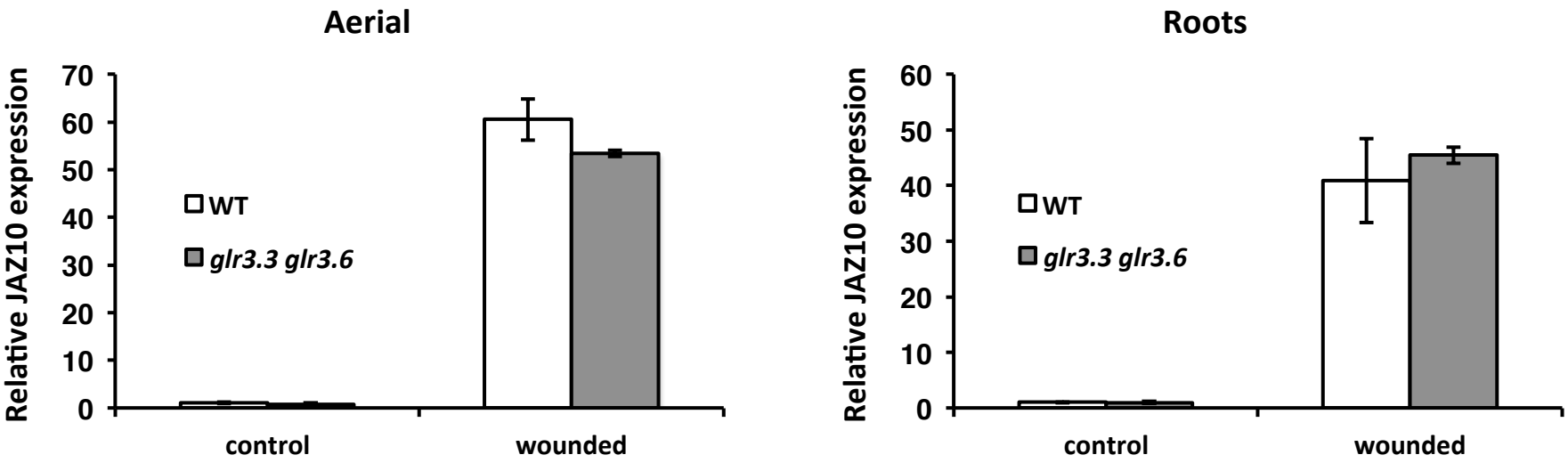
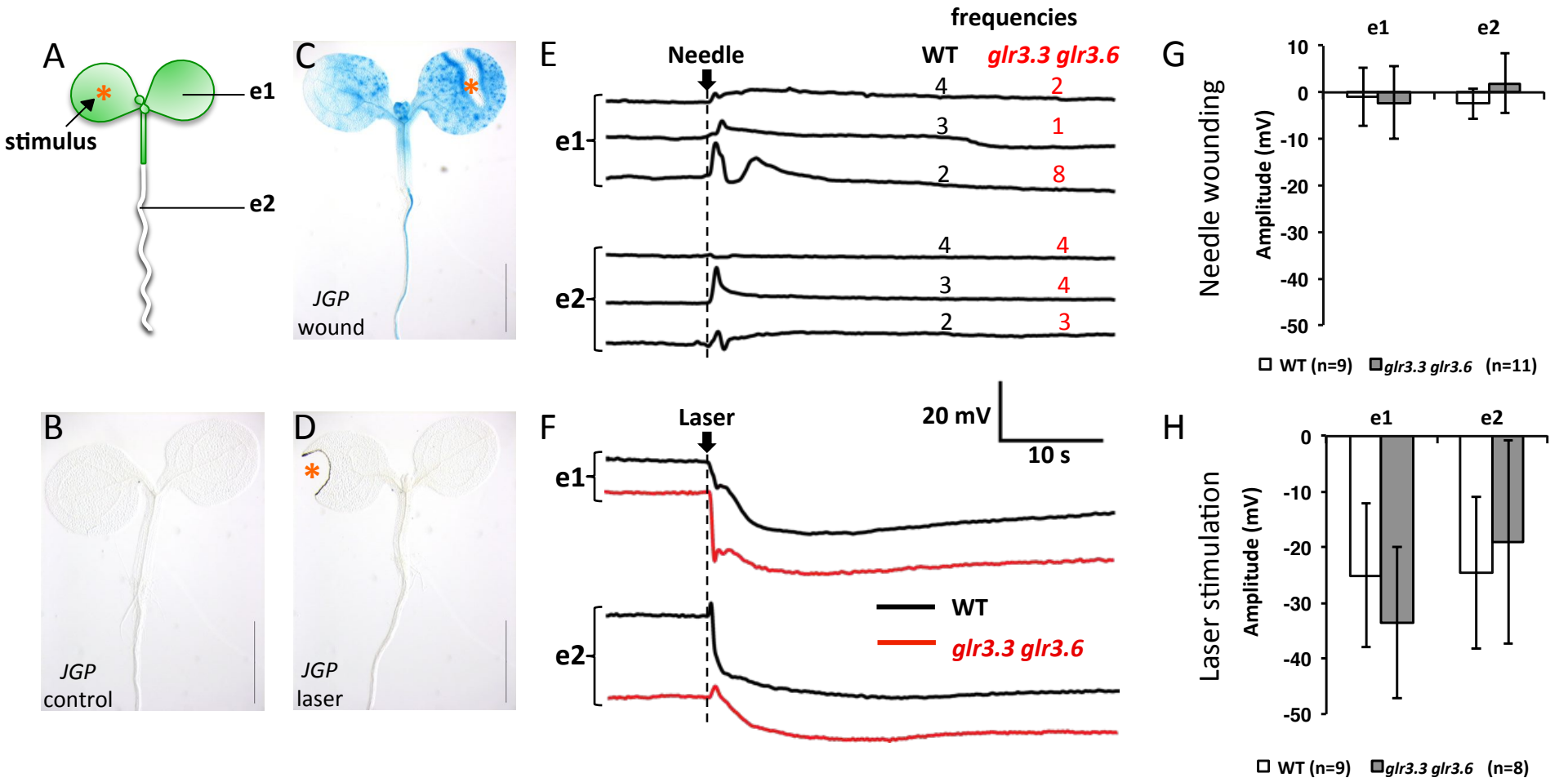
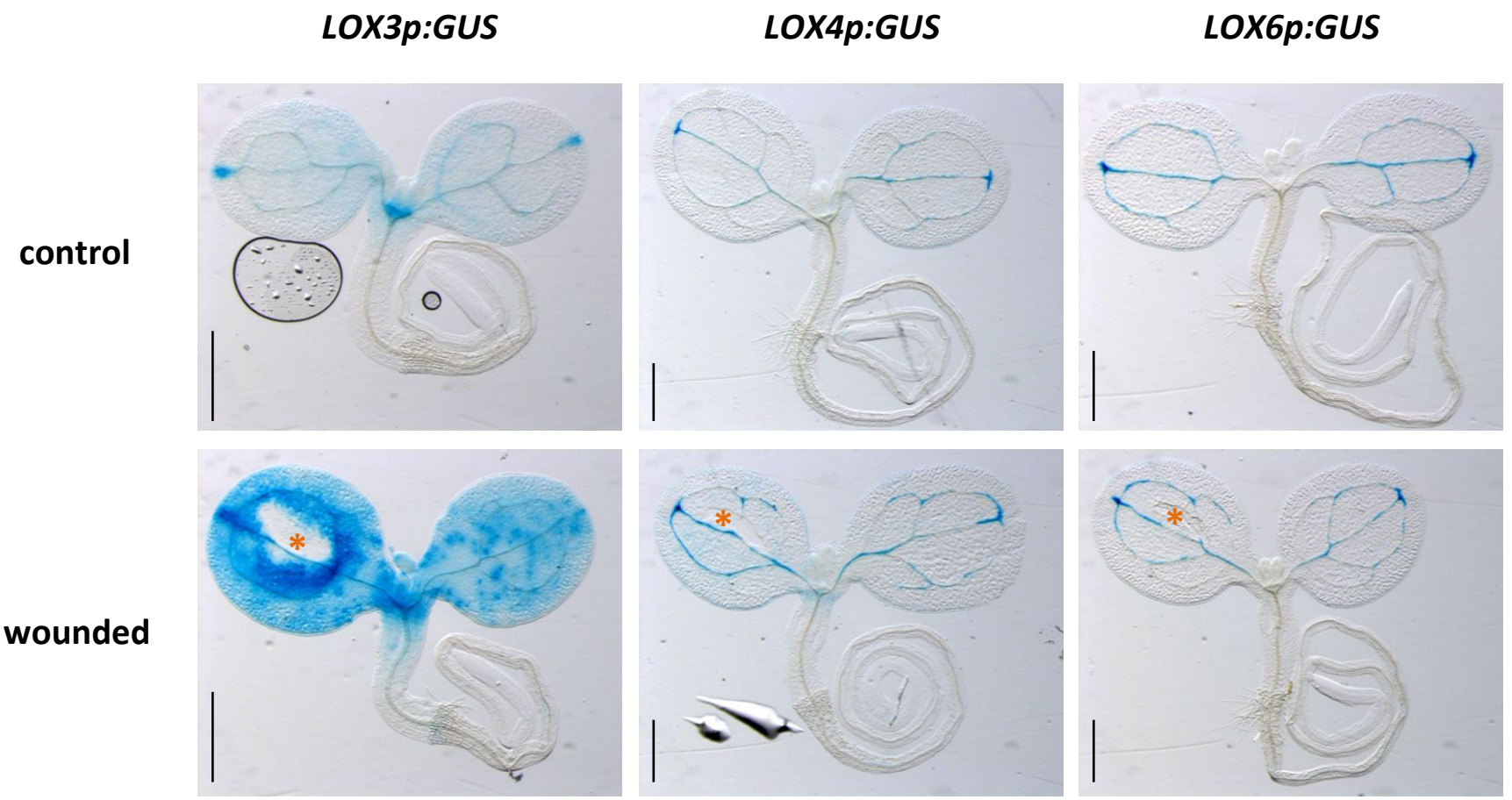


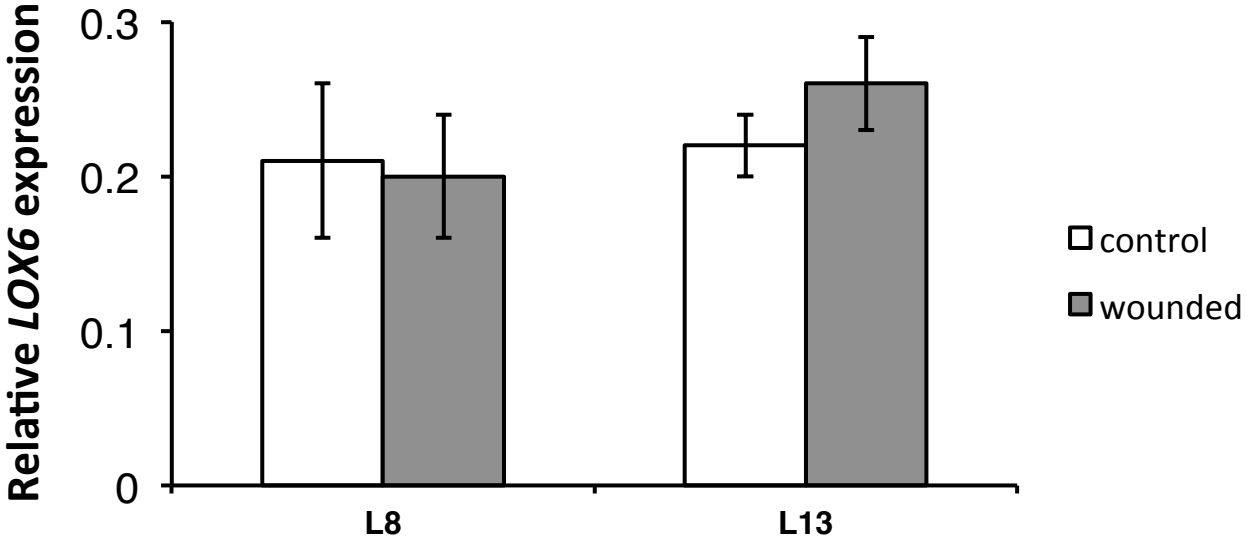
Supplemental Figure S1. qRT-PCR of *JAZ10* expression 1 h after cotyledon wounding in aerial organs and roots of WT and *glr3.3 glr3.6* 5-d old seedlings. *JAZ10* transcript levels were normalized to those of *UBC21* and displayed relative to the expression of the WT unwounded controls. Bars represent the means of three biological replicates (±SD), each containing a pool of organs from ~60 seedlings.



