

CONTENTS

mRNA Stability

Chapter 1:	Ribonucleases: diversity and regulation.....	1
	Murray P. Deutscher and J. Zhang	
Chapter 2:	Degradation of <u>puf</u> mRNA in <u>Rhodobacter capsulatus</u> and its role in the regulation of gene expression.....	13
	Gabriele Klug and S.N. Cohen	
Chapter 3:	Mutational analysis of a RNase E dependent cleavage site from a bacteriophage T4 mRNA.....	21
	C. Ehretsmann, A.J. Carpousis and Henry M. Krisch	
Chapter 4:	The role of a novel site-specific endoribonuclease in the regulated decay of <u>E.coli</u> mRNA - a model for growth-stage dependent mRNA stability in bacteria.....	31
	Alexander von Gabain, D. Georgellis, U. Lundberg, Ö. Melefors, L. Melin and O. Resnekov	
Chapter 5:	Regulation of mRNA stability in yeast.....	45
	Allan Jacobson, A.H. Brown, J.L. Donahue, D. Herrick, R. Parker and S.W. Peltz	
Chapter 6:	Mutations involved in mRNA stability and in the length of their poly(A) tails in the yeast <u>Saccharomyces cerevisiae</u>.....	55
	L. Minvielle-Sebastia, A. Petitjean, B. Winsor, N. Bonneaud and Francois Lacroute	
Chapter 7:	Rapid degradation of the <u>c-fos</u> proto-oncogene transcript.....	65
	Joel G. Belasco, A.-B. Shyu and M.E. Greenberg	
Chapter 8:	Post-transcriptional control of gene expression in chloroplasts.....	73
	David B. Stern, C.H.-Ching, C.C. Adams and K.L. Kindle	
Chapter 9:	Differential mRNA stability: a regulatory strategy for Hsp70 synthesis.....	83
	Robert B. Petersen and S. Lindquist	

Antisense Regulation

Chapter 10:	Post-transcriptional control of IS10 transposase expression: antisense RNA binding and other conformational changes affecting messenger RNA stability and translation.....	93
	C. Ma, J.E. Gonzalez, C.C. Case, T. Sonnabend, J. Rayner and Robert W. Simons	
Chapter 11:	The antisense approach and early <u>Xenopus</u> development.....	103
	Alan Colman, C. Baker and J. Shuttleworth	

Transcriptional (Anti-)Termination

Chapter 12:	The role of <u>boxA</u> in transcription of ribosomal RNA operons of <u>Escherichia coli</u> : changes in the processivity of RNA polymerase.....	113
	R.J. Gaudino and Edward A. Morgan	
Chapter 13:	Regulation of Lambda N-gene expression.....	125
	L. Kameyama, L. Fernandez, G. Guarneros and Donald L. Court	
Chapter 14:	Messenger RNA 3'end formation in <u>E.coli</u> and <u>S. cerevisiae</u>	135
	Terry Platt, C.A. Brennan, J.S. Butler, D.A. Campbell, P.P. Sadhale, P. Spear, E.J. Steinmetz, S.-Y. Wu and F.M. Zalatan	

Translational Control

Chapter 15:	Culture conditions affect differently the translation of individual <u>Escherichia coli</u> mRNAs.....	145
	N. Jacques, M. Chevrier-Miller, J. Guillerez and Marc Dreyfus	
Chapter 16:	Post-transcriptional control in <u>Escherichia coli</u> : the translation and degradation of mRNA.....	157
	John E.G. McCarthy, B. Gerstel, K. Hellmuth, V. Lang, B. Surin and P. Ziemke	
Chapter 17:	Control of translational initiation by mRNA secondary structure: a quantitative analysis.....	169
	M.H. de Smit and Jan van Duin	
Chapter 18:	The role of ribosomal RNA in the control of gene expression.....	185
	M.A. Firpo and Albert E. Dahlberg	

