
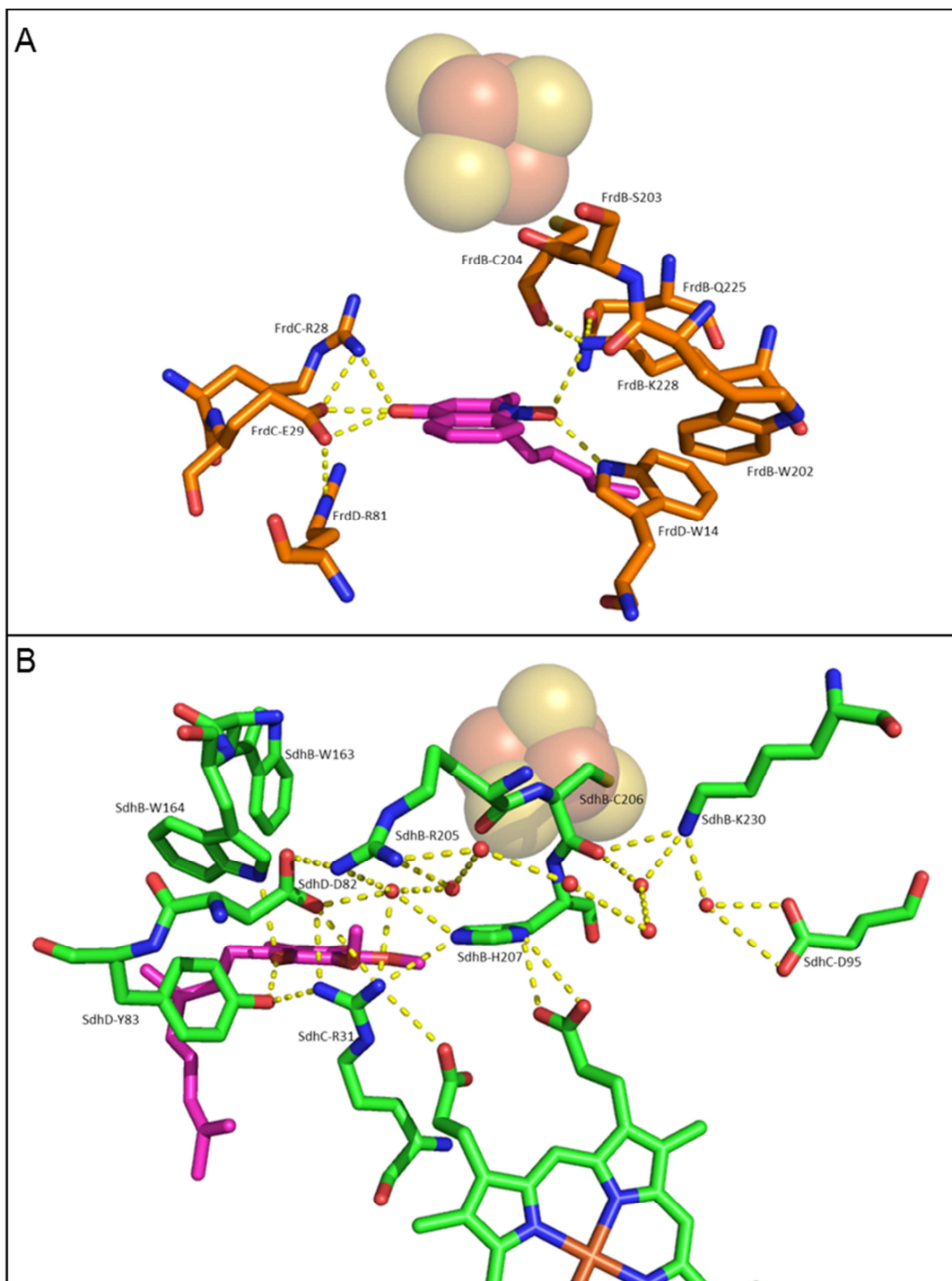


SUPPLEMENTAL INFORMATION

Variant Enzyme	WT Sdh	SdhB-R205S	SdhB-K230L	DW35	WT Frd	FrdB-S203R	FrdB-K228L	FrdB-K228E	FrdB-K228R	DW35
nmol/mg Flavin	2.0	2.0	1.8	ND	1.2	1.6	2.5	2.2	2.4	ND



Supplemental Figure 1. Assembly of Sdh and Frd variant enzymes. The concentrations of covalent flavin in each enzyme preparation are shown. 30 μ g of membrane proteins were separated on a 12% SDS polyacrylamide gel and visualized by Coomassie blue staining. The Coomassie blue stained SdhA and FrdA peptides are shown. ND: not determined.



Supplemental Figure 2. H-bonding networks in the Q-site of Frd (A) and Sdh (B). Potential H-bonding partners (distance <math>< 3.5 \text{ \AA}</math> apart) are connected by dashed yellow lines. The two views were generated using PDB:1KF6 (Frd) and PDB:1NEK (Sdh) using PyMOL v.1.2r1 (DeLano Scientific LLC.).