A

B

Figure S1. Assessment of dark-induced senescence in Arabidopsis.
(A) Change of chlorophyll content (mg chl/mg FW) during dark-induced senescence of intact plants.
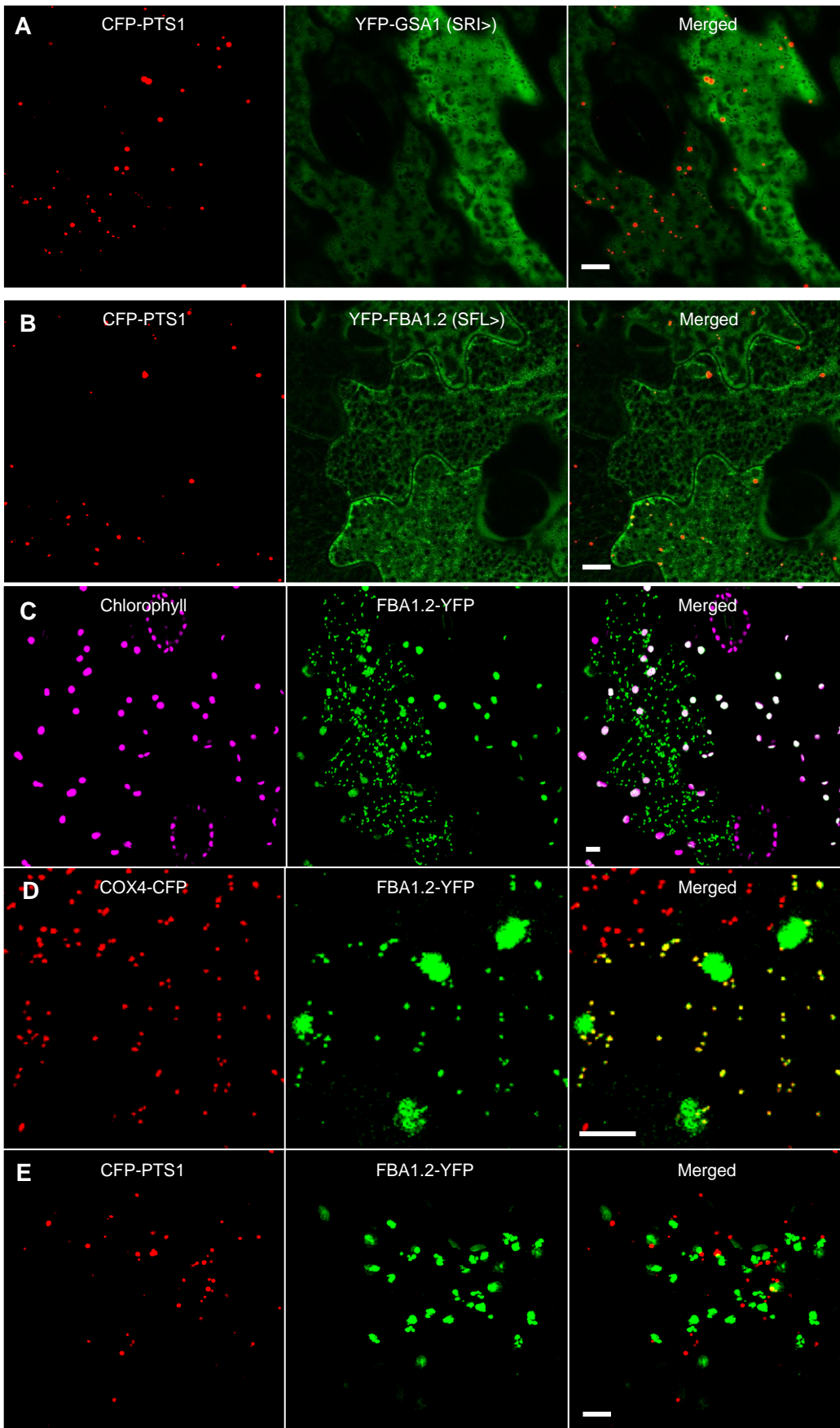(B) Exemplary tray of detached Arabidopsis plants after 48-h dark-induced senescence.

Figure S2. Subcellular targeting analysis of GSA1 and FBA1.2. Confocal images were taken in tobacco leaf epidermal/mesophyll cells transiently expressing the YFP fusion proteins and the peroxisome marker CFP-PTS1 (A, B, E), YFP fusion alone (C), or YFP fusion and the mitochondrial marker COX4-CFP (D). Scale bars = 10 μm. Predicted PTS1 tripeptides are in parentheses.
