



Thiol-Based Redox Regulation of Cellular and Organismal Function

Guest Editor:

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Message from the Guest Editor

Thiol groups in protein cysteine residues are susceptible to a wide range of post-translational oxidative modifications, including but not limited to disulfide bond formation, S-glutathionylation, S-nitrosylation, persulfidation, and sulfenylation. Such cysteine redox modifications can occur in numerous proteins, including metabolic enzymes, transcription factors, and kinases, and can serve to modulate or regulate protein function. However, our understanding of protein thiol redox modifications remains remarkably limited in many aspects. Furthermore, the mechanism of protein thiol oxidation remains to be elucidated in most cases. Some thiol redox modifications are relatively short-lived and unstable. It is possible that such redox modifications may simply represent an intermediate step towards a more stable modification, however, this remains under debate. In any case, it is increasingly accepted that the oxidative modification of cysteine thiol groups is likely to be tightly controlled. In this Special Issue, we welcome articles that offer strong new mechanistic insights on all aspects of oxidative protein thiol modifications.





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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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