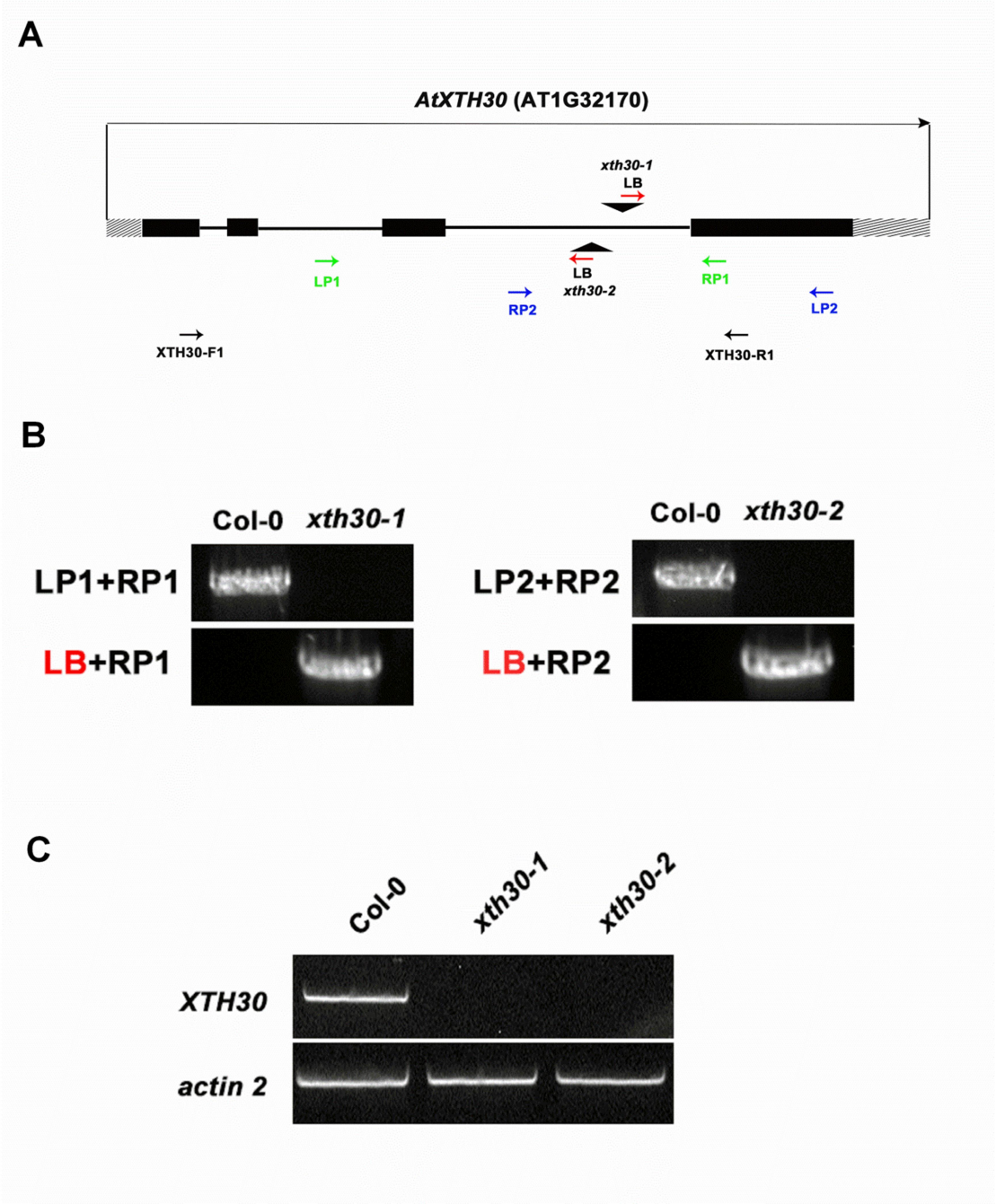


Fig. S1. Summary of T-DNA lines used in this study. (A) The schematic illustrates T-DNA locations. Black bars represent exons and black line represents introns. Arrows indicate the positions of primers used in (B). (B) Homozygosity of the T-DNA insertion in *xth30-1* and *xth30-2* was determined by PCR analysis using the specific primers as indicated in supplemental Table 1. (C) The expression of *XTH30* in wild-type, *xth30-1* and *xth30-2* plants was detected by RT-PCR analysis with XTH30-F1 and XTH30-R1 primers. *ACTIN 2* acts as a reference standard.

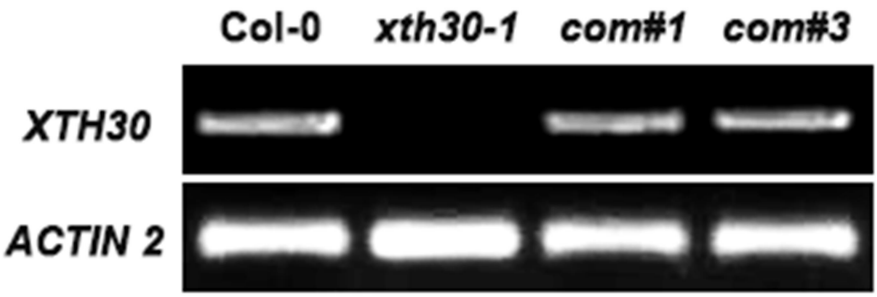


Fig. S2. The expression of *XTH30* in wild type, *xth30-1* and complementation of *XTH30* in *xth30-1*. *XTH30* expression was determined by RT-PCR analysis with primers as showed in Supplemental Table 1. *ACTIN 2* acts as a reference standard.

