

Special Issue

The Evolving Landscape of Cell and Gene Therapy— Opportunities, Challenges and the Road Ahead

Message from the Guest Editor

Cell and gene therapies (CGT) have emerged as powerful modalities for treating conditions once considered intractable. Significant strides have been made in improving targeted delivery and reducing off-target effects, allowing for greater precision and safety in clinical applications. Cell therapies—restore or enhance cellular functions by introducing viable, functional cells into patients. Gene therapies, in contrast, aim to correct or silence defective genes through direct modification of genetic material. Together, these approaches have expanded therapeutic possibilities for rare genetic disorders, cancers, and neurodegenerative diseases. This Special Issue focuses on the recent advances in CGT, with particular attention to addressing unmet medical needs over the past decade. It also highlights the critical role of in vitro and in vivo models in optimizing therapeutic strategies and the emerging potential to target previously inaccessible tissues and molecular pathways. This issue aims to foster dialogue and innovation toward more effective, scalable, and equitable therapeutic solutions.

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Deadline for manuscript submissions

20 January 2026



Cells

an Open Access Journal
by MDPI

Impact Factor 5.2
CiteScore 10.5
Indexed in PubMed



mdpi.com/si/244443

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About the Journal

Message from the Editorial Board

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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