



## News – July/August 2014

### Glycoprofiling Services

Did you know that you can make use of our Glycoprofiling services in a number of different ways? We can help you to choose the best methods for your needs. We have many years of expertise with analysing N- and O- glycans from glycoproteins including **mAbs, Fc Fusion proteins, EPO and other therapeutic glycoproteins.**

Here are some of the services that we provide for our Biopharma clients:

- **Glycan Analysis:** we offer a range of glycan analysis options using HPLC/UHPLC, MALDI, LC-MS and exoglycosidase sequencing. We tailor these analyses to your specific requirements. These include: monosaccharide analysis; sialic acid analysis; HILIC-LC, MALDI, WAX-LC and exoglycosidase sequencing of released glycans; as well as site specific analysis. We provide a detailed glycoprofiling report of profiles and structures.
- **High Throughput Sample preparation:** we can process multiple samples for you on our liquid handling robot which we use to release, label and clean-up samples. These glycans are then analysed by us or returned to you for analysis in your own labs.
- **Method transfer:** we help you to get glycoprofiling methods up and running in your laboratories. We offer everything from advice on which kits to use up to a fully validated method transfer, whichever fits your specific requirements.

For more information please contact [info@ludger.com](mailto:info@ludger.com)

### White Paper

We have published a White Paper in collaboration with RSSL in **Outsourcing Pharma.**

The title of the paper is:

**Orthogonal Approaches for the Analysis of Protein Sequence and Post Translational Modifications of a Monoclonal Antibody**

You can find a copy on our website, [www.ludger.com](http://www.ludger.com)

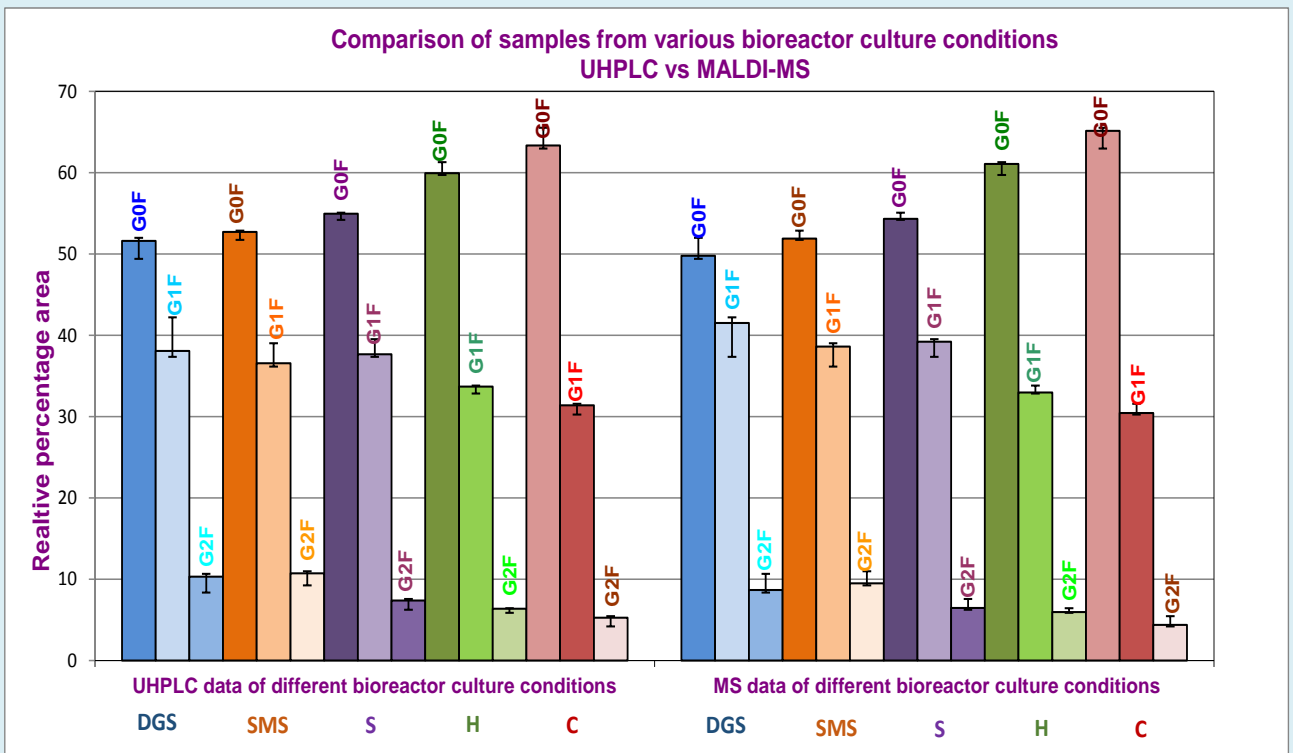
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please contact us via  
e-mail at  
[info@ludger.com](mailto:info@ludger.com)**

## High throughput Permethylation method

Permethylation is a process of derivatising all the hydroxyl and N-acetyl groups with a methyl group which stabilizes the sialic acids and significantly enhances MALDI-MS analysis. We have developed a high throughput permethylation method for N- and O-glycans. The method has been adapted for use on a liquid handling robot where the permethylation and the post-derivatisation clean up steps were performed on the robot and then analysed on the MALDI-MS.

Our studies using mAbs from bioreactor supernatants have shown that this method is suitable for processing hundreds of samples per day, is reliable and the data is comparable to that obtained from UHPLC. Data acquisition through MALDI-MS is very rapid; on average one sample only takes 1 minute to process.

The figure below shows the relative quantitation data obtained by both methods for glycan species ( G0F, G1F and G2F) from mAb samples grown in different bioreactor conditions. The mAbs were kindly provided to us by Lonza and UCL.



**Key to bioreactor conditions:** *DGS- Direct Gas Sparging; SMS-Silicone Membrane Sparging; S- Standard Culture Condition; H-Hypothermic Culture Condition-32°C; C-Control Temperature Condition-37°C.*