

Special Issue

Molecular Mechanisms and Novel Therapeutic Approaches of Neurodegenerative Diseases

Message from the Guest Editor

Neurodegenerative diseases, including Alzheimer's disease, Parkinson's disease, and amyotrophic lateral sclerosis (ALS), are characterized by progressive neuronal loss and the deterioration of critical brain functions, often resulting in memory impairment, motor dysfunction, and a decline in cognitive and physical abilities. Recent insights into the molecular mechanisms underlying neurodegenerative diseases have opened new avenues for therapeutic exploration. Key areas of focus include the accumulation of misfolded proteins, mitochondrial dysfunction, oxidative stress, neuroinflammation, and genetic mutations that drive disease pathology. Understanding these complex and often interconnected pathways has catalyzed the development of novel approaches, including gene therapy, RNA-based therapies, small-molecule inhibitors, and immunotherapy. This Special Issue aims to gather pioneering research that explores these molecular underpinnings and innovative treatment strategies. By addressing challenges such as drug delivery across the blood-brain barrier, off-target effects, and long-term efficacy, this Issue aspires to drive forward the search for effective treatments.

Guest Editor

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Biomolecules is a multidisciplinary open-access journal that reports on all aspects of research related to biogenic substances, from small molecules to complex polymers. We invite manuscripts of high scientific quality that pertain to the diverse aspects relevant to organic molecules, irrespective of the biological question or methodology. We aim for a competent, fair peer review and rapid publication. Please look at some of the exciting work that has been published in *Biomolecules* so far. We would be delighted to welcome you as one of our authors.

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