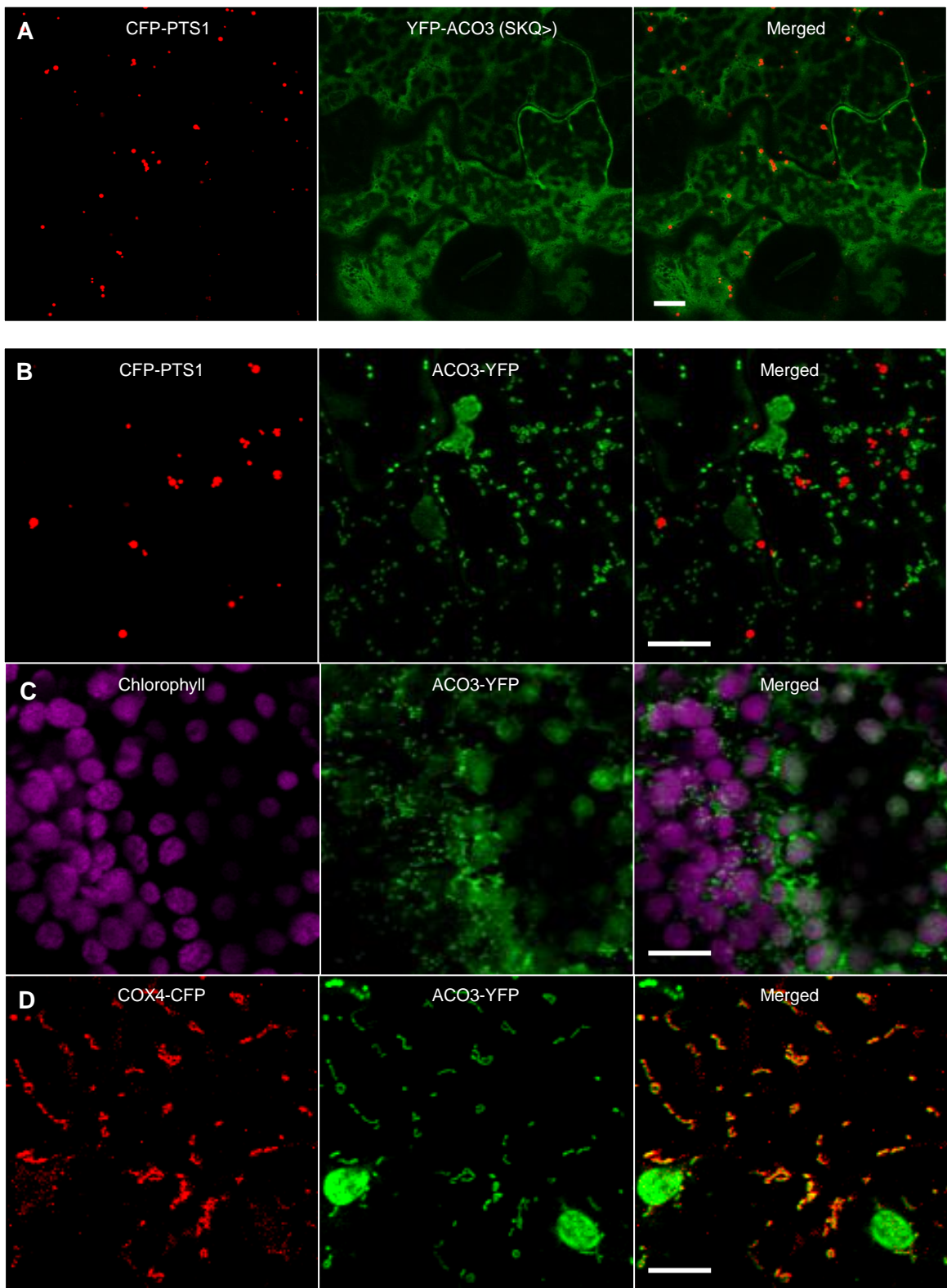
Figure S3. Subcellular targeting analysis of ACO3.
Confocal images were taken in tobacco leaf epidermal/mesophyll cells transiently expressing the YFP fusion protein and the peroxisome marker CFP-PTS1 (A, B), YFP fusion alone (C), or YFP fusion and the mitochondrial marker COX4-CFP (D). Scale bars = 10 μm. Predicted PTS1 tripeptide is in parenthesis. ACO3 contains the C-terminal 390 aa of the 990-aa protein.
