

FIG S1 Bioinformatics analysis of VdGAL4. (A) The signal peptide sites of VdGAL4 protein. (B) Transmembrane domain analysis of VdGAL4. (C) The conserved domain of VdGAL4.

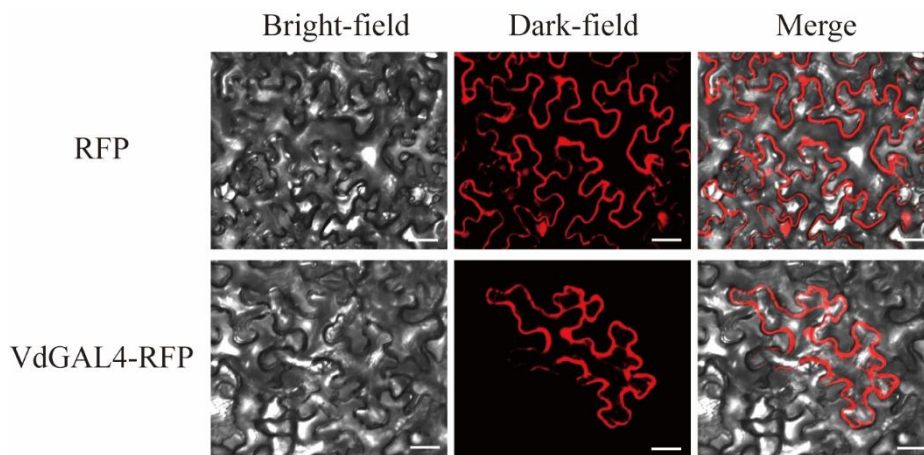


FIG S2 Subcellular localizations of VdGAL4 in *N. benthamiana* on *A. tumefaciens*-mediated transient expression. Fluorescence was detected by confocal microscopy after 48 h of injection.

Scale bar = 100 μ m.

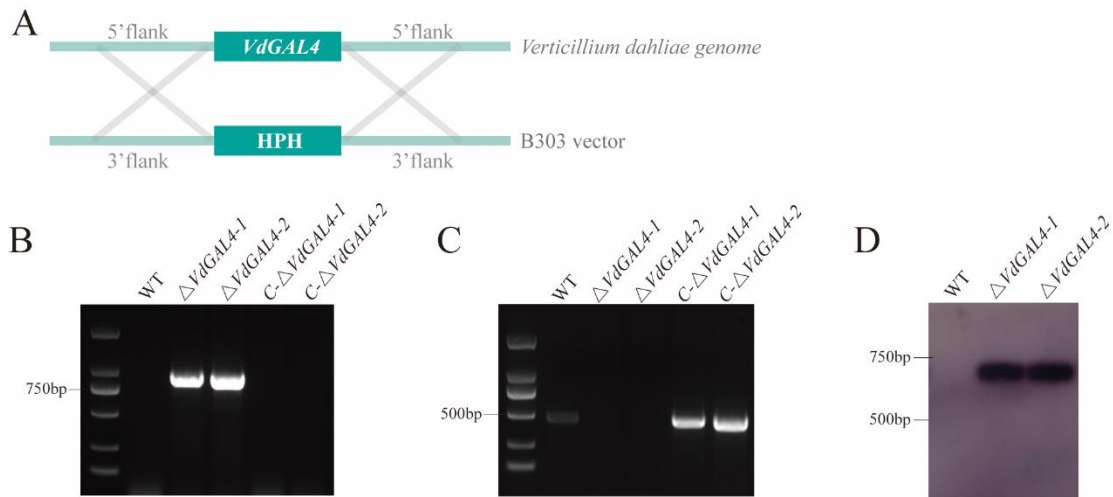


FIG S3 Identification of deletion and complementary mutants. (A) The principle of obtaining the mutant of *VdGAL4* by homologous recombination method. (B) The deletion mutant strains of *VdGAL4* were determined by PCR. (C) The complementary mutant strains of *VdGAL4* were determined by PCR. (D) Southern blotting was used to identify the deletion mutant strains.

