

Structural aspects of copper(II) binding by a multi-His analogue of somatostatin.

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Rok wydania

2014

Czasopismo

Inorganica Chimica Acta

Numer woluminu

416

Strony

57-62

DOI

10.1016/j.ica.2014.03.020

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

In this paper we present the studies on coordination abilities of multi-His analogue of somatostatin. The somatostatin is a peptide hormone of which radionuclide-labeled analogues are successfully used in clinical practice in receptor scintigraphy. Its the analogue presented in this study is characterized by the presence of four His residues located in groups of two at both ends of the peptide. The -PheTrpLysThr- fragment placed between His residues is responsible for the spatial arrangement which determines the interaction with somatostatin receptors. In this paper we present the impact of copper ion binding on the spatial arrangement of the crucial fragment of peptide. The analysis of potentiometric and spectroscopic data allowed us to characterize the coordination abilities of the peptide and show that the ligand forms a $\{4 \times N_{im}\}$ complex in the physiological range of pH. Results of the molecular modeling gave an insight into the structural aspects of this complex.

Słowa kluczowe

Somatostatin, Copper, Histidine, Potentiometric measurements, Spectroscopic studies, Coordination

Adres publiczny

<http://dx.doi.org/10.1016/j.ica.2014.03.020>

Strona internetowa wydawcy

<http://www.elsevier.com>