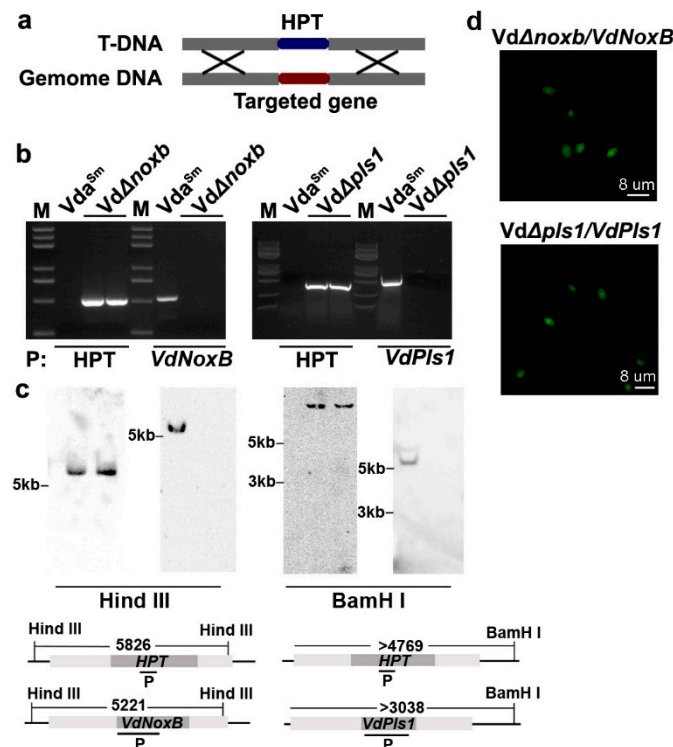
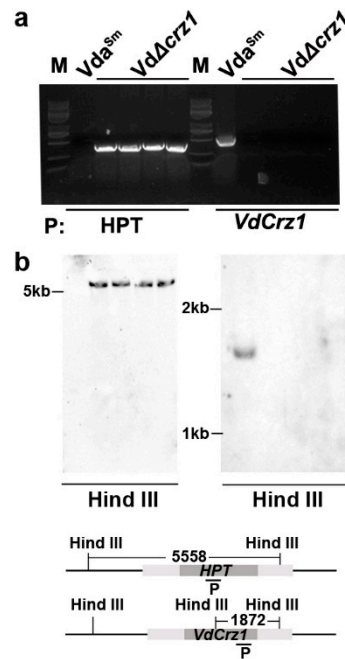


**Figure S1.** The colony morphology and growth rate of *VdaSm* and *VdaSm-GFP* on PDA plates. (a) PCR assays differentiated the *Verticillium* species. The primer pair Df/Dr amplified *V. dahliae* and *V. longisporum* strains, whereas A1f/A1r was specific to *V. longisporum*. V592 was used as a control. M indicated the marker; (b) The colony morphology of *VdaSm* and *VdaSm-GFP* on PDA plates; (c) The diameter of colonies at 5, 7, 9, 11 and 13 days. For each strain, 9 plates were repeated. No significant differences were noticed ( $P > 0.05$ , t-test). Error bar showed the standard deviations.



**Figure S2.** Construction of knockout mutants *VdΔnox**b* and *VdΔpls**1*, and complemented strains *VdΔnox**b/VdNoxB* and *VdΔpls**1/VdPls1*. (a) Schematic description of the homologous recombination event; (b) PCR analysis of targeted gene deletion mutants with special primers as indicated; (c) Southern blot identification of mutants with the *HPT*, *VdNoxB* and *VdPls1* probes as indicated. Genomic DNA was digested by Hind III and BamH I, respectively. The schematic diagrams showed the cleavage sites of

restriction enzymes and the expected fragment sizes; (d) Confocal micrograph of green fluorescence by *VdΔnoxB/VdNoxB* and *VdΔpls1/VdPls1*.



**Figure S3.** Identification of the *VdCrz1* knockout mutant. (a) PCR identification of the *VdCrz1* knockout mutant with the primers HPT and *VdCrz1* as indicated; (b) Southern blot analysis of *VdCrz1* gene deletion with *HPT* and *VdCrz1* probes as indicated. Genomic DNA was digested by *Hind III*. The schematic diagrams showed the cleavage sites of restriction enzymes and the expected fragment sizes.