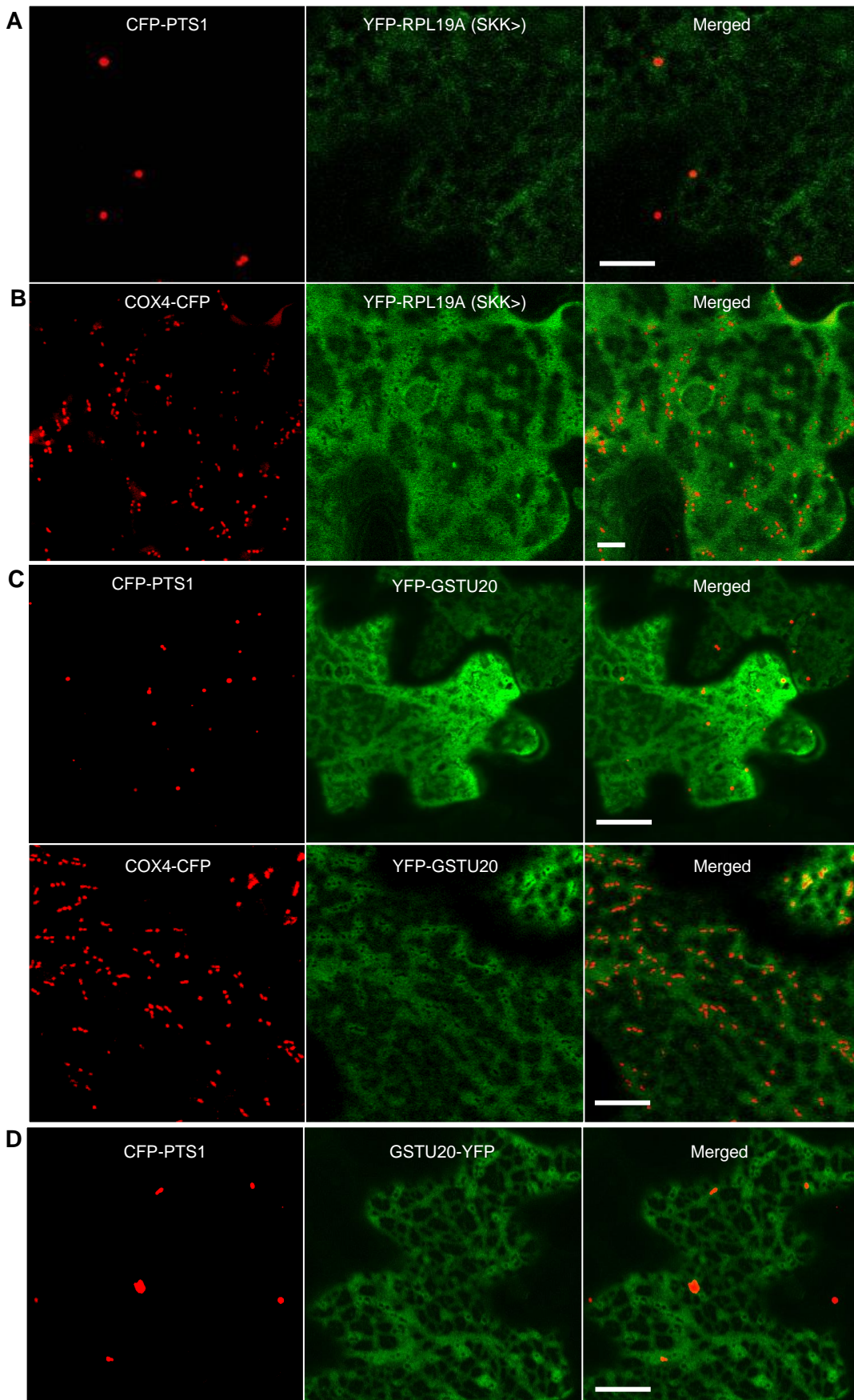
Figure S4. Subcellular targeting analysis of RPL19A and GSTU20.

Confocal images were taken in tobacco leaf epidermal cells transiently expressing the YFP fusion protein and the peroxisome marker CFP-PTS1 or YFP fusion and the mitochondrial marker COX4-CFP. Scale bars = 10 μm. Predicted PTS1 peptides are in parentheses.
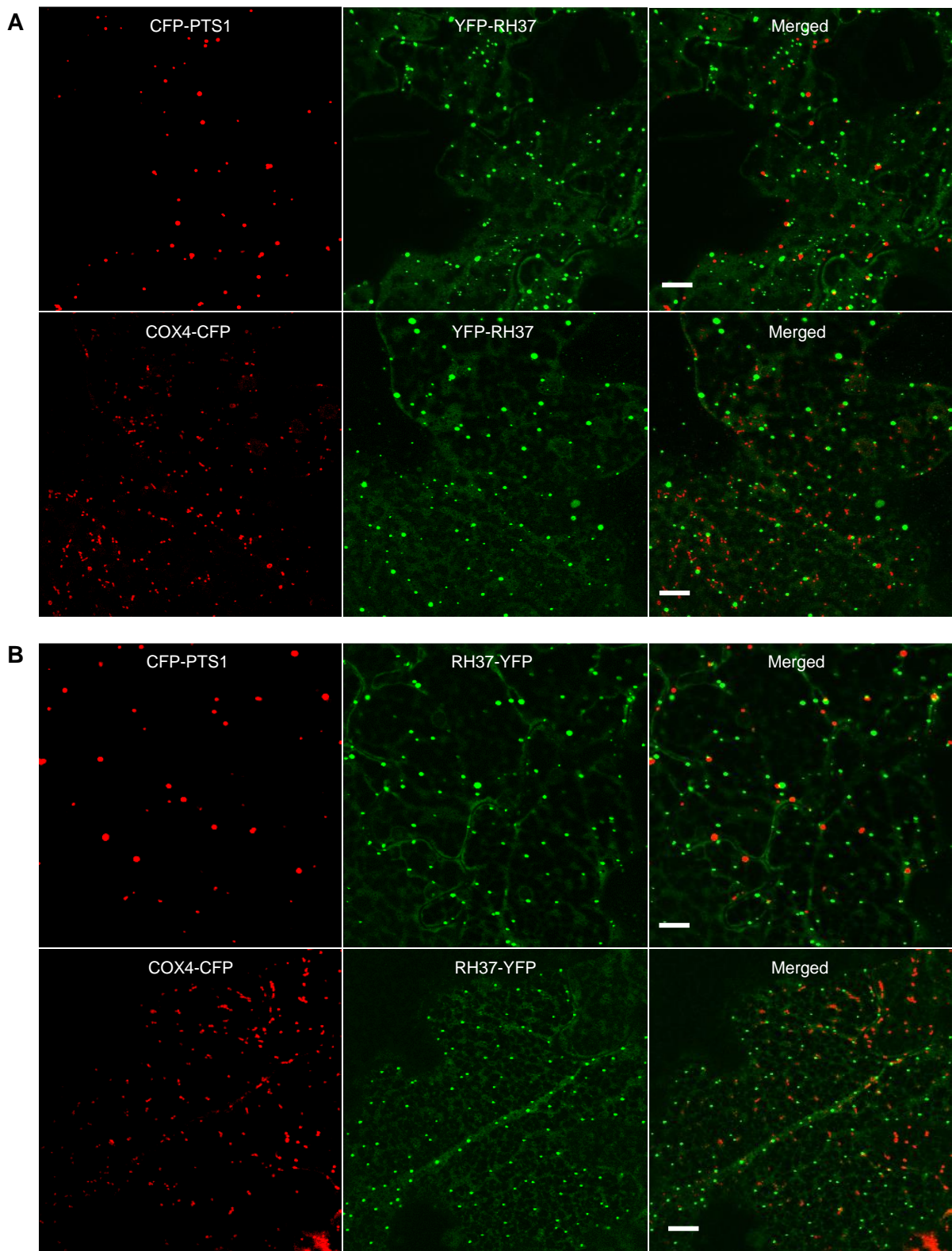
Figure S5. Subcellular targeting analysis of RH37.
