



Melatonin and Related Compounds: Antioxidant and Anti-inflammatory Actions

Guest Editor:

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Message from the Guest Editor

Melatonin is synthesised endogenously in many cells and can also be administered exogenously. It has profound antioxidant activity, reacting with both oxygen- and nitrogen-derived reactive species, and, in addition, its metabolites and reaction products are also antioxidants. Melatonin scavenges hydrogen peroxide, augments endogenous antioxidant pathways, and decreases nitric oxide production. Highest levels in the cell are found in mitochondria after exogenous administration and it prevents mitochondrial dysfunction, energy failure, and apoptosis. It also ameliorates inflammatory cytokine release in cells and in animal models of oxidative injury. As such, it has numerous therapeutic possibilities. This Special Issue invites articles encompassing the antioxidant and inflammatory actions and relevant mechanistic pathways of melatonin and related compounds across the range of experimental approaches, including molecular, pre-clinical, and translational studies.





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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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