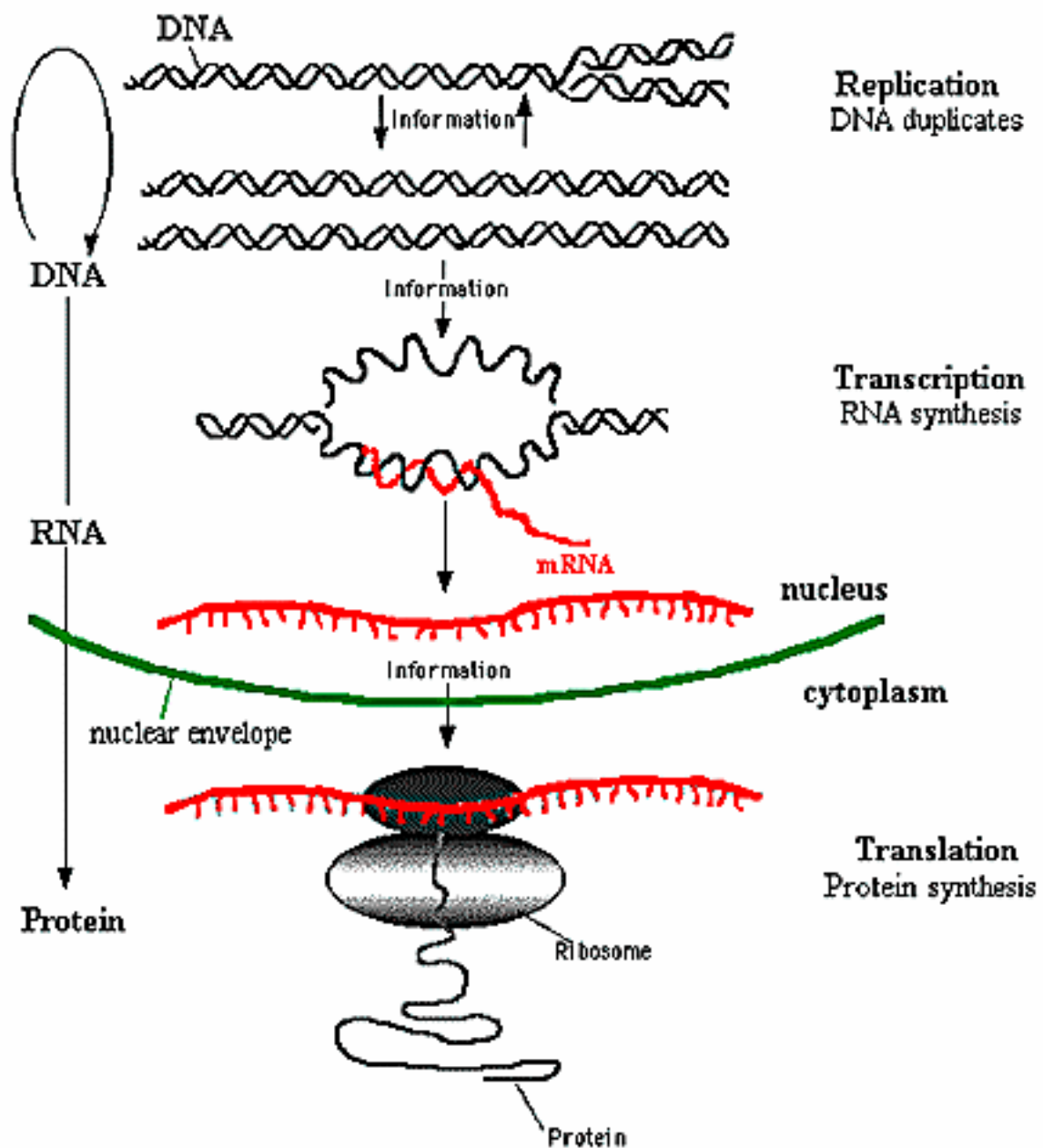


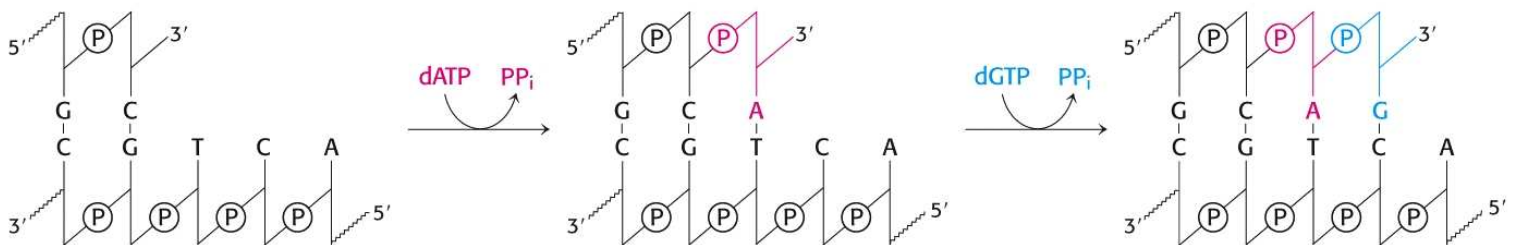
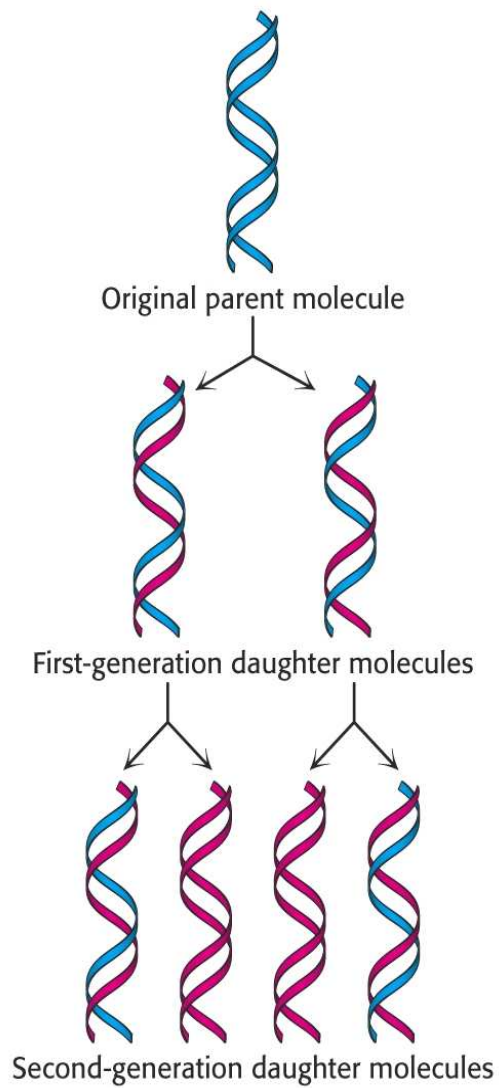
## PROTEOSYNTÉZA

Vyžaduje především zajištění primární struktury.

