

# Gene expression

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# Gene expression

Gene expression means using the information present in the gene to synthesize a protein

A gene is expressed when the protein encoded by it is required

Gene expression  
comprises four steps:

Transcription of gene

Charging of tRNAs

Translation

Post-translational modifications

# Transcription of gene

For expression of a gene, the coded information present in it has to be transcribed

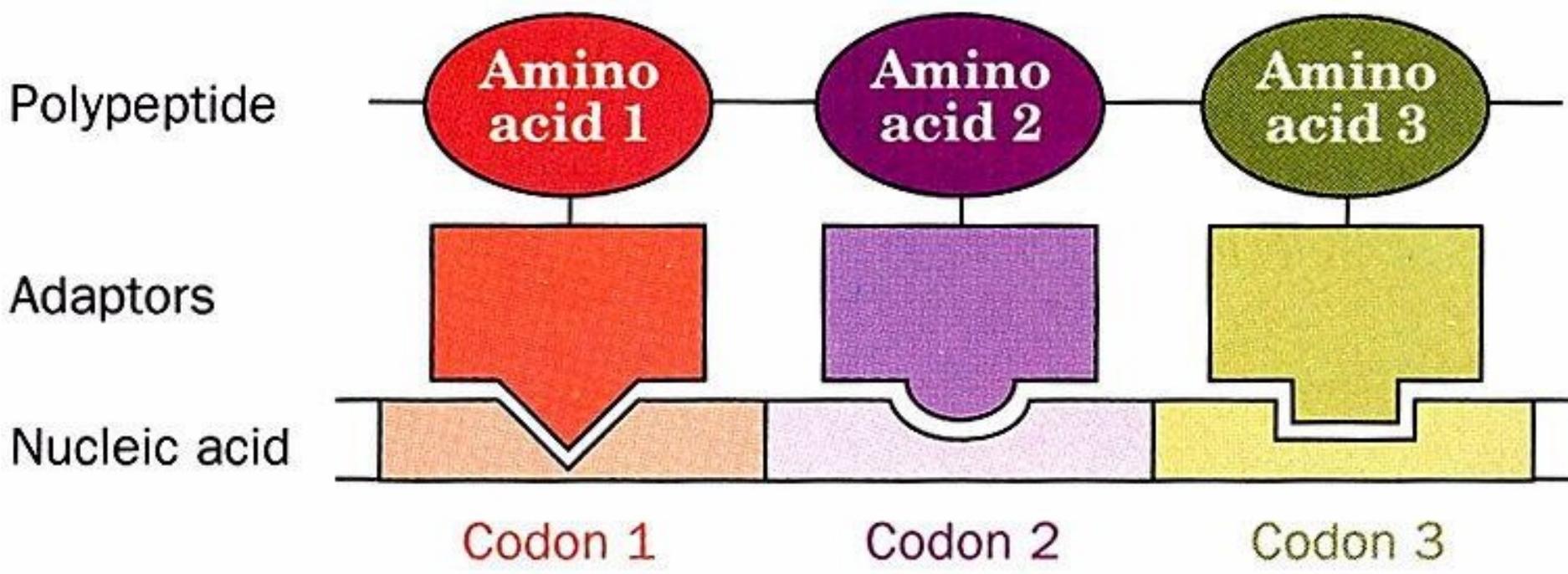
In prokaryotes, the primary transcript is mRNA

