Lung cancer is the most common cancer worldwide and is the leading cause of cancer-related mortality. Epidemiological studies have shown that 1,806,590 new cancer cases and 606,520 cancer deaths are projected to occur in the United States in 2020. With developments in basic and advanced clinical investigations, an understanding of the underlying mechanisms in tumorigenesis and the development of therapeutic strategies against lung cancer have improved remarkably. However, the mortality rates of lung cancer remain high, possibly because of the postsurgical recurrence and metastasis of primary tumors. The development and progression of lung cancer are multistage and multigene processes caused by dysfunctions in certain cellular signaling pathways. Recently, identifying effective drug targets has become an important strategy for screening and detecting early-stage lung cancer and improving the long-term survival of patients. A deeper investigation into the molecular mechanisms of lung cancer is highly worthwhile for improving the chances of early diagnosis, monitoring cancer progression, and detecting recurrence.

Recently, noncoding RNAs (ncRNAs) have attracted significant attention in the fields of chemistry and life sciences. ncRNAs, including microRNAs (miRNAs), long noncoding RNAs (lncRNAs), and circular RNAs (circRNAs), are key elements that play a crucial role in cellular development and homeostasis. ncRNAs possess important capabilities for gene regulation and are disrupted in various diseases, including cancer. Recent studies have demonstrated that ncRNAs display special and extensive roles in lung cancer tumorigenesis, including malignant proliferation, metastasis, chemoresistance, and inflammatory response. Moreover, because of their unique structure, ncRNAs are highly stable and have greater sensitivity than proteins in disease-related tissues, cells, and serum of patients; thus, ncRNAs serve as novel diagnostic biomarkers and therapeutic targets for lung cancer.

For this book, we have carefully selected and dissected some important studies on this subject to provide doctors and researchers valuable new perspectives on ncRNA and lung cancer. As the current knowledge of ncRNAs represents only the tip of the iceberg, we believe that the development of novel methods and technologies will eventually clarify the role of ncRNAs, thereby providing a novel strategy for the prevention, early diagnosis, and treatment of lung cancer.

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