

RNA Interference Technology

From Basic Science to Drug Development

Edited by: Krishnarao Appasani, GeneExpression Systems, Inc.

Foreword by: Andrew Fire, Stanford University and
Marshall W. Nirenberg
Nobel Laureate 1968 Medicine & Physiology, National Institute of Health

RNA Interference (RNAi) technology has rapidly become one of the key methods used in functional genomics, and its concepts and current and potential applications are covered in this timely overview. Leading experts from both academia and industry have contributed to this reference for graduate students and researchers from academia wanting to initiate RNAi research as well as biotech and pharmaceutical companies who need to understand this emerging technology.

Contents: Section 1. Basic RNAi, siRNA, microRNAs and gene-silencing mechanisms; Section 2. Design, Synthesis of siRNAs; Section 3. Vector-development and in vivo, in vitro and in ovo delivery methods; Section 4. Gene silencing in model organisms; Section 5. Drug target validation; Section 6. Therapeutic and drug development; Section 7. High-throughput genome-wide RNAi analysis

Reviews

'This book is very timely. The chapters on the basics of RNAi, siRNA and miRNAs are an excellent summary of the recent origins of this topic and the various sections dealing with RNAi technology provided comprehensive background material. I am sure that, even with the rapid progress in RNAi, this book will be useful for both newcomers to the field wishing to get an overview and for experienced researchers looking for a summary of published information.' David Baulcombe, The Sainsbury Laboratory, Norwich UK

'Only six years ago Fire and Mello discovered RNAi, as a funny effect in little worms. Now the whole world wants to know about it. In this book Krishnarao Appasani got an all-star crowd of specialists to introduce RNAi: its history, biology, application in genomics research, and possible therapeutic use. Warmly recommended.' Ronald Plasterk, Hubrecht Laboratories, Utrecht, the Netherlands

'A comprehensive treatise on RNA interference has long been needed. That need has now been filled with this book, which places RNAi and its potential squarely in the context of the post human genome era. The successful juxtaposition of the many aspects of RNAi biology and technology should serve to stimulate creative thought across the many diverse disciplines affected by the RNAi revolution.' Ronald K. Scheule, Ph.D., Genzyme Corporation

'This new book is very comprehensive, in many ways picking up where Hannon's RNAi manual leaves off. A good companion to Hannon.' Frank Slack Ph.D., Yale University

'This extensive collection of timely articles brings us up to date on the current research on RNAi, its science and applications. It is a must read to learn about current status of the art. Its 35 contributions from leading scientists are subdivided into seven sections to facilitate access to the corresponding articles, and cover every aspect of the subject. This is a rapidly advancing field and it is useful for the newcomer both in academia and in industry to obtain a panoramic view and put the current literature in perspective.' Roberto Weinmann, Bristol-Myers Squibb

'This book provides a window to the exciting new RNA interference revolution with special emphasis on applications for biotechnology. It will provide up-to-date background for academic and industry researchers seeking to make use of this powerful research tool.' Judy Leiberman, Harvard Medical School and The CBR Institute for Biomedical Research

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