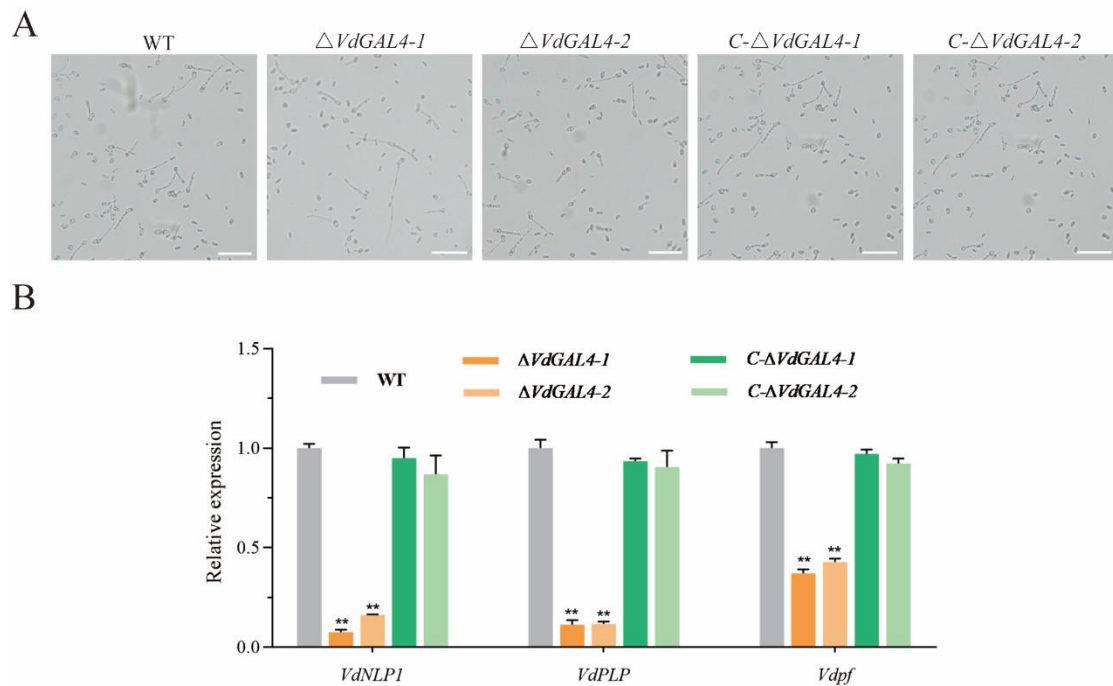


FIG S4 (A) The conidia of WT, $\Delta VdGAL4$ and C- $\Delta VdGAL4$ strains germinated at 25°C. Bar = 200 μ m.

(B) Assays of the relative expression of conidia-related genes in all tested strains by RT-qPCR. The error bar represents standard error of means. *p < 0.05, **p < 0.01.

Table S1: Primers used in this study.

