Glycosyltransferase Inhibitors

BIOSYNTH® Carbosynth

Protein glycosylation is a post-translational modification involved in protein folding and stability, signalling, immune system, carbohydrate antigen production and cell differentiation. In mammalian systems, the biosynthesis of N-glycans involves a complex network of enzymes in the endoplasmatic reticulum and Golgi apparatus. As a result, N-glycoproteins are usually produced as mixtures of different glycoforms.

Code	Product	Activity	Quantity	Price ($)
	Glycosyltransferase inhibitors			
MD06089	**2-Deoxy-2-fluoro-L-fucose**	Inhibitor of fucosyltransferases	5 mg	75.00
MT15919	**Peracetylated 2-fluoro 2-deoxy-L-fucose**	Inhibitor of fucosyltransferases; improved cell permeability	10 mg	70.00
MA45977	**5-Alkynyl-L-fucose**	Inhibitor of fucosyltransferases	1 mg	210.00
MT59558	**Peracetylated 5-alkynyl-L-fucose**	Inhibitor of fucosyltransferases; improved cell permeability	1 mg	175.00
MP153300	**P- 3F$_{Ax}$-Neu5Ac**	Inhibitor of silayltransferases	5 mg	125.00
MD71984	**2-Deoxy-2-fluoro-D-galactose**	Inhibitor of galactosyltransferase	10 mg	70.00
BN164083	**NGI1** NEW	Inhibitor of oligosaccharyltransferase	10 mg	95.00
MA02391	**4-F-GlcNAc**	Inhibitor of 4-epimerase; inhibitor of UDP-GlcNAc synthesis	5 mg	175.00

The control of protein glycosylation is of major importance for the structural and functional studies of glycoproteins. Glycan chains play a key role in the stability, activity, antigenicity and pharmacodynamics of biotherapeutics. Inhibitors of glycosyltransferases allow better control over the biosynthesis of well-defined homogeneous glycoforms in the production of recombinant glycoproteins and therapeutic monoclonal antibodies.

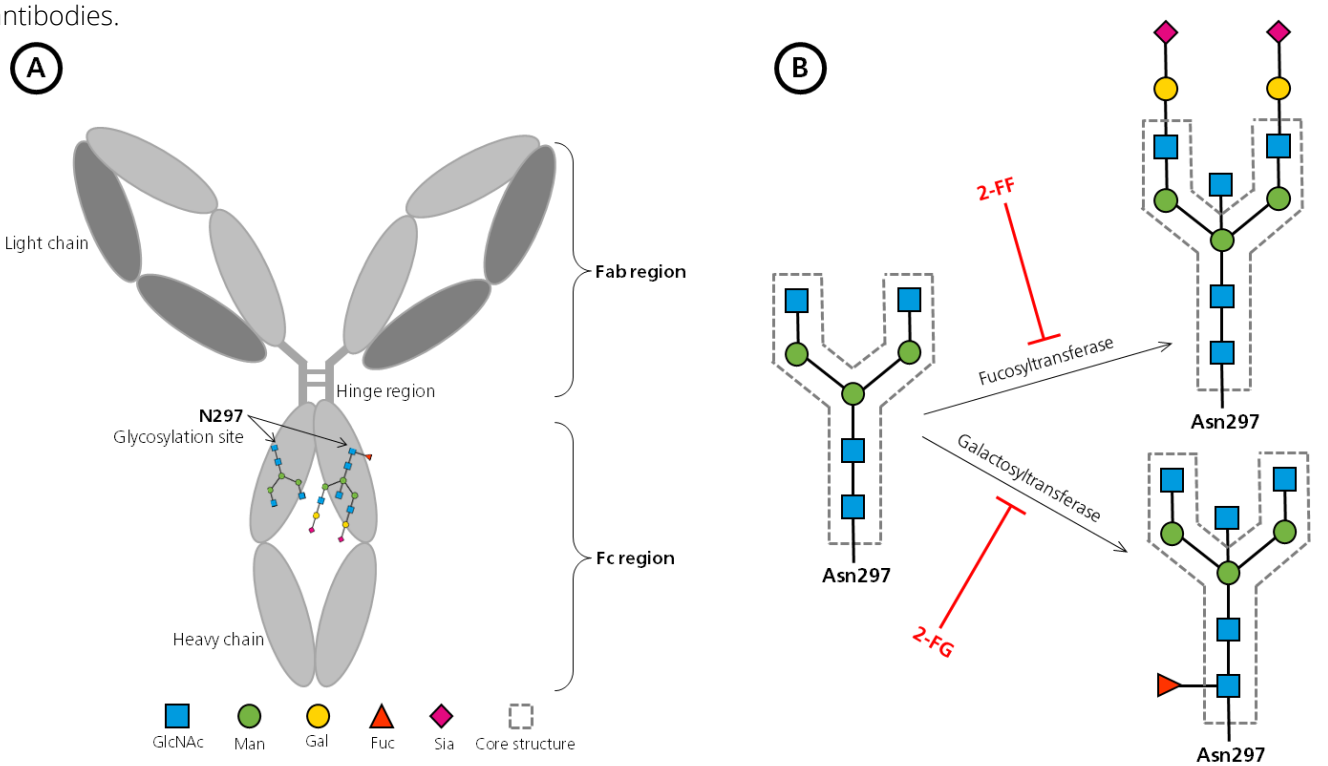

Figure 1. Antibody glycosylation. A) The image shows IgG antibody anatomy including the site for N-glycan attachment on the asparagine 297 on the heavy chain. B) Use of specific glycosyltransferase inhibitors allows to control the antibody glycoforms. The treatment of antibody-producing cell lines with 2-deoxy-2-fluoro-L-fucose (2-FF) leads to the production of afucosylated glycans, 2-deoxy-2-fluoro-D-galactose (2-FG) instead prevents galactose incorporation on the oligosaccharide.