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| 1. Record Nr. | UNINA9910831065903321 |
| Titolo | Protein synthesis and ribosome structure [[electronic resource]] : translating the genome // edited by Knud H. Nierhaus and Daniel N. Wilson |
| Pubbl/distr/stampa | Weinheim, : Wiley-VCH, c2004 |
| ISBN | 1-280-55981-0 9786610559817 3-527-60343-3 3-527-61638-1 |
| Descrizione fisica | 1 online resource (599 p.) |
| Altri autori (Persone) | NierhausKnud H WilsonDaniel N |
| Disciplina | 571.658 572.645 |
| Soggetti | Ribosomes Ribosomes - Structure Proteins - Synthesis |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Note generali | Description based upon print version of record. |
| Nota di bibliografia | Includes bibliographical references and index. |
| Nota di contenuto | Protein Synthesis and Ribosome Structure; Contents; Preface; 1 A History of Protein Biosynthesis and Ribosome Research; 1.1 Introduction; 1.2 The Archaeology of Protein Synthesis - The 1940s: Forgotten Paradigms; 1.3 Basic Mechanisms - The 1950s; 1.3.1 Steps toward an in vitro Protein Synthesis System; 1.3.2 Amino Acid Activation and the Emergence of Soluble RNA; 1.3.3 From Microsomes to Ribosomes; 1.3.4 Models; 1.4 The Golden Age of Translation - The 1960s; 1.4.1 From Enzymatic Adaptation to Gene Regulation: Messenger RNA 1.4.2 A Bacterial in vitro System of Protein Synthesis and the Cracking of the Genetic Code 1.4.3 The Functional Dissection of Translation; 1.4.4 The Structural Dissection of the Ribosome; 1.5 1970-1990s: A Brief Synopsis; References; 2 Structure of the Ribosome; 2.1 General Features of the Ribosome and Ribosomal Subunits; 2.2 A Special Feature of the 50S Subunit: The Tunnel; 2.3 Features of the Ribosomal |

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2.5 Interactions of RNA with RNA or Struts and Bolts in the Three-dimensional Fold of rRNA: Coaxial Stacking and A-minor Motifs
2.5.1 Coaxial Stacking; 2.5.2 A-minor Motifs; 2.5.3 Ribose Zippers and Patches of A-minor Motifs; 2.5.3.1 Canonical Ribose Zipper; 2.5.3.2 Single-base Ribose Zipper; 2.6 Progress and New Developments in Understanding rRNA Structures; 2.6.1 K-turn; 2.6.2 Lonepair Triloop; 2.6.2.1 Classification of Lonepair Triloops; 2.6.3 Systemizing Base Pairs; 2.6.4 Systemizing RNA Structural Elements; 2.7 RNA-protein Interactions; 2.7.1 Problem of RNA Recognition
2.7.2 Chemistry of RNA-protein Interactions
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3.2.6.2 Non-core snoRNP Proteins required for snoRNA Accumulation

Sommario/riassunto

Knud Nierhaus, who has studied the ribosome for more than 30 years, has assembled here the combined efforts of several scientific disciplines into a uniform picture of the largest enzyme complex found in living cells, finally resolving many decades-old questions in molecular biology. In so doing he considers virtually all aspects of ribosome structure and function -- from the molecular mechanism of different ribosomal ribozyme activities to their selective inhibition by antibiotics, from assembly of the core particle to the regulation of ribosome component synthesis. The result is a premier
