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Table S1 Strains and plant materials used in this study

Strains	Source	Description
Trichoderma harzianum TH10	Isolated from marine algal sediments off the coast of Tianjin, Bohai Bay, China.	Biocontrol strain for preparation of STH inoculant, cultured on PDA at 25 °C
Pyricularia oryzae Guy11	Hangzhou Fengxun Biotechnology Co., Ltd., Hangzhou, China	Pathogenic strain for rice blast model disease establishment, cultured on PDA at 28 °C in darkness
Oryza sativa L. cv. Zhenghan 10	Henan Academy of Agricultural Sciences	Rice cultivar for all pot-culture, inoculation and transcriptome experiments
Ganoderma lucidum SMS	Yuxin Edible Mushroom Planting Professional Cooperative, Yuzhou, Henan, China.	SMS from *G. lucidum* cultivation, oven-dried at 60 °C, ground, and sieved through a 40-mesh sieve.
Ganoderma amboinense SMS	Yuxin Edible Mushroom Planting Professional Cooperative, Yuzhou, Henan, China.	SMS from *G. amboinense* cultivation, oven-dried at 60 °C, ground, and sieved through a 40-mesh sieve.
Tricholoma matsutake SMS	Yuxin Edible Mushroom Planting Professional Cooperative, Yuzhou, Henan, China.	SMS from *T. matsutake* cultivation, oven-dried at 60 °C, ground, and sieved through a 40-mesh sieve.
Pleurotus nebrodensis SMS	Yuxin Edible Mushroom Planting Professional Cooperative, Yuzhou, Henan, China.	SMS from *P. nebrodensis* cultivation, oven-dried at 60 °C, ground, and sieved through a 40-mesh sieve.

Table S2 Source data for detached rice-leaf assays of TH10 against Guy 11

Treatment	Equivalent lesion diameter (mm)		
	2 dpi	4 dpi	6 dpi
CK1	1.18 ± 0.09[a]	1.33 ± 0.04[b]	1.40 ± 0.04[c]
CK2	2.15 ± 0.18[a]	2.67 ± 0.29[a]	4.48 ± 0.13[b]
TH	1.51 ± 0.03[a]	2.13 ± 0.05[b]	2.27 ± 0.24[b]

Data are presented as mean ± SD of six detached rice leaves. Equivalent lesion diameter was calculated from lesion width and length, which was presented in millimeters (mm). Different lowercase letters indicate significant differences ($P < 0.05$). CK1: mechanical-wound group group sprayed with with sterile wate; CK2: Guy11-inoculated group sprayed with sterile water; TH:Guy11-inoculated group sprayed with TH10 cell-free culture supernatant.

Table S3 Raw spikelet counts and panicle blast severity under different treatments

Treatment	Pot 1			Pot 2			Pot 3		
	Filled spikelets	Withered spikelets	Panicle blast severity(%)	Filled spikelets	Withered spikelets	Panicle blast severity(%)	Filled spikelets	Withered spikelets	Panicle blast severity(%)
CK	136	62	29.88%	105	54	35.40%	90	30	25.78%
PTH	168	61	26.37%	129	41	24.16%	87	33	27.28%
STH	127	20	13.48%	107	20	15.87%	115	19	14.45%

Data are presented as mean values calculated from three replicate pots per treatment. One hill (six plants per hill) was sampled from each pot as a subsample. Panicle blast severity (%) = Withered spikelets per panicle/Total spikelets per panicle × 100. CK: untreated control; PTH: treated with TH10 powder; STH: treated with SMS-based TH10.

