

Contents

Part I General Principles

1 Introduction	3
Deodutta Roy and M. Tevfik Dorak	
2 Gene–Environment Interactions, Phenotypic Changes, and Human Health	11
Rosemarie G. Ramos and Kenneth Olden	
3 Statistics for Testing Gene–Environment Interaction	53
Momiao Xiong and Xuesen Wu	
4 Clustering Studies for Identifying the Role of Environmental Factors in Aetiology of Human Cancers	97
Richard J.Q. McNally	
5 Discovering Gene–Gene and Gene–Environment Causal Interactions Using Bioinformatics Approaches	115
Changwon Yoo	
6 Gene Environment Interactions and Vascular Lesions	139
Quentin Felty	
7 Epigenetic Changes in Cancer: Role of Environment	153
Zdenko Herceg and Paolo Boffetta	
8 Approaches to Identify Environmental and Epigenomic Components or Covariates of Cancer and Disease Susceptibility . .	197
Alok Deoraj and Deodutta Roy	

Part II Environment and Specific Types of Cancer

9 Gene–Environment Interaction and Susceptibility to Pediatric Brain Tumors	223
Brian Kunkle, David Sandberg, Prasanna Jayakar, Quentin Felty, and Deodutta Roy	

10 Genetic Polymorphisms Predisposing Individuals to Breast Cancer Via Gene–Environment Interaction	253
Keun-Young Yoo, Sue K. Park, and Aesun Shin	
11 Environment, Genetic Immunology and Childhood Cancer	277
Esma Ucisik-Akkaya and M. Tevfik Dorak	
12 Exposure to Environmental Mutagens: APC and Colorectal Carcinogenesis	303
Aruna S. Jaiswal, Melissa L. Armas, Shahnjayla K. Connors, Harekrushna Panda, and Satya Narayan	
13 Gene–Environmental Interactions and Susceptibility to Liver Cancer	331
John B. Colerangle	
14 Genetic Epidemiology of Mismatch Repair Deficiency in Ovarian Cancer	367
Tuya Pal, Jenny Permuth Wey, and Thomas A. Sellers	
Part III Case Studies	
15 Betel Nut and Susceptibility to Cancer	401
Rajesh N. Sharan and Yashmin Choudhury	
16 Birth Weight and Cancer Associations	429
Nadia Barahmani and M. Fatih Okcu	
17 Iron Excess and Cancer	445
Charronne F. Davis and M. Tevfik Dorak	
Glossary	477
Index	499



<http://www.springer.com/978-1-4419-6751-0>

Environmental Factors, Genes, and the Development of
Human Cancers

Roy, D.; Dorak, M.T. (Eds.)

2010, XIII, 520 p., Hardcover

ISBN: 978-1-4419-6751-0