

Contents

Part I History of Drebrin Discovery as an General Introduction

- 1 General Introduction to Drebrin** 3
Tomoaki Shirao and Yuko Sekino

Part II Basic Information About Drebrin

- 2 Molecular Cloning of Drebrin: Progress and Perspectives** 25
Nobuhiko Kojima
- 3 Biochemistry of Drebrin and Its Binding to Actin Filaments** 37
Ryoki Ishikawa
- 4 Phosphorylation of Drebrin and Its Role in Neuritogenesis** 49
Phillip R. Gordon-Weeks
- 5 Remodeling of Actin Filaments by Drebrin A and Its Implications** . . . 61
Elena E. Grintsevich
- 6 Cell Shape Change by Drebrin** 83
Kensuke Hayashi

Part III Drebrin in Nervous System

- 7 Localization of Drebrin: Light Microscopy Study** 105
Tomoaki Shirao, Noriko Koganezawa, Hiroyuki Yamazaki,
Kenji Hanamura, and Kazuyuki Imamura
- 8 Making of a Synapse: Recurrent Roles of Drebrin
A at Excitatory Synapses Throughout Life** 119
Chiye Aoki and Ang D. Sherpa
- 9 Drebrin in Neuronal Migration and Axonal Growth** 141
Kenji Hanamura

10	Drebrin and Spine Formation	157
	Hideto Takahashi and Yusuke Naito	
11	Role of Drebrin in Synaptic Plasticity	183
	Yuko Sekino, Noriko Koganezawa, Toshiyuki Mizui, and Tomoaki Shirao	
12	Drebrin in Alzheimer's Disease	203
	Yuta Ishizuka and Kenji Hanamura	
13	Drebrins and Connexins: A Biomedical Perspective	225
	Irina V. Majoul, Justus S. Ernesti, Eugenia V. Butkevich, and Rainer Duden	
14	Homer, Spikar, and Other Drebrin-Binding Proteins in the Brain	249
	Hiroyuki Yamazaki and Tomoaki Shirao	
 Part IV Drebrin in Nervous System		
15	Role of Drebrin at the Immunological Synapse	271
	Vera Rocha-Perugini, Mónica Gordon-Alonso, and Francisco Sánchez-Madrid	
16	Drebrin Regulation of Calcium Signaling in Immune Cells	281
	Jonathan Pabon, Man Kit Law, and Avery August	
17	Drebrin and Spermatogenesis	291
	Haiqi Chen, Michelle W.M. Li, and C. Yan Cheng	
18	Drebrin at Junctional Plaques	313
	Wiebke K. Ludwig-Peitsch	
19	Juxtannuclear Drebrin-Enriched Zone	329
	Wiebke K. Ludwig-Peitsch	
20	Drebrin in Renal Glomeruli	337
	Wiebke K. Ludwig-Peitsch	
21	Drebrin's Role in the Maintenance of Endothelial Integrity	347
	Kerstin Rehm and Stefan Linder	
22	Regulation of Skeletal Myoblast Differentiation by Drebrin	361
	Robert S. Krauss	
23	The Role of Drebrin in Cancer Cell Invasion	375
	Anna E. Dart and Phillip R. Gordon-Weeks	
	Index	391

Drebrin

From Structure and Function to Physiological and
Pathological Roles

Shirao, T.; Sekino, Y. (Eds.)

2017, XII, 401 p. 111 illus., 82 illus. in color., Hardcover

ISBN: 978-4-431-56548-2