CONTENTS

Preface ix

Contributors xi

PART I

1 Cell Fates 3
Arthur B. Pardee

2 Architectural Organization of the Regulatory Machinery for
Transcription, Replication, and Repair: Dynamic Temporal-Spatial
Parameters of Cell Cycle Control 15
Corey D. Braastad, Sayyed K. Zaidi, Martin Montecino, Jane B. Lian, André J. van Wijnen,
Janet L. Stein, and Gary S. Stein

PART II

3 Cell Cycle Regulatory Cascades 95
Heide L. Ford, Robert A. Sclafani, and James Degregori

4 Membrane Receptors and Signal Transduction Pathways in G1:
Regulation of Liver Regeneration and T Cell Proliferation 129
Joseph F. Porter and David T. Denhardt

5 Onset of DNA Synthesis and S Phase 149
G. Prem-Veer Reddy, Eugenia Cifuentes, Uma Bai, Mani Menon, and Evelyn R. Barrack

6 The Progression and Regulation of Mitotic Events 201
Greenfield Sluder, Edward H. Hinchcliffe, and Conly L. Rieder

7 Cell Cycle Inhibitory Proteins 237
Carmen Carneiro and Andrew Koff

8 Chromatin Remodeling and Cancer 265
Cynthia J. Guidi and Anthony N. Imbalzano

9 Extracellular Matrix: Tissue-Specific Regulator of Cell Proliferation 297
Aylin Rizki and Mina J. Bissell
CONTENTS

10 Angiogenesis and Blood Supply 333
Judah Folkman

11 Regulation of Cell Growth, Differentiation, and Death during Metamorphosis 369
Hans Laufer and Eric H. Baehrecke

12 Translational Control and the Cell Cycle 397
Robert E. Rhoads

PART III

13 Telomere Structure and Function Provides Insights into the Generation of Genomic Instability and Carcinogenesis 451
Colleen Fordyce and Thea D. Tlsty

14 Immortalization by SV40 Large T Antigen 467
Rowena L. Lock, Silvia Benvenuti, and Parmjit S. Jat

15 Apoptosis Signaling in Normal and Cancer Cells 497
Shulin Wang and Wafik S. El-Deiry

PART IV

16 Mutagenesis, Mutations, and DNA Repair 525
Roger D. Johnson

17 Oncogenes 571
Stacey J. Baker and E. Premkumar Reddy

18 Role of the Retinoblastoma Family in Cell Cycle Progression and Growth Control 607
Valeria Masciullo and Antonio Giordano

19 p53 Tumor-Suppressor Genes 635
Faith A. Zamamiri-Davis and Gerard P. Zambetti

PART V

20 Cell Cycle and Growth Control: Current Clinical Applications 669
Michael Deininger

PART VI

21 Misregulated Fate—Cancer 707
Arthur B. Pardee

Index 773