Special Issue

Multileveled Molecular Mechanisms Related to Oxidative Stress in Retinitis Pigmentosa

Message from the Guest Editors

Retinitis pigmentosa (RP) is a heterogeneous inherited ocular disorder. It is characterized by progressive retinal disruption with unusually complicated molecular genetic causes, the main cellular event causing the onset of retinitis pigmentosa in photoreceptor cells and rods and cones. RPE provides many vital functions such as regulation of the visual cycle, and photoreceptor excitability, phagocytosis of photoreceptor outer segments, secretion of growth factors, and oxidative stress protection. Among the main causes of RP, there is the RPE disruption due to oxidative stress. RPE degeneration alters cell cycle, endoplasmic reticulum stress, chaperones activity, small GTPase signalling, retinoic acid cycle, microvascular integrity, chromosome stability, circadian rhythms, fatty acids metabolism, synapses integrity, and retinal cells rescue. This research topic will discuss 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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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.

Editor-in-Chief

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