

Table S1. *A. fumigatus* strains used in this study.

Strains	Deleted genes	references
KU80 Δ pyrG	Parental strain	[13]
Δ ugm1	AFUA_4G12690	[30]
Δ och1-4 (GT32 family)	AFUA_8G02040 AFUA_6G14040 AFUA_1G01380 AFUA_5G08580	[31]
Δ GT62	MNN9 AFUA_2G01450 ANP1 AFUA_4G06870 VAN1 AFUA_2G15910	[12]
Δ gell-2 (GH-72)	GEL1 AFUA_2G01170 GEL2 AFUA_6G11390	[51]
Δ ExoG (sextuple GH-55)	EXG5 AFUA_6G11980 EXG6 AFUA_6G13270 EXG7 AFUA_3G07520 EXG8 AFUA_1G14450 EXG9 AFUA_2G00430 EXG10 AFUA_4G03350	[48]
Δ EndoG	ENG1 AFUA_1G04260 (GH81) ENG2 AFUA_2G14360 (GH16) ENG3 AFUA_1G05290 (GH16) ENG4 AFUA_5G02280 (GH16) ENG5 AFUA_4G13360 (GH16)	[39]
Δ EndoG/ Δ ExoG	EXG5 AFUA_6G11980 EXG6 AFUA_6G13270 EXG7 AFUA_3G07520 EXG8 AFUA_1G14450 EXG9 AFUA_2G00430 EXG10 AFUA_4G03350 ENG1 AFUA_1G04260 ENG2 AFUA_2G14360 ENG3 AFUA_1G05290 ENG4 AFUA_5G02280 ENG5 AFUA_4G13360	[48]
Δ 5-GH17	BGT1 AFUA_1G11460 BGT2 AFUA_3G00270 BGT3 AFUA_5G08780 SCW4 AFUA_6G12380 SCW11 AFUA_8G05610	[47]