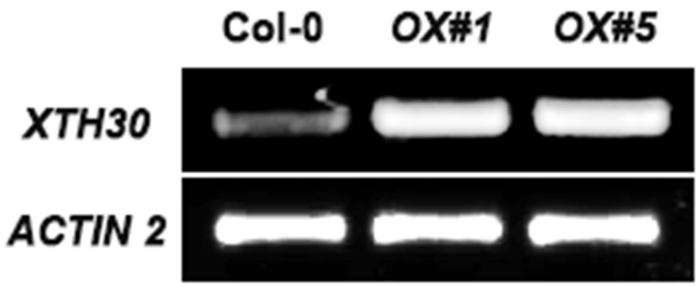


Fig. S3. The expression of *XTH30* in wild type and *XTH30 overexpressors*. *XTH30* expression was determined by RT-PCR analysis with primers as showed in Supplemental Table 1. *ACTIN 2* acts as a reference standard.

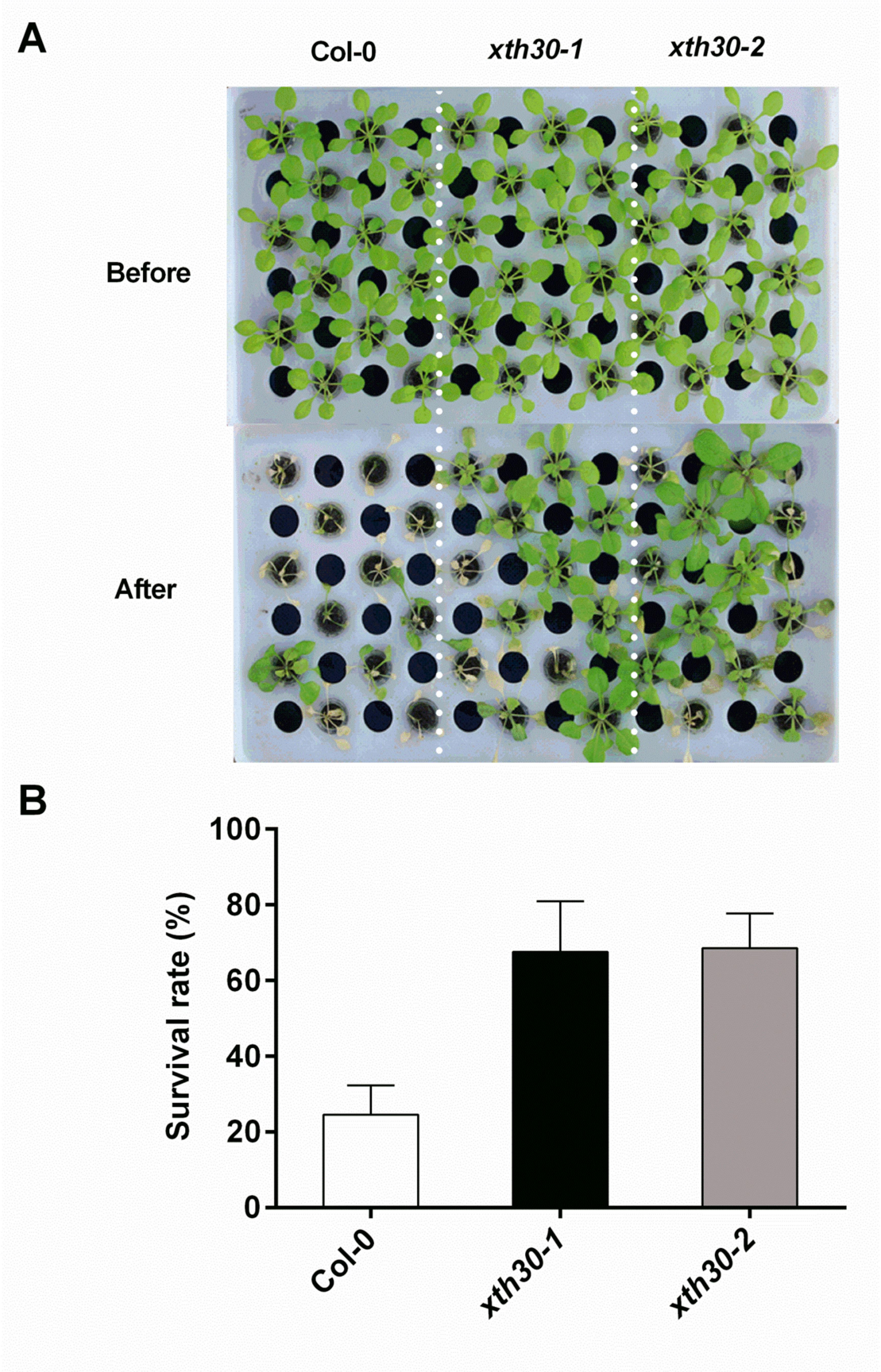


Fig. S4. Sensitivity of hydroponically grown seedlings of *xth30* mutant and wild type to salt stress. (A) Three-week-old hydroponically grown seedlings were treated

with nutrient solution containing 125 mM NaCl for nine days and recovery with standard nutrient solution for three days. (B) The survival rate in (A). Data are means ± SD (n=3). At least 30 plants per biological replicate were used in this experiment.