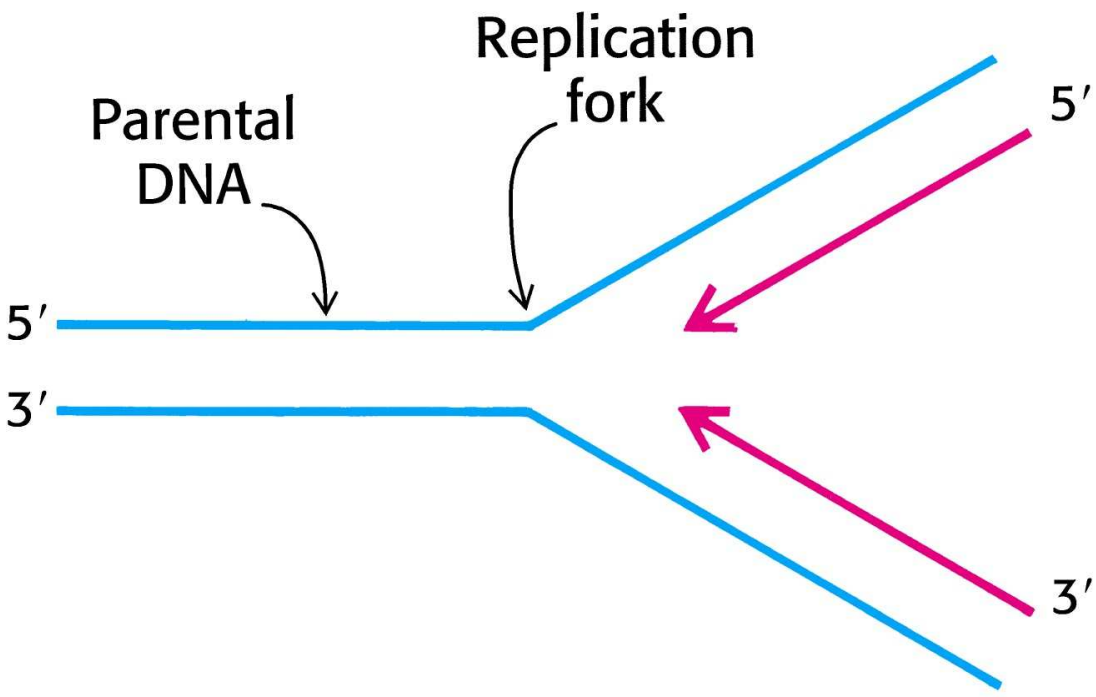
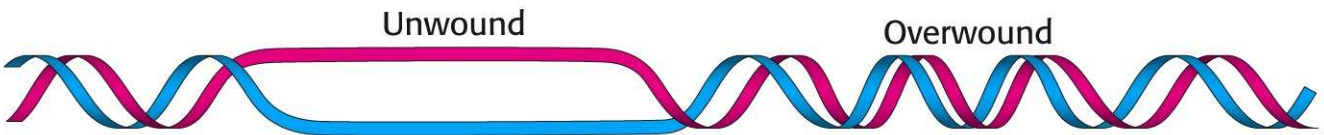
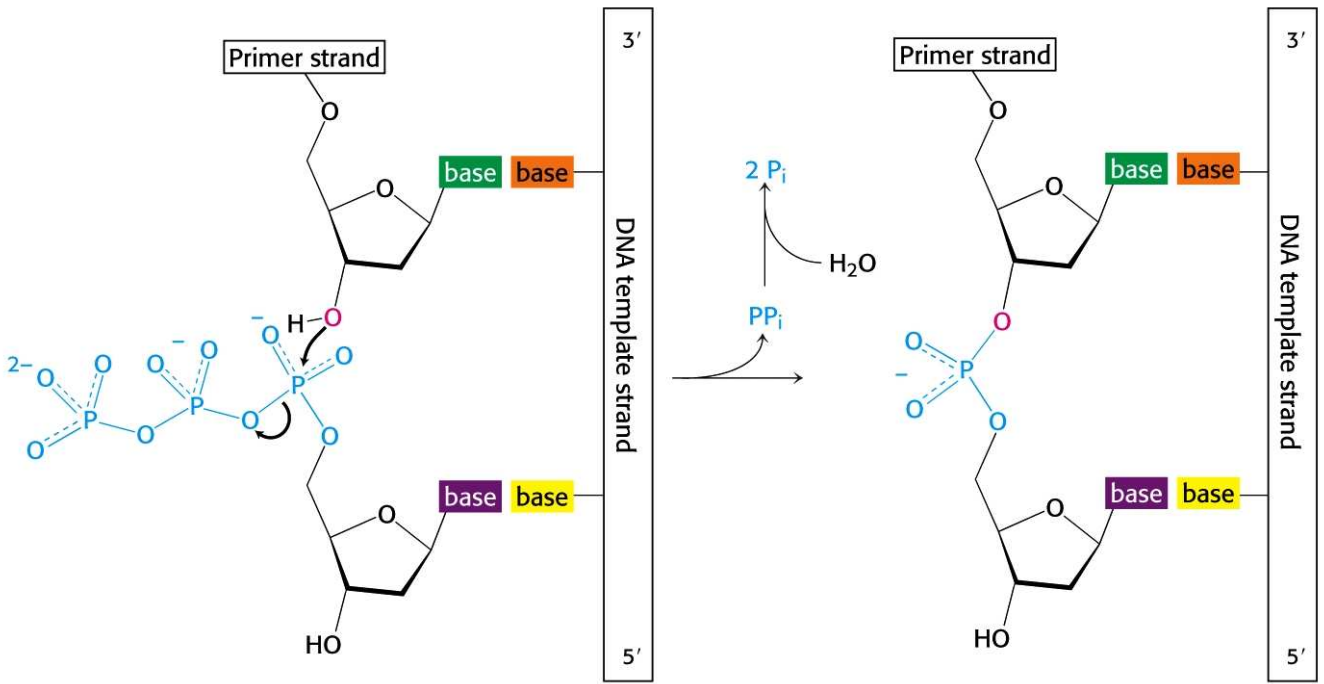
### Přenos a využití genetické informace (Centrální dogma molekulární biologie)

