



Reactive Carbonyl Species and Protein Adducts: Identification Strategies, Biological Mechanisms and Molecular Approaches for Their Detoxification

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Message from the Guest Editors

For several decades, reactive carbonyl species (RCS) and their corresponding protein adducts have been considered as biomarkers of oxidative stress and used to evaluate the in vitro and in vivo antioxidant efficacy of natural and synthetic antioxidant compounds. Molecular approaches to inhibit RCS formation and protein adducts do not only represent a tool to better understand their pathogenetic roles but also a promising therapeutic approach. We need to set up analytical methods to selectively identify, characterize, and quantify RCS and the corresponding AGEs and ALEs which are formed in oxidative based disease (atherosclerosis, diabetes, obesity) and a better understanding of their biological role to gain an insight into their effects on cellular and molecular pathways.

The Special Issue aims to collect research and review papers on the following three main issues on reactive carbonyl species and protein adducts: (1) novel analytical approaches for their identification characterization and quantification; (2) biological effects with a particular focus on cellular and molecular pathways; and (3) novel molecular approaches for preventing/sequestering/detoxifying RCS and adducts.





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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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