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Titolo	Neuroprotection : models, mechanisms and therapies / / edited by Mathias Bahr
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The Penumbra Concept; 1.3 Excitotoxicity; 1.4 Oxygen Free Radicals; 1.5 Tissue Acidosis; 1.6 Peri-infarct Depolarizations; 1.7 Inflammation; 1.8 Damage to the Blood-Brain-Barrier; 1.9 Programmed Cell Death and Apoptosis; 1.10 Ischemia-induced DNA Damage, DNA Repair, and p53 as Genotoxic Sensor; 1.11 Epigenetics; 1.12 Gene Expression; 1.13 Cell Replacement
1.14 Endogenous Neuroprotection - Ischemic Tolerance1.15 Stroke Induced Immune Depression (SIDS); 1.16 Conclusion; References; 2 Parkinson's Disease; 2.1 Epidemiology of Parkinson's Disease; 2.1.1 Genetic Contribution; 2.1.2 Environmental Factors; 2.2 Oxidative Stress In Parkinson's Disease; 2.3 Role of Alpha-Synuclein in Parkinson's Disease; 2.3.1 Alpha-Synuclein in Lewy Bodies; 2.3.2 Alpha-Synuclein and Oxidative Stress; 2.4 The Involvement of Proteosome in PD; 2.4.1 Parkin Involvement in PD; 2.5 Other Genes Involved in Familial Parkinson's Disease; 2.6 Neurotoxic PD Models
2.6.1 Oxidative Stress2.6.2 Dopamine Homeostasis/Complex I; 2.6.3 Proteasome; 2.7 Genetic Models of Parkinson's Disease; 2.7.1 Alpha-Synuclein Overexpressing Transgenic Animals; 2.7.2 Parkin-related Genetic Models; 2.7.3 Viral Vectors for In Vivo Gene Transfer of Disease-related Proteins to the CNS; 2.7.3.1 Local Overexpression of alpha-synuclein; 2.7.3.2 Local Overexpression of Parkin-related Proteins; Acknowledgements; References; 3 Amyotrophic Lateral Sclerosis; 3.1 Human Motor Neuron Diseases; 3.1.1 Familial ALS Linked to SOD1 Mutations; 3.1.2 Juvenile ALS Linked to Alsin Mutations
3.2 Cell Culture Models of Motoneuron Degeneration3.2.1 Neuronal Cell Lines; 3.2.2 Isolated Motoneuron Cultures; 3.2.3 Organotypic Cultures; 3.3 Animal Models of Motor Neuron Disease; 3.3.1 Axotomy Models; 3.2 Mutant SOD1 Mice; 3.3.3 pmn Mice; 3.4 Future Neuroprotective Approaches; 3.4.1 Axonal Protection; 3.4.2 Mutant SOD1 Knockdown by RNA Interference; 3.5 Conclusion; References; 4 Alzheimer's Disease and Other Neurodegenerative Diseases; Abstract; 4.1 Introduction; 4.2 Transgenic Invertebrates; 4.3 Transgenic Mice; 4.3.1 Tyrosine Hydroxylase (TH) Promoter
4.3.2 Platelet-derived Growth Factor- (PDGF) Promoter4.3.3 Thy1 Promoter; 4.3.4 Prion Protein (PrP) Promoter; 4.3.5 Glial Expression; 4.4 Viral Models; 4.5 Conclusion and Outlook; References; 5 CNS Inflammation; 5.1 Introduction; 5.2 The Pathologic Characteristics of the MS Plaque; 5.3 Axonal Pathology in MS; 5.4 Neuronal Pathology in Multiple Sclerosis; 5.5 Lessons from Animal Models; References; 6 Neurotrauma; 6.1 Introduction; 6.2 In Vivo Models; 6.2.1 Static Brain Injury Models; 6.2.2 Dynamic Brain Injury Models; 6.2.2.1 Indirect Dynamic Brain Injury; 6.2.2.2 Direct Dynamic Brain Injury
6.2.3 Combined Neurotrauma Models

Sommario/riassunto

In this first book to cover model systems, molecular mechanisms and clinical trials all in one volume internationally renowned scientists and clinicians provide a comprehensive treatment of neuroprotective strategies for all important neurological disorders.Following an overview of neurodegenerative, traumatic, and ischemic disorders, the book goes on to cover in vitro and animal model systems as well as cellular and molecular mechanisms. An extremely helpful analysis of clinical studies explains reasons for their success and failure, and the whole is rounded off with a look at the current