

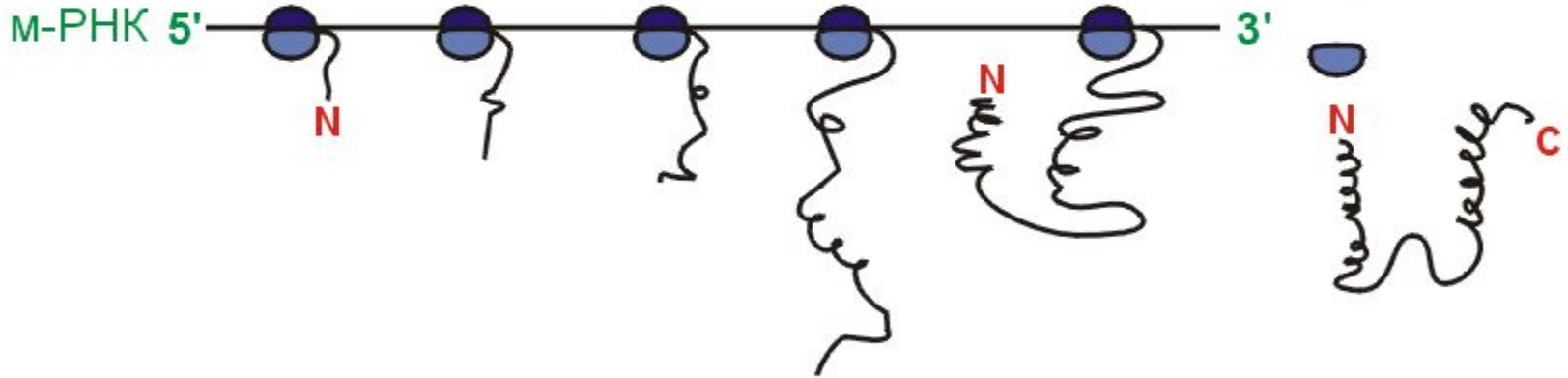


2004



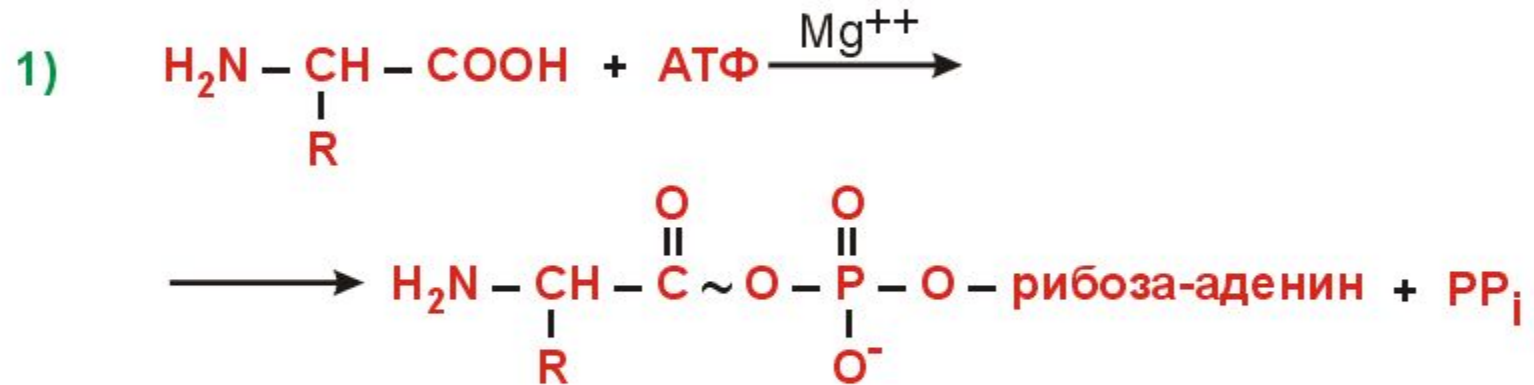
# Трансляция

Полирибосома



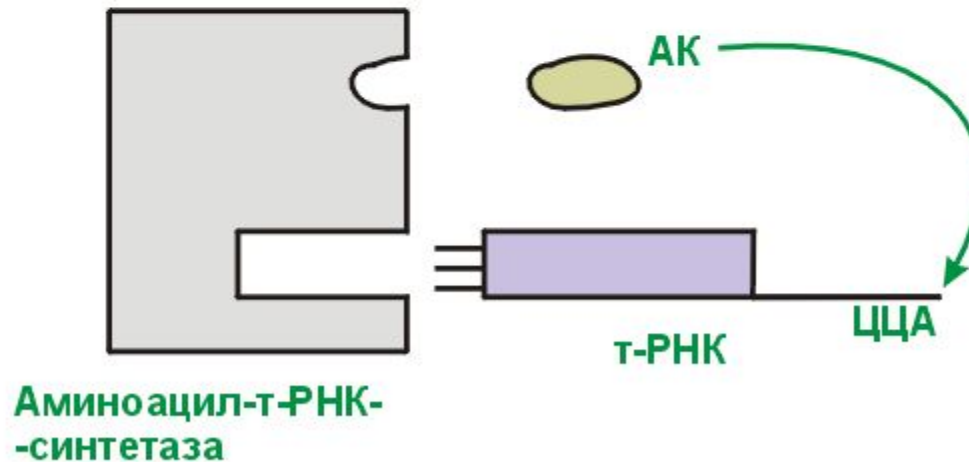
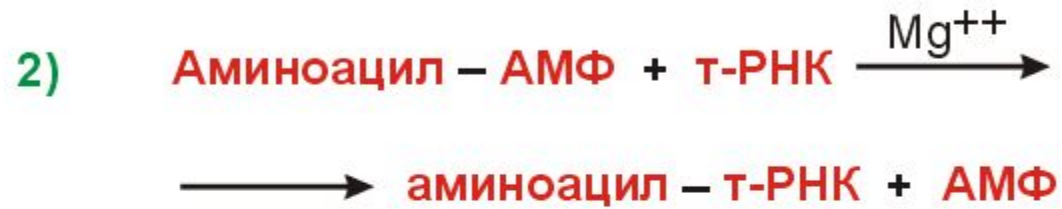


