

RNA and Protein Synthesis

This section describes RNA and its role in transcription and translation.

The Structure of RNA

1. List the three main differences between RNA and DNA.
 - a. _____
 - b. _____
 - c. _____
2. Is the following sentence true or false? RNA is like a disposable copy of a DNA segment. _____
3. What is the importance of the cell's ability to copy a single DNA sequence into RNA?

Types of RNA

4. What is the one job in which most RNA molecules are involved? _____

5. Complete the compare-and-contrast table about the types of RNA.

TYPES OF RNA

| Type | Function |
|---------------|--|
| | Carries copies of the instructions for assembling amino acids from DNA to the rest of the cell |
| Ribosomal RNA | |
| | Transfers each amino acid to the ribosome to help assemble proteins |

Transcription

6. Circle the letter of each sentence that is true about transcription.
 - a. During transcription, DNA polymerase binds to RNA and separates the DNA strands.
 - b. RNA polymerase uses one strand of DNA as a template to assemble nucleotides into a strand of RNA.
 - c. RNA polymerase binds only to DNA promoters, which have specific base sequences.
 - d. Promoters are signals in RNA that indicate to RNA polymerase when to begin transcription.

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