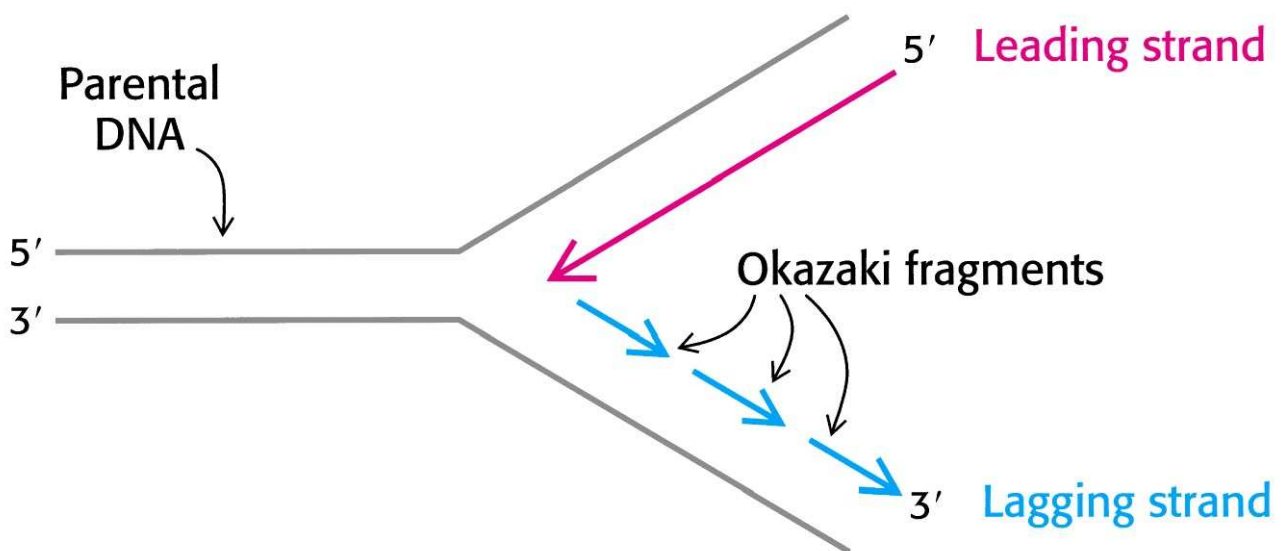
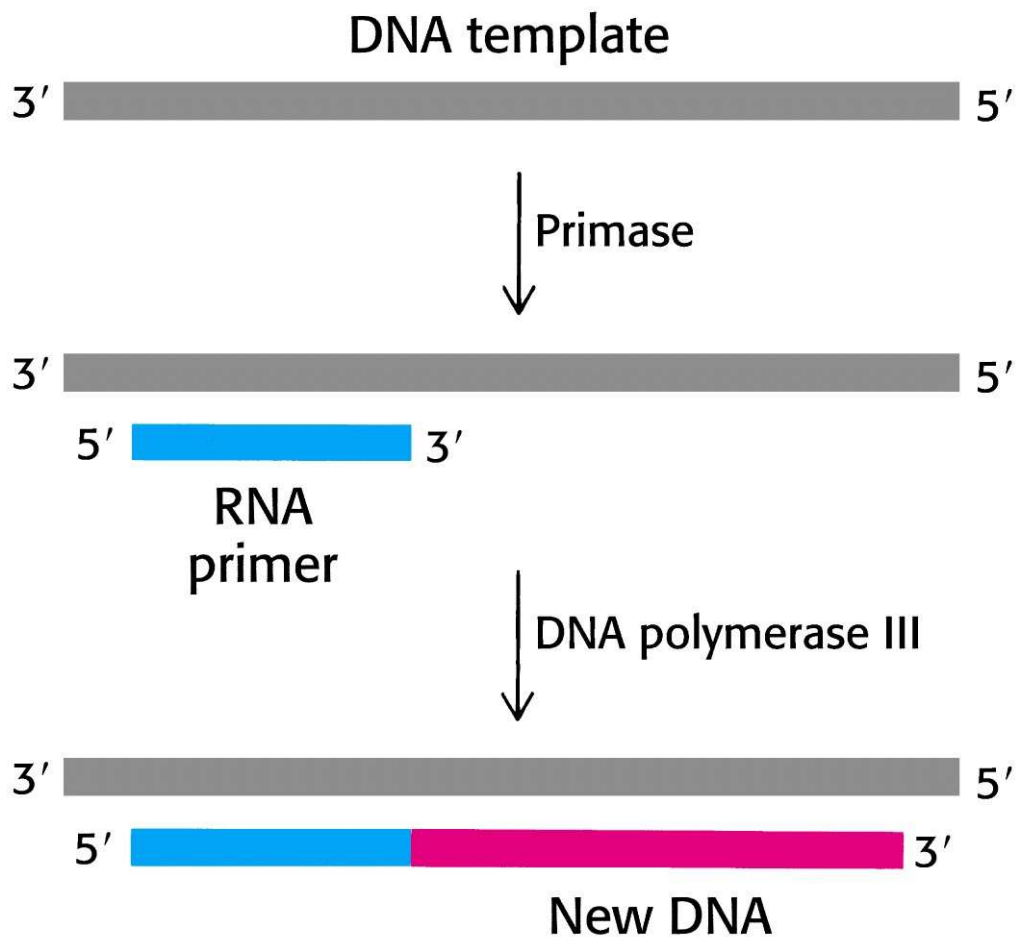