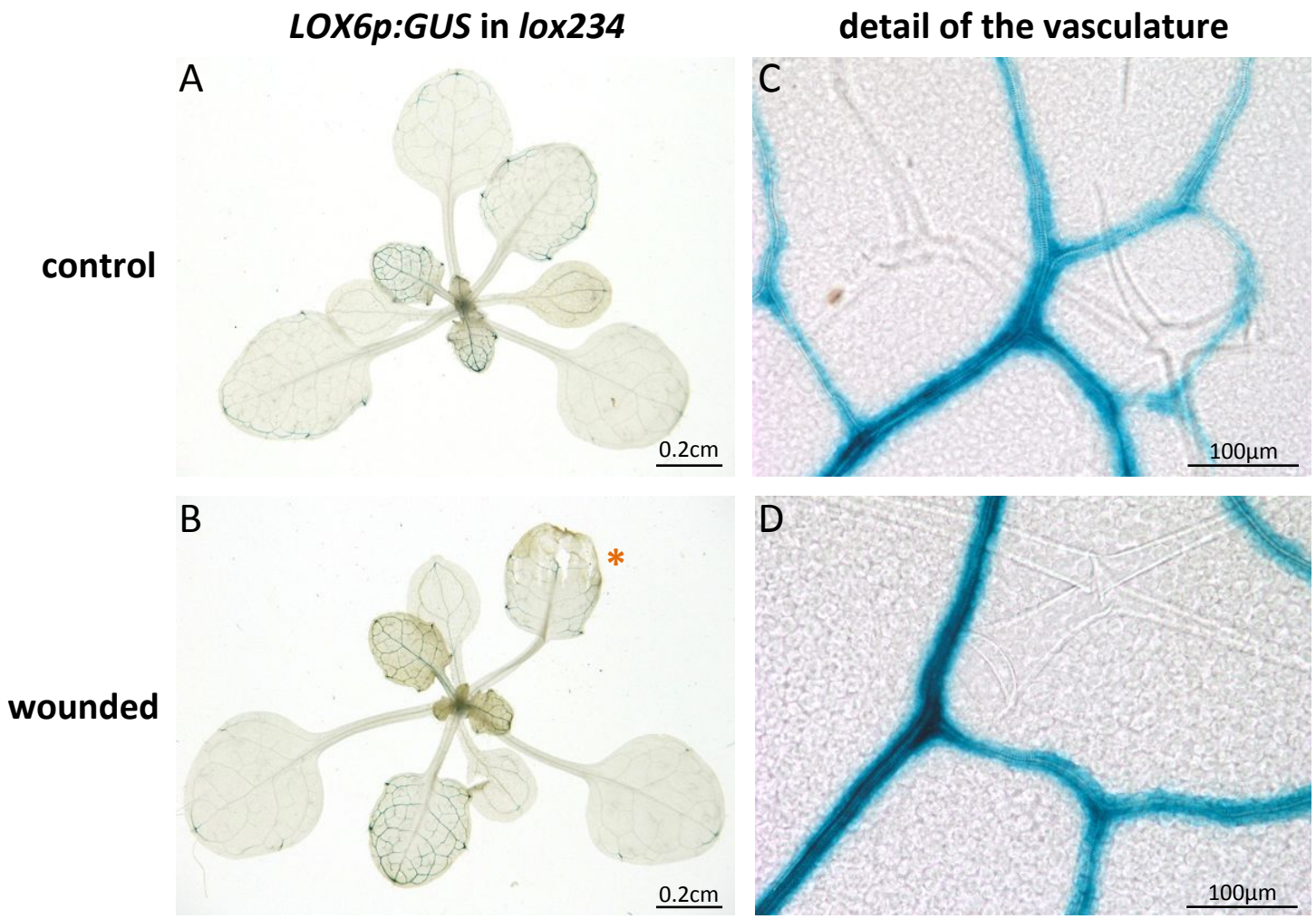
Supplemental Figure S2. Surface potentials recorded from cotyledons and roots of stimulated seedlings. A, Experimental set up: one cotyledon of 5-d old vertically grown seedlings was stimulated and surface potential changes were recorded from an electrode placed on the opposite cotyledon (e1) and another placed on the root (e2). *JGP* reporter activity in (B) control, (C) needle wounded and (D) laser-stimulated WT seedlings (bars = 1 mm). Histochemical GUS detection was performed 2 h after stimulation (orange asterisks depict damage sites). Representative traces from surface potential recordings in the WT (n = 9) and *glr3.3 glr3.6* (n = 11) double mutant following needle wounding (E) or laser stimulation (F). For needle wounding the electrophysiological recordings were variable with both positive and negative surface potential changes. We therefore present representative traces with indicated frequencies for each trace-type recorded in e1 and e2 for both genotypes. Amplitude changes in surface potentials induced by (G) needle wounding or by (H) laser stimulation. No statistically significant differences were found between genotypes (Student's t-test).



