Special Issue

Oxidative Stress and Disease: Basic and Biochemical Approaches

Message from the Guest Editor

Pollution, smoking, excessive alcohol consumption, and stress (external factors), in addition to metabolic processes in cells, such as respiration and digestion, produce many reactive oxygen species (ROS) and nitrogen species every day. These unstable molecules cause oxidative stress, an imbalance between ROS and nitrogen species in the cell, and affect its ability to neutralize them.

Moreover, oxidative stress is implicated in the development of diseases, including cancer, and many studies have investigated the use of antioxidants for the prevention and treatment of cardiovascular diseases and neurodegenerative disorders.

The determination of lipid peroxidation (MDA) and enzymes, such as catalase (CAT), superoxide dismutase (SOD), myeloperoxidase (MPO), and butyrylcholinesterase (BuChe), can provide information on the degree of oxidative stress. Furthermore, cytokines' and prostaglandins' monitoring provides a measure of the inflammatory state.

This Special Issue encourages manuscript submissions on oxidative stress, its biochemical pathways, and potential interventions to mitigate its harmful effects.

Guest Editor

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Deadline for manuscript submissions

closed (25 November 2025)



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Message from the Editor-in-Chief

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