Supplementary Tables

Table S1. Primers used in this study.

Primer name	**Sequence (5' → 3')**	**Purpose**
HygR2/lac-pro	GTCTGGACCGATGGCTGTG ACTTTATGCTTCCGGCTCGTAT	Inverse PCR for T-DNA insertion site identification.
LB2/M3-reverse	CATGTGTTGAGCATATAAGAAACCCT CAGGAAACAGCTATGAC	Nested PCR for T-DNA insertion site identification.
LB3/T3	GAATTAATTCGGCGTTAATTCAGT AATTAACCCTCACTAAAGGG	Nested PCR for T-DNA insertion site identification.
Primer set 1 (B7-gpi-RNA-F/R)	TCCTACACCATCGAGTGGACTG ACAGCGAAGACACCAGCAGTAG	Deletion fragment amplification; Semi-q-rt-PCR of CaGpiP1.
Primer set 2 (B7-hypo-RNA-F/R)	CGTAACATCGACCCTCAAATCC GTCGAGGTGAGCCTGCTTAC	Deletion fragment amplification; Semi-q-rt-PCR of CaHP1.

	TA	
Primer set 3 (B7-gpi-3'F/R)	ggtGAGCTCGCAACGTCCGTTGCAGCATTTACT ggtAAGCTTAGACAGCAGAGATGTTGTCGTAGC	Deletion fragment amplification.
Primer set 4 (B7-gpi-5'F/R)	ggtGAGCTCGCTTCAATTCACGCTGCAGTCAAG gtggtGAATTCTGTGATGGATTGAGTCGACGAGGT	Deletion fragment amplification
Primer set 5 (B7-tDNA-F1/R1)	ATGCCCGAAACTTGGCTCTTGTTG GCATTACACTATTGGCGTCTCCTG	Deletion fragment amplification.
Primer set 6 (B7-hypo-5'-R/F)	gtggtGAATTCTGTTTGTGACCCGGTTGACTTTGG gtggtGAATTCTGTTTGTGACCCGGTTGACTTTGG	Deletion fragment amplification.
Primer set 7 (Ca-NTP-sq-F/R)	AACAAGCCTCGAGCTTCGTAATCC GTCCGTTCCATACTCCAGAC	Deletion fragment amplification.

	AGAC	
Primer set 8 (Ca-NTP-RNA-F/R)	AGGTGAACCCTATCAACCGCAAAG GAAGCAGCGAGCCAAAGACGATAC	Deletion fragment amplification.
Primer set 9 Ca-NPT-RNA-F/Ca-NPT-sq-R2)	AGGTGAACCCTATCAACCGCAAAG GTTGAGGAAGCCAAACATGGCAGC	Deletion fragment amplification.
Primer set 10 (Ca-NTP-3'-F-XbaI/Ca-NTP-3'-ck-R)	GTtctagaCGCAGGGACGTTCACGAACATTAA ATTCGTCGTTGGTGTTTACACCCG	Deletion fragment amplification.
Primer set 11 (RecQ-F/R)	CACCTCTTCACAGACGCAAAAGTC GGCCTCTTATTGTTTCGGCAGATG	Deletion fragment amplification.
Primer set 12 (RecQ-3'-F/R)	CCTACCATTCCCGTGAGATATCAG AGCTTCACTCATTTGCCGAC	Deletion fragment amplification.

	AGAG	
M13-r/RecQ-3’-R	AGCTTCACTCATTTGCCGAC AGAG	Deletion fragment amplification.
M13-r/ NTP-3’ck-R	ATTCGTCGTTGGTGTTTACAC CCG	Deletion fragment amplification.
Tub1-F/R	ACCATTCACCCTGAGCATGG TGACCCTTTGCCCAGTTGTT	PCR control of DNA deletion fragment amplification.
pTrpC – EcoRI/XhoI-5'-Hyg	GGTGGGAATTCTGATATTGA AGGAGCATTTTTTGGGC TGGTCTCGAGGGGGCAGTCC TCGGCCC	5'-hyg cassette amplification for p1300-Hyg5 construction.
3'-Hyg-XhoI/ EcoRI-3'-Hyg	TGGTCTCGAGGTCTGTCGAG AAGTTTCTGATC GGTGGGAATTCCTATTCCTTT GCCCTCGGAC	3'-hyg cassette for p1300-Hyg5 construction.
HygR3 HygR5	GGATGCCTCCGCTCGAAGTA CTTAAGTTCGCCCTTCCTCC	Transformant screening for hptII recombination; Probe preparation.
OligodTV	TTTTTTTTTTTTTTTV	cDNA synthesis.