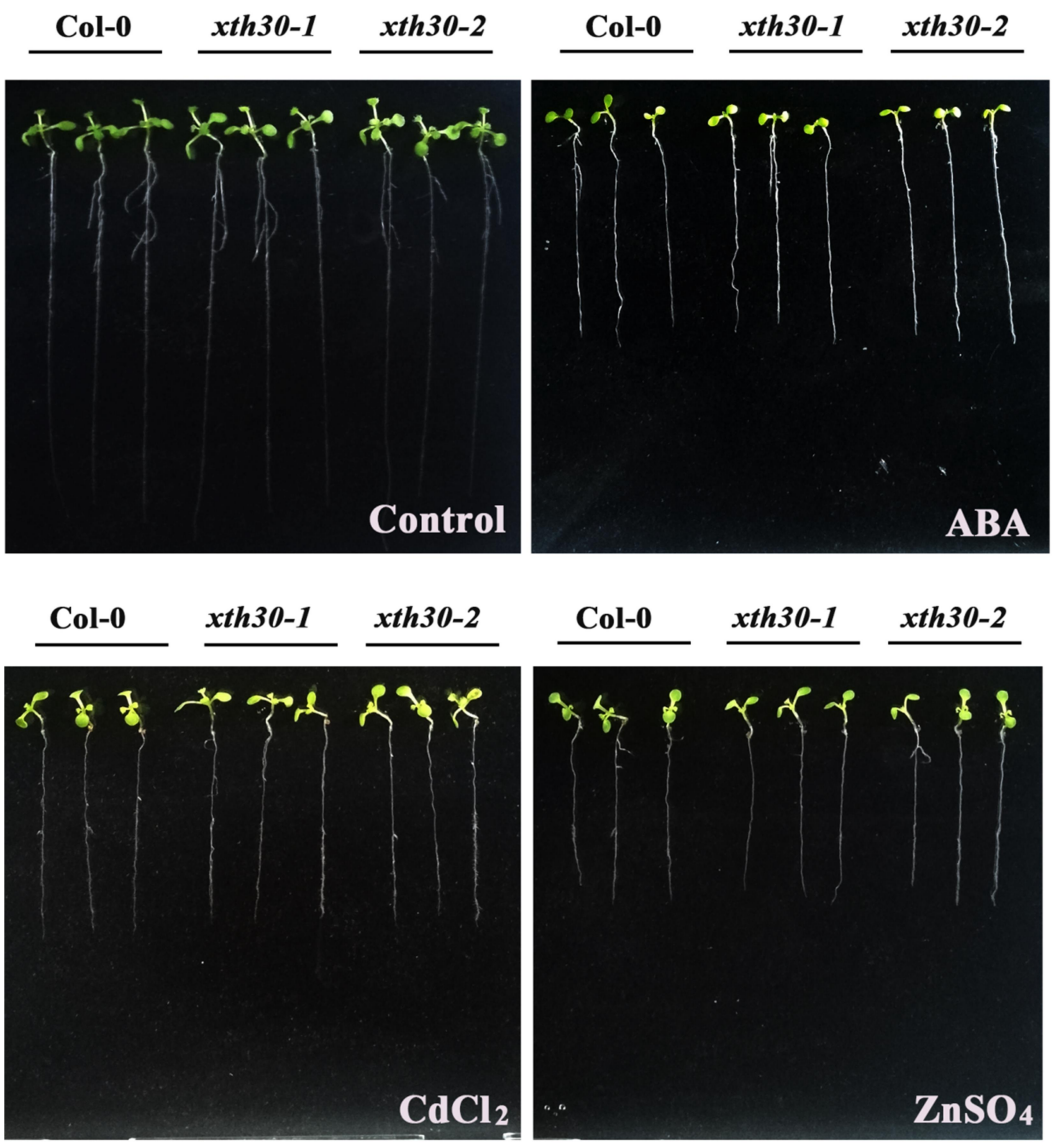


Fig. S5. *XTH30* does not affect the tolerance to heavy metal stress (Zn^{2+} and Cd^{2+}) and ABA. Five-day-old seedlings grown on 1/2 MS medium were transferred onto 1/2 strength MS medium with 50 μM $CdCl_2$ and 500 μM $ZnSO_4$, then allowed to grow for an additional seven days. Seedlings were photographed. Five-day-old seedlings grown on 1/2 MS medium were transferred onto 1/2 strength MS medium with 20 μM ABA, then allowed to grow for an additional seven days. Seedlings were photographed after various treatments. Similar results were observed in three independent experiments.

