
Contents

Preface	v
Contributors	ix
1 Treatment of Tissue Sections for <i>In Situ</i> Hybridization Gregory H. Tesch, Hui Y. Lan, and David J. Nikolic-Paterson	1
2 Preparation of Template DNA and Labeling Techniques Peter J. Roche	9
3 <i>In Situ</i> Hybridization Using cRNA Probes: Isotopic and Nonisotopic Detection Methods Ian A. Darby, Teresa Bisucci, Alexis Desmoulière, and Tim D. Hewitson	17
4 Tyramide Signal Amplification for DNA and mRNA <i>In Situ</i> Hybridization Ernst J. M. Speel, Anton H. N. Hopman, and Paul Komminoth	33
5 Expression Analysis of Murine Genes Using <i>In Situ</i> Hybridization With Radioactive and Nonradioactively Labeled RNA Probes Anne Chotteau-Lelièvre, Pascal Dollé, and Françoise Gofflot	61
6 Nonradioactive <i>In Situ</i> Hybridization on Frozen Sections and Whole Mounts Julia Asp, Alexandra Abramsson, and Christer Betsholtz	89
7 <i>In Situ</i> Hybridization of Whole-Mount Embryos Murray Hargrave, Josephine Bowles, and Peter Koopman	103
8 <i>In Situ</i> Detection of Epstein-Barr Virus and Phenotype Determination of EBV-Infected Cells Gerald Niedobitek and Hermann Herbst	115
9 PNA- <i>In Situ</i> Hybridization Method for Detection of HIV-1 DNA in Virus-Infected Cells and Subsequent Detection of Cellular and Viral Proteins Tomoko Hagiwara, Junko Hattori, and Tsuguhiro Kaneda	139
10 Electron Microscopy and <i>In Situ</i> Hybridization: Expression of P2Y ₂ Receptor mRNA in the Cerebellum Andrzej Loesch and Rainer Glass	151

11	<i>In Situ</i> Hybridization Using Riboprobes on Free-Floating Brain Sections Neil C. Owens, F. Martin Hess, and Emilio Badoer	163
12	An <i>In Situ</i> Hybridization Technique to Detect Low-Abundance Slug mRNA in Adherent Cultured Cells Changsun Choi, Laurie G. Hudson, Pierre Savagner, and Donna F. Kusewitt	173
13	Identification of Transplanted Human Cells in Animal Tissues Daniel Benten, Kang Cheng, and Sanjeev Gupta	189
14	<i>In Situ</i> Hybridization to Plant Tissues and Chromosomes Andreas Houben, Sharon J. Orford, and Jeremy N. Timmis	203
15	Histochemical Localization of Cell Proliferation Using <i>In Situ</i> Hybridization for Histone mRNA Tim D. Hewitson, Kristen J. Kelynack, and Ian A. Darby	219
16	Histochemical Localization of Apoptosis With <i>In Situ</i> Labeling of Fragmented DNA Tim D. Hewitson, Teresa Bisucci, and Ian A. Darby	227
17	The Use of Combined Immunohistochemical Labeling and <i>In Situ</i> Hybridization to Colocalize mRNA and Protein in Tissue Sections Malcolm D. Smith, Michael Ahern, and Mark Coleman	235
18	Semiquantitative <i>In Situ</i> Hybridization Using Radioactive Probes to Study Gene Expression in Motoneuron Populations Paul D. Storer and Tracey DeLucia	247
19	Quantitative <i>In Situ</i> Hybridization of Tissue Microarrays Adrian M. Jubb, Thinh Q. Pham, Gretchen D. Frantz, Franklin V. Peale, Jr., and Kenneth J. Hillan	255
	Index	265