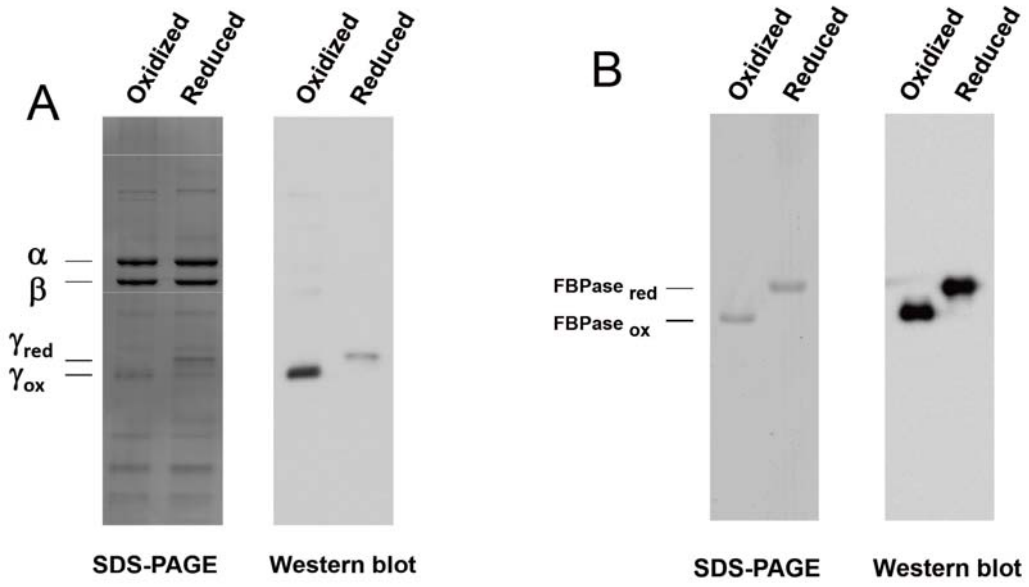

Figure S1. AMS labeling of thiol proteins.

(A) The purified CF_1 was completely oxidized using 50 μM diamide or completely reduced with 20 mM DTT and 19 μM Trx-*f*. After incubation for 90 min at 25 °C, these additives were removed by gel-filtration chromatography and CF_1 was labeled with AMS. After SDS-PAGE separation, redox level of the γ subunit was visualized and analyzed. The theoretical MW of the spinach ATP synthase γ subunit is 35,786. (B) The purified FBPase was oxidized or reduced as above and labled with AMS. After SDS-PAGE separation, redox level of FBPase was visualized and analyzed. The theoretical MW of the spinach FBPase is 39,143.

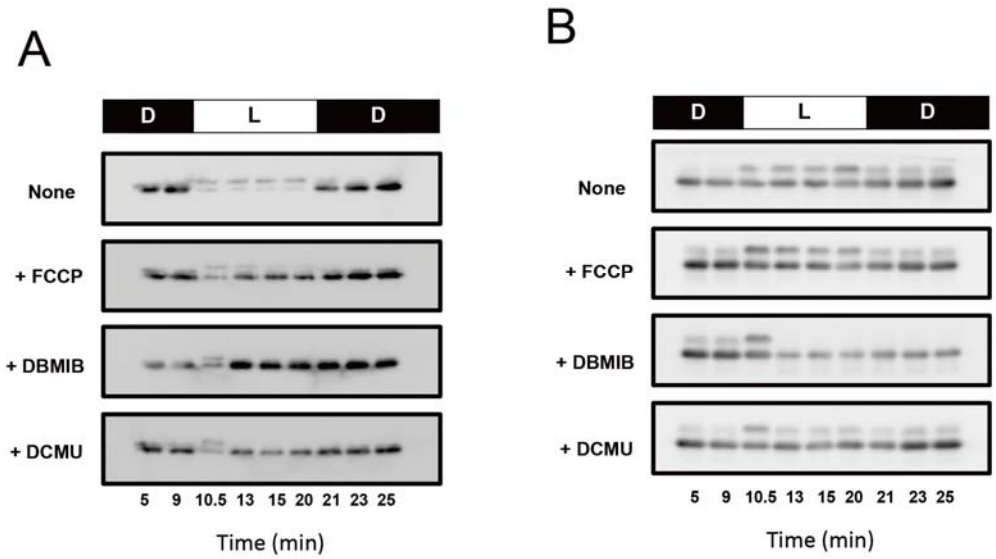

Fig. S2. Effects of inhibitors for photosynthesis on photoreduction of the γ subunit and FBPase.

Following incubation for 10 min in the dark, intact chloroplasts were illuminated at 800 μmol photons·m^{-2}·s^{-1} for 10 min and then incubated for an additional 10 min in the dark. 1 min after illumination, 2.5 μM FCCP, 20 μM DBMIB, or 10 μM DCMU were added to the chloroplast solution in the light. At the indicated time, a portion of the chloroplast samples were collected and mixed directly with the thiol group labeling solution containing AMS. The redox levels of the γ subunit and FBPase in the intact chloroplasts were then visualized using the specific antibodies following SDS-PAGE.

Supplementary Table 1.

Band intensity ratio of the oxidized and reduced γ subunits

CF_1 (μg)	Intensity ratio (Ox/Red)
4.3	5.5
8.6	5.9
17.2	5.2
34.4	5.5
Average	5.53

Band intensity ratio of the oxidized and reduced γ subunits shown in Fig. S1A were determined using the various concentrations of CF_1.