1. **Record Nr.**   UNINA9910999696203321

   Titolo   RNA-Based Cancer Therapeutics : Techniques, Applications and Challenges in Prognosis / / edited by Narendra Kumar Sharma, Tikam Chand Dakal, Pawan Kumar Maurya, Gulshan Wadhwa

   Pubbl/distr/stampa   Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2025

   ISBN   981-9634-56-3

   Edizione   [1st ed. 2025.]

   Descrizione fisica   1 online resource (XIII, 297 p. 26 illus., 24 illus. in color.)

   Disciplina   572.88

   Soggetti   RNA interference
                            Cancer - Genetic aspects
                            Medical genetics
                            Cancer - Treatment
                            Cancer
                            Oncology
                            RNA Interference
                            Cancer Genetics and Genomics
                            Clinical Genetics
                            Cancer Therapy
                            Cancer Biology

   Lingua di pubblicazione   Inglese

   Formato   Materiale a stampa

   Livello bibliografico   Monografia

   Nota di contenuto   Chapter 1. An Introduction to RNA-based Therapeutics -- Chapter 2. Application Of Advance Crispr/Cas-9 And Other Genomic Tools In RNA Based Therapeutics -- Chapter 3. Applications of Advance ASOs, RNA Mimics and Others in RNA-based Therapeutics -- Chapter 4. Global changes in genome and proteome by mi-RNAs in cancers and other diseases -- Chapter 5. Short- and long-non-coding RNA causes global alterations in the genome and proteome in cancer and other disorders -- Chapter 6. Predictive and Prognostic Relevance of miRNAs in Cancers and Other Diseases -- Chapter 7. Diagnostic, Prognostic, and Predictive Short and Long Non-coding RNA Biomarkers in Cancer -- Chapter 8. RNA-Based Molecular Applications as Tool Compounds in

Diagnostic and Clinical Settings -- Chapter 9. Clinical trials on RNA-based therapeutics for the treatment of infectious diseases and other pathologies -- Chapter 10. Challenges and Opportunities Used in RNA-based Therapeutics -- Chapter 11. Pragmatic Clinical Methods, Tools and Amplification techniques used in RNA-based diagnostic applications -- Chapter 12. Practical Clinical Approaches Used in RNA-based Therapeutics.

Sommario/riassunto	By consistently dedicating efforts to multi-omic and other high-throughput technologies, it is expected that RNA therapies will have a vital role in future personalized medicine approaches for cancer therapy. Within this framework, analyzing the genetic sequence of a patient's tumor would allow for the detection of crucial driver mutations or changes that cause resistance to drugs. These mutations may then be targeted with RNA therapies that are particularly designed to treat those particular variations. Recent clinical trials have shown that RNA-based therapies hold great potential for treating several illnesses. However, further investigations are required to improve the delivery materials and understand the RNA alterations linked to these groundbreaking drugs, in order to facilitate their integration into clinical practice. Ideally, these therapeutic substances would be specifically administered to the tumor cells of interest using a targeted delivery agent. In this hypothetical situation, the choice of medications for cancer patients would differ depending on the precise abnormalities detected in each person, potentially including inhibitors that target circuits known to cause resistance to treatments. However, doing a more thorough assessment of the challenges and potential benefits discussed in each chapter would enhance the capacity to critically analyze this rapidly evolving field of therapies. This book largely examines the latest developments and clinical studies related to RNA-based medications, while also examining the challenges and future possibilities linked with them. This method shows potential for greatly improving the prognosis of cancer patients.