

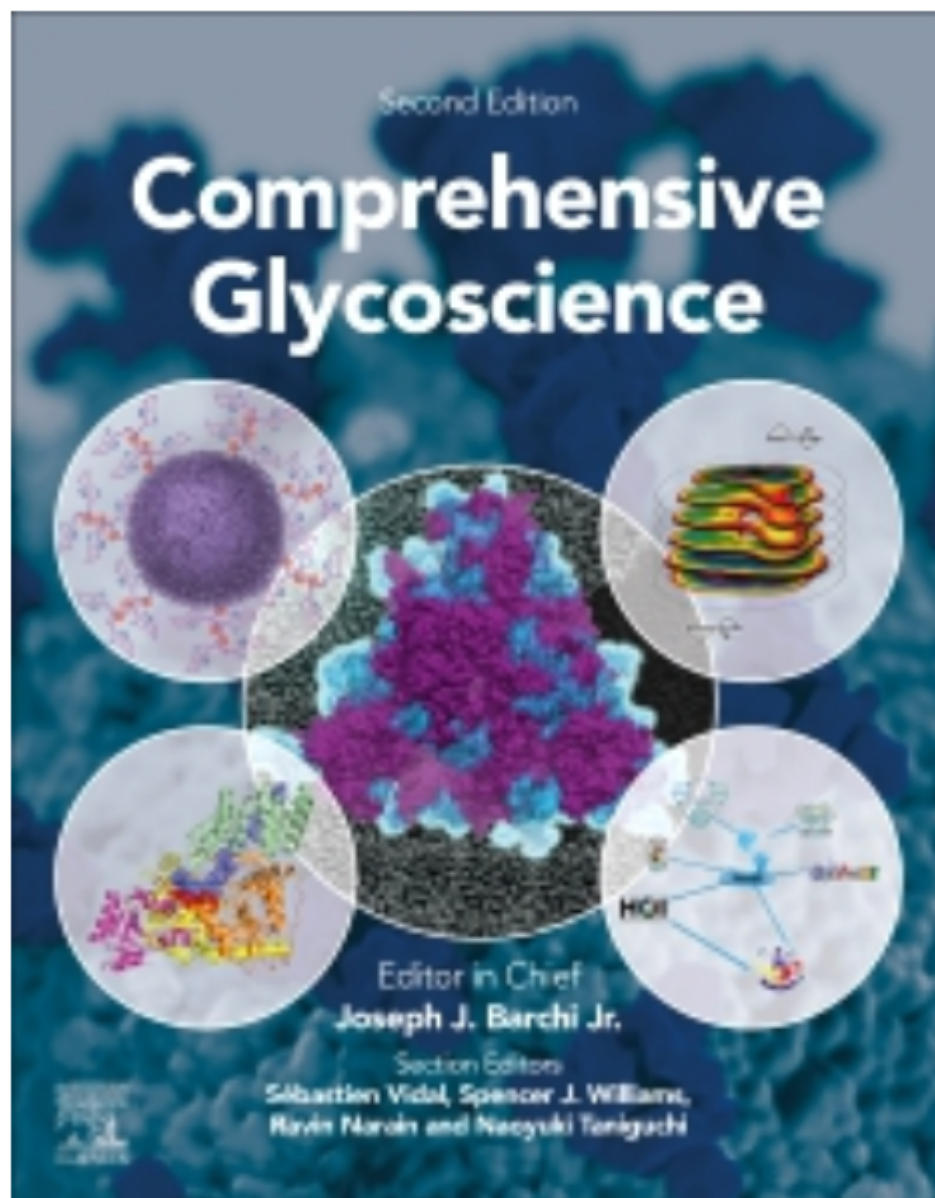
Comprehensive Glycoscience, Second Edition

Description

Comprehensive Glycoscience, Second Edition covers the most elementary of topics and progresses to the most current and advanced research in the field. This allows for readers to quickly and easily find the appropriate glycoscience information for their research. It assembles the top minds in this area and provide an update to the renowned 2007 first edition, including new discoveries and latest advances in glycoscience-related research areas such as glycan microarrays, carbohydrate materials, glycoengineering and microbiome research. The result is an up-to-date work which will impress readers with the many new advances that are outlined and taught in this second edition. Most areas of the original edition have been majorly updated, some overlapping topics have been consolidated, and several topics have been rearranged into more appropriate sections.

1. Introduction to Glycoscience, Glycan Structure and Function
2. Analysis and Preparation of Glycans
3. Cellular Glycobiology and Interactions of Glycans
4. Glycan Materials, Arrays and Nanotechnology

5. Glycans in Development, Health and Disease



1.01 – Introduction to Comprehensive Glycoscience: The Good, the Better and What's to Come, Joseph J Barchi

1.02 – Bacterial Exopolysaccharides, Yuriy A. Knirel and Marie-Rose Van Calsteren

1.03 – Fungal Polysaccharides, Naohito Ohno

1.04 – Seaweed Polysaccharides: Promising Molecules for Biotechnological Applications, Vinitha Rani, Ashwini Prabhu, ... Se-Kwon Kim

1.05 – Common Cellular Glycans: Biosynthesis, Modifications and Functions in Cancer and Inflammation, Petra Larsen and Marya Ahmed

1.06 – C-Mannosyl Tryptophan: From Chemistry to Cell Biology, Yoshito Ihara, Shino Manabe, ... Yukishige Ito

1.07 – O-Fucosylation of Proteins Kelvin B. Luther and Robert S. Haltiwanger

1.08 – Structure, Classification and Modification of Polysaccharides, Qingbin Guo, Yan Liu and Steve W. Cui

1.09 – Overview of Cellulose Types and Applications, Praveen Kumar Gupta, Anusha Mysore

Keerthi, ... Shreya Choudhary

1.10 – Mucins: Structure and Function, Roberta Salinas-Marín, Tania M Villanueva-Cabello and Iván Martínez-Duncker

1.11 – High-pH Anion-Exchange Chromatography (HPAEC) and Pulsed Amperometric Detection (PAD) for Carbohydrate Analysis, Mark R. Hardy and Jeffrey S. Rohrer

1.12 – Capillary Electrophoresis, Lisa A. Holland and C. Eugene Bennett

1.13 – Modern Mass Spectrometry Techniques for Oligosaccharide Structure Determination: Logically Derived Sequence Tandem Mass Spectrometry for Automatic Oligosaccharide Structural Determination, Chi-Kung Ni, Hsu Chen Hsu, ... Shang-Ting Tsai

1.14 – General NMR Spectroscopy of Carbohydrates and Conformational Analysis in Solution, Göran Widmalm

1.15 – Computational Modeling in Glycoscience, Serge Perez, Elisa Fadda and Olga Makshakova

1.16 – Understanding the Structure and Function of Viral Glycosylation by Molecular Simulations: State-of-the-Art and Recent Case Studies, Elisa Fadda

1.17 – Tools and Methods to Study the Human Glycome, Xuezheng Song, Richard D. Cummings and David F. Smith

1.18 – Glycosciences.de: Databases and Tools to Support Research in Glycomics and Glycoproteomics, Thomas Lütteke

1.19 – Systems Glycobiology: Immunoglobulin G Glycans as Biomarkers and Functional Effectors in Aging and Diseases, Marina Martini? Kavur, Gordan Lauc and Marija Pezer

1.20 – Glycans of the Pathogenic Yeast *Cryptococcus neoformans* and Related Opportunities for Therapeutic Advances, Liza C. Loza and Tamara L. Doering

Category

1. News