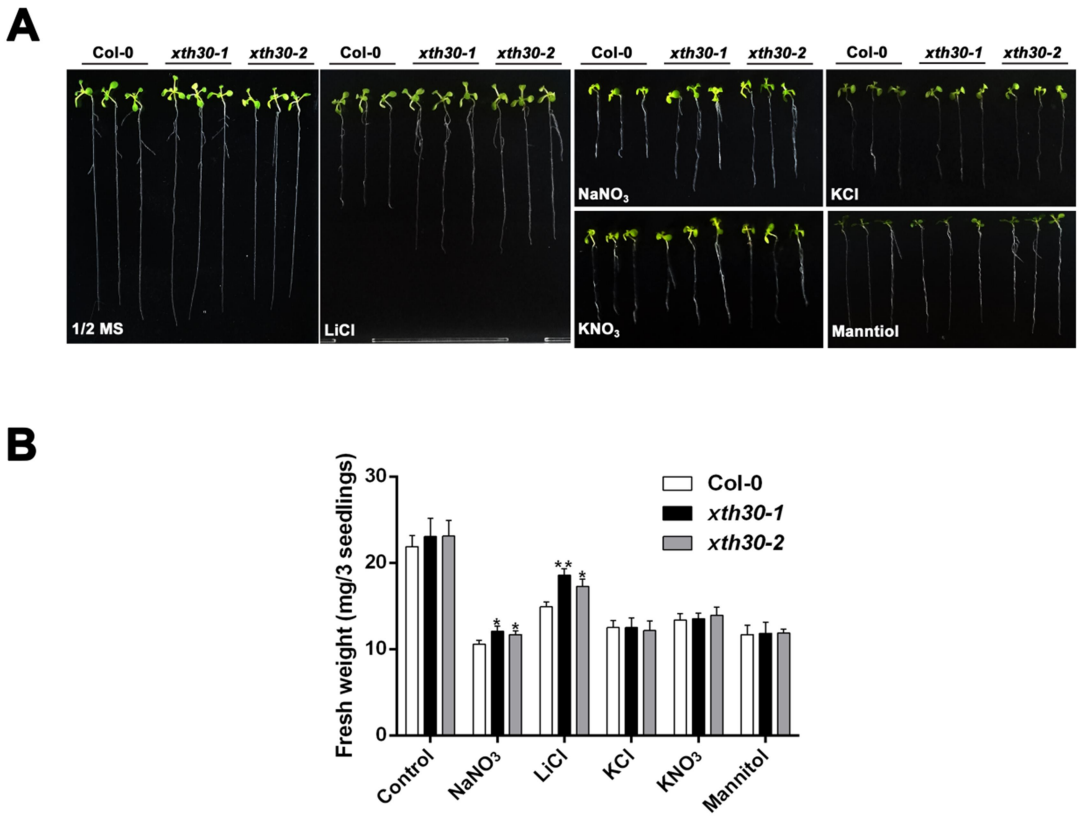


Fig. S6. *xth30* mutants are resistant to Na^+ and Li^+. Five-day-old seedlings of *xth30-1*, *xth30-2* and Col-0 grown on 1/2 MS medium were transferred to 1/2 MS medium with 125 mM $NaNO_3$, 12.5 mM LiCl, 125 mM KCl, 125 mM KNO_3 and 250 mM manntiol. Photographs were taken after seven days of treatment. (B) Fresh weight of seedling tested in (A). Data are means ± SD (n=3). The asterisk shows a significant difference between *xth30* mutants and wild type using the unpaired Student's t-test (*$P < 0.05$, ** $P < 0.01$).

