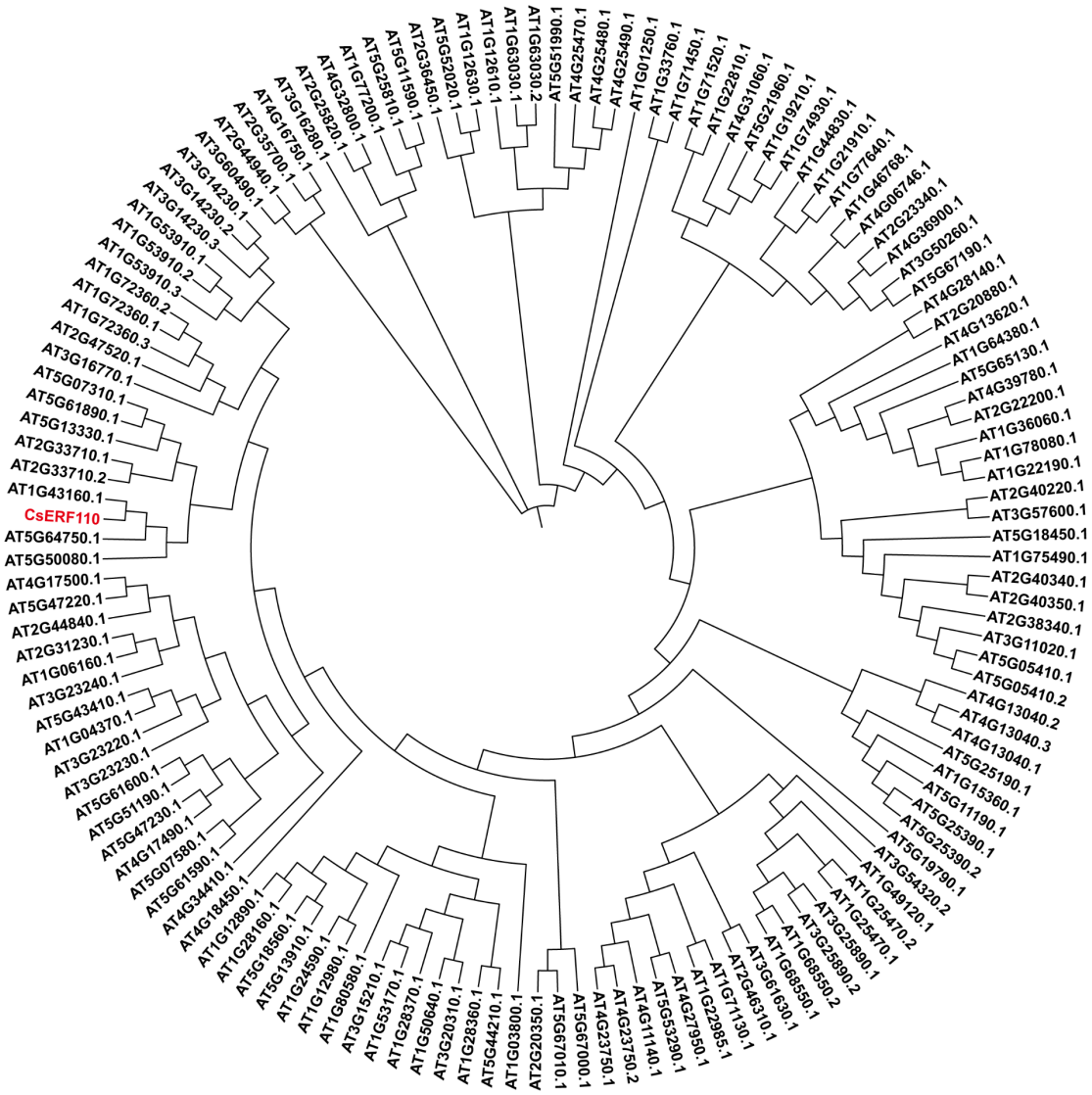
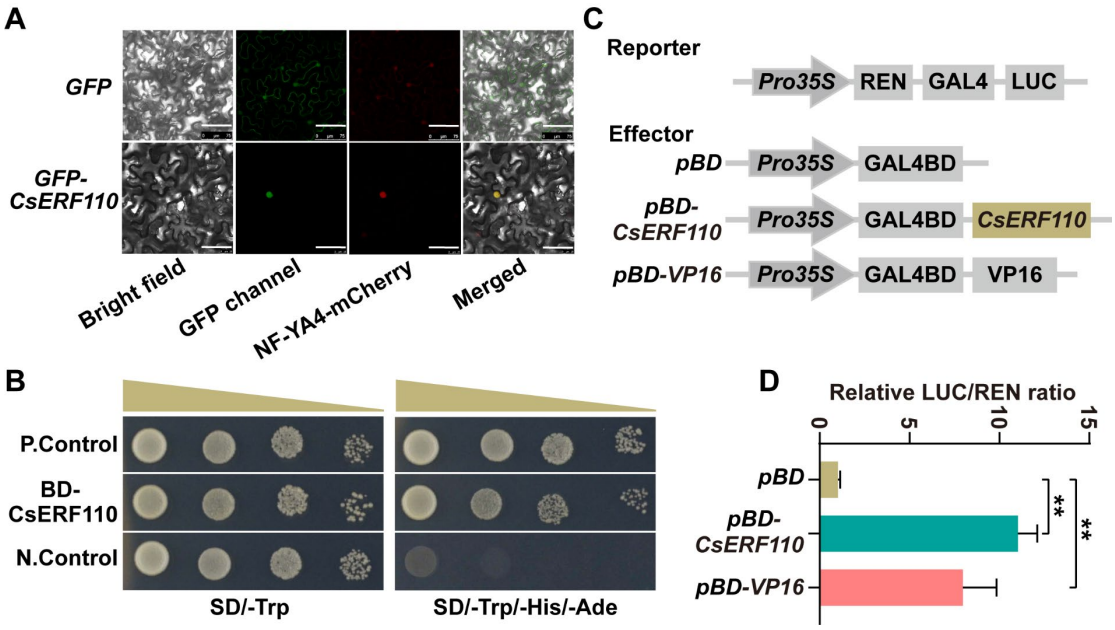