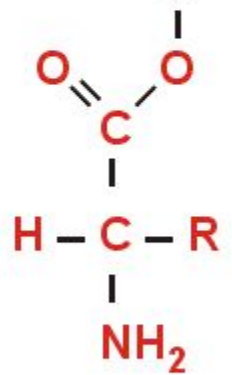
## Активирование аминокислоты



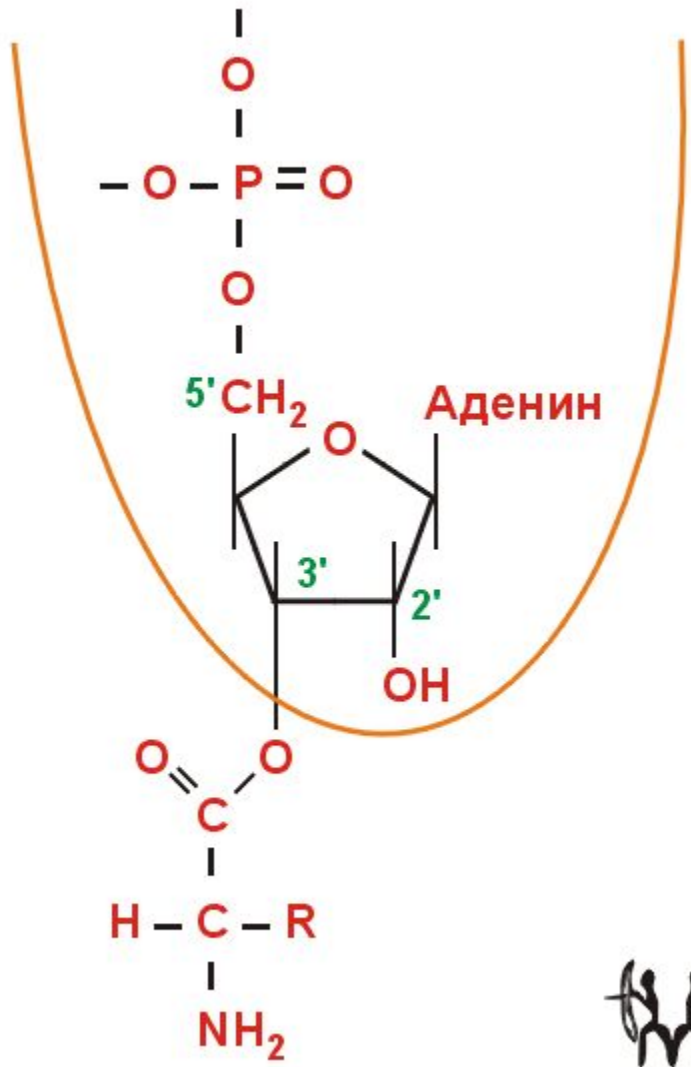


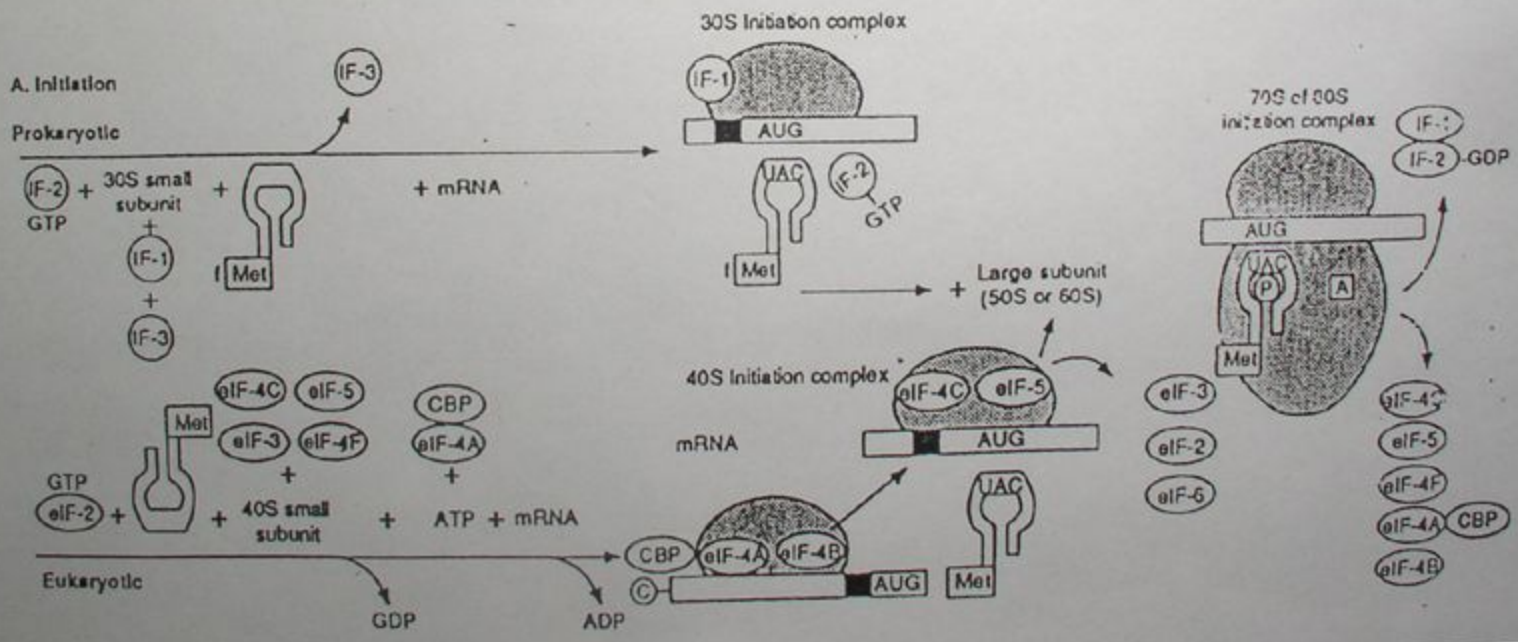
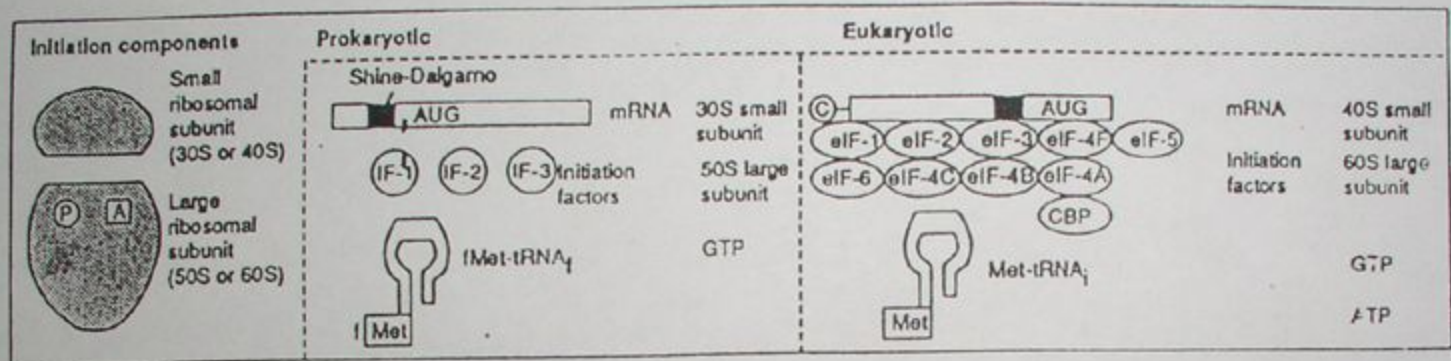
## Активирование аминокислоты



