

**Supplementary Table 8 *A. niger* proteins involved in cell wall biosynthesis**

<b>Gene</b>	<b>Beta-1,3-glucan synthesis and processing</b>	<b>Protein<sup>1</sup></b>
<b>Gas-family</b>		
An02g03070	Predicted GPI-anchored protein. Putative 1,3-beta-glucanosyltransferase GH72; <i>A. fumigatus</i> Gel3-like	GelC
An09g00670	Predicted GPI-anchored protein. Putative 1,3-beta-glucanosyltransferase GH72; member of the Gel-family	GelD
An03g06220	Predicted GPI-anchored protein. Putative 1,3-beta-glucanosyltransferase GH72; member of the Gel-family	GelE
An16g06120	Predicted GPI-anchored protein. Putative 1,3-beta-glucanosyltransferase GH72; member of the Gel-family	GelF
An10g00400	Predicted GPI-anchored protein. Putative 1,3-beta-glucanosyltransferase GH72; <i>A. fumigatus</i> Gel1-like	GelA
An08g07350	Predicted GPI-anchored protein. Putative 1,3-beta-glucanosyltransferase GH72; <i>A. fumigatus</i> Gel2-like	GelB
An02g09050	Predicted GPI-anchored protein. Putative 1,3-beta-glucanosyltransferase GH72; member of the Gel-family	GelG
<b>Bgl-family</b>		
An08g03580	Putative beta-1,3-glucanosyltransferase GH17; <i>A. fumigatus</i> Bgt1-like	BgtA
An03g05290	Predicted GPI-anchored protein. Putative beta-1,3-glucanosyltransferase GH17; member of the AfBgt1-family	BgtB
An07g04650	Putative beta-1,3-glucanosyltransferase GH17; member of the AfBgt1-family	BgtC
An06g01530	Putative beta-1,3-glucanosyltransferase GH17; member of the AfBgt1-family	BgtD
An16g07040	Putative beta-1,3-glucanosyltransferase GH17; member of the AfBgt1-family	BgtE
<b>Crh1-family</b>		
An11g01540	Putative transglycosidase of GH16-family involved in cell wall biosynthesis; ScCrh1-like	CrhA
An01g11010	Predicted GPI-anchored protein. Putative transglycosidase of GH16-family involved in cell wall biosynthesis; member of the ScCrh1-family	CrhD
An13g02510	Predicted GPI-anchored protein. Putative transglycosidase of GH16-family involved in cell wall biosynthesis; member of the ScCrh1-family	CrhE
An16g02850	Putative transglycosidase of GH16-family involved in cell wall biosynthesis; member of the ScCrh1-family	CrhF
An15g05350	Putative transglycosidase of GH16-family involved in cell wall biosynthesis; member of the ScCrh1-family	CrhG
An07g07530	Predicted GPI-anchored protein. Putative transglycosidase of GH16-family involved in cell wall biosynthesis; ScCrh2-like	CrhB
An07g01160	Predicted GPI-anchored protein. Putative transglycosidase of GH16-family involved in cell wall biosynthesis; member of the ScCrh1-family	CrhC
An01g03090	Predicted GPI-anchored protein. Putative endo-beta-1,3-glucanase GH81-family; ScEng1-like	EngA
An18g04100	Putative exo-beta-1,3-glucanase (GH5-family); ScExg1-like	ExgA
An11g07660	Putative exo-beta-1,3-glucanase (GH5-family); member of the ScExg1-family	ExgB
An08g01100	Putative exo-beta-1,3-glucanase (GH5-family); member of the ScExg1-family	ExgC
An06g02060	Putative exo-beta-1,3-glucanase (GH5-family); member of the ScExg1-family	ExgD
An01g12450	Putative exo-beta-1,3-glucanase (GH55-family); related to <i>Coniothyrium minitans</i> exo-1,3-glucanase (Cmg1)	BxgA