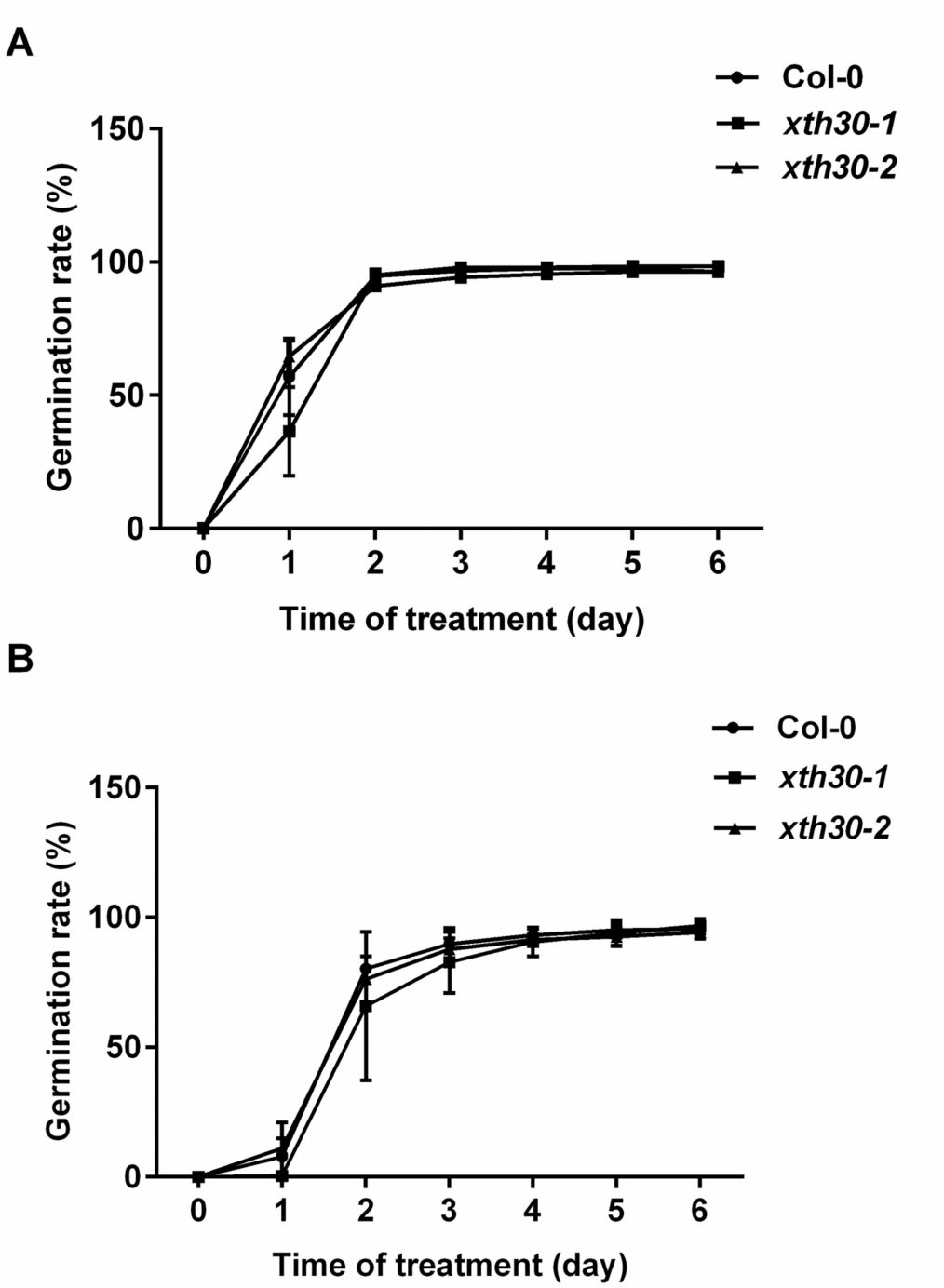
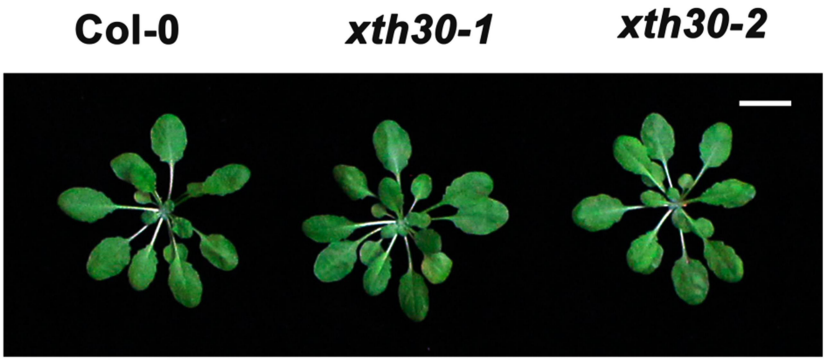


Fig. S7. XTH30 does not affect the germination of seeds exposed to salt stress. *xth30* mutants and wild-type seeds were sown on 1/2 MS medium with or without 125 mM NaCl. Germination rate was calculated. Values show average ± SD (n=3).

