News – May/June 2015

GX-mAb:
Glycosylation analysis of mAbs for clone and cell line selection

Ludger's **GX-mAb** service enables glycosylation analysis of multiple mAb samples to be achieved within a short timeframe. This is ideally suited for clone and cell line selection.

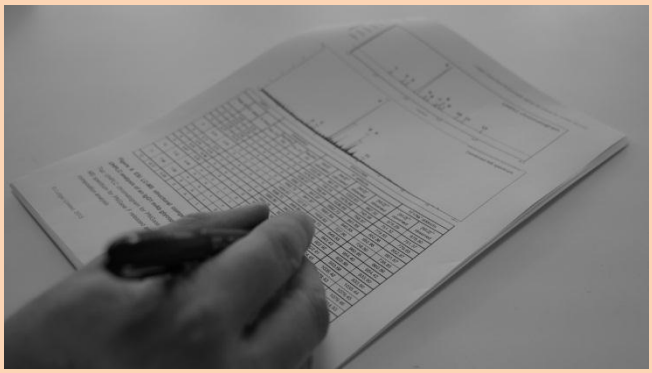
By obtaining meaningful results on structural glycosylation for each sample you can make decisions on which are the best candidates to take through the drug development cycle

How it works:
Send us your purified IgG samples and a formulation buffer control. We will tailor a work package to your needs. Options include 2AB labelling and UHPLC analysis, procainamide labelling with UHPLC and/or ESI-MS analysis. We will prepare a report with the following information for each sample:

1. GU values of all the glycan structures
2. relative % areas of all N-glycan peak areas
3. overall "gross" changes in the N-glycosylation profiles, including glycoform ratios (e.g. G0F, G1F, G2F)

Our validated sample preparation methods are repeatable and robust, with CVs typically <5% for peaks with an average relative % peak area>1.0%.

For more information on this service, please contact us: info@ludger.com



Publications

Pritchard LK, **Spencer DI**, **Royle L**, Vasiljevic S, Krumm SA, Doores KJ, Crispin M. **Glycan microheterogeneity at the PGT135 antibody recognition site on HIV-1 gp120 reveals a molecular mechanism for neutralization resistance.** J Virol. 2015 Apr 15. pii: JVI.00230-15. [Epub ahead of print]

Ventham NT, **Gardner RA**, Kennedy NA, **Shubhakar A,** Kalla R, Nimmo ER; IBD-BIOM Consortium, **Fernandes DL**, Satsangi J, **Spencer DI**. Changes to serum sample tube and processing methodology does not cause inter-individual variation in automated whole serum N-glycan profiling in health and disease. PLoS One. 2015 Apr 1;10(4):e0123028

van Diepen A, van der Plas AJ, **Kozak RP, Royle L**, Dunne DW, Hokke CH. Development of a Schistosoma mansoni shotgun O-glycan microarray and application to the discovery of new antigenic schistosome glycan motifs. Int J Parasitol. 2015 Mar 26. pii: S0020-7519(15)00055-7. doi: 10.1016/j.ijpara.2015.02.008. [Epub ahead of print]

Procainamide labelling and LC-MS

A repeatable and robust system for relative quantitation and identification of glycans

Compared to 2AB, procainamide labelling:

- Can be used for both (U)HPLC and MS
- Improves identification of very low abundance glycans
- Enhances MS ionization efficiency
- Allows MS/MS fragmentation for low abundance species
- Suitable for neutral and sialylated glycans

LC-MS of glycans labelled with procainamide (using the LudgerTag procainamide labelling kit, Cat # **LT-KPROC-24**) is a single system for relative quantitation and identification of glycans. It can be used for the following:

1. **Biopharmaceuticals e.g. EPO, IgG**
2. **Biological samples e.g. saliva**
3. **O glycan analysis**

The following procainamide labelled glycan standards can also be used during analysis:

FA2G1 glycan, procainamide labelled
Cat # **CPROC-FA2G1-01**

MAN5 glycan, procainamide labelled
Cat # **CPROC-MAN5-01**

IGG glycan, procainamide labelled
Cat# **CPROC-IGG-02**

Ceramide glycanase

Glycosphingolipids (GSLs) are the most abundant and diverse class of glycolipids in animals (and are also present in fungi, plants, and invertebrates). The large and diverse family of glycans present on GSLs have important roles in physiology and pathology. The ability to identify and measure GSLs is important for research in developmental neurobiology as well as lysosomal storage diseases such as Tay-Sachs and Gaucher's disease. There is also growing interest in GSLs as possible targets for immunotherapy. Ceramide glycanase is used to release the glycans from GSLs to enable their characterisation.

Ludger's ceramide glycanase (Cat # LZ-CER-HM-KIT) is purified from *Hirudo medicinalis* and cleaves glycans including GM1, GM2 and GM3.