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Nota di contenuto	Chapter1.. Aging and Neurodegeneration -- Chapter2.. Introduction to Cellular Senescence -- Chapter3.. Introduction to Senescence-Associated Secretory Phenotype (SASP) -- Chapter4.. Cellular senescence in the aging brain -- Chapter5.. Neurodegeneration in the aging brain: role of cellular senescence -- Chapter6.. Cellular senescence in Alzheimer's Disease (AD) -- Chapter7.. Cellular senescence in Parkinson's Disease (PD) -- Chapter8.. Cellular senescence in Huntington's Disease (HD) -- Chapter9.. Cellular senescence in Amyotrophic Lateral Sclerosis (ALS) -- Chapter10.. Cellular senescence in Vascular Dementia (VaD) -- Chapter11.. Cellular

senescence in Multiple Sclerosis (MS) -- Chapter12.. Future Prospects and Challenges.

Sommario/riassunto

The book examines the cellular senescence in brain aging processes and its effects on three major neurodegenerative conditions: Alzheimer’s disease, Parkinson’s disease, and Huntington’s disease. It discusses basic aging mechanisms, including oxidative stress, mitochondrial dysfunction, and neuroinflammation, before moving on to current treatments such as senolytics and autophagy modulators. The book is divided into several chapters, with specific sections dedicated to experimental approaches, detection methods, and disease-by-disease analysis of cellular senescence effects. A specific chapter explores the clinical potential of senescence-targeting therapies and discusses upcoming study pathways. This publication is aimed at researchers in neuroscience, clinicians, graduate students, neuroscientists, and neuropharmacology professionals involved in the assessment of age-related disorders. It delivers thorough expertise by combining research evidence on brain aging with methods to combat cognitive decline. The structured system within this publication creates connections between basic research and medical implementation, providing essential knowledge for treating neurodegeneration.