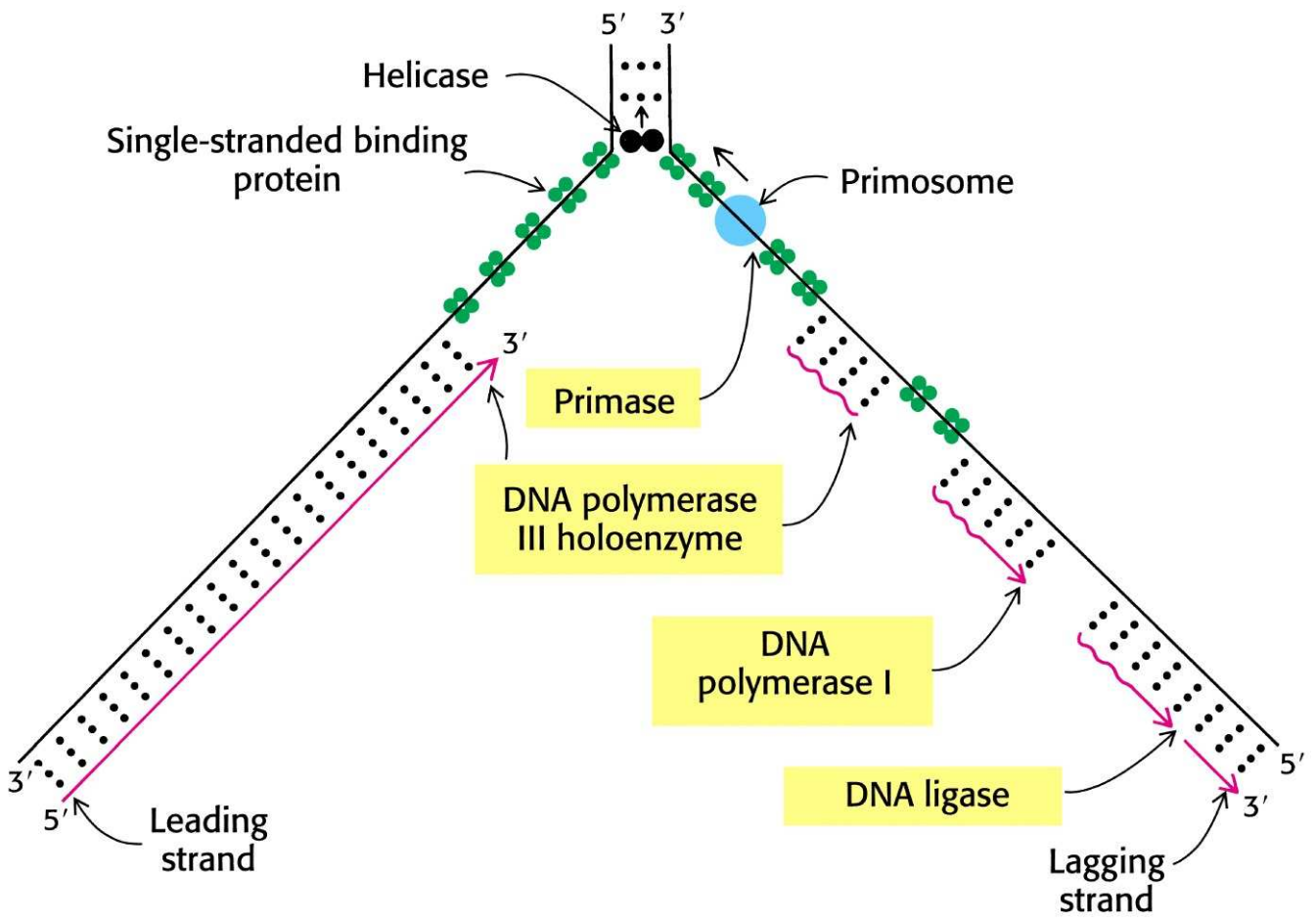
# REPLIKACE

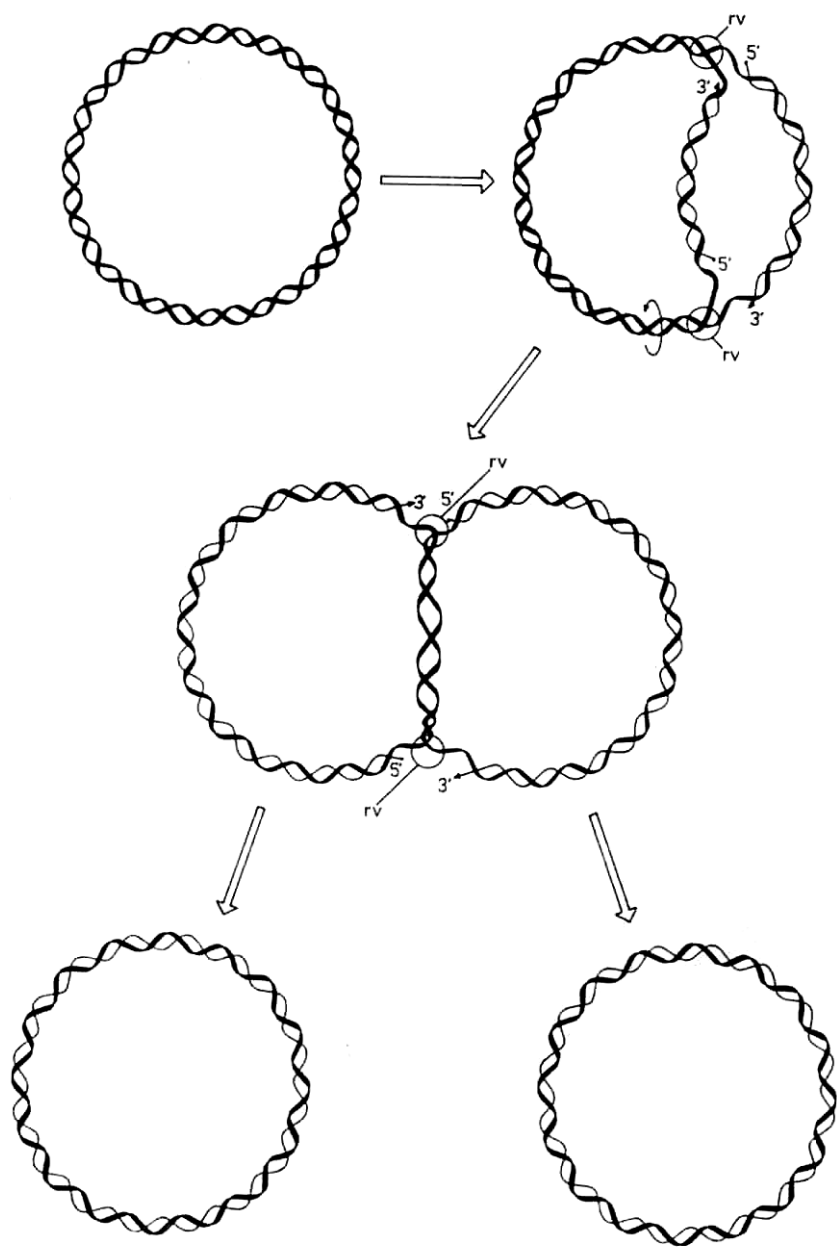


Směr replikace – kopírování probíhá od 3' k 5' konci původního vlákna (templátu), nové vlákno roste od 5' k 3' konci.



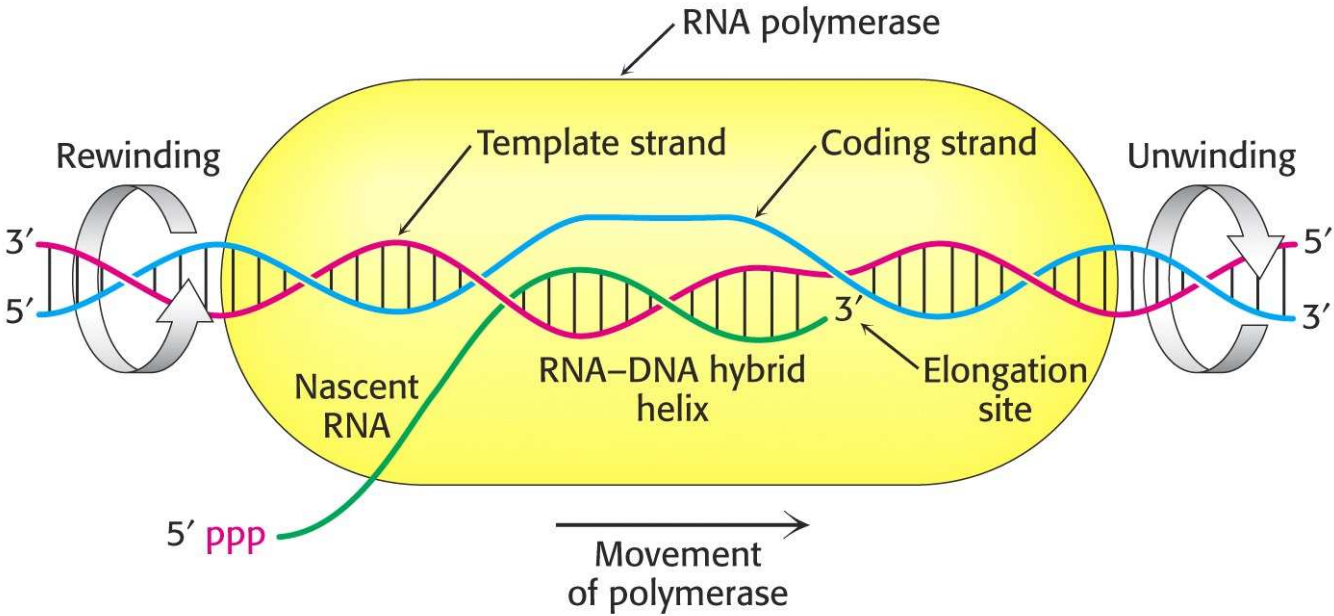
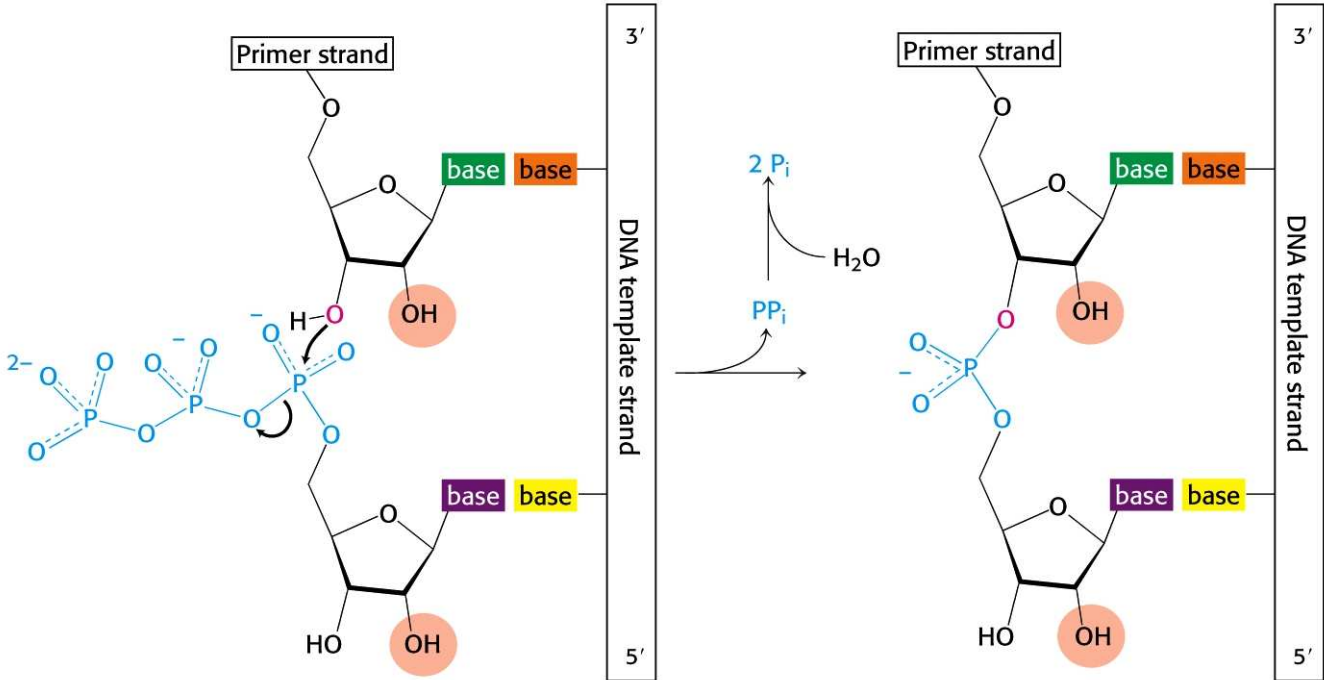






