

## Supplementary Table S4

Putative plant cell wall-degrading enzymes in *P. antarctica* and other fungi

Detailed comparison between <i>P. antarctica</i> and <i>U. maydis</i>					Total number of enzymes in various fungi [50]										
Family	Glycoside hydrolases	<i>P. antarctica</i> genes	Pa	Um	Pa	Um	An	Mg	Fg	Nc	Sc	Sp	Pc	Cc	Cn
1	$\beta$ -glucosidase	8c00129, 13d00013			0	0	3	3	3	1	0	0	2	2	0
2	$\beta$ -galactosidase $\beta$ -mannosidase $\beta$ -glucuronidase	2c00076	1	1	1	1	9	6	5	5	0	0	0	0	0
3	$\beta$ -glucosidase xylan 1,4- $\beta$ -xylosidase $\alpha$ -L-arabinofuranosidase $\beta$ -N-acetylhexosaminidase	13c00090, 9d00216, 20d00032, 1d00031	4	3	4	3	20	19	18	9	0	1	7	6	3
5	endomannanase $\beta$ -1,4-endoglucanase $\beta$ -1,3-exoglucanase  $\beta$ -1,6-glucanase 1 endoglycoceramidase 1	22c00082 9c00139, 7c00332, 7d00186, 11c00030, 20c00026, 9d00068, 15c00030, 12d00021, 20c00034. 20d00008	1	1	11	10	15	13	2	7	6	3	4	1	12
6	cellobiohydrolase type II				0	0	2	3	1	3	0	0	1	4	0
7	cellobiohydrolase type I				0	0	3	6	2	5	0	0	5	3	0
8	$\beta$ -1,4-endoglucanase	7d00341	1	1	1	1	0	0	0	0	0	0	0	0	0
10	endoxylanase	8c00118, 11c00065	2	2	2	2	3	5	5	4	0	0	6	3	0
11	endoxylanase	22d00001	1	1	1	1	2	5	2	2	0	0	1	6	0
12	xyloglucan-endoglucanase				0	0	1	3	3	1	0	0	2	0	0
26	endomannanase				0	0	3	0	0	1	0	0	0	0	0
27	$\alpha$ -galactosidase	27d00006, 18c00065	2	1	1	2	3	4	2	0	5	1	3	0	0
28	endopolygalacturonase exopolygalacturonase	5c00162	1	1	1	1	9	3	6	2	1	0	1	1	1

xylogalacturonan hydrolase rhamnogalacturonan																	
35	$\beta$ -galactosidase	7c00120	1	1	1	1	4	0	2	2	0	0	1	0	0		
36	$\alpha$ -galactosidase				0	0	4	2	2	1	0	0	0	0	1		
42	$\beta$ -galactosidase	6d00052	1	1	1	1	0	0	0	0	0	0	0	0	0		
43	endoarabinanase $\alpha$ -L-arabinofuranosidase	12c00003, 8c00113, 18c00104, 9c00439	4	2	2	4	15	18	1	6	0	0	0	1	0		
	$\beta$ -xylosidase 8																
45	$\beta$ -1,4-endoglucanase	5d00140, 26c00038, 4d00037	3	3	3	3	1	1	0	1	0	0	0	0	0		
51	$\alpha$ -L-arabinofuranosidase	7c00355, 22c00212, 26d00002	3	2	3	2	2	3	2	1	0	0	1	0	1		
53	endogalactanase				0	0	1	1	1	1	0	0	1	1	0		
54	$\alpha$ -L-arabinofuranosidase	22c00021	1		1	0	1	1	1	1	0	0	0	0	0		
61	$\beta$ -1,4-endoglucanase				0	0	9	17	12	14	0	0	12	12	1		
62	arabinoxylan arabinofuranohydrolase	9d00343	1	1	1	1	2	3	1	0	0	0	0	1	0		
63	$\alpha$ -1,3-glucosidase																
67	$\alpha$ -glucuronidase	5c00036	1		1	0	1	1	1	1	0	0	0	0	0		
74	xyloglucan-endoglucanase				0	0	2	1	1	1	0	0	2	1	0		
78	$\alpha$ -rhamnosidase				0	0	8	1	3	0	0	0	0	0	2		
93	exoarabinanase				0	0	2	1	2	2	0	0	0	0	0		
95	$\alpha$ -L-fucosidase				0	0	3	1	2	0	0	0	1	0	0		

Family	Polysaccharide lyases	<i>P. antarctica</i> genes	Pa	Um	Pa	Um	An	Mg	Fg	Nc	Sc	Sp	Pc	Cc	Cn
1	pectin lyase pectate lyase	26d00090	1	1	1	1	8	2	6	1	0	0	0	0	0
3	pectate lyase				0	0	5	1	7	1	0	0	0	1	0
4	rhamnogalacturonan lyase				0	0	4	1	1	1	0	0	0	2	1
9	pectate lyase				0	0	1	0	1	0	0	0	0	0	0
11	rhamnogalacturonan lyase				0	0	1	0	1	0	0	0	0	0	0

Family	Carbohydrate esterases	<i>P. antarctica</i> genes	Pa	Um	Pa	Um	An	Mg	Fg	Nc	Sc	Sp	Pc	Cc	Cn
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1 acetyl xylan esterase	27d00092	1	1	2	1	3	10	3	7	1	0	0	3	2
feruloyl esterase	9c00307	1												
unknown														
8 pectin methyl esterase			1	1	0	3	1	3	1	0	0	1	0	0
12 rhamnogalacturonan				0	0	2	2	1	1	0	0	0	1	0
acetylcysteine														
unknown														

Abbreviations: Pa (*Pseudozyma antarctica*), Um (*Ustilago maydis*), An (*Aspergillus nidulans*), Mg (*Magnaporthe grisea*), Fg (*Fusarium graminearum*), Nc (*Neurospora crassa*), Sc (*Saccharomyces cerevisiae*), Sp (*Schizosaccharomyces pombe*), Pc (*Phanerochaete chrysosporium*), Cc (*Coprinus cinereus*), Cn (*Cryptococcus neoformans*).