



Selenium and Selenoproteins for Optimal Health

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Message from the Guest Editors

Selenium is an essential mineral and mediates physiological and pathophysiological conditions, mainly through selenoproteins. Selenocysteine is co-translationally incorporated into nascent selenoproteins by using the UGA codon. All functionally characterized selenoproteins are oxidoreductases. Selenoproteins have been implicated in neurological, cardiovascular, reproductive and infectious diseases, cancer, and diabetes. Pathologies of these diseases are associated with imbalances between generation and elimination of reactive oxygen or nitrogen species. While overproduction of free radicals induces oxidative stress and results in adverse physiological conditions, selenoproteins can paradoxically promote redox stress. Animal or human studies have demonstrated strong linkages of selenium metabolism, selenoprotein functions, and selenoprotein-related genetic aberrations to human health. The field of selenium biology has been advanced tremendously through the employment of various mouse and cell models, functional genomics, and systems biology. This Special Issue welcomes submissions addressing any aspect of selenium and selenoprotein regulations towards optimal health.





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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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