Contents

1 The Architecture of the Presynaptic Release Site ................. 1
   R. Grace Zhai

2 Multiple Modes of Fusion and Retrieval at the Calyx of Held Synapse ............................................. 17
   Liming He, Benjamin D. McNeil, and Ling-Gang Wu

3 Roles of SNARE Proteins in Synaptic Vesicle Fusion .......... 35
   Mark T. Palfreyman and Erik M. Jorgensen

4 Roles and Sources of Calcium in Synaptic Exocytosis ........ 61
   Zhao-Wen Wang, Bojun Chen, and Qian Ge

5 Regulation of Presynaptic Calcium Channels .................. 85
   Allen W. Chan and Elise F. Stanley

6 Synaptotagmin: Transducing Ca\(^{2+}\)-Binding to Vesicle Fusion .................................................. 107
   Carin Loewen and Noreen Reist

7 Functional Interactions Among the SNARE Regulators
   UNC-13, Tomosyn, and UNC-18 ...................................... 135
   Robby M. Weimer and Janet E. Richmond

8 Roles of the ELKS/CAST Family and SAD Kinase in Neurotransmitter Release ........................................ 157
   Toshihisa Ohtsuka and Yoshimi Takai

9 The Role of Potassium Channels in the Regulation of Neurotransmitter Release ..................................... 171
   Laurence O. Trussell and Michael T. Roberts
10 Modulation of Neurotransmitter Release and Presynaptic Plasticity by Protein Phosphorylation .......................... 187
   Zu-Hang Sheng

11 Synaptic Vesicle Endocytosis ........................................ 207
   Liesbet Smitz and Patrik Verstreken

12 Lipids and Secretory Vesicle Exocytosis ............................. 239
   Shona L. Osborne and Frederic A. Meunier

13 Neurotransmitter Reuptake and Synaptic Vesicle Refilling .................. 263
   Richard J. Reimer, Kimberly A. Zaia, and Hiroaki Tani

14 Regulation of Neurotransmitter Release by Presynaptic Receptors ............ 297
   Matthew Frerking and Joyce Wondolowski

15 Transsynaptic Regulation of Presynaptic Release Machinery in Central Synapses by Cell Adhesion Molecules .......... 315
   Kensuke Futai and Yasunori Hayashi

16 Differential Regulation of Small Clear Vesicles and Large Dense-Core Vesicles .................................. 327
   Tao Xu and Pingyong Xu

Index ................................................................. 341
Molecular Mechanisms of Neurotransmitter Release
Wang, Z.-W. (Ed.)
2008, XIII, 347 p., Hardcover
ISBN: 978-1-934115-38-1
A product of Humana Press