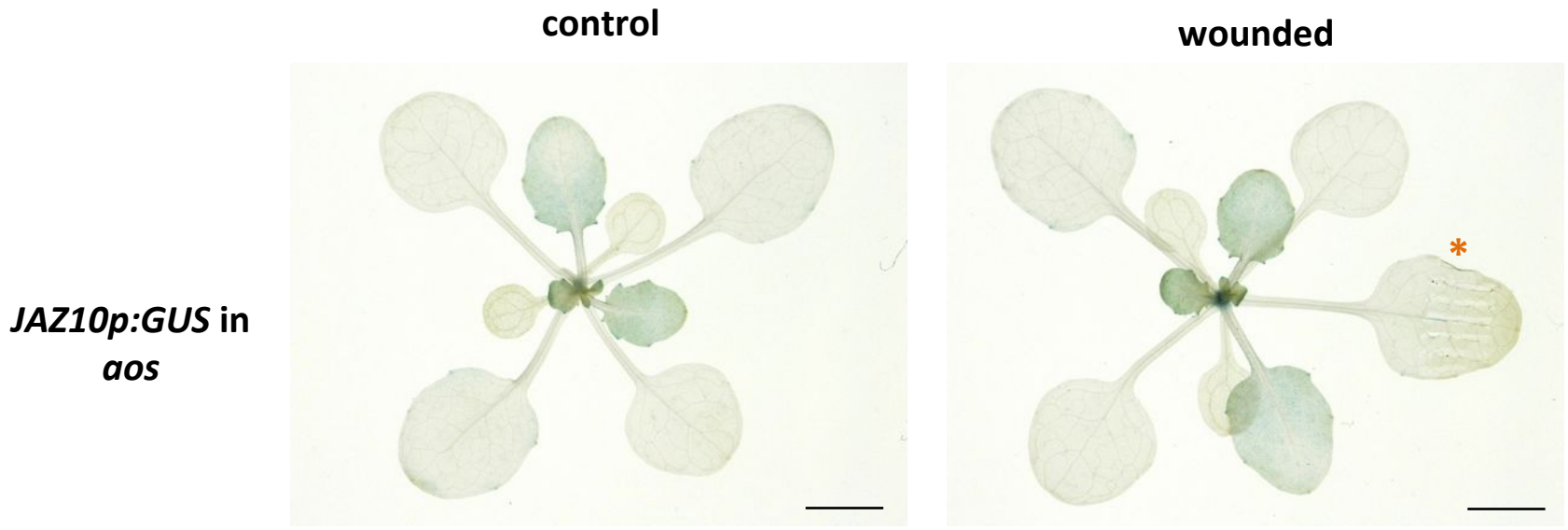
Supplemental Figure S3. *LOX3p:GUS*, *LOX4p:GUS* and *LOX6p:GUS* expression in control and 2 h following cotyledon wounding WT 5-do seedlings. Orange asterisks indicate cotyledon wounding sites. Scale bars = 0.5 mm.