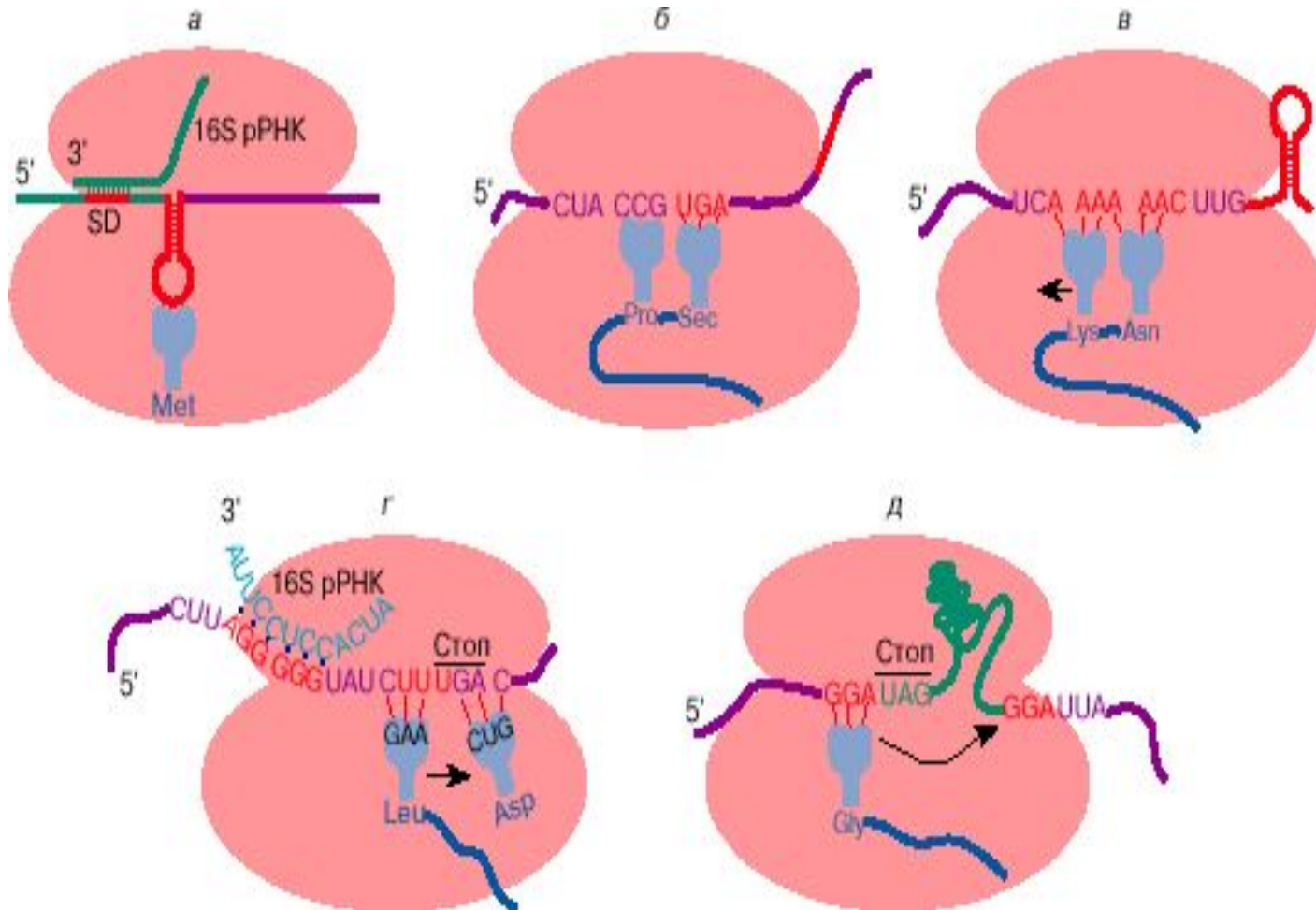


Аминоацил-т-РНК



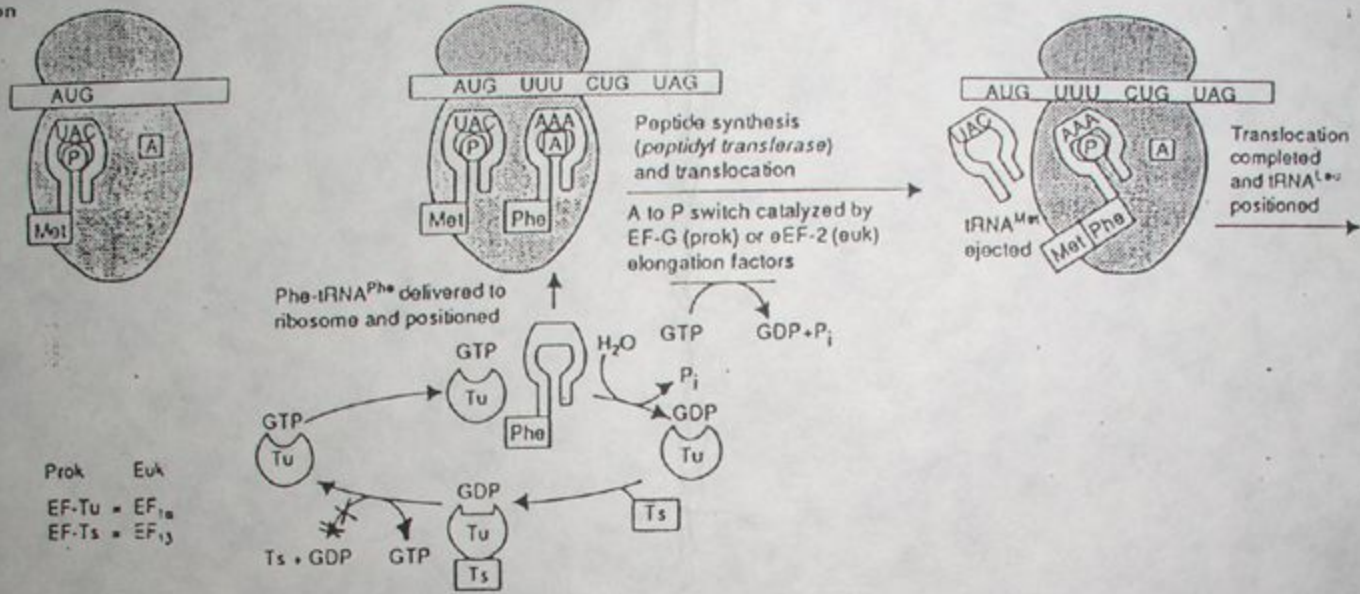


