

Table S1. Functional classification of regulated iTRAQ quantified proteins. (cut off: unused score<2.0)

Unused Score	%Cov (95)	Peptides (95%)	Accession No.	Name of the protein	WT5:WT4*	D15(5):WT4*	D15 (6):WT4*	SignalP
<b>i. Cellulases</b>								
62.33	31.09	87	gi 49615615	Glucan 1,4-alpha-glucosidase; glucoamylase	1.71	1.59	5.32	Y
24.63	9.75	17	gi 3023267	Alpha-glucosidase; Maltase	0.91	0.89	1.73	Y
13.16	9.24	16	gi 6624914	alpha-galactosidase C	0.92	0.75	2.47	Y
10.08	10.82	5	gi 145255120	exo-beta-1,3-glucanase	1.57	0.51	0.55	Y
8.93	6.01	4	gi 145230403	alpha-glucosidase	1.11	0.76	0.84	Y
6.64	15.32	7	gi 45721176	xyloglucan-specific endo-beta-1,4-glucanase	0.86	1.14	1.25	Y
4	5.77	2	gi 145252938	endoglucanase A; extracellular endoglucanase	4.25	0.84	1.34	Y
2.52	0.89	1	gi 145230289	beta-galactosidase; hypothetical protein	0.73	0.46	0.93	Y
15.81	12.07	20	gi 145235523	GPI-anchored cell wall beta-1,3-endoglucanase	2.81	0.71	1.58	Y
4.08	7.58	10	gi 145230419	extracellular cell wall glucanase	1.29	0.49	0.74	Y
2.93	1.65	1	gi 2328	alpha-galactosidase A	1.93	1.56	1.25	Y
<b>ii. Hemicellulases</b>								
5.4	5.73	3	gi 567830	alpha-L-arabinofuranosidase	0.63	0.39	2.58	Y
2.15	1.40	1	gi 6624916	beta-mannosidase;Beta-mannosidase;	0.30	0.81	13.21	Y
13.08	15.59	11	gi 45721161	alpha-mannosidase	1.29	0.72	1.41	Y
14.76	20.40	22	gi 158828382	rutin-alpha-L-rhamnosidase precursor	1.48	1.72	2.33	Y
7.66	7.55	20	gi 145233623	hypothetical protein; extracellular arabinanase,	1.22	0.61	1.19	Y
8.04	13.54	4	gi 6911545	endo-polygalacturonase	2.63	0.89	0.63	Y
2.03	4.53	3	gi 2373	pectinesterase;[Pectinesterase];	1.62	1.25	2.39	Y
<b>iii. Other glycoside hydrolase/ carbohydrate lyase</b>								
6.98	5.04	3	gi 145231437	hypothetical protein; glycosyl hydrolase family 2,	0.45	0.52	11.40	Y
2.67	0.75	1	gi 145228571	alpha,alpha-trehalose glucohydrolase TreA/Ath1;	0.71	0.51	0.58	Y
2.5	0.72	1	gi 145242762	hypothetical protein; glycosyl hydrolase,	0.86	1.37	1.42	Y

