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Autore Lilias Anders

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4.4 Translational Regulation, Reading Frame and Usage of the Genetic CodeChapter 5: The Adaptor - tRNA; 5.1 The tRNAs; 5.2 tRNA Structures; Primary and Secondary Structure; The 3D Structure; 5.3 Charging - the tRNA Synthetases; The Charging Reaction; Classes and Subclasses of Aminoacyl-tRNA Synthetases; 5.4 Recognition of Amino Acids and tRNAs by Aminoacyl-tRNA Synthetases; tRNA Recognition: Not a Simple Matter; Amino acid Recognition: An Old Mystery; The Structural Basis of Amino Acid Activation and Aminoacylation; 5.5

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Sommario/riassunto

This highly illustrated book provides an up-to-date description of the structure and function of the translation system including ribosomes, tRNAs, translation factors, antibiotics and aminoacyl-tRNA synthetases. Research on translation is undergoing rapid changes and is receiving significant attention as evidenced by the Nobel Prize in Chemistry 2009. The structural research by crystallography and cryo-EM forms part of an interactive framework that involves biochemistry and molecular computation. The book provides a comprehensive overview of translation in light of the structural results. It i