1. Record Nr. UNINA9910133857203321

Titolo	Amyloid fibrils and prefibrillar aggregates : molecular and biological properties / / edited by Daniel Erik Otzen
Pubbl/distr/stampa	Weinheim, : Wiley-VCH, c2013
ISBN	3-527-65420-8 3-527-65418-6 3-527-65421-6
Edizione	[1st ed.]
Descrizione fisica	1 online resource (440 p.)
Altri autori (Persone)	OtzenDaniel Erik <1969->
Disciplina	572.68
Soggetti	Amyloid Glycoproteins
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	Amyloid Fibrils and Prefibrillar Aggregates; Contents; Preface; List of Contributors; 1 The Amyloid Phenomenon and Its Significance; 1.1 Introduction; 1.2 The Nature of the Amyloid State of Proteins; 1.3 The Structure and Properties of Amyloid Species; 1.4 The Kinetics and Mechanism of Amyloid Formation; 1.5 The Link between Amyloid Formation and Disease; 1.6 Strategies for Therapeutic Intervention; 1.7 Looking to the Future; 1.8 Summary; Acknowledgments; References; 2 Amyloid Structures at the Atomic Level: Insights from Crystallography 2.1 Atomic Structures of Segments of Amyloid-Forming Proteins2.1.1 Protein Segments That Form Amyloid-Related Crystals; 2.1.2 Atomic Structures of Fiber-Like Microcrystals; 2.2 Stability of Amyloid Fibers; 2.3 Which Proteins Enter the Amyloid State?; 2.4 Molecular Basis of Amyloid Polymorphism and Prion Strains; 2.5 Atomic Structures of Steric Zippers Suggest Models for Amyloid Fibers of Parent Proteins; 2.6 Atomic Structures of Steric Zippers Offer Approaches for Chemical Interventions against Amyloid Formation; 2.7 Summary; Acknowledgments; References 3 What Does Solid-State NMR Tell Us about Amyloid Structures?3.1 Introduction; 3.2 Principles of Solid-State NMR Spectroscopy and Experiments for Structural Constraints; 3.2.1 Isotope Labeling, Magic Angle Spinning, Dipolar Coupling, and Resonance Assignment; 3.2.2

Sommario/riassunto

Summing up almost a decade of biomedical research, this topical and eagerly awaited handbook is the first reference on the topic to incorporate recent breakthroughs in amyloid research. The first part covers the structural biology of amyloid fibrils and pre-fibrillar assemblies, including a description of current models for amyloid formation. The second part looks at the diagnosis and biomedical study of amyloid in humans and in animal models, while the final section discusses pharmacological approaches to manipulating amyloid and also looks at its physiological roles in lower and higher o