

Supplementary materials:

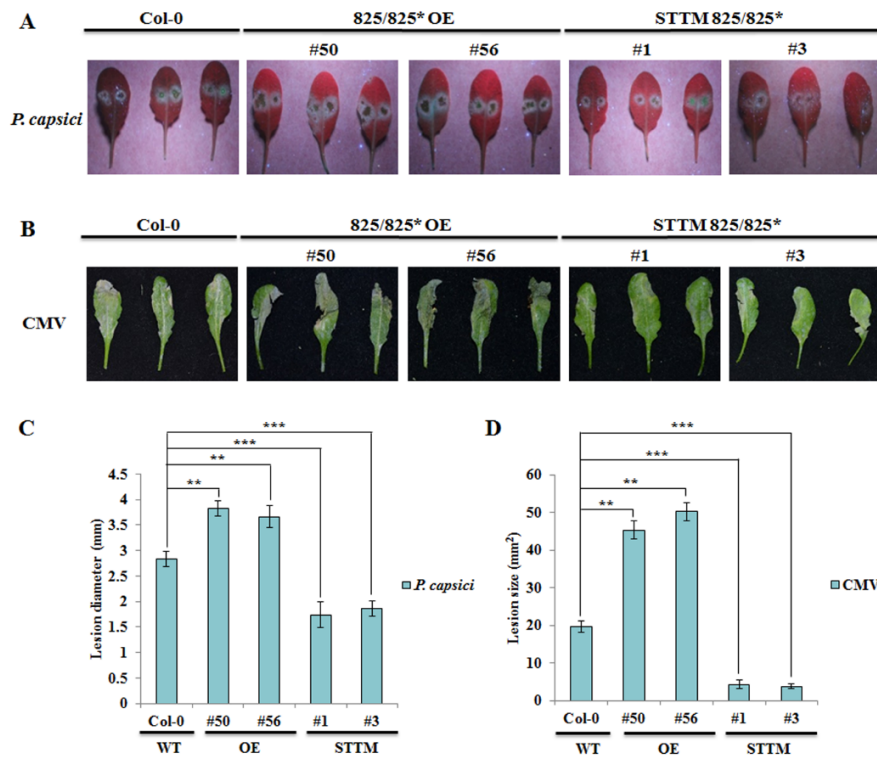


Figure S1. Plant resistance to *P. capsici* and CMV increased in STTM825/825* lines, but decreased in miR825/825* OE lines in comparison with that in Col-0. Three-week-old plants of *Arabidopsis* Col-0, miR825/825* OE lines (#50 and #56), and STTM825/825* lines (#1 and #3) were used for experiments. Approximately 100 *Phytophthora capsici* zoospores were inoculated onto the center of a leaf. Cucumber mosaic virus (CMV) was rub-inoculated onto *Arabidopsis* leaves. (A) Representative photographs of leaves and (D) sizes of leaf necrotic lesions of all tested plant lines inoculated with *P. capsici*, and the photos were taken at 36 hpi. (B) Symptoms and (C) sizes of lesions on leaves of each tested plant line inoculated with CMV at 7 dpi. Student's *t*-test was performed to compare the differences in plants with different genotypes. The data are presented as mean \pm SD from three biological replicates. The experiment was repeated three times with similar results obtained. ** $P < 0.01$; *** $P < 0.001$.

