



Sperm Oxidative Stress

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Message from the Guest Editor

The classic double-edged sword of redox biology is exemplified by the observation that reactive oxygen species (ROS)-dependent signaling has vital roles in normal cellular function, but can also result in damage to cells, either directly by ROS or by activation of downstream pathways. Sperm are highly susceptible to oxidative damage due to the lack of cytoplasmic scavenging enzymes and high levels of polyunsaturated fatty acids found in their plasma membranes. While physiological levels of ROS are necessary for spermatogenesis and post ejaculation maturation including capacitation and hyperactivation, these processes quickly become impaired if the cells enter a state of oxidative stress.

In this Special Issue, we aim to publish experimental research and review articles that look at understanding normal ROS concentrations for optimal sperm function, its use as a clinical diagnostic, interventions to reduce ROS-related sperm damage and how ROS-related damage is transmitted to the developing embryo to program offspring phenotypes.





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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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