

Biophysical approaches for the study of metal-protein interactions

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Rok wydania

2019

Czasopismo

Journal of Inorganic
Biochemistry

Numer woluminu

199

Strony

110783/1-110783/10

DOI

10.1016/j.jinorgbio.2019.110783

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

Protein-protein interactions play important roles for a variety of cell functions, often involving metal ions; in fact, metal-ion binding mediates and regulates the activity of a wide range of biomolecules. Enlightening all of the specific features of metal-protein and metal-mediated protein-protein interactions can be a very challenging task; a detailed knowledge of the thermodynamic and spectroscopic parameters and the structural changes of the protein is normally required. For this purpose, many experimental techniques are employed, embracing all fields of Analytical and Bioinorganic Chemistry. In addition, the use of peptide models, reproducing the primary sequence of the metal-binding sites, is also proved to be useful.

In this paper, a review of the most useful techniques for studying ligand-protein interactions with a special emphasis on metal-protein interactions is provided, with a critical summary of their strengths and limitations.

Słowa kluczowe

Metal-protein interactions, Analytical techniques, Biophysical methods, Structural and kinetic tools

Adres publiczny

<http://dx.doi.org/10.1016/j.jinorgbio.2019.110783>

Strona internetowa wydawcy

<http://www.elsevier.com>