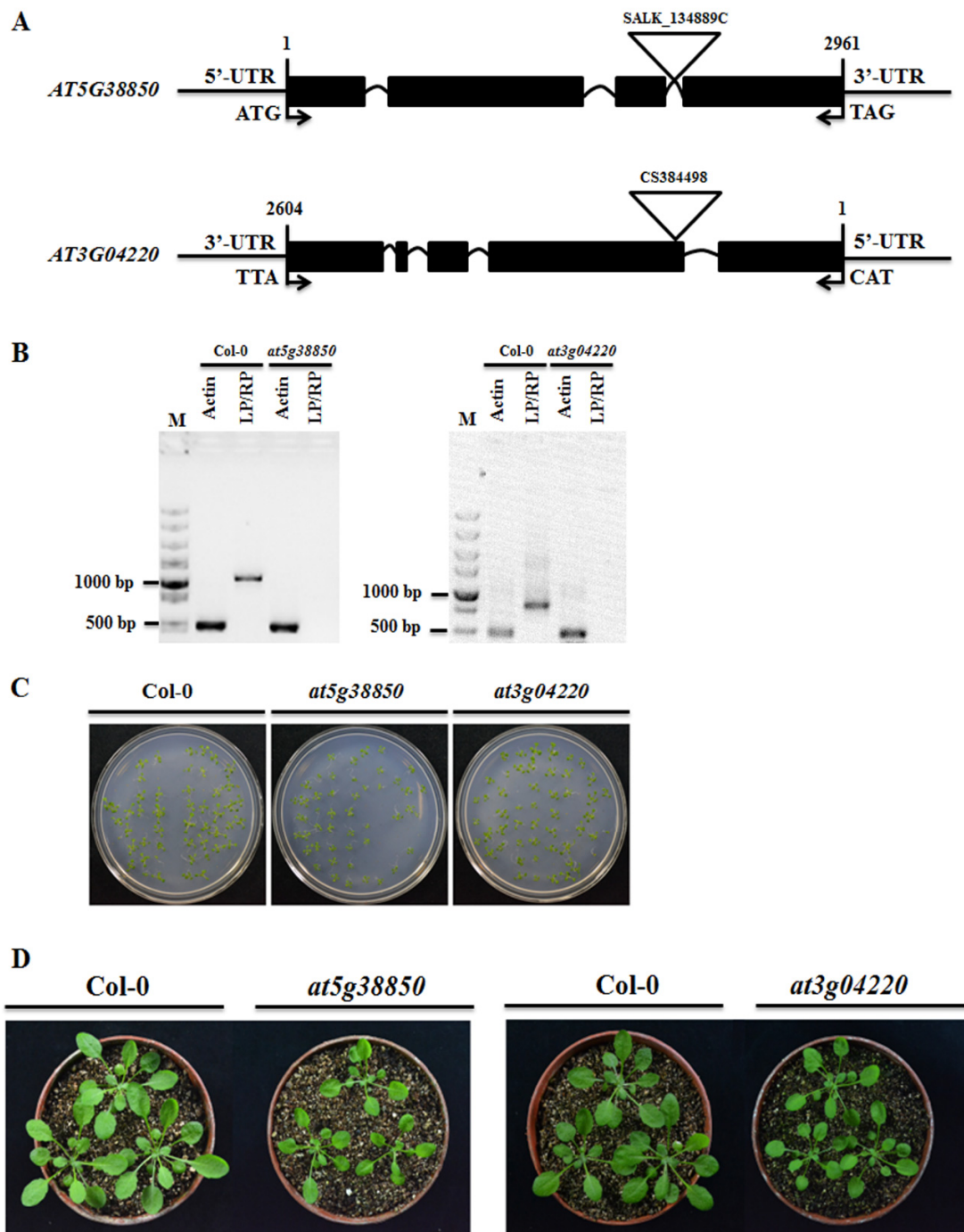


Figure S2. Analysis of miR825 and miR825* target mutants. (A) Structure of the genes *at5g38850* (SALK_134889C) and *at3g04220* (CS384498) with T-DNA insertion sites indicated. Black boxes: exons; curved lines: introns; lines: UTRs; triangles: T-DNA insertion sites. Nucleotide positions are indicated by numbers. (B) T-DNA insertions in *at5g38850* (SALK_134889C) and *at3g04220* (CS384498) were confirmed by semi-quantitative RT-PCR, and left arm primer (LP) and right arm primer (RP) were utilized. *AtActin1* was used as the control, with *AtActin1-F* and *AtActin1-R* employed as primers. (C) Germination of 7-day-old *at5g38850* and *at3g04220* mutant seeds

compared with that of Col-0 plants. (D) Phenotypes of four-week-old plants of *at5g38850* and *at3g04220* mutants compared with Col-0 plants.

