

Supplementary Table 1. List of primers used in this study

Name	Primer (5' to 3')	Purpose
<i>atm-2</i>	Forward: ATC CAT GTG GTT CAG TCT TGC Reverse: TTG GTA TCC TGC AGA GGA AAG	Genotyping
<i>atr-2</i>	Forward: GCA GCA AAA ATT TCT TGG TTG Reverse: ACT TCA AGG GTT CCG ATG TTC	Genotyping
<i>cpr5-2</i>	Forward: CGA TCA TCA GGT ACG AAG C Reverse: GTC ACG TTT ATA GGA CCG	Genotyping
<i>NahG</i>	Forward: CAC CGG GCG GAT TTC AT Reverse: CCC GAA TTG GGC GAT ACC	Genotyping
<i>pad4-1</i>	Forward: GCG ATG CAT CAG AAG AG Reverse: TTA GCC CAA AAG CAA GTA TC	Genotyping
<i>sid2-1</i>	Forward: CAA CCA CCT GGT GCA CCA GC Reverse: AAG CAA AAT GTT TGA GTC AGC A	Genotyping
<i>ACT2</i>	Forward: GCC CAG AAG TCT TGT TCC A Reverse: CTT GGT GCA AGT GCT GTG AT	RT-qPCR
<i>ATM</i>	Forward: CGC ATT TAG GCG AGT TCT TC Reverse: TTC AAG CTT TCC AAG CCA GT	RT-qPCR
<i>ATR</i>	Forward: GTG GCA TGT GAG CTA AGC AA Reverse: TGC TCC AAG ACA ATC TGC AC	RT-qPCR
<i>BRCA1</i>	Forward: GGA AGA CGA GCA ACA AAA GC Reverse: TCC TGC TTT GCG GTT TTT AC	RT-qPCR
<i>BRCA2</i>	Forward: TAG AGA CGG CTG CTG AAC CT Reverse: CTT AAG CTC AGG CCA AC	RT-qPCR
<i>CMV-CP</i>	Forward: CGT TGC CGC CAT CTC TGC TAT Reverse: AGA TGC GGC ATA CTG ATA AAC C	RT-qPCR
<i>EDS1</i>	Forward: TGAGCACAAGAGGCAGACAG Reverse: GGGCTTGACACTTTGGCTTG	RT-qPCR
<i>MPK3</i>	Forward: CCA CCA CCA CTA AGA AGA C Reverse: CAA GAC CGA AAT CAC AAA T	RT-qPCR
<i>MPK6</i>	Forward: AAG CAT TAT CCG AAG AAC A Reverse: ACA GCC TAC AGA CCA AAC A	RT-qPCR
<i>NPR1</i>	Forward: GAT GGA TTC GCC GAT TCT TA Reverse: AAC AAG CTT AGC GTC GCT GT	RT-qPCR
<i>PAD4</i>	Forward: GTGGTTGGATGAGGCGAGAA Reverse: TTCAGATTGCGCTCCCACAC	RT-qPCR
<i>PARP1</i>	Forward: AAC ACA AGC ACA AGC ACA GG Reverse: ACA TTT AGC GTG ATG CCA CA	RT-qPCR
<i>PARP2</i>	Forward: GCA CGG TTC ACG TCT CAC TA Reverse: CAT GTC TCC CAA AGC AAC CT	RT-qPCR
<i>PepMoV-CP</i>	Forward: TGT GTC CGA TGG AAT GAA AA Reverse: GTC GAC TTG GCT TGG TTT GT	RT-qPCR
<i>PR-1</i>	Forward: CTC GGA GCT ACG CAG AAC AAC T Reverse: TTC TCG CTA ACC CAC ATG TTC A	RT-qPCR
<i>RAD51</i>	Forward: GGC CAT GTA CAT TGA TGC TG Reverse: TCG ACA ATC AGG AGA GCA AA	RT-qPCR
<i>RPM1</i>	Forward: TCG CGG AGA AGG GAG TGT GGA Reverse: GAA GCT TGC CTT GGC CGC CT	RT-qPCR
<i>RPS2</i>	Forward: GGC GGA GAG AAG AGG ACA TA Reverse: CAG CTT CGT CCC TCT AGA CC	RT-qPCR
<i>SID2</i>	Forward: TTTTGGTGGCGAGGAGAGT Reverse: TCTGGACAAAAGCTCGTACCTG	RT-qPCR

