

## Special Issue

# Role of Antioxidants and Oxidative Stress in Neurodegenerative Diseases

### Message from the Guest Editor

Neurodegenerative disorders affecting both the central and the peripheral nervous system, such as Parkinson's disease, Alzheimer's disease, Huntington's disease, multiple sclerosis, frontotemporal dementia, amyotrophic lateral sclerosis, retinopathies, and neuropathies, represent a major global health challenge. These diseases share impaired cellular redox homeostasis due to imbalance between pro-oxidant RNS/ROS and cellular antioxidant defenses. The nervous system's high oxygen demand and lipid content increase its vulnerability. ROS/RNS damage neurons, glia, myelin, and extracellular matrix, causing cell death, protein misfolding, synaptic dysfunction, blood-brain barrier impairment, and neuroinflammation. Consequently, antioxidant administration is emerging as a promising therapeutic strategy. These compounds, from natural or synthetic sources, can act as direct antioxidants and modulate signaling pathways regulating redox balance, metabolism, and inflammation. This Special Issue of *Antioxidants* aims to overview the role of oxidant/antioxidant species in neurodegeneration and recent advances in their clinical application. We invite reviews and original research on this topic.

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### Guest Editor

Dr. Barbara Sottero

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### Deadline for manuscript submissions

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## Antioxidants

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## About the Journal

### Message from the Editor-in-Chief

It has been recognized in medical sciences that in order to prevent adverse effects of “oxidative stress” a balance exists between prooxidants and antioxidants in living systems. Imbalances are found in a variety of diseases and chronic health situations. Our journal *Antioxidants* serves as an authoritative source of information on current topics of research in the area of oxidative stress and antioxidant defense systems. The future is bright for antioxidant research and since 2012, *Antioxidants* has become a key forum for researchers to bring their findings to the forefront.

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### Editor-in-Chief

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