

Table S1. Fungal strains used in this study.

Fungal strain	Source	Location	Genomic data	DNA concentration (ng/μl)
<i>Penicillium italicum</i> (B3)	Lesion in citrus fruit	Yichang, China	[20]	143.3±11.0
<i>Penicillium italicum</i> (P6)	Unknown	Italy	[20]	116.8±9.4
<i>Penicillium digitatum</i> (N1)	Lesion in citrus fruit	Zhejiang, China	[22]	98.2±8.1
<i>Penicillium digitatum</i> (P44)	Unknown	Italy	[22]	146.4±10.5
<i>Penicillium chrysogenum</i> (Q)	Surface of citrus fruit	Wuhan, China	[23]	161.4±15.7
<i>Penicillium expansum</i> (L)	Surface of citrus fruit	Wuhan, China	[20]	122.8±11.9
<i>Penicillium polonicum</i> (A1)	Lesion in citrus fruit	Wuhan, China	Not sequenced	87.9±5.6
<i>Penicillium crustosum</i> (B1)	Lesion in citrus fruit	Yichang, China	Not sequenced	152.8±16.0
<i>Geotrichum citri-aurantii</i> (AY-1)	Surface of citrus fruit	Wuhan, China	Not sequenced	114.5±3.7
<i>Alternaria solani</i> (FJ)	Surface of tomato fruit	Wuhan, China	Not sequenced	98.4±4.1
<i>Rhizopus nigricans</i> (FG)	Surface of tomato fruit	Wuhan, China	Not sequenced	111.2±6.7
<i>Botrytis cinerea</i> (Y-1)	Air of storage room	Wuhan, China	[24]	107.7±6.6
PU	Lesion in citrus fruit	Wuhan, China		79.4±11.8
1-2-1	Air of storage room	Ganzhou, China		74±5.8
1-3-2	Air of storage room	Ganzhou, China		114.7±3.6
1-3-4	Air of storage room	Ganzhou, China		150.1±14.5
1-9-1	Surface of citrus fruit	Ganzhou, China		234.5±24.0
1-12-1	Surface of citrus fruit	Ganzhou, China		70±9.2
2-4-1	Surface of citrus fruit	Ganzhou, China		81.2±7.4
2-4-2	Surface of citrus fruit	Ganzhou, China		95.3±6.7
2-4-3	Surface of citrus fruit	Ganzhou, China		90.2±8.4
3-1-1	Air of storage room	Ganzhou, China		74.6±6.7
3-3-2	Air of storage room	Ganzhou, China		82±5.8
3-3-3	Air of storage room	Ganzhou, China		115.3±8.7
3-7-2	Air of storage room	Ganzhou, China		90.3±1.34
4-2-2	Air of storage room	Ganzhou, China		136.1±2.3
4-3-1	Air of storage room	Ganzhou, China		95.6±5.2
4-4-1	Air of storage room	Ganzhou, China		110.9±11.2
4-4-2	Air of storage room	Ganzhou, China		97.8±2.8
4-5-1	Air of storage room	Ganzhou, China		134.5±5.7
4-6-1	Air of storage room	Ganzhou, China		169.4±14.3
4-8-1	Air of storage room	Ganzhou, China		86.8±6.2
5-9-1	Air of storage room	Ganzhou, China		127.8±11.6
8-7-1	Air of storage room	Ganzhou, China		135±10.3
12-12-1	Air of storage room	Ganzhou, China		112.9±12.0
12-14-4	Air of storage room	Ganzhou, China		138.5±6.5
14-1-1	Air of storage room	Ganzhou, China		88.4±8.4
F2	Lesion in citrus fruit	Yichang, China		110.7±7.8

F16	Lesion in citrus fruit	Yichang, China	105.8±4.8
F19	Lesion in citrus fruit	Yichang, China	104.6±5.2
F33	Lesion in citrus fruit	Yichang, China	92.7±6.5
LY-1	Air of storage room	Wuhan, China	170.8±11.2

Table S2. Primer pairs designed for *P. italicum*.

Primer	Sequence 5'-3'	Size of product (bp)	Target gene
RPB1-a	TGCGGTATCTACAAGATT AGTGAGGAAGAGTACGAT	790	<i>RPB1</i>
RPB1-b	TGCGGTATCTACAAGATT GGTATGAGTTCTCGACGA	844	<i>RPB1</i>
RPB1-c	GCTTTCCCCTCAGGTCTCAAC AGCAACCAGTAACCGACGATG	248	<i>RPB1</i>
RPB1-d	GCCATTCCACCTCCCGCTAT TGGCACCGACCGTCTTCTTG	214	<i>RPB1</i>
RPB1-e	GCTTTCCCCTCAGGTCTCAAC GCTTCGTCACGGGCATTGTT	461	<i>RPB1</i>
RPB2-a	CTCCTTGTCTCACTTGCG ATGATGGTTTCCTCTTCTTC	645	<i>RPB2</i>
RPB2-b	CTTCCTCCTTGTCTCACT TCTTCTGGGCCCAAGTCT	562	<i>RPB2</i>
RPB2-c	TGTCCCAGGTGCTGAGTCGT CGGGGTTTGGCAATCTTTC	100	<i>RPB2</i>
RPB2-d	AAACCCCGCCAACCTCCATA CAGACCATCCCATCCGAAGTAT	534	<i>RPB2</i>

Table S3. BLAST result of the ITS sequences of the six candidate *P. italicum* strains.

Candidate	Length of PCR product (bp)	Best hit organism	Gene	Identity	Accession no.
PU	594	<i>P. italicum</i> strain ML332	<i>ITS</i>	99%	KC692222.1
2-4-1	600	<i>P. italicum</i> strain ATCC 48114	<i>ITS</i>	99%	AY373920.1
2-4-2	599	<i>P. italicum</i> strain ATCC 48114	<i>ITS</i>	99%	AY373920.1
2-4-3	601	<i>P. italicum</i> strain ATCC 48114	<i>ITS</i>	99%	AY373920.1
4-4-1	592	<i>P. italicum</i> strain ML332	<i>ITS</i>	99%	KC692222.1
F19	592	<i>P. italicum</i> strain ML332	<i>ITS</i>	99%	KC692222.1