

# Special Issue

## Intestinal Stem Cells

### Message from the Guest Editors

Intestinal stem cells (ISCs) are vital for intestinal health, driving regeneration and offering potential in regenerative medicine, disease modeling, and therapeutics. They maintain the intestinal lining through self-renewal and differentiation.

### Self-Renewal and Differentiation

The intestinal epithelium renews every 4–5 days via ISC proliferation, producing one daughter stem cell and one progenitor cell, known as a transit-amplifying (TA) cell. TA cells differentiate into enterocytes, goblet cells, enteroendocrine cells, and Paneth cells. Key pathways like Wnt (proliferation), Notch (lineage differentiation), and BMP/TGF- $\beta$  (homeostasis) regulate ISCs. Dysregulation can impair regeneration, nutrient absorption, and increase cancer risk.

### Clinical Relevance

Organoid Models: ISC-derived organoids mimic intestinal tissue, aiding in studying diseases (e.g., microvillus inclusion disease) and drug testing.

Personalized Medicine: Patient-specific organoids enable tailored treatments.

Microbiome Interaction: Gut microbiota influences ISC function, impacting health and disease.

Understanding ISCs advances therapies for gastrointestinal disorders and cancer.

### Guest Editors

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### Deadline for manuscript submissions

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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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