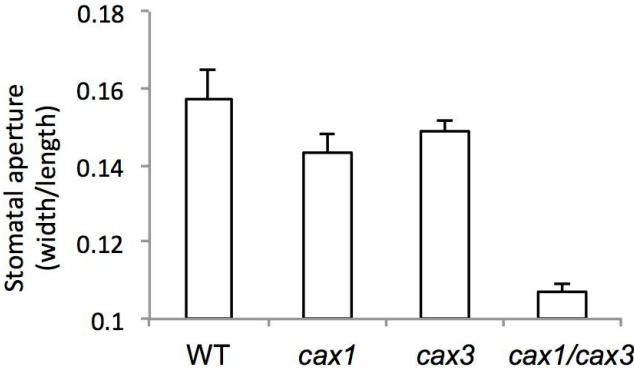


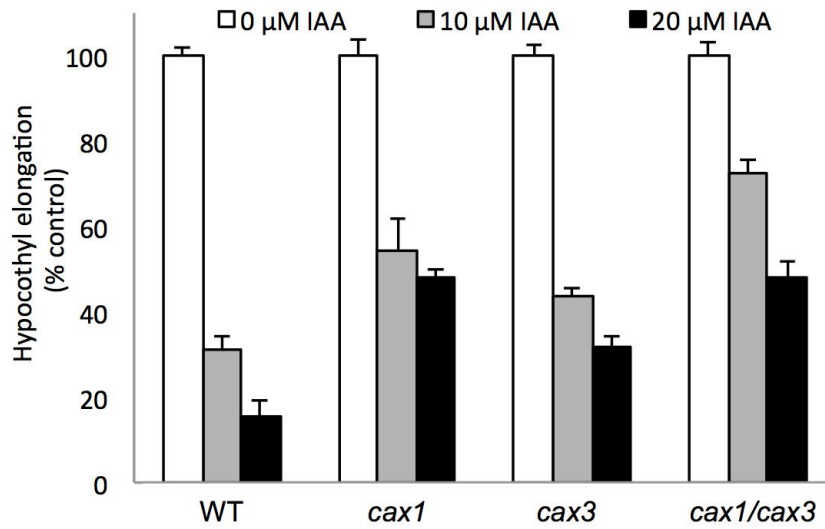
**SUPPLEMENTAL MATERIAL**

**Supplemental Figures**



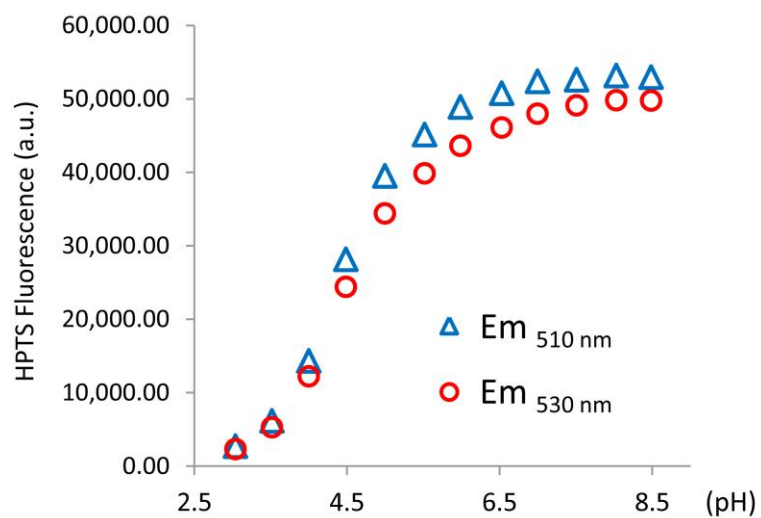
**Supplemental Figure 1.**

Steady-state stomatal apertures in WT, *cax1*, *cax3*, and *cax1/cax3* mutants. Data are mean  $\pm$  SEM (n = 3 independent experiments, > 80 stomata for each data point).



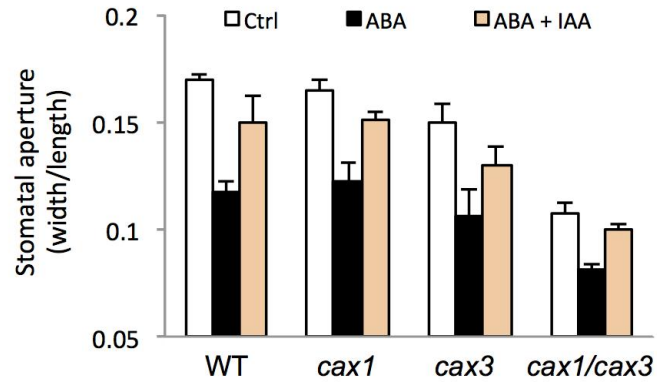
**Supplemental Figure 2.**

IAA-inhibition of hypocotyl elongation in WT, *cax1*, *cax3*, and *cax1/cax3*. Seedlings were grown under yellow light ( $35 \mu\text{molm}^{-2}\text{s}^{-1}$ ) at various IAA concentrations, and hypocotyl length was measured 5 days after growing in a growth chamber. Data are from three independent experiments (> 50 seedlings at each data point). Error bars, SEM



**Supplemental Figure 3.**

Fluorescence intensity of 8-hydroxypyrene-1,3,6-trisulfonic acid, trisodium salt (HPTS) as a function of pH. Excitation was set to 460 nm, and emission wavelength was collected at both 510 ( $\Delta$ ) and 530 ( $\bullet$ ) nm.



**Supplemental Figure 4.**

Steady-state stomatal apertures in WT, *cax1*, *cax3*, and *cax1/cax3* mutants. Apoplastic pH was set to 5.6. Data are mean  $\pm$  SEM (n = 3 independent experiments, > 80 stomata for each data point).

## Supplemental Table 1

Target	Forward sequence	Reverse sequence
ACTIN2	GGCCGATGGTGAGGATATGCCACTTG	TCGATGGACCTGACTCATCGTACTCACTC
CAX1	GACCTCCGAGTGATTTCAGAAGGTTCCATA	TGTTGCAGTGACGACATTGTTTCATCGC
CAX3	AGAACGGAAACGCAAACGTGACC	GCTAGAGAGCTAGTTTCAAGGATGTT
CBP	ATGGGTCTTGAAGTTGGGTCCTTATGC	ATGGGATCCTTGAGGTACTTGAATAA
HPRP	ATATTACCGAAAAGCGGAGGAGGT	CACCTAAATACATTCCACACCCTAAG