A



B

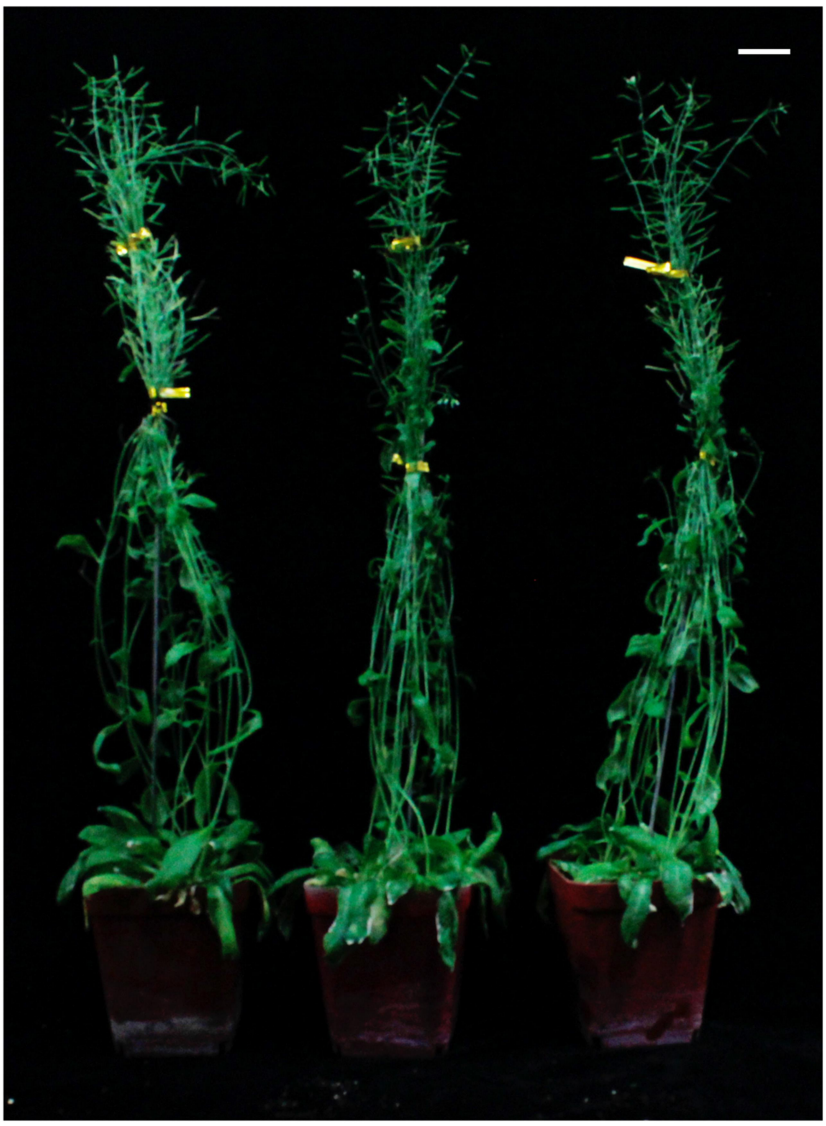


Fig. S8. The phenotypes of wild type and *xth30* mutants. Seeds were sown on soil and photographs were taken after four weeks (A) or seven weeks (B). The scale bar in (A) indicates 10 mm, and the scale bar in (B) indicates 20 mm.

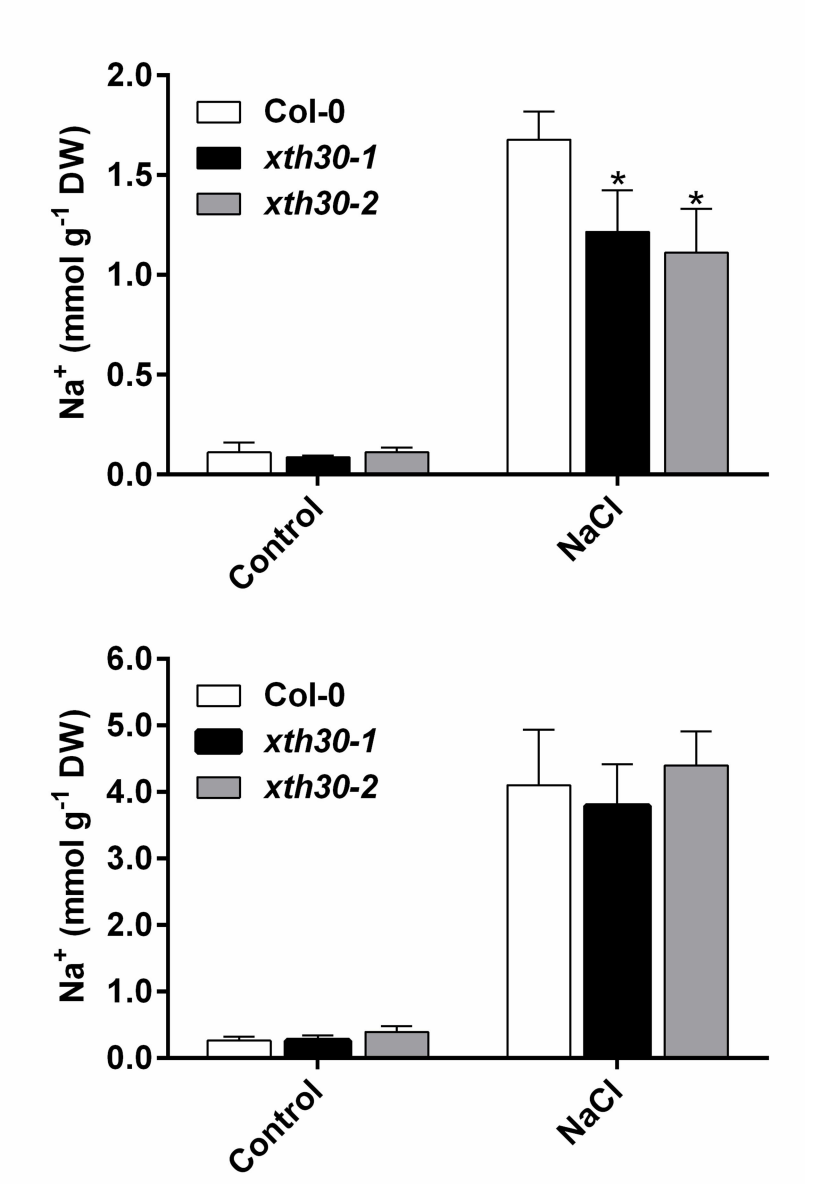


Fig. S9. Effect of *XTH30* on Na^+ accumulation of shoots and roots in hydroponically grown seedlings exposed to salt stress. Three-week-old hydroponically grown seedlings were treated with nutrient solution containing 125 mM NaCl for six days, and the shoots (top) and roots (bottom) were harvested for Na^+ content assay. Data are means ± SD (n=3). The asterisk shows a significant difference between *xth30* mutants and wild type using the unpaired Student's t-test (*$P < 0.05$).

