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Descrizione fisica	1 online resource (XVI, 214 p. 57 illus., 48 illus. in color.)
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Nota di contenuto	Preface: Carbohydrates- the third life chain -- 1. Glycosylation -- 2. N-Glycan and O-glycan glycosylation in eukaryotes -- 3. Sialyltransferase, sialylation and sulfoylation -- 4. Congenital disorders of glycosylation (CDG) of N-glycoprotein -- 5. Neuraminic acids/sialic acids (N-acetyl- and N-glycolylneuraminic acid) -- 6. Biosynthesis of sialic acid -- 7. Neu5Gc (N-glycolylneuraminic acid) -- 8. Gangliosides -- 9. Gangliosides and tumor-associated ganglioside (TAG) modulate receptor-tyrosine kinases (RTKs) -- 10. Sialic acids and TAGs of tumor cells to escape immunesurveillance and immuneediting -- 11. Tumor characteristics in tumor related carbohydrates.
Sommario/riassunto	This book presents the latest knowledge and the most recent research results in the field of ganglioside biochemistry. The early chapters cover all relevant background on sialic acids and their biosynthesis, on N-glycolylneuraminic acid (Neu5Gc), which cannot be synthesized by

humans, and on general aspects of ganglioside research. Ganglioside adsorption, disorders of ganglioside degradation, and the regulation of gangliosides are thoroughly discussed. A major focus of the book is the role of gangliosides in cancer. Here, the discussion encompasses, for example, the biological importance, antigenicity, and immunological actions of tumor-associated gangliosides (TAGs), the significance of different glycolipids and gangliosides as TAGs, and emerging anti-cancer vaccine strategies. The ability of sialic acids and TAGs of tumor cells to escape immunosurveillance and immunoediting also receives detailed attention. The significance of sialic acids in regulation of the complement system is explained, and the closing chapter focuses especially on the role of sialyl T antigen in cancer. The book will be of value for all who are interested in functional glycobiology and glycomic studies.