BMC Plant Biology Supplemental Information Figures S1-S2 and Table S1

The Title:

R2R3-MYB transcription factor MdMYB73 confers increased resistance to the fungal pathogen *Botryosphaeria dothidea* via the salicylic pathway in apple

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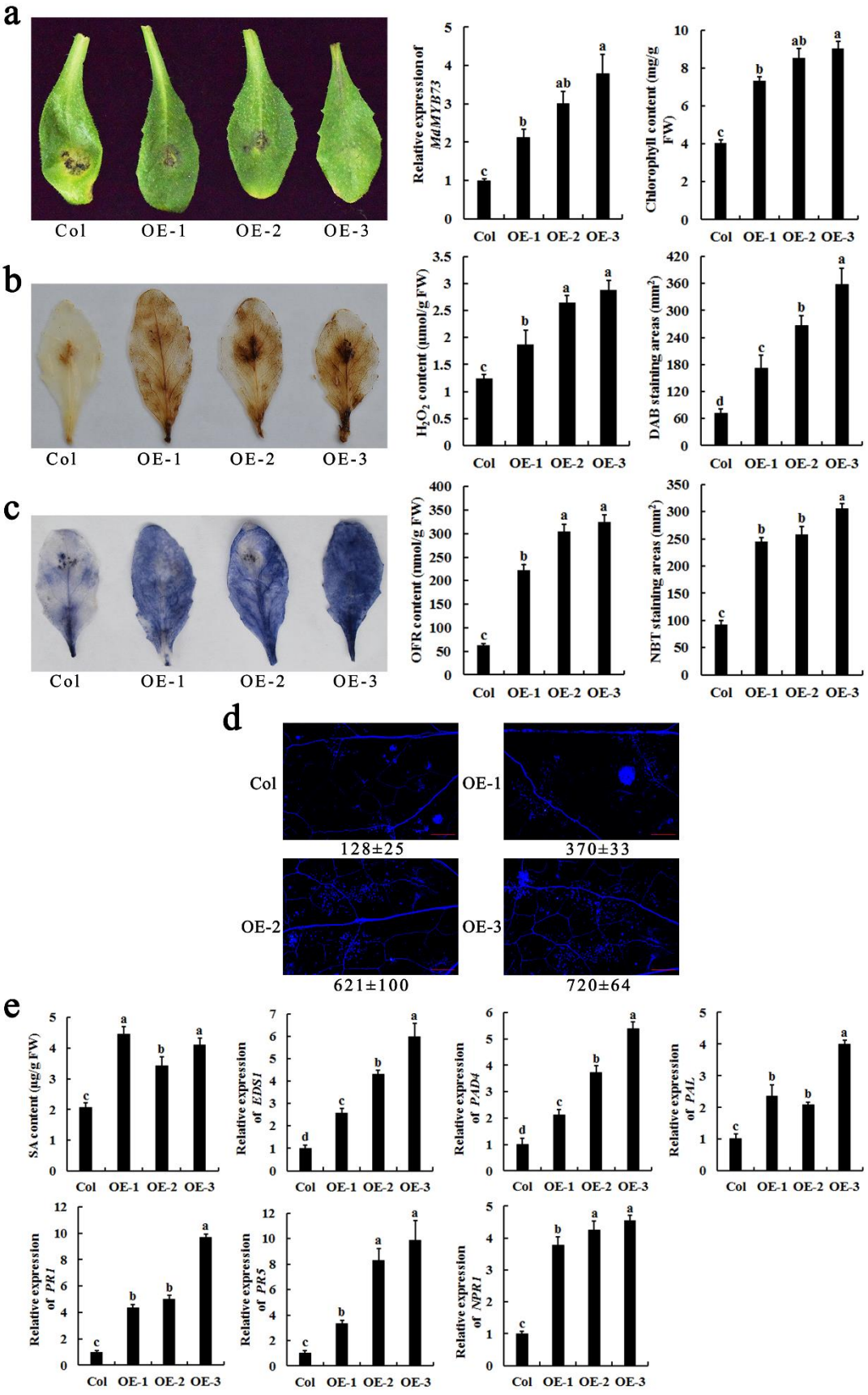

