Supplementary Data

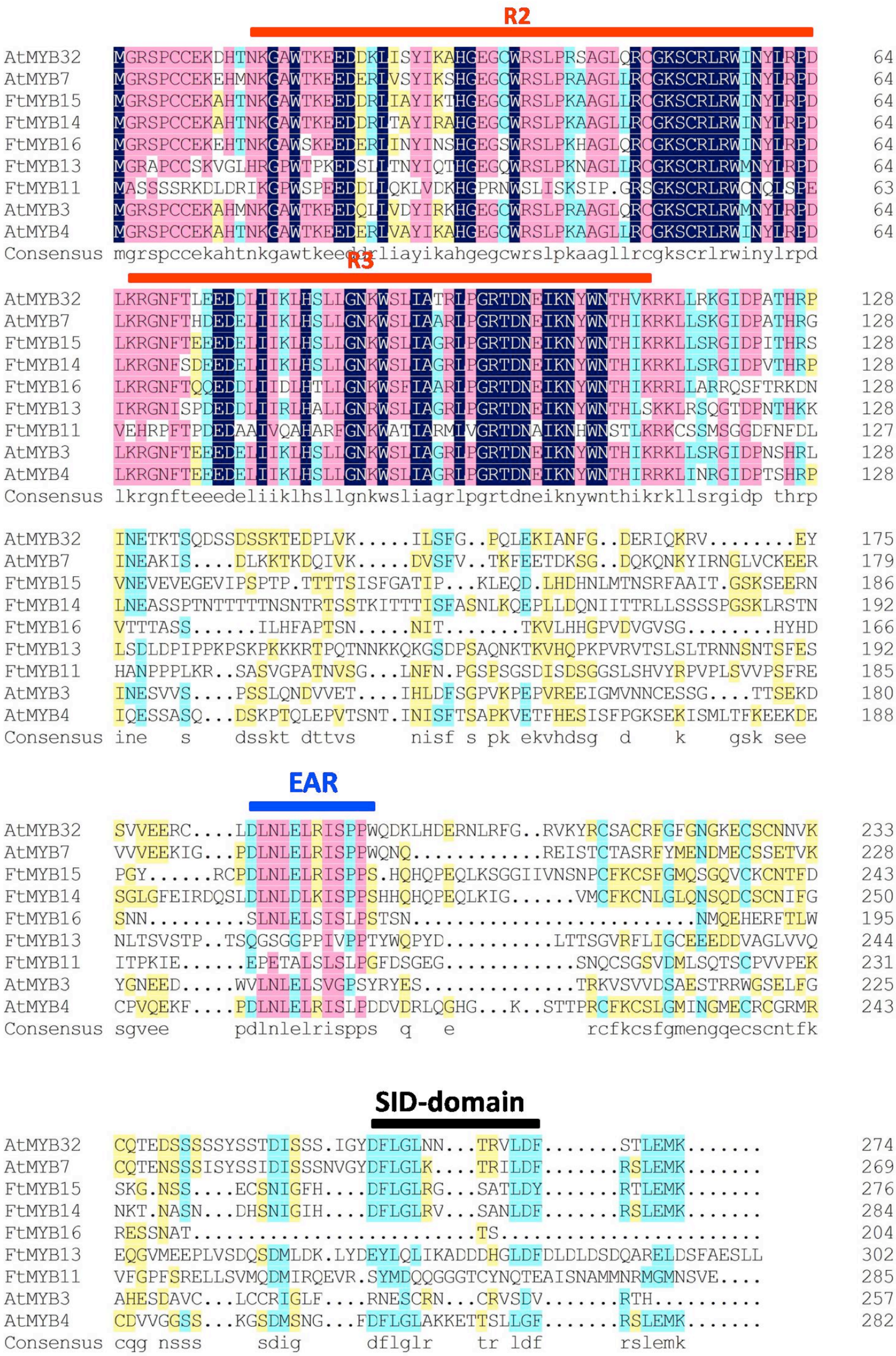

Fig. S1. Amino acid sequence alignment of a clade of subgroup 4 R2R3-MYB TFs from *F. tataricum* with subgroup 4 R2R3-MYB TFs from *Arabidopsis*. Sequences were aligned using the clustalW and MEGA version 5. FtMYB11 (KU498041), FtMYB13 (KY290579), FtMYB14 (KY290580), FtMYB15 (KY290581), FtMYB16 (KY290582).