nptII-1 nptII-2	AATATCACGGGTAGCCAACG AGACAATCGGCTGCTCTGAT	Gene complementation vector construction.
tub1_F2 tub1_R2	ACCATTCACCCTGAGCATGG CTTG AGTGGCCCTTTGCCCAGTTG TTAC	Semi-RT-PCR for tubulin gene.
Ca_NTP_5'_ck_F Ca_NTP_3'_ck_R	TACACCACCCCGTTTATTTCT GGC ATTCGTCGTTGGTGTTTACAC CCG	CaNRT2.1 gene knockout confirmation.
B7_hypo RNA _F B7_hypo RNA _R	CGTAACATCGACCCTCAAAT CC GTCGAGGTGAGCCTGCTTAC TA	Semi qRT-PCR for CaHP1.
B7_gpi RNA _F B7_gpi RNA _R	TCCTACACCATCGAGTGGAC TG ACAGCGAAGACACCAGCAG TAG	Semi qRT-PCR for CaGpiP1.
B7_hypo_5'F (SacI)	GGTGAGCTCATCTGGTGTCA CAAGACCGCCTTT	Amplification of CaHP1 5’ flanking sequence for gene

B7_ hypo_5'R (EcoRI)	GTGGTGAATTCTGTTTGTGA CCCGGTTGACTTTGG	disruption; Probe preparation for Southern blotting.
B7_ hypo _3'F (EcoRI) B7_ hypo_3'R (SacI)	GTGGTGAATTCGACTGACGA TGGACAGTATCACGT GGTGAGCTCAAGATCAACGA GCCGCAAGACAAC	Amplification of CaHP1 3' flanking sequence for gene disruption.
B7_gpi_5'F (SacI) B7_gpi_5'R (EcoRI)	GGTGAGCTCGCTTCAATTCA CGCTGCAGTCAAG GTGGTGAATTCTGTGATGGA TTGAGTCGACGAGGT	Amplification of CaGpiP1 5' flanking sequence for gene disruption; Probe preparation for Southern blotting.
B7_gpi_3'F (SacI) B7_gpi_3'R (HindIII)	GGTGAGCTCGCAACGTCCGT TGCAGCATTTACT GGTAAGCTTAGACAGCAGAG ATGTTGTCGTAGC	Amplification of CaGpiP1 3' flanking sequence for gene disruption.
Ca_NTP_5'_F_HindIII Ca_NTP_5'_R_XbaI	GGTAAGCTTCGCACATGCCA TCTATGGTCGAAT GTTCTAGAGCGTTGTTTCCTC GTAGTTTTCGG	Amplification of CaNRT2.1 5' flanking sequence for gene disruption
Ca_NTP_3'_F_XbaI	GTTCTAGACGCAGGGACGTT CACGAACATTAA	Amplification of CaNRT2.1 3' flanking sequence for gene

Ca_NTP_3'_R_HindIII	GGTAAGCTTGGCCTACTTGACGACGACATTTCT	disruption
Hypo5'F-ck Hyg1	CACATCGCTACGTACTACGTCG CACAAATCGCCCGCAG AA	Amplification of CaHP1 gene 5' flanking cross-over
Hypo3'R-ck HyR3	GACCTGCCACTACATTCAAGCG GGATGCCTCCGCTCGAAGT	Amplification of CaHP1 gene 3' flanking cross-over.
gpi5'F-ck Hyg1	TGCCTCGAAGGTGGTACTGTTG CACAAATCGCCCGCAG AA	Amplification of CaGpiP1 gene 5' flanking cross-over.
gpi3'R-ck HyR3	GCATACTCCCACAACGTTCCTC GGATGCCTCCGCTCGAAGT	Amplification of CaGpiP1 gene 3' flanking cross-over.
GFP_XmaI_ApaI_XhoI_ F2 GFP_nosT_HindIII_R2	TCCCGGGGGGCCCCTCGAGATGGTGAGCAAGGGCGAGGA GGTAAGCTTCGGATCTAGTAACATAGATGACACCGCGC	pPgpd-GFP(I) construction