Fig. S1 Ectopic expression of *MdMYB73* in *Arabidopsis* increases the resistance to the fungal pathogen *B. dothidea* through the SA pathway. **a** The relative expression of

MdMYB73 in transgenic *Arabidopsis*. As well as, phenotypes and chlorophyll content in Col, OE-1, OE-2, and OE-3 after inoculation with *B. dothidea* for 4 days. **b** After inoculating *Arabidopsis* leaves with *B. dothidea* for 4 days, H_2O_2 content was examined by measuring and statistically analyzing the DAB staining areas. **c** After inoculating *Arabidopsis* leaves with *B. dothidea* for 4 days, OFR content was examined by measuring and statistically analyzing the NBT staining areas. **d** Callose deposition of Col and transgenic *Arabidopsis* leaves after infection with *B. dothidea* for 4 days. Bars = 500 μm. **e** SA content and the relative expression of SA-related genes (*EDS1*, *PAD4*, *PAL*, *PR1*, *PR5*, and *NPR1*) in Col and transgenic *Arabidopsis* leaves after inoculation with *B. dothidea*. Bars with different letters are significantly different ($P < 0.05$) according to Tukey's single factor tests. Data are shown as mean ± SD; experiments were replicated at least three times.

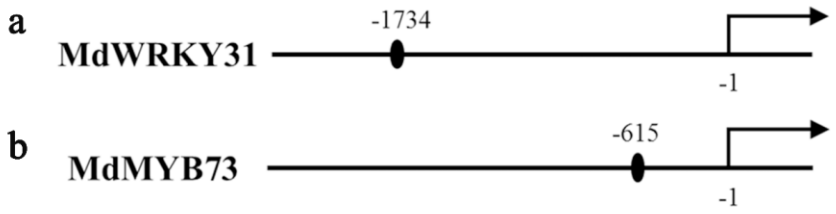

Fig. S2 Promoter analysis of *MdWRKY31* and *MdMYB73*. **a** The putative MYB-binding *cis*-element is represented by a black ellipse on the promoter of *MdWRKY31*. **b** The putative W-box motif is represented by a black ellipse on the promoter of *MdMYB73*.

Table S1 The primers used for RT-PCR and qRT-PCR in this study.

