

Preface

Recent years have witnessed discoveries of regulatory nascent polypeptides, which contain amino acid sequences that interact with the ribosomal exit tunnel and induce translation arrest. The *cis*-specific translation arrest is inducible by a specific physiological cue, such as the presence of metabolites, exposure to antibiotics, or other stresses including dysfunction of a protein delivery machine. This book addresses this new paradigm of translation control by regulatory nascent polypeptides, which is integrated into cellular regulatory systems. Topics that are discussed include the structure and function of the ribosome and its exit tunnel, experimental approaches to dynamic translation processes, and the physiological significance of this class of regulatory systems in bacteria, yeasts, plants, and animals. We place a special focus on genetic biochemical and structural studies attempting to understand the underlying molecular mechanisms. It would be my great pleasure and honor if this book proved useful for young and established scientists who are exploring the amazing hidden autonomy of the ribosome-nascent chain complexes.

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