GFP_BamHI_XhoI_ F GFP del-taa_XmaI_ApaI_ R	GGTGGATCCCTCGAGATGGTGAGCAAGGGCGAGGA GCCCGGGGGGCCCCTTGTACAGCTCGTCCATGC	pPgpd-GFP(II) construction
gpi-F-SpeI gpi-del TAA-R-XmaI	GGTACTAGTATGCAGTTCAAGATCTCCGCCG TCCCGGGGAGAAGGGCAGCAACGGCGA	GPI-GFP-I construction
mgpi-F-XmaI Tgpi-R-HindIII	TCCCGGGCAGAATGCCAACTTCGACCCCGT GGTAAGCTTGAGGCAGTAGTGAGACGGAATATC	partial CaGpiP1 ORF amplification for GPI-GFP-III construction
gpi-F-SpeI gpi-delCS- R-XhoI	GGTACTAGTATGCAGTTCAAGATCTCCGCCG GGTGCTCGAGAACACCAGTGACGGTGGCGATAGC	partial CaGpiP1 amplification for GPI-GFP-II construction
gpi-CS-F-XmaI Tgpi-R-HindIII	TCCCGGGGCTGCTGGTGCCCAGGCTACTGCT GGTAAGCTTGAGGCAGTAGT	cs fragment amplification for GPI-GFP-II construction

	GAGACGGAATATC	
B7_hypo2_F_XmaI B7_hypo2_R_XbaI	TCCCGGGTTGACCTGCCACTACATTCAAGCG GGTGGTTCTAGACCATCCTCGTAGCTTTCTTCTTCC	CaHP1 complementation
B7_GPi_F2_XmaI B7_Gpi_R2_XbaI	TCCCGGGAGAGCTTTGGTTGCCTCGAAGGTG GGTGGTTCTAGAGAATCCGAGTAAATGCTGCAACGG	CaGpiP1 complementation
Ca-NTP-5'-XmaI-F Ca-NTP-3'-XbaI-R	TCCCGGGCGCACATGCCATCTATGGTCGAAT GTCTAGAGTCCGTTCCATACTCCAGACAGAC	CaNRT2.1 complementation

Table S2. Plasmids used in this study.

Plasmid ID	Description	Backbone vector
p1300-Hyg5'	T-DNA carrying 5’ fragment of hptII cassette	pCAMBIA1300
p1300-Hyg3'	T-DNA carrying 3’ fragment of hptII cassette	pCAMBIA1300
p1300-Hyg3’- hypo5’	3’ hptII cassette ligated to 5’ flanking of CaHP1 gene	p1300-Hyg3'
p1300-Hyg5’- hypo3’	5’ hptII cassette ligated to 3’ flanking of CaHP1 gene	p1300-Hyg5'
p1300-Hyg3’- GPI5’	3’ hptII cassette ligated to 5’ flanking of CaGpiP1 gene	p1300-Hyg3'
p1300-Hyg5’- GPI3’	5’ hptII cassette ligated to 3’ flanking of CaGpiP1 gene	p1300-Hyg5'
p1300-Hyg3' - NTP5'	3’ hptII cassette ligated to 5’ flanking of CaNRT2.1	p1300-Hyg3'
p1300-Hyg5' - NTP3'	5’ hptII cassette ligated to 3’ flanking of CaNRT2.1	p1300-Hyg5'
pN1300	Complementation vector	PCAMBIA1300
pN1300-NTP	Complementation of CaNRT2.1	pN1300

pPgpdG	GFP driven by Pgpd constitutive promoter	pBHt2-Pgpd
pPgpdmidG	GFP without stop-codon (taa) driven by Pgpd constitutive promoter	pBHt2-Pgpd
pGPI-GFP-I	Pgpd::GPI::eGFP	pPgpdG
pGPI-GFP-II	Pgpd::mGPI::eGFP del taa::CS	pPgpdmidG
pGPI-GFP-III	Pgpd::sp::eGFP del taa::mGPI	pPgpdmidG

Table S3. The *p* values of the statistical analysis of the lesion size caused by gene knockout strains of CaHP1 (Δ*hypo*-4a and Δ*hypo*-3b) and CaGpiP1 (Δ*gpi*-11a and Δ*gpi*-B79) or transformant B7 on the fruits of chili pepper, tomato and bell pepper compared with the wild-type strain.

	p value of paired *t*-test			
strain	Chili pepper Exp.1	Chili pepper Exp. 2	Tomato	Bell pepper
Δ*hypo*-4a	0.62	0.42	0.32	0.50
Δ*hypo*-3b	0.51	0.64	0.98	UD
Δ*gpi*-11a	0.07	0.86	0.68	UD
Δ*gpi*-B79	0.52	0.33	0.35	0.25
B7	0.12	UD	0.32	UD

UD, Undetected.