

## Topical Collection

# The Pathomechanism of Mitochondrial Diseases

### Message from the Collection Editor

Mitochondrial diseases are a heterogeneous group of common inborn errors of metabolism, originating from pathogenic variants in the mitochondrial or nuclear genome, resulting in respiratory chain deficiency, mostly with devastating consequences. Moreover, mitochondrial dysfunction is associated with numerous other pathological conditions, including neurodegenerative diseases, diabetes, cancer, immune dysfunction, and heart and kidney diseases. Although next-generation sequencing (NGS) techniques are a game changer in the diagnosis of mitochondrial diseases, they have not significantly resulted in providing better treatment options, which are presently very limited. Studying the pathomechanistic aspects (cell biology and physiology, molecular biology, and biophysics) of the individual diseases in cellular and animal models is a vital step towards developing more effective treatments. The aim of this Special Issue is to broaden knowledge and understanding of the various pathomechanisms involving mitochondrial dysfunction in disease, including evaluating the effect of small molecules and other treatments in model systems.

---

### Collection Editor

Prof. Ann Saada

Hadassah Medical Center; Department of Genetics and Hebrew University of Jerusalem; Faculty of Medicine, P.O. Box 12000, Jerusalem 9112001, Israel

---



## Cells

---

an Open Access Journal  
by MDPI

---

Impact Factor 5.2  
CiteScore 10.5  
Indexed in PubMed



[mdpi.com/si/63716](https://mdpi.com/si/63716)

*Cells*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[cells@mdpi.com](mailto:cells@mdpi.com)

[mdpi.com/journal/](https://mdpi.com/journal/)

[cells](https://mdpi.com/journal/cells)





# Cells

---

an Open Access Journal  
by MDPI

---

Impact Factor 5.2  
CiteScore 10.5  
Indexed in PubMed



[mdpi.com/journal/  
cells](https://mdpi.com/journal/cells)



## 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.

---

### Editors-in-Chief

Dr. Alexander E. Kalyuzhny

Dental Basic Sciences, University of Minnesota, 308 Harvard St. SE,  
Minneapolis, MN 55455, USA

Prof. Dr. Cord Brakebusch

Biotech Research & Innovation Centre, The University of Copenhagen,  
Copenhagen, Denmark

---

### Author Benefits

#### High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, MEDLINE, PMC, CAPus / SciFinder, and other databases.

#### Journal Rank:

JCR - Q2 (Cell Biology) / CiteScore - Q1 (General Biochemistry, Genetics and Molecular Biology)

#### Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 16 days after submission; acceptance to publication is undertaken in 2.7 days (median values for papers published in this journal in the first half of 2025).