1. Record Nr. UNINA9910820125903321

| | |
|---|---|
| Titolo | Advanced theranostic materials / / edited by Ashutosh Tiwari, Hirak K. Patra and Jeong-Woo Choi |
| Pubbl/distr/stampa | Salem, Massachusetts : , : Scrivener Publishing<br>Hoboken, New Jersey : , : Wiley, , [2015]<br>©2015 |
| ISBN | 1-118-99891-X<br>1-118-99892-8<br>1-118-99889-8 |
| Descrizione fisica | 1 online resource (360 p.) |
| Collana | Advanced material series |
| Classificazione | TEC021000 |
| Disciplina | 616.07/54 |
| Soggetti | Diagnostic imaging<br>Nanotechnology - Health aspects<br>Nanomedicine<br>Cancer - Treatment |
| 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 | Cover; Title Page; Copyright; Contents; Preface; Part 1: System Biology and Translational Medicine; 1 Aberrant Signaling Pathways; 1.1 Cancer; 1.2 Pathways Deregulated in Cancer: Introduction; 1.3 Introduction to Nanotechnology; 1.3.1 Overview of Clinical Nanotechnology; 1.3.2 Current Usage in Cancer Treatment; 1.4 Current Uses in Cancer Diagnostic; 1.4.1 The Phosphatidylinositol 3-Kinase-AKT Pathway; 1.4.2 The MAPK Pathway; 1.4.3 mTOR Pathway; 1.4.4 Receptor Tyrosine Kinase; Acknowledgment; References; 2 Application of Nanoparticles in Cancer Treatment; 2.1 Introduction; 2.1.1 Nanotechnology 2.1.2 Nanobiotechnology2.1.3 Nanotechnology in Medicine; 2.1.4 Cancer and Nano in Medicine; 2.2 Nanoparticles in Cancer Treatment; 2.3 Nanoparticle Platforms as Drug Delivery Systems for Cancer Therapy; 2.3.1 Lipid-based Nanoparticle Platforms; 2.3.2 Polymer-based Nanoparticle Platforms; 2.3.3 Protein-based Nanoparticle Platforms; 2.3.4 Inorganic Nanoparticle Platforms; 2.4 Theranostic Nanomedicine; 2.4.1 Theranostic Nanomedicine for Cancer Therapy; |

2.5 Selective Drug Delivery and Encapsulation for Chemotherapy; 2.6 Stimuli-Sensitive Nanopreparations; 2.7 Multifunctional Nanopreparations
2.8 Cancer Nanotechnology: Future and ChallengesReferences; 3 Biomacromolecule-Gated Mesoporous Silica Drug Delivery Systems for Stimuli-Responsive Controlled Release; 3.1 Introduction; 3.2 Protein-Gated MSN Drug Delivery Systems; 3.2.1 Ligand-Binding Protein-Gated MSN Systems; 3.2.2 Metal-Chelating Protein-Gated MSN Systems; 3.3 DNA-Gated MSN Drug Delivery Systems; 3.3.1 Single-Stranded DNA-Gated MSN Systems; 3.3.2 Double-Stranded DNA-Gated MSN Systems; 3.3.3 Hairpin or Quadruplex DNA-Gated MSN Systems; 3.3.4 Native DNA-Gated MSN Systems
3.3.5 Near-Infrared Light-Triggered DNA-Gated MSN Systems3.4 Conclusions and Perspectives; Acknowledgments; References; 4 Construction of Functional DNA Nanostructures for Theranostic Applications; 4.1 The Progress of Structural DNA Nanotechnology; 4.2 DNA Nanostructures for Diagnostics; 4.3 DNA Nanostructures for Diagnostics on the Interface; 4.4 Diagnostic in Homogeneous Solution; 4.4.1 Spherical Nucleic Acids (SNA) Probes for Detections in Solution; 4.4.2 Nanochips in Solution; 4.4.3 Intracellular/In Vivo Diagnosis; 4.5 DNA Nanostructures for Therapeutics
4.5.1 Delivery of Small-Molecular Drugs4.5.2 Delivery of CpG DNAs; 4.5.3 RNA Interference (RNAi); 4.5.4 Delivery of Proteins; 4.6 Integration of Diagnosis and Therapy: Smart DNA Theranostic Nanodevices; 4.7 Targeted Delivery; 4.8 Controlled/Triggered Release; 4.9 Summary and Perspectives; 4.9.1 The Bioeffects of DNA Nanostructures; 4.9.2 Purity and Yield; 4.9.3 Dynamic Structures for Theranostic; References; Part 2: Imaging and Therapeutics; 5 Dimercaptosuccinic Acid-Coated Magnetic Nanoparticles as a Localized Delivery System in Cancer Immunotherapy; 5.1 Introduction
5.1.1 Nanoparticle-based Drug Delivery Systems

Sommario/riassunto

"The present book is covers the recent advances in the development on the regulation of such theragnosis system and their biomedical perspectives to act as a future nanomedicine. Advanced Theranostics Materials is written by a distinguished group of contributors and provides comprehensive coverage of the current literature, up-to-date overview of all aspects of advanced theranostics materials ranging from system biology, diagnostics, imaging, image-guided therapy, therapeutics, biosensors, and translational medicine and personalized medicine, as well as the much broader task of covering most topics of biomedical research. The books focusses on the following topics: Part 1: System biology and translational medicine Aberrant Signaling Pathways: Hallmark of Cancer Cells and Target for Nanotherapeutics Application of Nanoparticles in Cancer Treatment Biomacromolecule-Gated Mesoporous Silica Drug Delivery Systems Construction of Functional DNA Nanostructures for Theranostic Applications Smart Polypeptide Nanocarriers for Malignancy Therapeutics Part 2: Imaging and therapeutics Dimercaptosuccinic acid-coated magnetic nanoparticles as a localized delivery system in cancer immunotherapy Cardiovascular nanomedicine Chitosan-based systems for sustained drug release Nanocapsules in biomedicine: promises and challenges Chitosan-based polyelectrolyte complexes: characteristics and application in formulation of particulate drug carriers Part 3: Diagnostics and featured prognostics Non-invasive Glucose Biosensors based on Nanomaterials Self/directed Assembly of Nanoparticles: A review on various approaches Ion exchangers - an open window for the development of advanced materials with pharmaceutical and medical applications New Titanium Alloys for Biomedical Applications"--