Primer name	Sequence (5'-3')	Enzyme loci	Purpose
pGR107-VdGAL1-F	GGTCAGCACCAGCTAGCATCGATATGGGTG TCATTGCAAC	Cla I	
pGR107-VdGAL1-R	TCGCCCTTGCTCACCATCCCGGGCTCGGTCT CCTGATCAGCCAG	SmaI I	
pGR107-VdGAL2-F	GGTCAGCACCAGCTAGCATCGATATGCCTTC CAACACAGCG	Cla I	
pGR107-VdGAL2-R	TCGCCCTTGCTCACCATCCCGGGCGCATAAG TCGGAAGCCTAC	SmaI I	
pGR107-VdGAL3-F	GGTCAGCACCAGCTAGCATCGATATGGCAC CACTTGCCACA	Cla I	
pGR107-VdGAL3-R	TCGCCCTTGCTCACCATCCCGGGCAGTCCT CCTTGATCATGGA	SmaI I	Transient gene expression
pGR107-VdGAL4-F	GGTCAGCACCAGCTAGCATCGATATGGGTTC AAAGTCCACT	Cla I	
pGR107-VdGAL4-R	TCGCCCTTGCTCACCATCCCGGGCAAGAA AGCAGCAACACCTT	SmaI I	
pGR107-VdGAL5-F	GGTCAGCACCAGCTAGCATCGATATGGCCC GAACTCCACC	Cla I	
pGR107-VdGAL5-R	TCGCCCTTGCTCACCATCCCGGGCAGTCAT CCTTTTCTCGCG	SmaI I	
pGR107-VdGAL4(Δ SP)-F	GGTCAGCACCAGCTAGCATCGATATGACTG ACCGTCTTTTC	Cla I	
pGR107-VdGAL4(Δ SP)-R	TCGCCCTTGCTCACCATCCCGGGCAAGAA AGCAGCAACACCTT	SmaI I	
pSUC2-VdGAL4(SP)-F	CCGGAATTCATGGGTTCAAAGTCC	EcoR I	Yeast signal trap system
pSUC2-VdGAL4(SP)-R	CCGCTCGAGCCCGAAAACGGGAGC	Xho I	
PBI121(RFP)-VdGAL4-F	AGAACACGGGGGACTCTAGAATGAAATTTA CCGGCCTTGCTTCG	Xba I	Subcellular localization
PBI121(RFP)-VdGAL4-R	GTTTTGTTAATTAAGGATCCGAAGGTCAGC GTCTGGCC	BamH I	
TRV-BAK1-F	CGGGATCCGTGAGGGTGGTGAGCGGGATA AT		
TRV-BAK1-R	CGGAATTCGCTCATAACTGGGCAAAGGGCT T		VIGS in <i>N. benthamiana</i>
TRV-SOBIR1-F	CGGGATCCAATCTTTATCCACCAGATCATGC		
TRV-SOBIR1-R	CGGAATTCAGAAAGTTTTCCAATGGCAG		

qPCR- <i>NbActin</i> -F	TGGTCGTACCACCGGTATTGTGTT		
qPCR- <i>NbActin</i> -R	TCACTTGCCCATCAGGAAGCTCAT		
qPCR- <i>NbBAK1</i> -F	GAGGTGGGAGGAATGGCAA		
qPCR- <i>NbBAK1</i> -R	TTGCCCCGACAATTCATCT		
qPCR- <i>NbSOBIR1</i> -F	CCAGCAAGTCACAGAAGGGA		
qPCR- <i>NbSOBIR1</i> -R	CCAACACCACACCAAAGCTG		
B303- <i>VdGAL4</i> -UP-F	GGACCGACGGGGCGGT <u>ACC</u> CCAGGATTC GATCAATAATAT	Kpn I	
B303- <i>VdGAL4</i> -UP-R	CTTCAATATCAGTTAACGTCTTCTCCTTGTT CAAAGTCCA		
B303- <i>VdGAL4</i> -Hyg-F	TGGACTTTGAACAAGGAGAAAGACGTTAAC TGATATTGAAG		Generation of <i>VdGAL4</i> deletion
B303- <i>VdGAL4</i> -Hyg-R	CTGACTGAATTATTTCTTTACTATTCTTTG CCCTCGGACG		mutant in <i>V.</i> <i>dahliae</i>
B303- <i>VdGAL4</i> -Down-F	CGTCCGAGGGCAAAGGAATAGTAAAGGAA ATAATTCAGTCAG		
B303- <i>VdGAL4</i> -Down-R	TAGTCCCGGGTCTTAATTAACGTGAAAGACC AGCCAATGGC	Pac I	
pSULPH- <i>VdGAL4</i> (+UP)-F	ACGGCCAGTGCCAAGCTTCCAGGATTCGAT CAATAA	BamH I	Generation of <i>VdGAL4</i>
pSULPH- <i>VdGAL4</i> (+UP)-R	ATTCACTAGTCAGGATCCCTGCAAGAAAGC AGCAACACCTTG	Hind III	complementation mutant in <i>V. dahliae</i>
Test-Hyg-F	TCGTTATGTTTATCGGCACT		
Test-Hyg-F	TCGGTCGGCATCTACTCT		
Test- <i>VdGAL4</i> -F	GGACATCCACGCCAAGTT		Validation of <i>VdGAL4</i> deletion
Test- <i>VdGAL4</i> -R	TCAGAGCAAGCGCAACAT		and complementation
Test-Hyg- southern -F	TCGCCCTTCCTCCCTTTA		mutant in <i>V. dahliae</i>
Test-Hyg- southern -R	CGCTGTTATGCGGCCATT		
<i>β-tubulin</i> -F	TCACCAGCCGTGGCAAGGTTG		
<i>β-tubulin</i> -R	AGCAAAGGGCGGTCTGGACGTTG		
<i>GhUBQ7</i> -F	GAAGGCATTCCACCTGACCAAC		Quantification of fungal biomass
<i>GhUBQ7</i> -R	CTTGACCTTCTTCTTGTGCTTG		
<i>VdNLP1</i> -F	TCGGTCTTGGCCCTCGTC		qPCR of genes

