Uniwersytet Wrocławski

Repozytorium

Plik pochodzi z repozytorium Wydziału Chemii Uniwersytetu Wrocławskiego

Coordination properties of Cu(II) and Ni(II) ions towards the C-terminal peptide fragment-TYTEHA- of histone H4.

Autorzy

T. Karavelas

G. Malandrinos

N. Hadjiliadis

Piotr Młynarz

Henryk Kozłowski

M. Barsam

I. Butler

Rok wydania

2008

Czasopismo

Dalton Transactions

Strony

1215-1223

DOI

10.1039/B716863B

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

In order to reveal more information about the toxicity caused by metals and furthermore their influence to the physiological metabolism of the cell, the hexapeptide model Ac-ThrTyrThrGluHisAla-am representing the C-terminal 71–76 fragment of histone H4 which lies into the nucleosome core, was synthesized. A combined pH-metric and spectroscopic UV-VIS, EPR, CD and NMR study of Ni(II) and Cu(II) binding to the blocked hexapeptide, revealed the formation of octahedral complexes involving imidazole nitrogen of histidine, at pH 5 and pH 7 for Cu(II) and Ni(II) ions respectively. In basic solutions a major square-planar 4 N Ni(II)-complex, adopting a $\{N_{Im}, 3N^{-}\}$ coordination mode, was formed. In the case of Cu(II) ions, a 3 N complex, involving the imidazole nitrogen of histidine and two deprotonated amide nitrogens of the backbone of the peptide, at pH 7 and a series of 4 N complexes starting at pH 6.5, were suggested. In addition Ni(II)-mediated hydrolysis of the peptide bond-Tyr-Thr was evident following our experimental data.

Adres publiczny

https://doi.org/10.1039/B716863B

Strona internetowa wydawcy

https://www.rsc.org/

Plik został wygenerowany dnia 2026-11-04 01:24:52

Adres w repozytorium https://old.chem.uni.wroc.pl/pl/repozytorium/wSleG9e.