

**Table S3. Protein sequences used for phylogenetic analyses in Fig. 2B**

Abbreviation	Species and protein name	Accession number
Hko	<i>Hypocrea koningii</i> cbh2	ABG48766.1
Tsp	<i>Trichoderma</i> sp. XST1 cellobiohydrolase II	ACH96126.1
Hje	<i>Hypocrea jecorina</i> cellobiohydrolase II	AAG39980.1
Tvi	<i>Trichoderma viride</i> cellobiohydrolase II	AAQ76094.1
Tpa	<i>Trichoderma parceramosum</i> cellobiohydrolase II precursor	AAU05379.2
Aor	<i>Aspergillus oryzae</i> RIB40 hypothetical protein	XP_001825360.1
Nfi	<i>Neosartorya fischeri</i> NRRL 181 cellobiohydrolase, putative	XP_001264772.1
Ate	<i>Aspergillus terreus</i> NIH2624 exoglucanase 2 precursor	XP_001210279.1
Ani1	<i>Aspergillus niger</i> hypothetical protein An08g01760	XP_001392295.1
Ani2	<i>Aspergillus nidulans</i> FGSC A4 hypothetical protein AN1273.2	XP_658877.1
Eni	<i>Emericella nidulans</i> beta-1,4-glucan-cellobiohydrolyase	ABF50873.1
Fox	<i>Fusarium oxysporum</i> putative endoglucanase type B	P46236.1
Gze	<i>Gibberella zeae</i> glycoside hydrolase 6-like protein	AAQ72468.1
Cth	<i>Chaetomium thermophilum</i> cellobiohydrolase family 6	AAV88915.1
Hin	<i>Humicola insolens</i> chain A, cellobiohydrolase li	1BVW_A
Cgl	<i>Chaetomium globosum</i> CBS 148.51 hypothetical protein CHGG_10762	XP_001226029.1
Pan	<i>Podospira anserina</i> unnamed protein	XP_001903170.1
Mgr	<i>Magnaporthe grisea</i> 70-15 hypothetical protein MGG_05520	XP_360146.1
Acl	<i>Aspergillus clavatus</i> NRRL 1 cellobiohydrolase, putative	XP_001273717.1
Ace	<i>Acromonium cellulolyticus</i> Y-94 cellobiohydrolase II	BAA74458.1
Pfu	<i>Penicillium funiculosum</i> cellulase	ACH91035.1
Bfu	<i>Botryotinia fuckeliana</i> B05.10 hypothetical protein	XP_001552807.1
Tem	<i>Talaromyces emersonii</i> cellobiohydrolase II	JC7931
Afu	<i>Aspergillus fumigatus</i> Af293 cellobiohydrolase	XP_748511.1
Pno	<i>Phaeosphaeria nodorum</i> SN15 hypothetical protein	XP_001796781.1
Ila	<i>Irpex lacteus</i> cellobiohydrolase II	BAG48183.1
Pch	<i>Phanerochaete chrysosporium</i> exocellobiohydrolase CBHII	AAB32942.1
Par	<i>Polyporus arcularius</i> cellobiohydrolase II	BAF80327.1
Led	<i>Lentinula edodes</i> cellobiohydrolase	AAK28357.1
Abi	<i>Agaricus bisporus</i> cellobiohydrolase	AAA50608.1
Vvo	<i>Volvariella volvacea</i> cellobiohydrolase II-I	AAT64008.1
Lsa	<i>Lentinus sajor-caju</i> cellobiohydrolase II	AAL15038.1
Cok	<i>Coprinopsis cinerea</i> okayama7#130 hypothetical protein CC1G_01107	XP_001833045.1
Ptr	<i>Pyrenophora tritici-repentis</i> Pt-1C-BFP exoglucanase 3 precursor	XP_001934153.1
Psp	<i>Piromyces</i> sp. E2 cellobiohydrolase Cel6B	AAP30749.1
Scs	<i>Sorangium cellulosum</i> cellulose 1,4-beta-cellobiosidase	YP_001618727.1
Osp	<i>Orpinomyces</i> sp. PC-2 cellulase A	AAB92678.1
Prh	<i>Piromyces rhizinflatus</i> 1,4-beta-D-glucan-cellobiohydrolase	ABY52799.1
Cin	<i>Ciona intestinalis</i> cellulose synthase	BAD10864
Csa	<i>Ciona savignyi</i> cellulose synthase	AAR89623.1
Nsp	<i>Nocardioides</i> sp. JS614 cellulase	YP_925799.1
Sav	<i>Streptomyces avermitilis</i> MA-4680 endo-1,4-beta-glucanase	NP_828072.1
Ssp	<i>Streptomyces</i> sp cellulase precursor	AAA26776.1
Mce	<i>Micromonospora cellulolyticum</i> endo-beta-1,4-glucanase McenA	AAC60491.1
Tbi	<i>Thermobispora bispora</i> endoglucanase A	P26414.1
Pst	<i>Providencia stuartii</i> ATCC 25827 hypothetical protein PROSTU_03046	ZP_02961057.1
Mbo	<i>Mycobacterium bovis</i> AF2122/97 endo-1,4-beta-glucanase	NP_853732.1
Mtu	<i>Mycobacterium tuberculosis</i> endoglucanase Cel6	1UP2_A
Mma	<i>Mycobacterium marinum</i> M cellobiohydrolase a	YP_001848433.1
Mav	<i>Mycobacterium avium</i> 104 endoglucanase A	YP_879613.1
Msm	<i>Mycobacterium smegmatis</i> str. MC2 155 endoglucanase A	YP_890960.1
Mab	<i>Mycobacterium abscessus</i> cellulase CelA	YP_001705499.1
Msp	<i>Mycobacterium</i> sp. MCS cellulase	YP_642458.1
Mgi	<i>Mycobacterium gilvum</i> PYR-GCK cellulase	YP_001132274.1
Mva	<i>Mycobacterium vanbaalenii</i> PYR-1 cellulase	YP_956608.1
Ppa	<i>Plesiocystis pacifica</i> SIR-1 cellulase	ZP_01907667.1
SCO	<i>Streptomyces coelicolor</i> A3(2) secreted endoglucanase	NP_627067.1
Ssv	<i>Streptomyces svceus</i> ATCC 29083 secreted endoglucanase	YP_002208806.1
Spr	<i>Streptomyces pristinaespiralis</i> ATCC 25486 secreted endoglucanase	YP_002196808.1
Sna	<i>Streptomyces nanchangensis</i> NanG8	AAP42880.1
Fal	<i>Frankia alni</i> ACN14a endoglucanase 1 precursor	YP_715139.1
Fsp	<i>Frankia</i> sp. EAN1pec cellulase	YP_001511422.1
Cfi	<i>Cellulomonas fimi</i> endoglucanase A	P07984.1
Kra	<i>Kineococcus radiotolerans</i> SRS30216 cellulase	YP_001468205.1
Sgr	<i>Streptomyces griseus</i> subsp. griseus NBRC 13350 putative cellulase	YP_001823957.1
Sha	<i>Streptomyces halstedii</i> endoglucanase 1	P33682.2
Mxa	<i>Myxococcus xanthus</i> beta-1,4-glycanase	CAA54086.1
Ser	<i>Saccharopolyspora erythraea</i> NRRL 2338 endoglucanase	YP_001108158.1