Special Issue

AMPK: From Mechanisms to New Therapies

Message from the Guest Editors

AMP-activated protein kinase (AMPK) has emerged as a central regulator of cellular energy homeostasis and a key modulator of various physiological and pathological processes. Its role is highly context-dependent, varying with tissue type, metabolic status, and disease condition. Understanding how AMPK functions in different biological systems and how its signaling pathways become dysregulated is essential for developing targeted therapeutic strategies.

This Special Issue will explore the multifaceted roles of AMPK in health and disease. Topics will include its involvement in metabolic disorders such as type 2 diabetes and obesity, where AMPK activation enhances insulin sensitivity and glucose uptake; in cancer, where it influences cell proliferation, metabolism, and the tumor microenvironment; and in reproductive health, particularly placenta-related pathologies and male fertility, where it regulates energy balance, nutrient transport, and sperm function. We will also highlight the role of AMPK in skin health, including aging, inflammation, and barrier dysfunction, and its broader implications in stress responses and cellular adaptation.

Guest Editors

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Deadline for manuscript submissions

15 December 2025

Cells

an Open Access Journal by MDPI

Impact Factor 5.2
CiteScore 10.5
Indexed in PubMed

mdpi.com/si/241300

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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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