Obr. 177 Replikace cyklické dvojšroubovice DNA  
(rv replikační vidlice)

# TRANSKRIPCE



## TRANSLACE

Genetický kód

Pořadí bází – pořadí aminokyselin

**GENETICKÝ KÓD.** Uvedené tripletty odpovídají mRNA.

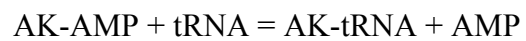
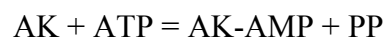
**TABLE 5.4 The genetic code**

First position (5' end)	Second position				Third position (3' end)
	U	C	A	G	
U	Phe	Ser	Tyr	Cys	U
	Phe	Ser	Tyr	Cys	C
	Leu	Ser	Stop	Stop	A
	Leu	Ser	Stop	Trp	G
C	Leu	Pro	His	Arg	U
	Leu	Pro	His	Arg	C
	Leu	Pro	Gln	Arg	A
	Leu	Pro	Gln	Arg	G
A	Ile	Thr	Asn	Ser	U
	Ile	Thr	Asn	Ser	C
	Ile	Thr	Lys	Arg	A
	Met	Thr	Lys	Arg	G
G	Val	Ala	Asp	Gly	U
	Val	Ala	Asp	Gly	C
	Val	Ala	Glu	Gly	A
	Val	Ala	Glu	Gly	G

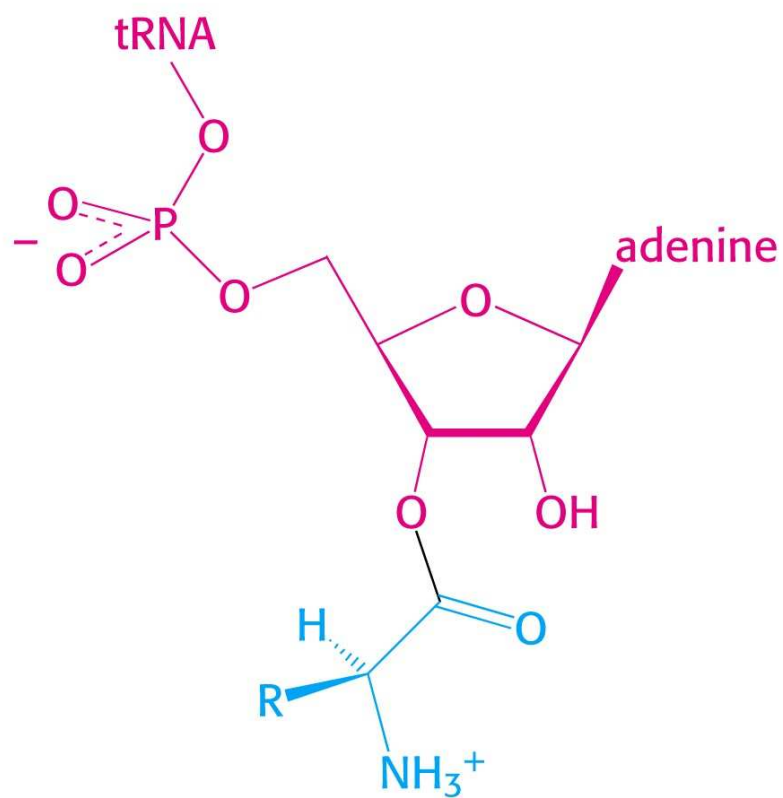
*Note:* This table identifies the amino acid encoded by each triplet. For example, the codon 5' AUG 3' on mRNA specifies methionine, whereas CAU specifies histidine. UAA, UAG, and UGA are termination signals. AUG is part of the initiation signal, in addition to coding for internal methionine residues.



