

The His-His sequence of the antimicrobial peptide demegen P-113 makes it very attractive ligand for Cu^{2+} .

Autorzy

Kinga Kulon

Daniela Valensin

Wojciech Kamysz

Gianni Valensin

P. Nadolski

Elena Porciatti

Elena Gaggelli

Henryk Kozłowski

Rok wydania

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Streszczenie

Histatins are a family of histidine-rich, cationic peptides up to 38 amino acids long. As other antimicrobial peptides histatins exhibit in vitro activity against both bacteria and yeasts. A 12 amino acid amidated fragment of histatin 5, designated P-113 or demegen, has been identified as the smallest fragment retaining antimicrobial activity comparable to the parent compound. Demegen, AKRHHGYKRKFH, has three His and a N-terminal group known to participate in copper ion coordination. In this study potentiometric and spectroscopic (UV-vis, CD, EPR, NMR) measurements were used to evaluate the stability constants, stoichiometry and structures of Cu^{2+} complexes with demegen P-113 and its analogues in aqueous solution. The main aim of this work was to understand the role of two adjacent histidine residues in metal ion binding. The comparison with results for modified ligands showed that two histidyl residues are basic for complex formation in the 4.5–7 pH range.

Słowa kluczowe

Copper(II) complexes, Peptides, His-pair, Structure, Demegen

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