(A) Confocal images were taken in tobacco leaf epidermal cells transiently expressing the YFP fusion protein and the peroxisome marker CFP-PTS1 (upper), or YFP fusion and the mitochondrial marker COX4-CFP (lower). Scale bar, 10 μm.
(B) Confocal images were taken in tobacco leaf epidermal cells transiently expressing the YFP fusion protein and the peroxisome marker CFP-PTS1 (upper), or YFP fusion and the mitochondrial marker COX4-CFP (lower). Scale bar, 10 μm.
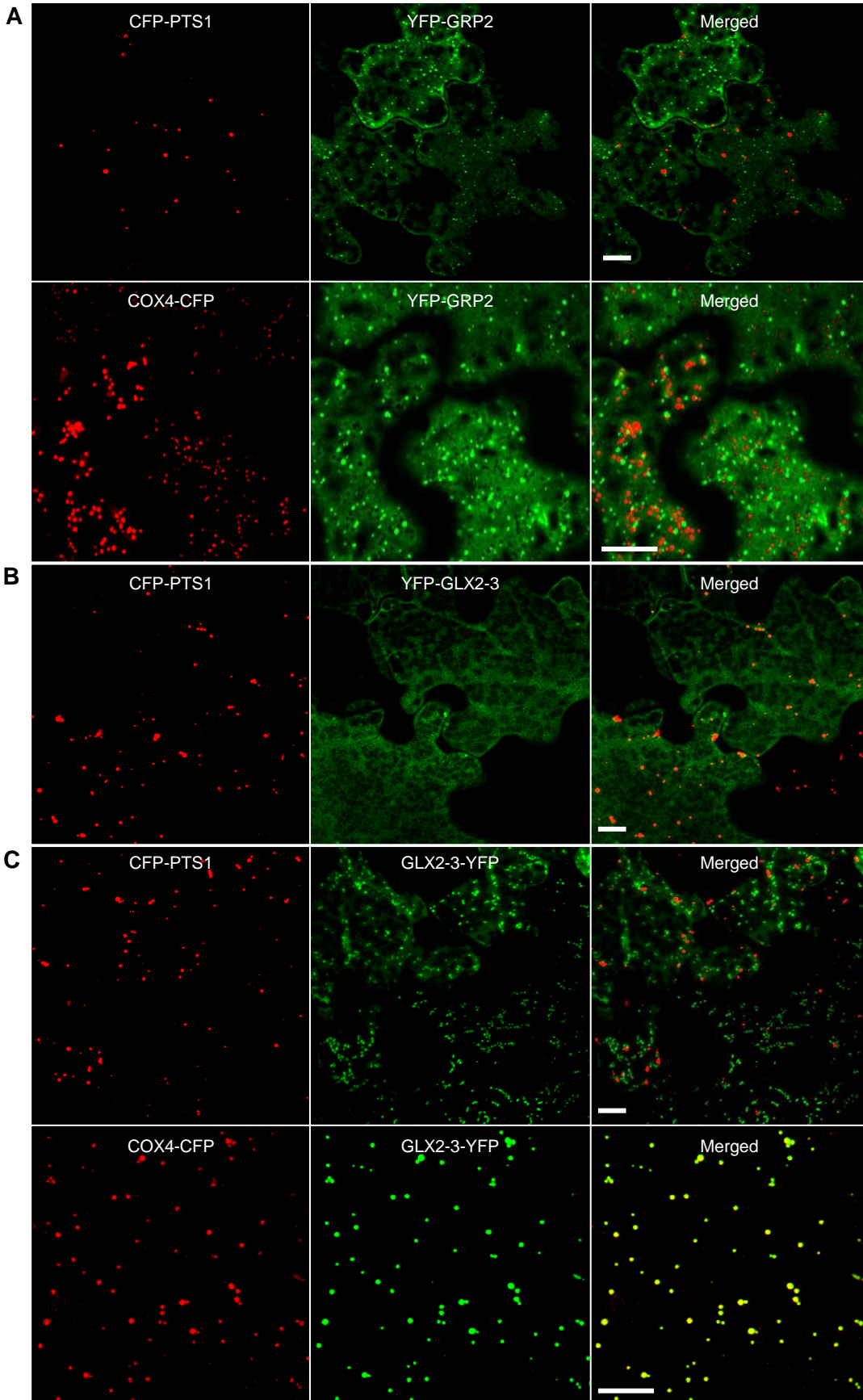
Figure S6.