**Table S1.** Primers were used in this study.

<b>Name</b>	<b>Primer Sequence(5'-3')</b>	<b>Purpose</b>
<b>ITS1</b>	TCCGTAGGTGAACCTGCGG	Sequencing
<b>ITS4</b>	TCCTCCGCTTATTGATATGC	Sequencing
<b>A1f</b>	AAGTGGAGCCCCGTATCTTGAAT	Sequencing
<b>A1r</b>	CAACTGGCAACAGGGCTTGAAT	Sequencing
<b>Df</b>	CCGGTCCATCAGTCTCTCTG	Sequencing
<b>Dr</b>	CTGTTGCCGCTTCACTCG	Sequencing
<b>KONoxB-U-F</b>	CTTGCTGAGGTCTTAATTAACAACAAGAGCCGCA ATCAA	Cloning
<b>KONoxB-U-R</b>	AGTGCTGAGGCATTAATTAACGTGCTGGTAGTGC TATAATCGT	Cloning
<b>KONoxB-D-F</b>	CCCCTGAGGACTTAATTAAAGGGGGCAAGGCG TGGAGCA	Cloning
<b>KONoxB-D-R</b>	CTCGCTGAGGGTTTAATTAAATGGAACACGCTCA AACACGTCG	Cloning
<b>KOPls1-U-F</b>	CTTGCTGAGGTCTTAATTAAAGCGCACTAGGTGC TTGCAAGT	Cloning
<b>KOPls1-U-R</b>	AGTGCTGAGGCATTAATTAAGTTGCTGGCGGTCT CGAGGACT	Cloning
<b>KOPls1-D-F</b>	CCCCTGAGGACTTAATTAAACGACCGTAAAGCC GATCTC	Cloning
<b>KOPls1-D-R</b>	CTCGCTGAGGGTTTAATTAAAGAGGCAAGGAAATG ATGATCAGT	Cloning
<b>KOCrz1-U-F</b>	CTTGCTGAGGTCTTAATTAACTCCAGCGCTCATCT ACCCT	Cloning
<b>KOCrz1-U-R</b>	AGTGCTGAGGCATTAATTAAGGTTGGGGACGTGT CGTGAGTA	Cloning
<b>KOCrz1-D-F</b>	CCCCTGAGGACTTAATTAAAGTGTGCCTTTGTTCT TCTTC	Cloning
<b>KOCrz1-D-R</b>	CTCGCTGAGGGTTTAATTAAAGAGGACCATGTTC CATAACG	Cloning
<b>pGKO-check-F</b>	GTCGACGGTATCGATAAGCTTGCTC	Checking
<b>pGKO-check-R</b>	CGGACATGCAGCTCACGCCTA	Checking
<b>HPT-F</b>	ATAAGAGTCACACTTCGAGCGCC	Checking
<b>HPT-R</b>	GCTCATGAGCGCTTGTTTCGG	Checking
<b>PnoxB-NoxB-F</b>	TAAAACGACGGCCAGTGCCAAGCTTCTCCAGGT AACAGGGAAGA	Cloning
<b>PnoxB-NoxB-R</b>	GCCCATCGAGTAGTAGTCCATCGTGCTGGTAGTG CTATAAT	Cloning

<b>NoxB-GFP-F</b>	AGCACGATGGACTACTACTCGATGGGCTC	Cloning
<b>NoxB-GFP-R</b>	AATTAAGCCGCCTCCGCCGAAGTTCTCCT TGCCCCATT	Cloning
<b>Ppls1-Pls1-F</b>	TAAAACGACGGCCAGTGCCAAGCTTGGGCACGG CACAAAGGGTCA	Cloning
<b>Ppls1-Pls1-R</b>	GATCTTGTTGACCATGTTGCTGGCGGTCTCGAGG ACTGT	Cloning
<b>Pls1-GFP-F</b>	GCCAGCAACATGGTCAACAAGATCCTCGCGACC TTCG	Cloning
<b>Pls1-GFP-R</b>	AATTAAGCCGCCTCCGCCGAGGCTGCGGTATCC GCT	Cloning
<b>pTef-Kar2- RFP-F</b>	AACCTCTAGAGGATCCATGTCTGAGGTCTC GCAAC	Cloning
<b>pTef-Kar2- RFP-R</b>	CACCAGCACCGAATTCGAGCTCGTCGTGG GAGGC	Cloning
<b>HPT-probe-F</b>	CTTCTGCGGGCGATTTGTGTAC	Southern Blotting
<b>HPT-probe-R</b>	CATGTGTATCACTGGCAAACCTGTG	Southern Blotting
<b>NoxB-probe-F</b>	GACTACTACTCGATGGGCTC	Southern Blotting
<b>NoxB-probe-R</b>	AATCTTCCTCAGGCGCACTCGT	Southern Blotting
<b>Pls1-probe-F</b>	GATGTGCTTTTCCTGATCAC	Southern Blotting
<b>Pls1-probe-R</b>	CGGTCCTCCAGTAGCACAGCAAG	Southern Blotting
<b>Crz1-probe-F</b>	ACGTTCCAGTGCAACCTGTGT	Southern Blotting
<b>Crz1-probe-R</b>	ATCAAACGAAGACCGTCCCGAAA	Southern Blotting
<b>NAT-probe-F</b>	TGGAGCTAGTGGAGGTCAAC	Southern Blotting
<b>NAT-probe-R</b>	GAGGCCCTTTCGTCTTCAAG	Southern Blotting
<b><math>\beta</math>-tublin-qF</b>	AGCTCACCCAGCAGATGTTC	RT-qPCR
<b><math>\beta</math>-tublin-qR</b>	TCGACCTCCTTCATGGCAAC	RT-qPCR
<b>VdCrz1-qF</b>	TTTACTCGCGCGTACAACCT	RT-qPCR
<b>VdCrz1-qR</b>	AACTTCTTCTCGCCCGAGTG	RT-qPCR
<b>VdLcc-qF</b>	TACCTCTTCCACTGCCACATC	RT-qPCR
<b>VdLcc-qR</b>	GTTTCCGCCAGCATTACCA	RT-qPCR
<b>VdRhom-qF</b>	CCCATGATTGGCCCTCTTT	RT-qPCR
<b>VdRhom-qR</b>	CACCAAATGGGCTGTTGAGC	RT-qPCR

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