Chapter 19:	The phage <u>φ1</u> gene VII start site and its mutants reveal that translational coupling can confer function to inherently inactive initiation sites.....	197
	Deborah A. Steege and M.Ivey-Hoyle	
Chapter 20:	Measurement of translation rates in vivo at individual codons and implication of these rate differences for gene expression.....	207
	M.J. Sorensen, K.F. Jensen and Steen Pedersen	
Chapter 21:	Regulation of gene expression by minor codons in <u>Escherichia coli</u> : minor codon modulator hypothesis.....	217
	Masayori Inouye and G. Chen	
Chapter 22:	A short review of scanning.....	227
	Marilyn Kozak	
Chapter 23:	Yeast mRNA structure and translational efficiency.....	237
	Hendrik A. Raue, J.J. van den Heuvel and R.J. Planta	
Chapter 24:	Human fetal G γ - and A γ - globin mRNA and adult B-globin exhibit distinct translation efficiency and affinity for eukaryotic initiation factor 2.....	249
	S. Marsh, Y. Banai, M. Na'amad and Raymond Kaempfer	
Chapter 25:	Effects of the 5'-leader sequence of tobacco mosaic virus RNA, or derivatives thereof, on foreign mRNA and native viral gene expression.....	261
	T. Michael Wilson, K. Saunders, M.J. Dowson-Day, D.E. Sleat, H. Trachsel and K.W. Mundry	

Translational Regulatory Circuits

Chapter 26:	Translational control of the <u>cIII</u> gene of bacteriophage lambda.....	277
	Amos B. Oppenheim, S. Altuvia, D. Kornitzer and D. Teff	
Chapter 27:	The <u>mom</u> operon of bacteriophage Mu is regulated by a combination of transcriptional and translational controls.....	285
	F. Gregory Wulczyn, F. Schmidt, A. Seiler and R. Kahmann	
Chapter 28:	Mechanisms of ribosomal protein translational autoregulation.....	299
	David E. Draper	
Chapter 29:	Translational feedback control in <u>E.coli</u> : the role of tRNA ^{I^{hr}} and tRNA ^{I^{hr}} -like structures in the operator of the gene for threonyl-tRNA synthetase.....	309
	Matthias Springer, P. Lesage, M. Graffe, J. Dondon and M. Grunberg-Manago	

Chapter 30:	Translational control of the transcriptional activator GCN4 involves upstream open reading frames, a general initiation factor and a protein kinase.....	325
	Alan G. Hinnebusch, J.-P. Abastado, E.M. Hannig, B.M. Jackson, P.F. Miller, M. Ramirez, R.C. Wek and N.P. Williams	
Chapter 31:	Translational control by arginine of yeast gene CPA1	337
	Michel Werner, A. Feller, P. Delbecq and A. Pierard	
Chapter 32:	Expression from polycistronic cauliflower mosaic virus pregenomic RNA.....	347
	J. Fütterer, J.-M. Bonneville, K. Gordon, M. deTapia, S. Karlsson and Thomas Hohn	
Chapter 33:	Polyadenylation of cauliflower mosaic virus RNA is controlled by promoter proximity.....	359
	H. Sanfacon, P. Brodman and Thomas Hohn	
Chapter 34:	The HIV-1 Rev trans -activator is a sequence specific RNA binding protein.....	367
	Michael H. Malim, D.F. McCarn, L.S. Tiley and B.R. Cullen	
Chapter 35:	Control of protein synthesis by RNA regulators.....	377
	Michael B. Mathews, S. Gunnery, L. Manche, K.H. Mellits and T. Pe'ery	
Chapter 36:	Untranslated leader sequences and enhanced messenger RNA translational efficiency.....	389
	Lee Gehrke and S.A. Jobling	
Chapter 37:	Coordinate post-transcriptional regulation of ferritin and transferrin receptor expression: the role of regulated RNA-protein interaction.....	399
	Joe B. Harford and R.D. Klausner	
Chapter 38:	Translation in yeast mitochondria: a review of general features and a case of mRNA-specific positive control.....	411
	Thomas D. Fox, T.W. McMullin, P. Haffter and L.S. Folley	
Chapter 39:	The yeast pyruvate kinase gene is regulated at multiple levels.....	421
	P.A. Moore, A.J.E. Bettany and Alistair J.P. Brown	

