1. Record Nr. UNINA9910458769403321

Autore	Kim Se-Kwon
Titolo	Chitin, chitosan, oligosaccharides and their derivatives : biological activities and applications / / Se-Kwon Kim
Pubbl/distr/stampa	Boca Raton : , : Taylor & Francis, , 2010
ISBN	1-4398-5882-9 0-429-16593-5 1-4398-1604-2
Descrizione fisica	1 online resource (668 p.)
Disciplina	573.7/74
Soggetti	Chitin Chitosan Electronic books.
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	Front cover; Contents; Preface; Editor; About the Book; Contributors; Part I: The Sources and Productionof Chitin and Chitosan Derivatives; Chapter 1: Chitin and Chitosanfrom Terrestrial Organisms; Chapter 2: Chitin and Chitosan fromMarine Organisms; Chapter 3: Chitin and Chitosanfrom Microorganisms; Chapter 4: Enzymatic Productionof Chitin from Crustacean Shell Waste; Chapter 5: Continuous Productionof Chitooligosaccharidesby Enzymatic Hydrolysis; Chapter 6: Biosynthesis of Cellulose-Chitosan Composite; Part II: Physical and Chemical Aspectsof Chitin and Chitosan Derivatives Chapter 7: Chemical Derivatizationof Chitosan for Plasmid DNADelivery: Present and FutureChapter 8: X-Ray Diffraction Studiesof Chitin, Chitosan, and Their Derivatives; Chapter 9: Mechanical Properties ofChitosan and Chitosan-Poly(Vinyl Alcohol) Blend Films; Chapter 10: Electrostatic Propertiesof Chitosan; Chapter 11: Applications of MassSpectrometry to AnalyzeStructure and Bioactivityof Chitooligosaccharides; Chapter 12: The Use of Various Typesof NMR and IR Spectroscopyfor Structural Characterizationof Chitin and Chitosan; Part III: Structural Modifications of Chitinand Chitosan Derivatives

Chapter 13: Chemical Modificationsof Chitosan Intended forBiomedical ApplicationsChapter 14: Enzymatic Modificationsof Chitin and Chitosan; Part IV: Biological Activities of Chitinand Chitosan Derivatives; Chapter 15: Antimicrobial Activityof Chitin, Chitosan,and Their Oligosaccharides; Chapter 16: Anti-Inflammatory Activityof Chitin, Chitosan, and Their Derivatives; Chapter 17: Chitosan Scaffolds forBone Regeneration; Chapter 18: Antioxidative Activity ofChitosan, Chitooligosaccharidesand Their Derivatives; Chapter 19: Effects of Chitin, Chitosan,and Their Derivatives onHuman Hemostasis
Chapter 20: Antihypertensive Actions ofChitosan and Its DerivativesChapter 21: Anticancer Activity andTherapeutic Applicationsof Chitosan Nanoparticles; Chapter 22: Antidiabetic Activity andCholesterol-LoweringEffect of Chitin, Chitosan,and Their Derivatives; Part V: Biomedical Applications of Chitinand Chitosan Derivatives; Chapter 23: Chitin/ChitosanOligosaccharides: Effective Substrates for Functional Analysis of Chitinases/Chitosanases; Chapter 24: Low Molecular WeightWater-Soluble Chitosanwith Free Amine Groupfor Drug Delivery
Chapter 25: Chitosan/ChitosanDerivatives as Carriersand Immunoadjuvantsin Vaccine DeliveryChapter 26: Chitosan-Conjugated DNANanoparticle DeliverySystems for Gene Therapy; Chapter 27: Chitinolytic Enzymes fromthe Moderately ThermophilicBacterium Ralstoniasp. A-471: Characterizationand Application; Chapter 28: Chitosan and ChitosanDerivatives as DNAand siRNA Carriers; Chapter 29: Metabolic Pathway of Chitinand Its Oligosaccharides inMarine Bacterium Vibrios; Chapter 30: Medical Applications of Chitinand Chitosan: Going Forward
Chapter 31: Radiation Functionalizationand Applications of Chitosanand Its Derivatives

Sommario/riassunto

Biopolymers found in marine animals and plants offer tremendous, largely untapped pharmaceutical potential. Research shows that these biopolymers can be used to combat various infectious as well as inflammatory, oxidative, and carcinogenic factors. Chitin, Chitosan, Oligosaccharides and Their Derivatives: Biological Activities and Applications covers the key aspects of these therapeutically valuable biopolymers and their derivatives, namely, their properties, sources, production, and applications in food science and technology as well as biological, biomedical, ind