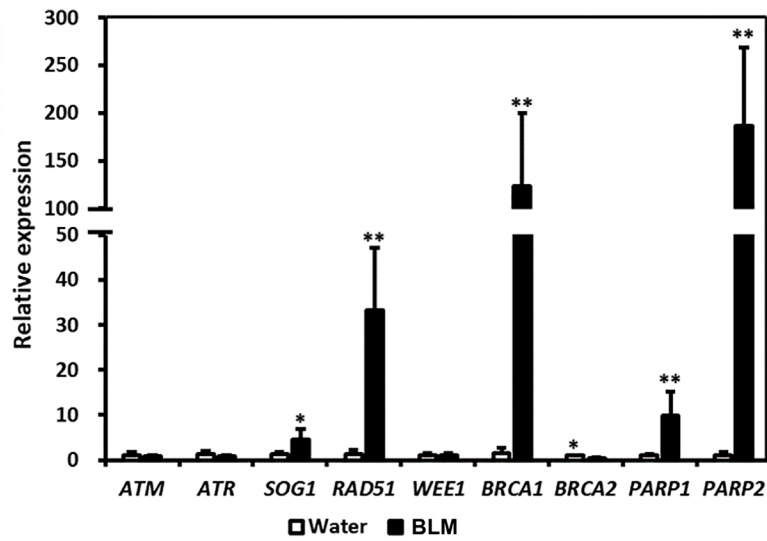
<i>SOG1</i>	Forward: ATG GGA CGG TGT CTC ACT TC Reverse: ACC CAG TTG GTT TTC ACA GC	RT-qPCR
<i>TMV-CP</i>	Forward: GTT GAA AAT CAG GCG AAC CCC A Reverse: AGG TCC AAA CCA AAC CAG AAG AG	RT-qPCR
<i>WEE1</i>	Forward: AGA GAA TGG ACG GTT GCC TA Reverse: TGA TCG CAG AGT TCC AGT TG	RT-qPCR
<i>WKRY28</i>	Forward: CAA GAG CCT TGA TCG ATC ATT G Reverse: GCA AGC CCA ACT GTC TCA TTC	RT-qPCR
<i>WRKY30</i>	Forward: TAC CAC AAG TCT CTC ACC A Reverse: AAA TTT GGC TCC GAG AAT A	RT-qPCR
<i>WRKY46</i>	Forward: CAT GAG ATT GAG AAC GGT GTG Reverse: CTG CCA TTA AGA GAG AGA CAT TAC ATT C	RT-qPCR

RT-qPCR, quantitative reverse transcription polymerase chain reaction.

Supplementary Table 2. Defense-related genes up-regulated in bleomycin-treated Col-0 at 1 dpt

AGI	Gene name	Description	Fold change (B/C)
AT1G17615	AT1G17615	Disease resistance protein (TIR-NBS class)	95.01
AT4G21230	CRK27	Cysteine-rich RLK (RECEPTOR-like protein kinase) 27	93.05
AT5G45440	AT5G45440	P-loop containing nucleoside triphosphate hydrolases superfamily protein	39.95
AT4G11890	ARCK1	Protein kinase superfamily protein	33.59
AT1G71390	RLP11	Receptor like protein 11	32.22
AT3G24900	RLP39	Receptor like protein 39	31.34
AT5G45000	AT5G45000	Disease resistance protein (TIR-NBS-LRR class) family	24.25
AT3G48080	AT3G48080	Alpha/beta-Hydrolases superfamily protein	23.10
AT2G45760	BAP2	BON association protein 2	22.63
AT3G11340	UGT76B1	UDP-Glycosyltransferase superfamily protein	22.01
AT2G14610	PR1	Pathogenesis-related protein 1	22.01
AT3G25010	RLP41	Receptor like protein 41	20.39
AT5G15130	WRKY72	WRKY DNA-binding protein 72	19.03
AT5G13320	PBS3	Auxin-responsive GH3 family protein	18.77
AT5G66890	AT5G66890	Leucine-rich repeat (LRR) family protein	18.38
AT5G45090	PP2-A7	Phloem protein 2-A7	17.15
AT5G27060	RLP53	Receptor like protein 53	16.34
AT1G19230	AT1G19230	Riboflavin synthase-like superfamily protein	16.00
AT1G57650	AT1G57650	ATP binding protein	15.56
AT3G11010	RLP34	Receptor like protein 34	14.93
AT1G57630	AT1G57630	Toll-Interleukin-Resistance (TIR) domain family protein	14.62
AT5G38350	AT5G38350	Disease resistance protein (NBS-LRR class) family	13.83
AT1G74710	EDS16	ADC synthase superfamily protein	12.13
AT5G14930	SAG101	Senescence-associated gene 101	11.79
AT5G18350	AT5G18350	Disease resistance protein (TIR-NBS-LRR class) family	11.39
AT4G02380	SAG21	Senescence-associated gene 21	11.16
AT4G15975	AT4G15975	RING/U-box superfamily protein	10.70
AT2G32140	AT2G32140	Transmembrane receptor	10.63
AT2G31880	SOBIR1	Leucine-rich repeat protein kinase family protein	10.56
AT3G48090	EDS1	Alpha/beta-Hydrolases superfamily protein	10.34

AGI, Arabidopsis genome initiative.



Supplementary Fig. 1. Expression levels of DNA damage response (DDR) marker genes in water- or bleomycin (BLM)-treated Col-0 plants. Five-week-old Col-0 plants were treated with water or BLM for 1 day. The expression levels of DDR marker genes were analyzed by quantitative reverse transcription polymerase chain reaction. Values are presented as mean \pm standard deviation from three independent measurements. Asterisks indicate significant differences ($*P < 0.05$; $**P < 0.01$; Student's *t*-test) compared to the water-treated control group.