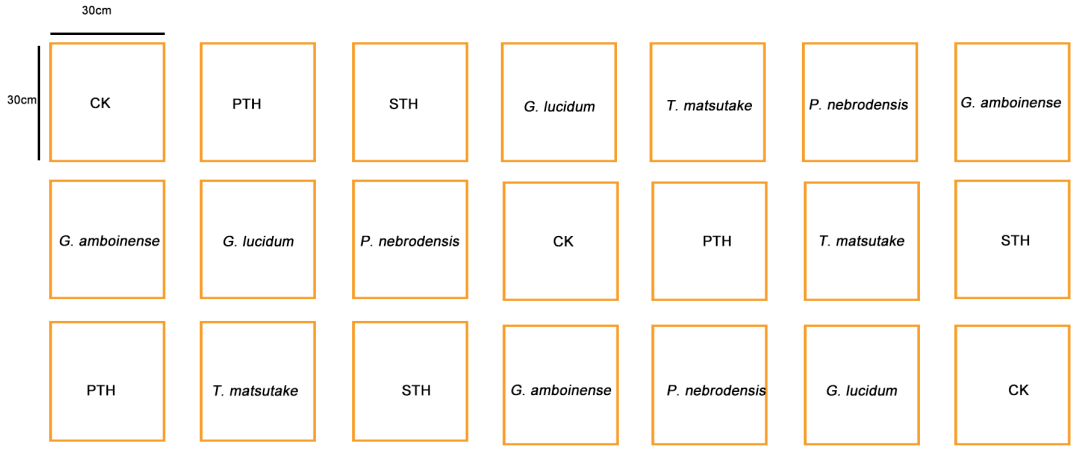


Figure S1. Schematic diagram of the greenhouse pot experiment for rice using randomized complete-block design with three replicates. CK: untreated control; PTH: treated with TH10 powder; STH: treated with mixed SMS-based TH10; *G. lucidum*: treated with *G. lucidum* SMS-based TH10; *T. matsutake*: treated with *T. matsutak* SMS-based TH10; *P. nebrodensis:* treated with *P. nebrodensis* SMS-based TH10*; G. amboinense:* treated with *G. amboinense* SMS-based TH10.

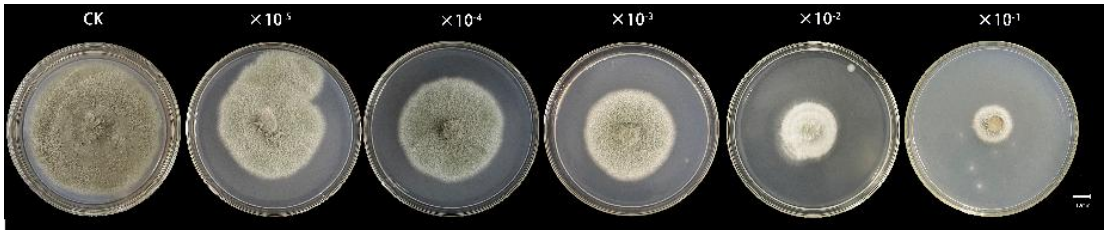


Figure S2. Antifungal effects of *T. harzianum* TH10 cell-free filtrate against Guy11 at serial dilutions of × 10^{-1}, × 10^{-2}, × 10^{-3}, × 10^{-4} and ×10^{-5}. CK: PDA plate inoculated with Guy11 alone. Scale bar: 10 mm.



Figure S3. Growth and panicle morphologies of rice plants subjected to CK, PTH and STH treatments. **(a)** Panicle phenotypes of mature potted rice. (**b**) Plant growth of rice at jointing stage under CK, PTH and STH treatments. CK: untreated control; PTH: treated with TH10 powder; STH: treated with SMS-based TH10.

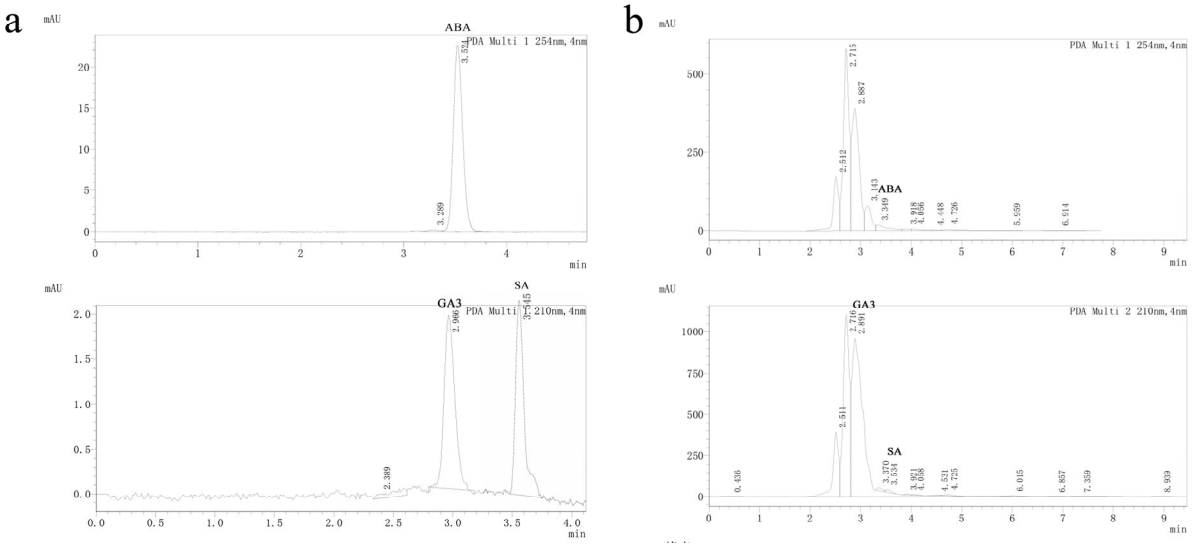


Figure S4. Representative HPLC chromatograms of the phytohormone standard mixture and rice-leaf extract. (a) Chromatogram of mixed standards of ABA, GA_3, and SA; ABA was monitored at 254 nm, whereas GA_3 and SA were monitored at 210 nm. (b) Chromatogram of rice-leaf extract.

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