				family 18,				
13.13	13.62	8	gil145238226	dihydrolipoamide dehydrogenase	3.65	0.83	0.76	N
2.02	2.54	1	gil145242660	hypothetical protein; class III chitinase, p	1.55	0.84	0.85	Y
2	2.04	1	gil145241071	hypothetical protein; glycosyl hydrolase family 43	1.55	1.66	5.66	Y
2.01	2.41	1	gil145232927	hypothetical protein ; endochitinase 1 precursor;	2.52	0.53	0.93	N
2	2.16	1	gil145241960	hypothetical protein; alpha-amylase, putative;	1.70	0.80	3.29	Y
2.29	2.28	1	gil145234236	hypothetical protein ; glycosyl hydrolase, family 18	2.29	0.41	0.81	N
4.43	4.44	2	gil145246056	hypothetical protein; phytase, putative	0.62	0.51	1.48	Y
6.02	7.23	3	gil145242924	hypothetical protein; carboxylesterase,	1.35	0.46	0.81	Y
2.02	2.04	1	gil147803162	Feruloyl esterase B	1.25	1.73	1.21	Y
4.36	9.96	2	gil145233843	fumarylacetate hydrolase family protein	2.60	0.58	0.63	N
<b>v. Proteolytic enzymes</b>								
14.84	13.14	9	gil145234839	aminopeptidase	2.42	0.85	1.22	Y
12.63	11.48	8	gil157392792	serine carboxypeptidase	0.82	1.61	2.41	Y
8.15	14.21	4	gil747650	aspergillopeptidin	0.99	3.84	3.63	Y
6.56	8.35	5	gil157392775	unnamed protein product; tripeptidyl-peptidase	0.66	0.70	3.98	Y
4.01	3.48	2	gil145241784	beta-N-acetylhexosaminidase NagA	1.90	0.60	0.86	Y
5.24	2.38	2	gil14018320	aminopeptidase	1.59	0.86	0.58	N
3.58	4.99	2	gil145251285	extracellular aspartic endopeptidase	0.71	0.93	1.20	N
10.11	13.62	6	gil119887992	aspartic endopeptidase (AP1),	2.22	0.88	1.87	N
6.02	5.33	4	gil145241902	hypothetical protein; oligopeptidase family protein;	2.40	0.79	0.76	N
4	4.12	2	gil145231345	hypothetical protein amidase family protein	1.26	0.63	0.93	Y
2.19	1.36	1	gil23476937	aminopeptidase C	1.73	0.66	1.42	N
2.08	2.08	1	gil145234268	hypothetical protein; vacuolar carboxypeptidase Cps1	2.89	0.69	0.62	Y
2.58	2.01	1	gil145241538	hypothetical protein; putative peptidase	1.38	0.52	0.81	N
2.91	2.44	2	gil6090253	unnamed protein product ; autophagic serine	2.79	0.80	1.74	Y

				protease				
4.01	6.36	3	gil157392822	unnamed protein product; secreted aspartic protease	1.31	1.11	1.65	Y
<b>Peroxidases and oxidoreductases</b>								
2.81	3.40	1	gil145236505	hypothetical protein; peroxidase, putative;	0.92	0.63	1.23	Y
2.03	12.82	1	gil145256810	hypothetical protein ; cytochrome c subunit, putative;	3.46	1.77	1.17	N
2.34	7.61	1	gil4164243	cytochrome c oxidase subunit V	0.60	0.73	0.77	N
20.51	18.68	20	gil145231196	glucose oxidase precursor goxC	1.50	1.57	3.71	Y
12.1	16.33	8	gil6090366	sulphydryl oxidase Sox f	1.31	2.66	1.18	Y
20.53	25.22	10	gil209972742	NADP-glutamate dehydrogenase	1.57	0.34	0.28	N
15.86	14.16	8	gil160851347	FAD binding domain containing protein; unnamed protein product ;	1.39	0.76	1.69	Y
15.67	12.05	12	gil145228625	catalase	1.49	0.67	2.66	Y
11.27	13.60	7	gil160851341	FAD-dependent oxygenase,	0.88	0.59	0.87	Y
9.45	6.46	6	gil145228573	mycelial catalase	1.79	1.66	1.12	Y
5.06	4.03	2	gil145235197	glutathione oxidoreductase Glr1, putative; glutathione reductase;	1.23	0.79	1.82	N
2.22	4.32	1	gil145228727	hypothetical protein; oxidoreductase;	1.21	1.00	1.24	N
<b>Transport proteins</b>								
13.62	21.00	9	gil145255160	ADP,ATP carrier protein;	5.14	0.97	1.57	Y
9.21	8.63	4	gil145253056	hypothetical protein; ATP synthase alpha chain,	1.56	1.18	3.35	N
10.81	4.91	4	gil145256869	hypothetical protein; F275676_1 cobalamin-independent methionine synthetas	1.28	0.97	1.10	N
4.2	5.90	2	gil145252316	hypothetical protein;phosphatidylinositol transporter;	3.30	1.66	0.99	N
2.13	0.93	1	gil145235003	hypothetical protein ; ATP-binding cassette transporter, putative; ABC transporter PeaB1	0.50	0.89	0.72	N
2.04	0.95	1	gil145229613	hypothetical protein ;ABC multidrug transporter	1.20	1.29	1.18	N

