Special Issue

Molecular Mechanisms of Mitochondrial Neurodegenerative Diseases

Message from the Guest Editors

Mitochondrial diseases are a diverse group of rare genetic disorders that result from dysfunctions in the electron transport chain (ETC) and oxidative phosphorylation (OXPHOS). These defects are implicated in several neurodegenerative diseases, including Alzheimer's and Parkinson's, Melas, Merrf, Lhon, and Leigh Syndrome, among others. Mitochondria, the energy-producing organelles in eukaryotic cells, are regulated by two genetic systems: nuclear DNA, which encodes 90–95% of mitochondrial proteins, and mitochondrial DNA, which encodes the remaining 5%. Mitochondria also contain their own ribosomes, responsible for synthesizing key proteins essential for OXPHOS biogenesis. This Special Issue focuses specifically on studies on mitochondrial ribosomal proteins encoded by nuclear genes, whose mutations may contribute to neurodegenerative diseases of mitochondrial origin. Identifying these proteins will enhance our understanding of the molecular mechanisms underlying mitochondrial dysfunctions and may lead to novel therapeutic approaches. We also welcome studies investigating the mechanisms of mitochondrial-related neurodegenerative diseases and other related topics.

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The International Journal of Molecular Sciences (*IJMS*, ISSN 1422-0067) is an open access journal, which was established in 2000. The journal aims to provide a forum for scholarly research on a range of topics, including biochemistry, molecular and cell biology, molecular biophysics, molecular medicine, and all aspects of molecular research in chemistry. *IJMS* publishes both original research and review articles, and regularly publishes special issues to highlight advances at the cutting edge of research. We invite you to read recent articles published in *IJMS* and consider publishing your next paper with us.

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