

Special Issue

Molecular Regulation of Mitosis and Its Role in Disease

Message from the Guest Editors

Mitotic division involves a profound cellular reorganization essential for the precise repartition of the genome between daughter cells. The nuclear envelope is disassembled, the microtubule dynamics dramatically change to form the bipolar spindle and DNA is condensed into chromosomes. A protein complex in the centromeric region of the chromosomes is assembled to form the kinetochores, a structure that will function as a mechanical latch allowing their attachment to the spindle microtubules. The chromosomes are then precisely aligned on the metaphase plate, a mechanism that is under the control of the spindle assembly checkpoint (SAC). This surveillance signalling pathway is activated by unattached chromosomes and prevents the metaphase-to-anaphase transition by inhibiting the anaphase promoting complex (APC), the ubiquitin ligase responsible for securin and cyclin B degradation.

In this special issue of *Cells*, the mechanisms driving coordinated mitosis and the different signalling networks generating accurate kinetochore-dependent chromosome segregation, SAC activation/inactivation and cytokinesis will be discussed.

Guest Editors

Dr. Thierry Lorca

Centre de Recherche de Biologie cellulaire de Montpellier (CRBM),
CNRS UMR 5237, Université de Montpellier, 1919 Route de Mende,
34293 Montpellier CEDEX 5, France

Dr. Anna Castro

Centre de Recherche de Biologie cellulaire de Montpellier (CRBM),
CNRS UMR 5237, Université de Montpellier, 1919 Route de Mende,
34293 Montpellier CEDEX 5, France

Deadline for manuscript submissions

closed (30 June 2019)



Cells

an Open Access Journal
by MDPI

Impact Factor 5.2
CiteScore 10.5
Indexed in PubMed



mdpi.com/si/18873

Cells
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
cells@mdpi.com

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

[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, CAPlus / 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 15.5 days after submission; acceptance to publication is undertaken in 2.8 days (median values for papers published in this journal in the second half of 2025).