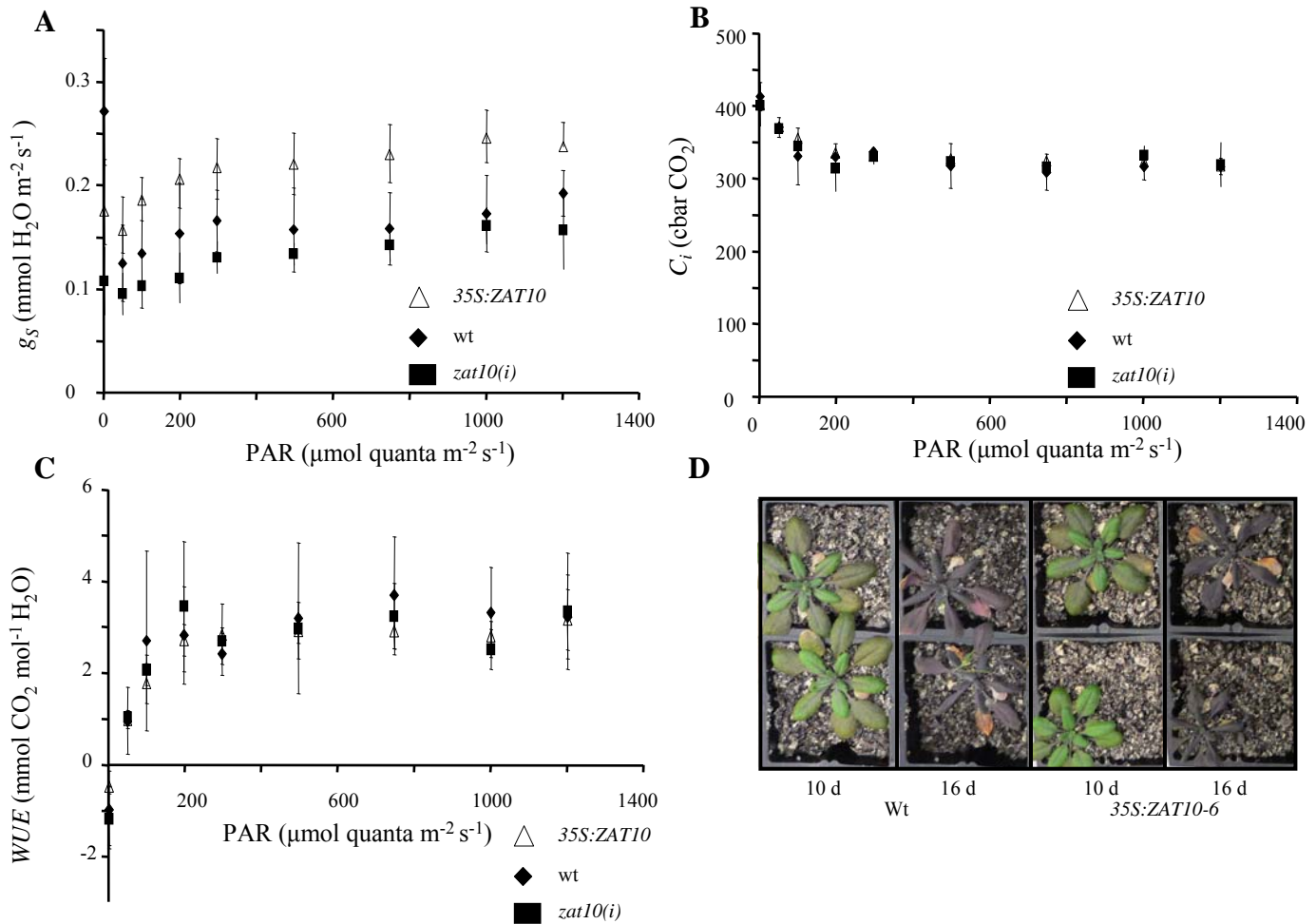


**Supplemental Figure 1. Localization of *ZAT10:LUC* in vasculature, HL-induction of *ZAT10* and photographs of *ZAT10* RNAi plants.**

- (A) CCD image of *ZAT10:LUC* leaf after treatment with luciferin.  
(B) *ZAT10* mRNA abundance in response to treatment of plants with high light for 0 – 60 mins,  $1000 \mu\text{mol photons m}^{-2}\text{s}^{-1}$ .  
(C) Row 1, representative photo of *zat10(i)* and wild type (wt) seedlings; Row 2, the same seedlings were stained for  $\text{O}_2^-$  accumulation with NBT; Row 3, representative photo of mature plants.



**Supplemental Figure 2. Stomatal conductance, water use efficiency and images of wild-type and 35S:ZAT10 plants during drought.**

Water use efficiency and response to drought for wild-type ( $\blacklozenge$ ), *zat10(i)* ( $\blacksquare$ ) and 35S:ZAT10 ( $\triangle$ ).

(A) Stomatal conductance ( $g_s$ ).

(B) Intercellular CO<sub>2</sub> partial pressure ( $C_i$ ).

(C) Water use efficiency (WUE), calculated as the ratio of CO<sub>2</sub> fixation to transpiration loss.

Measurements were made by gas exchange analysis over increasing light intensities (PAR), at 24°C and 400  $\mu\text{bar CO}_2$ . Each point is the mean  $\pm$  SE of 3-5 leaves from at least three different plants.

(D) Representative images of plants at Days 10 and 16 of drought.