Contents

Preface v

Contributors xiii

Part I. Antimutagens

1 Inducers of Enzymes That Protect Against Carcinogens and Oxidants: *Drug- and Food-Based Approaches with Dithiolethiones and Sulforaphane* 3
Thomas W. Kensler and Paul Talalay

2 Chemoprevention by Isothiocyanates 21
Stephen S. Hecht

3 Antigenotoxic and Cancer Preventive Mechanisms of *N*-Acetyl-*l*-Cysteine 37
Silvio De Flora, Alberto Izzotti, Adriana Albini, Francesco D'Agostini, Maria Bagnasco, and Roumen Balansky

4 Modifiers of Cytochrome(s) P450 69
John DiGiovanni and Heather E. Kleiner

Part II. Antiinflammatories

5 Antiinflammatories and Chemoprevention: *NSAIDs and Other Inhibitors of Arachidonic Acid Metabolism* 87
Gary B. Gordon, Gary J. Kelloff, and Caroline C. Sigman

6 Cyclooxygenase-2 Inhibitors and Colorectal Cancer Prevention 107
Raymond N. DuBois

7 Lipoxygenases as Targets for Cancer Prevention 115
Susan M. Fischer and Russell D. Klein

8 Inducible Nitric Oxide Synthase as a Target for Chemoprevention 133
Lorne J. Hofseth, Tomohiro Sawa, S. Perwez Hussain, and Curtis C. Harris

9 Chemoprevention of Cancer of the Respiratory Tract by Agents Delivered by Aerosol: *Applications to Glucocorticoids and 5-Fluorouracil* 153
Timothy S. Wiedmann and Lee W. Wattenberg

10 Chemoprevention of Cancer by Curcumin 169
Bandaru S. Reddy and Chinthalapally V. Rao

11 Prostacyclin and Lung Cancer Chemoprevention 177
Robert L. Keith, York E. Miller, Paul A. Bunn Jr., Patrick Nana-Sinkam, Raphael A. Nemenoff, and Mark W. Geraci

Part III. Nuclear Receptor Superfamily

12 Nuclear Receptor Superfamily: *Targets for Chemoprevention* 195
Julia A. Lawrence and Kapil Dhingra

A. Antiandrogens

13 Prostate Cancer Chemoprevention: *5α-Reductase Inhibitors* 211
Jennifer E. Drisko and Siu-Long Yao

14 Searching for SARA: *The Role of Selective Androgen-Receptor Antagonists in Prostate Cancer* 219
Mark S. Chapman, William Y. Chang, Andrés Negro-Vilar, and Jeffrey N. Miner

B. Antiestrogens

15 Aromatase Inhibitors as Chemopreventives of Breast Cancer 231
Mitchell Dowsett and Judy E. Garber

16 Breast Cancer Chemoprevention by Selective Estrogen Receptor Modulators 245
Carolyn L. Smith

C. Natural Vitamin D and Synthetic Analogs

17 Chemopreventive Efficacy of Natural Vitamin D and Synthetic Analogs 259
Kathryn Z. Guyton, Thomas W. Kensler, and Gary H. Posner

D. Retinoids

18 The Retinoids and Cancer Chemoprevention 277
Sutisak Kitareewan, Ian Pitha-Rowe, Yan Ma, Sarah J. Freemantle, and Ethan Dmitrovsky

E. Dehydroepiandrosterone and Structural Analogs

19 Biologic and Therapeutic Effects of Dehydroepiandrosterone and Structural Analogs 291
Arthur G. Schwartz and Laura L. Pashko

PART IV. SIGNAL TRANSDUCTION MODULATORS

20 *ras* Oncogene Inhibitors 303
Nancy E. Kohl

21 The Potential of EGFR-Targeted Agents in Cancer Prevention 317
Steven D. Averbuch and Fadlo R. Khuri

22 Pharmacological Intervention with Multistep Oncogenesis: *Potential Role for HSP90 Molecular Chaperone Inhibitors* 325
Paul Workman

23 Therapeutic Strategies Targeting Polyamines 339
Debora L. Kramer and Eugene W. Gerner

24 The Role of Phytoestrogens as Cancer Prevention Agents 359
Stephen Barnes and Coral A. Lamartiniere

25 Cancer Chemopreventive Activity of Monoterpenes and Other Isoprenoids 371
Pamela L. Crowell and Michael N. Gould

26 Development of an Inhibitor of raf Kinase 379
Frank McCormick

27 Abnormalities in Cell Cycle Control in Human Cancer and Their Relevance to Chemoprevention 383
Alessandro Sgambato and I. Bernard Weinstein

28 Select Cyclic Nucleotide Phosphodiesterase Inhibitors in Colon Tumor Chemoprevention and Chemotherapy 401
Melissa K. Reeder, Rifat Pamakcu, I. Bernard Weinstein, Kirk Hoffman, and W. Joseph Thompson

PART V. ANTIOXIDANTS, VITAMINS, AND MINERALS

29 Chemoprevention by Fruit Phenolic Compounds 419
Gary D. Stoner and Bruce C. Casto

30 Tea Polyphenols as Cancer Chemopreventive Agents 437
Vaqar M. Adhami, Farrukh Afaq, Nihal Ahmad, Yukihiko Hara, and Hasan Mukhtar

31 Vitamin E as a Cancer Chemopreventive Agent 451
Han-Yao Huang, Sonja Berndt, and Kathy J. Helzlsouer

32 Vitamin C as a Cancer Chemopreventive Agent 485
Jane Higdon and Balz Frei

33 Carotenoids 511
Susan T. Mayne and Brenda Cartmel

34 Lycopene, a Dietary Cancer Chemopreventive Agent 525
Andreas I. Constantinou and Richard B. van Breemen

35 Not All Chemopreventive Selenium Compounds are Created Equal 537
Karam El-Bayoumy

36 Calcium 547
John A. Baron

37 Folate and Cancer Chemoprevention 559
Shumin M. Zhang and Walter C. Willett

38 Conjugated Linoleic Acid as a Tumor Preventive Agent 583
David Kritchevsky and Michael W. Pariza

39 Chemopreventive Effects of Omega-3 Fatty Acids 591
Joanne R. Lupton and Robert S. Chapkin

PART VI. AGENTS TARGETING BIOLOGICAL PROCESSES IMPORTANT IN CANCER

40 Tumor Angiogenesis as a Target for Early Intervention and Cancer Prevention 611
William W. Li

41 Proteasome Inhibitors in Cancer Therapy 635
Julian Adams

42 Modulation of DNA Methylation for the Treatment and Prevention of Cancer 643
David S. Schrump

43 Targeting Histone Deacetylase as a Strategy for Cancer Prevention 659
Ho Jung Oh, Eun Joo Chung, Sunmin Lee, Andrea Loaiza-Perez, Edward A. Sausville, and Jane B. Trepel

Index 679

http://www.springer.com/978-1-58829-076-2

Cancer Chemoprevention
Volume 1: Promising Cancer Chemopreventive Agents
Kelloff, G.J.; Hawk, E.T.; Sigman, C.C. (Eds.)
2004, XVI, 697 p. 59 illus., 1 illus. in color., Hardcover
ISBN: 978-1-58829-076-2
A product of Humana Press