Copper(II) complexes of *Neobelliera Bullata* Trypsin Modulating Oostatic Factor and its analogues.

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Streszczenie

The stoichiometry, stability constants and solution structure of the complexes formed in the reaction of copper(II) with hexapeptide NPTNLH, i.e. the *Neobelliera Bullata* Trypsin Modulating Oostatic Factor (*Neb*-TMOF), and its analogues DPTNLH, Ac-NPTNLH and Ac-DPTNLH have been determined by potentiometric, UV–visible, CD and EPR spectroscopic methods. Upon raising pH for Ac-NPTNLH and Ac-DPTNLH peptides, copper(II) coordination starts from the imidazole nitrogen of the His^6; afterwards three deprotonated amide nitrogens are progressively involved in metal ions coordination. In a wide pH range of 4.5–8.5 for the NPTNLH and DPTNLH ligands the CuL complex dominates with the imidazole nitrogen of His^6 coordinated to form a macrochelate. The N-terminal amino group of the NPTNLH and DPTNLH peptides takes part in the coordination of the metal ion in the CuL, $CuH_{-1}L$ and $CuH_{-2}L$ complexes. However, at pH above 9 the $CuH_{-3}L$ complex with the $\{N_{Im}, 3N^-\}$ coordination mode is formed. For the $CuH_{-2}L$ complex the spectroscopic data clearly indicate the 4N $\{NH_2, CO \text{ or } COO^-, 2N^-, N_{Im}\}$ bonding mode with the axial coordination of the N-terminal amine group to the metal ion.

Adres publiczny

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