

Antibody Engineering & Humanization Informatics — Hands-on

Turn an antibody template into an experiment-ready, humanized lead with clear computational evidence. Learn sequence/structure annotation, humanization strategies, developability risk screening, interface modeling with the antigen, and how to package decisions into reproducible reports.

Antibody Engineering & Humanization Informatics

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Session Index

[Session 1 — Antibody Anatomy, Numbering & Databases](#) [Session 2 — Humanization: CDR Grafting & Backmutations](#) [Session 3 — Developability, Liabilities & Interface Modeling](#) [Session 4 — Mini Capstone: Template → Humanized Candidate](#)

Session 1

Fee: Rs 6300 [Apply Now](#)

Antibody Anatomy, Numbering & Databases

Heavy/light chains, frameworks, CDRs; Kabat/Chothia/IMGT schemes & paratope basics

Theory

Annotation & numbering pipelines

[ANARCI](#) [AbNum/IMGT](#) [CDR extraction](#)

Key resources & modelers

[SAbDab/Thera-SAbDab](#) [OAS \(Observed Antibody Space\)](#) [ABodyBuilder/ABlooper](#) [IgFold \(overview\)](#)

Session 2

Fee: Rs 8400 [Apply Now](#)

Humanization: CDR Grafting & Backmutations

Selecting human frameworks, canonical classes & CDR grafting workflow

[sequence identity/structure fit](#) [vernier/packing residues](#) [backmutation rationale](#)

Humanness scoring & immunogenicity minimization (in silico)

[T20 score/H-score \(overview\)](#) [germline proximity motif constraints](#)

Structure checks after grafting (geometry/contacts/clashes)

[minimization](#) [loop sanity](#)

Session 3

Fee: Rs 11200 [Apply Now](#)

Developability, Liabilities & Interface Modeling

Developability & biophysical risk screens (in silico)

[aggregation/patchiness](#) [pl/viscosity risk \(heuristics\)](#) [glyco motifs \(NXS/T\)](#)

Chemical liabilities & sequence filters

[Asn deamidation](#) [Asp isomerization](#) [succinimide hotspots](#)

Antigen interface modeling (overview)

[PatchDock/HADDOCK](#) [RosettaDock](#) [contact](#)

maps/epitope sanity

Session 4

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Mini Capstone: Template → Humanized Candidate

Choose frameworks, graft CDRs, propose backmutations and justify with developability & interface evidence

Theory + Practical

Provenance & reproducibility bundle (configs, sequences, models, logs)

YAML/JSON configs **Quarto summary** **variant tables**

Deliverables: figures, tables, README & manifest

PDF **CSV/TSV** **checksums**