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Nota di contenuto	Front Cover; Contents; Preface; Chapter 1: Introduction; Chapter 2: Fundamental Aspects of RNA; Chapter 3: Computational Methods for RNA Structure Prediction and Analysis; Chapter 4: Computational Modeling for RNA Structure Discovery and Characterization; Chapter 5: Traditional Approaches to RNA Structure Analysis; Chapter 6: RNA Structure: Probing Biochemical Analyses; Chapter 7: RNA Structural Analysis Based on Thermal Denaturation; Chapter 8: Probing the Structural Basis of Retroviral RNA Functions via NMR Spectroscopy Chapter 9: Probing the Folding and Structural Dynamics in RNAs by Single-Molecule ApproachesChapter 10: Application of Single-Molecule Fluorescence in RNA Biology; Chapter 11: Rational Design of RNA Nanoparticles and Nanoarrays; Chapter 12: Tailor-Made RNAs: From Self-Folding RNAs to Ribonucleoproteins; Chapter 13: Small RNA-Mediated Transcriptional Modulation; Chapter 14: Small RNA Molecules in Antiviral Therapy; Chapter 15: Cell Specificity of siRNA as a Key for Therapeutic Applications; Chapter 16: Targeting Alternative Splicing in Human Genetic Disease Chapter 17: Messenger RNA Metal Sensing: Iron-Responsive Element (IRE)-mRNA is a Metal-Sensitive RiboregulatorChapter 18: RNA Information Gene Diseases: Nano-RNA-Based Medical Devices with

Sommario/riassunto

In the past few decades there has been incredible growth in "bionano"-related research, which has been accompanied by numerous publications in this field. Although various compilations address topics related to deoxyribonucleic acid (DNA) and protein, there are few books that focus on determining the structure of ribonucleic acid (RNA) and using RNA as building blocks to construct nanoarchitectures for biomedical and healthcare applications. RNA Nanotechnology is a comprehensive volume that details both the traditional approaches and the latest developments i