An02g13180	Putative exo-beta-1,3-glucanase (GH55-family); related to Coniothyrium minitans exo-1,3-glucanase (Cmg1)	BgxB
An19g00090	Putative exo-beta-1,3-glucanase (GH55-family); related to Coniothyrium minitans exo-1,3-glucanase (Cmg1)	BgxC
<b>Others</b>		
An06g01550	Putative catalytic subunit beta1,3-glucan synthase complex; ScFks1-like	FksA*
An18g05980	Putative Rho-related GTPase; ScRho1-like	RhoA
An14g00800	Putative regulatory component beta1,3-glucan synthesis; ScHkr1-like	HkrA
An17g02120	Putative regulatory component beta1,3-glucan synthesis; ScKnr4-like	KnrA
<b>Alpha-1,3-glucan synthesis and processing</b>		
<b>Ags-family</b>		
An04g09890	Putative catalytic subunit alpha1,3-glucan synthase complex; SpAgs1-like	AgsA*
An02g03260	Putative catalytic subunit alpha1,3-glucan synthase complex; SpAgs1-like	AgsD*
An09g03070	Putative catalytic subunit alpha1,3-glucan synthase complex; SpAgs1-like	AgsE*
An12g02450	Putative catalytic subunit alpha1,3-glucan synthase complex; SpAgs1-like	AgsC*
An15g07810	Putative catalytic subunit alpha1,3-glucan synthase complex; SpAgs1-like	AgsB*
An16g04200	Putative Rho-related GTPase; ScRho2-like and SpRho2-like	RhoB
<b>Agt-family</b>		
An12g02460	Putative GPI-anchored amylase-like protein (GH13-family) with possible function in alpha1,3-1,4-glucan processing	agtB
An15g07800	Putative GPI-anchored amylase-like protein (GH13-family) with possible function in alpha1,3-1,4-glucan processing	agtC
An09g03100	Putative GPI-anchored amylase-like protein (GH13-family) with possible function in alpha1,3-1,4-glucan processing	agtA
<b>Agn-family</b>		
An06g00510	Putative alpha-1,3-glucanase GH71; SpAgn1-like	AgnA
An07g08640	Predicted GPI-anchored protein. Putative alpha-1,3-glucanase GH71; member of the SpAgn1-family	AgnB
An09g06260	Putative alpha-1,3-glucanase GH71; member of the SpAgn1-family	AgnC
An08g09610	Putative alpha-1,3-glucanase GH71; member of the SpAgn1-family	AgnD
An15g04760	Putative alpha-1,3-glucanase GH71; member of the SpAgn1-family	AgnE
An12g01800	Putative alpha-1,3-glucanase GH71; member of the SpAgn1-family	AgnF
An06g00810	Putative alpha-1,3-glucanase GH71; member of the SpAgn1-family	AgnG
<b>Chitin synthesis and processing</b>		
<b>Chitin synthases</b>		