Biochemistry and Genetics of Translation

Chapter 40:	Initiation of protein synthesis in E.coli : the two crucial steps.....	433
	Larry Gold and D. Hartz	

Chapter 41:	The function of initiation factors in relation to mRNA-ribosome interaction and regulation of gene expression.....	443
	A. La Teana, M. Falconi, R.T. Pawlik, R. Spurio, C.L. Pon and Claudio Gualerzi	
Chapter 42:	Alternative translation and functional diversity of release factor 2 and lysyl-tRNA synthetase.....	455
	Yoshikazu Nakamura, K. Kawakami and O. Mikuni	
Chapter 43:	Gene products that mediate translation initiation in yeast.....	465
	H. Yoon, A.M. Cigan and Thomas F. Donahue	
Chapter 44:	Structure/function of mammalian initiation factors.....	475
	John W.B. Hershey, J. Schnier, Z. Smit-McBride, S.S. Milburn, N. Gaspar, S.-Y. Choi and M. Himbelin	
Chapter 45:	Initiation factors involved in mRNA binding to ribosomes in <u>Saccharomyces cerevisiae</u>	487
	Peter P. Müller, S. Blum, M. Altmann, S. Lanker and H. Trachsel	
Chapter 46:	The eukaryotic mRNA cap binding protein (eIF-4E): phosphorylation and regulation of cell growth.....	497
	R. Frederickson, A. Lazaris-Karatzas and Nahum Sonenberg	
Chapter 47:	Peptide chain initiation in animal cells: mechanism and regulation.....	511
	Naba K. Gupta, B. Datta, A.L. Roy and M.K. Ray	
Chapter 48:	New insights into an old problem: ternary complex (Met-tRNA _f ·eIF-2·GTP) formation in animal cells.....	521
	Naba K. Gupta, A.L. Roy, M.K. Nag, T.G. Kinzy, S. MacMillan, R.E. Hileman, T.E. Dever, S. Wu, W.C. Merrick and J.W.B. Hershey	
Chapter 49:	Phosphorylation of initiation and elongation factors and the control of translation.....	527
	Christopher G. Proud, N.T. Redpath and N.T. Price	
Chapter 50:	Regulation of protein synthesis in mammalian systems by the guanine nucleotide exchange factor.....	539
	J.N. Dholakia and Albert J. Wahba	
Chapter 51:	Isolation of the <u>lsd</u> mutations in <u>Saccharomyces cerevisiae</u>	549
	Alan B. Sachs	
Chapter 52:	Functional role and biochemical properties of yeast peptide elongation factor 3 (EF-3).....	557
	Masazumi Miyazaki, M. Uritani, Y. Kitaoka, K. Ogawa and H. Kagiya	

Translational Accuracy/Frameshifting

Chapter 53:	Translational Movements.....	567
	Charles G. Kurland	
Chapter 54:	Ribosomal frameshift and frame-jump sites as control points during elongation.....	579
	Robert B. Weiss	
Chapter 55:	Frameshifting in the expression of the <u>trpR</u> gene of <u>Escherichia coli</u>	591
	I. Benhar, C. Miller and Hanna Engelberg-Kulka	
Chapter 56:	The ribosomal frame-shift signal of infectious bronchitis virus.....	603
	Stephen C. Inglis, N. Rolley and I. Brierley	
Chapter 57:	Control of translational accuracy in yeast: the role of the <u>Sal4</u> (<u>Sup45</u>) protein.....	611
	Mick F. Tuite, Akhmaloka, M. Firoozan, J.A.B. Duarte and C.M. Grant	
Chapter 58:	<u>HIV pol</u> expression via a ribosomal frameshift.....	623
	Alan J. Kingsman, W. Wilson and S.M. Kingsman	

Post-translational events

Chapter 59:	Protein modifications and mitochondrial import of yeast cytochrome c: an overview.....	637
	Fred Sherman	

<u>Subject index</u>	647
-----------------------------------	-----