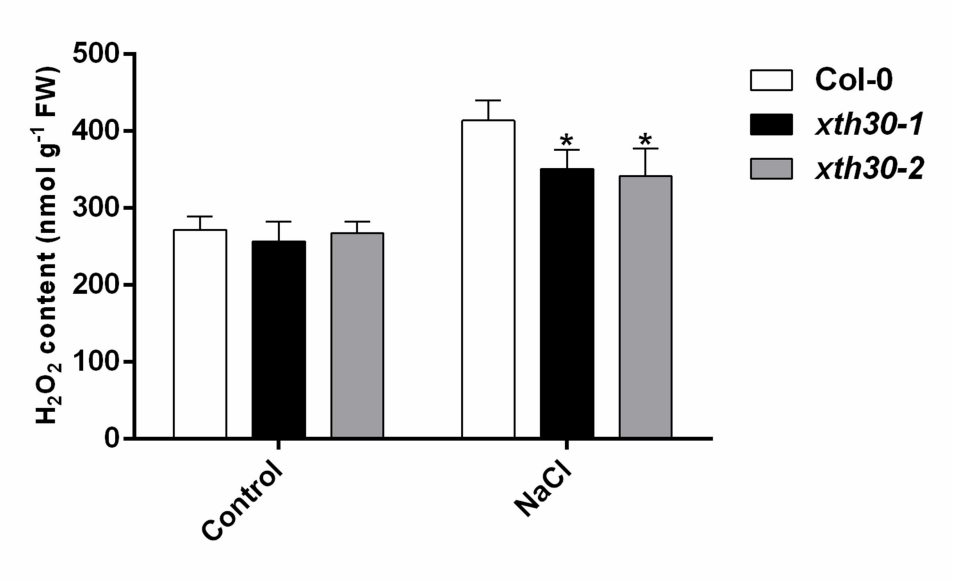


Fig. S10. Accumulation of H_2O_2 in wild-type and *xth30* mutant seedlings. Quantitative measurement of H_2O_2 content in shoots of three-week-old hydroponically grown seedlings subjected to 125 mM NaCl for six days. Error bars represent SD (n =3). The asterisk shows a significant difference between *xth30* mutants and wild type using the unpaired Student's t-test (*P < 0.05).

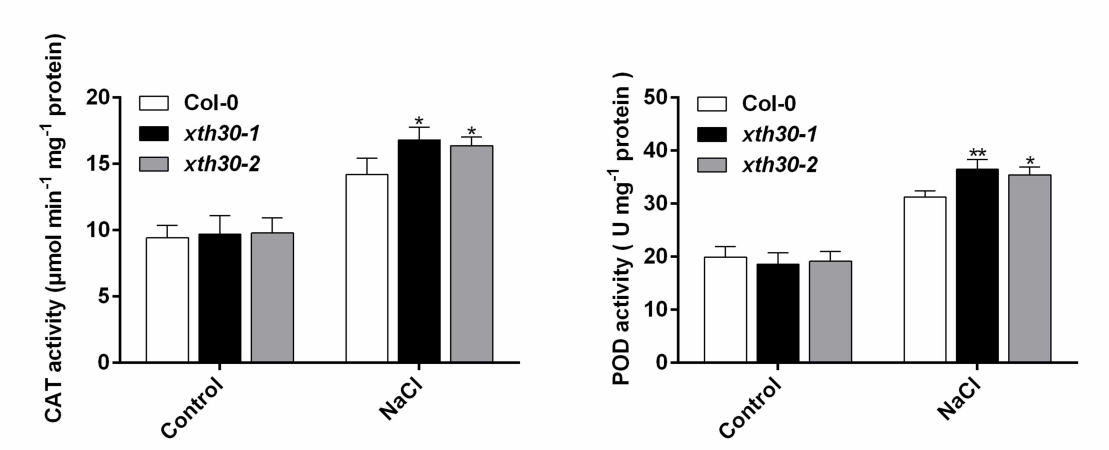


Fig. S11. Effect of *XTH30* on the activities of antioxidant enzymes exposed to salt stress. The activities of CAT and POD in wild-type and *xth30* mutants seedlings exposed to salt stress. Three-week-old hydroponically grown seedlings were treated with nutrient solution containing 125 mM NaCl for six days, then the shoots were harvested. Data are means ± SD (n=3). The asterisk shows a significant difference between *xth30* mutants and wild type using the unpaired Student's t-test (*P < 0.05, ** P < 0.01).

