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Multileveled Molecular Mechanisms Related to Oxidative Stress in Retinitis Pigmentosa II

Guest Editors:

Prof. Dr. Antonina Sidoti

Department of Biomedical and Dental Sciences and Morphofunctional Imaging, Division of Medical Biotechnologies and Preventive Medicine, University of Messina, Via Consolare Valeria 1, 98125 Messina, Italy

Dr. Luigi Donato

Department of Biomedical, Dental, Morphological and Functional Imaging Sciences, University of Messina, 98125 Messina, Italy

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Message from the Guest Editors

Generally, photoreceptor cell survival is ensured by retinal pigment epithelium (RPE), which provides many vital functions, such as phagocytosis of photoreceptor outer segments, metabolite transport, photoreceptor excitability, regulation of the visual cycle, secretion of growth factors, and oxidative stress protection. Among the main causes of RP, the RPE disruption induced by oxidative stress represents the most complex and still not sufficiently explored. RPE degeneration alters cell cycle, vesicular trafficking, cell migration, endoplasmic reticulum stress, chaperones activity, small GTPase signaling, retinoic acid cycle, microvascular integrity, chromosome stability, circadian rhythms, fatty acid metabolism, synapses integrity, and retinal cell rescue. This research topic will discuss the most recent preclinical and clinical evidence highlighting the central role of oxidative stress in the onset and progression of RP, analyzing the extraordinary complexity of the multileveled molecular mechanisms and the current strategies adopted to protect the retina.



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Editor-in-Chief

**Prof. Dr. Alessandra
Napolitano**

Department of Chemical
Sciences, University of Naples
"Federico II", Via Cintia 4, I-80126
Naples, Italy

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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Antioxidants Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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