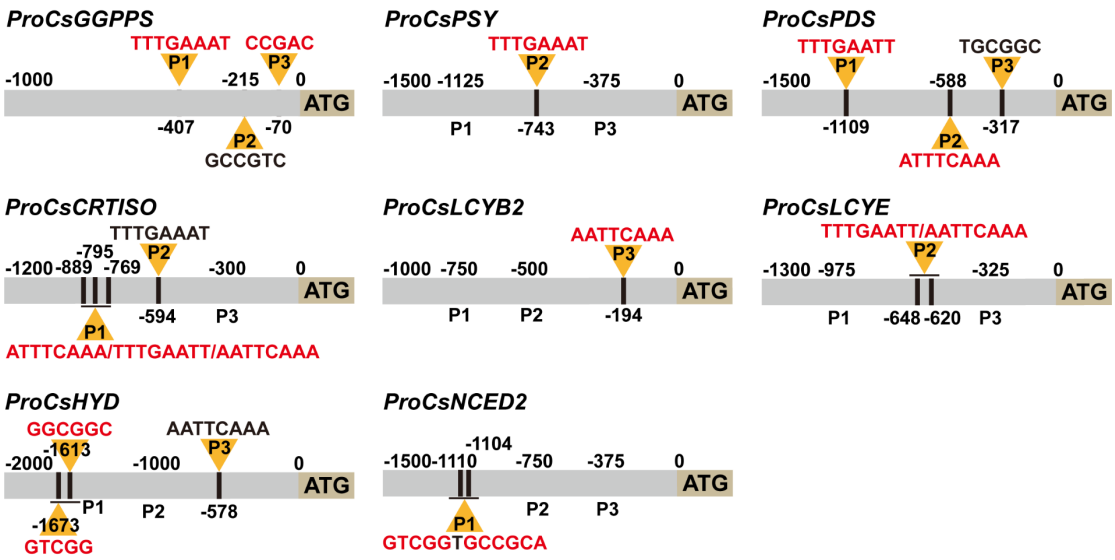


