



Supplemental Figure 1. Identification of transgenic materials.

(A-B) qRT-PCR analysis for the expression of *MdTCP46* in transgenic apple fruits. pIR, IL60-1 + IL60-2; MdTCP46-pIR, IL60-1 + MdTCP46-IL60-2; TRV, TRV1 + TRV2; MdTCP46-TRV, TRV1 + MdTCP46-TRV2. The value of pIR or TRV was set to 1. Error bars denote standard deviations. Asterisks indicate statistical significance based on *t*-test. *, $P < 0.05$; **, $P < 0.01$. (C) qRT-PCR analysis for the expression of *MdTCP46* in transgenic apple callus. WT, wild-type apple callus; MdTCP46, *MdTCP46*-overexpressing apple callus; asMdTCP46, apple callus with suppression of *MdTCP46*. The anthocyanin content in WT was set to 1. (D) qRT-PCR analysis for the expression of *MdRGL2a* in transgenic apple callus. WT, wild-type apple callus; MdRGL2a, *MdRGL2a*-overexpressing apple callus; asMdRGL2a, apple callus with suppression of *MdRGL2a*. The anthocyanin content in WT was set to 1. Error bars denote standard deviations. Different lowercase letters indicate significant difference at $P < 0.05$ based on one-way ANOVA test.