Special Issue

Oxidative Stress and Gene Regulation

Message from the Guest Editor

Oxidative stress is defined as the imbalance between the production of reactive oxygen species (ROS) and antioxidant defenses, which ultimately leads to an excessive accumulation of ROS. This excessive ROS accumulation has been identified as the causative factor of different pathological conditions, such as neurodegenerative disorders, cancer, atherosclerosis, diabetes, infertility, and fibrosis. At the molecular level, oxidative stress damages proteins, lipids, and nucleic acids, promotes genomic instability, and alters gene expression. Restoring normal response to oxidative damage by regulating antioxidant enzymes has been demonstrated as a promising strategy for the treatment and prevention of stress-related diseases, as well as for overcoming resistance to treatments and immune escape. Thus, a greater understanding of the genes regulated by oxidative stress can undoubtedly provide a clue to counteract cell damage. This Special Issue will discuss the latest research findings on oxidative-stress-regulated genes with a focus on their contribution to the development of novel therapeutic strategies in the treatment of oxidative-stress-related diseases.

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.

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