Supplemental Figure 1. Phylogenetic analysis of CsERF110 and other ERF family proteins from *Arabidopsis thaliana* (*A. thaliana*).

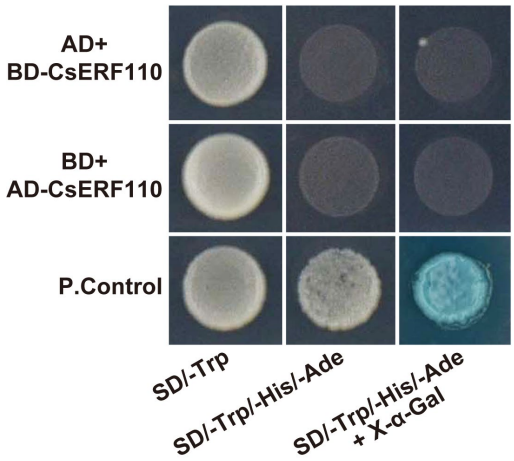


Supplemental Figure 2. *CsERF110* is involved in ABA-induced citrus carotenoid accumulation as a nucleus-localized transcriptional activator. **(A)** Subcellular localization of CsERF110 in *Nicotiana benthamiana* (*N. benthamiana*). CsERF110-GFP, GFP signal; NF-YA4-mCherry, RFP signal; Merged, combined GFP and RFP signals. Bright Field and white light were background colors. Bars = 75 μm. **(B)** CsERF110 transactivation activity assay. PGBKT7-53+PGADT7-RecT and empty vector PGBKT7 were used as positive control (P. Control) and negative control (N. Control), respectively. **(C)** and **(D)** Transcriptional activity analysis of CsERF110 using a dual luciferase system. Empty pBD and pBD-VP16 served as the negative and positive controls, respectively. The luciferase activity was quantified as the transcriptional activity of CsERF110. The data were expressed mean ± SD of at least three biological replicates. Statistically significant differences were determined by Student's t-test (*, $P< 0.05$; **, $P< 0.01$).



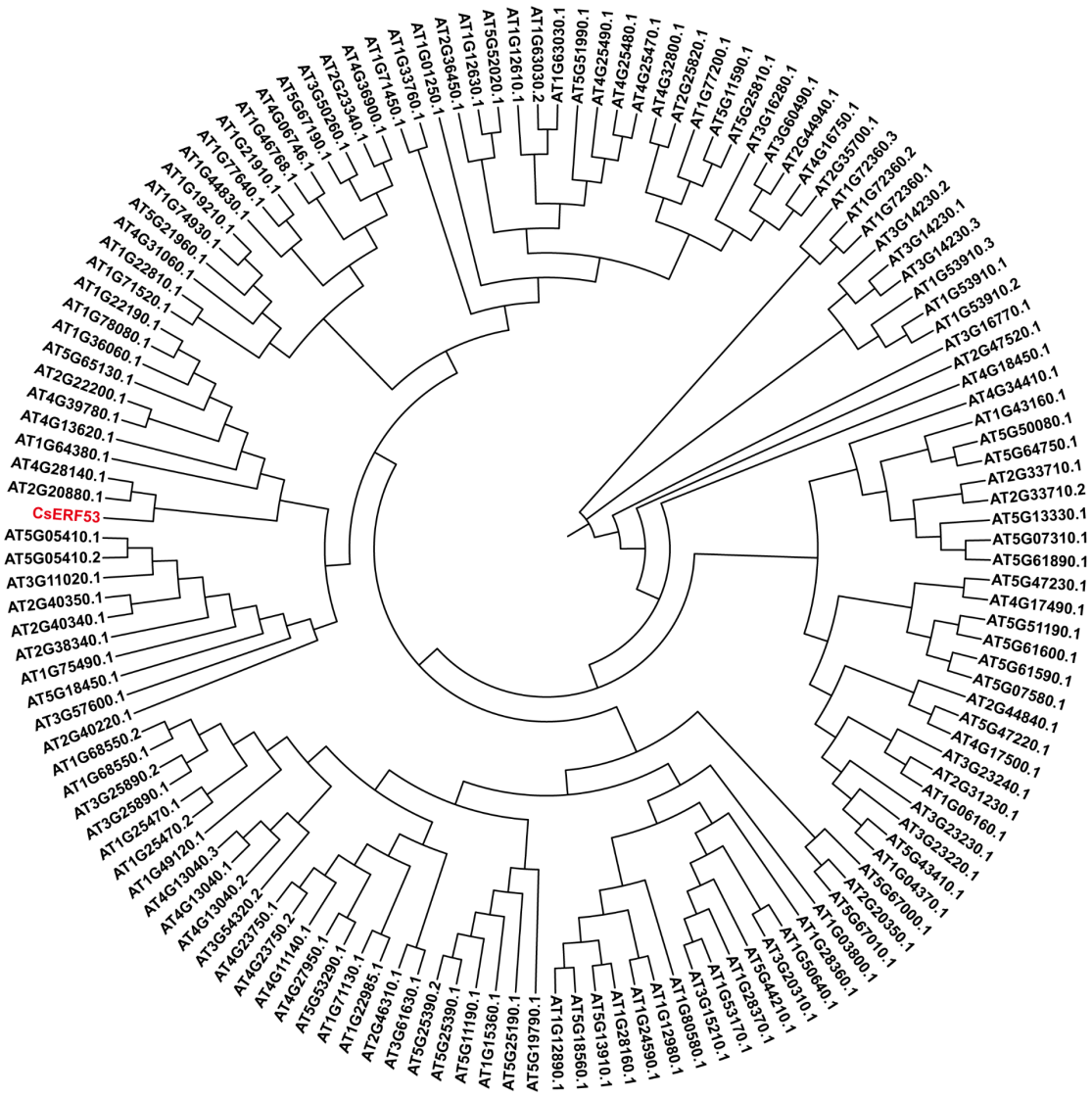
Supplemental Figure 3. Schematic diagram of target gene promoters.