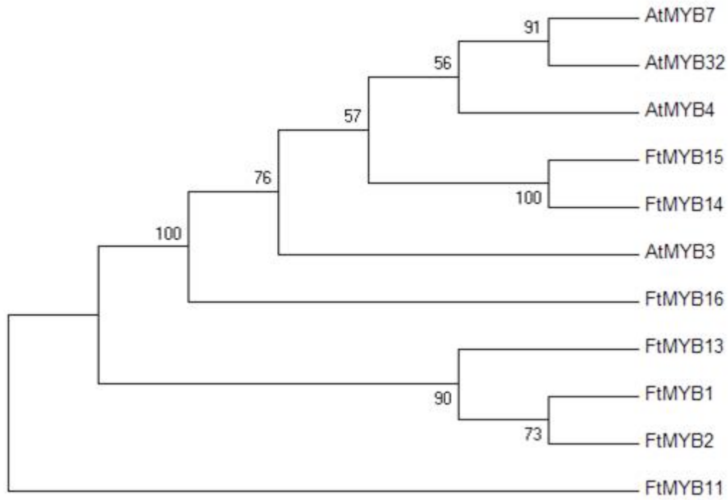

Fig. S2. Phylogeny of R2R3-MYB TFs including two activators: FtMYB1 (JF313345) and FtMYB2 (JF313347) from *F. tataricum* with subgroup 4 R2R3-MYB TFs from *Arabidopsis*. Phylogenetic tree is based on alignment of complete protein sequences.

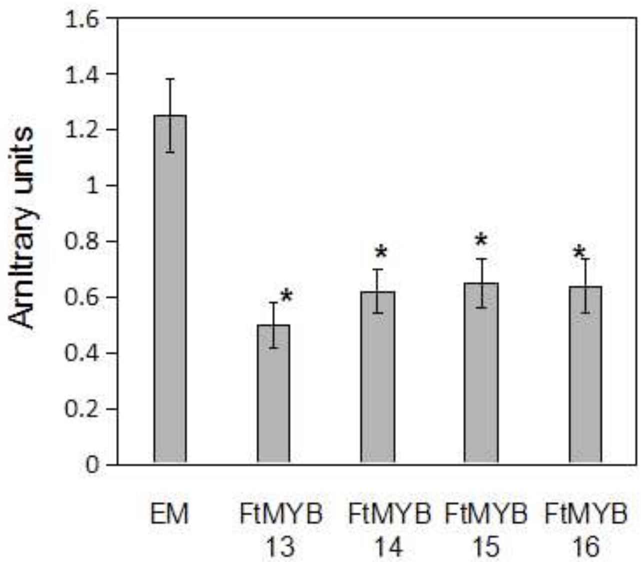

Fig. S3. Transcriptional repression activity assays of FtMYB13, FtMYB14, FtMYB15 and FtMYB16. The transformed yeasts were selected on SD/-W media and then β-galactosidase activity assays (Arbitrary units) were performed. Empty pAS2.1 vector was used as a negative control. The mean value is from three independent measurements, and error bars indicate ± SD.

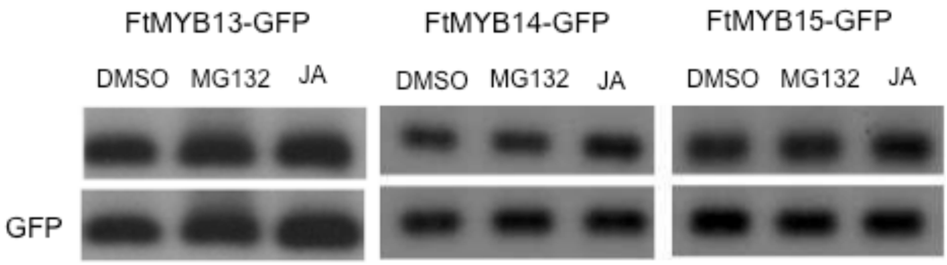

Fig. S4. Immunoblot analysis with anti-GFP antibodies of total protein extracts from Arabidopsis *coi-1* leaf protoplasts transiently co-expressing GFP and FtMYB13-GFP, FtMYB14-GFP or FtMYB15-GFP. Arabidopsis protoplasts were harvested 18 hrs after transformation of protoplasts treated for 4 hrs with the solvent DMSO at 0.1% (v/v) final concentration or with 50 µM of the 26S proteasome inhibitor MG132 or with 50 µM MeJA.

