Analytical Tools for Characterizing Therapeutic Products

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January 2022
Agilent Products and Services for Pharma and Biopharma

Instrumentation and software solutions for Discovery, Development and Manufacturing Labs

Services, support and financial solutions

Pharmaceutical
- Chromatography
- Mass Spectrometry
- Spectroscopy
- Sample Preparation and Quality Control
- Cell Analysis
- Automation
- Genomic Analysis

Protein Therapeutics

DNA/ RNA Therapeutics

Cell Therapeutics

Vaccines

Software Products
- Compliance

Agilent CrossLab
- Certified Pre-Owned Instruments
- Alternative Buying Models

January 17, 2022

For Research Use Only. Not for use in diagnostic procedures.
Serving the **Entire Pharma and Biopharma Value Chain**

**Research/Discovery**
- Sample preparation

**Development**
- Separation
- Detection
- Data analysis

**Quality Assurance and Compliance**
- Reporting

- Instrument service
- Training, consulting and operational expertise
- Enterprise lab management
- Columns, supplies and chemical standards
Products for Sample Preparation, Separation and Analysis for Protein Therapeutics – Glycan Analysis

- High quality products that go through extensive QC testing to ensure consistent and reproducible results
- Stocked locally to ensure ready availability and quick delivery
- A range of glycan labelling reagents including traditional and express 2-AB for a range of choices
- A range of glycan standards including individual standards (labelled and unlabeled), glycan libraries and GU ladders.
- A broad portfolio of columns and sample preparation products for all stages of research and development
- BioInert columns and supplies for better sensitivity and higher quality results with proteins and antibodies.

**Workflow**

1. Prepare raw samples (if needed – i.e. if from reactor using Protein A or just filtration)
2. AdvanceBio Gly-X InstantPC kit provides deglycosylation, labeling and cleanup prior to analysis
3. Select appropriate standards
4. Perform separation on AdvanceBio Glycan columns
5. Review results from LC/FLD or LC/MS Separation

**Advantages**

- Accurate quantitation of individual N-glycan species, using LC/FLD
- The complete characterization of glycans of proteins, including monoclonal antibodies using LC/MS for the labelled glycans
- How the N-glycan profile can impact drug candidate toxicity
- Post translational modifications and glycan profiles of other types of proteins (some Fc fusions, blood factors, etc.)
- Glycan characterization for biosimilars and biobetters in comparison to innovator therapeutics
- Select aspects of vaccine development impacted by the glycan profile

**AdvanceBio Gly-X InstantPC Glycan Analysis Kit**

The AdvanceBio Gly-X InstantPC Glycan analysis kit provides fast, high sensitivity results for LC-FLD or LC-MS separations of labelled, released glycans. The Agilent AdvanceBio Gly-X technology is a new generation of N-glycan sample preparation. Be ready for sample analysis faster with rapid (5-minute) enzymatic release of N-glycans and labeling with the brightest in class InstantPC dye, or traditional reductive amination dyes. Innovative in-solution workflows combined with plate-based rapid cleanup enables sample prep in as little as 1 hour.
Automated Workflow for Monoclonal Antibody N-Linked Glycan Analysis

**Figure 1.** Automated N-glycan sample preparation using the Agilent AssayMAP Bravo and Agilent GlykoPrep InstantPC kit.

**Figure 6.** N-glycan analysis using an Agilent 1290 Infinity II LC and Agilent 6545XT AdvanceBio LC/Q-TOF with an Agilent AdvanceBio glycan mapping column.
Cell and Gene Therapy Ecosystem

Pharmaceutical

Protein Therapeutics

DNA/RNA Therapeutics

Cell Therapeutics

Vaccines

Cell/Analytical Tools Supplier

Cell Bioproduction Tools Supplier

Gene Editing Reagents

Specialized media

Delivery Reagents

Donor Cells

Clinical Trials

Biopharma / Pharma

Cell Tx Manufacturer

Autologous Path

Allogeneic Path

Certified Trained Institution

Regulatory Body

Payor

Physician

Patient

Certified Trained Institution

Physician

Patient

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**Agilent Products and Services DNA/ RNA Therapeutics**

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**DNA/ RNA Therapeutics** includes instruments, consumables, software and services, for development and manufacturing of biologic drugs defined as Oligonucleotides, DNA or RNA fragments. Oligonucleotides are short DNA or RNA molecules (oligomers) that have a wide range of therapeutic mechanisms of action, such as gene silencing or pre-programmed protein expression.
Agilent Products and Services for Cell Therapeutics

**Cell Therapeutics** refers to life science tools, including instruments, consumables, software and services, for development and manufacturing of biologic drugs defined as Cell Therapies. These therapies to use patient’s intact, live cells to lessen or cure a disease (Cell Therapy). Recent approvals and the growing number of clinical trials are accelerating the process from discovery through clinical to commercial manufacturing and delivery.
**Vaccines** This application covers life science tools, including instruments, consumables, software and services, for development and manufacturing of Vaccines. A vaccine is a biological product designed to trigger immune response and build a long lasting acquired immunity to a particular pathogen.
Agilent’s LC/MS Analysis of AAV Subunits

Sample Prep | Liquid Chromatography | Mass Spectrometry | Data Analysis
---|---|---|---
Adeno-Associated Virus | Zorbax RRHD 300Å StableBond Columns | Bio SEC-5 Column 1000Å | 6545XT AdvanceBio LC/Q-TOF
Denature | OR | OR | MassHunter BioConfirm
VP1, 2 and 3 Capsid Proteins | 1290 Infinity II LC with FLD | 1290 Infinity II BioLC |
Agilent. Trusted Answers.

We provide comprehensive, integrated workflow solutions

Scientific instruments, software, services, consultancy, consumables, and teams with deep market knowledge helping laboratories achieve superior scientific and economic outcomes

OUR FOCUS

Enabling scientists to improve the quality of life through reliable analysis and workflow solutions

OUR CUSTOMERS

The world’s analytical, research, and diagnostics laboratories

OUR PASSION

Helping our customers solve their critical questions and challenges as they seek to optimize their labs and improve the world around us