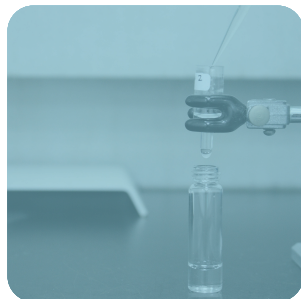
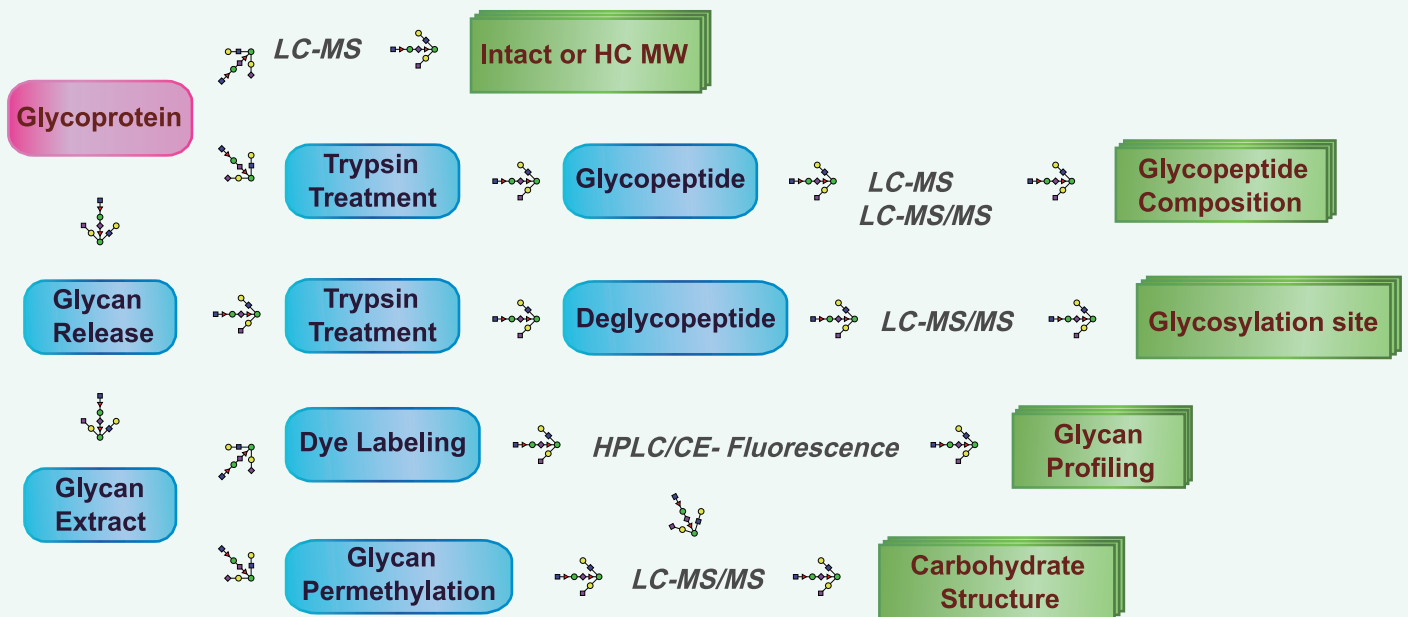


Glycan Characterization Services for Biopharmaceuticals



Analytical Strategies for Protein Glycosylation



■ Molecular Weight Determination

- Quan/Qual analysis of glycan froms at protein level

■ Glycopeptide Composition

EEQYNSTYR

- Quan/Qual analysis of glycosylation at peptide level

■ Glycosylation Site

NXS/T

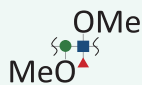
- Deglycosylation by enzymatic or chemical cleavage

