

**Table S1.** GenBank accession numbers of taxa used in phylogenetic analyses.

Species name	Strain number	GenBank accession number	
		ITS	EF1- $\alpha$
<i>Protocrea farinosa</i>	CBS 121551	MH863119	EU703889
<i>Protocrea pallida</i>	CBS 299.78	MH861137	EU703900
<i>T. achlamydosporum</i>	YMF 1.06226*	MN977791	MT070156
<i>T. afarasin</i>	CBS 130755*/GJS 99-227	AY027784	AF348093
<i>T. afroharzianum</i>	CBS 124620*/GJS 04-186	FJ442265	FJ463301
<i>T. amoenum</i>	YMF 1.06210/YMF_1.6188	MN977802	MT070145
<i>T. amoenum</i>	YMF 1.06209	MN977801	MT070146
<i>T. anaharzianum</i>	YMF 1.00383*	MH113931	MH183182
<i>T. anaharzianum</i>	YMF 1.00241	MH262584	MH236493
<i>T. asiaticum</i>	YMF 1.00352*	MH113930	MH183183
<i>T. asperellum</i>	CBS 433.97=TR3*	AY380912	AY376058
<i>T. atrobrunneum</i>	T42	KX632515	KX632629
<i>T. atroviride</i>	TRS26	KJ786751	KJ786832
<i>T. camerunense</i>	CBS 137272*/GJS 99-230	AY027780	AF348107
<i>T. endophyticum</i>	CBS 130729*/DIS 217A	FJ442243	FJ463319
<i>T. gamsii</i>	G.J.S. 04-09	DQ315459	DQ307541
<i>T. guizhouense</i>	S278		KF134799
<i>T. harzianum</i>	CBS 226.95*	AJ222720	AF348101
<i>T. harzianum</i>	TRS55	KP009211	KP008803
<i>T. hunanense</i>	HMAS 248841*	KY687924	KY688039
<i>T. inconspicuum</i>	YMF 1.04623*	MK795993	MK795985
<i>T. inhamatum</i>	CBS 273.78*	FJ442680	AF348099
<i>T. koningii</i>	Hypo 51=CBS 119500	FJ860762	KC285594
<i>T. koningiopsis</i>	18ASMA001	MT520621	MT671922
<i>T. lentiforme</i>	CBS 100542*/GJS 98-6	AF469189	AF469195
<i>T. lixii</i>	CBS 110080*/G.J.S. 97-96	AF443920	AF443938
<i>T. longiphialidicum</i>	TC668		MF095879
<i>T. longipilis</i>	CBS 120953		FJ860643
<i>T. longisporum</i>	HMAS 248843*	KY687926	KY688043
<i>T. ovalisporum</i>	DIS 70a=CBS 113299*	AY380897	AY376037
<i>T. petersenii</i>	CBS 119507=Hypo 45	FJ860806	FJ860670
<i>T. pollinicola</i>	LC11682 = LF1542*	MF939592	MF939619
<i>T. polypori</i>	HMAS 248855*	KY687938	KY688058
<i>T. propepolypori</i>	YMF 1.06199/YMF_1.6176	MN977790	MT070157
<i>T. propepolypori</i>	YMF 1.06224*/YMF_1.6175	MN977789	MT070158
<i>T. pseudoasiaticum</i>	YMF 1.06200*/YMF_1.6178	MN977792	MT070155
<i>T. pseudokoningii</i>	G.J.S. 81-300	DQ083025	AY937429
<i>T. pyramidale</i>	CBS 135574*		KJ665699
<i>T. reesei</i>	G.J.S. 97-38	AJ004962	JN175603
<i>T. rifaii</i>	CBS 130745/DIS 337F	FJ442621	FJ463321
<i>T. simile</i>	YMF 1.06201*	MN977793	MT070154

<i>T. simmonsii</i>	CBS 130431*/G.J.S. 91-138	AF443917	AF443935
<i>T. spirale</i>	TRS111	KP009301	KP008963
<i>T. subazureum</i>	YMF 1.06207*	MN977799	MT070148
<i>T. subuliforme</i>	YMF 1.06204*	MN977796	MT070151
<i>T. supraverticillatum</i>	YMF 1.06208*/YMF_1.6186	MN977800	MT070147
<i>T. tibetica</i>	YMF 1.05583*	MK779177	MK779179
<i>T. tomentosum</i>	S23		KJ665759
<i>T. velutinum</i>	C.P.K. 298		KJ665769
<i>T. virens</i>	Gli39=CBS 249.59	AF099005	AF534631
<i>T. viride</i>	CBS 119325	DQ677655	DQ672615
<i>T. atroviride</i>	CBS 119499 = Hypo 326	FJ860726	FJ860611
<b><i>T. koningiopsis</i></b>	<b>NY120302</b>	<b>OP604600</b>	<b>OP620745</b>
<b><i>T. asperellum</i></b>	<b>NY120304H</b>	<b>OP604601</b>	<b>OP620746</b>
<b><i>T. pollinicola</i></b>	<b>PL21811-12-2</b>	<b>OP604602</b>	<b>OP620747</b>
<b><i>T. pollinicola</i></b>	<b>PL218116D</b>	<b>OP604603</b>	<b>OP620748</b>
<b><i>T. lixii</i></b>	<b>PL218119D</b>	<b>OP604604</b>	<b>OP620749</b>
<b><i>T. pollinicola</i></b>	<b>QX211008-2</b>	<b>OP604605</b>	<b>OP620750</b>
<b><i>T. tomentosum</i></b>	<b>XY101301</b>	<b>OP604606</b>	<b>OP620751</b>
<b><i>T. tomentosum</i></b>	<b>XY101314</b>	<b>OP604607</b>	<b>OP620752</b>
<b><i>T. koningii</i></b>	<b>PL110114</b>	<b>OP604608</b>	<b>OP620753</b>

The type and ex-type strains are indicated with \* after the strain number.

Our 9 strains introduced in this study are indicated in bold.