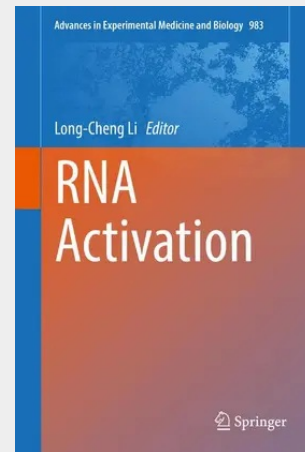


RNA Activation

This book offers an essential guide to RNA activation (RNAa), an emerging and fascinating new field. RNAa is a small RNA-guided and Argonaute-dependent gene regulation phenomenon in which promoter-targeted short double-stranded RNAs (dsRNAs) induce target gene expression at the transcriptional level. It occurs primarily in the nucleus and can be mediated by artificially designed short duplex RNAs that target regulatory sequences (e.g., promoters, genes' 3' termini and enhancers) and naturally occurring small RNAs (e.g., miRNAs and *C. elegans* 22G-RNAs).

With contributions from internationally respected RNA experts, this book provides comprehensive coverage of different RNAa mechanisms and a timely update on recent advances in RNAa research, with a focus on developing RNAa-based therapeutics. Special chapters are also devoted to the topics of gene activation induced by antisense oligonucleotides and the CRISPR system. As the first book to cover RNAa, it will be of interest to a wide audience, from scientists in academia and the pharmaceutical industry to clinicians who wish to further explore the biology of RNAa and related phenomena, so as to harness their full potential for use in biotechnology and drug development.

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