
Contents

<i>Preface</i>	<i>vii</i>
<i>Contributors</i>	<i>xi</i>
1 Tumor Staging and Grading: A Primer <i>Stacy M. Cowherd</i>	1
2 Clinical Trial Design in the Age of Molecular Profiling <i>Alexander Spira and Kirsten H. Edmiston</i>	19
3 Personalized Medicine: Ethics for Clinical Trials <i>G. Terry Sharrer</i>	35
4 Reduction of Preanalytical Variability in Specimen Procurement for Molecular Profiling <i>Virginia Espina and Claudius Mueller</i>	49
5 The Human Side of Cancer Biobanking <i>Eoin F. Gaffney, Deirdre Madden, and Geraldine A. Thomas</i>	59
6 Introduction to Genomics. <i>Luca Del Giacco and Cristina Cattaneo</i>	79
7 Genomic Profiling: cDNA Arrays and Oligoarrays <i>Francesco Gorreta, Walter Carbone, and Dagania Barzaghi</i>	89
8 Genome-Wide Methylation Profiling in Archival Formalin-Fixed Paraffin-Embedded Tissue Samples <i>J. Keith Killian, Robert L. Walker, Sven Bilke, Yidong Chen, Sean Davis, Robert Cornelison, William I. Smith, and Paul S. Meltzer</i>	107
9 An Overview of MicroRNA Methods: Expression Profiling and Target Identification. <i>Sinéad M. Smith and David W. Murray</i>	119
10 Antibody Validation by Western Blotting. <i>Michele Signore and K. Alex Reeder</i>	139
11 Laser Capture Microdissection: Arcturus ^{XT} Infrared Capture and UV Cutting Methods <i>Rosa I. Gallagher, Steven R. Blakely, Lance A. Liotta, and Virginia Espina</i>	157
12 Antibody Microarrays: Analysis of Cystic Fibrosis <i>Catherine E. Jozwik, Harvey B. Pollard, Meera Srivastava, Ofer Eidelman, QingYuan Fan, Thomas N. Darling, and Pamela L. Zeitlin</i>	179
13 Tissue Microarrays as a Tool in the Discovery and Validation of Predictive Biomarkers <i>Stephen M. Hewitt</i>	201

14	Reverse-Phase Protein Microarrays	215
	<i>Mariaelena Pierobon, Amy J. VanMeter, Noemi Moroni, Francesca Galdi, and Emanuel F. Petricoin III</i>	
15	Serum Low-Molecular-Weight Protein Fractionation for Biomarker Discovery	237
	<i>Amy J. VanMeter, Serena Camerini, Maria Letizia Polci, Alessandra Tessitore, Nishant Trivedi, Michael Heiby, Yasmin Kamal, Jonathan Hansen, and Weidong Zhou</i>	
16	Mass Spectrometry-Based Biomarker Discovery.	251
	<i>Weidong Zhou, Emanuel F. Petricoin III, and Caterina Longo</i>	
17	Mitochondrial Proteome: Toward the Detection and Profiling of Disease Associated Alterations.	265
	<i>Paul C. Herrmann and E. Clifford Herrmann</i>	
18	Adult Neural Stem Cells: Isolation and Propagation	279
	<i>Jamin M. Letcher and Daniel N. Cox</i>	
19	Evanescence-Wave Field Imaging: An Introduction to Total Internal Reflection Fluorescence Microscopy	295
	<i>Bryan A. Millis</i>	
20	Construction and Hyperspectral Imaging of Quantum Dot Lysate Arrays.	311
	<i>Kevin P. Rosenblatt, Michael L. Huebschman, and Harold R. Garner</i>	
21	Microarray Data Analysis: Comparing Two Population Means.	325
	<i>Jianghong Deng, Valerie Calvert, and Mariaelena Pierobon</i>	
22	Bioinformatics/Biostatistics: Microarray Analysis.	347
	<i>Gabriel S. Eichler</i>	
23	Structure-Based Functional Design of Drugs: From Target to Lead Compound	359
	<i>Amy C. Anderson</i>	
24	Personalized Medicine: Changing the Paradigm of Drug Development.	367
	<i>Robin D. Couch and Bryan T. Mott</i>	
25	Grant Writing Tips for Translational Research	379
	<i>Lindsay Wescott and Michael Laskofski</i>	
26	Inventions and Patents: A Practical Tutorial.	391
	<i>J. Lille Tidwell and Lance A. Liotta</i>	
27	Regulatory Approval Pathways for Molecular Diagnostic Technology	409
	<i>Lance A. Liotta and Emanuel F. Petricoin III</i>	
28	Small Business Development for Molecular Diagnostics.	421
	<i>Anthanasia Anagnostou and Lance A. Liotta</i>	
	<i>Index</i>	439



<http://www.springer.com/978-1-60327-215-5>

Molecular Profiling

Methods and Protocols

Espina, V.; Liotta, L. (Eds.)

2012, XIII, 447 p., Hardcover

ISBN: 978-1-60327-215-5

A product of Humana Press