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Melatonin and Redox Signaling

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Message from the Guest Editors

Melatonin is especially effective as an antioxidant because it utilizes a wide variety of means to reduce oxidative stress. Firstly, melatonin scavenges several toxic reactants, including the highly toxic hydroxyl radical, and perhaps even more importantly, it takes advantage of its derivatives, which also are efficient free radical scavengers. Secondly, this indoleamine also functions as an indirect antioxidant because of its ability to stimulate the expression and activity of antioxidant enzymes which remove free radicals and their precursors. One additional important feature of melatonin's ability to reduce oxidative stress is that melatonin is a mitochondria-targeted antioxidant. Several studies have provided evidence that melatonin could protect mitochondria from oxidative stress resulting from different toxins.

This Special Issue aims to publish original research papers and reviews on melatonin and its relationships with oxidative stress and redox signaling pathways, and wishes to be an instrument for communication and dissemination of the most recent findings about the beneficial therapeutic implications of this indoleamine in human diseases.



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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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