Special Issue

Connecting the Dots between Oxidative Stress, Gut-Brain Axis and Neurodegenerative Diseases

Message from the Guest Editors

Recent findings suggest the crucial role of mitochondrial proteins and mitochondrial reactive oxygen species, recognized as damage-associated molecular patterns (DAMPs), in the intracellular signaling that regulates innate immunity and inflammation. Moreover, the gut-brain axis consists in the bidirectional interaction between intestinal microbiota, the gut, and the Central Nervous System (CNS), with the exchange of hormones, neurotransmitters, and neurotoxic metabolites. Emerging evidence highlights that during normal aging, the microbiota that populates Enteric Nervous System (ENS) suffers changes which result in altered permeability of the intestinal barrier and that these mechanisms may be involved in several neurodegenerative disorders. Topics in this Special Issue include, but are not limited to, the following: Role of gut microbiota in combating or generating oxidative stress; Oxidative stress and inflammation in the pathogenesis of neurodegenerative diseases; Potential interactions between the microbiota-gut-brain axis and the CNS's oxidative stress; Oxidative stress, microbiome, and gut health; Antioxidants and the gut microbiome.

Guest Editors

Dr. Ana Raquel F. Esteves

Center for Neuroscience & Cell Biology, Faculty of Medicine, 1st floor, University of Coimbra, Coimbra, Portugal

Dr. Diana Silva

Center for Neuroscience & Cell Biology, Faculty of Medicine, 1st floor, University of Coimbra, Coimbra, Portugal

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Antioxidants
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
antioxidants@mdpi.com

mdpi.com/journal/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.

Editor-in-Chief

Prof. Dr. Alessandra Napolitano
Department of Chemical Sciences, University of Naples "Federico II", Via Cintia 4, I-80126 Naples, Italy

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