■ Glycan Profiling

dye

- Quan/Qual analysis of fluorophores-labeled oligosaccharides

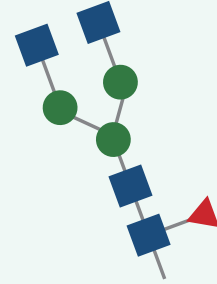
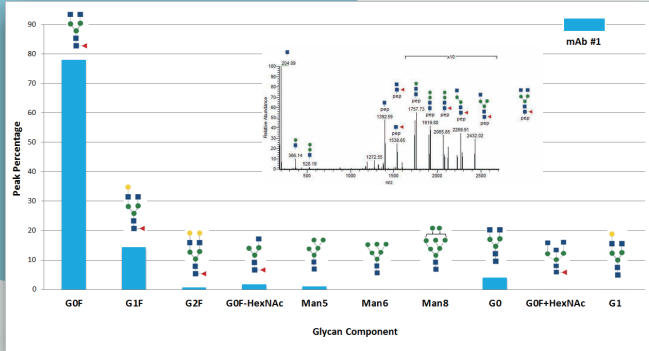
■ Carbohydrate Structure



- Structural characterization of chemical derivatized glycans

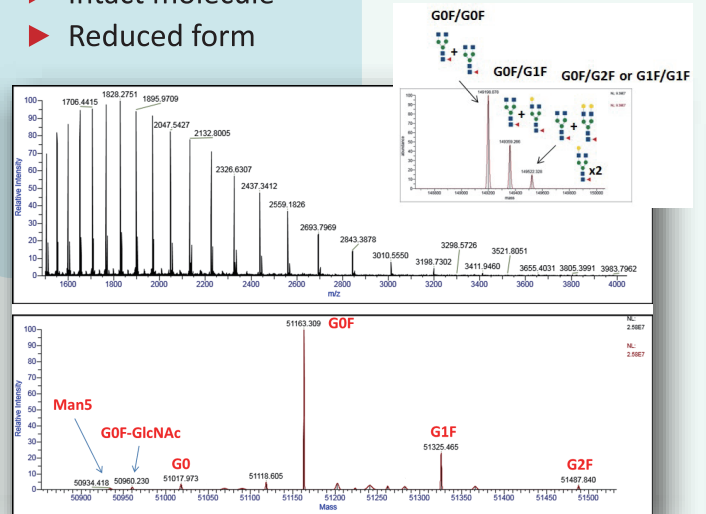
Glycan Characterization Plans

Glycopeptide Composition Analysis

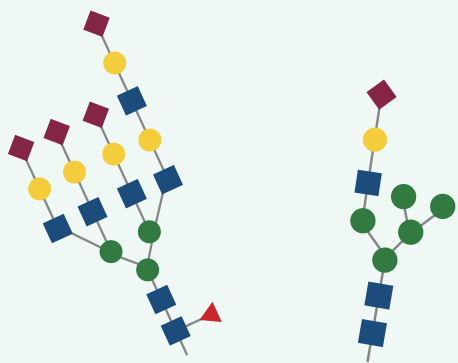
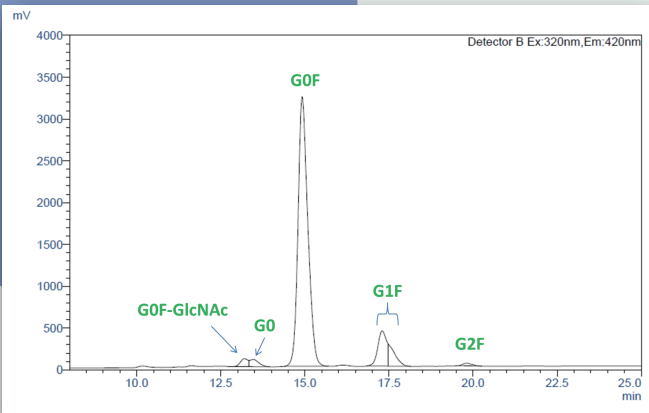


