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Nota di contenuto	Cover; Title Page; Copyright; Contents; Contributors; Preface; Part I Introduction; Chapter 1 Immune Response in the Human Central Nervous System in Multiple Sclerosis and Stroke; Introduction; The Concept of Neuroinflammation; Basic Principles of Immune Surveillance and Inflammation by Adaptive Immune Responses; Inflammation in the Central Nervous System of Patients with Multiple Sclerosis; Inflammation in Stroke Lesions; Microglia Activation and Macrophage Response; Granulocyte Infiltration; Conclusions; References Chapter 2 In Vivo Imaging of Glial and Immune Cell Responses in Central Nervous System Injury and DiseaseIntroduction; Intravital Microscopy in the CNS and Its Challenges; In Vivo Imaging of the CNS Following Sterile Injury; In Vivo Imaging of the CNS in Disorders with an Inflammatory Component; Conclusion; Acknowledgments; References; Part II Detrimental Aspects of Inflammation; Chapter 3 Roles of CD4 and CD8 T Lymphocytes in Multiple Sclerosis and Experimental Autoimmune Encephalomyelitis; Introduction; T Lymphocytes: Central Immune Cells; Autoreactive T Lymphocytes From Peripheral Activation to CNS ExtravasationRole of CD4 T Lymphocytes in MS and EAE: Th1 versus Th17; Role of CD8 T Lymphocytes in MS and EAE; Regulatory T Lymphocytes in MS and EAE; Conclusions; Acknowledgments; References; Chapter 4 Microglia and

Macrophage Responses and Their Role after Spinal Cord Injury; Introduction; Microglial Responses to Injury; Interactions between Microglia and Other Cell Types in Signaling Responses to Injury; Entry of Peripheral Macrophages and Differences with Microglia; Diverse Roles of Macrophages/Microglia in CNS Injury and Disease Macrophage Polarization in SCI Concluding Remarks; Acknowledgments; References; Chapter 5 The Complexity of the Innate Immune System Activation in Stroke Pathogenesis; Activation of the Brain Innate Immunity After Stroke; Myeloid Heterogeneity in Brain Ischemia; Concluding Remarks; References; Chapter 6 Neuroinflammation in Aging; Increased CNS Inflammation in Response to Immune Challenge is Adaptive and Beneficial; The CNS Microenvironment Shifts to a Proinflammatory State with Aging; Microglial Priming; Microglial Regulation Immune Reactivity of Glia Contributes to Cognitive and Behavioral Deficits Conclusions; References; Chapter 7 Peripheral and Central Immune Mechanisms in Neuropathic Pain; Introduction; Inflammation in Neuropathic Pain; Contribution of Peripheral Immune Cells to the Pathogenesis of Neuropathic Pain; Critical Roles of Spinal Glial Activation in Neuropathic Pain; Significance of Neural Barriers in Inflammatory Response along Pain Transmission Pathway; Imbalance of Pro- and Anti-inflammatory Responses in Neuropathic Pain Challenges in Translating Anti-inflammatory Therapeutic Strategies for the Relief of Neuropathic Pain

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Sommario/riassunto

Neuroinflammation has long been studied in its connection to the development and progression of Multiple Sclerosis. In recent years, the field has expanded to look at the role of inflammatory processes in a wide range of neurological diseases and cognitive disorders including Alzheimer's Disease, Parkinson's and autism. Researchers have also started to appreciate the beneficial impacts of neuroinflammation in certain diseases. Neuroinflammation in the Central Nervous System looks across the discipline and provides a comprehensive picture of the field. Neuroinflammation in the Central Nervous Sys

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