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Protein/Amino Acid Biochemistry, Synthesis

National Cancer Institute

Source

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Protein synthesis occurs in the cell by translating the sequential codons in messenger RNAs into amino acid residues of a peptide chain. This translation physically occurs in macromolecular complexes called ribosomes, pairing amino acid-carrying transfer RNA complexes with individual codons of the messenger RNA, transferring the elongating peptide to this tRNA-amino acid complex with formation of a peptide bond, releasing the previous tRNA, and translocating the messenger RNA to make the next codon available for pairing. The process is then repeated until a termination codon is read and the peptide is released.