Build a working understanding of how biologics and therapeutic peptides are analyzed and designed using computational tools. This module focuses on sequence and structure level assessment, developability and liability flags, simple modeling workflows and practical reporting so that in silico work can support antibody, peptide and other biologic design decisions.

Biologics & Peptide Design — In Silico Workflows

Help Desk · WhatsApp

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Session 1 — Biologic & Peptide Modalities & Data Session 2 — In Silico Design, Modeling & Liabilities Session 3 — Developability, Immunogenicity & Optimization Session 4 — Mini Capstone: Biologic / Peptide Design Notebook

Session 1
Fee: Rs 8800 Apply Now
Biologic & Peptide Modalities & Data

Biologic and peptide modality landscape

antibodies and fragments therapeutic peptides and macrocycles fusion proteins and other formats

Sequence and structure data sources

databases for antibodies and peptides sequence annotation basics template structures and models

Simple sequence analytics for biologics and peptides

length, composition and motifs regions such as CDRs and linkers basic descriptor and property views

Session 2
Fee: Rs 11800 Apply Now
In Silico Design, Modeling & Liabilities

In silico design levers for peptides and biologics

sequence changes and variants simple property and pattern edits link to potency, PK and safety goals

Basic structure viewing and modeling concepts

viewing 3D structures and interfaces simple homology or template based models interaction and epitope level inspection

Classical sequence level liabilities overview

aggregation and chemical liabilities proteolytic cleavage motifs simple liability scan outputs

Session 3
Fee: Rs 14800 Apply Now
Developability, Immunogenicity & Optimization

Developability assessment concepts at a high level

solubility and stability indicators charge, hydrophobicity and PTM sites flags for formulation risk dimensions

Immunogenicity risk views for sequences

T cell epitope and motif style flags humanization and similarity notions simple panels and traffic lights

Optimization patterns and practical suggestions

sequence edits to reduce liabilities balancing potency with developability communicating options to project teams

Session 4
Fee: Rs 18800 Apply Now

Mini Capstone: Biologic / Peptide Design Notebook

Choosing a simple biologic or peptide case

Theory + Practical

Running an in silico assessment and design cycle

sequence and liability analysis simple design suggestions and variants summarizing risk and opportunity views

Deliverables: biologic / peptide design notebook and summary

notebook or script capturing the workflow tables and plots for properties and risks two slide summary for project or review teams