2.04	3.13	1	gil145259003	hypothetical protein ; lectin family integral membrane protein,	1.78	0.81	0.80	Y
2.03	2.27	1	gil145233043	hypothetical protein ; galactose-proton symport; sugar transporter	1.55	0.33	0.40	N
2.02	1.71	1	gil145250833	hypothetical protein ; MFS monosaccharide transporter	1.60	0.51	0.52	N
2.01	2.44	1	gil145235311	hypothetical protein; Exocyst complex component Sec8,	2.27	1.40	0.81	N
<b>Unmapped proteins</b>								
14.01	16.96	14	gil145256696	hypothetical protein; GPI-anchored cell wall organization protein;	0.81	0.96	2.76	Y
34.79	33.84	32	gil145256130	hypothetical protein 1,3-beta-glucanosyltransfer	2.12	0.64	0.91	Y
11.28	33.79	9	gil145230219	hypothetical protein	1.93	19.72	1.48	N
11.2	10.74	12	gil145231194	hypothetical protein 6-phosphogluconolactonase	0.89	0.86	0.73	Y
10.09	10.04	6	gil145243352	hypothetical protein ; 6-phosphogluconate dehydrogenase;	2.10	0.93	2.34	N
9.7	14.78	6	gil145230067	hypothetical protein; tyrosinase, putative;	1.73	0.58	1.23	Y
8.52	11.66	6	gil145233345	aldose 1-epimerase	0.44	0.31	1.87	Y
8.35	9.06	6	gil145241490	1,3-beta-glucanosyltransferase	1.62	2.60	1.57	Y
8.24	9.14	5	gil145258972	hypothetical protein	1.64	0.60	1.53	Y
8.23	12.53	4	gil145250163	hypothetical protein	1.61	1.95	1.72	N
8.02	7.34	4	gil13938963	unnamed protein product; lysophospholipase Plb1	0.59	0.37	0.38	Y
7.3	15.74	3	gil145237784	hypothetical protein	1.66	1.54	4.61	N
7.3	12.32	4	gil145232919	hypothetical protein ami	2.98	0.85	0.53	N
7.26	10.15	4	gil145229623	hypothetical protein	0.54	0.20	1.29	N
6.77	10.12	5	gil2494634	Glyceraldehyde-3-phosphate dehydrogenase;	0.94	1.23	1.22	N
6.43	5.41	3	gil145242802	heat shock protein sspB	0.65	1.14	1.80	N
6.26	40.66	10	gil145258352	hypothetical protein; ubiquitin-like protein; UBQ10	2.59	1.14	0.96	N

6.21	7.82	3	gil145240407	1,3-beta-glucanosyltransferase Gel2	1.56	0.93	1.17	Y
6.19	8.35	6	gil145256244	hypothetical protein	0.83	0.57	1.84	Y
6.18	8.65	2	gil145254885	hypothetical protein	3.11	1.25	1.66	N
6.06	17.14	3	gil145255890	hypothetical protein	3.20	0.81	0.60	N
6.03	11.20	4	gil145233225	hypothetical protein; allantoicase Alc;	3.58	0.92	0.80	N
6.01	17.68	3	gil145228959	hypothetical protein	3.43	0.82	1.74	N
6.01	5.66	3	gil145235697	1,3-beta-glucanosyltransferase, putative;	1.16	0.34	0.83	N
6	28.70	5	gil145228757	hypothetical protein	2.95	0.66	0.48	N
5.96	9.19	3	gil145243156	hypothetical protein; aldehyde reductase I	0.54	0.41	2.54	N
			gil145255366	hypothetical protein ; translation elongation factor EF-1 alpha	1.57	0.92	1.62	N
5.44	9.30	3	gil145239481	hypothetical protein	1.80	1.41	1.43	N
5.4	13.04	4	gil145230734	conserved fungal protein	1.41	2.11	0.93	Y
5.18	13.66	2	gil145251473	hypothetical protein	2.33	1.50	3.17	N
5.1	11.49	2	gil145232002	hypothetical protein	2.37	0.51	1.73	Y
5.03	8.81	2	gil145234288	hypothetical protein	5.27	1.36	1.62	N
4.91	3.05	2	gil145244989	glutaminase; glutaminase,	2.90	0.53	1.25	N
4.5	7.88	2	gil145240249	hypothetical protein	0.98	0.77	1.76	N
4.24	4.86	3	gil145241592	hypothetical protein	0.71	0.72	1.37	Y
4.21	9.65	2	gil145249044	hypothetical protein	2.44	0.80	1.23	N
			gil40783172	unnamed protein product; triacylglycerol lipase A	1.86	0.86	1.28	N
4.18	1.65	2	gil145251435	hypothetical protein; phospholipase D (PLD)	1.55	0.85	0.72	N
4.15	13.20	3	gil145255286	hypothetical protein; rho-gdp dissociation inhibitor	3.12	0.66	0.48	N
4.05	3.92	2	gil145233253	hypothetical protein; UDP-galactopyranose mutase	2.83	0.96	0.71	N
4.03	5.85	2	gil145251223	hypothetical protein; GILT family thiol reductase	2.86	0.78	0.68	N
4.03	5.56	2	gil145233575	hypothetical protein	1.32	0.93	2.68	N
4.01	6.17	2	gil145237554	hypothetical protein	1.36	0.75	2.29	Y
4.01	13.86	2	gil145228559	hypothetical protein	2.27	0.84	1.12	N
4	18.02	2	gil145251215	hypothetical protein	1.87	0.54	0.42	N

