

### Supporting Information:

**Fig. S1.** Phloroglucinol-HCl Stain of *A. thaliana* fruit pods. *A. thaliana* fruit pods were cross-cut, lignin was stained with phloroglucinol, and the cracking area of the black box was locally enlarged.

**Fig. S2.** Relative expression of the *FtNAC16* transcript in Tartary buckwheat subjected to ABA. The relative expression of the *FtNAC16* transcript in Tartary buckwheat was determined by qRT-PCR. Two-week-old seedlings were used to extract mRNA following treatment with 150  $\mu$ M ABA for 9 h. The sampling time was 0, 0.5, 1, 3, 6, and 9 h. The error bars indicate the standard error (SE) of three replicates. \*\*  $P < 0.01$ .

**Fig. S3.** Expression of key enzyme genes in the lignin pathway after salt stress treatment in WT and OE-*FtNAC16*.

**Fig. S4.** Expression of the *AtABI4* gene in the lignin pathway after salt stress treatment in WT, *nst1/3* and *nst1/3*-*FtNAC16*. \*\*  $P < 0.01$ .

**Table. S1.** Alignment sequence

**Table. S2.** Data of evolution tree

**Table. S3.** q-PCR Primers