



The -Cys-Cys-motif in *Helicobacter pylori*'s Hpn and HspA proteins is an essential anchoring site for metal ions.

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Streszczenie

The Hpn and HspA proteins from *H. pylori* are significant for nickel homeostasis and protect the cells from higher concentrations of external metal ions. Both proteins have a unique histidine- and cysteine-rich domain at the C terminus. The interactions of Ni²⁺, Bi³⁺, Zn²⁺ and Cd²⁺ ions with C-terminal Ac-CCSTSDSHHQ-NH₂ and Ac-EEGCCHGHHE-NH₂ fragments from Hpn and the Ac-GSCCHTGNHD-NH₂ sequence from HspA were studied by potentiometry, mass spectrometry, circular dichroism and UV-Vis spectroscopy. Ac-CC-NH₂ was used as a reference peptide. The studies have shown that nickel ions form planar complexes with a {2S-, N-} binding mode. The thiol sulfurs of the -Cys-Cys- motif are also the anchoring sites for Bi³⁺, Zn²⁺ and Cd²⁺ ions. The studied protein fragments have the highest affinity for Bi³⁺ ions. The thermodynamic stability of Ni²⁺ is much higher than that of Zn²⁺.

Adres publiczny

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<https://www.rsc.org/>