4	13.92	2	gil145232084	hypothetical protein	3.87	0.56	0.45	N
3.72	6.41	2	gil145229087	hypothetical protein Protein P0; 60S acidic	0.95	1.26	1.24	N
3.71	20.13	3	gil145231639	hypothetical protein	1.20	1.50	0.67	Y
3.53	5.73	2	gil145230994	hypothetical protein A	5.31	0.91	1.76	N
3.42	4.01	1	gil145237640	hypothetical protein; transaldolase	1.69	0.83	1.80	N
3.4	19.61	2	gil145248087	hypothetical protein; antibiotic biosynthesis monooxygenase	4.21	0.83	0.87	N
3.34	4.18	2	gil145230728	hypothetical protein	1.94	1.18	2.29	N
3.3	3.93	2	gil145254822	hypothetical protein A	2.84	1.80	0.88	N
3.08	6.29	1	gil145247172	hypothetical protein ; glucosamine 6-phosphate acetyltransferase,	1.85	0.89	1.14	N
2.96	0.47	1	gil145238056	hypothetical protein	0.36	2.64	4.45	N
2.93	2.30	1	gil3024061	6-phosphofructokinase;	0.44	0.53	0.53	N
2.93	1.76	1	gil145229477	hypothetical protein	0.97	1.69	1.74	N
2.92	2.85	1	gil145229997	hypothetical protein	1.86	0.85	1.48	N
2.83	2.23	1	gil38194174	exoinulinase	0.92	1.40	0.79	Y
2.82	0.76	1	gil145249650	hypothetical protein	0.96	1.21	1.61	N
2.82	1.40	1	gil145253064	hypothetical protein	0.63	0.69	0.38	N
2.75	0.17	1	gil145252922	hypothetical protein	0.61	1.14	0.95	N
2.73	3.77	1	gil145229521	glyoxalase family protein;	2.46	1.19	2.22	N
2.73	3.15	1	gil145238030	hypothetical protein; formamidase FmdS;	4.73	1.18	0.86	N
2.66	1.30	1	gil145232525	hypothetical protein	3.73	0.89	1.54	N
2.45	3.02	1	gil145233847	hypothetical protein	2.12	0.84	1.35	N
2.4	2.49	1	gil145239111	hypothetical protein	0.68	1.72	0.80	N
2.37	2.00	1	gil145239337	hypothetical protein	1.34	1.14	1.26	N
2.33	3.54	1	gil145244186	hypothetical protein	2.00	0.83	0.82	N
2.24	1.03	1	gil145237402	hypothetical protein	2.46	0.86	1.13	N
2.22	0.51	1	gil145251405	hypothetical protein	0.78	0.98	1.43	N
2.22	4.76	3	gil145243026	hypothetical protein	0.82	1.11	6.28	N
2.21	2.57	1	gil145253739	alcohol-dehydrogenase adhA from patent WO8704464-A-Aspergillus niger	1.65	0.92	0.91	N
2.15	1.37	1	gil145233637	hypothetical protein	1.86	0.62	1.15	N

