

Populus alba* cationic cell-wall-bound peroxidase (CWPO-C) regulates the plant growth and affects auxin concentration in *Arabidopsis thaliana

Physiology and Molecular Biology of Plants

Supplementary information

Table S1. Proportion of OE11 plants with a curled phenotype in successive generations

Generation	Plants with straight stems	Plants with curled stems	Total number of plants	Curled (%)
1 st	9	15	24	63
2 nd	13	14	27	52
3 rd	19	18	37	49
4 th	12	20	32	63
5 th	7	11	18	61

Note: The 1st generation is the T₆ generation, which was confirmed as homozygous.

Table S2. Integrated band intensity of CWPO-C in the stem tip of OE11 and curled OE11 plants and the relative band intensity of CWPO-C normalized against the intensity of RUBISCO

Phenotype	Average integrated band intensity	Relative integrated band intensity
Curled stem	13,595 ± 508	1.31 ± 0.04
Straight stem	9,638 ± 172	0.97 ± 0.04

Note: The band intensities for the extracted proteins were determined for three biological replicates per phenotype. Data are presented as the mean ± standard deviation.

Table S3. Development of 6-week-old *CWPO-C*-overexpressing transgenic and wild-type (WT) *Arabidopsis* plants

Line	Stem length (cm)	Dry weight (mg plant ⁻¹)	Root length (cm)	Number of lateral branches per plant	Number of rosette leaves per plant
OE11	12.9 ± 5.6*	21.6 ± 8.2*	8.0 ± 1.0*	3.4 ± 0.5	10.9 ± 1.3
OE12	24.2 ± 1.5*	31.5 ± 5.8	7.6 ± 1.2*	2.5 ± 0.5	11.1 ± 1.8
OE13	21.8 ± 2.0*	35.0 ± 6.1	7.1 ± 1.2*	3.3 ± 1.1	12.3 ± 1.8
WT	26.2 ± 1.4	35.9 ± 3.4	5.8 ± 1.4	3.2 ± 0.6	11.0 ± 1.3

Note: Data are presented as the mean ± standard deviation (n = 10). Asterisks indicate significant differences between the OE lines and the WT control (*, $p < 0.03$, Student's *t* test).

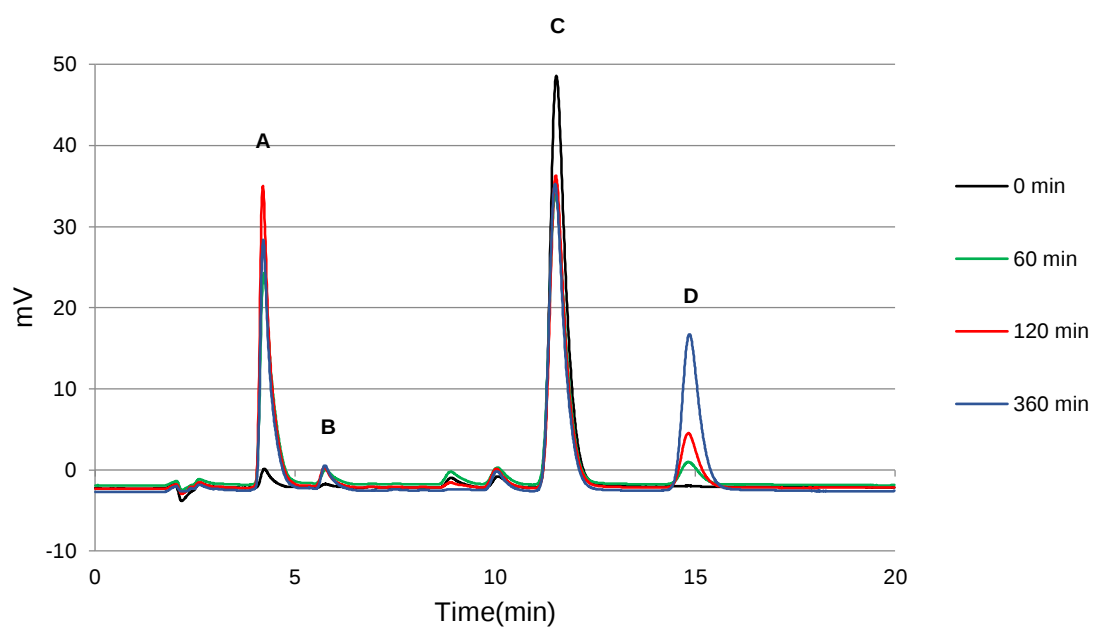


Fig. S1 Elution profiles of the oxidative products of IAA by recombinant CWPO-C. The HPLC chromatograms at the reaction time 0, 60, 120, 360 min were shown. A: 4.24 min product peak, B: 5.75 min oxIAA peak, C: 11.53 min IAA peak and D: 14.86 min product peak. The reaction products were analyzed on the reverse-phase HPLC with a AQ-C₁₈ InertSustain column. The eluted products were monitored at O.D. 250 nm

