

| | |
|-------------------------|--|
| 1. Record Nr. | UNINA9910826143903321 |
| Titolo | Advances in protein chemistry and structural biology . Volume ninety seven : metal-containing enzymes // edited by Christo Z. Christov |
| Pubbl/distr/stampa | Waltham, Massachusetts ; ; San Diego, California : , : Academic Press, , 2014 ©2014 |
| ISBN | 0-12-800012-0 0-12-800788-5 |
| Descrizione fisica | 1 online resource (174 p.) |
| Disciplina | 572.7 |
| Soggetti | Proteins |
| 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 indexes. |
| Nota di contenuto | Front Cover; Metal-Containing Enzymes; Copyright; Contents; Contributors; Preface; Chapter 1: Type-3 Copper Proteins: Recent Advances on Polyphenol Oxidases; 1. Introduction; 2. Primary Structure and Molecular Weights of PPOs; 2.1. General sequence structure; 2.2. Core domain, C-terminal domain, and its proteolytic cleavage site; 2.3. Conserved amino acid motifs in the core domain; 2.4. Conserved amino acid motifs in the C-terminal domain; 2.5. Transit peptide and location of PPOs; 2.6. Sequence homologies within PPOs; 2.7. In vitro activation of PPOs; 2.8. In vivo activation of PPOs 2.9. Mutants of PPOs2.9.1. Mutants of plant PPOs; 2.9.2. Mutants of fungal PPOs; 2.9.3. Mutants of bacterial PPOs; 3. Oxo Complex; 3.1. Oxo complex investigated by UV/vis absorption spectroscopy; 3.2. Oxo complex investigated by CD spectroscopy; 3.3. Oxo complex investigated by resonance Raman spectroscopy; 3.4. Oxo complex of catechol oxidase; 3.5. Oxo complex of tyrosinase; 3.6. Oxo complex of aureusidin synthase; 3.7. Oxo complex of hemocyanin; 4. X-ray Crystallographic Structural Data of PPOs and Hemocyanins; 4.1. Published structures in the protein data bank 4.1.1. Published structures in the PDB of hemocyanins4.1.2. Published structures in the PDB of catechol oxidases; 4.1.3. Published structures in the PDB of tyrosinases; 4.2. Structural differences of tyrosinases and |

catechol oxidases; 5. Conclusions and Outlook; Acknowledgments; References; Chapter 2: Biophysical Studies of Matrix Metalloproteinase/Triple-Helix Complexes; 1. MMPs and Collagen Hydrolysis; 2. Structures of Full-Length, Collagenolytic MMPs in Solution and in the Solid State; 3. Structural Evaluation of MMP Interactions with Collagen; 4. Mechanism of Collagenolysis 5. Heterogeneity in MMP Structures Acknowledgment; References; Chapter 3: Catalytic Mechanisms of Metallohydrolases Containing Two Metal Ions; 1. Introduction; 2. Metallo--Lactamases, Major Culprits in the Emergence of Antibiotic Resistance; 3. Methionine Aminopeptidase, a Target for Novel Anticancer Drugs; 4. Glycerophosphodiesterase, a Very Promiscuous Potential Bioremediator; 5. PAP, an Alternative Target to Treat Osteoporosis; 6. Conclusions and Outlook: Agmatinase, an Emerging Target for Biotechnological Applications; Acknowledgments; References Chapter 4: Applications of Quantum Mechanical/Molecular Mechanical Methods to the Chemical Insertion Step of DNA and RNA ...1. Introduction; 2. Methods for Describing Reactive Pathways; 3. DNA Polymerase ; 3.1. Abashkin, Erickson, and Burt (2001): A cluster QM calculation at steps along a proposed reaction path; 3.2. Rittenhouse, Apostoluk, Miller, and Straatsma (2003): A cluster QM calculation on the prechemistry complex of Pol ; 3.3. Sawaya et al., 1997); 3.4. Batra et al., 2006); 3.5. Batra et al., 2008) 3.6. Batra et al. (2013): A QM/MM study based on the X-ray crystal structure of the Pol variant D256E

Sommario/riassunto

Published continuously since 1944, the Advances in Protein Chemistry and Structural Biology series is the essential resource for protein chemists. Each volume brings forth new information about protocols and analysis of proteins. Each thematically organized volume is guest edited by leading experts in a broad range of protein-related topics. Describes advances in metal-containing enzymes Chapters are written by authorities in their field Targeted to a wide audience of researchers, specialists, and students The information provided in the volume is well supported by a number of high quality illus