Schematic diagram of target gene promoters (*CsGGPPS*, *CsPSY*, *CsPDS*, *CsCRTISO*, *CsLCYB2*, *CsLCYE*, *CsHYD*, and *CsNCED2*). These black lines represent putative CsERF110 binding motif of these promoters.

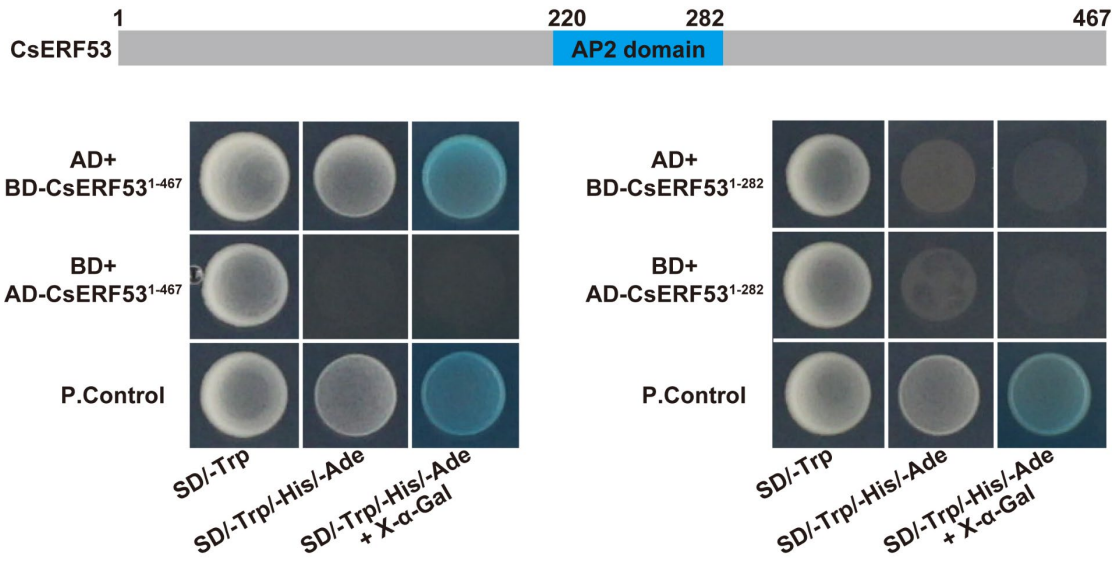


Supplemental Figure 4. CsERF110 has no transcriptional self-activation in yeast cells.

Co-transformation of pGBKT7-p53 and pGADT7-RecT was used as a positive control (P. Control). Yeast grown in SD/−Trp/−Leu medium and SD/−Trp/−Leu/−His/−Ade medium is shown. The interaction is indicated by yeast growth and X-α-Gal staining.

