

“Translation” means :

Ribosomes in the cell cytoplasm read the mRNA molecule message and use it to make a protein (a series of linked amino acids).

Ribosomes are made up of ribosomal RNA ( rRNA )...As translation happens...

1. The mRNA molecule travels to a ribosome. The ribosome moves along the mRNA until it reaches the “initiator codon” (AUG)...attaches at this spot and starts reading 5' to 3'.

2. Bases are read in groups of three, called a “codon”. Each codon will match up with a new molecule : tRNA (transfer RNA). Each transfer RNA can attach to one kind of amino acid.

The bottom 3 bases (the tRNA’s “anticodon”) make sure it can only attach to one specific codon.

Most amino acids have more than one possible codon (they have the first two bases the same though) and so the code is sometimes called a “degenerating”, “redundant”, or “degenerative” code.

3. As the ribosome moves along mRNA, codons of bases are read, each one is matched up with the right tRNA and amino acid combo. As the ribosome keeps reading, and tRNA's are being lined up, a string of amino acids are lined up. They are joined with "peptide bonds" and voila ! You have a protein.

