
Contents

<i>Preface</i>	<i>v</i>
<i>Acknowledgment</i>	<i>vii</i>
1 Plant Tissue Cultures	1
<i>Anna Kärkönen, Arja Santanen, Kuninori Iwamoto, and Hiroo Fukuda</i>	
2 Computerized Molecular Modeling of Carbohydrates	21
<i>Alfred D. French and Glenn P. Johnson</i>	
3 Oligosaccharide Mass Profiling (OLIMP) of Cell Wall Polysaccharides by MALDI-TOF/MS	43
<i>Markus Günl, Florian Kraemer, and Markus Pauly</i>	
4 High-Voltage Paper Electrophoresis (HVPE) of Cell-Wall Building Blocks and Their Metabolic Precursors	55
<i>Stephen C. Fry</i>	
5 Carbohydrate Gel Electrophoresis	81
<i>Florence Goubet, Paul Dupree, and Katja Salomon Johansen</i>	
6 Capillary Electrophoresis with Detection by Laser-Induced Fluorescence	93
<i>Andrew Mort and Xiangmei Wu</i>	
7 Monoclonal Antibodies, Carbohydrate-Binding Modules, and the Detection of Polysaccharides in Plant Cell Walls	103
<i>Cécile Hervé, Susan E. Marcus, and J. Paul Knox</i>	
8 Screening and Characterization of Plant Cell Walls Using Carbohydrate Microarrays	115
<i>Iben Sørensen and William G.T. Willats</i>	
9 Electron Tomography and Immunogold Labelling as Tools to Analyse De Novo Assembly of Plant Cell Walls	123
<i>Marisa S. Otegui</i>	
10 Analysing Cellulose Biosynthesis with Confocal Microscopy	141
<i>Meera Nair and Seth DeBolt</i>	
11 Visual Mapping of Cell Wall Biosynthesis	153
<i>Yumiko Sakuragi, Morten H.H. Nørholm, and Henrik V. Scheller</i>	
12 Atomic Force Microscopy of Plant Cell Walls	169
<i>Andrew R. Kirby</i>	
13 Using Solid-State ¹³ C NMR Spectroscopy to Study the Molecular Organisation of Primary Plant Cell Walls	179
<i>Tracey J. Bootten, Philip J. Harris, Laurence D. Melton, and Roger H. Newman</i>	
14 Formation of Cellulose-Based Composites with Hemicelluloses and Pectins Using <i>Gluconacetobacter</i> Fermentation	197
<i>Deirdre Mikkelsen and Michael J. Gidley</i>	

15	Structural Proteins of the Primary Cell Wall: Extraction, Purification, and Analysis	209
	<i>Derek T.A. Lamport, Li Tan, and Marcia J. Kieliszewski</i>	
16	New Insights into the Control of Cell Growth	221
	<i>Claudia Blankopf, Matthäus Z. Krol, and Georg J. Seifert</i>	
17	Extraction and Detection of Arabinogalactan Proteins	245
	<i>Zoë A. Popper</i>	
18	Characterization of the Plant Cell Wall Proteome Using High-Throughput Screens	255
	<i>Sang-Jik Lee and Jocelyn K.C. Rose</i>	
19	Knocking Out the Wall: Protocols for Gene Targeting in <i>Physcomitrella patens</i>	273
	<i>Alison W. Roberts, Christos S. Dimos, Michael J. Budziszek, Jr., Chessa A. Goss, and Virginia Lai</i>	
20	Measuring <i>In Vitro</i> Extensibility of Growing Plant Cell Walls	291
	<i>Daniel J. Cosgrove</i>	
	<i>Index</i>	305



<http://www.springer.com/978-1-61779-007-2>

The Plant Cell Wall

Methods and Protocols

Popper, Z. (Ed.)

2011, XIII, 310 p., Hardcover

ISBN: 978-1-61779-007-2

A product of Humana Press