# Трансляция у прокариот





B. Elongation



C. Termination

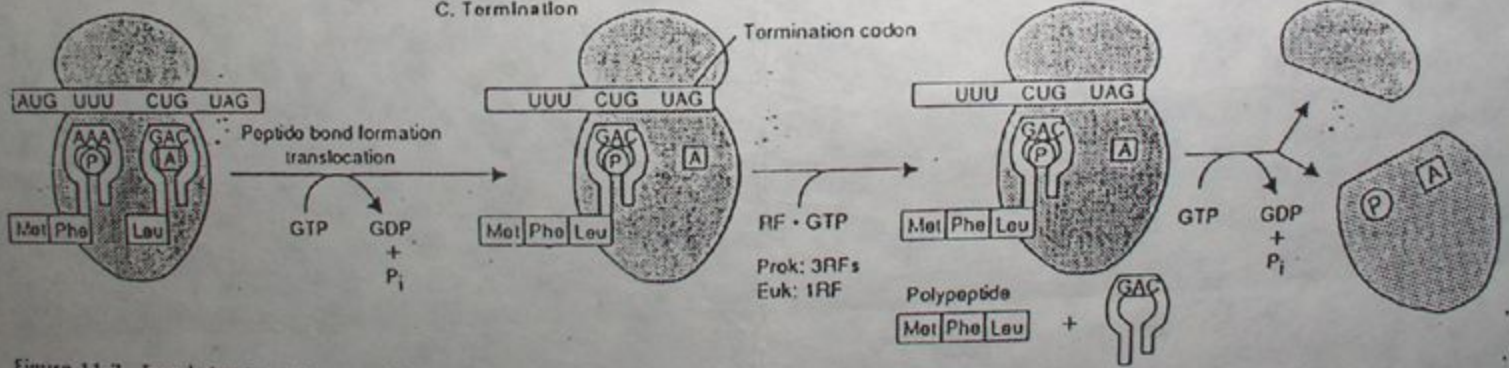
