



Molecular Research of Selenocysteine in Selenoproteins

Guest Editor:

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submissions:

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Message from the Guest Editor

Dear Colleagues,

Selenium is an essential micronutrient for humans. Found primarily in the form of selenocysteine, the 21st naturally occurring amino acid, selenocysteine is incorporated into nascent selenoproteins at specified UGA codons through a sophisticated translation pathway developed by nature. These methods of biosynthesis and insertion of selenocysteine differ in all three domains of life. In humans, 25 identified selenoproteins have been linked to various diseases, including neurological, cardiovascular, reproductive, and infectious diseases, cancer, and diabetes. The pathologies of these diseases are associated with imbalances between the generation and elimination of reactive oxygen or nitrogen species. Selenoproteins are not unique to humans or eukaryotes, but play critical roles in bacterial physiology and archaeal methanogenesis. Various mouse and cell models and functional genomics, as well as advances in chemical, synthetic biology, and bioinformatics technologies, have significantly driven forward the field of selenium biology. This Special Issue welcomes submissions addressing any aspect of selenium and selenoproteins in any domain of life.





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Message from the Editor-in-Chief

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