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# Preface

Since *Protocols for Nucleic Acid Analysis by Nonradioactive Probes* was published in 1994, the use of techniques such as Southern and Northern blotting has continued unabated, despite the continuing explosion of polymerase chain reaction (PCR)-based techniques that have replaced many traditional molecular biology methods. Indeed, PCR is now frequently used with nonradioactive probe formats in applications such as real-time PCR that may be likened to an “online” Southern or Northern blot!

More often than is realized, radioactive techniques are not essential for the analysis of nucleic acids in molecular biology. Nonradioactive methods have been available for the scientific community for more than 20 years, providing excellent results. Scientists who rely on nonradioactive techniques have indirectly promoted the development of new nonradioactive haptens, substrates, means of detection, and a wide range of novel applications. These improvements on the detection limits of nonradioactive methods can easily compete with radioactive protocols, which are now seen as slow, cumbersome, and only required in very specific experimental designs.

*Protocols for Nucleic Acid Analysis by Nonradioactive Probes, Second Edition* aims to provide a firm background on the basic preparative protocols required for the analysis of nucleic acids by nonradioactive methods, as well as presenting the methodologies using these amazing new applications. This volume offers guide chapters on nucleic acid extractions, preparation of nucleic acid blots, and labeling of nucleic acids with nonradioactive haptens. There are two ways of detecting nonradioactive probes: by indirect methods using a labeled probe or by directly detecting the labeled nucleic acid. We have divided the contents accordingly. These are key examples of the extensive potential that nonradioactive detection provides to the molecular biology community. Our target audience is not limited to the research laboratory only; we hope that tertiary students and post-doctorates will find the content of this book a useful reference guide in their projects.

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