Subcellular targeting analysis of GRP2 and GLX2-3. Confocal images were taken in tobacco leaf epidermal cells transiently expressing the YFP fusion protein and the peroxisome marker CFP-PTS1 or YFP fusion and the mitochondrial marker COX4-CFP. Scale bars, 10 μm.
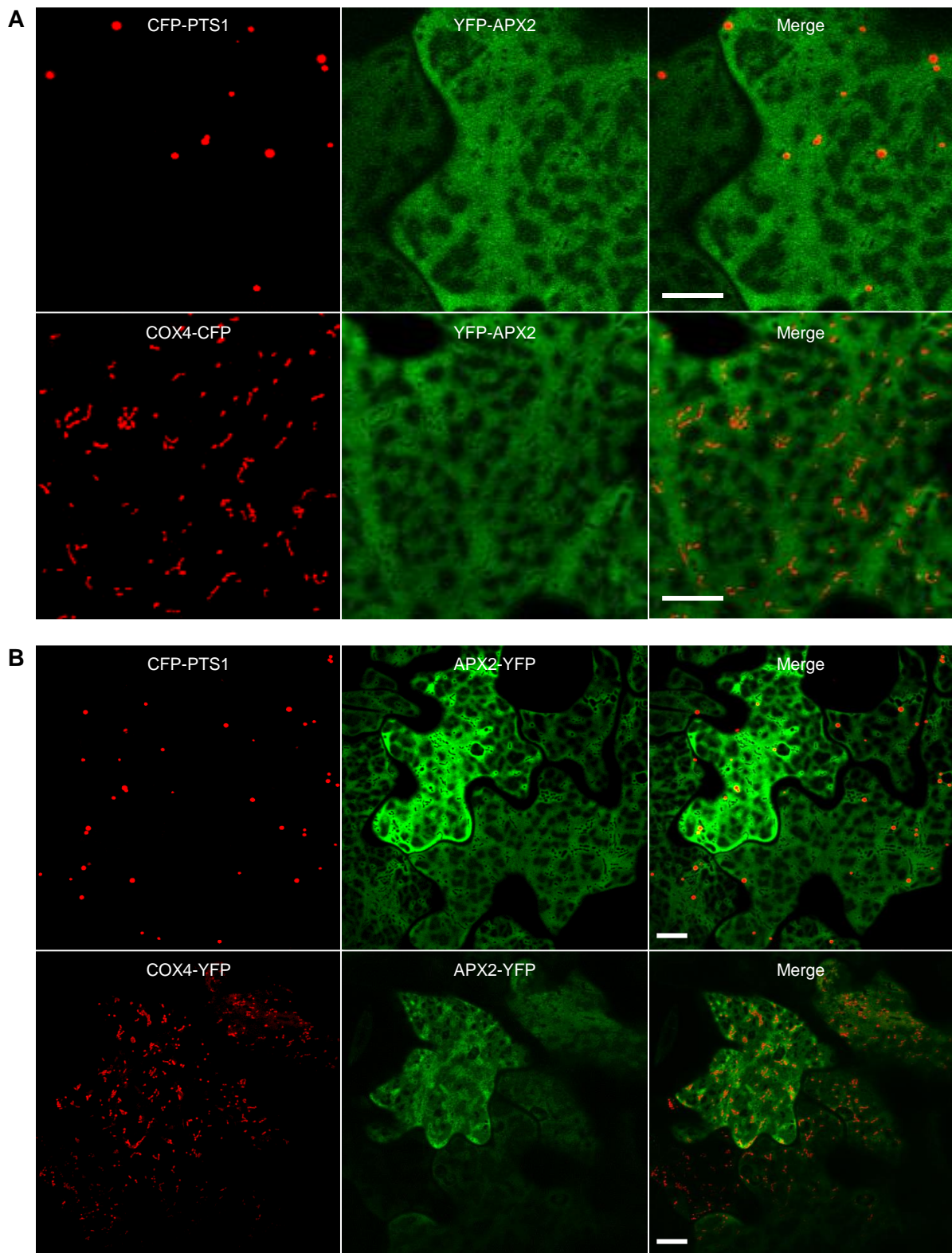
Figure S7. Subcellular targeting analysis of APX2.

(A) Confocal images were taken in tobacco leaf epidermal cells transiently expressing the YFP fusion protein and the peroxisome marker CFP-PTS1 (upper), or YFP fusion and the mitochondrial marker COX4-CFP (lower). Scale bar, 10 µm.

(B) Confocal images were taken in tobacco leaf epidermal cells transiently expressing the YFP fusion protein and the peroxisome marker CFP-PTS1 (upper), or YFP fusion and the mitochondrial marker COX4-CFP (lower). Scale bar, 10 µm.
