Special Issue

Homocysteine: Biochemistry, Molecular Biology, and Role in Disease

Message from the Guest Editors

Homocysteine is a non-proteinogenic sulfhydryl-containing amino acid derived from methionine and is a homologue of cysteine. The concentration of homocysteine is regulated by two key pathways: remethylation back to methionine or transsulfuration to cysteine with simultaneous production of hydrogen sulfide (H2S). Homocysteine levels can be increased by different conditions, including genetic factors, diet, life style, several medications, etc. Elevated homocysteine, called hyperhomocysteinemia (hHcy), is associated with a higher risk of neurovascular diseases, dementia, migraines, developmental impairments or epilepsy. Mechanisms underlying neurotoxicity of homocysteine include oxidative stress, DNA damage, protein thiolation, and protein homocysteinylation, triggering apoptosis and excitotoxicity.

This Special Issue will focus on the role of homocysteine in the development of several pathological conditions and the mechanisms of H2S-mediated cell/neuroprotection.

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Biomolecules is a multidisciplinary open-access journal that reports on all aspects of research related to biogenic substances, from small molecules to complex polymers. We invite manuscripts of high scientific quality that pertain to the diverse aspects relevant to organic molecules, irrespective of the biological question or methodology. We aim for a competent, fair peer review and rapid publication. Please look at some of the exciting work that has been published in *Biomolecules* so far. We would be delighted to welcome you as one of our authors.

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