
Contents

Preface	v
Contributors	xi
PART I BASIC CONCEPTS AND TECHNIQUES	
1 Molecular Cytogenetics in Medicine: <i>An Overview</i> Yao-Shan Fan	3
2 Labeling Fluorescence <i>In Situ</i> Hybridization Probes for Genomic Targets Larry E. Morrison, Ramesh Ramakrishnan, Teresa M. Ruffalo, and Kim A. Wilber	21
3 Labeling Fluorescence <i>In Situ</i> Hybridization Probes for RNA Targets Ramesh Ramakrishnan and Larry E. Morrison	41
4 Basic FISH Techniques and Troubleshooting Sue Van Stedum and Walter King	51
PART II EVOLVING TECHNIQUES AND APPLICATIONS	
5 Chromosome Microdissection Xin-Yuan Guan	67
6 Primed <i>In Situ</i> Labeling Jørn Koch	77
7 Spectral Karyotyping Jane Bayani and Jeremy A. Squire	85
8 Multicolor FISH Syed M. Jalal and Mark E. Law	105
9 Characterization of Constitutional Chromosome Abnormalities by Comparative Genomic Hybridization Brynn Levy and Kurt Hirschhorn	121
10 Color Banding Vicki L. Hopwood, Christi J. Hada, and Armand B. Glassman ...	133

11	Multicolor Fiber FISH <i>Jaennelle Kraan, Anne R. M. von Bergh, Karin Kleiverda, Jan-Willem Vaandrager, Ekaterina S. Jordanova, Anton K. Raap, Philip M. Kluin, and Ed Schuurin</i>	143
12	Multi-Telomere FISH <i>Samantha J. L. Knight and Jonathan Flint</i>	155
13	Fluorescence Genotyping for Screening Cryptic Telomeric Rearrangements <i>Laurence Colleaux, Solange Heuertz, Florence Molinari, and Marlene Rio</i>	181
14	Microarray CGH <i>Ben Beheshti, Paul C. Park, Ilan Braude, and Jeremy A. Squire</i>	191
PART III SPECIAL APPLICATIONS IN CHROMOSOMAL DISORDERS		
15	Molecular Approaches for Delineating Marker Chromosomes <i>Michael D. Graf and Stuart Schwartz</i>	211
16	Interphase FISH for Prenatal Diagnosis of Common Aneuploidies <i>Baruch Feldman, Ayala Aviram-Goldring, and Mark I. Evans</i>	219
17	Prenatal Diagnosis of Chromosomal Abnormalities Using Maternal Blood <i>Farideh Z. Bischoff, Dianne X. Dang, Dorothy E. Lewis, and Joe Leigh Simpson</i>	243
18	Preimplantation FISH Diagnosis of Aneuploidies <i>Yury Verlinsky, Jeanine Cieslak, and Anver Kuliev</i>	259
19	Microdeletion Syndromes: <i>Characteristics and Diagnosis</i> <i>Stuart Schwartz and Michael D. Graf</i>	275
20	Molecular Detection of Uniparental Disomy <i>Wendy P. Robinson</i>	291
21	Molecular Cytogenetics in Reproductive Pathology <i>Hélène Bruyère, Evica Rajcan-Separovic, and Dagmar K. Kalousek</i>	299
PART IV SPECIAL APPLICATIONS IN ONCOLOGY		
22	Interphase FISH Studies of Chronic Myeloid Leukemia <i>Gordon W. Dewald</i>	311
23	Chromogenic <i>In Situ</i> Hybridization and FISH in Pathology <i>Bae-Li Hsi, Sheng Xiao, and Jonathan A. Fletcher</i>	343

24	FISH Detection of <i>HER2</i> Amplification in Breast Cancer Rosemary E. Mueller and Frances P. O'Malley	353
25	Comparative Genomic Hybridization in Cancer Investigations Marjan M. Weiss, Mario A. J. A. Hermsen, Gerrit A. Meijer, and Paul J. van Diest	369
26	Simultaneous Fluorescence Immunophenotyping and FISH on Tumor Cells Yanming Zhang and Brigitte Schlegelberger	379
27	BAC Resource for Molecular Cytogenetics Xiao-Ning Chen and Julie R. Korenberg	391
	Index	405



<http://www.springer.com/978-1-58829-006-9>

Molecular Cytogenetics

Protocols and Applications

Fan, Y.-S. (Ed.)

2003, X, 414 p., Hardcover

ISBN: 978-1-58829-006-9

A product of Humana Press