1. Record Nr. UNINA9910452672903321

Autore	Hermanson Greg T
Titolo	Bioconjugate techniques [[electronic resource]] / Greg T. Hermanson
Pubbl/distr/stampa	London, : Academic Press, c2013
ISBN	0-12-382240-8
Edizione	[3rd ed.]
Descrizione fisica	1 online resource (1165 p.)
Disciplina	574.19/296
Soggetti	Bioconjugates - Synthesis 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; Bioconjugate Techniques; Copyright Page; Dedication; Contents; Preface to the Third Edition; Acknowledgments; Health and Safety; Intellectual Property; Important Information; 1. Introduction to Bioconjugation; 1. What is Bioconjugation?; 2. Bioconjugation Strategy and Design; 2.1. Start with the Application in Mind; 2.2. Designing the Optimal Bioconjugate; 3. The Applications of Bioconjugates; 3.1. Assay and Quantification; Bioconjugates Used in Heterogeneous Immunoassays; Bioconjugates for Enzyme-Linked Immunoassays; Chemiluminescent Acridinium Ester Conjugates Fluorescent Oligonucleotide ProbesMolecular Scaffolds to Increase Assay Sensitivity; Bioconjugates Used in Homogeneous Assays; Bioconjugates for FRET Assays; Molecular Beacons and TaqMan Probes; Bioluminescence Resonance Energy Transfer (BRET); Protein Fragment Complementation Assays: Split Reporters; Mass Tags for Quantitative Mass Spectrometry; Limiting Nonspecificity in Bioconjugate Designs; 3.2. Detection, Tracking, and Imaging; Fluorescently Labeled Antibodies and Streptavidin; FRET Based Protease Probes; Interacting Proteins or Domains; Probing by Chemoselective Ligation Proximity Ligation AssaysStaining with Antibody-Enzyme Conjugates; Bioconjugates for Western Blot Detection; Bioconjugates for Super Resolution Microscopy; 3.3. Purification, Capture, and Scavenging; Purification using Immobilized Affinity Ligands; Immunoprecipitation Techniques; Affinity Capture of Post-Translational Modifications; Affinity Capture using Active Site Binding Probes; Affinity Capture of

Recombinant Fusion Proteins; Covalent Fusion Tag Technology; Scavenging of Contaminants or Unwanted Components; 3.4. Catalysis and Chemical Modification
Immobilized Proteases for Proteomic AnalysisImmobilized Reactors in Bioengineering; 3.5. Therapeutics and in vivo Diagnostics; Bioconjugates for Cancer Therapy; Antibody Targeting for Biotherapeutics; Polymeric Scaffolds and Nanoparticles for Biotherapeutic Conjugates; Antibody-Directed Enzyme Prodrug Therapy; Radiolabeled Bioconjugates for Cancer; Boron Neutron Capture Therapy; Photodynamic Therapy; Diagnostic Bioconjugates for In Vivo Imaging; Bioconjugates for Radio Imaging; Bioconjugates for High-Contrast Imaging; NIR Fluorescent Conjugates for In Vivo Imaging 3.6. Vaccines and Immune ModulationCancer Vaccines; Immunogen Conjugates in the Production of Antibodies; 4. Summary; 2. Functional Targets for Bioconjugation; 1. Modification of Amino Acids, Peptides, and Proteins; 1.1. Protein Structure and Reactivity; Amino Acids; Nucleophilic Reactions and the pI of Amino Acid Side Chains; Secondary, Tertiary, and Quaternary Structure; Prosthetic Groups, Cofactors, and Post-Translational Modifications; Protecting the Native Conformation and Activity of Proteins; Oxidation of Amino Acids in Proteins and Peptides
Solvent Accessibility of Functional Targets in Proteins

Sommario/riassunto

Bioconjugate Techniques, 3rd Edition, is the essential guide to the modification and cross linking of biomolecules for use in research, diagnostics, and therapeutics. It provides highly detailed information on the chemistry, reagent systems, and practical applications for creating labeled or conjugate molecules. It also describes dozens of reactions, with details on hundreds of commercially available reagents and the use of these reagents for modifying or crosslinking peptides and proteins, sugars and polysaccharides, nucleic acids and oligonucleotides, lipids, and synthetic polymers.<b