Special Issue

Parkinson's Disease and Related Diseases: Mechanisms, Genetic Factors and Treatments

Message from the Guest Editor

Parkinson's disease (PD) and related neurodegenerative disorders pose a growing global health challenge, affecting millions with progressive motor and cognitive decline. Despite extensive research, the precise molecular mechanisms underlying PD remain elusive. with genetic and environmental interactions playing critical roles. Understanding the pathophysiology of PDincluding emerging insights into mitochondrial dysfunction, neuroinflammation, and novel genetic risk factors—is of paramount importance. A pressing concern is the variability in disease progression and treatment response. While current treatments offer symptom management, breakthroughs in gene therapy, neuroprotective agents, and precision medicine are reshaping the landscape. Additionally, the integration of machine learning and artificial intelligence in predicting disease onset, progression, and treatment outcomes holds transformative potential. We invite original research and comprehensive reviews that uncover novel molecular targets, refine diagnostic biomarkers, and advance Al-driven predictive models to revolutionize PD care and improve patient outcomes.

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