1. Record Nr. UNINA9911015632903321

Autore	Loos Ben
Titolo	Autophagy - From Molecular Mechanisms to Flux Control in Health and Disease / / edited by Ben Loos, Daniel J. Klionsky
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2025
ISBN	3-031-88121-4
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (446 pages)
Collana	Learning Materials in Biosciences, , 2509-6133
Altri autori (Persone)	KlionskyDaniel J
Disciplina	571.6
Soggetti	Cytology Aging Biochemistry Metabolism Neurosciences Cancer Cell Biology Cellular Senescence Metabolic Pathways Neuroscience Cancer Biology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1. How to Learn, and Teach, Autophagy -- Chapter 2. Discerning autophagy pathway intermediates – transmission electron microscopy techniques -- Chapter 3. Assessment of Autophagy: Correlative and Super-Resolution Microscopy Techniques -- Chapter 4. Autophagy receptors couple cargo destined to be degraded with the core autophagy machinery -- Chapter 5. The source of membrane during autophagy and the early steps in autophagosome formation -- Chapter 6. Autophagy and neurodegenerative diseases -- Chapter 7. Autophagy and intracellular membrane dynamics in aging and age-related diseases -- Chapter 8. Shear stress-dependent regulation of autophagy and metabolism in kidney epithelial cells -- Chapter 9. Autophagy assessment in diagnostic pathology: Focus on skeletal

myopathies -- Chapter 10. The role of autophagy and mitophagy in cardiomyocyte ischemic injury -- Chapter 11. Chaperone-mediated autophagy in health and disease -- Chapter 12. A phenotypic screening routine for the identification of autophagic flux inducers.

Sommario/riassunto

This textbook describes the autophagy pathway with all its key molecular mechanisms and its physiological functions from yeast to eukaryotes in a didactic and reader-friendly manner. It provides the most critical aspects that need to be understood to foster research and clinical translation in this area. Autophagy activity, mechanism and control in the context of cellular fate are central to this book, underpinned by human pathologies of priority. Further, key chapters describing major techniques required to assess autophagy activity, and highlighting starting points for the research of potential drug candidates and clinical translation, offer detailed insight into practice and application. The work represents a comprehensive study guide that allows undergraduate and postgraduate students in biology and biomedicine to rapidly engage with the most critical and recent aspects of autophagy in health and its control of disease. Written in a style that may be favourable for its use in the classroom, this book can also serve as a valuable source for teaching in the biomedical and medical sciences.