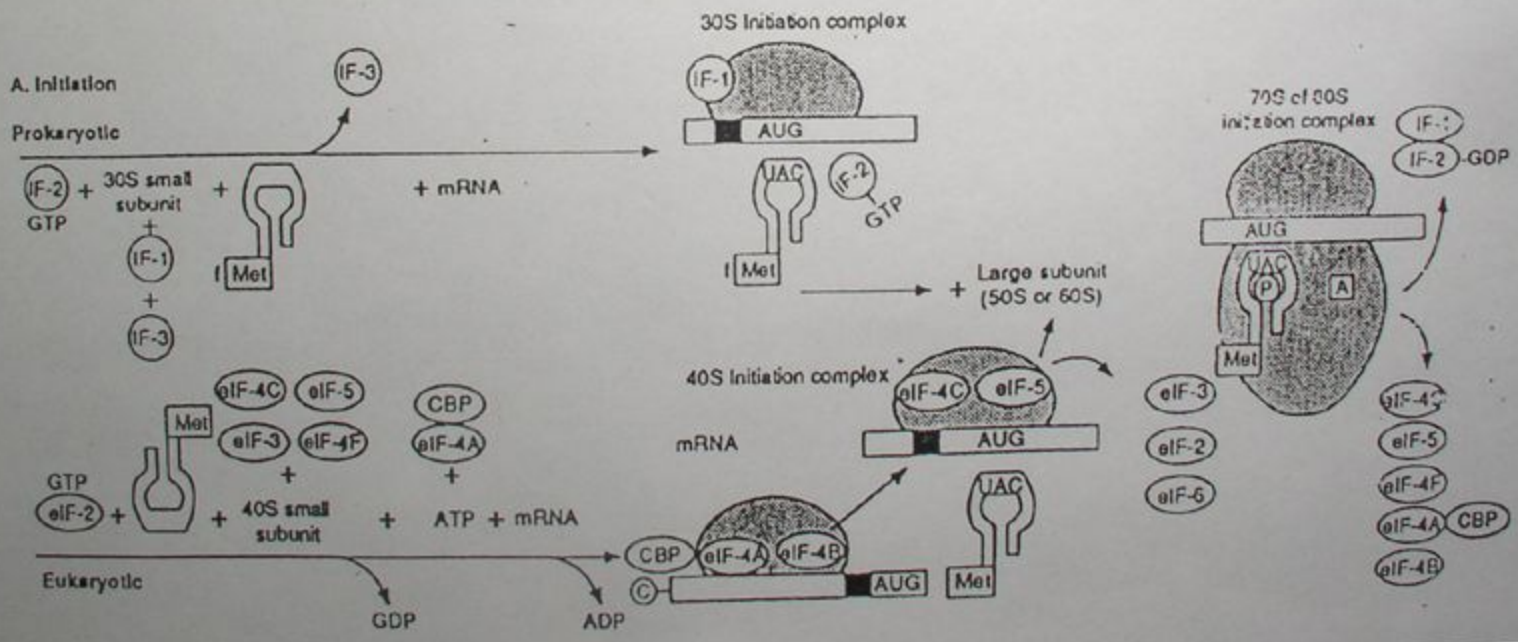
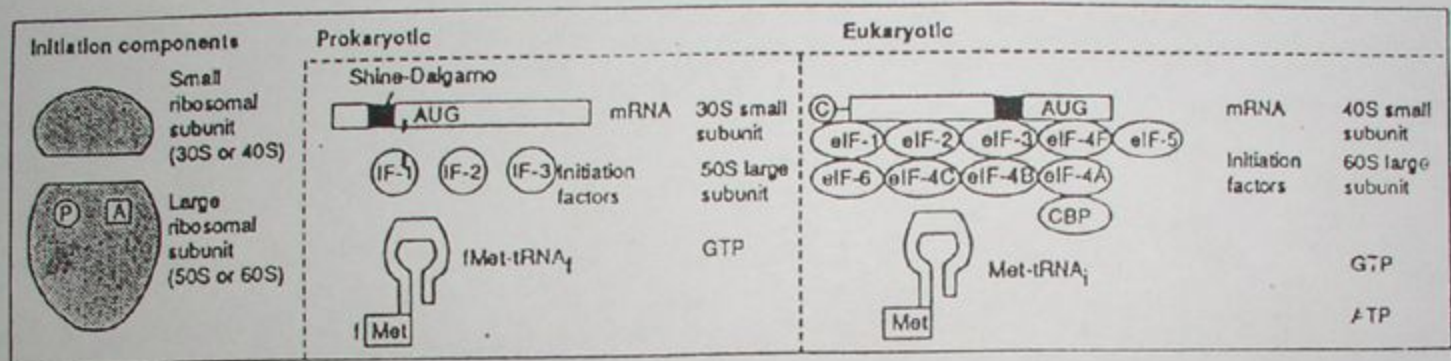