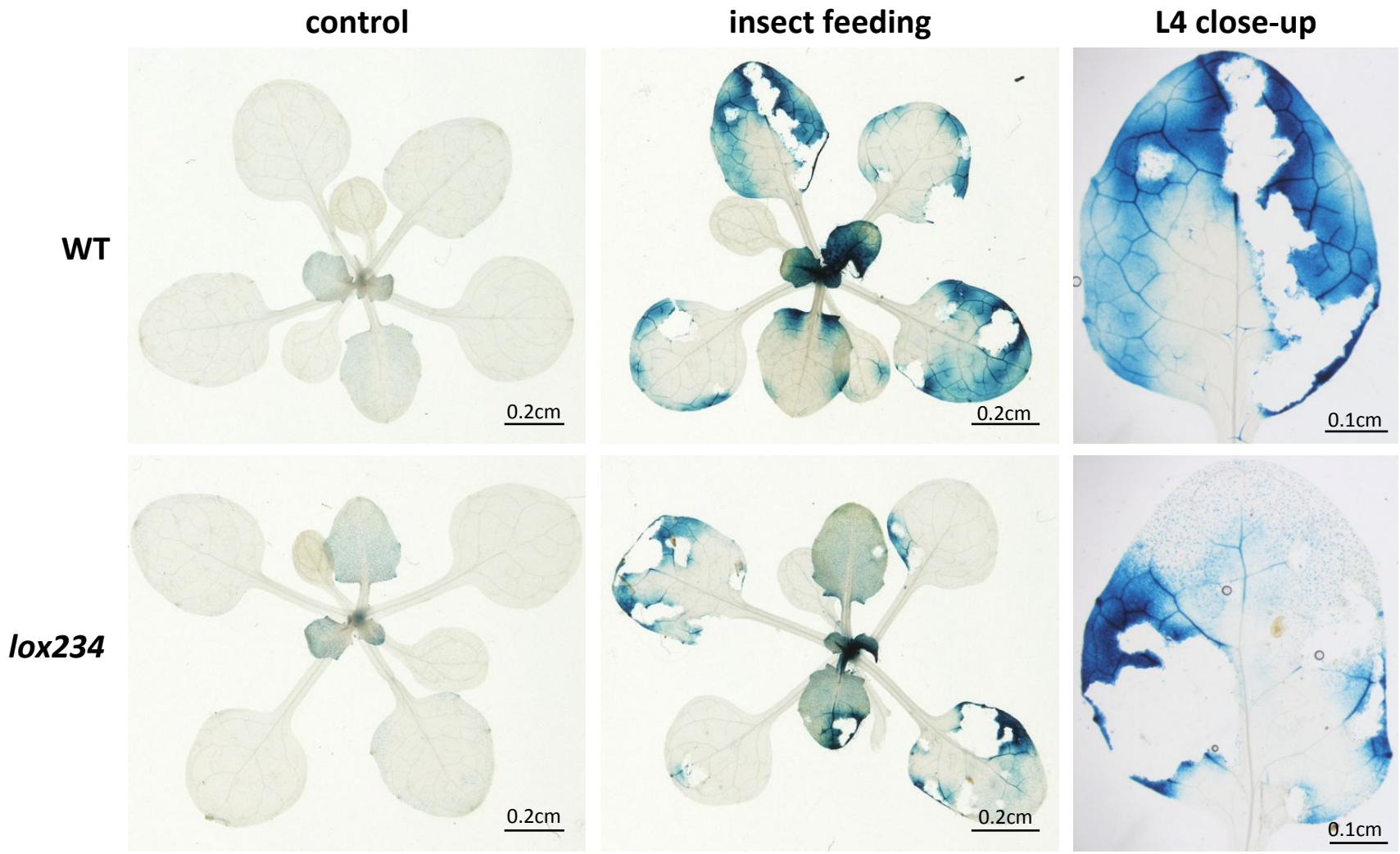
Supplemental Figure S4. *LOX6* transcripts are not wound inducible. qRT-PCR of *JAZ10* expression 1 h after wounding leaf 8 (L8) in 4.5-week old plants. Control and wounded L8 were snap-frozen and collected along with the entire distal leaf (L13). *LOX6* transcript levels were normalized to those of *UBC21*s. Bars represent the means of 4 biological replicates (±SD).



