Special Issue

Autophagy in Stress Responses: From Molecular Mechanisms to Disease Relevance

Message from the Guest Editors

Autophagy is a highly conserved cellular process essential for maintaining homeostasis under both basal and stress conditions. By capturing, degrading, and recycling damaged organelles, misfolded proteins, and toxic aggregates, autophagy enables cells to adapt to nutrient deprivation, oxidative stress, exercise, and other environmental challenges. In recent years, the molecular mechanisms that regulate autophagy, including selective cargo recognition, membrane dynamics, and the interplay with signaling pathways such as mTOR, AMPK, ubiquitin, and stress granule formation, have become areas of intense investigation. Dysregulation of autophagy has been increasingly linked to human pathologies, ranging from neurodegenerative and cardiovascular diseases to cancer, infection, and aging. This Special Issue of Cells invites original research and review articles that explore autophagy's multifaceted roles in stress adaptation and disease. We particularly welcome studies that integrate molecular, cellular, and physiological insights to advance our understanding of how autophagy functions as both a protective and pathological mechanism across biological systems.

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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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