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Collana	Advances in Neurobiology, , 2190-5223 ; ; 33
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Soggetti	Neurosciences Cytology Zoology Neurology Neuroscience Cell Biology
Lingua di pubblicazione	Inglese
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Nota di contenuto	The Architecture of the Presynaptic Release Site.-Cytomatrix Proteins in Presynaptic Terminal. - Multiple Modes of Fusion and Retrieval at the Calyx of Held Synapse -- Roles of SNARE Proteins in Synaptic Vesicle Fusion -- Calcium Sensors of Neurotransmitter Release. - Roles and Sources of Calcium in Synaptic Exocytosis -- Regulation of Presynaptic Calcium Channels -- Roles of mUnc13/UNC-13 and mUnc18/UNC-18 in Neurotransmitter Release. - The role of tomosyn in the regulation of neurotransmitter exocytosis. -Roles of complexins in Neurotransmitter Release. -Regulation of Neurotransmitter Release by AIPR-1/AIP and calstabins. - The Role of Potassium Channels in the Regulation of Neurotransmitter Release -- Roles of Neuropeptides in Synaptic Function. - Transsynaptic Regulation of Presynaptic Release Machinery in Central Synapses by Cell Adhesion Molecules. - Lipids and Secretory Vesicle Exocytosis -- Synaptic Vesicle Endocytosis.
Sommario/riassunto	Neurons communicate with each other by releasing neurotransmitters. This book provides comprehensive coverage of the molecular mechanisms involved in neurotransmitter release. The topics covered in

the book range from the architecture and cytomatrix proteins of presynaptic sites, to the modes of synaptic vesicle exocytosis (full-collapse and kiss-and-run), and from the key molecules mediating synaptic vesicle fusion (SNAREs) to those that closely interact with them (UNC-13/Munc13, UNC-18/Munc18, tomosyn, and complexins). The book also delves into the calcium sensors of synaptic vesicle fusion (synaptotagmins and Doc2s), the sources of calcium that trigger synaptic exocytosis (voltage-gated calcium channels and ryanodine receptors), and the regulation of neurotransmitter release by potassium channels, cell adhesion molecules, lipids, aryl hydrocarbon receptor-interacting protein (AIP), presenilins, and calstabins. To aid in understanding and illustrate key concepts, the book includes sufficient background information and a wealth of illustrations and diagrams. The new edition includes major updates to previous chapters, as well as several new chapters that reflect the recent advances in the field. Comprehensive and cutting-edge, *Molecular Mechanisms of Neurotransmitter Release*, 2nd edition, is a valuable learning resource for neuroscience students and a solid reference for neuroscientists.
