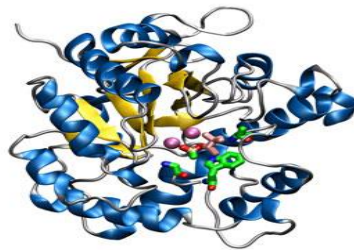
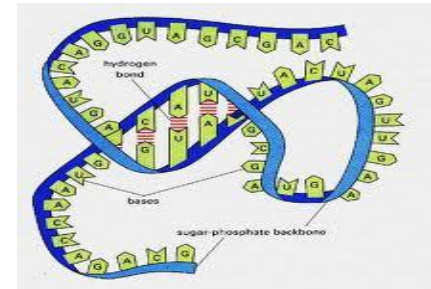


Lec 6 transcription and post transcription processe

Components involve in molecular biology



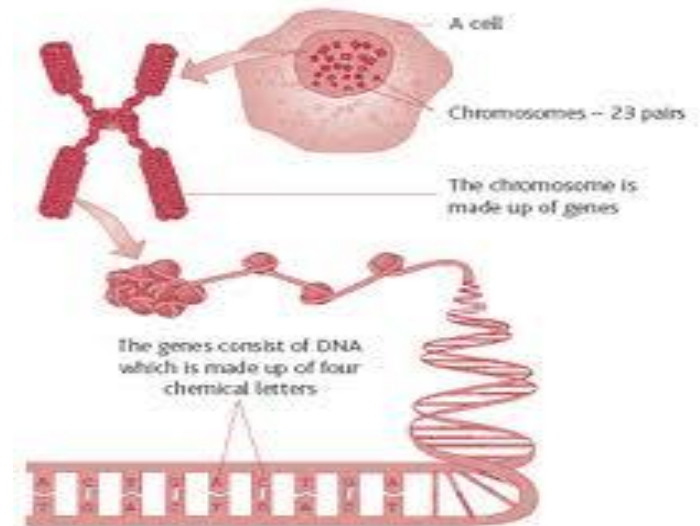
DNA



Protein

Gene : Unit of heredity

- The DNA segments that carries genetic information are called genes.
- Genes **keep** the information to **build** and maintain an organism's cells and pass genetic traits to offspring.



Difference between RNA & DNA

RNA	DNA
RNA nucleotides contain ribose sugar	DNA contains deoxyribose
RNA has the base uracil	DNA has the base thymine
presence of a hydroxyl group at the 2' position of the ribose sugar.	Lacks of a hydroxyl group at the 2' position of the ribose sugar.
RNA is usually single-stranded	DNA is usually double-stranded

النسخ Transcription

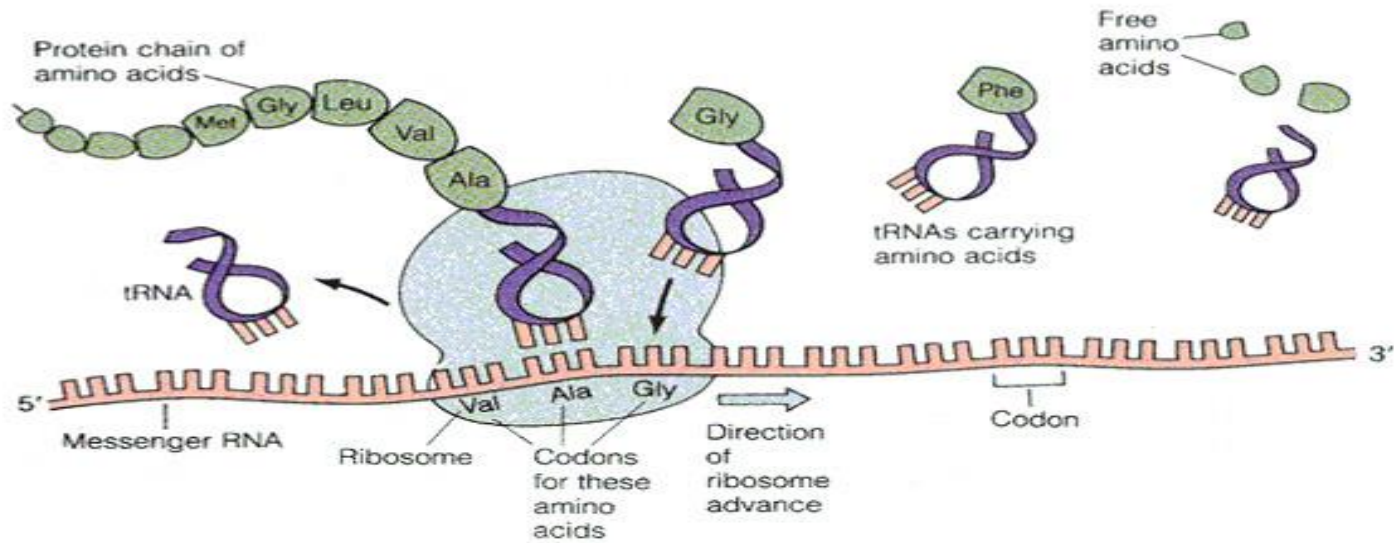
- **Transcription**, is the process of creating an **equivalent** RNA copy of a sequence of DNA.
 - Transcription is the first step leading to
 - **gene expression.** التعبير الجيني.
-
- Transcription results in an RNA complement that includes uracil (U) instead of thymine (T).

Translation

- **Translation** is the first stage of protein biosynthesis .
- In translation, (mRNA) produced by transcription is decoded by the ribosome to produce a specific amino acid chain, or polypeptide, that will later fold into an active protein.
- Translation **occurs** in the cell's cytoplasm, where the large and small subunits of the ribosome are **located**, and bind to the mRNA.

موقع حدوث الترجمة بالسائتوبلازم لان الرايبوسوم متواجد بالسائتوبلازم

Translation process



Copyright © 2000 Benjamin/Cummings, an imprint of Addison Wesley Longman, Inc.

What is Genome ?

Genome is the entirety of an organism's hereditary information.

It is encoded either in DNA or, for many types of virus, in RNA.

The genome includes both the genes and the non-coding sequences of the DNA.