

Special Issue

Advances in Regulatory Mechanisms and Therapeutic Potential of Non-Coding RNAs in Neurodegenerative Diseases

Message from the Guest Editors

Neurodegenerative diseases—such as amyotrophic lateral sclerosis (ALS), Alzheimer’s disease (AD), and Parkinson’s disease (PD)—are complex and multifactorial disorders characterized by progressive neuronal dysfunction and loss. Accumulating evidence underscores the critical roles of non-coding RNAs (ncRNAs), including microRNAs, long non-coding RNAs, and circular RNAs, in modulating gene expression, synaptic plasticity, mitochondrial function, and neuroinflammatory pathways implicated in disease pathogenesis. This Special Issue will spotlight recent advances in elucidating the molecular mechanisms through which ncRNAs contribute to neurodegeneration. It will also highlight their translational potential as biomarkers for early diagnosis and disease progression and their promise as therapeutic targets in precision medicine. We welcome original research articles and reviews focusing on the mechanistic insights into ncRNA biology, novel regulatory networks, and the preclinical or clinical applications of ncRNA-based strategies.

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Editor-in-Chief

Prof. Dr. Amélia Pilar Rauter

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