



Metabolic Influences on Neurodegeneration

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Message from the Guest Editor

Neurodegenerative diseases (NDDs) are characterized by a variety of cellular features, including neuronal loss, aggregation of different proteins, impaired protein clearance, mitochondrial dysfunction, oxidative stress, neuroinflammation, axon transport defects, and cell death. For numerous cytopathologies, insufficient glucose metabolism and mitochondrial dysfunction are demonstrated to be early indicators of age-related functional changes during normal brain aging. In addition to producing ATP, mitochondria are at the center of numerous metabolic pathways and important cellular functions, including fine-tuning of intracellular calcium (iCa^{2+}) signaling, regulation of cell death, lipid synthesis, ROS signaling, and cell quality control. The signaling pathways that combine cellular energy metabolism with the adaptive structural and functional responses of neuronal circuits to neuronal network activity are quite complex. The aim of this Special Issue is to present novel evidence supporting the link between metabolism and neurodegeneration. Ultimately, the focus will be on how metabolic manipulations could be used as a therapeutic tool for neurodegenerative diseases.





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Message from the Editor-in-Chief

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