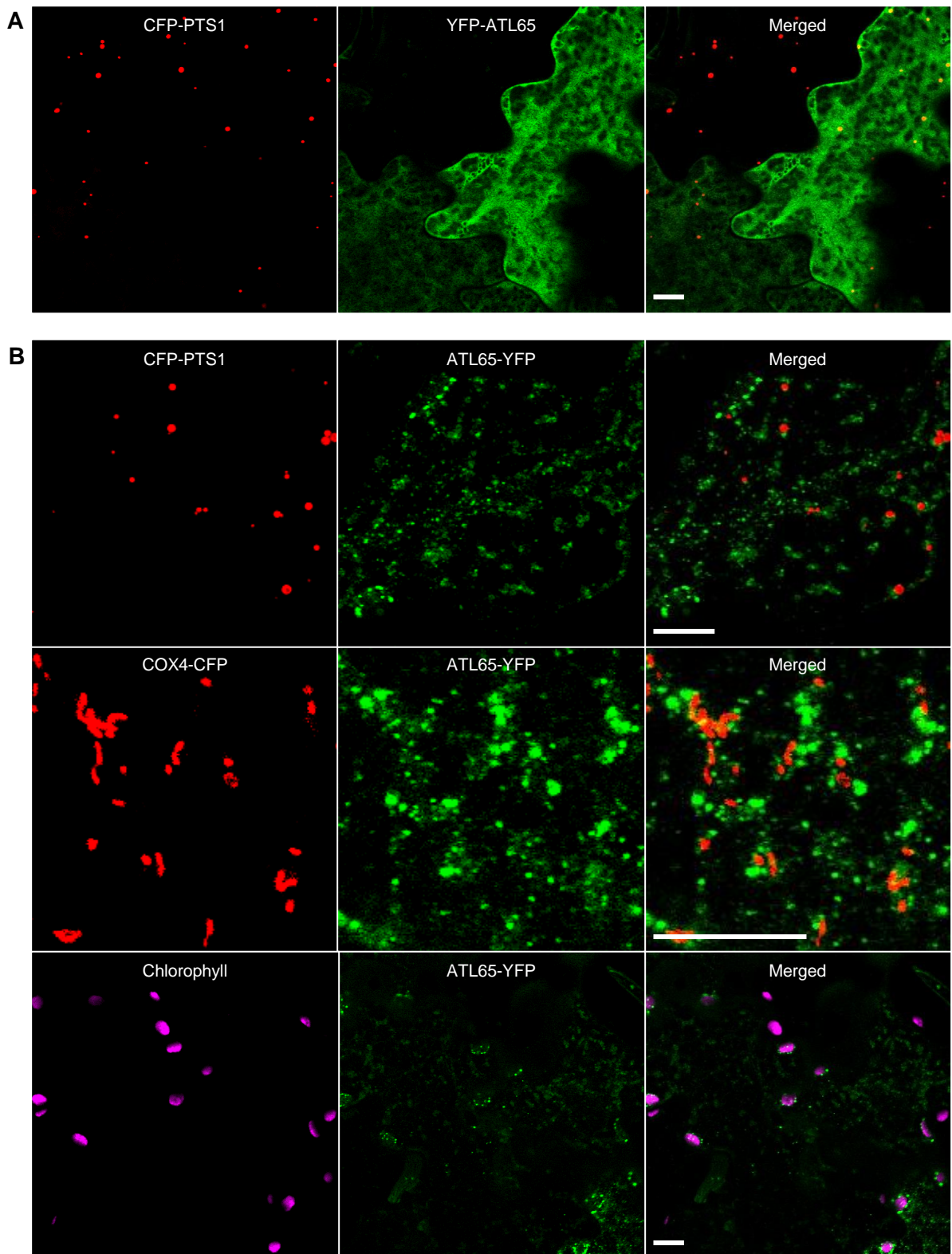
Figure S8. Subcellular targeting analysis of ATL65.
(A) Confocal images were taken in tobacco leaf epidermal cells transiently expressing the YFP fusion protein and the peroxisome marker CFP-PTS1. Scale bar, 10 μm.
(B) Confocal images were taken in tobacco leaf epidermal cells transiently expressing the YFP fusion protein and the peroxisome marker CFP-PTS1 (upper), YFP fusion and the mitochondrial marker COX4-CFP (middle), or YFP fusion alone (lower). Scale bars, 10 μm.
