

BRIEF CONTENTS

Part I Genes and Chromosomes 1	
Chapter 8 Genes Are DNA and Encode RNAs and Polypeptides	2
<i>Edited by Esther Siegfried</i>	
Chapter 9 Methods in Molecular Biology and Genetic Engineering	35
Chapter 10 The Interrupted Gene	71
Chapter 11 The Content of the Genome	87
Chapter 12 Genome Sequences and Evolution	101
Chapter 13 Clusters and Repeats	143
Chapter 14 Chromosomes	161
<i>Edited by Hank W. Bass</i>	
Chapter 15 Chromatin	189
<i>Edited by Craig Peterson</i>	

PART II DNA Replication and Recombination 227

Chapter 9 Replication Is Connected to the Cell Cycle	228
<i>Edited by Barbara Funnell</i>	
Chapter 10 The Replicon: Initiation of Replication	245
Chapter 11 DNA Replication	261
Chapter 12 Extrachromosomal Replicons	283
Chapter 13 Homologous and Site-Specific Recombination	305
<i>Edited by Hannah L. Klein and Samantha Hoot</i>	
Chapter 14 Repair Systems	339
Chapter 15 Transposable Elements and Retroviruses	367
<i>Edited by Damon Lisch</i>	
Chapter 16 Somatic DNA Recombination and Hypermutation in the Immune System	397
<i>Edited by Paolo Casati</i>	

PART III Transcription and Posttranscriptional Mechanisms 441

Chapter 17 Prokaryotic Transcription	442
Chapter 18 Eukaryotic Transcription	479
Chapter 19 RNA Splicing and Processing	503
Chapter 20 mRNA Stability and Localization	543
<i>Edited by Ellen Baker</i>	
Chapter 21 Catalytic RNA	563
<i>Edited by Douglas J. Briant</i>	
Chapter 22 Translation	583
Chapter 23 Using the Genetic Code	621

PART IV Gene Regulation 647

Chapter 24 The Operon	648
<i>Edited by Liskin Swint-Kruse</i>	
Chapter 25 Phage Strategies	677
Chapter 26 Eukaryotic Transcription Regulation	701
Chapter 27 Epigenetics I	731
<i>Edited by Trygve Tollefsbol</i>	
Chapter 28 Epigenetics II	749
<i>Edited by Trygve Tollefsbol</i>	
Chapter 29 Noncoding RNA	761
Chapter 30 Regulatory RNA	769