
Contents

Preface	v
Introduction to Volumes I and II	vii
Contents of Companion Volume	xv
Contributors	xvii
 PART I. DETECTION METHODS FOR CELLULAR MARKERS OF METASTATIC POTENTIAL	 1
1 Histopathological Assessment of Metastasis Derek E. Roskell and Ian D. Buley	3
2 Basic Immunocytochemistry for Light Microscopy Susan A. Brooks	13
3 Multiple Labeling Techniques for Fluorescence Microscopy Amanda J. Atherton and Catherine Clarke	41
4 Lectin Histochemistry to Detect Altered Glycosylation in Cells and Tissues Susan A. Brooks and Debbie M. S. Hall	49
5 Immunocytochemical Detection and Characterization of Individual Micrometastatic Tumor Cells Stephan Braun and Klaus Pantel	67
6 Understanding Metastasis Through Integrin Expression Lawrence John and Massimo Pignatelli	75
7 Surrogate Markers of Angiogenesis and Metastasis Girolamo Ranieri and Giampetro Gasparini	99
8 Measurement of Microvessel Density in Primary Tumors Helen E. Turner and Adrian L. Harris	115
9 Assessment of Cellular Proliferation by Calculation of Mitotic Index and by Immunohistochemistry Cheryl E. Gillett	123
10 Flow Cytometric Measurement of Cell Proliferation Richard S. Camplejohn	133

11	SDS-PAGE and Western Blotting Techniques Christine Blancher and Adam Jones	145
12	Assessment of Gelatinases (MMP-2 and MMP-9) by Gelatin Zymography Marta Toth and Rafael Fridman	163
PART II. GENETIC ASPECTS OF METASTASIS		175
13	<i>In Situ</i> Hybridization to Localize mRNAs Richard Poulson	177
14	Fluorescence <i>In Situ</i> Hybridization Hakan Goker and Janet Shipley	199
15	Comparative Genomic Hybridization Rebecca Roylance	223
16	RNA Purification and Quantification Methods Adam Jones, Chisato Fujiyama, and Kenneth Smith	241
17	Northern and Southern Blotting and the Polymerase Chain Reaction to Detect Gene Expression Thelma Tennant, Marina Chekmareva, and Carrie W. Rinker-Schaeffer	255
18	Methylation Analysis of CpG Islands Richard Lilischkis, Hermann Kneitz, and Hans Kreipe	271
19	Detection of Metastatic Tumor Cells in Blood by Reverse Transcriptase-Polymerase Chain Reaction Katja Haack, Krishna Soondrum, and Michael Neumaier	285
20	Differential Display Ruey Ho Kao and Giulio Francia	297
PART III. MATHEMATICAL MODELING OF METASTASIS		307
21	Predictive Mathematical Modeling in Metastasis Jonathan A. Sherratt	309
Index		317



<http://www.springer.com/978-0-89603-610-9>

Metastasis Research Protocols

Brooks, S.A.; Schumacher, U. (Eds.)

2001, 344 p., Hardcover

ISBN: 978-0-89603-610-9

A product of Humana Press