



cells



an Open Access Journal by MDPI

Molecular Regulation of Mitosis and Its Role in Disease

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)

Message from the Guest Editors

Dear Colleagues,

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.

Dr. Thierry Lorca
Dr. Anna Castro
Guest Editors



mdpi.com/si/18873

Special Issue



cells



an Open Access Journal by MDPI

Editors-in-Chief

Prof. Dr. Alexander E. Kalyuzhny

Neuroscience, UMN Twin Cities,
6-145 Jackson Hall, 321 Church St
SE, Minneapolis, MN 55455, USA

Prof. Dr. Cord Brakebusch

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

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.

Author Benefits

Open Access: free for readers, with [article processing charges \(APC\)](#) paid by authors or their institutions.

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)

Contact Us

Cells Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/cells
cells@mdpi.com
[X@Cells_MDPI](#)