2.14	2.94	1	gil145237310	hypothetical protein	0.99	1.33	1.94	N
2.13	0.59	1	gil145241161	hypothetical protein A	0.64	1.36	1.97	N
2.13	1.59	1	gil29890343	unnamed protein product; glucosamine--fructose-6-phosphate aminotrans	1.81	0.93	1.28	N
2.1	6.03	1	gil145246386	hypothetical protein ; acetyltransferase	1.76	0.76	0.90	N
2.1	4.23	1	gil145238408	hypothetical protein	2.89	1.23	1.12	N
2.1	10.24	2	gil145245049	hypothetical protein	3.20	0.82	1.65	N
2.09	8.05	1	gil145250389	hypothetical protein	5.92	1.16	2.74	N
2.06	1.21	1	gil145253284	hypothetical protein	1.95	1.12	1.55	Y
2.04	2.46	1	gil160851339	unnamed protein product ; FAD binding domain	1.15	0.67	0.73	Y
2.03	1.79	1	gil145250407	hypothetical protein	1.52	0.83	1.81	N
2.03	1.96	1	gil145254235	hypothetical protein ; lignostilbene dioxygenase;	0.45	1.32	1.19	N
2.02	5.53	1	gil145234999	hypothetical protein	2.89	0.69	0.84	Y
2.02	8.26	1	gil145239433	hypothetical protein	2.72	0.86	1.14	N
2.01	4.18	1	gil145237604	hypothetical protein	1.00	1.27	0.98	N
2.01	6.44	1	gil145239625	hypothetical protein	3.37	1.60	2.83	N
2.01	2.68	1	gil145233361	hypothetical protein	2.56	1.16	2.39	N
2.01	3.40	1	gil145248329	hypothetical protein; class II aldolase/adducin domain protein	2.23	0.82	0.75	N
2.01	3.06	1	gil145233017	hypothetical protein ; fructose-bisphosphate aldolase,	2.59	0.82	1.23	N
2	1.57	1	gil145248531	hypothetical protein	0.57	1.12	0.86	N
2	2.17	1	gil145239179	hypothetical protein	1.52	0.72	0.55	Y
2	8.67	1	gil145232619	hypothetical protein	1.19	0.71	1.22	N
2	5.17	1	gil4322946	cyclophilin-like peptidyl prolyl cis-trans isomerase	2.30	1.28	1.15	N
2	2.09	1	gil145239841	endoprotease	0.82	0.98	1.31	Y
2	6.08	1	gil145257603	hypothetical protein	4.76	0.71	0.58	N
2	4.66	1	gil145228697	hypothetical protein	2.92	0.57	0.67	N
2	11.11	1	gil145242650	hypothetical protein	0.94	0.64	1.58	N
2	3.65	1	gil145239657	hypothetical protein; 1,3-beta-	2.82	0.72	0.55	Y

				glucanosyltransferase Bgt1; hypothetical protein; GPI anchored protein, putative				
2	2.79	1	gil145239457		1.76	0.95	0.91	Y
2	5.66	1	gil145228723	hypothetical protein	1.98	0.83	1.24	N
2	3.31	1	gil145232597	hypothetical protein; urate oxydase UaZ;	1.78	0.74	1.77	N
2	8.89	1	gil145255413	hypothetical protein	2.75	1.12	1.70	N
2	6.52	3	gil145248938	hypothetical protein ;cell wall protein PhiA;	3.23	0.93	1.82	Y
2	8.06	1	gil145233137	hypothetical protein	1.92	1.25	1.88	N
2	11.24	1	gil145230361	hypothetical protein	4.55	0.83	0.99	N
2	8.57	1	gil145232177	hypothetical protein	0.16	1.28	2.84	Y

\*WT5: wild strain pH 5.0; WT4: wild strain pH 4.0; D15: Mutant pH 5.0; D15 : mutant pH 6.0