

Glossary of Translation in Biology

Amino Acid

A building block of proteins; 20 different amino acids are used in translation.

Anticodon

A sequence of three nucleotides on a tRNA molecule that pairs with the corresponding codon on mRNA.

Codon

A sequence of three nucleotides on mRNA that codes for a specific amino acid or a stop signal.

Elongation

The stage of translation where amino acids are added to the growing polypeptide chain.

Initiation

The beginning of translation when the ribosome assembles on the start codon of mRNA.

mRNA (Messenger RNA)

A type of RNA that carries the genetic code from DNA to the ribosome for protein synthesis.

Peptide Bond

A covalent bond that links amino acids together in a protein.

Polysome (Polyribosome)

A complex of multiple ribosomes translating a single mRNA simultaneously.

Post-Translational Modification

Chemical changes made to a protein after it is synthesized that affect its function and location.

Ribosome

A molecular machine composed of rRNA and proteins that assembles proteins by translating mRNA.

rRNA (Ribosomal RNA)

RNA component of the ribosome that helps catalyze protein synthesis.

Start Codon

The codon (usually AUG) that signals the start of translation and codes for methionine.

Stop Codon

A codon (UAA, UAG, or UGA) that signals the termination of translation.

tRNA (Transfer RNA)

An adaptor molecule that brings amino acids to the ribosome and pairs its anticodon with mRNA codons.

Translation

The process of synthesizing proteins from an mRNA template using the genetic code.