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Titolo	Polysaccharides of Microbial Origin : Biomedical Applications / / edited by Joaquim Miguel Oliveira, Hajer Radhouani, Rui L. Reis
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Descrizione fisica	1 online resource (1289 pages)
Collana	Biomedical and Life Sciences Series
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Soggetti	Medical microbiology Biomaterials Biomedical engineering Biotechnology Medical Microbiology Biomedical Engineering and Bioengineering
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction -- Glucans -- Levan -- Gums -- Bacterial alginate -- Kefiran Xylinan (Acetan) -- Succinolycan and Glucuronan -- Colanic acid -- Colominic acid -- Cyanobacterial polysaccharides -- Glycosaminoglycans -- Chitin -- Chitosan -- Pullulan -- Scleroglucan and Schizophyllan -- Sulphated seaweed polysaccharides -- Polysaccharides produced by marine microalgae -- Marine biotechnology and microbiology -- Microalgae metabolites -- Biosynthesis of levan -- Biosynthesis of fungal polysaccharides -- Production of natural gums Isolation and purification of chitosan -- Production of scleroglucan -- Production of EPS from lactic acid bacteria -- Isolation of microbial polysaccharides -- Biosynthesis of microbial polysaccharides -- Properties of fungal polysaccharides -- Bioactivities of bacterial polysaccharides -- Surface properties of polysaccharides -- Antioxidant and antibacterial activities of polysaccharides -- Microalgal antioxidants for human health -- Gel properties of microbial polysaccharides -- Polysaccharides in bacterial biofilm -- Polysaccharide functionalizations for hydrogels --

	Polysaccharide modifications for drug delivery systems -- Genetically modified microorganisms -- Sulphation of microbial polysaccharides -- Dextran pharmaceutical applications -- New applications of glycosaminoglycan -- Polysaccharides in cancer therapy.
Sommario/riassunto	This book provides a comprehensive analysis of microbial polysaccharides, their current uses, and highlights biomedical opportunities. The topics comprise principally a) their extraction, isolation, purification and advanced production processes; b) characterization of their structural, physicochemical, and biological properties, among others, by several techniques; c) description of the advanced functionalization and modification methods for the polysaccharide based-material; and d) their applications and uses in medical and pharmaceutical fields. Each chapter is written by world-renowned academics and practitioners on their field. This is an essential reference for students in biomedical, chemical, material, and microbiology engineering as well as researchers and professionals in the medical field.