
Contents

Preface	vii
Short Communication	1
Evaluation of Published Rational siRNA Design Algorithms	3
Using Firefly <i>luciferase</i> Gene as a Reporter	
Yuki Naito, Kaoru Saigo and Kumiko Ui-Tei	
Research and Review Studies	13
Chapter 1 Applications of RNAi in <i>C. elegans</i> Research	15
Julián Cerón, Juan Cabello, José Manuel Monje,	
Antonio Miranda-Vizueté, Alberto Villanueva,	
Simó Schwartz Jr and Ben Lehner	
Chapter 2 Vector Based RNAi in Chicken Embryos <i>in vivo</i>	51
Fangping Dai and Beate Brand-Saberi	
Chapter 3 Optimal siRNA Sequence Design for RNA Interference	75
Shigeru Takasaki	
Chapter 4 siRNA Silencing Efficacy Prediction	103
Shibin Qiu	
Chapter 5 RNA Interference: from Functional Genomics to Validation of	135
Drug Targets in Helminths	
Sara Lustigman, Louise Ford and Michael J. Crawford	
Chapter 6 Regulation of Metabolism, Aging	163
and Lifespan by microRNAs	
Junlong Zhang	
Chapter 7 Gene Silencing by Double-Stranded RNA in <i>Apis mellifera</i> : A	189
Useful Reverse Genetics Approach for Studying Complex	
Biological Phenomena	
Tahira Farooqui	

Chapter 8	Induction of RNA Interference by Episomal Transcriptionally Silent Homologous DNA <i>Mohammad Bahman Bahramian</i>	211
Chapter 9	RNA Silencing and DNA Methylation in Plants <i>A.K.M. Nazmul Haque and Masamichi Nishiguchi</i>	231
Chapter 10	RNA Silencing and Plant Defence against Viral and Non-viral Pathogens <i>Sameer Tiwari, Ren Zhang, Elizabeth S. Dennis and Ming-Bo Wang</i>	259
Chapter 11	Polymers for siRNA Delivery in vivo <i>Achim Aigner</i>	281
Index		301