

The structural effects of the Cys-S-S-Cys bridge exchange by the His-Cu(II) -His motif studied on natural peptides— a promising tool for natural compounds-based design.

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Streszczenie

A replacement of both Cys residues by His in oxytocin (OXT) sequence allows for the formation of the stable complex with the $\{\text{NH}_2, \text{N}_{\text{Im}}, \text{N}_{\text{Im}(\text{macrochelate})}\}$ binding mode at the physiological pH. The detailed potentiometric and spectroscopic studies on the Cu(II) complexes of $[\text{His}^{1,6}]\text{OXT}$, together with high resolution NMR investigations on 3D structures of Cu(II) complexes with $[\text{His}^{1,6}]\text{OXT}$ and $[\text{His}^{1,6}]\text{AVP}$ analogues are presented and discussed. Exchange of the Cys-S-S-Cys bridge by the His-Cu(II)-His motif is very promising, because the resulting complexes retain topological similarity to the native S-S bridged AVP and OXT at pH values corresponding to the physiological pH.

Adres publiczny

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