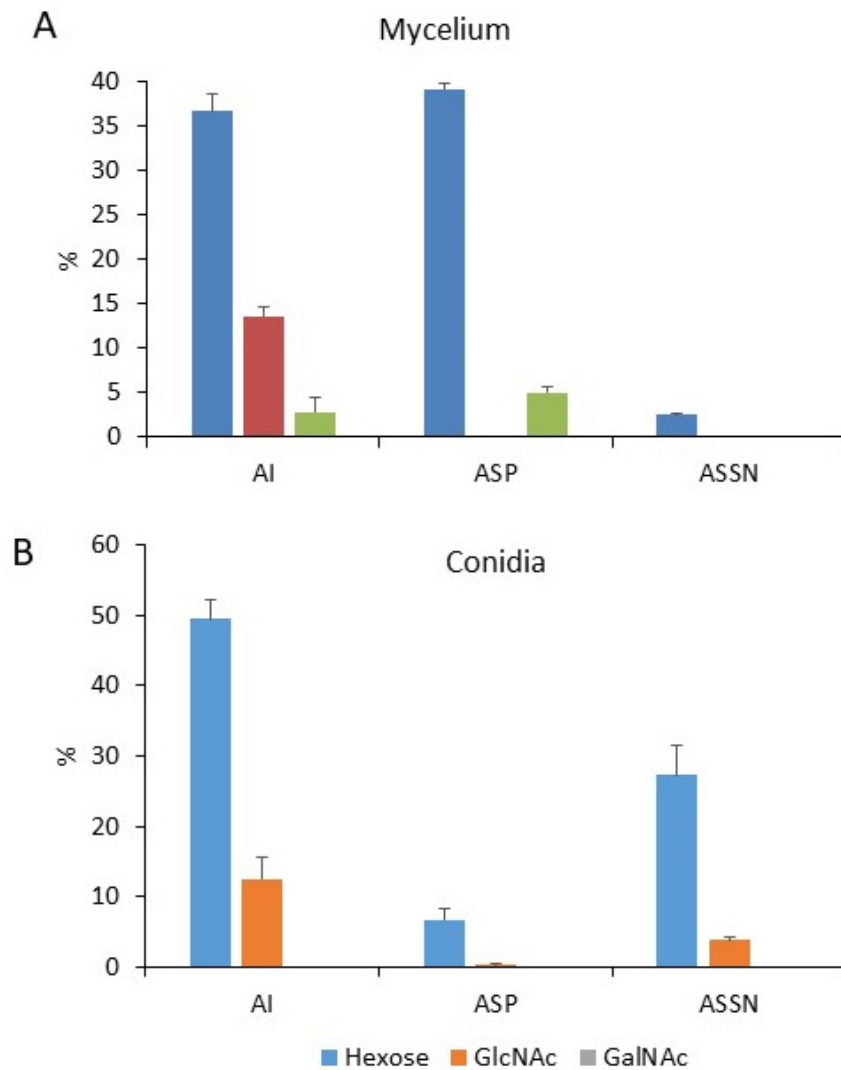


Figure S1. Sugar analysis of cell wall fractions of mycelium and conidia from *Δku80 A. fumigatus* parental strain, grown on solid malt medium. A, composition of mycelium cell wall; B, composition of conidia cell wall. The composition is expressed in % of total cell wall sugar. Analyses were performed on three independent biological replicates.

