Preface

The practice of medical oncology has been in a period of sustained significant positive change over the last two decades that is primarily due to advances in the basic science of cancer biology. In recent years, developments in molecular biology techniques have substantially increased our ability to detect and characterize genetic defects in human cells, resulting in significant increases in our understanding of the normal molecular mechanisms controlling cellular proliferation and differentiation. The advancement of our comprehension of these basic molecular mechanisms has been paralleled by comparable increases in our understanding of the molecular basis of the processes involved in neoplastic transformation and tumorigenesis. Information gleaned from studies conducted in basic molecular research laboratories is being applied with unprecedented speed to the development of new molecular tests for cancer detection, diagnosis, and prediction of clinical outcomes, as well as to the development of new strategies for cancer prevention and treatment through therapies that target specific molecular pathways in the cancer cell. Basic scientists, clinical scientists, and physicians have a need for a source of information on the current state-of-the-art of the molecular biology of human neoplastic diseases. In this Second Edition of The Molecular Basis of Human Cancer we attempt to provide such a source of current information, as well as providing a look to the future of the discipline and the potential impact of scientific advances on the practice of medical oncology. This book is directed primarily to advanced graduate students and medical students, postdoctoral trainees, and established investigators having basic research interests in the molecular basis of human neoplastic disease. However, this book is also well suited for the non-expert with similar interests since it provides a broad overview of general themes in the molecular biology of cancer. To be sure, our understanding of the many processes of neoplasia and their molecular basis is far from complete, but numerous areas of thematic or conceptual consensus have developed. We have made an effort to integrate accepted principles with broader theoretic concepts in an attempt to present a current and comprehensive view of the molecular basis of human cancer. We hope that this book will accomplish its purpose of providing students and researchers who already possess strong but diverse basic science backgrounds with unifying concepts, so as to stimulate new research aimed at furthering our understanding of the array of diseases that represent human cancer.

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