

Structural Glycobiology

Structural Glycobiology covers the experimental, theoretical, and alternative technologies used in the study of the structural basis for the diverse biological roles of carbohydrates. The book overviews the application of specialized technologies to the study of carbohydrates in biology, reviews relevant and current research in the field, and is illustrated throughout by specific examples of how research investigations have yielded key structural and associated biological data on carbohydrates and glycolipids. In particular, the book focuses on

- X-ray crystallography and small-angle scattering, NMR, and cryo-electron microscopy techniques
- Theoretical (modeling-based) approaches, such as molecular mechanics, molecular dynamics, free energy calculations, and carbohydrate docking
- Alternative techniques for yielding structural information on carbohydrates from complex biological samples
- Carbohydrates in medicine, specifically in areas that have been directly impacted by our understanding of the structural role of carbohydrates in immune recognition: cancer, organ transplantation, and infection



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