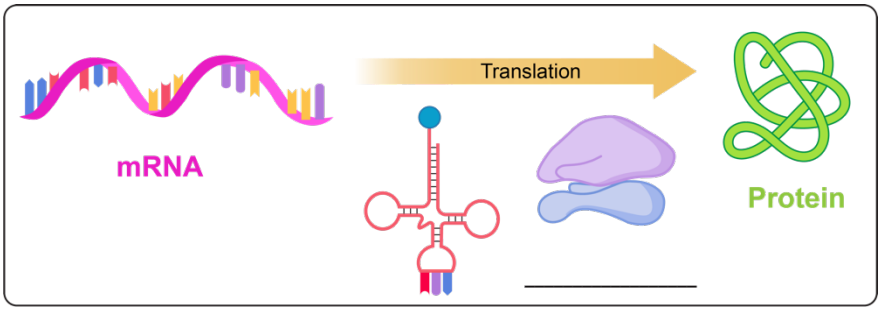
CONCEPT: INTRODUCTION TO TRANSLATION

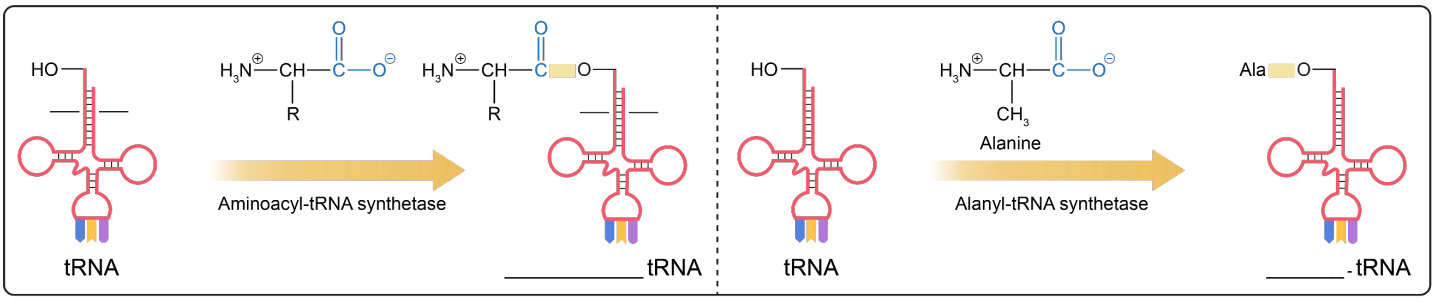
- **Recall:** In translation, a ribosome reads the genetic information in mRNA to synthesize proteins.
  - □ This process requires tRNA, _____ acids, and enzymes to translate mRNA into protein.
  - □ tRNA's are responsible for transporting amino acids ( ) to ribosomes.



  - □ tRNA molecules must be _____ before they enter the translation process.

Activation of tRNA

- During activation, an amino acid is attached to the _____ stem (__ end) of tRNA.
  - □ An _____ bond is formed between __-terminus of amino acid and free –OH at 3' end of tRNA.
  - □ Aminoacyl-tRNA _____ catalyzes the ester bond formation.
    - Each amino acid has a different synthetase.



EXAMPLE: Which of the following statements is incorrect about translation?

a) Translation is a part of gene expression.

b) Translation requires tRNA molecules as carriers of amino acids.

c) A ribosome reads the genetic information from a DNA strand and synthesizes a protein.

d) Ribosomes, the sites of protein synthesis, are located outside the nucleus in the cytosol.

PRACTICE: During activation, an amino acid bonds to the ___ end of tRNA through its ___-terminus.

a) 5', C

b) 3', N

c) 5', N

d) 3', C