## Přípravná fáze – syntéza aminoacyl-tRNA



Aminoacyl-tRNA syntetáza, vysoká specifická, pro každou AK a tRNA

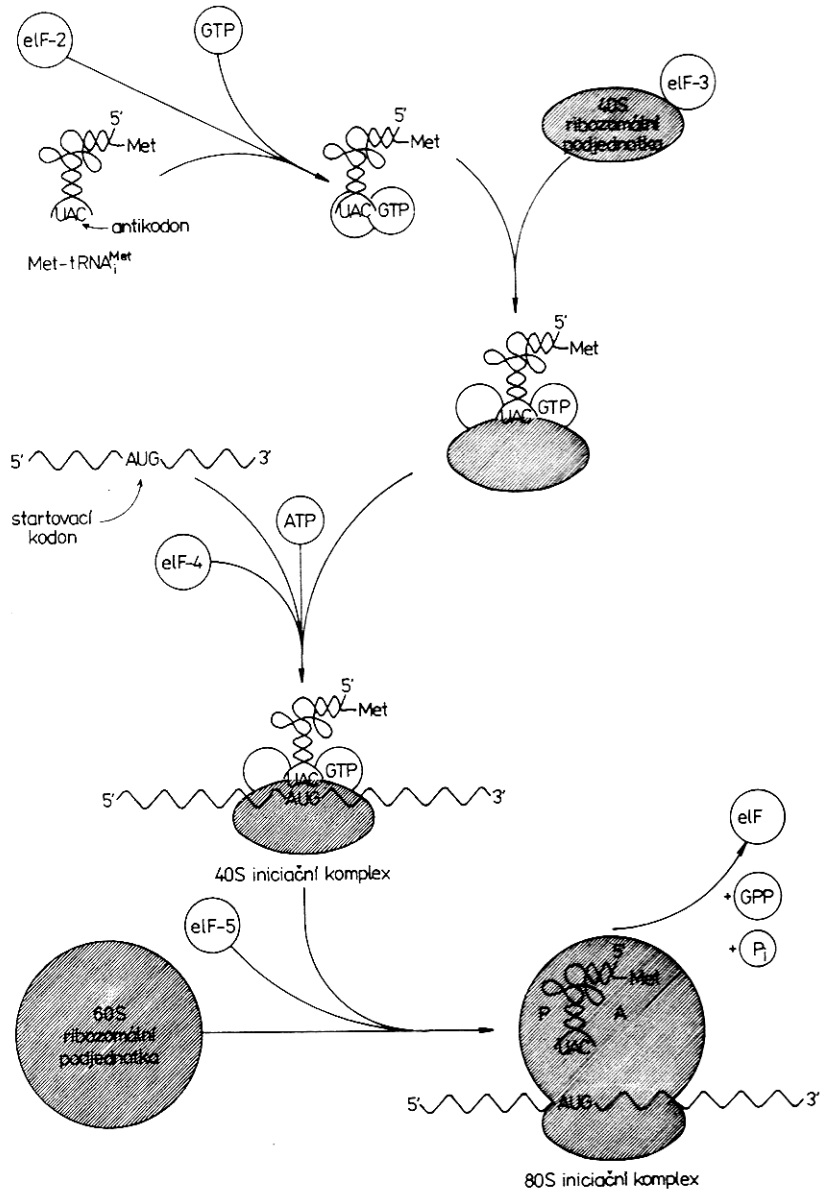


**Aminoacyl-tRNA**

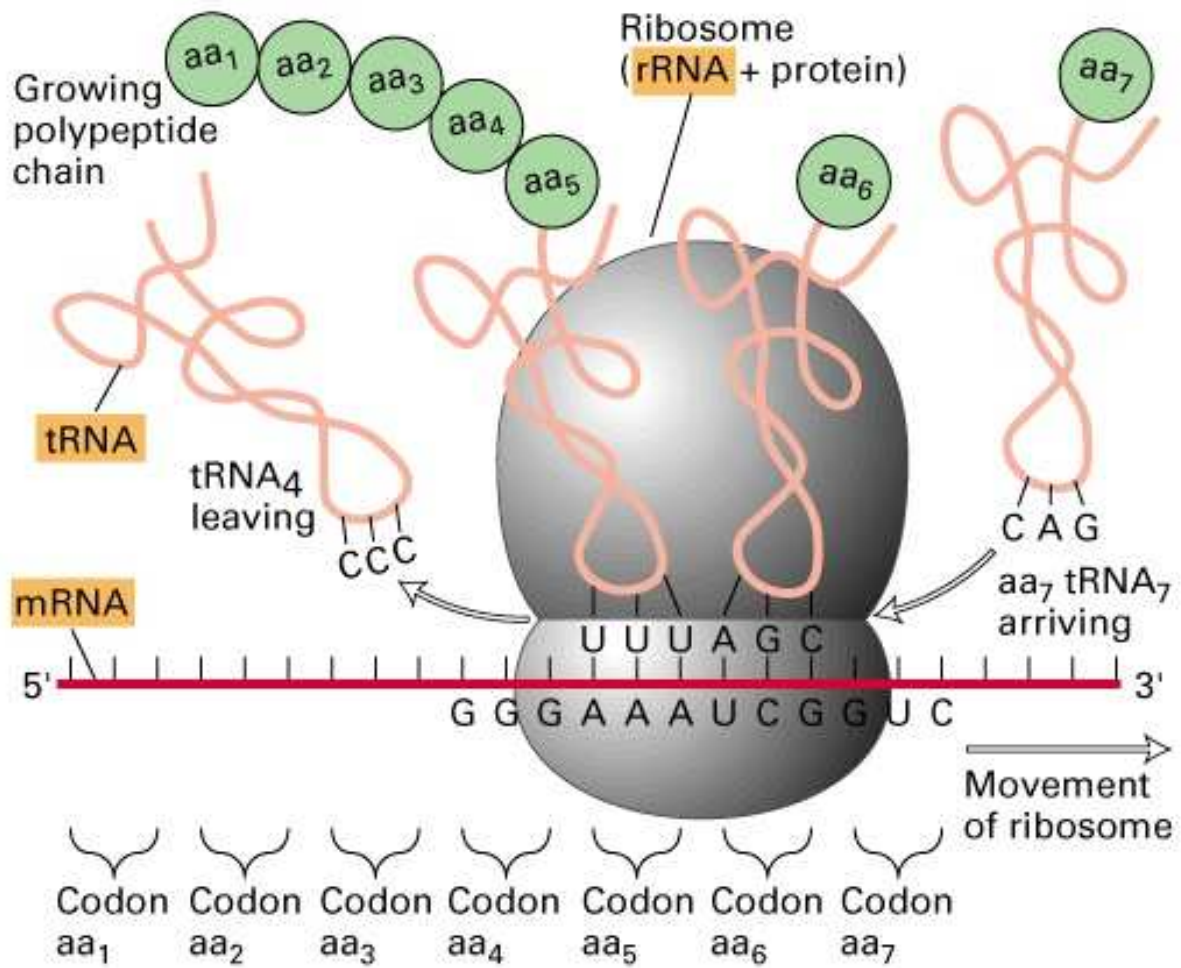
# Syntéza polypeptidického řetězce

## Úloha ribosomů

### iniciace



### elongace



terminace

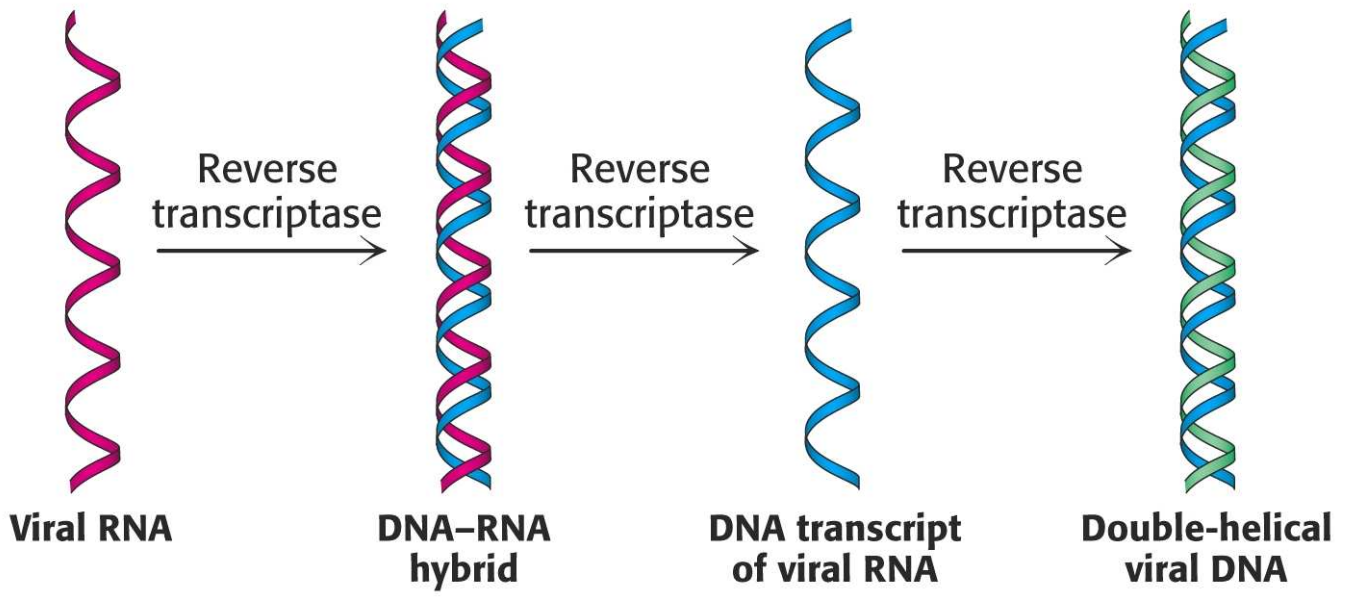
