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Significance of Antioxidants on Aging and Neurodegeneration

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Message from the Guest Editors

Brain tissue is one of the most vulnerable organs to oxidative stress due to its high content of polyunsaturated fatty acids, oxygen saturation, and iron, in addition to its low antioxidant enzyme activity. Oxidative stress is involved in the pathogenesis of both aging and neurodegenerative diseases, including Alzheimer's disease, Parkinson's disease, epilepsy, depression, etc. The therapeutic efficacy of antioxidant treatment has been proven in preclinical and clinical studies. However, the precise mechanism underlying the effects of antioxidants is questioned, specifically as to whether is associated with direct radical scavenger action or the modulation of key signaling pathways related to neurodegeneration.

This Special Issue will involve research manuscripts, reviews and short commentaries on topics related to the underlying mechanism and the role of putative signaling molecules in the effects of different natural and synthetic antioxidants against the pathophysiology of neurodegenerative diseases. Papers focused on the intrinsic role of treatments with antioxidants on oxidative stress and its impact on neurodegeneration will be considered for this Special Issue.

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Message from the Editor-in-Chief

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