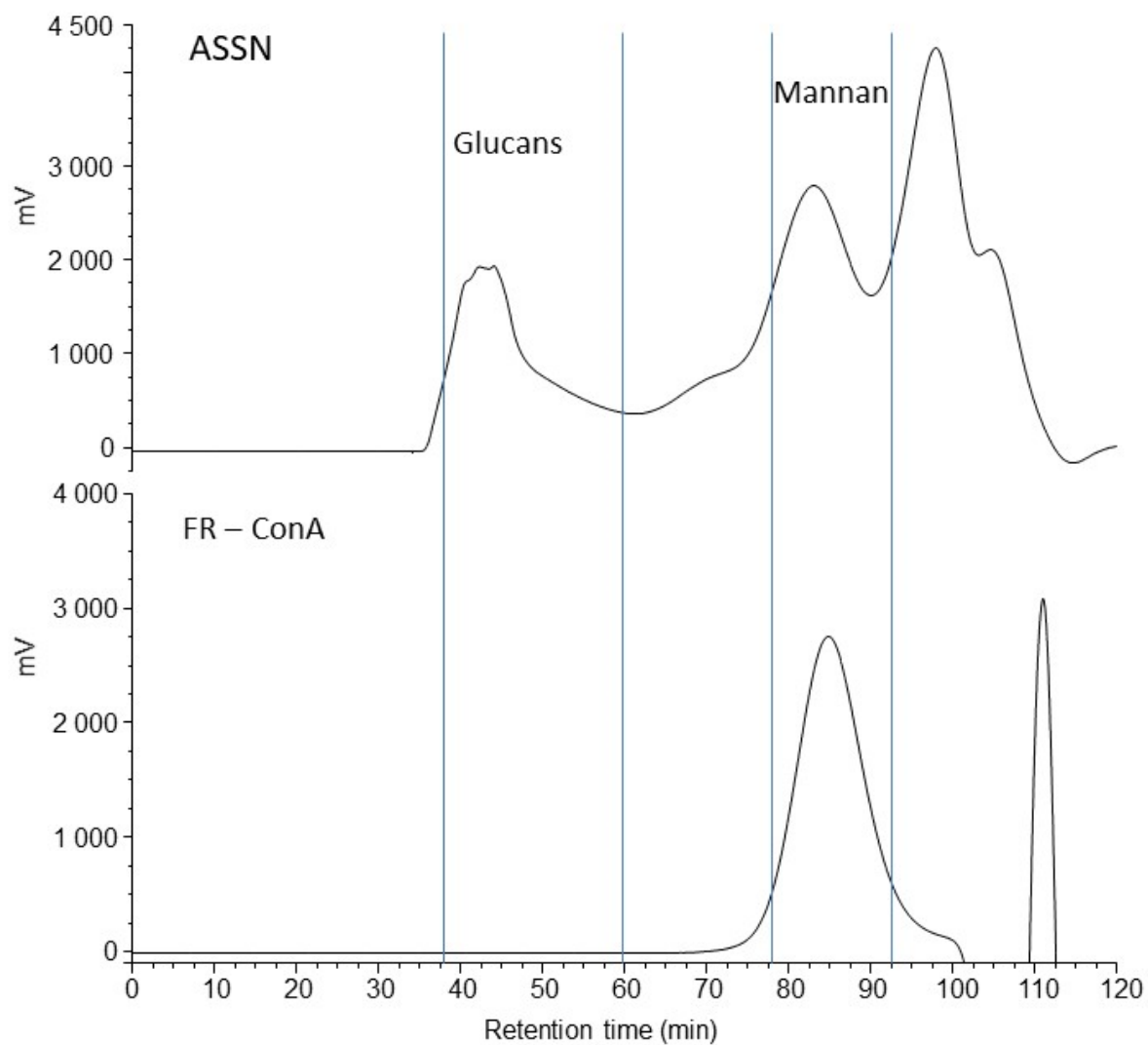


Figure S3. Gel filtration chromatography on Superdex S200 of total ASSN fraction from the *ugm1* mutant (ASSN) and the corresponding Concanavalin-A bound fraction (FR-ConA). None of the fractions was submitted to laminarinase digestion.