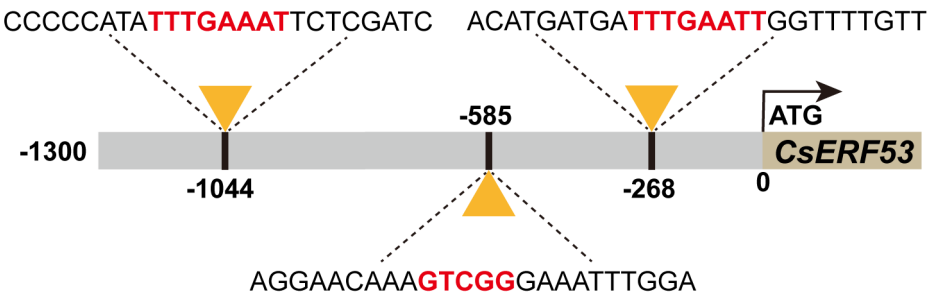


Supplemental Figure 5. Phylogenetic analysis of CsERF53 and other ERF family proteins from *A. thaliana*.



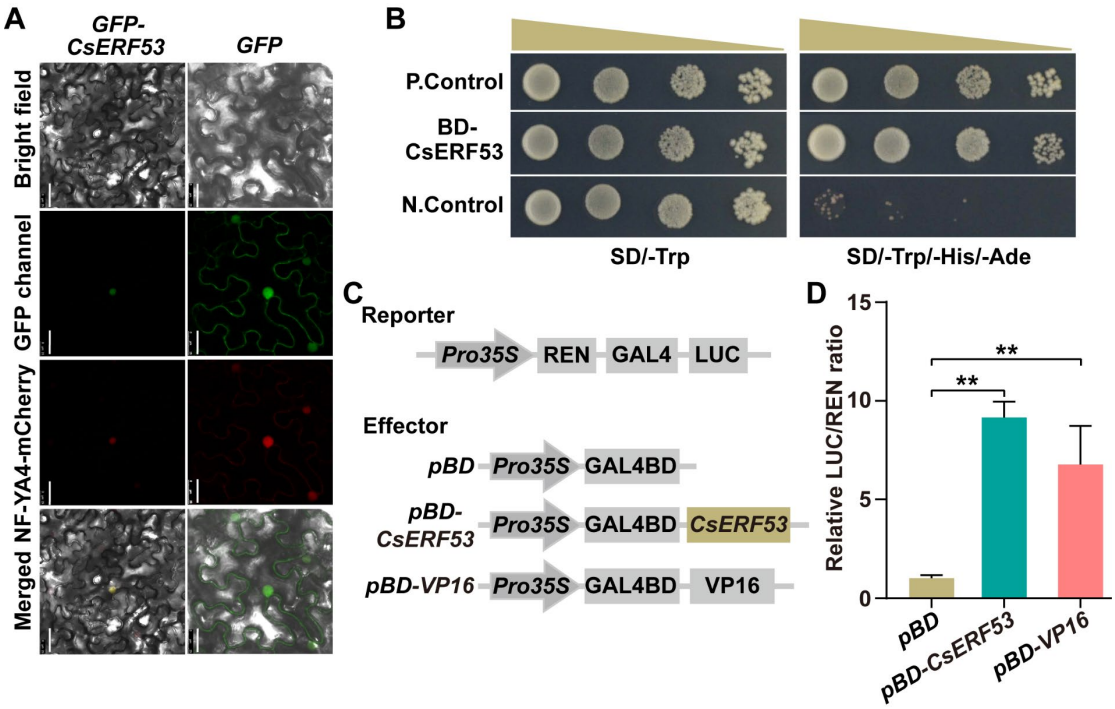
Supplemental Figure 6. Analysis of CsERF53 transcriptional self-activation in yeast cells.

Co-transformation of pGBKT7-p53 and pGADT7-RecT was used as a positive control (P. Control). Yeast grown in SD/−Trp/−Leu medium and SD/−Trp/−Leu/−His/−Ade medium is shown. The interaction is indicated by yeast growth and X-α-Gal staining.