Figure 11-2. Translation in prokaryotes. There are three stages in translation: (A) initiation, (B) elongation, and (C) termination. The mechanism of protein synthesis in eukaryotes and prokaryotes is similar. In general, eukaryotes require more factors. *ADP* = adenosine diphosphate; *ATP* = adenosine triphosphate; *CBP* = cap-binding protein; *E* = elongation factor; *EF* = elongation factor; *GDP* = guanosine diphosphate; *GTP* = guanosine triphosphate; *IF* = initiation factor; eukaryotic *IFs* are preceded by *eIF*; *Leu* = leucine; *Met* = methionine; *mRNA* = messenger RNA; *Phe* = phenylalanine; *P<sub>i</sub>* = inorganic phosphate; *RF* = release factor; *tRNA* = transfer RNA. (Adapted with permission from Danneil L. Lodish D. Baltimore D. *Molecular Cell Biology*, 2nd ed. New York, W H Freeman, 1990, p 102-103.)







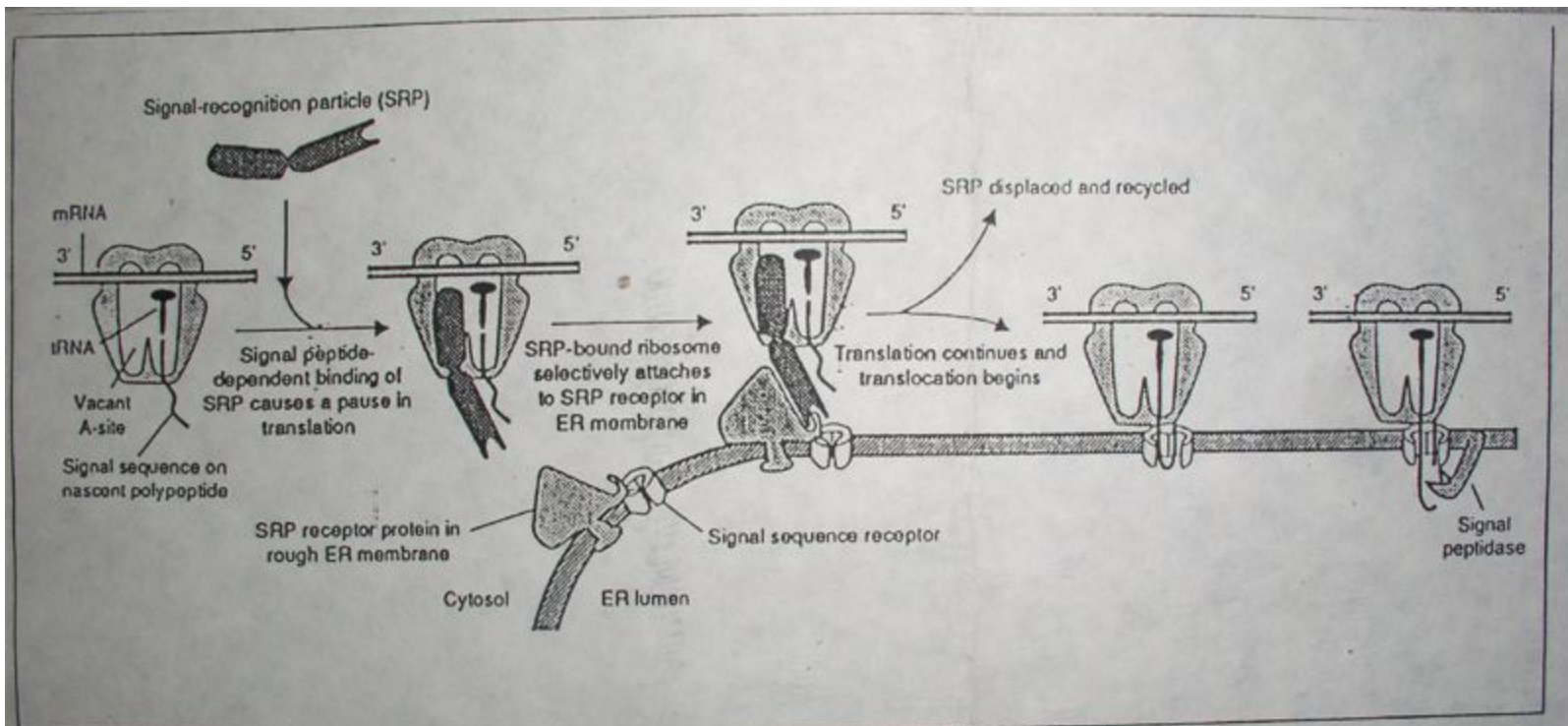


Figure 11-5. Signal hypothesis model of protein synthesis showing how the synthesis of a protein is directed to the endoplasmic reticulum (ER). A site = amino site; SRP = signal recognition particle. (Adapted with permission from Alberts B, Bray D, Lewis J, et al: *Molecular Biology of the Cell*, 2nd ed. New York, Garland Publishing, 1989, p 440.)



