

In Situ Hybridization Protocols

THIRD EDITION

Edited by

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From Reviews of the Second Edition...

"...highly recommended for those researchers who use *in situ* hybridization in their work or for those who want to exploit for the first time the possibilities that this technique offers biomedical research" —**EUROPEAN UROLOGY TODAY**

"...should be available in every major biomedical library as it represents the approach that morphological scientists can use to determine gene expression under different physiological and disease conditions in mature and developing tissues." —**JOURNAL OF ANATOMY**

In *In Situ Hybridization, Third Edition*, Ian Darby updates his highly successful second edition and shifts the focus to tissue and cell *in situ* hybridization. Drawing on experts working in diverse areas and taking advantage of advances in non-isotopic *in situ* hybridization and amplification techniques, the authors describe in detail their readily reproducible techniques for preparation, detection, and tissue hybridization. Among the new techniques detailed are PNA probes for viral diagnostics, plant *in situ* hybridization, cell proliferation detection, and quantitation of *in situ* hybridization. There are also cutting-edge techniques for tissue microarrays, expanded embryology–developmental gene detection, and expanded cell culture. Derivative techniques presented include the identification of transplanted cells, histones, nick-end labeling for apoptosis, the use of peptide nucleic acid probes, and *in situ* hybridization of plant specimens. 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.

Completely updated and highly practical, *In Situ Hybridization, Third Edition* allows both the molecular biologist with little experience of histology and the histologist with little experience of molecular biology to use these powerful new techniques successfully.

FEATURES

- Readily reproducible techniques for tissue and cell *in situ* hybridization
- All new coverage of PNA probes for viral diagnostics and plant *in situ* hybridization
- Cutting-edge methods for cell kinetic studies and tissue microarrays
- New applications for nonisotopic *in situ* hybridization and amplification techniques
- Derivative techniques for identification of transplanted cells and histones
- 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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