1. Record Nr. UNINA9910557146703321

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Titolo	Bioinorganic Chemistry of Nickel
Pubbl/distr/stampa	Basel, Switzerland, : MDPI - Multidisciplinary Digital Publishing Institute, 2020
Descrizione fisica	1 electronic resource (238 p.)
Soggetti	Research & information: general
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	The chemistry of nickel in biological systems has been intensely investigated since the discovery of the essential role played by this transition metal in the enzyme urease, ca. 1975. Since then, several nickel-dependent enzymes have been discovered and characterized at the molecular level using structural, spectroscopic, and kinetic methods, and insight into reaction mechanisms has been elaborated using synthetic and computational models. The dual role of nickel as both an essential nutrient and as a toxin has prompted efforts to understand the molecular mechanisms of nickel toxicology and to uncover the means by which cells select nickel from among a pool of different and more readily available metal ions and thus regulate the intracellular chemistry of nickel. This latter effort highlights the importance of proteins involved in the extra- and intra-cellular sensing of nickel, the roles of nickel-selective proteins for import and export, and nickel-responsive transcription factors, all of which are important for regulating nickel homeostasis. In this Special Issue, the contributing authors have covered recent advances in many of these aspects of nickel biochemistry, including toxicology, bacterial pathogenesis, carcinogenesis, computational and synthetic models, nickel trafficking proteins, and enzymology.