
Contents

| | |
|---|--|
| Preface | v |
| Contributors | ix |
| 1 Human Lymphocyte Metaphase Chromosome Preparation for Radiation-Induced Chromosome Aberration Analysis | 1 <i>Takamitsu A. Kato</i> |
| 2 Animal Lymphocyte Metaphase Chromosome Preparation | 7 <i>Kazuki Heishima, Kendon Kuo, Masashi Kimura, and Takashi Mori</i> |
| 3 Micronuclei Formation Analysis After Ionizing Radiation | 23 <i>Cathy Su, Alexis H. Haskins, and Takamitsu A. Kato</i> |
| 4 G1 Premature Chromosome Condensation (PCC) Assay | 31 <i>Ryuichi Okayasu and Cuibua Liu</i> |
| 5 G2 Chromosomal Radiosensitivity Assay for Testing Individual Radiation Sensitivity | 39 <i>Jeremy S. Haskins and Takamitsu A. Kato</i> |
| 6 G2 Premature Chromosome Condensation/Chromosome Aberration Assay: Drug-Induced Premature Chromosome Condensation (PCC) Protocols and Cytogenetic Approaches in Mitotic Chromosome and Interphase Chromatin for Radiation Biology | 47 <i>Eisuke Gotoh</i> |
| 7 Sister Chromatid Exchange as a Genotoxic Stress Marker | 61 <i>Shigeaki Sunada, Jeremy S. Haskins, and Takamitsu A. Kato</i> |
| 8 DNA Damage Focus Formation Assay | 69 <i>Yoshihiro Fujii</i> |
| 9 Nuclear Foci Assays in Live Cells | 75 <i>Eiichiro Mori and Aroumougame Asaithamby</i> |
| 10 In Situ DNA Damaging Foci Analysis on Metaphase Chromosomes | 87 <i>Chisato Omata and Takamitsu A. Kato</i> |
| 11 PNA Telomere and Centromere FISH Staining for Accurate Analysis of Radiation-Induced Chromosomal Aberrations | 95 <i>Ian M. Cartwright, Jeremy S. Haskins, and Takamitsu A. Kato</i> |
| 12 Modified PNA Telomere and Centromere FISH Protocols | 101 <i>Ian M. Cartwright</i> |
| 13 Directional Genomic Hybridization (dGH) for Detection of Intrachromosomal Rearrangements | 107 <i>Erin Robinson, Miles J. McKenna, Joel S. Bedford, Edwin H. Goodwin, Michael N. Cornforth, Susan M. Bailey, and F. Andrew Ray</i> |

Contents

| | | |
|----|---|-----|
| 14 | Reciprocal Translocation Analysis with Whole Chromosome Painting for FISH..... | 117 |
| | <i>Jeremy S. Haskins and Takamitsu A. Kato</i> | |
| 15 | Analysis of Radiation-Induced Chromosome Exchanges Using Combinatorial Chromosome Painting..... | 123 |
| | <i>Bradford D. Lucas</i> | |
| | <i>Index</i> | 137 |