Special Issue

Glutathione: Chemistry and Biochemistry

Message from the Guest Editor

Glutathione (γ-L-glutamyl-L-cysteinyl-glycine; GSH) is the most abundant low-molecular-weight thiol found in both prokaryotic and eukaryotic organisms. It plays an important role in cellular redox homeostasis, biotransformation of xenobiotics, defense against electrophilic reactive species, and control of several cellular events, among others. Most of these cellular functions are related to the thiol (SH) function of the cysteine moiety. With increasing knowledge on the molecular basis of its functions, the use of GSH as a nutritional supplement is also experiencing increasing interest. The aim of this Special Issue is to review the information gained over recent years regarding the synthesis, physicochemical characterization, and synthetic applications of GSH, as well as on the mechanism and stereochemistry of its enzyme-catalyzed and spontaneous reactions that have a role in cellular functions such as redox control, stress defense, drug biotransformation, and cell signaling. Furthermore, particular attention will also be given to the analytical methodologies used to identify and quantitate GSH conjugates and specific *S*-glutathionylation reactions.

Guest Editor

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As the premier open access journal dedicated to experimental organic chemistry, and now in its 25th year of publication, the papers published in *Molecules* span from classical synthetic methodology to natural product isolation and characterization, as well as physicochemical studies and the applications of these molecules as pharmaceuticals, catalysts and novel materials. Pushing the boundaries of the discipline, we invite papers on multidisciplinary topics bridging biochemistry, biophysics and materials science, as well as timely reviews and topical issues on cutting edge fields in all these areas.

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