- STOPkodon

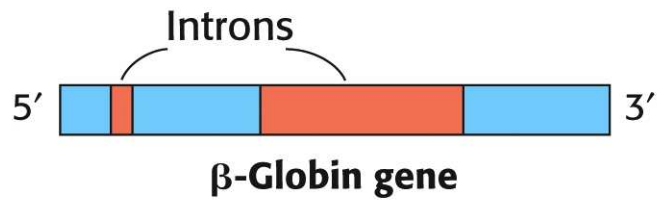
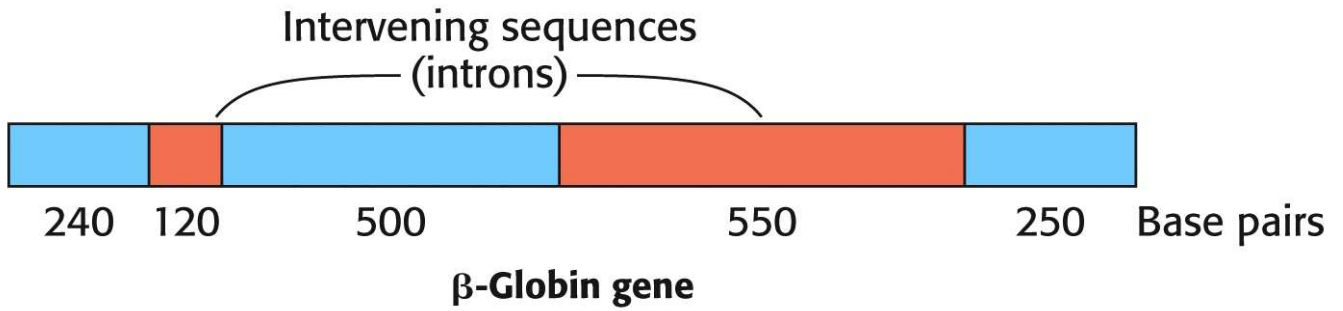
Posttranslační modifikace - maturace

Shody a rozdíly mezi prokaryonty a eukaryonty

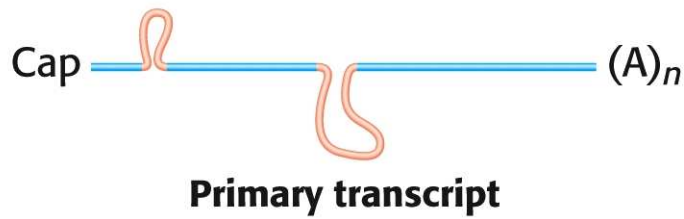
- citlivost k inhibitorům - antibiotika





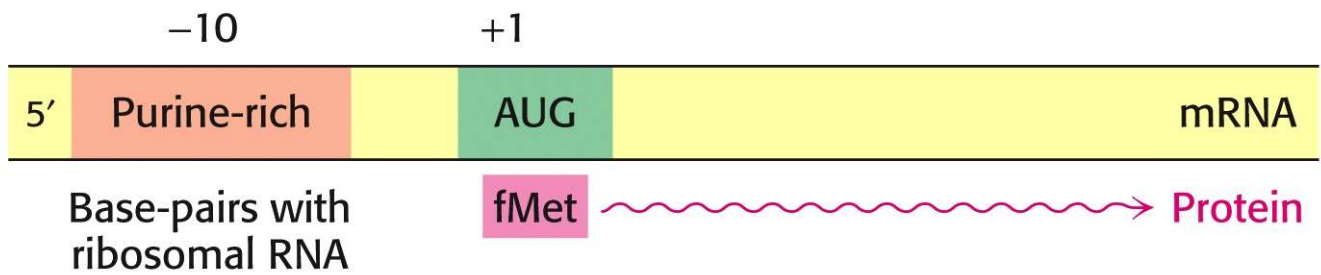
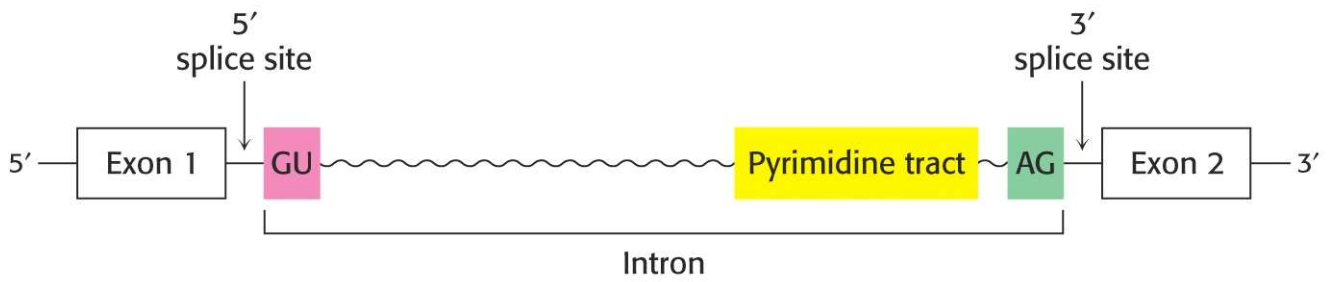