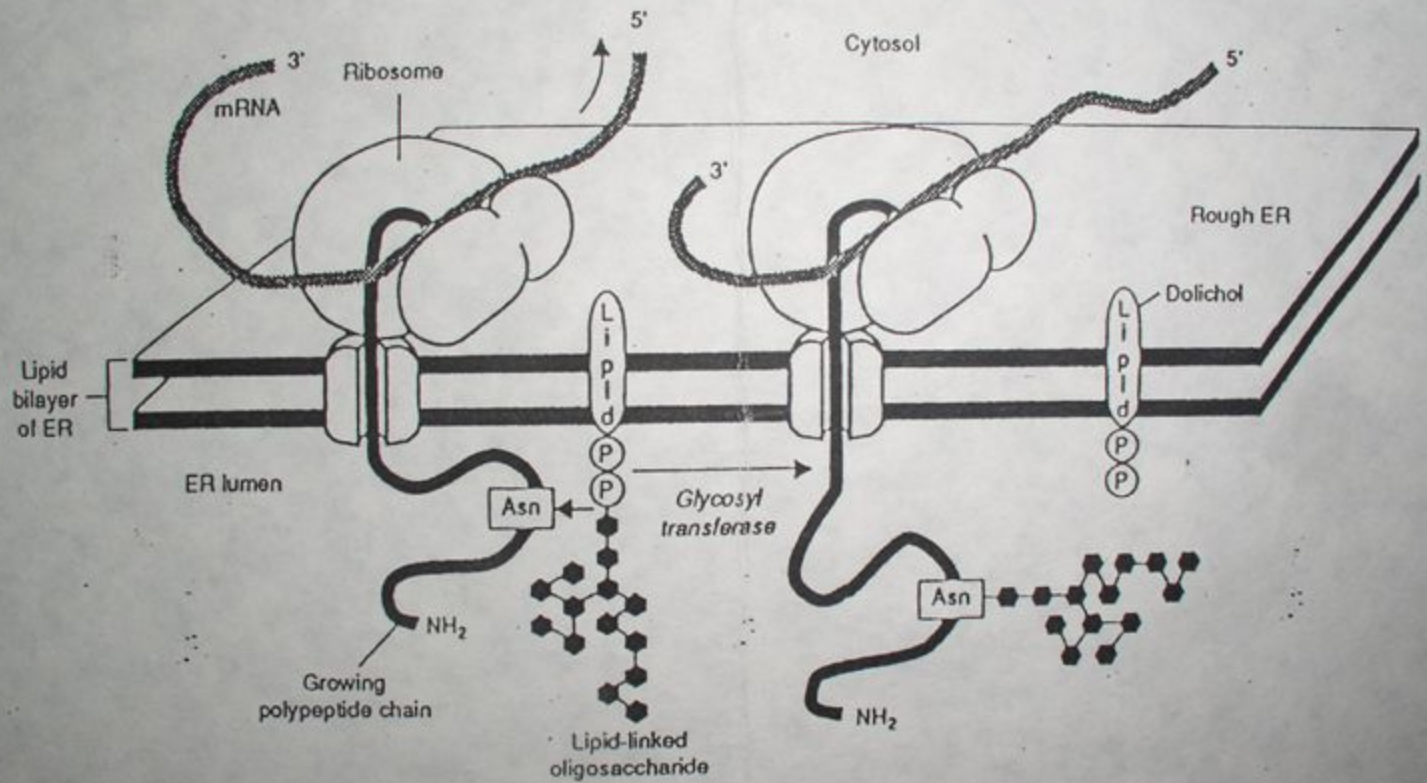


Figure 11-6. N-linked glycosylation of a protein being synthesized in the endoplasmic reticulum (ER). An oligosaccharide, previously synthesized and linked to the lipid dolichol within the membrane, is transferred by glycosyl transferase to an appropriate asparagine (Asn). Appropriate asparagines are the asparagines within the sequences Asn-X-Ser or Asn-X-Thr. mRNA = messenger RNA. (Reprinted with permission from Alberts B, Bray D, Lewis J, et al: *Molecular Biology of the Cell*. New York, Garland Publishing, 1983, p 349.)