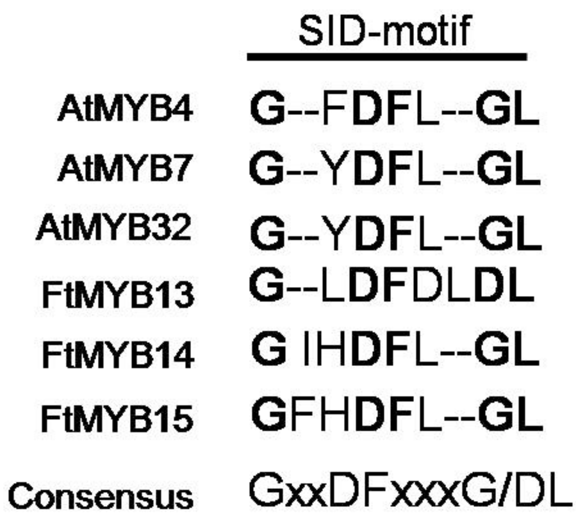

Fig. S5. Amino acid sequence alignment of the SID domain of FtMYB13, FtMYB14 and FtMYB15 with AtMYB4, AtMYB7 and AtMYB32. Sequences were aligned using the clustalW and MEGA version 5.

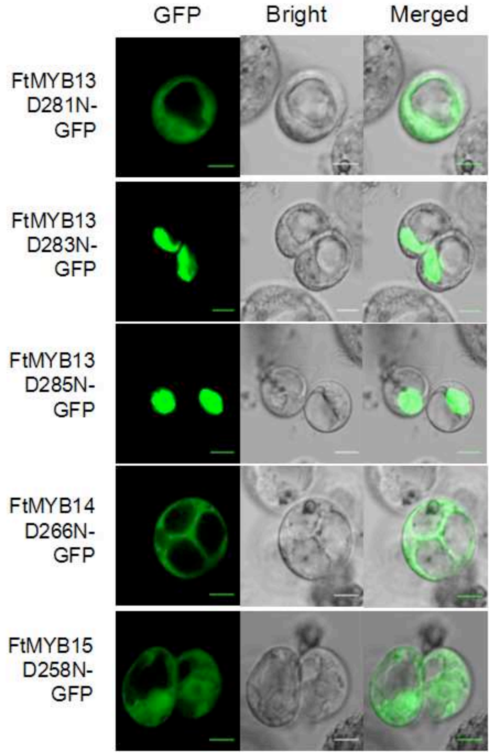

Fig. S6. Subcelluar localization of FtMYB13D281N-GFP, FtMYB13D283N-GFP, FtMYB13D285N-GFP, FtMYB14D266N-GFP or FtMYB15D258N-GFP in Arabidopsis protoplasts. Scale bar=20 μm.

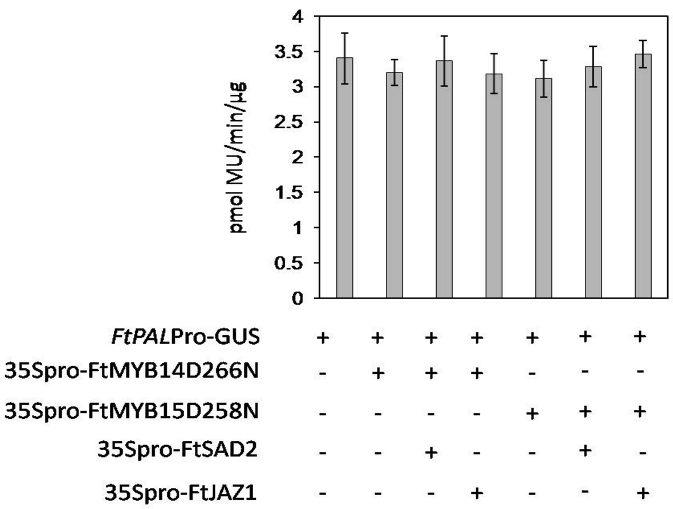

Fig. S7. The transcriptional activity of FtMYB14^{D266N} or FtMYB15^{D258N} was not affected by FtSAD2 or FtJAZ1. Arabidopsis protoplasts were co-transformed with 2μg reporter construct of *FtPALpro*-GUS and 2μg of effector plasmids. The effector constructs consisted of an expression vector carrying the CaMV 35S promoter without or with the *FtMYB14*^{D266N}, *FtMYB15*^{D258N}, *FtSAD2* or *FtJAZ1* genes. Values represent means ± SE of triplicate experiments.

