Contents

Preface . . . . . *vii*
Contributors . . . . . *xi*

1 Regulatory and Ethical Issues on the Utilization of FFPE Tissues in Research 1
Catherine M. With, David L. Evers, and Jeffrey T. Mason

2 Tissue Microarrays: Construction and Uses 23
Carol B. Fowler, Yan-Gao Man, Shimin Zhang, Timothy J. O'Leary, Jeffrey T. Mason, and Robert E. Cunningham

3 Standardization in Immunohistology 37
Anthony S.-Y. Leong and Trishe Y.-M. Leong

4 Multiple Immunofluorescence Labeling of Formalin-Fixed Paraffin-Embedded Tissue 69
David Robertson and Clare M. Isacke

5 Microwaves for Chromogenic In Situ Hybridization 79
Anthony S.-Y. Leong and Zenobia Haffajee

6 Automated Analysis of FISH-Stained HER2/neu Samples with Metafer 91
Christian Schunck and Eiman Mohammad

7 Laser Capture Microdissection of FFPE Tissue Sections Bridging the Gap Between Microscopy and Molecular Analysis 105
Renate Burgemeister

8 Nucleic Acids Extraction from Laser Microdissected FFPE Tissue Sections 117
Renate Burgemeister

9 Microarray-Based CGH and Copy Number Analysis of FFPE Samples 131
Fahd Al-Mulla

10 Microarray Profiling of DNA Extracted from FFPE Tissues Using SNP 6.0 Affymetrix Platform 147
Marianne Tuefferd, An de Bondt, Ilse Van den Wyngaert, Willem Talloen, and Hinrich Göhlmann

11 Whole Genome Amplification of DNA Extracted from FFPE Tissues 161
Mira Bosso and Fahd Al-Mulla

12 Pyrosequencing of DNA Extracted from Formalin-Fixed Paraffin-Embedded Tissue 181
Brendan Doyle, Ciarán O'Riain, and Kim Appleton

13 Analysis of DNA Methylation in FFPE Tissues Using the MethyLight Technology 191
Ashraf Dallol, Waleed Al-Ali, Amina Al-Shaibani, and Fahd Al-Mulla

14 RT-PCR Gene Expression Profiling of RNA from Paraffin-Embedded Tissues Prepared Using a Range of Different Fixatives and Conditions 205
Mei-Lan Liu, Jennie Jeong, Ranjana Ambannavar, Carl Millward, Frederick Baehner, Chithra Sangli, Debjani Dutta, Mylan Pho, Anhthu Nguyen, and Maureen T. Cronin

15 RT-PCR-Based Gene Expression Profiling for Cancer Biomarker Discovery from Fixed, Paraffin-Embedded Tissues 239
Aaron Scott, Ranjana Ambannavar, Jennie Jeong, Mei-Lan Liu, and Maureen T. Cronin

16 MicroRNA Isolation from Formalin-Fixed, Paraffin-Embedded Tissues 259
Aihua Liu and Xiaowei Xu

17 Gene Expression Profiling of RNA Extracted from FFPE Tissues: NuGEN Technologies' Whole-Transcriptome Amplification System 269
Leah Turner, Joe Don Heath, and Nurith Kurn

18 Protein Mass Spectrometry Applications on FFPE Tissue Sections 281
Carol B. Fowler, Timothy J. O'Leary, and Jeffrey T. Mason

19 An Alternative Fixative to Formalin Fixation for Molecular Applications: The RCL2®-CS100 Approach 297
Amélie Denouël, Florence Boissière-Michot, Philippe Rochaix, Frédéric Bibeau, and Nathalie Boulle

Index *309*



http://www.springer.com/978-1-61779-054-6

Formalin-Fixed Paraffin-Embedded Tissues
Methods and Protocols
Al-Mulla, F. (Ed.)
2011, XII, 312 p., Hardcover
ISBN: 978-1-61779-054-6
A product of Humana Press