

Contents

Evolution of tRNAs Was Driven by Entropic Forces	1
Marco V. José, Gabriel S. Zamudio and Sávio Torres de Farias	
The Phylogenomic Roots of Translation	9
Derek Caetano-Anollés and Gustavo Caetano-Anollés	
Origins and Early Evolution of the Ribosome	31
George E. Fox	
Evolution of Translational Initiation: From Archaea to Eukarya	61
Dario Benelli, Anna La Teana and Paola Londei	
On the Origin and Early Evolution of Translation in Eukaryotes	81
Greco Hernández, Vincent G. Osnaya, Alejandra García and Mitzli X. Velasco	
Evolution of Translation in Mitochondria	109
Aldo E. García-Guerrero, Angélica Zamudio-Ochoa, Yolanda Camacho-Villasana, Rodolfo García-Villegas, Adrián Reyes-Prieto and Xochitl Pérez-Martínez	
eIF4Es and Their Interactors from Yeast Species	143
Daniela Ross and Michael Altmann	
Expansion of eIF4E and 4E-BP Family Members in Deuterostomes	165
Kathleen M. Gillespie, Tsvetan R. Bachvaroff and Rosemary Jagus	
The Diversification of eIF4E Family Members in Plants and Their Role in the Plant-Virus Interaction	187
Tzvetanka D. Dinkova, León Martínez-Castilla and Miguel A. Cruz-Espíndola	

Evolution of eIF4E-Interacting Proteins	207
Greco Hernández, Kathleen M. Gillespie, Tsvetan R. Bachvaroff, Rosemary Jagus, Cátia Igreja, Daniel Peter, Manuel Bulfoni and Bertrand Cosson	
Evolution of eIF2α Kinases: Adapting Translational Control to Diverse Stresses	235
Stefan Rothenburg, Millie M. Georgiadis and Ronald C. Wek	
eIF2α Kinases and the Evolution of Stress Response in Eukaryotes	261
Juan José Berlanga, César de Haro, Miguel A. Rodríguez-Gabriel and Iván Ventoso	
Translation Elongation and Termination: Are They Conserved Processes?	277
Sandra Eltschinger, Peter Bütikofer and Michael Altmann	
The Unique Evolutionary Distribution of Eukaryotic Elongation Factor 3	313
Maria Mateyak, Arjun N. Sasikumar, Stephen Dunaway and Terri Goss Kinzy	
Evolution of TOR and Translation Control	327
Bruno D. Fonseca, Tyson E. Graber, Huy-Dung Hoang, Asier González, Alexander A. Soukas, Greco Hernández, Tommy Alain, Stephanie L. Swift, Ronit Weisman, Christian Meyer, Christophe Robaglia, Joseph Avruch and Michael N. Hall	
Translational Control in Echinoderms: The Calm Before the Storm	413
Patrick Cormier, Héloïse Chassé, Bertrand Cosson, Odile Mulner-Lorillon and Julia Morales	
Unique and Conserved Features of the Protein Synthesis Apparatus in Parasitic Trypanosomatid (<i>Trypanosoma</i> and <i>Leishmania</i>) Species	435
Osvaldo P. de Melo Neto, Christian R.S. Reis, Danielle M.N. Moura, Eden R. Freire and Mark Carrington	
Evolutionary Aspects of Translation Regulation During Abiotic Stress and Development in Plants	477
René Toribio, Alfonso Muñoz, Ana B. Castro-Sanz, Alejandro Ferrando, Marta Berrocal-Lobo and M. Mar Castellano	
Ribonucleoprotein Foci in Eukaryotes: How to Translate the Silence	491
Layana Carla, Gonzalo H. Corujo and Rolando V. Rivera Pomar	

RNA-Mediated Silencing in Eukaryotes: Evolution of Protein Components and Biological Roles	513
J. Armando Casas-Mollano, Ericka Zacarias, Xinrong Ma, Eun-Jeong Kim and Heriberto Cerutti	
Evolution of the Molecules Coupling mRNA Transport with Translational Control in Metazoans.	531
Paula Vazquez-Pianzola, Beat Suter and Greco Hernández	
IRES Elements: Issues, Controversies and Evolutionary Perspectives	547
Rosario Francisco-Velilla, Gloria Lozano, Rosa Diaz-Toledano, Javier Fernandez-Chamorro, Azman M. Embarek and Encarnacion Martinez-Salas	
Erratum to: Evolution of TOR and Translation Control.	E1
Bruno D. Fonseca, Tyson E. Graber, Huy-Dung Hoang, Asier González, Alexander A. Soukas, Greco Hernández, Tommy Alain, Stephanie L. Swift, Ronit Weisman, Christian Meyer, Christophe Robaglia, Joseph Avruch and Michael N. Hall	

Evolution of the Protein Synthesis Machinery and Its
Regulation

Hernández, G.; Jagus, R. (Eds.)

2016, IX, 564 p. 92 illus., 69 illus. in color., Hardcover

ISBN: 978-3-319-39467-1