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Title (English) <b>High-resolution structures of <i>R. rubrum</i> nicotinamide nucleotide transhydrogenase domain I in the presence and absence of NADH</b>		
Title (Swedish)		
Abstract The dimeric membrane enzyme transhydrogenase is found in prokaryotes and mitochondria where it catalyzes hydride transfer between NAD(H) and NADP(H). High-resolution structures of the <i>Rhodospirillum rubrum</i> transhydrogenase domain I have been determined both in the presence and absence of NADH. Two dimers of the $\alpha 1$ subunit, related by noncrystallographic 2-fold axes, are found in the asymmetric unit of both structures. The transhydrogenase show half-of-the-sites reactivity with NADH bound only once in each dimer. Comparison of the NADH binding site between different copies of the subunits show great variety in conformations of the surrounding residues and loops which suggests that there is flexibility in the binding and release of the dinucleotide substrate. The NADH bound structure is also compared with a NAD bound structure (PDB code 1F8G) and the structures show conformational differences in both nucleotides and the NAD(H) binding site.		
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