METHODS IN MOLECULAR BIOLOGY™ • 334
SERIES EDITOR: *John M. Walker*

PRINS and *In Situ* PCR Protocols

SECOND EDITION

Edited by

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From Reviews of the First Edition...

"...essential for any laboratory contemplating exploiting this powerful technique." —MICROBIOLOGY TODAY

"...[a] splendid little book which covers the field quite well..." —FEBS LETTERS

"...accessible and very practical...recommend[ed]...to any laboratory with an operational PCR machine...a valuable addition to the methods literature." —QUARTERLY REVIEW OF BIOLOGY

"...well written...contains sufficient detail for a novice to successfully complete the experiment...recommend[ed]...for libraries as well as individual researchers interested in applying PRINS technology." —DOODY'S HEALTH SCIENCES BOOK REVIEW JOURNAL

Carrying on the high standards of the much-praised first edition, leading researchers and clinical investigators have completely revised and updated *PRINS and* In Situ *PCR Protocols* to take advantage of the many new developments and applications that have occurred for cellular and molecular investigations. The authors contribute proven protocols for many variations of PRINS and *in situ* PCR, including a new, fast multicolor PRINS method for identifying human chromosomes, PRINS protocols for *in situ* detection of unique sequences and point mutations, a new dideoxy PRINS procedure, and *in situ* PCR and PRINS protocols for plants. They describe, in detail, various applications of PRINS in human cells (detection of gene deletions in cancer, detection of fetal cells in maternal blood, and assessment of aneuploidy in brain tissues and embryos) as well as in plant cells. Readily reproducible *in situ* PCR techniques are also presented for the detection of cytomegalovirus and for use in combination with microdissection. *In situ* RT-PCR techniques are also given for use in plant or cancer investigation. The protocols follow the successful *Methods in Molecular Biology*™ series format, each offering step-by-step laboratory instructions, an introduction outlining the principles behind the technique, lists of the necessary equipment and reagents, and tips on troubleshooting and avoiding known pitfalls.

Comprehensive and highly practical, *PRINS and* In Situ *PCR Protocols* offers molecular biologists, cytogeneticists, and cytologists a cutting-edge guide to today's new *in situ* labeling technology.

FEATURES

- Cutting-edge PRINS and *in situ* techniques for cellular and molecular investigations
- PRINS protocols for *in situ* detection of unique sequences and point mutation analysis
- Fast, new multicolor PRINS protocol for identifying human chromosomes
- *In situ* PCR and PRINS protocols for plants and a new dideoxy PRINS procedure
- Methods for detecting gene deletions in cancer and the cytomegalovirus
- Survey of the latest developments in the field and challenges in the foreseeable future
- Step-by-step instructions to ensure rapid implementation and successful results
- Tricks of the trade and notes on troubleshooting and avoiding known pitfalls

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