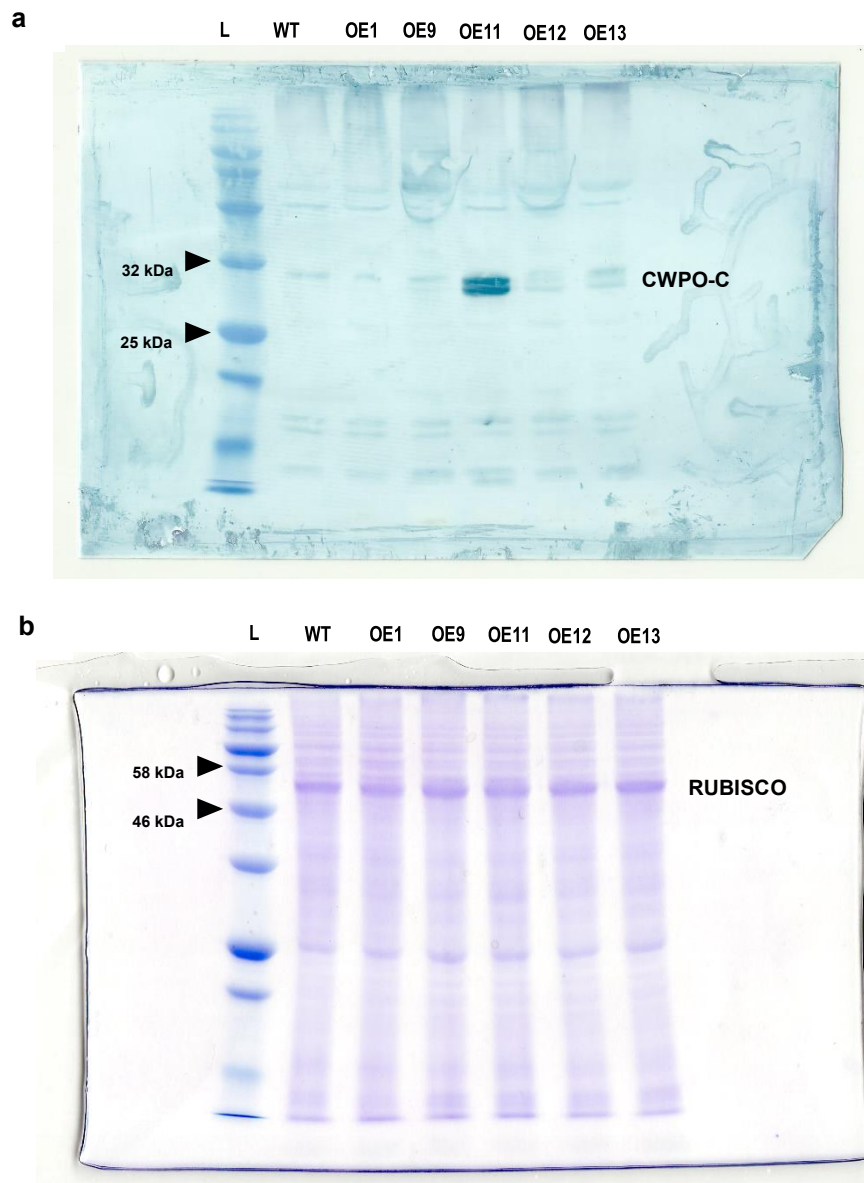


Fig. S2 Original gel images of, western blot and CBB analysis (**a** and **b**, respectively), of CWPO-C-overexpressing transgenic lines 1, 9, 11, 12 and 13 (OE1, OE9, OE11, OE12, and OE13) and the wild-type (WT) control using an anti-CWPO-C antibody (30 kDa). L: ladder. RUBISCO stained with Coomassie brilliant blue is presented as a reference

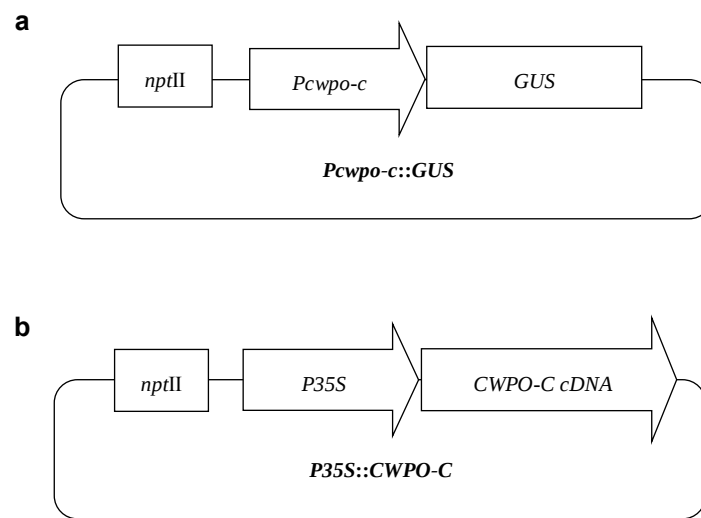


Fig. S3 Diagram of construct details for, *Pcwpoc::GUS* and *P35S::CWPO-C* (**a** and **b**, respectively)