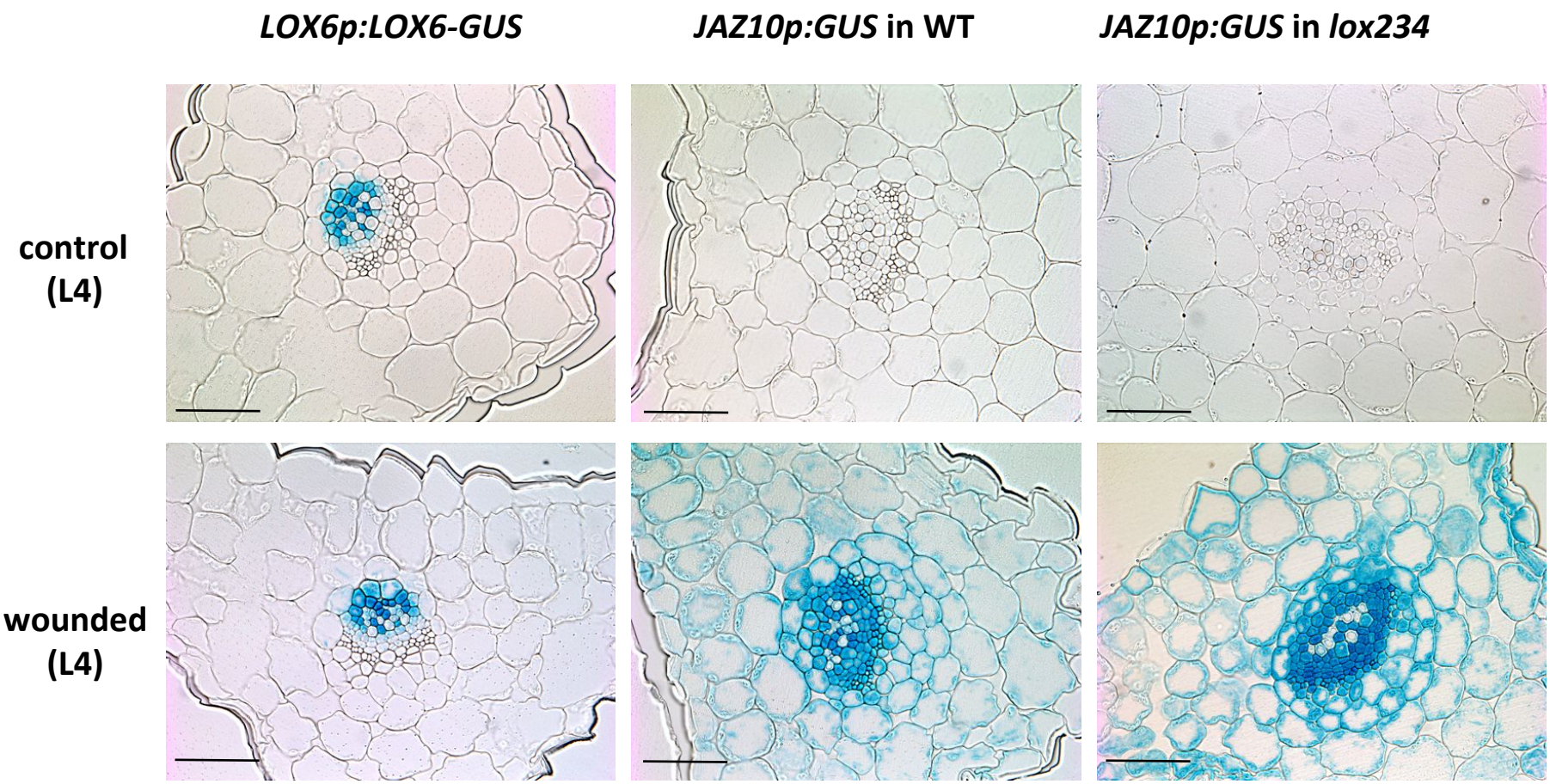
Supplemental Figure S5. A, basal (control) and (B) 6 h after wounding *LOX6p:GUS* expression in 3-week old rosettes of the *lox234* triple mutant. An orange asterisk indicates the wounding site. Details of the vasculature in (C) control and (D) wounded samples.



Supplemental Figure S6. Basal (control) and 6 h after wounding *JAZ10p:GUS* expression in 3-week old rosettes of the JA-deficient mutant *aos*. An orange asterisk indicates the wounding site. Bars = 0.2 cm Basal *JAZ10p:GUS* reporter activity was stronger in the guard cells of *aos* and *lox234* (see Fig. 4 in main text) compared to the WT.



Supplemental Figure S7. *JAZ10p:GUS* expression in 21-d old rosettes of the WT and the *lox234* triple mutant in control conditions or after 24 h treatment with neonate *S. littoralis* larvae. Note the strong reporter staining in the centre of insect-fed rosettes. Close-ups of insect damaged leaf 4 (L4) show that reporter activity extends from the vasculature into the leaf blade in both the WT and *lox234* triple mutant.



Supplemental Figure S8. Oxylipins produced in xylem contact cells activate *JAZ10* expression throughout the vascular cylinder, into the mesophyll and epidermis. Cross sections through L4 midveins showing the localization of *LOX6p:LOX6-GUS* and *JAZ10p:GUS* reporters in the WT or in the *lox234* mutant in control conditions or 6 h after plants were wounded in L3. Bars = 50 µm