

SECTION 10-3 REVIEW**PROTEIN SYNTHESIS****VOCABULARY REVIEW** Define the following terms.

1. codon _____

2. translation _____

3. anticodon _____

MULTIPLE CHOICE Write the correct letter in the blank.

- _____ 1. A protein is a polymer consisting of a specific sequence of
- a. amino acids.
 - b. fatty acids.
 - c. RNA nucleotides.
 - d. DNA nucleotides.
- _____ 2. The genetic code specifies the correlation between
- a. a DNA-nucleotide sequence and an RNA-nucleotide sequence.
 - b. an mRNA-nucleotide sequence and a tRNA-nucleotide sequence.
 - c. an mRNA-nucleotide sequence and an rRNA-nucleotide sequence.
 - d. an RNA-nucleotide sequence and an amino-acid sequence.
- _____ 3. During translation, one end of a tRNA molecule pairs with a complementary
- a. nucleotide sequence in DNA.
 - b. mRNA codon.
 - c. tRNA molecule.
 - d. protein molecule.
- _____ 4. One binding site on a ribosome holds an mRNA molecule, and the other two binding sites hold
- a. two other ribosomes.
 - b. DNA.
 - c. tRNA molecules.
 - d. rRNA molecules.
- _____ 5. Two amino acids are linked by a peptide bond when
- a. two ribosomes attach simultaneously to the same mRNA transcript.
 - b. two tRNAs pair with neighboring codons on an mRNA transcript.
 - c. two codons on an mRNA transcript bind to each other.
 - d. a ribosome attaches to two codons on an mRNA transcript.

SHORT ANSWER Answer the questions in the space provided.

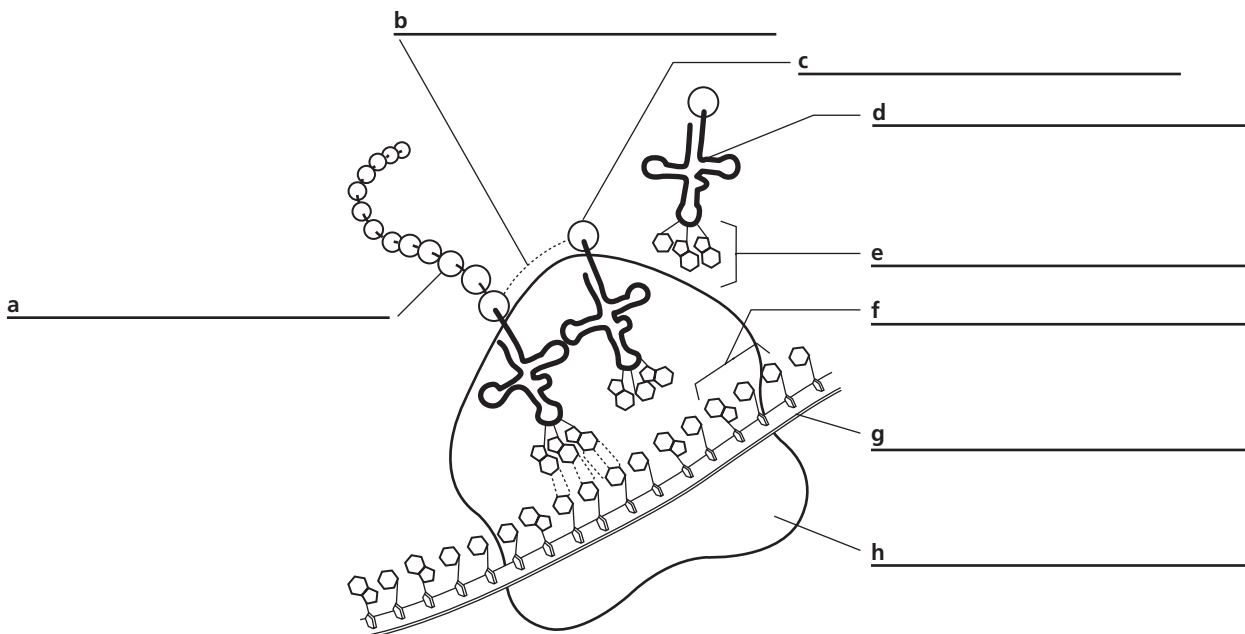
- List, in order, the tRNA anticodons that are complementary to the mRNA sequence AUGCAUGCAAGUUAG. _____
 How many amino acids will be in the polypeptide that is initially formed when this mRNA sequence is translated? _____
- Explain why methionine is the first amino acid in every growing polypeptide. _____

- What determines whether a protein is exported from a cell or used inside the cell? _____

- Critical Thinking** How would a deletion of one nucleotide in the middle of an mRNA transcript affect the polypeptide specified by that transcript? _____

STRUCTURES AND FUNCTIONS Label each part of the figure in the spaces provided.

The diagram below summarizes the events that occur during translation.



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