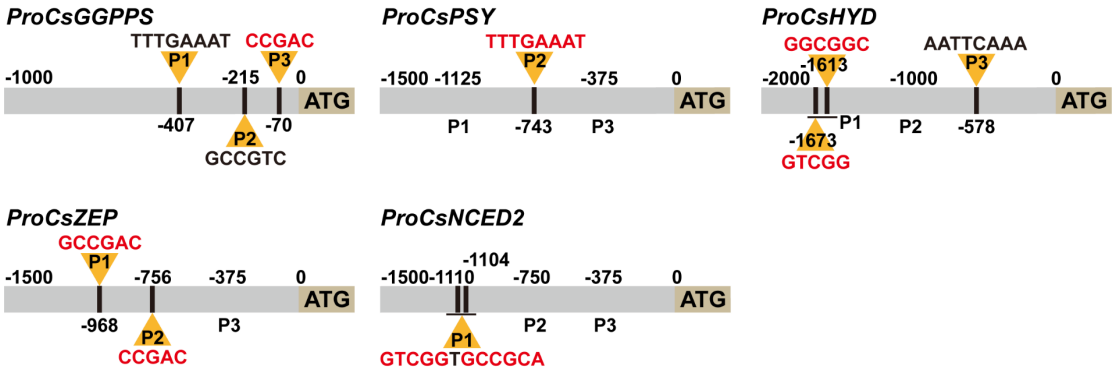


Supplemental Figure 7. Schematic representation of potential binding elements of CsERF110 in the *CsERF53* promoter.

Yellow triangles represent the position of potential *cis*-acting elements of CsERF110 in the *CsERF53* promoter, and red letters represent the sequences of the potential *cis*-elements of CsERF110.

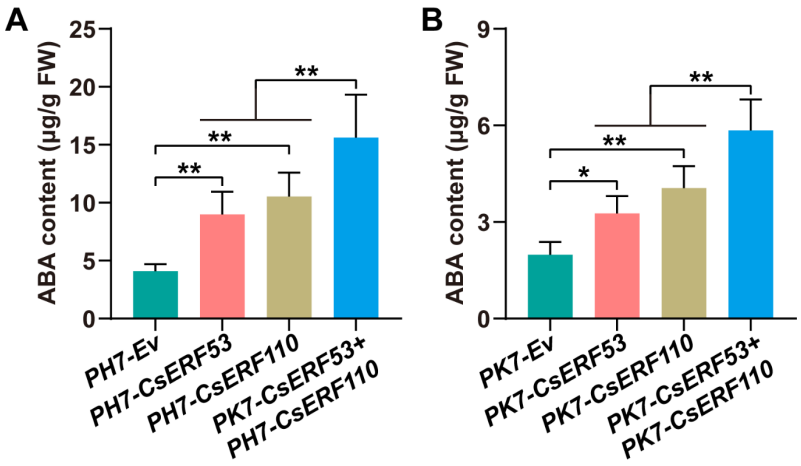


Supplemental Figure 8. *CsERF53* is involved in ABA-promoted citrus carotenoid accumulation as a nucleus-localized transcriptional activator. **(A)** Subcellular localization of CsERF53 in *N. benthamiana* leaves. CsERF53-GFP, GFP signal; NF-YA4-mCherry, RFP signal; Merged, combined GFP and RFP signals. Bright Field and white light were background colors. Images on the right, bars = 75 μm; Images on the left, bars = 50 μm. **(B)** CsERF53 transactivation activity assay. PGBKT7-53+PGADT7-RecT and empty vector PGBKT7 were used as positive control (P. Control) and negative control (N. Control), respectively. **(C)** and **(D)** Transcriptional activity analysis of CsERF53 using a dual luciferase system. Empty pBD and pBD-VP16 served as the negative and positive controls, respectively. The luciferase activity was quantified as the transcriptional activity of CsERF53. The data were expressed mean ± SD of at least three biological replicates. Statistically significant differences were determined by Student's t-test (*, $P< 0.05$; **, $P< 0.01$).



Supplemental Figure 9. Schematic diagram of target gene promoters.

Schematic diagram of target gene promoters (*CsGGPPS*, *CsPSY*, *CsHYD*, and *CsNCED2*). These black lines represent putative CsERF53 binding motif of these promoters.



Supplemental Figure 10. Overexpression of *CsERF53* and *CsERF110* significantly promotes ABA accumulation.

The content of ABA in stably transformed citrus calli **(A)** and transiently injected citrus fruit **(B)**. Data represent means ± SD of three biological replicates. Asterisks indicate statistically significant differences determined by Student's *t*-test (*, 0.01< *P* < 0.05; **, *P* < 0.01; n.s., no significant difference).