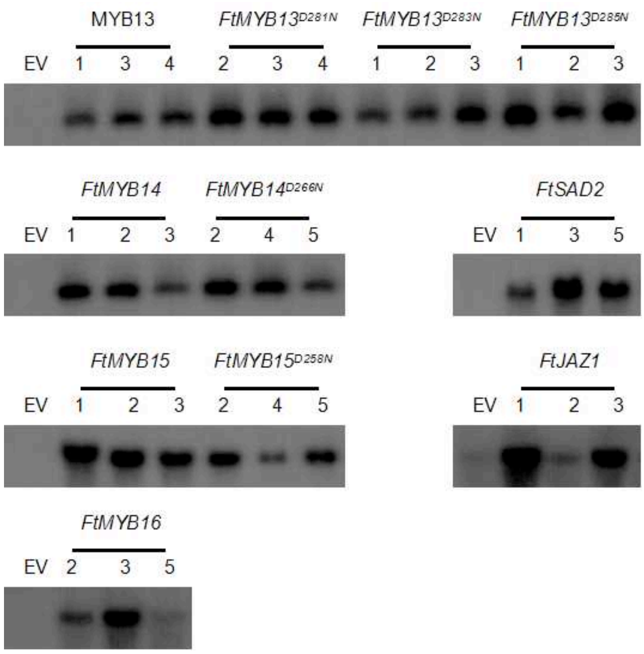

Fig. S8. Immunoblot analysis with anti-HA antibodies of total protein extracts from *FtMYB13-HA*, *FtMYB13^{D281N}-HA*, *FtMYB13^{D283N}-HA*, *FtMYB13^{D285N}-HA*, *FtMYB14-HA*, *FtMYB14^{D266N}-HA*, *FtMYB15-HA*, *FtMYB15^{D258N}-HA*, *FtMYB16-HA*, *FtSAD2-HA* or *FtJAZ1-HA* overexpressing hairy root lines of *F. tataricum* as indicated. 5 µg protein were loaded for each sample.

Fig. S9. Immunoblot analysis with anti-HA antibodies of total protein extracts from *F. tataricum* hairy roots expressing *FtMYB13-HA*, *FtMYB13D281N-HA*, *FtMYB13D283N-HA* and *FtMYB13D285N-HA*. The 20 days hairy root lines were harvested 12 hrs after treated with the solvent DMSO at 0.1% (v/v) final concentration or with 50 µM MeJA. 5 µg protein were loaded for each sample.

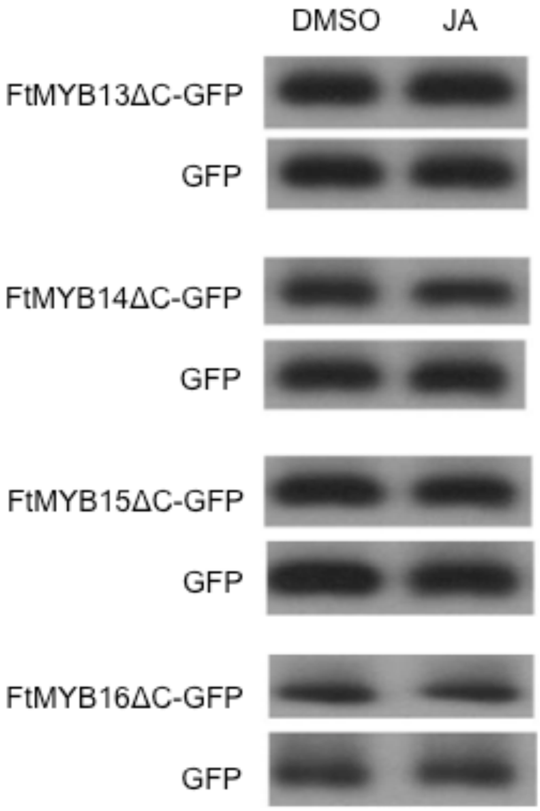

Fig. S10 Immunoblot analysis with anti-GFP antibodies of total protein extracts from Arabidopsis cell suspension protoplasts transiently co-expressing GFP and FtMYB13ΔC-GFP, FtMYB14ΔC-GFP, FtMYB15ΔC-GFP or FtMYB16ΔC-GFP. Arabidopsis protoplasts were harvested 18 hrs after transformation of protoplasts treated for 4 hrs with the solvent DMSO at 0.1% (v/v) final concentration or with 50 μM MeJA.

