
Contents

<i>Preface</i>	<i>v</i>
<i>Contributors</i>	<i>xi</i>
PART I BACKGROUND	
1 ER to Golgi-Dependent Protein Secretion: The Conventional Pathway <i>Corrado Viotti</i>	3
2 Unconventional Protein Secretion in Animal Cells. <i>Fanny Ng and Bor Luen Tang</i>	31
3 Unconventional Protein Secretion in Plants. <i>Destiny J. Davis, Byung-Ho Kang, Angelo S. Heringer, Thomas E. Wilkop, and Georgia Drakakaki</i>	47
PART II UPS CONTEMPLATES MULTIDISCIPLINARY APPROACHES FOR PLANTS	
4 Chemical Secretory Pathway Modulation in Plant Protoplasts <i>Francesca De Marchis, Andrea Pompa, and Michele Bellucci</i>	67
5 From Cytosol to the Apoplast: The Hygromycin Phosphotransferase (HYG ^R) Model in Arabidopsis <i>Haiyan Zhang and Jinjin Li</i>	81
6 Following the Time-Course of Post-pollination Events by Transmission Electron Microscopy (TEM): Buildup of Exosome-Like Structures with Compatible Pollinations <i>Darya Safavian, Jennifer Doucet, and Daphne R. Goring</i>	91
PART III UPS CONTEMPLATES MULTIDISCIPLINARY APPROACHES FOR ANIMALS AND FUNGI	
7 Investigating Alternative Transport of Integral Plasma Membrane Proteins from the ER to the Golgi: Lessons from the Cystic Fibrosis Transmembrane Conductance Regulator (CFTR) <i>Margarida D. Amaral, Carlos M. Farinha, Paulo Matos, and Hugo M. Botelho</i>	105
8 Quantification of a Non-conventional Protein Secretion: The Low-Molecular-Weight FGF-2 Example. <i>Tania Arcondéguy, Christian Touriol, and Eric Lacazette</i>	127
9 Human Primary Keratinocytes as a Tool for the Analysis of Caspase-1-Dependent Unconventional Protein Secretion <i>Gerhard E. Strittmatter, Martha Garstkiewicz, Jennifer Sand, Serena Grossi, and Hans-Dietmar Beer</i>	135

10	A Reporter System to Study Unconventional Secretion of Proteins Avoiding N-Glycosylation in <i>Ustilago maydis</i>	149
	<i>Janpeter Stock, Marius Terfrüchte, and Kerstin Schipper</i>	
11	Stress-Inducible Protein 1 (STI1): Extracellular Vesicle Analysis and Quantification	161
	<i>Marcos Vinicios Salles Dias, Vilma Regina Martins, and Glaucia Noeli Maroso Hajj</i>	
12	Analysis of Yeast Extracellular Vesicles	175
	<i>Marcio L. Rodrigues, Debora L. Oliveira, Gabriele Vargas, Wendell Girard-Dias, Anderson J. Franzen, Susana Frases, Kildare Miranda, and Leonardo Nimrichter</i>	
13	Exploring the <i>Leishmania</i> Hydrophilic Acylated Surface Protein B (HASPB) Export Pathway by Live Cell Imaging Methods	191
	<i>Lorna MacLean, Helen Price, and Peter O'Toole</i>	
14	Characterization of the Unconventional Secretion of the Ebola Matrix Protein VP40	205
	<i>Olivier Reynard and Mathieu Mateo</i>	
15	Role and Characterization of Synuclein- γ Unconventional Protein Secretion in Cancer Cells	215
	<i>Caiyun Liu, Like Qu, and Chengchao Shou</i>	
PART IV SECRETOME ISOLATION FROM PLANT AND ANIMAL SAMPLES TO IDENTIFY LEADERLESS SECRETORY PROTEINS (LSP)		
16	Characterization of the Tumor Secretome from Tumor Interstitial Fluid (TIF)	231
	<i>Pavel Gromov and Irina Gromova</i>	
17	Vacuum Infiltration-Centrifugation Method for Apoplastic Protein Extraction in Grapevine.	249
	<i>Bertrand Delaunais, Fabienne Baillieul, Christophe Clément, Philippe Jeandet, and Sylvain Cordelier</i>	
18	Isolation of Exosome-Like Vesicles from Plants by Ultracentrifugation on Sucrose/Deuterium Oxide (D ₂ O) Density Cushions	259
	<i>Christopher Stanly, Immacolata Fiume, Giovambattista Capasso, and Gabriella Pocsfalvi</i>	
	<i>Index</i>	271

Unconventional Protein Secretion

Methods and Protocols

Pompa, A.; De Marchis, F. (Eds.)

2016, XIV, 273 p. 43 illus., 28 illus. in color., Hardcover

ISBN: 978-1-4939-3802-5

A product of Humana Press