Protein Complexes, Affinity & Interactomics — Hands-on

Understand how protein complexes and interaction networks are studied using affinity based approaches and interactomics concepts. This module covers complex biology, affinity purification and pulldown ideas, basic crosslink aware design, and network level interpretation so that learners can conceptually plan interaction studies and discuss interactome data with collaborators.

Protein Complexes, Affinity & Interactomics

Help Desk · WhatsApp

Session Index

Session 1 — Protein Complexes & Interaction Principles | Session 2 — Affinity Purification & Pulldown Strategies | Session 3 — Interactome Mapping & Data Structures | Session 4 — Mini Capstone: Interactomics Study Design

Session 1

Fee: Rs 8800 Apply Now

Protein Complexes & Interaction Principles

Biology of protein complexes and interaction types

stable vs transient complexes **binary vs multi component complexes** **direct vs indirect associations**

Affinity, specificity and binding strength concepts

Kd and occupancy thinking **on rate and off rate ideas** **competition and cooperativity (overview)**

Overview of main experimental families for interactions

affinity purification approaches **tag based and**

antibody based concepts | crosslink aware interactomics idea

Session 2

Fee: Rs 11800 Apply Now

Affinity Purification & Pulldown Strategies (Concepts)

Tagged bait and antibody based pulldown concepts

epitope and fusion tags (overview) | endogenous vs overexpression thinking | controls for non specific binders

Lysis, binding and wash conditions at concept level

mild vs stringent buffers | salt, detergent and temperature ideas | preserving native complexes vs reducing noise

Experimental design for AP MS style interactomics

bait and control layouts | replicates and label options at overview | sample handling for LC–MS readout

Session 3

Fee: Rs 14800 Apply Now

Interactome Mapping & Data Structures (Concepts)

From pulldown LC–MS readout to interaction candidate lists

enrichment based scoring ideas | controls and background models (concepts) | distinguishing likely interactors from carryover

Network representation of interaction data (high level)

nodes, edges and edge weights | degree and centrality notions | complexes as modules or clusters

Integrating literature and public PPI resources at concept level

comparison with known interaction databases | adding context and functional annotation | prioritizing complexes for follow up

Session 4

Fee: Rs 18800 Apply Now

Mini Capstone: Interactomics Study Design

Design exercise for a simple protein complex mapping project

Theory + Practical (planning oriented)

From bait choice to basic network view (concept walkthrough)

experimental layout and controls | expected hit list structure | first pass network interpretation

Deliverables: design sheet, interaction candidate table outline and narrative

study design and sample map | simple interaction table template | short biological interpretation note