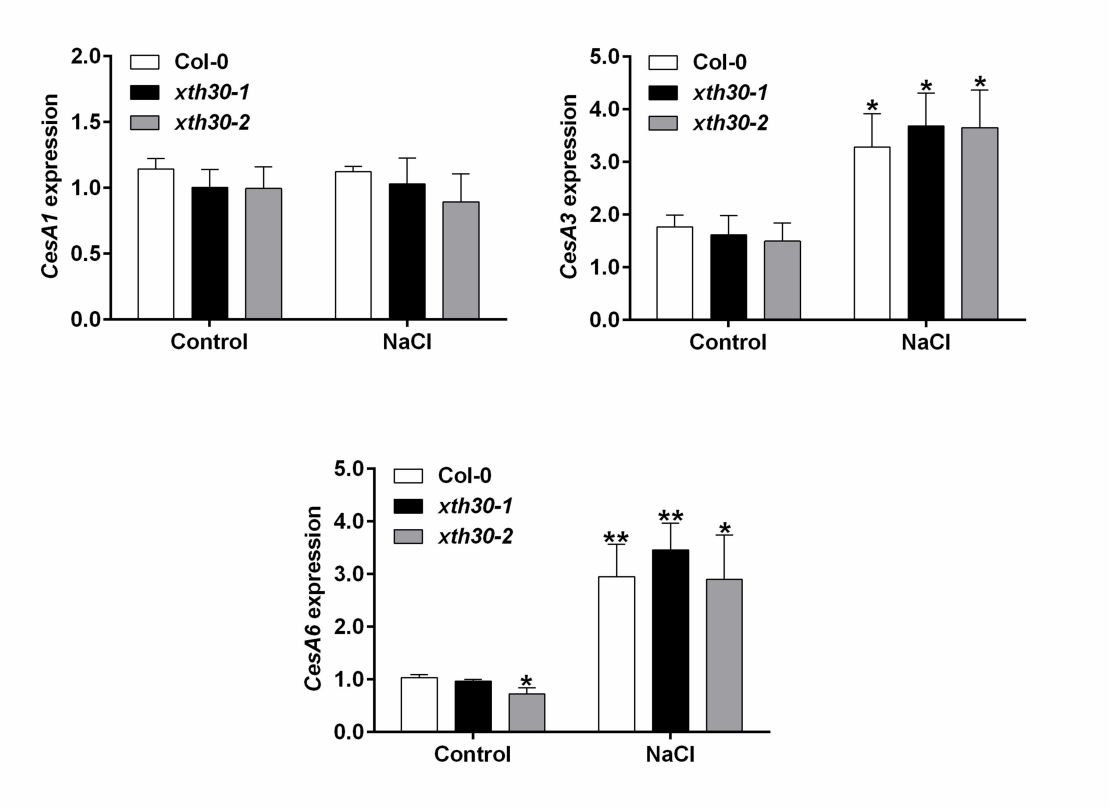


Fig. S12 The effect of *XTH30* on the expressions of *CesA1*, *CesA3* and *CesA6* in response to salt stress. Five-day-old etiolated seedlings were treated with 100 mM NaCl for 24 h in the dark. Error bars represent SD (n=3). *ACTIN 2* acts as a reference standard. The asterisk shows a significant difference compared to the control using the unpaired Student's t-test (*P < 0.05; ** P < 0.01).

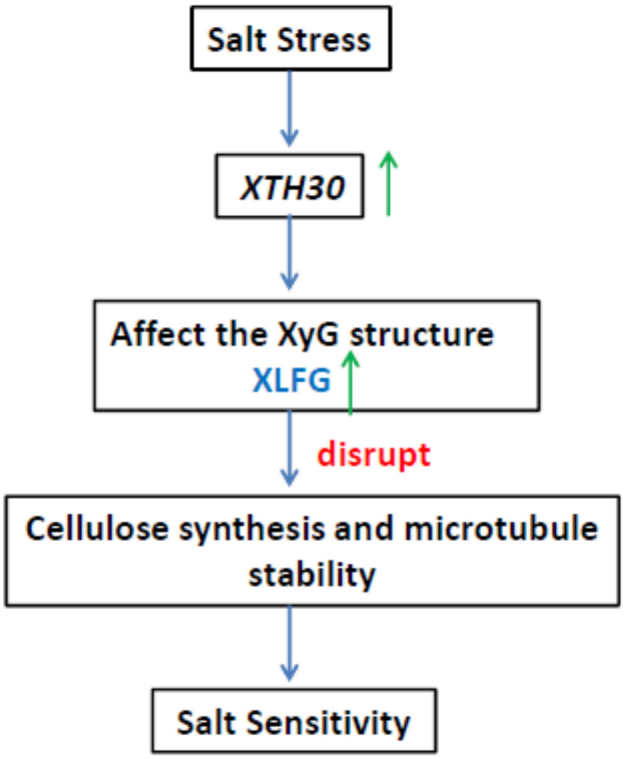


Fig. S13 A potential model for XTH30 regulation in salt stress responses. Salt stress significantly up-regulates the *XTH30* expression, which modify XyG side chain, thus affects cellulose synthesis and cortical microtubule stability, resulting in salt sensitivity.