

Special Issue

Oxidative Stress Mechanisms and Parkinson's Disease Treatment

Message from the Guest Editor

Fifty-seven years since its introduction, L-dopa remains the most effective treatment for Parkinson's disease, despite significant side effects after long-term use. The failure of antioxidant-based clinical trials, such as those involving coenzyme Q, underscores the need to re-evaluate the role of oxidative stress in the loss of neuromelanin-containing dopaminergic neurons. Additional mechanisms—including alpha-synuclein aggregation, mitochondrial dysfunction, ER stress, impaired protein degradation, and neuroinflammation—also contribute to disease progression. This Special Issue invites original research, reviews, and hypotheses to critically examine both the mechanisms underlying neuronal loss and the preclinical models used in drug development. We aim to understand past trial failures and accelerate the discovery of disease-modifying therapies for Parkinson's.

Guest Editor

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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.

Editor-in-Chief

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