

Brief Contents

- 1 Introduction to the Study of Cell and Molecular Biology 1
 - 2 The Chemical Basis of Life 31
 - 3 Bioenergetics, Enzymes, and Metabolism 85
 - 4 The Structure and Function of the Plasma Membrane 120
 - 5 Aerobic Respiration and the Mitochondrion 179
 - 6 Photosynthesis and the Chloroplast 214
 - 7 Interactions Between Cells and Their Environment 239
 - 8 Cytoplasmic Membrane Systems: Structure, Function, and Membrane Trafficking 274
 - 9 The Cytoskeleton and Cell Motility 328
 - 10 The Nature of the Gene and the Genome 388
 - 11 Gene Expression: From Transcription to Translation 429
 - 12 The Cell Nucleus and the Control of Gene Expression 485
 - 13 DNA Replication and Repair 542
 - 14 Cellular Reproduction 570
 - 15 Cell Signaling and Signal Transduction: Communication Between Cells 616
 - 16 Cancer 662
 - 17 The Immune Response 673
 - 18 Techniques in Cell and Molecular Biology 727
- Glossary G-1
- Index I-1