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Title (English) <b>The role of Tyr25 in the catalytic cycle of cytochrome <i>cd</i><sub>1</sub> nitrite reductase; a structural analysis.</b>		
Title (Swedish)		
Abstract Cytochrome <i>cd</i> <sub>1</sub> nitrite reductase is a respiratory protein in denitrifying bacteria. In the oxidised state the <i>d</i> <sub>1</sub> heme at the active site is ligated by a tyrosine, Tyr25, and a histidine, His200, and the <i>c</i> heme is ligated by two histidines, His17 and His69. Tyr25 is believed to play an important role in the catalytic process of reducing nitrite to nitric oxide. A mutant version of <i>cd</i> <sub>1</sub> where the tyrosine is replaced by a serine was expressed and purified. The mutant protein is functional and the structure was solved using X-ray crystallography. The mutant structure shows interesting differences from the structure of the wildtype enzyme, differences that will contribute to the ongoing work on understanding the catalytic process of cytochrome <i>cd</i> <sub>1</sub> nitrite reductase.		
Keywords  Nitrite reductase, <i>Paracoccus pantotrophus</i> , heme group, ligand switch.		
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