
Preface

So much of what we know about the pathogenesis of human disease has come from the systematic and careful study of histological material. Indeed, every internal medicine discipline has its landmark papers describing the clinico-pathological correlations. However, increasingly, it is molecular and cellular biology that provides the necessary mechanistic insights. For many years, it was thought that the two skill sets were mutually exclusive, but we hope that this book shows that this is not necessarily so.

Implicit in the science of histology is the preservation and archiving of tissue. Part I of the book concentrates on the preparation of tissue, providing an overview of fixation, embedding, and processing (**Chapter 1**), and in **Chapters 2** and **3**, the required techniques for the retrieval of RNA from histological sections. Both routine and specialist histological staining techniques are provided in Part II. These include protocols for immuno (**Chapters 4–7**), lectin (**Chapter 8**), and hybridization (**Chapter 9**) histochemistry, histological staining (**Chapters 10** and **11**), as well as specific methods for the in situ identification of hypoxia (**Chapter 12**) and apoptosis (**Chapter 13**). Finally, Part III details advances in imaging (**Chapters 14–16**) and image analysis (**Chapter 17**).

It is hoped that this volume will provide molecular biologists with the basic histochemical techniques and histologists with the molecular techniques to realise the potential of their resource. We are indebted to the authors for their generosity in sharing these protocols.

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