

Contents

Amyloid- β : General Aspects

Role of Aβ Degrading Enzymes in Synaptic Plasticity and Neurogenesis in Alzheimer's Disease	3
Leslie Crews, Brian Spencer, and Eliezer Masliah	

Pore-Forming Neurotoxin-Like Mechanism for Aβ Oligomer-Induced Synaptic Failure	13
Luis G. Aguayo, Jorge Parodi, Fernando J. Sepúlveda, and Carlos Opazo	

Interventions in Aging and Neurodegenerative Disease: Effects on Adult Stem Cells	23
Adam D. Bachstetter, Carmellina Gemma, and Paula C. Bickford	

Neuronal Cytoskeleton and the Tau Hypothesis

Tau Transgenic Mouse Models in Therapeutic Development	41
Hanno M. Roder	

What Have We Learned from the Tau Hypothesis?	49
Ricardo B. Maccioni, Gustavo A. Farias, Leonel E. Rojo, M. Alejandra Sekler, and Rodrigo O. Kuljis	

Neuronal Cytoskeleton Regulation and Neurodegeneration	63
Ya-Li Zheng, Niranjana D. Amin, Parvathi Rudrabhatla, Sashi Kesavapany, and Harish C. Pant	

Stages of Pathological Tau-Protein Processing in Alzheimer's Disease: From Soluble Aggregations to Polymerization into Insoluble Tau-PHF's	79
Raúl Mena and José Luna-Muñoz	

Plasma Membrane-Associated PHF-Core Could be the Trigger for Tau Aggregation in Alzheimer's Disease.	93
Karla I. Lira-De León, Martha A. De Anda-Hernández, Victoria Campos-Peña, and Marco A. Meraz-Ríos	
Oxidative Stress Hypothesis	
Neurofibrillary Tangle Formation as a Protective Response to Oxidative Stress in Alzheimer's Disease	103
Akihiko Nunomura, Atsushi Takeda, Paula I. Moreira, Rudy J. Castellani, Hyoung-gon Lee, Xiongwei Zhu, Mark A. Smith, and George Perry	
Neuroimmunological Hypothesis	
Inflammatory Processes Exacerbate Degenerative Neurological Disorders.	117
Patrick L. McGeer, Edith G. McGeer, and Claudia Schwab	
Central Nervous System Inflammation and Cholesterol Metabolism Alterations in the Pathogenesis of Alzheimer's Disease and Their Diagnostic and Therapeutic Implications.	125
Leonel E. Rojo, Jorge Fernández, José Jiménez, Andrea A. Maccioni, Alejandra Sekler, Rodrigo O. Kuljis, and Ricardo B. Maccioni	
Participation of Glial Cells in the Pathogenesis of AD: A Different View on Neuroinflammation	139
Rommy von Bernhardi	
Cerebrovascular Pathology and AD	
Cerebral and Cardiac Vascular Pathology in Alzheimer's Disease.	159
Jack C. de la Torre	
Are Amyloids Infectious?	171
Rodrigo Morales, Baian Chen, and Claudio Soto	
The Possible Link Between Herpes Simplex Virus Type 1 Infection and Neurodegeneration	181
Carola Otth, Angara Zambrano, and Margarita Concha	

General Aspects of AD Pathogenesis

Selective Cerebrocortical Regional, Laminar, Modular and Cellular Vulnerability and Sparing in Alzheimer's Disease: Unexploited Clues to Pathogenesis, Pathophysiology, Molecular- and Systems-Level Hypothesis Generation and Experimental Testing	191
Rodrigo O. Kuljis	

How Biochemical Pathways for Disease May be Triggered by Early-Life Events.	205
Debomoy K. Lahiri, Bryan Maloney, and Nasser H. Zawia	

Biomarkers and AD

Strategies for Alzheimer's Disease Diagnosis.	217
Lisbell D. Estrada and Claudio Soto	

Cognitive Neurology in AD

The Diagnosis of Dementia in Subjects with Heterogeneous Educational Levels	229
Maria Teresa Carthery-Goulart, Paulo Caramelli, and Ricardo Nitrini	

Current Anti-Dementia Drugs: Hypothesis and Clinical Benefits.	237
Patricio Fuentes	

Index.	243
-----------------------	------------

Current Hypotheses and Research Milestones in
Alzheimer's Disease

Maccioni, R.B.; Perry, G. (Eds.)

2009, X, 254 p. 135 illus., 35 illus. in color., Hardcover

ISBN: 978-0-387-87994-9