niches

Message from the Guest Editor

The lung interfaces with the external environment at every breath, necessitating robust and tightly regulated regenerative programs to repair the tissue. In early life, severe injury and failed regeneration can permanently reshape lung architecture and physiology, with consequences for cell function, respiratory capacity, and disease vulnerability. In adulthood, maladaptive repair programs can lead to fibrosis, while overactive repair programs can distort epithelial and stromal cell composition, driving declines in airflow and gas-exchange function.

Organoid and engineered niches now provide powerful experimental platforms. In this Special Issue, we aim to showcase innovative work that leverages these platforms to interrogate injury responses and regeneration in the lung across diverse injury contexts. We welcome contributions that employ organoid and engineered niche systems to advance our understanding of how lung cells respond and recovers from injury. Submissions may also encompass technological innovations, mechanistic studies of intracellular, cell-to-cell and environment to cell interactions and efforts that translate organoid platforms toward therapeutic discovery.

Guest Editor

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Cells has become a solid international scientific journal that is now indexed on SCIE and in other databases. We have successfully introduced a special issues format so that these issues serve as mini-forums in specific areas of cell science. *Cells* encourages researchers to suggest new special issues, serve as special issues editors, and volunteer to be reviewers. Our main focus will remain on cell anatomy and physiology, the structure and function of organelles, cell adhesion and motility, and the regulation of intracellular signaling, growth, differentiation, and aging. We are open to both original research papers and reviews.

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