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Metalloproteins

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Message from the Guest Editors

Specific interactions of metal ions with biopolymers and, firstly, with proteins, play a critical role. Ten to thirteen metals are vitally important for living organisms: Na, K, Mg, Ca, Mn, Fe, Co, Zn, Cu, Ni, V, W, Mo. Metal ions are also essential in proteins: structural, regulatory, and enzymatic. The binding of some metal ions increases stability of proteins or protein domains. Some metal ions can regulate various cell processes as first, second or third messengers. Some others, especially transition metal ions, take part in the catalysis process in many enzymes. They are further an integral part of many enzymes and are indispensable in several catalytic reactions, e.g., hydrolytic, redox and isomerization reactions. In particular, transition metals, such as Fe, Cu, and Mn, are involved in many redox processes requiring electron transfer. Alkali and alkaline earth ions, especially Na(I), K(I), and Ca(II), play a vital role in triggering cellular responses. This Special Issue of *Molecules* aims to identify and review the latest achievements in the area of studies of metal binding proteins: their structure, properties and functions.



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Special Issue



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Message from the Editor-in-Chief

As the premier open access journal dedicated to molecular chemistry, now in its 30th 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 all major fields of molecular chemistry and multidisciplinary topics bridging chemistry with biology, physics, and materials science, as well as timely reviews and topical issues on cutting-edge fields in all of these areas.

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