



**Supplementary information, Figure S1** Expression patterns of five *RGI*s, confirmation of their T-DNA insertions, and the phenotypes of *rgi1-1 rgi2-1 rgi3-1 rgi4-1 rgi5-1* shown in root cross section and aerial parts.

- (A) Expression patterns of five *RGIs*. Transgenic plants harboring *pRGI1::GUS*, *pRGI2::GUS*, *pRGI3::GUS*, *pRGI4::GUS*, and *pRGI5::GUS* were generated and 5-day-old seedling were used for GUS staining for 30 min before de-staining. Size bar represents 100  $\mu\text{m}$ .
- (B) RT-PCR was used to confirm that there are no full length transcripts of five *RGIs* in the two independent sets of quintuple mutants.
- (C) Cross sections of wild-type and the quintuple mutant. Size bar represents 20  $\mu\text{m}$ .
- (D) Three-week-old Col-0 and *rgi1-1 rgi2-1 rgi3-1 rgi4-1 rgi5-1* quintuple mutant. Size bar represents 1 cm.
- (E) Measurements of rosette width of Col-0 and *rgi1-1 rgi2-1 rgi3-1 rgi4-1 rgi5-1*. The data shown is the average and SD (n>40).