Table S1. List of primers used in this study.

Genes	Primers
Primers used for qRT-PCR	
FtMYB13	Fw: 5'-GCCGTACGATCTGACGACGAG-3' Rv: 5'-GTCCATGATCATCATCCGC-3'
FtMYB14	Fw: 5'-CGAGATAAGAGATCAAAGC-3' Rv: 5'-CTATGATCATTACTAGCAT-3'
FtMYB15	Fw: 5'-CATCAGCCAGAACAACTG-3' Rv: 5'-CATGGAAGCCAATGTTGC-3'
FtMYB16	Fw: 5'-ACGTCGGAGTATCCGGTC-3' Rv: 5'-GCTTGTTGTGGCATTAG-3'
FtSAD2	Fw: 5'-GATCCTGTGGAGCAATCTAAG-3' Rv: 5'-AGACCCTGCCATTGCTCG-3'
FtH3	Fw: 5'-GAAATTCGCAAGTACCAGAAGAG-3' Rv: 5'-CCAACAAGGTATGCCTCAGC-3'
Primers used for yeast two hybrid	
FtMYB13	ADFw: 5'-GCCCCGGGGATGGGAAGAGCTCCTTGTTGC-3' ADRv: 5'-AGCTCGAGTCAGATGAGCAAAGACTCAGC-3'
FtMYB14	ADFw: 5'-GCCCCGGGGATGGGTAGATCTCCATGTTGTG-3' ADRv: 5'-AGCTCGAGTCATTTCATCTCCAATGATC-3'
FtMYB15	ADFw: 5'-GCCCCGGGGATGGGTCGATCTCCATGTTGC-3' ADRv: 5'-AGCTCGAGTCATTTCATCTCCAAAGTTCTATAG-3'
FtMYB16	ADFw: 5'-GCCCCGGGGATGGGGAGATCACCTTGCTGC-3' ADRv:5'-AGCTCGAGCTAGCTTGTTGTGGCATTAGAAG-3'
FtSAD2	BDFw: 5'-CTCATATGGATCTTCCAAGCCTCGCT-3'

	BDRv: 5'-CCGTCGACTCAAGAGAGTTCTTCGAGCAT-3'
FtJAZ1	ABDFw: 5'-TGCCATGGAGATGAACTTGTTCCCACTGAAAG-3' ABDRv: 5'-CGGGATCCTCAGGGCTGAATCGACGTCCG-3'
FtJAZ2	ABDFw: 5'-CTCATATGATGGTGAATTTGTCGGCTTCC-3' ABDRv: 5'-CCGTCGACTCAAGAACGTGGATTAGCAGC-3'
Primers used for yeast one hybrid	
FtMYB13	BDFw: 5'-CTCATATGGGAAGAGCTCCTTGTTGC-3' BDRv: 5'-CCGTCGACTCAGATGAGCAAAGACTCAGC-3'
FtMYB14	BDFw: 5'-CTCATATGGGTAGATCTCCATGTTGTG-3' BDRv: 5'-CCGTCGACTCATTTCATCTCCAATGATC-3'
FtMYB15	BDFw: 5'-CTCATATGGGTCGATCTCCATGTTGC-3' BDRv: 5'-CCGTCGACTCATTTCATCTCCAAAGTTCTATAG-3'
FtMYB16	BDFw: 5'-CTCATATGGGGAGATCACCTTGCTGC-3' BDRv: 5'-CGGGATCCCTAGCTTGTTGTGGCATTAGAAG-3'
FtPALpro	Fw: 5'-CGGCGGCCGCGTCGTTAAATATCGTTAAAAT-3' Rv: 5'-TGCCCGGGCCACCCCAACGGATCCTGCAC-3'
Primers used for protoplast transactivation assays	
FtMYB13-HA	RT101Fw: 5'-AGCTCGAGATGGGAAGAGCTCCTTGTTGC-3' RT101Rv: 5'-TGTCTAGATTAGGCGTAGTCAGGCACGTCGTAAGG GATGAGCAAAGACTCAGC-3'
FtMYB14-HA	RT101Fw: 5'-AGCTCGAGATGGGTAGATCTCCATGTTGTG-3' RT101Rv: 5'-TGTCTAGATTAGGCGTAGTCAGGCACGTCGTAAGG TTTCATCTCCAATGATC-3'
FtMYB15-HA	RT101Fw: 5'-AGCTCGAGATGGGTCGATCTCCATGTTGC-3' RT101Rv: 5'-TGTCTAGATTAGGCGTAGTCAGGCACGTCGTAAGG

