

Supplemental Figure 1. Levels of Chlorophyll *a* + *b*

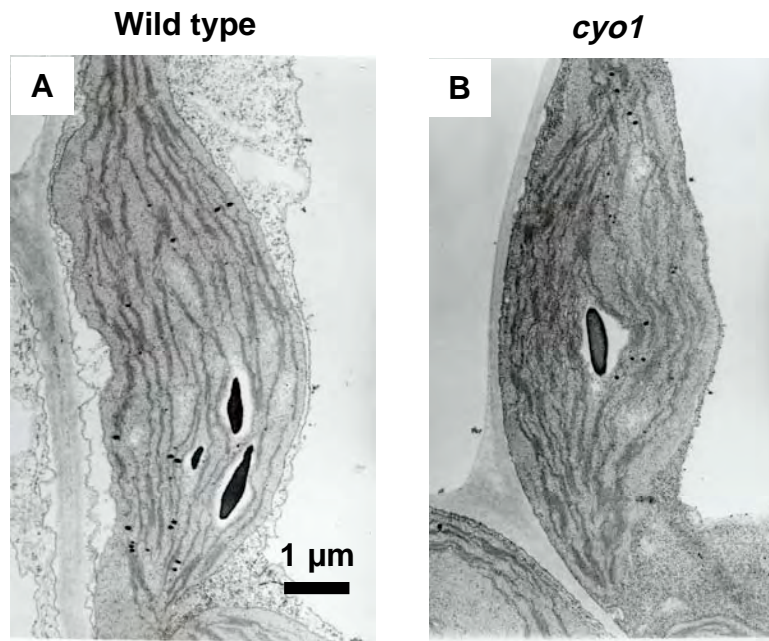
Solid bars and open bars show the wild type and *cyo1* mutant, respectively.

Data present the mean ± SD of three independent experiments.

Chlorophyll *a* and *b* were determined as in Arnon, D. I. (1949).

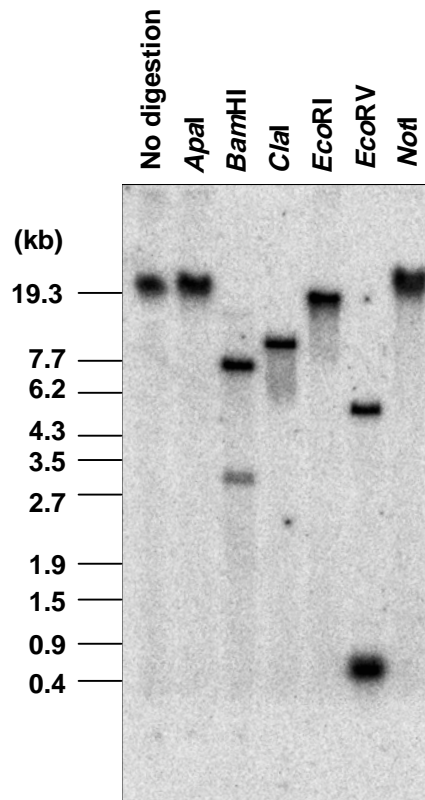
Reference: Arnon, D. I. (1949). Copper enzymes in isolated chloroplasts.

Polyphenoloxidase in *Bete vulgaris*. Plant Physiol. 24, 1-15.

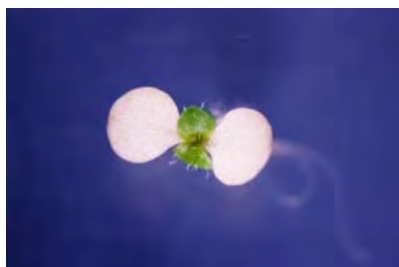


Supplemental Figure 2. Ultrastructure of chloroplasts of *cyo1* in rosette leaves.

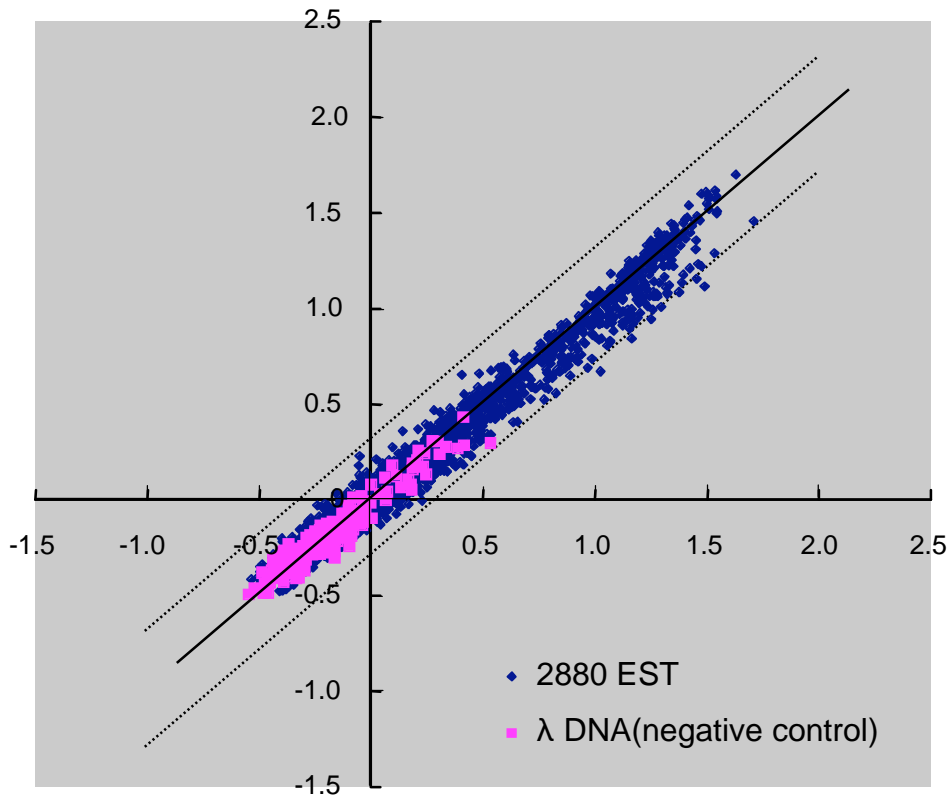
Chloroplasts of wild-type chloroplasts (A) and *cyo1* mutant (B) in rosette leaves from 4-week-old plants grown under light. The magnification is the same in (A) and (B).



Supplemental Figure 3. Genomic Southern analysis of T-DNA in *cyo1*. Genomic DNA of *cyo1* plants was digested with the indicated restriction enzymes and hybridized with a probe specific for the T-DNA.



Supplemental Figure 4. A ten-day-old *cyo1* mutant plant harboring a vector containing the cDNA between 5 and 606 bp with the ATG at 32 bp mutated to ATT.



Supplemental Figure 5. Comparison of mRNA levels for 2,880 ESTs in *cyo1* mutant and wild type plants. Expression value for an EST was calculated as the average from for independent experiments. The logarithmic values of expression obtained from wild type are presented on x-axis, and the *cyo1* mutant plants on the y-axis. The solid line shows the expression ratio of wild type to *cyo1* mutants at 1; dotted lines show the ratio at 2 (upper) and $\frac{1}{2}$ (lower).