

BTEC 650. THERAPEUTIC ANTIBODY DESIGN.

Credits: 3

Offered by: Parasitology (Graduate Studies)

Terms offered: Fall 2025

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Description

Principles and methodologies of structure-based molecular design, optimization, and development of therapeutic monoclonal antibodies. Role in therapy and diagnosis; structural features of various types of antibodies; dissection of antibody-antigen interactions; in silico affinity maturation; manipulation of antigen specificity by point mutagenesis; using antibody Fc domain to modulate pharmacokinetics and effector functions; design of antibody conjugates carrying toxic payloads; engineering T-cells with chimeric antigen receptors; evaluation and improving antibody immunogenicity and aggregation; antibody humanization.

- Prerequisite: 400-level or higher level course in biochemistry and bioinformatics, or permission of instructor

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