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Catalytic Antioxidants

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Message from the Guest Editor

The formation of free radicals and other reactive oxygen species (ROS) in living tissues is an unavoidable consequence of aerobic metabolism. The expression of specific enzymes that are able to quench or avoid the formation of ROS and dangerous free radicals (i.e., superoxide dismutase, catalase, glutathione peroxidase) is an endogenous answer to this problem. In the last year, remarkable effort has been made to study antioxidants that can mimic these enzymes, ensuring protection when used in a catalytic amount. This enzyme mimicry can be achieved by either favouring a disproportionation process (for example, in superoxide dismutase or catalase like systems) or exploiting a sacrificial reductant consumed during the process (for example, in glutathione peroxidase mimic compounds).

The aim of this Special Issue of *Antioxidants* is to present a collection of the latest research on catalytic antioxidants. In particular, we are focused on molecular actions at the biological level of natural derivatives in relation to the design, synthesis, and effectiveness of synthetic derivatives.

We look forward to your contribution.



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Special Issue



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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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