

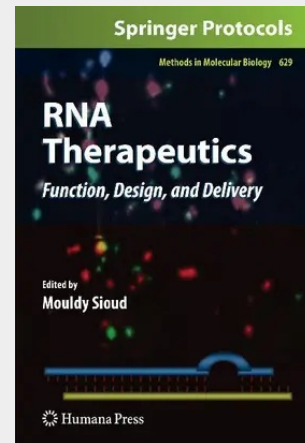
RNA Therapeutics

Function, Design, and Delivery

Central to the synthesis of proteins, the performance of catalysis, and many other physiological processes, the aberrant expression of which can be linked to human diseases including cancers, RNA has proven to be key target for therapeutics as well as a tool for therapy. In , expert contributors from a broad spectrum of scientific backgrounds highlight the roles that messenger RNAs and small RNAs can play in biology and medicine. While covering the five major RNA-based drugs, namely the use of ribozymes to cleave and/or correct mRNA transcript, the use of siRNA for targeted silencing of gene transcripts, the use of aptamers, like short RNA molecules, for neutralizing the protein functions, the use mRNA-transfected DCs to activate immune system against tumor cells, as well as the use of RNA to reprogram T and/or DC cell function, this extensive volume brings together the fields of coding (mRNA) and non-coding RNA such as ribozymes, RNase P, siRNAs, and miRNAs into one convenient source. Written in the highly successful TM series format, the cutting-edge protocol chapters contain introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and practical tips on troubleshooting and avoiding known pitfalls. Also, the book contains several excellent reviews for teaching purposes.

Authoritative and comprehensive, provides key models and tools which will assist researchers in increasing our understanding of RNA functions, modifications, and their involvement in diseases in order to lead to the design of vital new RNA-based therapeutics.

Central to the synthesis of proteins, the performance of catalysis, and many other physiological processes, the aberrant expression of which can be linked to human diseases including cancers, RNA has proven to be key target for therapeutics as well as a tool for therapy. In RNA Therapeutics: Function, Design, and Delivery, expert contributors from a broad spectrum of scientific backgrounds highlight the roles that messenger RNAs and small RNAs can play in biology and medicine. While covering the five major RNA-based drugs, namely the use of ribozymes to cleave and/or correct mRNA transcript, the use of siRNA for targeted silencing of gene transcripts, the use of aptamers, like short RNA molecules, for neutralizing the protein functions, the use mRNA-transfected DCs to activate immune system against tumor cells, as well as the use of RNA to reprogram T and/or DC cell function, this extensive volume brings together the fields of coding (mRNA) and non-coding RNA such as ribozymes, RNase P, siRNAs, and miRNAs into one convenient source. Written in the highly successful Methods in Molecular Biology(TM) series format, the cutting-edge protocol chapters contain introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and practical tips on troubleshooting and avoiding known pitfalls. Also, the book contains several excellent reviews for teaching purposes. Authoritative and comprehensive, RNA Therapeutics: Function, Design, and Delivery provides key models and tools which will assist researchers in increasing our understanding of RNA functions, modifications, and their involvement in diseases in order to lead to the design of vital new RNA-based therapeutics.



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