

**Additional file 7: Table S4. Eleven candidates with putative biological function in the first screening of transcription factors**

Gene ID	BlastP function analysis	Candidate transcription factors of cellulase gene expression	Nucleoside mutation	Amino acid mutation	SNVs position	FPKM in HP7-1	FPKM in EU2106	Log <sub>2</sub> (EU2106/HP7-1)	Regulation in EU2106	Probability
POX00301	glutamine synthase	No	G->A	-	1500_up	286.52	1135.43	1.98653	Up	0.87933796
POX06751	putative alpha-glucosidase	No	G<->A	V<->I	CDS	185.063	27.3333	-2.7593	Down	0.882434597
POX06820	Glycosyl phosphatidyl inositol (GPI) anchored serine-rich protein	No	G->T	-	1500_up	7952.22	1535.89	-2.3723	Down	0.903897491
POX07291	putative mitochondrial phosphate transporter Pic2	Yes <sup>a</sup>	G->A	-	200_down	83.6433	759.52	3.18277	Up	0.920181527
POX09827	hypothetical protein (only 35 amino acids)	No	C->G	-	1500_up	39.5267	162.437	2.03898	Up	0.847962271
POX01960	Known transcription factor ClrB ortholog of cellulase gene expression	Yes	G<->A	S<->N	CDS	NA	NA	NA	NA	NA
POX03199	CCR4-Not complex component, Not1	No <sup>b</sup>	G<->A	R<->H	CDS	NA	NA	NA	NA	NA
POX08522	Forkhead transcription factor	Yes <sup>c</sup>	C<->T	H<->Y	CDS	NA	NA	NA	NA	NA
POX02484	GAL4-like Zn <sub>2</sub> Cys <sub>6</sub> binuclear cluster DNA binding domain and Fungal_Trans_2	Yes <sup>d</sup>	-	-	-	99.75	28.3433	-1.8153	Down	0.810375512
POX03873	GAL4-like Zn <sub>2</sub> Cys <sub>6</sub> binuclear cluster DNA binding domain	No <sup>d</sup>	-	-	-	161.82	44.4467	-1.8642	Down	0.836803702
POX07938	GAL4-like Zn <sub>2</sub> Cys <sub>6</sub> binuclear cluster DNA binding domain	No <sup>d</sup>	-	-	-	13.6367	201.973	3.8886	Up	0.90560598

1500\_up, 1500-bp upstream of start codon ATG; 200\_down, 200-bp downstream of stop codon TAA, TGA or TAG; CDS, coding DNA sequence; CAZy, Carbohydrate-Active Enzymes; CWDE, Plant cell wall degrading enzyme; NA, no .

<sup>a</sup> Mitochondrial phosphate transporter Pic is a mitochondrial solute carrier protein, delivering phosphate, a key substrate of oxidative phosphorylation<sup>1</sup>.

<sup>b</sup> Not1, CCR4-Not complex component, is essential for yeast viability as a member of CCR4-Not complex by regulating transcription expression of the interrelated genes<sup>2</sup>.

<sup>c</sup> The forkhead box binding nucleosomal DNA, participates a wide variety of cellular processes including cell cycle regulation, cell death control, pre-mRNA processing and

morphogenesis in yeast and filamentous fungi, as well as in mammals<sup>3</sup>.

<sup>d</sup> Generally, the important transcription factors contains two domains GAL4-like Zn<sub>2</sub>Cys<sub>6</sub> binuclear cluster DNA binding domain and Fungal\_Trans\_2/Fungal\_TF\_MHR. The Fungal\_Trans\_2/Fungal\_TF\_MHR domain is required for the protein function<sup>4</sup>.

**Reference:**

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2. Maillet, L. & Collart, M. A. Interaction between Not1p, a component of the Ccr4-Not complex, a global regulator of transcription, and Dhh1p, a putative RNA helicase. *J. Biol. Chem.* 277, 2835-2842 (2002).
3. Murakami, H., Aiba, H., Nakanishi, M. & Tonami, Y.M. Regulation of yeast forkhead transcription factors and FoxM1 by cyclin-dependent and polo-like kinases. *Cell Cycle* 9, 3253-3262 (2010).
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