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Characterization of a new beta(1-3)-glucan branching activity of Aspergillus fumigatus

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Titre	Characterization of a new beta(1-3)-glucan branching activity of Aspergillus fumigatus
Type de publication	Article de revue
Auteur	Gastebois, Amandine [1], Mouyna, Isabelle [2], Simenel, Catherine [3], Clavaud, Cécile [4], Coddeville, Bernadette [5], Delepierre, Muriel [6], Latgé, Jean-Paul [7], Fontaine, Thierry [8]
Pays	Etats-Unis
Editeur	American Society for Biochemistry and Molecular Biology
Ville	Washington
Type	Article scientifique dans une revue à comité de lecture
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Résumé en anglais	A new HPLC method was developed to separate linear from β(1–6)-branched β(1–3)-glucooligosaccharides. This methodology has permitted the isolation of the first fungal β(1–6)/β(1–3)-glucan branching transglycosidase using a cell wall autolysate of *Aspergillus fumigatus* (Af). The encoding gene, AfBGT2 is an ortholog of AfBGT1, another transglycosidase of *A. fumigatus* previously analyzed (Mouyna, I., Hartland, R. P., Fontaine, T., Diaquin, M., Simenel, C., Delepierre, M., Henrissat, B., and Latgé, J. P. (1998) Microbiology 144, 3171–3180). Both enzymes release laminaribiose from the reducing end of a β(1–3)-linked oligosaccharide and transfer the remaining chain to another molecule of the original substrate. The AfBgt1p transfer occurs at C-6 of the non-reducing end group of the acceptor, creating a kinked β(1–3;1–6) linear molecule. The AfBgt2p transfer takes place at the C-6 of an internal group of the acceptor, resulting in a β(1–3)-linked product with a β(1–6)-linked side branch. The single *Afbgt2* mutant and the double *Afbgt1/Afbgt2* mutant in *A. fumigatus* did not display any cell wall phenotype showing that these activities were not responsible for the construction of the branched β(1–3)-glucans of the cell wall.

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