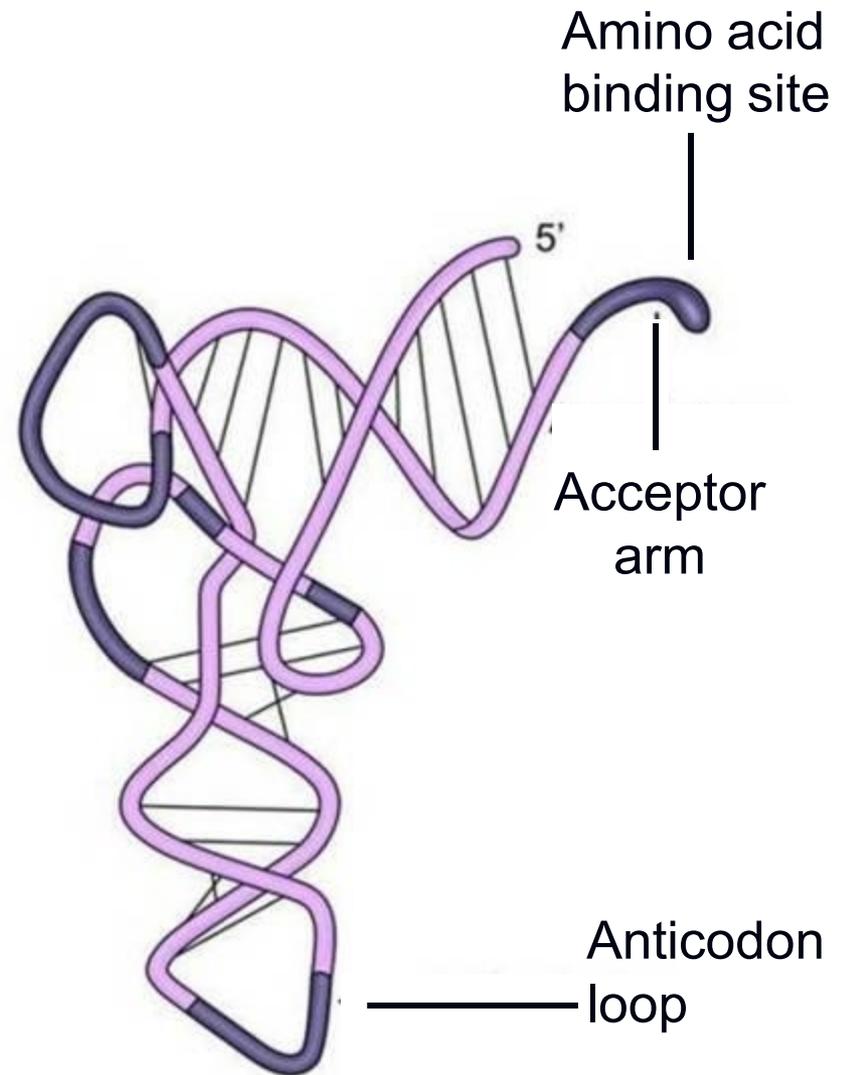
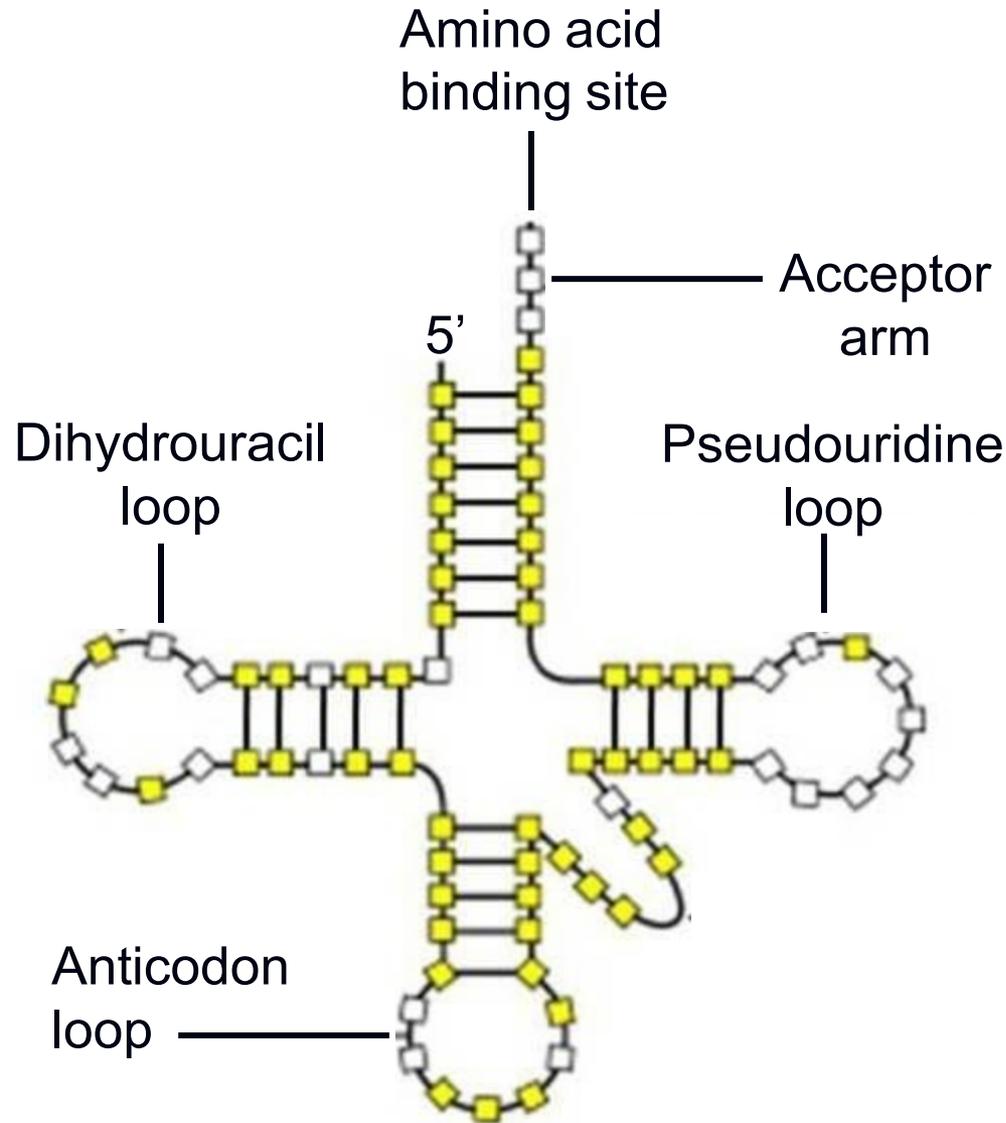
In eukaryotes, primary transcript is hnRNA, which is processed to form mRNA

The mRNA comes out of the nucleus and attaches to a ribosome

The amino acids are incapable of recognizing the codons on the mRNA

An adaptor molecule is required to match the amino acid and the codon





**The adaptor molecule is tRNA**

Thank you

The image features a solid blue background. In the center, the words "Thank you" are written in a yellow, serif font with a thin white outline. In the bottom right corner, there are several thin, white, wavy lines that create a sense of motion or a decorative flourish.