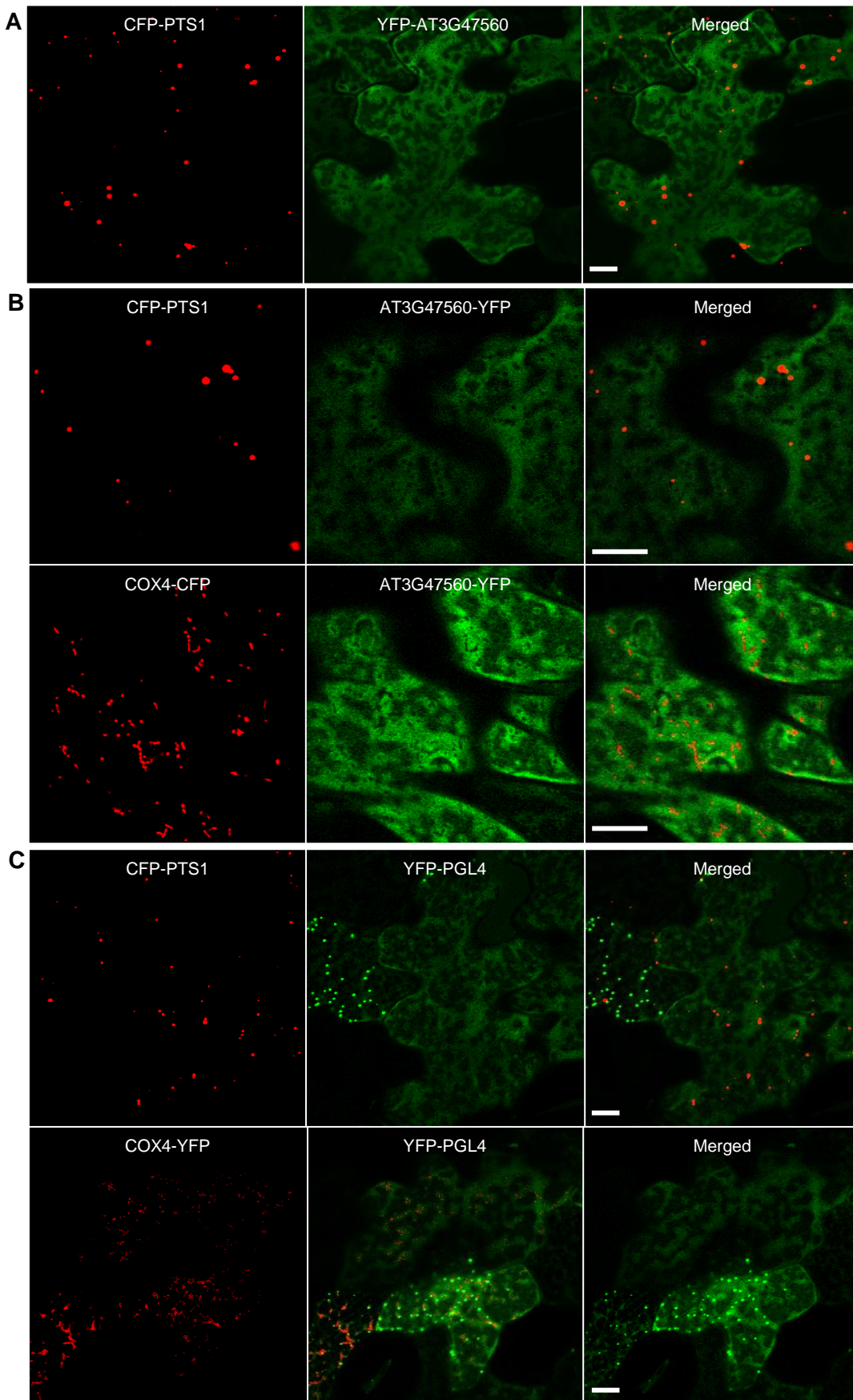
Figure S9. Subcellular targeting analysis of AT3G47560 and PGL4.

Confocal images were taken in tobacco leaf epidermal cells transiently expressing the YFP fusion protein and the peroxisome marker CFP-PTS1, or YFP fusion and the mitochondrial marker COX4-CFP. Scale bars, 10 μm.
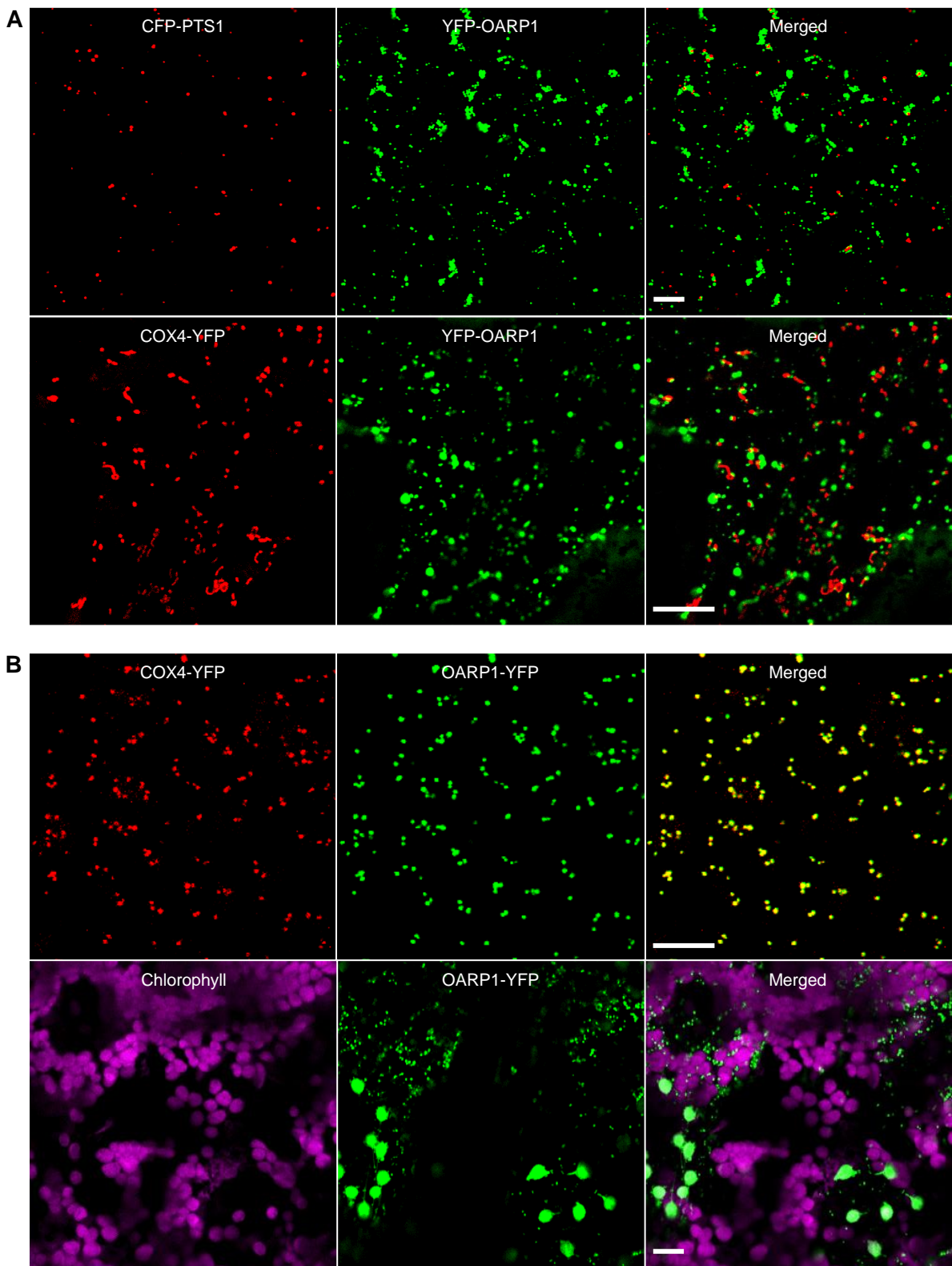
Figure S10. Subcellular targeting analysis of OARP1.
(A) Confocal images were taken in tobacco leaf epidermal cells transiently expressing the YFP fusion protein and the peroxisome marker CFP-PTS1 (upper), or YFP fusion and the mitochondrial marker COX4-CFP (lower). Scale bars, 10 μm.
