

Fontaine T, Delangle A, Simenel C, Coddeville B, van Vliet SJ, van Kooyk Y, Bozza S, Moretti S, Schwarz F, Trichot C, Aebi M, Delepierre M, Elbim C, Romani L and Latgé JP. (2011). Galactosaminogalactan, a new immunosuppressive polysaccharide of *Aspergillus fumigatus*. *PloS Pathogen*. 7:e1002372.

A new polysaccharide secreted by the human opportunistic fungal pathogen *Aspergillus fumigatus* has been characterized.

Carbohydrate analysis using specific chemical degradations, mass spectrometry, <sup>1</sup>H and <sup>13</sup>C nuclear magnetic resonance showed that this polysaccharide is a linear heterogeneous galactosaminogalactan composed of α1-4 linked galactose and α1-4 linked N-acetylgalactosamine residues where both monosaccharides are randomly distributed and where the percentage of galactose per chain varied from 15 to 60%. This polysaccharide is antigenic and is recognized by a majority of the human population irrespectively of the occurrence of an *Aspergillus* infection. GalNAc oligosaccharides are an essential epitope of the galactosaminogalactan that explains the universal antibody reaction due to cross reactivity with other antigenic molecules containing GalNAc stretches such as the N-glycans of *Campylobacter jejuni*. The galactosaminogalactan has no protective effect during *Aspergillus* infections. Most importantly, the polysaccharide promotes fungal development in immunocompetent mice due to its immunosuppressive activity associated with diminished neutrophil infiltrates.