

1. Record Nr.	UNINA9910458636203321
Autore	Waxman Stephen G
Titolo	Molecular neurology [[electronic resource] /] / Stephen Waxman
Pubbl/distr/stampa	Burlington, MA, : Elsevier Academic Press, c2007
ISBN	1-281-03719-2 9786611037192 0-08-054618-8
Descrizione fisica	1 online resource (597 p.)
Disciplina	573.84 616.8
Soggetti	Molecular neurobiology Molecular biology 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; Molecular Neurology; Copyright Page; Contents; Contributor's List; Preface; Section I: Principles of Molecular Neurology; Chapter 1: Genetics as a Tool in Neurology; I. Introduction; II. Structure and Function of Genes and Chromosomes; III. Genetic Medicine; IV. The Neurogenetic Evaluation; V. Identification of Human Disease Genes; VI. Methods for Human Molecular Genetic Analysis; VII. Treatment of Genetic Diseases; References; Chapter 2: Neurology and Genomic Medicine; I. Introduction; II. Basic Concepts; III. The Human Genome Project (HGP) and Haplotype Mapping (HapMap) Project IV. Family HistoryV. Genetic Mechanisms; VI. Pharmacogenetics; VII. Gene-Gene and Gene-Environment Interactions; VIII. Comparative Genomic Hybridization (CGH); IX. Mitochondria and the Mitochondrial Genome (mtDNA); X. Summary; References; Chapter 3: Mitochondrial Function and Dysfunction in the Nervous System; I. Introduction; II. Structure and Functions of Mitochondria; III. Mitochondria in Mechanisms of Neuronal Cell Death and Neurological Disease; IV. Roles of Mitochondrial Dysfunction in Common Neurodegenerative Diseases; V. Conclusions; References Chapter 4: Neuronal Channels and ReceptorsI. Introduction; II.

Nomenclature; III. Structure and Function; IV. Physiological Roles; V. Neurological Disorders Caused by Channelopathies; References; Chapter 5: Protein Misfolding, Chaperone Networks, and the Heat Shock Response in the Nervous System; I. Introduction; II. Role of Molecular Chaperones in Protein Folding Quality Control; III. Regulation of Chaperone Expression: The Heat Shock Response; IV. Role of Molecular Chaperones in Neurodegenerative Diseases; V. Chaperone Hypotheses; VI. Therapeutic Avenues; References
Chapter 6: Metabolic Biopsy of the Brain I. Phosphorus Magnetic Resonance Spectroscopy; II. The Phosphocreatine Shuttle Hypothesis; III. Magnetization Transfer Measurements of ATP and Phosphocreatine Synthesis; IV. Hydrogen (Proton) Spectroscopy; V. Carbon Spectroscopy; VI. MR Spectroscopic Measurements of Cerebral Lactate; VII. The Astrocyte-Neuron Lactate Shuttle Hypothesis; VIII. Cerebral Ammonia Metabolism; IX. Summary; References; Chapter 7: Gene Therapy Approaches in Neurology; I. Why Use Gene Transfer in the Development of Novel Therapies?; II. Gene Transfer Strategies
III. Development of Neurological Gene Therapy IV. Conclusions-Future Developments; References; Chapter 8: Programmed Cell Death and Its Role in Neurological Disease; I. Introduction: Neurologists and Cell Death; II. Cell Death: History and Classification; III. Current Status of Programmed Cell Death Studies; IV. Trophic Factors and the Concept of Cellular Dependence; V. Apoptosis Induced by Unfolded, Misfolded, or Alternatively Folded Proteins; VI. Does Programmed Cell Death Play a Role in Neurodegeneration?
VII. Are Programmed Cell Death Pathways Appropriate Therapeutic Targets in Neurodegeneration?

Sommario/riassunto

Why a book on molecular neurology? Molecular neuroscience is advancing at a spectacular rate. As it does so, it is revealing important clues to the pathogenesis and pathophysiology of neurological diseases, and to the therapeutic targets that they present. Medicines work by targeting molecules. The more specific the targeting, the more specific the actions, and the fewer the side effects. This book highlights, for graduate and MD-PhD students, research fellows and research-oriented clinical fellows, and researchers in the neurosciences and other biomedical sciences, the principles underlying
