Special Issue

Recent Research on the Role of Mitochondria in Neurodegeneration

Message from the Guest Editor

Neurodegeneration is a spectrum of diseases. The most common forms are Alzheimer's, Parkinson's and Huntington's disease, multiple sclerosis, and amyotrophic lateral sclerosis. While neuronal loss contributes to the pathology, other cell types located in the brain including microglia and astrocytes play their roles in disease modification. Recently, the intestinal microbiome has been described to influence brain disorders through the brain–gut axis, which illustrates the complexity of disease initiation and spread. At the molecular level, the emergence of abnormal proteins and lipids, derived from gene mutations or pathogenic processes, affects cellular physiology, and the function of organelles. Inadequate quality control and clearance of damaged lipids, proteins, and organelles exacerbate the pathogenic conditions leading to neuronal cell death. Mitochondrial alteration has been shown to be involved in multiple and key steps in neurodegeneration such as mitophagy, energy supply, calcium homeostasis, and apoptosis. This review aims at summarising some novel understanding of the role of mitochondria in mediating and protecting from neurodegeneration.

Guest Editor

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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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