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Heme Peroxidases in (Patho)Physiological Reactions and Disease Progression

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Message from the Guest Editors

In humans, myeloperoxidase (MPO), eosinophil peroxidase (EPO), and lactoperoxidase (LPO), are essential components of immune defense against foreign microorganisms. MPO and EPO are released from activated neutrophils or eosinophils, respectively, at inflamed sites, where they contribute to the killing of bacteria, fungi, and parasites. LPO contributes to the inactivation of microorganisms in secretions. A unique property of these peroxidases is their halogenating activity and adverse modification of target compounds. In addition to the useful functions of innate immune cells in the inactivation and killing of microbes, active agents released by immune cells at inflamed sites have a high potential to damage unperturbed host cells and tissues. Secreted agents from polymorphonuclear leukocytes, including MPO, are able to damage surrounding tissue constituents. Mechanisms determining the precarious balance between the helpful and harmful actions of peroxidases and immune cells are under intense investigation. In this Special Issue, the main focus will be the involvement of MPO, EPO, and LPO under physiological conditions and potential activities to promote disease progression.



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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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