<i>VdNLP1</i> -R	GCCTGGTTTGC GTTGTTC	related conidial production
<i>VdPLP</i> -F	GCTGACCAGTATCTGTCTGGAGG	
<i>VdPLP</i> -R	ATGACGACTGGCTTCTCGGCCT	
<i>Vdpcf</i> -F	ACCATTTTCAACAGTCGGGTACGCG	
<i>Vdpcf</i> -R	ACCATTTTCAACAGTCGGGTACGCG	
<i>VdNoxB</i> -F	TGCGTGCCAAGCATAAGACATAC	
<i>VdNoxB</i> -R	GACAGCACGAGTGAAATCACCAAC	
<i>VdPls1</i> -F	ATGGTCAACAAGATCCTCGCGA	
<i>VdPls1</i> -R	TCCGGCTGCTCAAACATGTTGT	
<i>VdSep5</i> -F	AGCTCGACCTGGACGAGGA	
<i>VdSep5</i> -R	GAGGCTTCGTTATCAATCTCGTCTC	
<i>VdCrz1</i> -F	ATGGATCAGCAAGCTCAACATCG	qPCR of genes related mycelial penetration
<i>VdCrz1</i> -R	GATCCAGACCGAGACCGAGAC	
<i>VdCSIN1</i> -F	CTTTGATTGTGGTATGGGTTCT	
<i>VdCSIN1</i> -R	GTGGTGGGTTTGCCTTGT	
<i>Som1</i> -F	GTCGTGACAACCGAAAGCAG	
<i>Som1</i> -R	TCCCTCGTGGAGCGCAA	
<i>Vta3</i> -F	GATGTCTGCCCTGCGTAA	
<i>Vta3</i> -R	GATCTGAGCCTGGTCAAAGT	
<i>Vayg1</i> -F	GTTGCGACGAGTTCTTGT	
<i>Vayg1</i> -R	ACCATCACCTTGCCATA	
<i>VT4HR</i> -F	TGGTGGCATCAAGACAGACA	qPCR of genes related melanin formation
<i>VT4HR</i> -R	CGAAGCGAGGAAGCAAACAA	
<i>VafIM</i> -F	GACTGTCAATGCCATCGCC	
<i>VafIM</i> -R	CGGTGACCTTGATAACTT	
<i>VdSCD</i> -F	ATGCCCGCTTCGAGTTC	

VdSCD-R TTCCACACGCCGTCATCTT

VDH1-F GTCTATTCATCTGGTTCCTCCCTA

VDH1-R CAAACCTCTTACAATGTTGACGC

VdLAC-F CGTTTCCTCACTTTAGCCACAGC

VdLAC-R CACCCAGTCCACCGTCCATTGT
