Glycoproteomics — Site Mapping and Enrichment — Hands-on

Gain practical skills in glycoproteomics workflows that link glycan structures to specific protein backbone sites. This module covers sample preparation, glycopeptide and glycoprotein enrichment strategies, LC–MS/MS acquisition parameters, and basic data interpretation for confident site specific glycosylation mapping in research and biopharma QC settings.

Glycoproteomics — Site Mapping and Enrichment

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Session 1 — Foundations of Glycoproteomics and Sample Preparation Session 2 — Glycopeptide and Glycoprotein Enrichment Strategies Session 3 — LC–MS/MS Acquisition and Site Specific Mapping Session 4 — Mini Capstone: Glycoproteomics Site Mapping Workflow

Session 1
Fee: Rs 8800 Apply Now

Foundations of Glycoproteomics and Sample Preparation

Glycoprotein classes and glycosylation basics

N linked and O linked glycoproteins secreted and membrane proteins therapeutic antibodies and Fc glycans

Sample preparation for glycoproteomics workflows

denaturation, reduction and alkylation protease

digestion strategies detergent removal and cleanup

Experimental designs for site mapping versus profiling

released glycan vs glycopeptide approaches depth vs throughput considerations controls and reference standards

Session 2
Fee: Rs 11800   Apply Now
Glycopeptide and Glycoprotein Enrichment Strategies

Enrichment of glycopeptides after digestion

HILIC based glycopeptide enrichment graphitized carbon cartridges optimization of loading and washes

Affinity and lectin based enrichment approaches

lectin columns and beads sialic acid and fucose specific tools specificity, cross reactivity and controls

QC of enrichment and troubleshooting signals

recovery checks with standards monitoring nonglycosylated peptides common artifacts and how to avoid them

Session 3
Fee: Rs 14800   Apply Now
LC–MS/MS Acquisition and Site Specific Mapping

LC gradients and columns for glycopeptide separation

RP nano LC setups gradient design for glycopeptide mixtures carry over control and blanks

MS/MS fragmentation for glycopeptides and site mapping

HCD, stepped HCD and ETD concepts oxonium ions and glycan fragment signatures peptide backbone coverage for site localization

Data interpretation for site specific glycosylation

linking glycan composition to peptide sequence handling microheterogeneity at one site exporting results for visualization and reporting

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Session 4
Fee: Rs 18800 Apply Now

Mini Capstone: Glycoproteomics Site Mapping Workflow

Designing a small glycoproteomics site mapping experiment

Theory plus Practical

From enriched glycopeptides to site annotated table

defining search settings and filters curating site specific assignments basic quantitative summaries per site

Deliverables: workflow summary and site map report

CSV or XLSX site table PDF or PPTX workflow report checklist for routine glycoproteomics