An02g02360	Putative chitin synthase with a myosin motor domain ClassV; EnCsmA-like	CsmA
An02g02340	Putative chitin synthase with a myosin motor domain ClassV; EnCsmA-like	CsmB
An09g02290	Putative chitin synthase ClassIV; EnChsD-like	ChsD
An09g04010	Putative chitin synthase ClassIII; EnChsB-like	ChsB
An12g10380	Putative chitin synthase ClassIII; EnChsB-like	ChsE
An08g05290	Putative chitin synthase ClassVI;	ChsG
An03g06360	Putative chitin synthase ClassIII; EnChsB-like	ChsF
An14g00660	Putative chitin synthase ClassI; EnChsC-like	ChsC
An07g05570	Putative chitin synthase ClassII; EnChsA-like	ChsA
<b>Chitinases</b>		
An09g06400	Predicted GPI-anchored protein. Putative ClassIII Chitinase (GH18); ScCts1-like	CtcA
An09g05920	Putative ClassIII Chitinase (GH18); ScCts1-like	CtcB
An02g07020	Putative ClassV Chitinase (GH18); ScCts2-like	CfcA
An08g09030	Putative ClassV Chitinase (GH18); ScCts2-like	CfcB
An04g04670	Putative ClassV Chitinase (GH18); ScCts2-like	CfcC
An01g05360	Putative ClassV Chitinase (GH18); ScCts2-like	CfcD
An15g00840	Putative ClassV Chitinase (GH18); ScCts2-like	CfcE
An11g01160	Putative ClassV Chitinase (GH18); ScCts2-like	CfcF
An19g00100	Putative ClassV Chitinase (GH18); ScCts2-like	CfcG
An14g07420	Putative ClassV Chitinase (GH18); ScCts2-like	CfcH
An02g13580	Putative ClassV Chitinase (GH18); ScCts2-like	CfcI
An11g05860	Putative ClassV Chitinase (GH18); ScCts2-like	CfcJ
An12g05330	Putative ClassV Chitinase (GH18); ScCts2-like	CfcK
<b>Beta-1,6-glucan synthesis and processing</b>		
An02g03980	Putative transglycosidase required for beta-1,6 glucan biosynthesis; ScKre6-like	KslA
An05g00130	Putative glycoprotein required for beta-1,6 glucan biosynthesis; ScKre9-like	Kn1A
An07g01540	Putative protein involved in beta-1,6 glucan biosynthesis; ScRot1-like	RotA
<b>Other enzymes with a putative function in cell wall biosynthesis</b>		
<b>Dfg-family</b>		
An18g01410	Putative endo-mannanase (GH76-family) with a possible role in GPI-CWP incorporation; ScDfg5-like	DfgA
An03g00740	Predicted GPI-anchored protein. Putative endo-mannanase (GH76-family) with a possible role in GPI-CWP incorporation; ScDfg5-like	DfgB
An14g03520	Predicted GPI-anchored protein. Putative endo-mannanase (GH76-family) with a possible role in GPI-CWP incorporation; ScDfg5-like	DfgC
An01g06500	Predicted GPI-anchored protein. Putative endo-mannanase (GH76-family) with a possible role in GPI-CWP	DfgD

	incorporation; ScDfg5-like	
An16g08090	Predicted GPI-anchored protein. Putative endo-mannanase (GH76-family) with a possible role in GPI-CWP incorporation; ScDfg5-like	DfgE
An06g00360	Predicted GPI-anchored protein. Putative endo-mannanase (GH76-family) with a possible role in GPI-CWP incorporation; ScDfg5-like	DfgF
An02g02660	Putative endo-mannanase (GH76-family) with a possible role in GPI-CWP incorporation; ScDfg5-like	DfgG
An11g01240	Putative endo-mannanase (GH76-family) with a possible role in GPI-CWP incorporation; ScDfg5-like	DfgH
An12g05930	Putative endo-mannanase (GH76-family) with a possible role in GPI-CWP incorporation; ScDfg5-like	DfgI
An04g01230	Predicted GPI-anchored protein. Putative enzyme involved in cell wall biosynthesis with unknown function; ScEcm33-like	EcmA
	<b><i>Aspergillus niger</i> proteins involved in cell wall integrity pathway.</b>	
	<b>WSC-family</b>	
An01g09460	Putative plasma membrane sensor-transducer of the stress-activated PKC1-MPK1 kinase pathway involved in maintenance of cell wall integrity; ScWsc1-like	WscA
An07g04070	Putative plasma membrane sensor-transducer of the stress-activated PKC1-MPK1 kinase pathway involved in maintenance of cell wall integrity; ScWsc1-like	WscB
	<b>Mtl-family</b>	
An02g06660	Putative plasma membrane sensor required for cell wall integrity signalling; ScMtl1like	MtlA
An04g10140	Putative plasma membrane sensor required for cell wall integrity signalling; ScMtl1like	MtlB
	<b>Rho-GEFs</b>	
An07g05090	Putative Rho1-Guanine Exchange Factor involved in CWI signalling with strong similarity to ScRom1	RefA
An15g02900	Putative Rho1-Guanine Exchange Factor with similarity to ScRom1	RefB
An04g05150	Putative Cdc42-Guanine Exchange Factor with strong similarity to ScCdc24	CefA
An08g10040	Putative Cdc42-Guanine Exchange Factor with weak similarity to ScCdc24	CefB
	<b>Rho-GAPs</b>	
An10g00490	Putative Rho1-GTPase Activating protein (GAP) involved in CWI signaling and actin organization with similarity to ScSag7	RapA
An11g10060	Putative Rho1-GTPase Activating protein (GAP) involved in CWI signaling with similarity to ScBem2	RapB
An15g03040	Putative Rho1-GTPase Activating protein (GAP) involved in beta1,3-glucan synthesis with strong similarity to ScLrg1	RapC
An13g01020	Putative Rho1-GTPase Activating protein (GAP) with weak similarity to ScBem2	RapD
An13g00850	Putative Rho1-GTPase Activating protein (GAP) with strong similarity to ScRgd2	RapE
An08g05440	Putative Cdc42-GTPase Activating protein (GAP) with similarity to ScRga1	CapA
An18g06730	Putative Cdc42-GTPase Activating protein (GAP) with similarity to ScBem3p	CapB
	<b>Rho-related GTPases</b>	
An18g05980	Putative Rho-related GTPase; ScRho1-like	RhoA

