Clinical Proteomics — Biomarker Panels and Verification — Hands-on

Understand how quantitative proteomics concepts transition into clinical style biomarker panels and verification workflows. This module focuses on targeted assay thinking, panel design logic, verification and performance characteristics at a conceptual level, and how to summarize clinical proteomics results for decision support and regulated style reporting.

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Session Index

Session 1

Fee: Rs 8800 Apply Now

Clinical Proteomics Foundations & Study Types

From discovery proteomics to clinical style panels (conceptual)

discovery vs verification vs longitudinal thinking | **few marker panels vs broad profiling** | **fit with existing clinical tests overview**

Clinical proteomics study types at a glance

case control style designs | **prognostic and**

monitoring scenarios | reference range and stability studies

Sample types and pre analytical variables conceptually

serum, plasma and other matrices | collection, processing and storage ideas | sources of variability and bias overview

Session 2

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Targeted Assay Concepts & Panel Design

Conceptual targeted LC–MS/MS assays for biomarkers

transition level measurement idea | signature peptides and uniqueness | internal standards and surrogates concepts

Selecting candidates and shaping a panel on paper

biological rationale and pathway coverage | practical limits on panel size | dynamic range and interference thinking

Assay layout, calibrators and controls at high level

calibration curve concepts | QC sample tiers and placement | run order and blocking ideas

Session 3

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Verification, Reference Ranges & Performance

Verification vs validation concepts for assays

analytical vs clinical performance views | fit for intended use reasoning | bridging from research to routine ideas

Key performance characteristics at a conceptual level

precision and accuracy overview **limits of detection and quantitation ideas** **linearity, carryover and stability thinking**

Reference intervals and clinical decision thresholds (conceptual)

reference interval construction logic **ROC curves and cut off ideas** **sensitivity, specificity and predictive values**

Session 4

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Study Design, QC & Reporting in Clinical Proteomics

Designing clinical proteomics verification studies on paper

theory plus planning worksheet

QC schemes for routine style proteomic panels

internal QC and external quality ideas **run and batch level monitoring concepts** **trend and rule based thinking**

Summarizing panels and results for clinical style reporting

clear tables of markers and units **reference and decision thresholds noted** **transparent methods and limitations text**