

## Special Issue

# Human Serum Albumin: The Role of Cys34 and Nucleophilic Sites in Oxidative Stress and in the Detoxification of Endogenous and Xenobiotic Electrophilic Compounds

### Message from the Guest Editors

Human serum albumin (HSA) contains reactive nucleophilic sites including a single unbound cysteine residue—Cys34, and several accessible and reactive Lys, His, and Arg residues, which, together with Cys34, form a pool of residues that is capable of interacting with endogenous and xenobiotic electrophilic compounds, thereby serving as a first line of metabolic defense against potentially damaging molecules. Potential topics include, but are not limited to: Analytical methods for measuring modifications of albumin nucleophilic sites; Cys34 and its modifications as biomarkers of systemic oxidative stress; Pharmacological strategies to regenerate mercaptoalbumin from its oxidized states; The impact of environmental stressors on the modifications of albumin nucleophilic sites; The role of modifications to albumin nucleophilic sites in disease pathophysiology; Endogenous mechanisms for maintaining mercaptoalbumin levels; Albumin nucleophilic sites as detoxifying agents of endogenous and exogenous electrophilic compounds; Biological effect of albumin–electrophilic adducts;

### Guest Editors

Prof. Dr. Giancarlo Aldini

Dr. Alessandra Altomare

Dr. Giovanna Baron

### Deadline for manuscript submissions

closed (31 July 2025)



## Antioxidants

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## About the Journal

### 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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### Editor-in-Chief

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