

Supplementary Material

New insights into the effect of NdhO levels on cyanobacterial cell death triggered by high temperature

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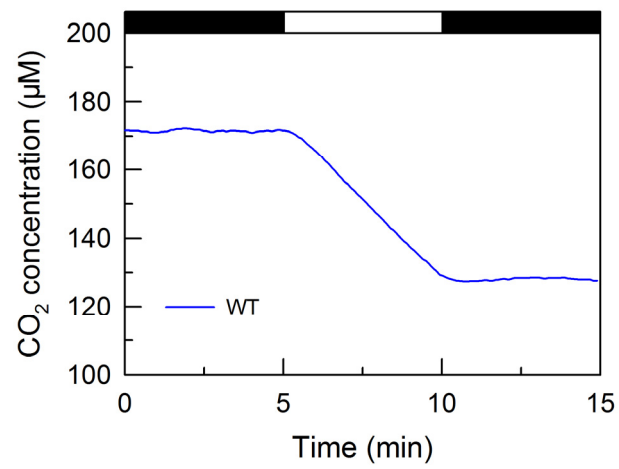


Fig. S1. A typical curve of CO₂ gas exchange in the WT *Synechocystis* 6803 using an online MIMS system. After 5 min of dark adaptation, an intensity of 500 µmol photons m⁻² s⁻¹ was turned on for 5 min and off again.

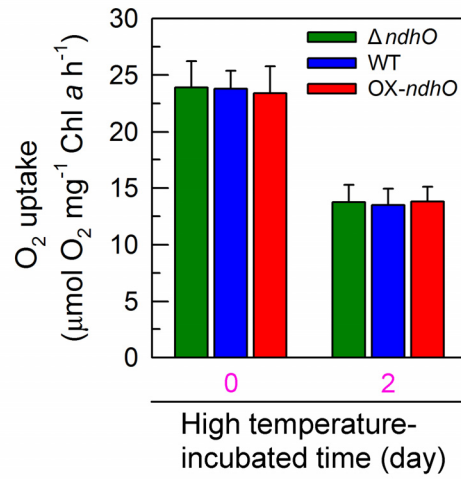


Fig. S2. Uptake of O₂ by dark respiration. Prior to the measurement, the Chl *a* concentration of $\Delta ndhO$, WT and OX- $ndhO$ cells incubated at 45°C for 0 day (left) and 2 days (right) was adjusted to 5 $\mu\text{g mL}^{-1}$. Values are means \pm SD ($n = 3$).

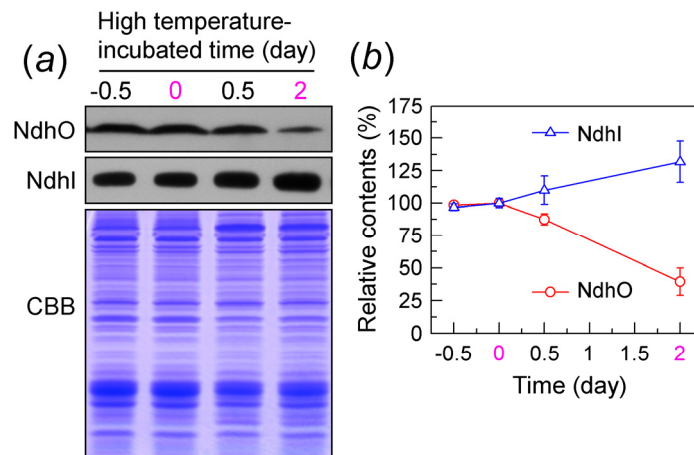


Fig. S3. Expression levels of NdhO and NdhI under high temperature. (a) Coomassie Brilliant Blue (CBB) staining profiles of thylakoid membrane proteins from the WT cells grown at 45°C for different periods and their protein blot using the antibodies against NdhO and NdhI. (b) Protein blot results were analyzed using ImageJ software. The thylakoid membrane protein levels of WT cells incubated at 45°C for 0 day were taken as 100%. Values are means \pm SD ($n = 3$).

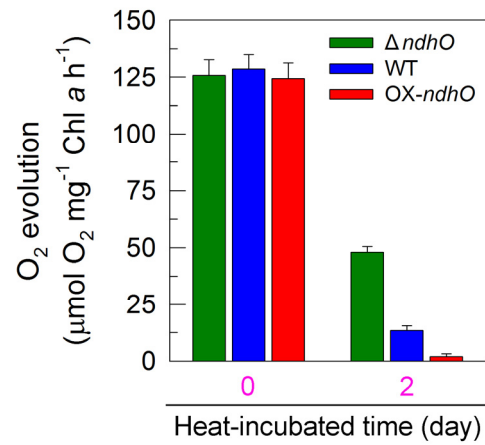


Fig. S4. Photosynthetic production of O_2 with NaHCO_3 as the artificial electron source. Prior to the measurement, the Chl *a* concentration of $\Delta ndhO$, WT and OX-*ndhO* cells incubated at 45°C for 0 day (left) and 2 days (right) was adjust to $5\mu\text{g mL}^{-1}$. Values are means \pm SD ($n = 3$).

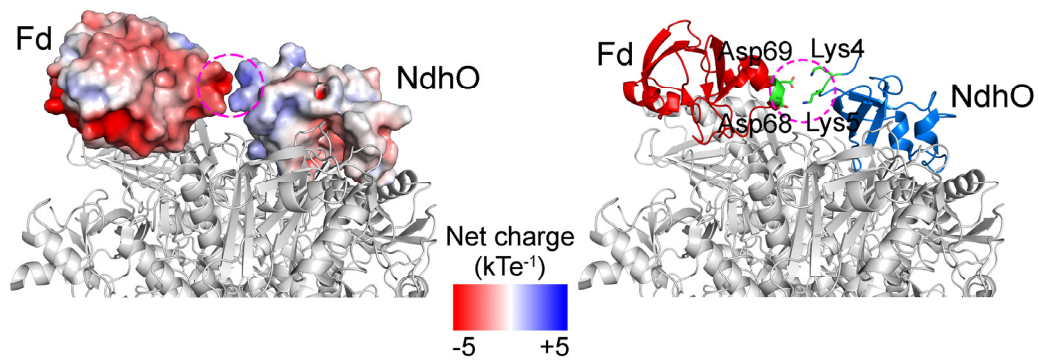


Fig. S5. Interactional manner between NdhO and Fd. (a) Electrostatic surface potential of NdhO and Fd. The interactional region between NdhO and Fd was highlighted in pink dotted circle (positive potential, blue; negative potential, red). (b) Close-up view of key interacting residues from NdhO (Lys4 and Lys5) and Fd (Asp68 and Asp69).