

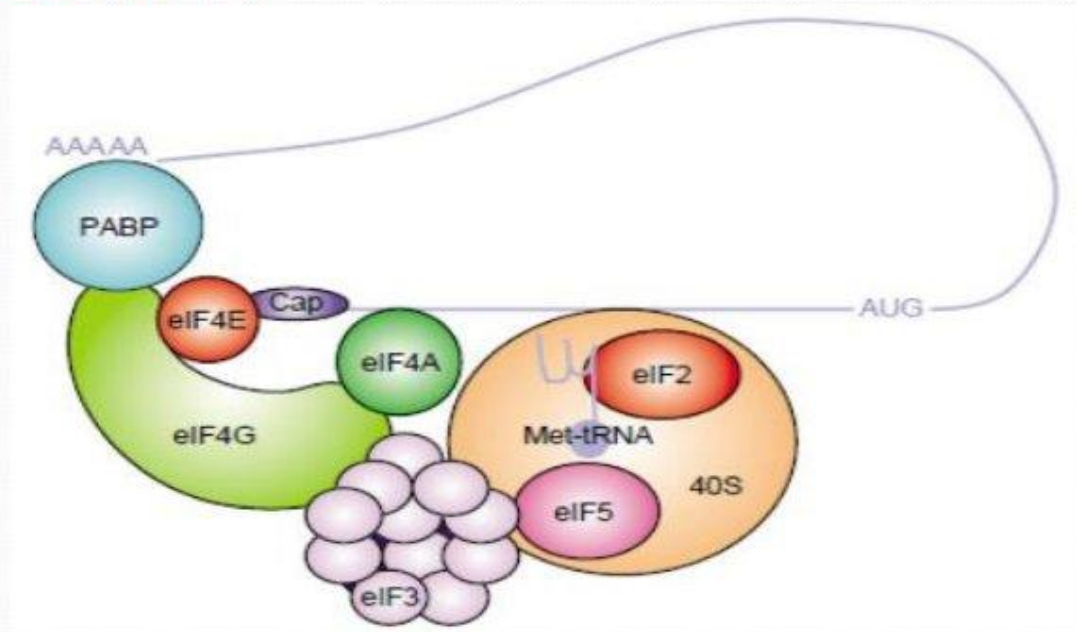
Eukaryotic Translation

- In prokaryotic cell, transcription and translation are coupled, that is, translation begins while the mRNA is still being synthesized. In a eukaryotic cell, transcription occur in the nucleus , and translation occur in the cytoplasm.
- Translation process in eukaryotes involve
 - Activation (not essentially the step of translation. This occur the same way as in prokaryotes)
 - Initiation
 - Elongation and
 - termination

1. Initiation

- The initiation of translation in eukaryotes is complex, involving at least 10 initiation factors (eIFs) and is divided into three steps :
 - a) Formation of 43s preinitiation complex.
 - b) Formation of 48s initiation complex.
 - c) Formation of 80s initiation complex.

Cont.....



2. Elongation

- Ribosomes elongate the polypeptide chain by sequential addition of amino acids
- The amino acid sequence is determined by the order of the codons in the specific mRNA
- Elongation, a cyclic process involving certain elongation factors (EFs)
- Elongation may be divided into three steps
 - a. Binding of aminoacyl-tRNA to A-site
 - b. Peptide bond formation
 - c. translocation