(B) Confocal images were taken in tobacco leaf epidermal cells transiently expressing the YFP fusion protein and the mitochondrial marker COX4-CFP (upper), or in mesophyll cells expressing YFP fusion alone (lower). Scale bars, 10 μm.
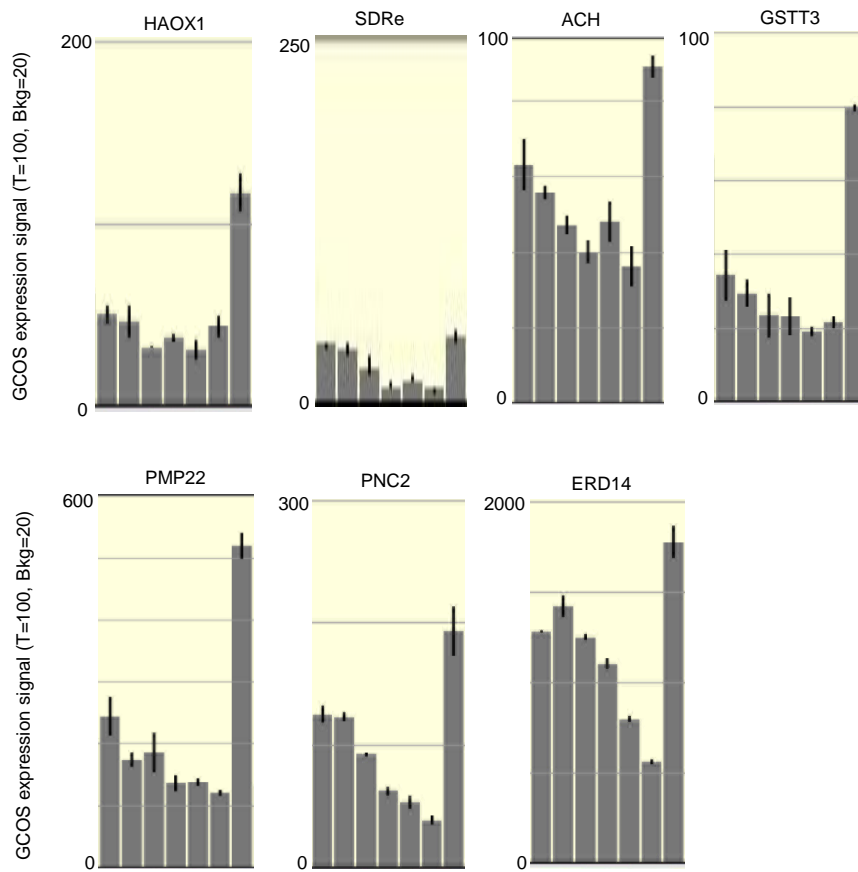
Figure S11. Gene expression data from Arabidopsis eFP browser (bar.utoronto.ca).

Data was normalized via the GeneChip Operating Software (GCOS). T, target intensity. Bkg, background. Developmental stages from left to right: Rosette Leaf 2, Rosette Leaf 4, Rosette Leaf 6, Rosette Leaf 8, Rosette Leaf 10, Rosette Leaf 12, Senescing Leaf.