

Contents

Volume 1

Preface	vii
Color Plates	ix
1 Structure and Function	1
1 X-Ray Diffraction of Biological Macromolecules <i>Albrecht Messerschmidt Robert Huber</i>	3
2 Protein NMR Spectroscopy <i>Thomas Szyperski</i>	81
3 Electron Microscopy of Biomolecules <i>Claus-Thomas Bock, Susanne Franz, Hanswalter Zentgraf, and John Sommerville</i>	103
4 Circular Dichroism in Protein Analysis <i>Zhijing Dang and Jonathan D. Hirst</i>	129
5 Protein Structure Analysis: High-throughput Approaches <i>Andrew P. Turnbull Udo Heinemann</i>	149
6 Protein Aggregation <i>Jeannine M. Yon</i>	169
7 Prions <i>Stanley B. Prusiner</i>	199
8 Alzheimer's Disease <i>Jun Wang, Silva Hecimovic and Alison Goate</i>	257
9 Molecular Chaperones <i>Peter Lund</i>	287

10	Motor Proteins	321
	<i>Charles L. Asbury Steven M. Block</i>	
11	DNA–Protein Interactions	347
	<i>Sylvie Rimsky and Malcolm Buckle</i>	
	2 Modeling and Design	377
12	Protein Modeling	379
	<i>Marian R. Zlotislic D. Peter Tieleman</i>	
13	Synthesis of Peptide Mimetics and their Building Blocks	405
	<i>Bruce K. Cassels Patricio Sáez</i>	
14	Design and Application of Synthetic Peptides	431
	<i>Gregory A. Grant</i>	
15	Synthetic Peptides: Chemistry, Biology, and Drug Design	453
	<i>Tomi K. Sawyer</i>	
	3 Expression, Synthesis and Degradation	485
16	Ribosome, High Resolution Structure and Function	487
	<i>Christiane Schaffitzel Nenad Ban</i>	
17	Ubiquitin-Proteasome System for Controlling Cellular Protein Levels	515
	<i>Michael H. Glickman Aaron Ciechanover</i>	
18	Plant-based Expression of Biopharmaceuticals	537
	<i>Jörg Knäblein</i>	
19	Cell-free Translation Systems	563
	<i>Takuya Ueda, Akio Inoue and Yoshihiro Shimizu</i>	