

Series Preface

The past two decades have seen an ever-accelerating growth in knowledge about molecular pathology of human diseases, which received a large boost with the sequencing of the human genome in 2003. Molecular diagnostics, molecular targeted therapy, and genetic therapy are now routine in many medical centers. The molecular field now impacts every field in medicine, whether clinical research or routine patient care. There is a great need for basic researchers to understand the potential clinical implications of their research, whereas private practice clinicians of all types (general internal medicine and internal medicine specialists, medical oncologists, radiation oncologists, surgeons, pediatricians, and family practitioners), clinical investigators, pathologists, and medical laboratory directors and radiologists require a basic understanding of the fundamentals of molecular pathogenesis, diagnosis, and treatment for their patients.

Traditional textbooks in molecular biology deal with basic science and are not readily applicable to the medical setting. Most medical textbooks that include a mention of molecular pathology in the clinical setting are limited in scope and assume that the reader already has a working knowledge of the basic science of molecular biology. Other texts emphasize technology and testing procedures without integrating the clinical perspective. There is an urgent need for a text that fills the gap between basic science books and clinical practice.

In the *Molecular Pathology Library Series* the basic science and the technology is integrated with the medical perspective and clinical application. Each book in the series is divided according to neoplastic and nonneoplastic diseases for each of the organ systems traditionally associated with medical subspecialties.

Each book in the series is organized to provide (1) a succinct background of the essential terminology, concepts; and technology of molecular biology; (2) an overview of the broad application of molecular biology principles to disease; and (3) specific application of molecular pathology to the pathogenesis, diagnosis, and treatment of neoplastic and nonneoplastic diseases specific to each organ system. These broad section topics are broken down into succinct chapters, averaging about 15 to 20 pages each, to cover a very specific disease entity. The chapters are written by established authorities on the specific topic from academic centers around the world. In one book, diverse subjects are included that the reader would have to pursue from multiple sources in order to have a clear understanding of the molecular pathogenesis, diagnosis, and treatment of specific diseases. Attempting to hunt for the full information from basic concept to specific applications for a disease from the varied sources is time consuming and frustrating. By providing this quick and user-friendly reference, understanding and application of this rapidly growing field are made more accessible to both expert and generalist alike.

As books that bridge the gap between basic science and clinical understanding and practice, the *Molecular Pathology Library Series* serves the basic scientist, the clinical researcher, and the practicing physician or other health care provider who require more understanding of the application of basic research to patient care, from “bench to bedside.” This series is unique and an invaluable resource to those who need to know about molecular pathology from a clinical, disease-oriented perspective. These books will be indispensable to physicians and health care providers in multiple disciplines as noted above, to residents and fellows in these multiple disciplines as well as their teaching institutions, and to researchers who increasingly must justify the clinical implications of their research.

Philip T. Cagle, MD
Series Editor

Preface

Molecular Pathology of Lung Diseases is the first volume in the *Molecular Pathology Library Series* by Springer Science+Business Media. Molecular pathology is rapidly becoming part of everyday medical practice from targeted molecular therapy to molecular imaging, and it is no longer limited to the basic research bench. Knowledge in this field is increasingly essential to those who provide patient care, and they are unlikely to find the perspective they need in traditional basic science textbooks. Because the goal of *Molecular Pathology of Lung Diseases* is to provide a bridge between clinical pulmonary pathology and basic molecular science, selection of chapter topics and approaches to the material were based largely on the needs of the practicing pathologist or other health care provider. As a result, this book has a very unique perspective compared with the more traditional molecular genetics textbooks or molecular laboratory procedure manuals. This alternative perspective is also valuable to the clinical and translational researchers who must think in terms of clinical objectives for their investigations.

Clinical pulmonary pathology is extensive and complex, including an intimidating list of environmental, hereditary, immunologic, and idiopathic diseases, both neoplastic and nonneoplastic. The first two sections of *Molecular Pathology of Lung Diseases* briefly familiarize the reader with general concepts, terminology, and procedures in molecular pathology. Subsequent to the introductory sections, this book is broadly subdivided into neoplastic and nonneoplastic lung diseases. Following discussion of general molecular pathologic principles of lung and pleural diseases under each of these two broad categories, separate chapters detail the current molecular pathologies of specific diseases. This design approximates the approach to lung disease that is most familiar to pathologists, pulmonologists, thoracic surgeons, and other health care providers; to medical students, residents, and fellows; and to those involved in clinical investigations or translational research.

The unique format of this book results in multiple relatively short chapters that can serve as a ready reference to specific medical topics. No other book currently provides the practical disease-based overview that is found in *Molecular Pathology of Lung Diseases*.

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Molecular Pathology of Lung Diseases

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