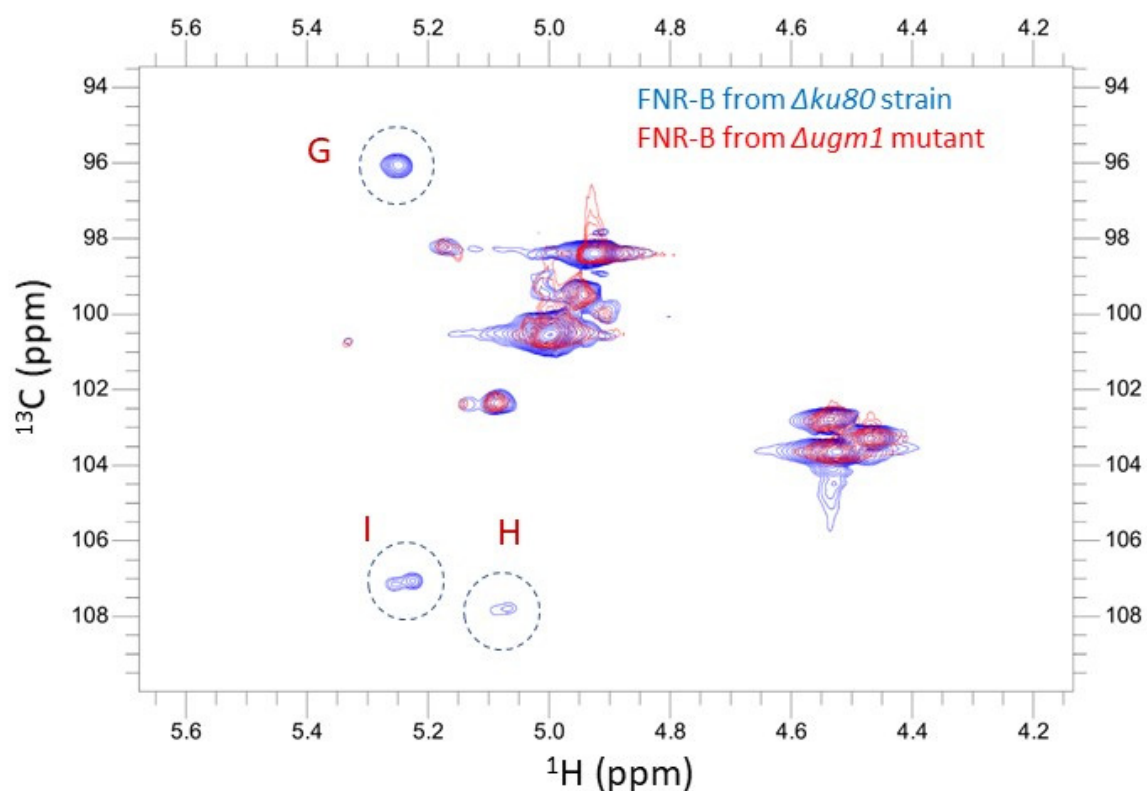


Figure S4. Comparison of the ^1H ^{13}C -HSQC anomeric region of FNR-B fractions extracted from the $\Delta ku80$ parental strain (blue) and the $\Delta ugm1$ mutant (red). The mannan extracted from the $\Delta ugm1$ mutant lacks galactofuranose residues H and I (5-5.3 ppm ^1H ; 107-108 ppm ^{13}C) and an unidentified residue (G, 5.25 ppm ^1H ; 96.1 ppm ^{13}C) indicated by dashed blue circles. Quantification of galactofuranose based on the integration of anomeric signals: 2.5% of total galactose residues and no covalent linkage with G3Man has been identified.

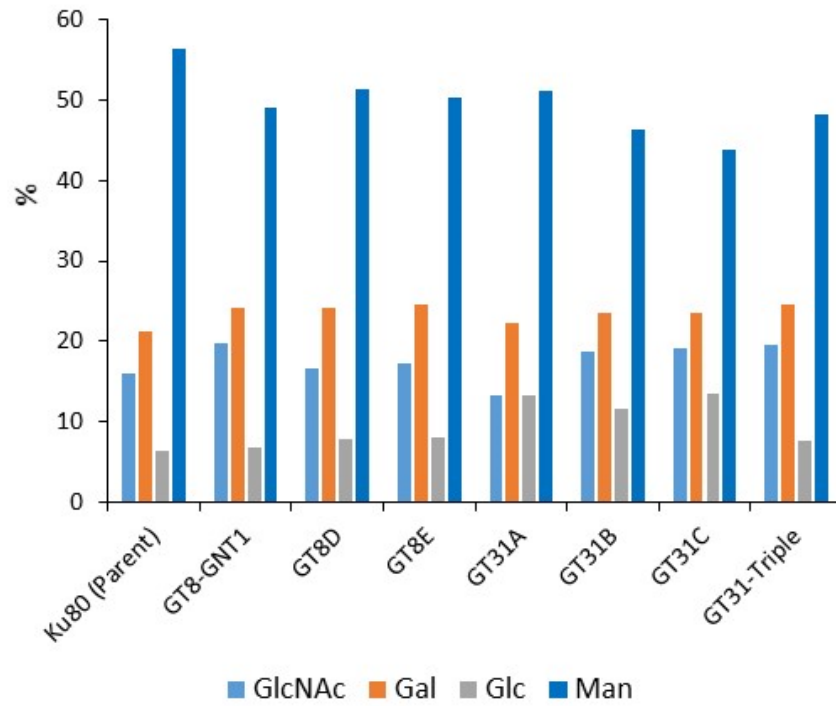


Figure S5. Monosaccharide composition of the FNR fractions isolated from *A. fumigatus* glycosyltransferase mutants conidia ASSN. Single mutants: GT8-GNT1, AFUA_8G02690; GT8D: AFUA_8G01730; GT8E: AFUA_5G09070; GT31A: AFUA_2G17320; GT31B: AFUA_6G00520; GT31C: AFUA_3G07220; GT31-Triple: triple mutant Δ gt31A/ Δ gt31B/ Δ gt31C.