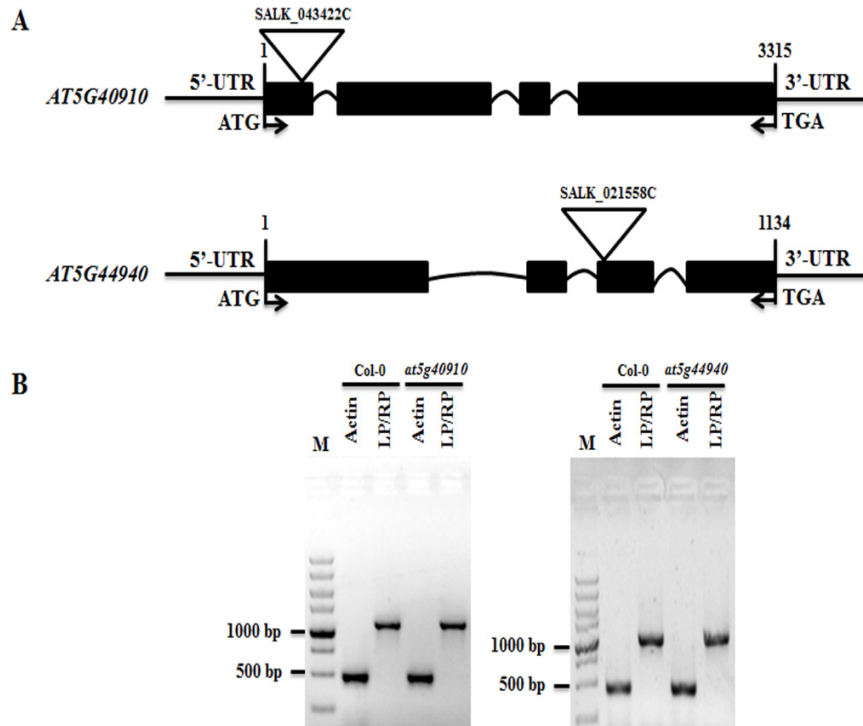


Figure S3. Analysis of *at5g40910* and *at5g44940* mutants. (A) Structure of the genes *at5g40910* (SALK_043422C) and *at5g44940* (SALK_021558C) with T-DNA insertion sites indicated. Black boxes: exons; curved lines: introns; lines: UTRs; triangles: T-DNA insertion sites. Nucleotide positions are indicated by numbers. (B) T-DNA insertions in *at5g40910* (SALK_043422C) and *at5g44940* (SALK_021558C) were confirmed by semi-quantitative RT-PCR, and left arm primer (LP) and right arm primer (RP) were utilized. *AtActin1* was used as the control, with *AtActin1-F* and *AtActin1-R* employed as primers.

Table S1. List of probes and primers used in the current research.

Probes for small RNA gel blots	
Name	Sequence (5'-3')
anti-miR825	GTTCATGCACCTTCTTGAGAA
anti-miR825*	GCTTCTTCGAGCTGGTGCTTGA
anti-U6	TGTATCGTTCCAATTTTATCGGATGT
Primers for quantitative RT-PCR	
Name	Sequence (5'-3')
PR1-F	CTCGGAGCTACGCAGAACAA
PR1-R	TTCTCGCTAACCCACATGTTCA
PR2-F	CGGTACATCAACGTTGGAA
PR2-R	GCGTAGTCTAGATGGATGTT
PR5-F	ATGGCAAATATCTCCAGTATTCACA
PR5-R	ATGTCGGGGCAAGCCGCTTGAGG
PDF1.2-F	AGTTGTGCGAGAAGCCAAGT
PDF1.2-R	GTTGCATGATCCATGTTTGG
AtActin1-F	GGCGATGAAGCTCAATCCAAACG
AtActin1-R	GGTCACGACCAGCAAGATCAAGACG

BcActin-F	TCCAAGCGTGGTATCTTACCC
BcActin-R	TGGTGCTACACGAAGTTCGTTG
FRK1-F	GCCAACGGAGACATTAGAG
FRK1-R	CCATAACGACCTGACTCATC
WRKY53-F	CACCAGAGTCAAACCAGCCATTAC
WRKY53-R	CTTTACCATCATCAAGCCCATCGG
miR825* target BETA-TUB4-F	GAGGGAGCCATTGACAACATCTT
miR825* target BETA-TUB4-R	GCGAACAGTTCACAGCTATGTTCA
miR825* target AT5G40910-F	TGTCTTGGCAAATGAAACAGGTACT
miR825* target AT5G40910-R	AACCCCAATAAAAGTAACCTTAGACG
miR825* target AT5G38850-F	TTCTCCCTTATTTTGTCTCGCATT
miR825* target AT5G38850-R	TCTCCTTCACTGATTTACCTGTT
miR825* target AT3G04220-F	CAAGGAAGAAATGGGTCAAACAGTG
miR825* target AT3G04220-R	CCATCCCAATCAAATCGTCAAAATC
miR825 target AT5G44940-F	GAGAAGCTCATCTCAGGATGTC
miR825 target AT5G44940-R	CGAGTAACAGATGATCGTATGTCT
Primers for plasmid construction	
Name	Sequence (5'-3')
AT5G40910-F	CGGGGTACCATGGCTTTTTTCATCACCGTCTG
AT5G40910-R	CGCGTCGACTCATTGCATCTGAAGAAAGAAGCAAG
AT5G38850-F	CGGGGTACCATGGCTTCTGCTCGAACTTG
AT5G38850-R	CGCGTCGACCTATTTTCATATTCATTTCTCCTTTCCTGATTTT
AT3G04220-F	CGGGGTACCATGGATTCTCTTTTTTACTCGAAACTG
AT3G04220-R	CGCGTCGACTTAGCATTATATAAACTTCAATCTCTTGAGATAAG
AT5G44940-F	CGGGGTACCATGGAGGAGTTCGATTATATCAGTG
AT5G44940-R	CGCGTCGACTCAATCGATGATAATTTGACATGTGG
Primers for target mutants	
Name	Sequence (5'-3')
LBb1.3	ATTTTGCCGATTTCGGAAC
at5g40910-LP	GAAGCTGACGCCTATGTATGC
at5g40910-RP	CTAAGCCGAAAACCGGTAGAG
at5g38850-LP	CAACATGTGGGTAGACAAGCC
at5g38850-RP	GGCAAGATACGCTCTCAAGTG
at3g04220-LP	CCAAGATCGCAATCATCTTGC
at3g04220-RP	CATAGTAGTCATCGGAACACG
at5g44940-LP	TCGATTAATGGAGTTGATCGG
at5g44940-RP	GACATGTGGGAGAAAAGCTTTG