

1. Record Nr.	UNINA9910298350403321
Titolo	Glycobiology of the Nervous System // edited by Robert K. Yu, Cara-Lynne Schengrund
Pubbl/distr/stampa	New York, NY : , : Springer New York : , : Imprint : Springer, , 2014
ISBN	1-4939-1154-6
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (590 p.)
Collana	Advances in Neurobiology, , 2190-5215 ; ; 9
Disciplina	572.567
Soggetti	Neurosciences Neurobiology Neurochemistry
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction to the Complexity of Cell Surface and Tissue Matrix Glycoconjugates -- Introduction to Cells Comprising the Nervous System -- Synthesis, Processing, and Function of N-glycans in N-glycoproteins -- Synthesis of O-linked Glycoconjugates in the Nervous System -- Chemistry and Function of Glycosaminoglycans in the Nervous System -- Use of Glycan-targeted Antibodies/Lectins to Study the Expression/Function of Glycosyltransferases in the Nervous System -- From Mass Spectrometry-based Glycosylation Analysis to Glycomics and Glycoproteomic -- Structural Analysis of Oligosaccharides and Glycoconjugates using NMR -- Glycolipid and Glycoprotein Expression During Neural Development -- Gangliosides and Cell Surface Ganglioside Glycohydrolases in the Nervous System -- Role of Myelin-Associated Glycoprotein (Siglec-4a) in the Nervous System -- Role of Galactosylceramide and Sulfatide in Oligodendrocytes and CNS Myelin: Formation of a Glycosynapse -- Glycosignaling – A General Review -- Glycosphingolipids in the Regulation of the Nervous System -- Glycobiology of Ion Transport in the Nervous System -- O-GlcNAcylation of Neuronal Proteins: Roles in Neuronal Functions and in Neurodegeneration -- N-glycosylation in Regulation of the Nervous System -- Roles of Carbohydrates in the Interaction of Pathogens with Neural Cells -- Glycoconjugate Changes in Aging and Age-related Diseases -- Gangliosides and Glycolipids in Neurodegenerative

Disorders -- Glycosidases: Inborn Errors of Glycosphingolipid Catabolism -- Ganglioside Storage Diseases: On the Road to Management -- Dynamic Aspects of Neural Tumor Gangliosides -- Galectins and Neuroinflammation -- Glycoconjugates and Neuroimmunological Diseases.

Sommario/riassunto

A thorough introduction is provided to the variety and complexity of the roles that glycoconjugates play in the cells of the nervous system. Basic information as well as the latest developments in neural glycobiology are discussed. Topics covered range from the structure and metabolism of the saccharide chains and current approaches used in their study, to changes glycoconjugates undergo during development and aging of the nervous system and the roles they have in neurological disease. The breadth and depth of topics covered make it an essential reference for those new to the field as well more seasoned investigators.