An16g04200	Putative Rho-related GTPase; ScRho2-like and SpRho2-like	RhoB
An14g05530	Putative Rho-related GTPase; ScRho4-like	RhoD
An02g14200	Putative Rho-related GTPase; ScCdc42-like	CftA*
An11g10030	Putative Rho-related GTPase; HsRac1-like	RacA*
An11g09620	Putative Rho-related GTPase; ScRho3-like	RhoC
An18g02400	Protein kinase C with putative function in CWI signaling	PkcA*
<b>MAPKKKs</b>		
An02g06830	MAPKKK with putative function in CWI signalling Bck1; ScBck-like	BckA
An17g01280	MAPKKK with putative function in Pheromone response/pseudohyphal growth pathway; ScSte11-like	SteK
An08g03240	MAPKKK with putative function in High Osmolarity stress pathway; ScSsk2-like	SskB
<b>MAPKKs</b>		
An18g03740	MAPKK with putative function in CWI signalling; ScMkk1-like	MkkA
An11g10690	MAPKK with putative function in Pheromone response/pseudohyphal growth pathway; ScSte7-like	SteG
An01g11080	MAPKK with putative function in High Osmolarity stress pathway; ScPbs2-like	PbsB
<b>MAPKs</b>		
An01g09520	MAPK with putative function in CWI signalling; ScMpk-like	MpkA*
An08g10670	MAPK with putative function in Pheromone response/pseudohyphal growth pathway; ScFus3-like	FusC*
An07g03980	MAPK with putative function in High Osmolarity stress pathway; ScHog1-like	HogA
An08g05850	MAPK with putative function in High Osmolarity stress pathway; ScHog1-like	HogB
An18g05270	MAPK with putative function in High Osmolarity stress pathway; ScHog1-like	HogC
<b>MADS-BOX transcription factors</b>		
An02g12210	MADS-box transcription factor involved in CWI-signalling; ScRImA	RImA*
An12g08730	MADS-box transcription factor similar to ScMcm1	McmA
<b>Predicted hydrophobins in the genome of <i>A. niger</i></b>		
		hypA
An01g10940	Putative hydrophobin;	hypB
An03g02360	Putative hydrophobin; sim. dewA hydrophobin	hypC
An03g02400	Putative hydrophobin; sim. dewA hydrophobin	hypD
An04g08500	Putative hydrophobin; sim. rodA hydrophobin	hypE
An07g03340	Putative hydrophobin; sim. hyp1 hydrophobin ( <i>A. fumigatus</i> )	hypF
An15g03800	Putative hydrophobin; similar to <i>A. niger</i> EST an_3228	hypG
An09g05530	Putative hydrophobin;	hypH

\* Proposed protein abbreviation; those with asterisk were published before.