

PROCESS OF PROTEIN SYNTHESIS

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Topic: PROCESS OF PROTEIN SYNTHESIS

“During transcription, DNA serves as a template for producing a molecule of messenger RNA (mRNA)” (Swiatnicki & Andrechek,2021). In the next step, the mRNA molecule leaves the nucleus and goes to the cytoplasm to finish translation at a ribosome. The translation is how the genetic information contained in mRNA is read and utilized to produce protein. Transcription occurs in three stages: the start stage, the elongation stage, and the termination stage. According to the second component of the fundamental dogma of molecular biology, RNA is responsible for the production of proteins. It is the process by which the genetic information contained in mRNA is read and translated into a protein form.

A specific anticodon is found in each kind of tRNA molecule that matches to the amino acid that it carries. The UUC anticodon is a codon for an amino acid that is complementary to a codon for another amino acid in the same coding sequence (Hoffer et al.,2020). Regarding the synthesis of a polypeptide chain, it may be subjected to a number of further processing processes.

The interactions between its amino acids, for example, may cause it to fold into a cylinder form. Moreover, it may form complexes with other polypeptides and other kinds of molecules, such as lipids and carbohydrates. Many proteins go to the Golgi apparatus, which is located inside the cytoplasm, where they are changed to perform the particular function for which they are intended.

Find the different types of RNA involved. What are their roles in translation?

REFERENCES

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- Hoffer, E. D., Hong, S., Sunita, S., Maehigashi, T., Gonzalez, R. L. J., Whitford, P. C., & Dunham, C. M. (2020). Structural insights into mRNA reading frame regulation by tRNA modification and slippery codon-anticodon pairing. *ELife*, 9. <https://doi.org/10.7554/eLife.51898>