

CONTENTS

Contributors

ix

1. Dendritic Remodeling: Lessons from Invertebrate Model Systems 1

Takahiro Kanamori, Kazuya Togashi, Hiroyuki Koizumi, Kazuo Emoto

1. Introduction 2
2. Dendritic Changes during Transition from Larval to Adult Circuits in Fly Peripheral Nervous System 3
3. Pruning of Larval Dendrites: Molecular Mechanisms 5
4. Regrowth and Reshaping of Adult Dendrites 16
5. Dendritic Remodeling in Other Invertebrate Model Systems 18
6. Conclusions and Future Directions 19
- Acknowledgments 20
- References 20

2. Connexins: Intercellular Signal Transmitters in Lymphohematopoietic Tissues 27

Daniel González-Nieto, Kyung-Hee Chang, Ilaria Fasciani, Ramesh Nayak, Laura Fernandez-García, Luis C. Barrio, José A. Cancelas

1. Introduction 28
2. BM Stem Cell Niche(s): Anatomy and Physiology 29
3. Cxs and Gap Junctions: Channels and Hemichannels 32
4. Cxs in BM: Cells Expressing Cxs 35
5. Cxs in Other BM and Blood Cells 38
6. Cxs as Regulators of Hematopoietic Function 41
7. Conclusions and Expectations 53
- Acknowledgments 54
- References 54

3. Engineered Minichromosomes in Plants: Structure, Function, and Applications 63

Nathaniel D. Graham, Jon P. Cody, Nathan C. Swyers, Morgan E. McCaw, Changzeng Zhao, James A. Birchler

1. Introduction 64
2. Structure 67
3. Methods for Producing Minichromosomes 77

4. History of Minichromosomes	88
5. Function	90
6. Improvement	92
7. Conclusion	107
References	107
4. New Insights into the Role of Ubiquitin Networks in the Regulation of Antiapoptosis Pathways	121
Tomoko Asaoka, Fumiyo Ikeda	
1. Introduction	122
2. Dynamic Ubiquitin Modification Regulated by Enzymatic Reactions	123
3. Linkage-Specific Recognition of Polyubiquitin Chains in Signaling Complexes	131
4. Regulation of Programmed Cell Death Signaling Cascades by Ubiquitination	133
5. TNFR-Mediated Cell Killing—A Case Study of Ubiquitin Signaling	141
6. Concluding Remarks	146
Acknowledgments	147
References	147
5. Formation of Tubulovesicular Carriers from Endosomes and Their Fusion to the <i>trans</i>-Golgi Network	159
Aitor Hierro, David C. Gershlick, Adriana L. Rojas, Juan S. Bonifacino	
1. Introduction	160
2. Endosome Maturation: Overview	161
3. Coat Complexes in Endosomal Sorting	165
4. Tubulovesicle Arrivals at TGN	177
5. Concluding Remarks and Open Questions	186
Acknowledgments	187
References	187
6. Insights into Transcriptional Regulation of Hepatic Glucose Production	203
Komsan Anyamaneeratch, Pinnara Rojvirat, Witchuda Sukjoi, Sarawut Jitrapakdee	
1. Introduction	205
2. Hepatic Glucose Production	206
3. Hormonal Responsive Transcription Factors and Coactivators which Govern Hepatic Glucose Production	219
4. Circadian Regulation	236

5. Conclusion Remark	237
Acknowledgments	237
References	237
7. Tropomyosin as a Regulator of Actin Dynamics	255
Sofia Yu. Khaitlina	
1. Introduction	256
2. Tropomyosin Properties and Actin Binding	258
3. Actin Properties Regulated by Tropomyosin	265
4. Effects of Tropomyosin on Actin Filament Assembly and Dynamics	268
5. Concluding Remarks	281
Acknowledgment	282
References	282
<i>Index</i>	293