

Special Issue

Melatonin in Neuroprotection: Mechanisms, Mitochondria, and Therapeutic Potential

Message from the Guest Editors

Neurodegenerative disorders encompass a range of conditions marked by the progressive loss of neurons. Based on their onset and progression, they are primarily categorized as acute forms (such as stroke or traumatic brain injury) or chronic forms (such as Alzheimer's, Parkinson's, Amyotrophic Lateral Sclerosis, and Multiple Sclerosis). These forms share common key pathological features, including mitochondrial dysfunction, oxidative stress, neuroinflammation, and protein misfolding.

Melatonin has emerged as a multifaceted neuroprotective agent whose actions extend far beyond its canonical role in circadian regulation. Increasing evidence reveals that melatonin exerts potent antioxidant, anti-inflammatory, and anti-apoptotic effects, with mitochondria representing a primary target of its protective activity. This Special Issue aims to bring together cutting-edge research and comprehensive reviews exploring the molecular mechanisms underlying melatonin's neuroprotective actions, its role in mitochondrial integrity and quality control, and its translational potential in chronic and acute neurological disorders.

Guest Editors

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About the Journal

Message from the Editor-in-Chief

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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