Advances in CANCER RESEARCH

Volume 78

Edited by

George F. Vande Woude

ABL-Basic Research Program National Cancer Institute Frederick Cancer Research and Development Center Frederick, Maryland

George Klein

Microbiology and Tumor Biology Center Karolinska Institutet Stockholm, Sweden



ACADEMIC PRESS

San Diego London Boston New York Sydney Tokyo Toronto

Contents

Contributors to Volume 78 vii

Cell Transformation by the E7 Oncoprotein of Human Papillomavirus Type 16: Interactions with Nuclear and Cytoplasmic Target Proteins

Werner Zwerschke and Pidder Jansen-Dürr

- I. Background: The Role of Papillomaviruses in Human Cancer 2
- II. Cellular E7-Binding Proteins 6
- III. Modulation of Cellular Functions by E7 9
- IV. The Role of HPV-16 E7 in Cell Proliferation and Immortalization 17 References 22

Tumor Invasion: Role of Growth Factor-Induced Cell Motility Alan Wells

- I. Introduction 32
- II. Tumor Invasiveness 34
- III. Cell Motility 40
- IV. Motility in Tumor Invasion 76
- V. Therapeutic Interventions 83
- VI. Summary and Future Directions 89 References 90

Nonenzymatic Interactions between Proteinases and the Cell Surface: Novel Roles in Normal and Malignant Cell Physiology

Paolo Mignatti and Daniel B. Rifkin

- I. Introduction 103
- II. Extracellular Matrix-Degrading Proteinases: Classification and Structural Features 104
- III. Proteolysis-Independent Roles of Extracellular Matrix-Degrading Proteinases 124
- IV. Conclusions and Perspectives 143 References 146

vi

Molecular Pathogenesis of AIDS-Associated Kaposi's Sarcoma: Growth and Apoptosis

Kaoru Murakami-Mori, Shunsuke Mori, and Benjamin Bonavida

- I. Introduction 160
- II. Histopathogenesis 161
- III. Clinical Features 163
- IV. In Vitro and in Vivo Models 165
- V. Molecular Mechanisms of Kaposi's Sarcoma Cell Growth 168
- VI. Roles of Virus Infections in Kaposi's Sarcoma Development 179
- VII. Apoptosis in Kaposi's Sarcoma Cells 181
- VIII. Concluding Remarks and Therapeutic Implications 188
 References 190

Perspectives on Cancer Chemoprevention Research and Drug Development

Gary I. Kelloff

- I. Introduction 200
- II. Nature of Carcinogenesis 202
- III. Definition of Chemoprevention and Chemoprevention Agent Discovery 214
- IV. Chemopreventive Agent Development 272
- V. Cancer Chemoprevention at Major Cancer Target Sites 286
- VI. Surrogate End Points in Defining Chemopreventive Efficacy—Importance of Evaluating Both Phenotypic and Genotypic Effects 312
- VII. Major Issues and Challenges for Cancer Chemoprevention 314 References 321

Index 335