The Protein Protocols Handbook

Edited by

John M. Walker

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Preface

In *The Protein Protocols Handbook,* I have attempted to provide a cross-section of analytical techniques commonly used for proteins and peptides, thus providing a benchtop manual and guide both for those who are new to the protein chemistry laboratory and for those more established workers who wish to use a technique for the first time.

We each, of course, have our own favorite, commonly used gel system, gel-staining method, blotting method, and so on; I'm sure you will find yours here. However, I have also described a variety of alternatives for many of these techniques; though they may not be superior to the methods you commonly use, they may nevertheless be more appropriate in a particular situation. Only by knowing the range of techniques that are available to you, and the strengths and limitations of these techniques, will you be able to choose the method that best suits your purpose.

All chapters are written in the same format as that used in the *Methods in Molecular Biology* series. Each chapter opens with a description of the basic theory behind the method being described. The Materials section lists all the chemicals, reagents, buffers, and other materials necessary for carrying out the protocol. Since the principal goal of the book is to provide experimentalists with a full account of the practical steps necessary for carrying out each protocol successfully, the Methods section contains detailed step-by-step descriptions of every protocol that should result in the successful execution of each method. The Notes section complements the Methods material by indicating how best to deal with any problem or difficulty that may arise when using a given technique, and how to go about making the widest variety of modifications or alterations to the protocol.

In general, I have avoided analytical techniques that require expensive specialist hardware. Such techniques are described in specialist volumes in the *Methods in Molecular Biology* series (vol. 60, *Protein NMR Techniques;* vol. 56, *Crystallographic Methods and Protocols*; vol. 52, *Capillary Electrophoresis Guidebook*; vol. 40, *Protein Stability and Folding*; vol. 22, *Microscopy, Optical Microscopy, and Macroscopic Techniques;* vol. 17, *Spectroscopic Methods and Analyses*). The main exception has been the introduction of some techniques that involve the use of mass spectrometry. The recent availability of benchtop machines has made this technique available to a much wider range of workers than might previously have been possible, and thus mass spectrometry is fast becoming a routine analytical method for the protein chemist. However, for those who require a more detailed and in-depth description of the exciting new applications of this technique to the analysis of proteins and peptides, extensive coverage is provided in *Methods in Molecular Biology,* vol. 61, *Protein and Peptide Analysis by Mass Spectrometry*. For those of you who require guidance on protein and peptide purification, the subject is extensively covered in *Methods in Molecular Biology,* vol. 59, *Protein Purification Protocols*.

John M. Walker

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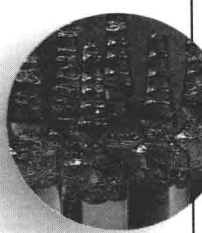

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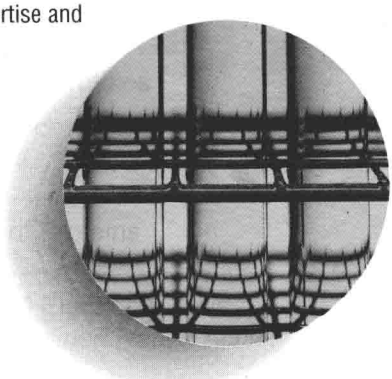

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