

Special Issue

Antioxidants: Design, Synthesis, and Mechanism of Actions

Message from the Guest Editor

Antioxidants are essential compounds that protect cells from oxidative damage caused by free radicals and reactive oxygen species. They play a significant role in slowing the aging process and reducing the risk of chronic diseases. Antioxidants are also widely used in other applications such as food preservation, cosmetics, and pharmaceuticals. To ensure their successful use across multiple fields, it is crucial to develop antioxidants that maintain their effectiveness while remaining safe. This Special Issue invites submissions on the innovative design and synthesis of next-generation antioxidants that exhibit strong activity with minimal pro-oxidant effects. Potential topics include phenolic, thiolic, or nitrogen-based free radical scavengers, inhibitors of oxidant-generating enzymes, activators of antioxidant-generating enzymes, metal chelators, and multifunctional antioxidants, all of which should undergo rigorous testing for efficacy. We also welcome research on antioxidant mechanisms, testing in cell lines and animal models, and the exploration of new methods to enhance the water solubility of hydrophobic antioxidants.

Guest Editor

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