

# Contents

<b>1 The Architecture of the Presynaptic Release Site</b> . . . . .	1
R. Grace Zhai	
<b>2 Multiple Modes of Fusion and Retrieval at the Calyx of Held Synapse</b> . . . . .	17
Liming He, Benjamin D. McNeil, and Ling-Gang Wu	
<b>3 Roles of SNARE Proteins in Synaptic Vesicle Fusion</b> . . . . .	35
Mark T. Palfreyman and Erik M. Jorgensen	
<b>4 Roles and Sources of Calcium in Synaptic Exocytosis</b> . . . . .	61
Zhao-Wen Wang, Bojun Chen, and Qian Ge	
<b>5 Regulation of Presynaptic Calcium Channels</b> . . . . .	85
Allen W. Chan and Elise F. Stanley	
<b>6 Synaptotagmin: Transducing Ca<sup>2+</sup>-Binding to Vesicle Fusion</b> . . . . .	107
Carin Loewen and Noreen Reist	
<b>7 Functional Interactions Among the SNARE Regulators UNC-13, Tomosyn, and UNC-18</b> . . . . .	135
Robby M. Weimer and Janet E. Richmond	
<b>8 Roles of the ELKS/CAST Family and SAD Kinase in Neurotransmitter Release</b> . . . . .	157
Toshihisa Ohtsuka and Yoshimi Takai	
<b>9 The Role of Potassium Channels in the Regulation of Neurotransmitter Release</b> . . . . .	171
Laurence O. Trussell and Michael T. Roberts	

<b>10</b>	<b>Modulation of Neurotransmitter Release and Presynaptic Plasticity by Protein Phosphorylation</b> . . . . .	187
	Zu-Hang Sheng	
<b>11</b>	<b>Synaptic Vesicle Endocytosis</b> . . . . .	207
	Liesbet Smitz and Patrik Verstreken	
<b>12</b>	<b>Lipids and Secretory Vesicle Exocytosis</b> . . . . .	239
	Shona L. Osborne and Frederic A. Meunier	
<b>13</b>	<b>Neurotransmitter Reuptake and Synaptic Vesicle Refilling</b> . . . . .	263
	Richard J. Reimer, Kimberly A. Zaia, and Hiroaki Tani	
<b>14</b>	<b>Regulation of Neurotransmitter Release by Presynaptic Receptors</b> . . . . .	297
	Matthew Frerking and Joyce Wondolowski	
<b>15</b>	<b>Transsynaptic Regulation of Presynaptic Release Machinery in Central Synapses by Cell Adhesion Molecules</b> . . . . .	315
	Kensuke Futai and Yasunori Hayashi	
<b>16</b>	<b>Differential Regulation of Small Clear Vesicles and Large Dense-Core Vesicles</b> . . . . .	327
	Tao Xu and Pingyong Xu	
	<b>Index</b> . . . . .	341