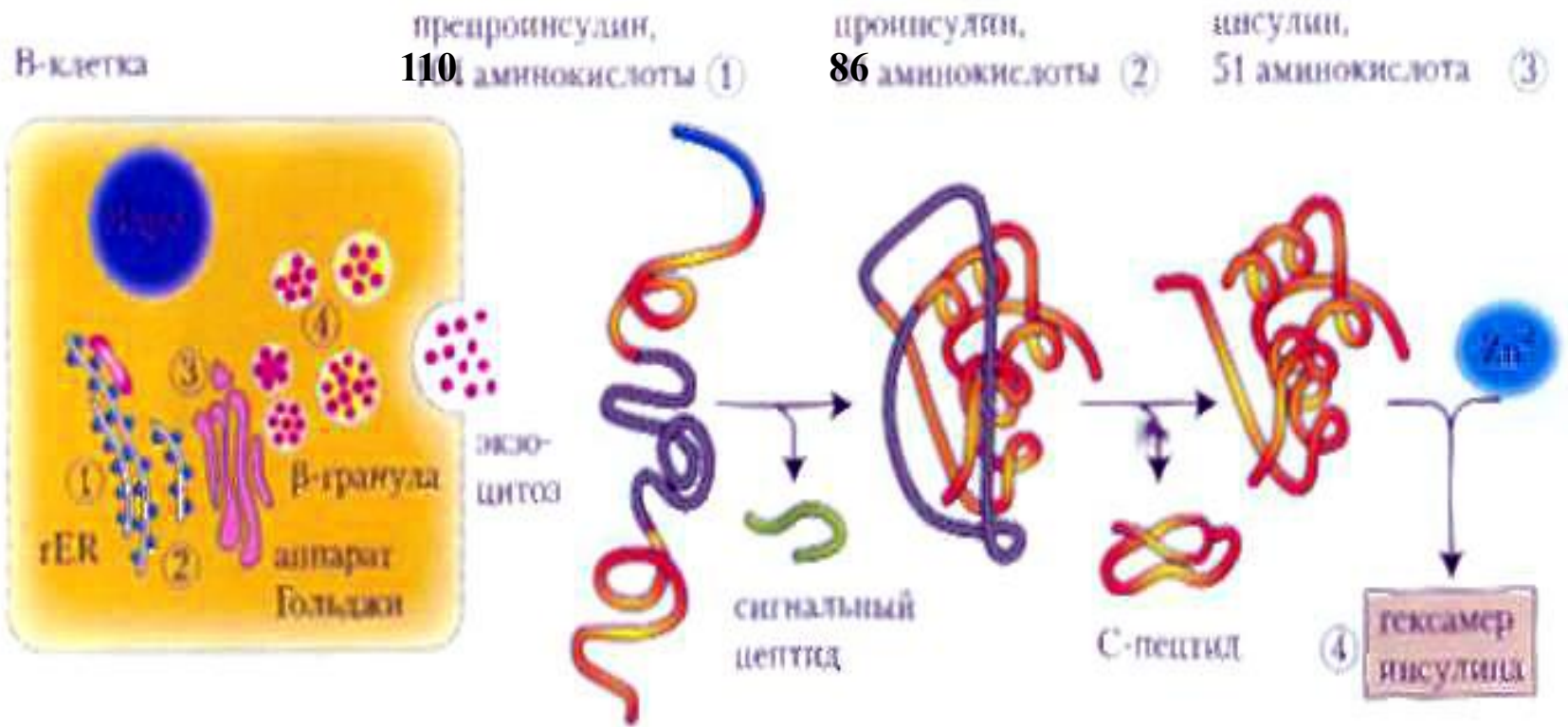


Схема синтеза инсулина



# Ингибиторы трансляции

- Антибиотики: - стрептомицин,  
- тетрациклины,  
- левамицитин,  
- эритромицин
- Токсины белковой природы:  
- дифтерийный токсин,  
- ricin
- Токсины – нуклеазы:  
-  $\alpha$  - Sarcin,  
- Colicin E3
- Антибиотики, не являющиеся лекарственными средствами: - циклогексемид,  
- пурамицин

# Дифтерийный токсин

Бактериофаг *Corynebacterium diphtheriae*

Фрагмент А = АДФ-рибозилтрансфераза

Фрагмент В





2004