Molecular Weight Determination

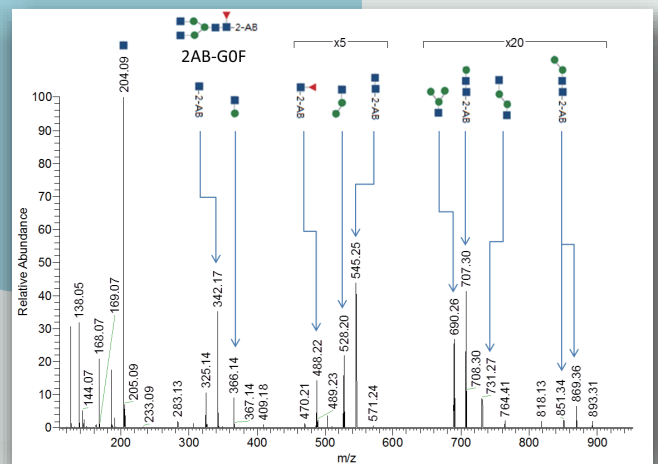
- ▶ Intact molecule
- ▶ Reduced form



Glycan Profiling



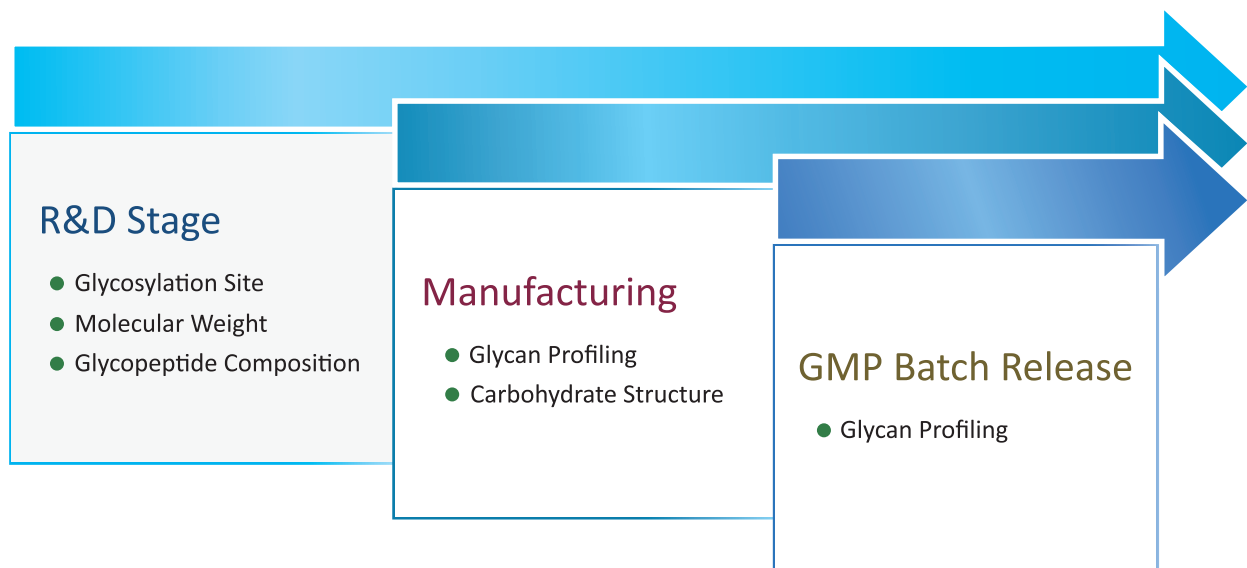
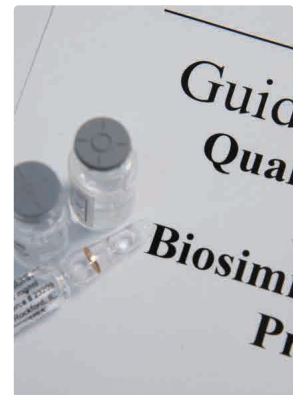
Structure Characterization



Glycosylation Studies at Different Stages

Glycan structures are highly complex and heterogeneous due to various cell-line and bioreactor conditions. The various glycoforms are critical to the safety, bioactivity and efficacy of the drug product.

Glycosylation analysis is essential to fulfill regulatory requirements. Mithra provides multiple solutions for the needs from early drug development through manufacturing to consistent lot release testing.



Benefits from our solutions for glycan analysis...

- ◆ Rapid and cost-effective at early stage research
- ◆ Highly sensitive and site-specific glycosylation analysis
- ◆ Established procedures for reference standard
- ◆ Detailed characterization for biosimilar development
- ◆ Validated lot release assays for clinical/commercial lots
- ◆ Customizable upon request

