

Ludger Product Name ¹	Oxford Notation Name ²	Short name used with IgG glycans ³	Oxford Notation	CFG	Text
M3N2	M3	Man3			
Man5	M5	Man5			
Man6	M6	Man6			
Man7	M7	Man7			
Man8	M8	Man8			
Man9	M9	Man9			
NGA2	A2	G0			
A2G1	A2[3]G1	G1			
A2G1	A2[6]G1	G1			
NA2	A2G2	G2			
A1	A2G2S1	G2S1			
A2	A2G2S2	G2S2			
NGA2F	FA2	G0F			
FA2G1	FA2[3]G1	G1F			
FA2G1	FA2[6]G1	G1F			
NA2F	FA2G2	G2F			
A1F	FA2G2S1	G2FS1			
A2F	FA2G2S2	G2FS2			
A3	A3G3S3				
NA3	A3G3				
NGA3	A3				
NA4	A4G4				
NGA4	A4				

1- Most of the Ludger product names use a nomenclature system that focuses on the number of sialic acid residues present. *This nomenclature system is limited and is only able to describe a few simple glycans. Hence the Oxford notation is now used for the newer Ludger product names.*

2- The Oxford notation is based on building up N-glycan structures. *Therefore it can be used to denote very complex glycans.*

All N-glycans have two core GlcNAcs; F at the start of the abbreviation indicates a core fucose; Mx, number (x) of mannose on core GlcNAcs; Ax, number of antenna (GlcNAc) on trimannosyl core; A2, biantennary with both GlcNAcs as alpha1-2 linked; Gx, number (x) of linked galactose on antenna; [3]G1 and [6]G1 indicates that the galactose is on the antenna of the alpha1-3 or alpha1-6 mannose; Sx, number (x) of sialic acids linked to galactose.

The Oxford notation can be used for bisecting GlcNAcs, tri- and tetra-antennary glycans, further substitutions such as fucose, sulphation, phosphorylation, GalNAcs etc. Numbers are also used to indicate linkages where known (e.g. F(6)A2G(4)2S(6)2 is a biantennary glycan with a core fucose in an alpha 6 linkage, the two galactoses are beta 1-4 linked, and the sialic acids are alpha 2-6 linked).

For the Ludger standards shown here, the majority of galactoses are beta 1-4 linked (except for the A3G3 glycan); all the sialic acids are alpha 2-6 linked (except for the A3G3S3 glycan which has a mixture of alpha 2-6 and 2-3 links).

3- This naming system, typically associated with IgG glycans, is primarily for indicating the presence of core fucose, and the number of galactoses that are present on biantennary glycans.

This system is also limited in the number of structures it is able to describe and it gets complicated when the structure is no longer a biantennary glycan (i.e. has only one GlcNAc antenna (-GN)).