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Mitochondrial Dysfunction and Oxidative Stress in the Pathogenesis of Neurodegenerative Disease

Guest Editors:

Dr. Marco Bisaglia

Department of Biology, University of Padova, Via Ugo Bassi 58/B, 35131 Padova, Italy

Prof. Dr. Sasanka Chakrabarti

Department of Biochemistry and Central Research Cell, Maharishi Markandeshwar Institute of Medical Sciences and Research, Maharishi Markandeshwar (Deemed to be University), Mullana, Ambala 133207, India

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Message from the Guest Editors

Neurodegenerative diseases are a heterogeneous group of disorders characterized by the progressive degeneration of neuronal cells. Increasing evidence now exists that supports the interplay between mitochondrial dysfunctions and oxidative stress as contributing factors in the onset and progression of most neurodegenerative diseases. Due to its high oxygen consumption, low antioxidant defenses, and high content of metal ions and polyunsaturated lipids, the brain is particularly sensitive to oxidative injury. Mitochondrial alterations have been often described as key events in neurodegeneration. At the same time, free radical species have been demonstrated to affect mitochondrial functionality. In fact, mitochondrial dysfunction and oxidative stress are interdependent processes, which are linked to several regulated cell death pathways involved in neurodegenerative diseases. The aim of this Special Issue is to provide a broad and updated overview of the involvement of mitochondrial dysfunction and oxidative stress in different neurodegenerative disorders.



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Special Issue



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Editor-in-Chief

Prof. Dr. Alessandra Napolitano

Department of Chemical
Sciences, University of Naples
"Federico II", Via Cintia 4, I-80126
Naples, Italy

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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Antioxidants Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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