Isobaric Labeling — TMT iTRAQ Design and Analysis — Hands-on

Learn how to plan and interpret multiplexed quantitative proteomics using isobaric labels such as TMT and iTRAQ. This module focuses on conceptual design of channel layouts, batch and bridge samples, reporter ion quantification, isotope correction and strategies to handle ratio compression and batch effects for robust differential protein analysis.

Isobaric Labeling — TMT iTRAQ Design and Analysis

Help Desk · WhatsApp

Session Index

Session 1

Fee: Rs 8800 Apply Now

Isobaric Labeling Concepts & Use Cases

What isobaric tags measure in proteomics

peptide level tagging idea **reporter ion based quant** **multiplexing across samples**

TMT and iTRAQ overview at a conceptual level

channel capacity and versions **reporter vs balancer fragments** **compatibility with LC–MS/MS**

modes

Where isobaric labeling fits among quant strategies

comparison to LFQ and SRM | when multiplexing is attractive | cost, depth and throughput tradeoffs

Session 2

Fee: Rs 11800 Apply Now

TMT/iTRAQ Chemistry & Workflow Planning

Conceptual chemistry of isobaric tags and labeling points

amine reactive logic | peptide level vs protein level tagging | compatibility with buffers and reagents

Planning labeling workflows and channel layouts

assignment of samples to channels | bridge and reference channels concept | avoiding confounding patterns

Mixing, clean up and pooling strategies (conceptual)

ensuring labeling completeness | quenching logic fractionation options after labeling

Session 3

Fee: Rs 14800 Apply Now

Reporter Ion Quant, Normalization & Batch Effects

Reporter ion extraction and quantification concepts

MS2 vs MS3 based quant views | interference and co isolation ideas | isotope correction factors understanding

Normalization and correction across channels and batches

global vs reference based scaling | use of bridge samples | handling batch to batch variation

Ratio compression and interpretation of fold changes

sources of compression **design choices that mitigate issues** **expectations for effect sizes**

Session 4

Fee: Rs 18800 Apply Now

Study Design, QC & Data Interpretation

Designing TMT/iTRAQ study layouts on paper

theory plus planning worksheet

QC metrics for multiplexed quant experiments

channel intensity balance **bridge channel stability** **replicate correlation ideas**

Interpreting multiplexed differential abundance results

contrast definitions across channels **summary tables and heatmaps** **reporting design and analysis clearly**