	TTTCATCTCCAAAGTTCTATAG-3’
FtMYB16-HA	RT101Fw: 5’-AGCTCGAGATGGGGAGATCACCTTGCTGC-3’ RT101Rv: 5’-TGTCTAGATTAGGCGTAGTCAGGCACGTCGTAAGG GCTTGTTGTGGCATTAGAAG-3’
FtSAD2-HA	RT101Fw: 5’-AGCTCGAGATGGATCTTCCAAGCCTCGCT-3’ RT101Rv:5’-TGTCTAGATTAGGCGTAGTCAGGCACGTCGTAAGGGT CAAGAGAGTTCTTCGAGCAT-3’
FtJAZ1-HA	RT101Fw: 5’-AGCTCGAGATGAACTTGTTCCCACTGAAAGAG-3’ RT101Rv:5’-CCGGTACCTCAGGGCTGAATCGACGTCCG-3’
FtPALpro	GUSXXFw: 5’-CGGGATCCGTCGTTAAATATCGTTAAAAT-3’ GUSXXRv: 5’-TGCCATGGCCACCCCAACGGATCCTGCAC-3’
Primers used for BiFC	
FtMYB13	pRTL2-HAYCFw: 5’-CCGTCGACAATGGGAAGAGCTCCTTGTTGC-3’ pRTL2-HAYCRv: 5’-GCAAGCGGCCGCGATGAGCAAAGACTCAGC-3’ GFPFw: 5’- TCGTCGACATGGGAAGAGCTCCTTGTTGC-3’ GFPΔNFw: 5’- TCGTCGACATGTCGGATCAGAGTGACATG-3’ GFPΔCRv: 5’- TCGTCGACCATGTCACTCTGATCCGACAT-3’ GFPRv: 5’- TCGTCGACGATGAGCAAAGACTCAGC-3’
FtMYB14	pRTL2-HAYCFw: 5’-CCGTCGACAATGGGTAGATCTCCATGTTGTG-3’ pRTL2-HAYCRv: 5’-GCAAGCGGCCGCTTTCATCTCCAATGATC-3’ GFPFw: 5’- TCGTCGACATGGGTAGATCTCCATGTTGTG-3’ GFPΔNFw: 5’- TCGTCGACATGTTAGGGTTGCAAAACAGC-3’ GFPΔCRv: 5’-TCGTCGACGCTGTTTTGCAACCCTAACAT-3’ GFPRv: 5’- TCGTCGACTTTCATCTCCAATGATC-3’

FtMYB15	pRTL2-HAYCFw: 5'-CCGTCGACA ATGGGTCGATCTCCATGTTGC-3' pRTL2-HAYCRv: 5'-GCAAGCGGCCGC TTTCATCTCCAAAGTTCTATAG-3' GFPFw: 5'- TCGTCGACATGGGTCGATCTCCATGTTGC-3' GFPΔNFw: 5'- TCGTCGACATGAGTTTTGGTATGCAAAGTG-3' GFPΔCRv: 5'-TCGTCGACCACTTTGCATACCAAAACTCAT-3' GFPRv: 5'- TCGTCGAC TTTCATCTCCAAAGTTCTATAG-3'
FtMYB16	pRTL2-YNEEFw: 5'- CCGGACTAGT ATGGGGAGATCACCTTGCTGC-3' pRTL2-YNEERv: 5'- CGGGATCC CTAGCTTGTTGTGGCATTAGAAG-3' GFPΔNFw: 5'- TCGTCGACATGGTTGACGTCGGAGTATCC-3' GFPΔCRv: 5'-TCGTCGACGGATACTCCGACGTCAACCAT-3' GFPRv: 5'- TCGTCGACGCTTGTTGTGGCATTAGAAG-3'
FtSAD2	pRTL2-HAYCFw: 5'-CCGTCGACAATGGATCTTCCAAGCCTCGCT-3' pRTL2-HAYCRv: 5'-GCAAGCGGCCGCGTCAAGAGAGTTCTTCGAGCAT-3'
FtJAZ1	pRTL2-HAYCFw: 5'-CCGTCGACAATGAACTTGTTCCCACTGAAAGAG-3' pRTL2-HAYCRv: 5'-GCAAGCGGCCGCGTCAGGGCTGAATCGACGTCCG-3'