Name	Primer sequence	Note
MdMYB73-F (pRI101-BamHI)	GGATCCATGGAAGCGATGAAT	Gene stable
MdMYB73-R (pRI101-EcoRI)	GAATTCATTTAATCTATGAAGCTC	expression primers
antiMdMYB73-F (pRI101-EcoRI)	GAATTCGAGATCAACTAACGGAG	
antiMdMYB73-R (pRI101-KpnI)	GGTACCATTTAATCTATGAAGCTCCG	
MdMYB73-F (IL60-EcoRI)	GAATTCATGGAAGCGATGAAT	The transient
MdMYB73-R (IL60-XholI)	CTCGAGATTTAATCTATGAAGCTC	expression primers
MdMYB73-F (TRV-BamHI)	GGATCCGGAGATCAACTAACGGAGGG	
MdMYB73-R (TRV-SmaI)	CCCGGGATTTAATCTATGAAGCTCCG	
MdWRKY31-F (TRV-XbaI)	TCTAGAATGGACAAAGGATG	
MdWRKY31-R (TRV-SacI)	CTCGAGGTATTAACATCCAAACCAGTCC	
pMdMYB73-F (pBI121-EcoRI)	GAATTCCACAAAATCATCATTCACGTT	pMdMYB73::GUS
pMdMYB73-R (pBI121-SacI)	GAGCTCGGAAGATAGAGAGGAGAGGAG	primers
MdMYB73-F (BD-EcoRI)	GAATTCATGGAAGCGATGAATAT	Yeast two-hybrid
MdMYB73-R (BD-PstI)	CTGCAGGATTTAATCTATGAAGCT	primers
MdWRKY31-F (AD-SalI)	GTCGACCTATGGACAAAGGATG	
MdWRKY31-R (AD-BglII)	AGATCTATTTCCCGGGAAGCTGCTA	
MdMYB73-F (pGEX-BamHI)	GGATCCATGGAAGCGATGAATATGTG	*In vitro* pull-down
MdMYB73-R (pGEX-EcoRI)	GAATTCATTTAATCTATGAAGCTCCG	primers
MdWRKY31-F (pET32a-BamHI)	GGATCCATGGACAAAGGATGGGGGCT	
MdWRKY31-R (pET32a-SalI)	GTCGACTTAATTTCCCGGGAAGCTGCT	
MdMYB73-F (pSPYNE-BamHI)	GGATCCATGGAAGCGATGAAT	Biomolecular
MdMYB73-R (pSPYNE -KpnI)	GGTACCATTTAATCTATGAAGCTC	fluorescence
MdWRKY31-F (pSPYCE BamHI)	GGATCCATGGACAAAGGATGGGGGCT	complementation
MdWRKY31-R (pSPYCE-SalI)	GTCGACATTTCCCGGGAAGCTGCT	(BiFC) primers
MdMYB73-F (qRT-PCR)	GGTCGATCTGGGAAGTCGTG	qRT-PCR primers
MdMYB73-R (qRT-PCR)	GCCTGAGAGAAGGGTCGATG	
MdActin-F (qRT-PCR)	AGGCGCGAAATTACCAATCC	
MdActin-R (qRT-PCR)	GCCCTCCAATTGTTCCTCGTTAAG	
MdEDS1-F (qRT-PCR)	GAAACTGAATGGGCAACGATC	
MdEDS1-R (qRT-PCR)	CATAAGGCTCGGTACTCTTCG	
MdPAD4-F (qRT-PCR)	GTGAGCAACTGGGGTACTATGACG	
MdPAD4-R (qRT-PCR)	GGAGTTTGTAAAACTGGGAAGCATTTA	

MdPAL-F (qRT-PCR)	CCTCAAGATTCTGCGAGAAGGATCTC
MdPAL-R (qRT-PCR)	GCTCAACAAGCACTTGCCTCAGTT
MdPR1-F (qRT-PCR)	CGATTGCAGTGAAGATGTGGGTTT
MdPR1-R (qRT-PCR)	CCATCAAACCCAACACAATGTCCTTA
MdPR5-F (qRT-PCR)	CAAGTGAAAGCGGCTGATGGGAG
MdPR5-R (qRT-PCR)	GTCCACCACTGCAGGTAAATGTGC
MdNPR1-F (qRT-PCR)	GATCTTACGCTGGATGGGAGGAAAG
MdNPR1-R (qRT-PCR)	GAAAGCGAGGCTTCTCCAAGCAAC
AtActin-F (qRT-PCR)	GGAAGGATCTGTACGGTAAC
AtActin-R (qRT-PCR)	TGTGAACGATTCCTGGACCT
AtEDS1-F (qRT-PCR)	ACACTTCTCAAGCCAGCGATGAAC
AtEDS1-R (qRT-PCR)	GTACTGTCTGCCTCTTGTGCTCAC
AtPAD4-F (qRT-PCR)	CTCAATCTTCTCCGCCGTCATTCC
AtPAD4-R (qRT-PCR)	TTCTAGGAACGAGGTCGTGGATGG
AtPAL-F (qRT-PCR)	CGCAGAGGTGATGAGTGGTAAGC
AtPAL-R (qRT-PCR)	CTCCATTATCGCCGCCGCTTC
AtPR1-F (qRT-PCR)	CGAGGAGCGGTAGGCGTAGG
AtPR1-R (qRT-PCR)	TGCCTCTTAGTTGTTCTGCGTAGC
AtPR5-F (qRT-PCR)	GATGTAACGGCGGCGGAGTTC
AtPR5-R (qRT-PCR)	GCGTTGAGGTCAGAGACACAGC
AtNPR1-F (qRT-PCR)	ATGTTGCTGCGATGCGGAAGG
AtNPR1-R (qRT-PCR)	TTGCGATCATGAGTGCGGTTCTAC