

Special Issue

Lipid Peroxidation and Protein Carbonylation in Human Diseases

Message from the Guest Editor

Free radicals, whether produced in the human body during metabolic processes or derived from the environment, have the potential to oxidize both lipids and proteins. This oxidation process can lead to the formation of lipid peroxides and oxidized forms of proteins that play critical roles in cell death, including apoptosis, autophagy, and ferroptosis. The body has built-in defense mechanisms to counteract the harmful effects of free radicals, including the presence of antioxidants, such as vitamins C and E, and enzymes, such as superoxide dismutase and catalase. These antioxidants donate electrons to free radicals, neutralizing their reactivity and preventing further oxidative damage. When there is an imbalance between free radical production and the body's antioxidant defenses, oxidative stress can occur. Oxidative stress is associated with a wide range of health problems, including aging, neurodegenerative diseases, cardiovascular diseases, cancer, and inflammatory diseases.

Guest Editor

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