

1. Record Nr.	UNINA9910298609103321
Titolo	Polysaccharides : Bioactivity and Biotechnology // edited by Kishan Gopal Ramawat, Jean-Michel Mérillon
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2015
ISBN	3-319-16298-5
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (488 illus., 252 illus. in color. eReference.)
Collana	Springer reference
Disciplina	572.566
Soggetti	Chemistry, Organic Biotechnology Biomaterials Biochemistry Polymers Medicine - Research Biology - Research Organic Chemistry Biomedical Research
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Part I Polysaccharides: Occurrence, Structure, Distribution and Biotechnology -- Polysaccharides: an introduction (overview) -- Bacterial polysaccharides -- Fungal polysaccharides -- Polysaccharides from lower plants -- Polysaccharides from higher plants -- Biosynthesis of polysaccharides -- Life cycle assessment of polysaccharide materials -- Polysaccharides: applications in biotechnology -- Polysaccharides production by submerged fermentation -- Fed-batch fermentation of Tuber melanosporum for the hyperproduction of mycelia and bioactive tuber polysaccharides -- Production of polysaccharide from Agaricus subrufescens Peck on solid-state fermentation -- In vitro fermentation and prebiotic potential of novel low molecular weight polysaccharides derived from agar and alginate seaweeds -- Biopolymers from marine prokaryotes -- Carrageenan biotechnology -- Dextrans : biotechnology and

applications -- Polysaccharide nanocrystals in future functional nanomaterials -- Extracellular polysaccharides from cyanobacterial soil crusts -- Polysaccharide complexes with metal cations: Structure and application -- Modified gums: Approaches and applications in drug delivery -- Part II Methods -- Method for deproteinization of bioactive polysaccharides -- Ultrasound-Assisted Extraction of water-soluble components and polysaccharides from medicinal fungi -- Quantification of polysaccharides in red wines and effect of wine-making techniques -- Extraction methods for sulfated polysaccharides from brown seaweeds -- Microwave synthesized polysaccharide copolymers -- Analytical methods for lignocellulosic biomass structural polysaccharides -- Polysaccharides as chiral selectors in capillary electrophoresis -- Turning polysaccharides into new hydrophobic materials -- Radiation processing of hydrogel and polysaccharide -- Size-exclusion chromatography of polysaccharides -- Surface properties of polysaccharides -- Polysaccharide based biopolymers as an ecofriendly alternative for synthetic polymers -- NMR spectroscopy of polysaccharide derivatives and their molecular structure -- Biological analysis of hetero-oligosaccharides -- Mass spectrometric characterization of oligo- and polysaccharides and their derivatives -- Part III Bioactive Polysaccharides -- Polysaccharides: applications in biology and biotechnology -- Polysaccharides: applications in medicine -- Polysaccharide -polypeptide conjugates and immunostimulant properties -- Bioactive polysaccharide from Ganoderma -- Bioactive polysaccharide of Aloe -- Extraction, structure and bioactivities of the polysaccharides from fructus -- Polysaccharides from medicinal mushrooms and their antitumor activities -- Polysaccharides from the fungus Scleroderma -- Antioxidant activities of polysaccharides from the endophytic fungus Berk -- Algal polysaccharides and health -- Sulfated polysaccharides (fucose rich) from brown seaweeds and biological activities -- Anticancer polysaccharides from natural source or mushroom -- Modified polysaccharides as drug delivery -- Natural polysaccharide hydrogels to control drug release -- Plant polysaccharides and their biological activities -- Tea polysaccharides and their bioactivities -- Chitosan-based polysaccharide biomaterials -- Gut microbia, host health and polysaccharides -- Marine polysaccharide matrices for encapsulation of vaccines in aquaculture -- Part IV Polysaccharides as Food -- Polysaccharides: structural (pectins, cellulose, xylans, gum, gumexudates, glycosamines) -- Polysaccharides: storage (starch, glycogens, fructans, guar gum, minor polysaccharides) -- Marine Polysaccharides (alginate and brown sea weeds, carrageenan and red sea weeds, agar, agarose, chitosan and chitin derivatives) -- Bacterial and synthetic polysaccharides (dextrans, cyclodextrins, gellans, xanthan, pullulan) -- Extracellular polysaccharides of microorganisms -- Pectin – An emerging new bioactive food polysaccharide -- Polysaccharides from boat-fruited Sterculia seeds/plant -- Polysaccharides from Zizyphus -- Cell wall polysaccharides from fern leaves: Evidence for a mannan-rich Type III cell wall in Adiantum raddianum -- Non-starch polysaccharides and their role in animal nutrition -- Health-promoting potential of edible mushroom polysaccharides -- Cell wall polysaccharides hydrolysis and malting barley quality -- Dietary polysaccharides and immune modulation -- Dietary fiber polysaccharides -- Milk protein - polysaccharide complexes and applications -- Inulin and health benefits -- Polysaccharides from shiitake mushrooms (*Lentinula edodes*) as a component of functional food.

organic compounds: the polysaccharides. The comprehensive and thoroughly up-to-date handbook presents the sources, identification, analysis, biosynthesis, biotechnology and applications of important polysaccharides like starches, cellulose, chitin, gum and microbial polysaccharides. Polysaccharides can exhibit complex structure and various functional activities. These bio macromolecules can therefore serve as raw materials for various different materials, e.g. rayon, cellulose acetate, celluloid and nitrocellulose; and they find multiple applications, for instance as surgical threads (chitin), as sources of energy, dietary fibers, as blood flow adjuvants, in cosmetics, emulsion stabilizers, film formers, binders, viscosity increasing agents or skin conditioning agents, as food additives in gums, chewing gum bases and as vaccines. Polysaccharides form the basis for useful products, like xanthan gum, dextran, welan gum, gellan gum, diutan gum and pullulan. Some of the polysaccharide-derived products have interesting and useful properties and show biological activities, such as immunomodulatory, antibacterial, anti-mutagenic, radioprotective, anti-oxidative, anti-ulcer, antidepressant, anti-septicaemic or anti-inflammatory activities. All these applications and properties of polysaccharides are for the first time compiled in a thorough and comprehensive overview in the present work. This reference work is organized thematically in four parts: Part I. Polysaccharides: Occurrence, Structure, Distribution and Biotechnology. Part II. Methods. Part III. Bioactive Polysaccharides. Part IV. Polysaccharides as Food. This reference work is edited by experienced experts, all chapters are written by well recognized international specialists. It is useful to all those working in the field of botany, phytochemistry, pharmacy, drug delivery, molecular biology, metabolomics, forestry, environment, conservation, biotechnology and NGOs working for forest protection.
