AGILENT ASSAYMAP SOLUTION FOR N-GLYCAN SAMPLE PREPARATION

Achieve robust, reproducible results in hours using ProZyme GlykoPrep-plus

Highlights
- Gold-standard N-glycan digestion, labeling, and cleanup chemistries in a reproducible, high throughput format
- Simple, interactive user interface for push button operation
- ProZyme state-of-the-art modules for quantitative digestion, labeling, and cleanup of N-glycans

Background
Glycosylation profiles play a critical role in the pharmacology of therapeutic proteins, affecting immunogenicity, pharmacokinetics, and pharmacodynamics. However, due to the complex nature of current manual sample preparation methods, spanning multiple days, analysis has been limited to samples that represent critical decision points. Improved data quality and greater throughput are needed to meet the increasingly rigorous regulatory demands for the development of biosimilars and novel biopharmaceuticals.

Introducing the AssayMAP Approach
Agilent Technologies and ProZyme now offer a combined solution for an intelligently automated N-glycan sample preparation workflow that delivers labeled N-glycan samples ready for analysis in hours. This solution is suitable for analysis using any standard instrument platform, dramatically increasing throughput, reproducibility, and reliability, without sacrificing critical data quality.

- Agilent AssayMAP sample preparation technology leverages the best in class liquid transfer capabilities of the Agilent Bravo Automated Liquid Handling Platform combined with AssayMAP cartridge technology to enable automation of complex sample preparation workflows with precise flow control.
- ProZyme’s GlykoPrep-plus advanced reagent chemistries enable rapid digestion, labeling, and cleanup of N-glycans, with results that are quantitative, robust, and reproducible.

The Measure of Confidence
Prepare high-quality N-glycan samples in hours

With the automated N-glycan solution from Agilent and ProZyme, you can save significant time over manual methods. First, the purified glycoprotein is denatured and immobilized on a hydrophobic cartridge. Next, N-glycanase enzyme selectively cleaves the N-linked glycans, which are eluted and labeled using a rapid reductive amidation chemistry. The excess dye and other reactants are removed using a hydrophilic interaction cartridge, and eluted ready for analysis by HPLC, CE, or LC/MS.

Figure 1. ProZyme’s GlykoPrep-plus workflow automated by AssayMAP.

![Figure 1](image1.png)

Figure 2. Reproducibility and data quality with IgG HPLC 12 sample overlay with CVs (A), total peak area scatter gram (B) and relative peak area scatter gram (C).

Ordering information

This solution is offered in collaboration with ProZyme. Contact your Agilent automation product specialist or ProZyme, and learn how this technology can increase your N-glycan sample preparation throughput.

<table>
<thead>
<tr>
<th>Maker</th>
<th>Component Description</th>
<th>Contact info</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agilent Technologies</td>
<td>Bravo platform for AssayMAP</td>
<td>Americas, Asia/Pacific: <a href="mailto:orders.automation@agilent.com">orders.automation@agilent.com</a> or 1-866-428-9811</td>
</tr>
<tr>
<td></td>
<td>Bravo liquid handler with AM Bravo head, configured for N-glycan sample prep</td>
<td>Europe, Middle East, Africa: <a href="mailto:orders.automation@agilent.com">orders.automation@agilent.com</a> or +44 (0)1763 853638</td>
</tr>
<tr>
<td>ProZyme</td>
<td>GlykoPrep-plus rapid N-glycan preparation</td>
<td>Americas: <a href="http://www.prozyme.com/orders@prozyme.com">www.prozyme.com/orders@prozyme.com</a> or 1-800-457-9444</td>
</tr>
<tr>
<td></td>
<td>Modules for digestion, labeling, and clean up</td>
<td>Europe: <a href="http://www.europa-bioproducts.com">www.europa-bioproducts.com</a>, <a href="mailto:info@europa-bioproducts.com">info@europa-bioproducts.com</a> or +44 (0)1353 721118</td>
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Table 1. Comparison of traditional manual methods with the AssayMAP-GlykoPrep combined automated solution.

<table>
<thead>
<tr>
<th>N-glycan workflow</th>
<th>% CVs - total yield</th>
<th>Hands-on time</th>
<th>Number of samples</th>
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<tbody>
<tr>
<td>Automated GlykoPrep-plus</td>
<td>~ 5 %</td>
<td>+</td>
<td>8-96</td>
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<tr>
<td>Traditional manual methods</td>
<td>~ 25 %</td>
<td>++++</td>
<td>1-20</td>
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www.agilent.com/lifesciences/AssayMAP

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Published in the USA, September 24, 2012
5991-1140EN