Transcription,  
cap formation, and  
poly(A) addition

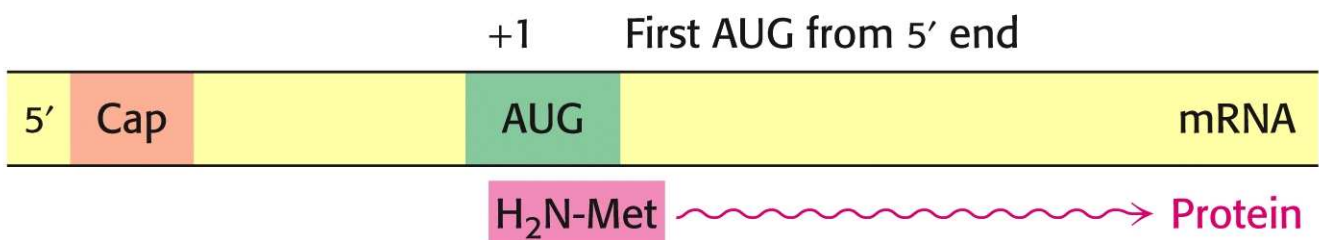


Splicing





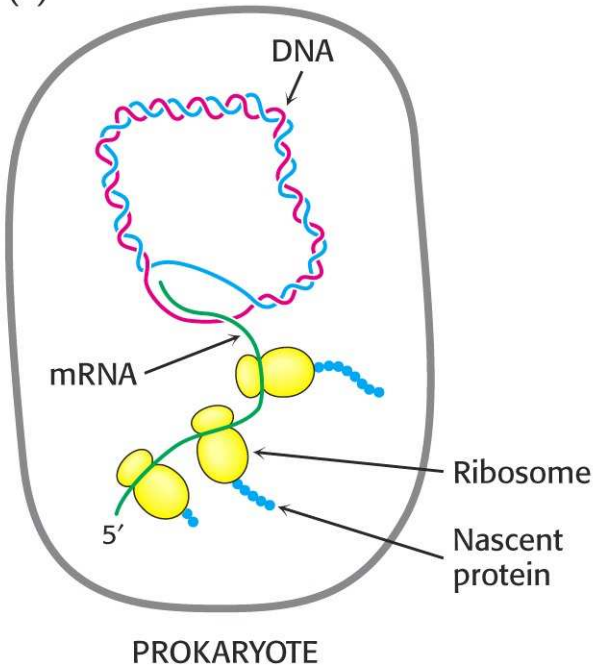
(A) Prokaryotic start signal



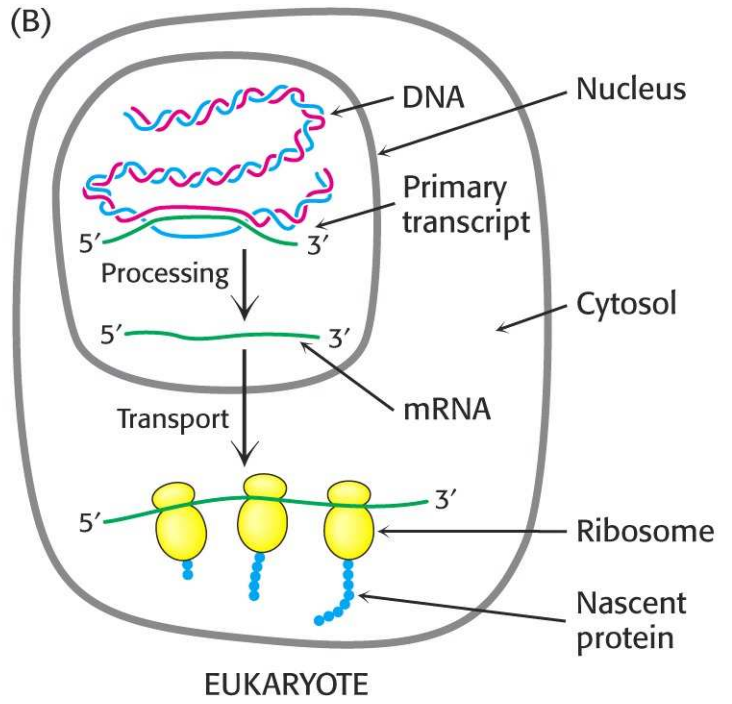
(B) Eukaryotic start signal

Počátek syntézy polypeptidového řetězce je dán posicí tripletu AUG kódujícího methionin (odlišně modifikovaný u prokaryontů a eukaryontů).

(A)

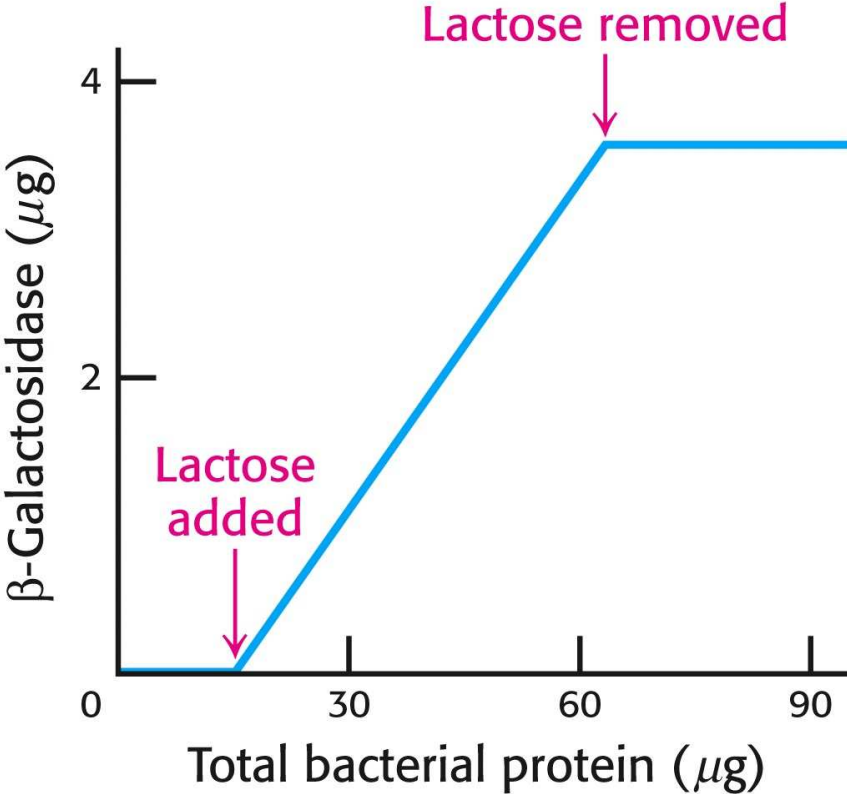


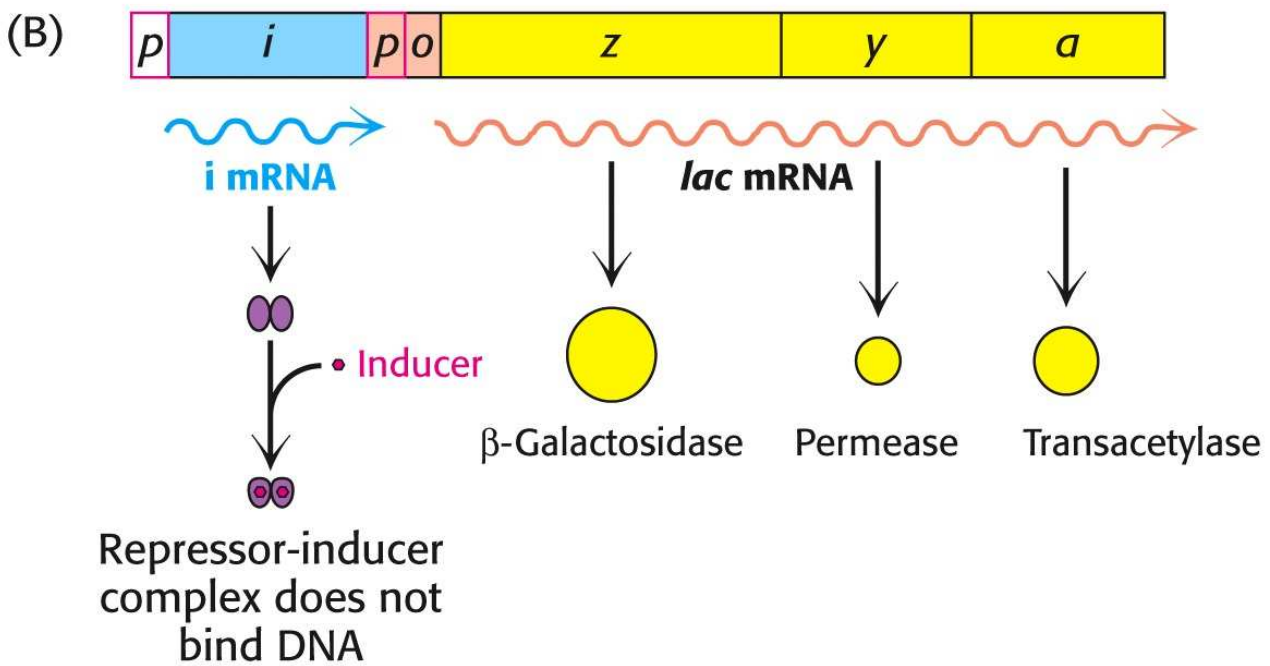
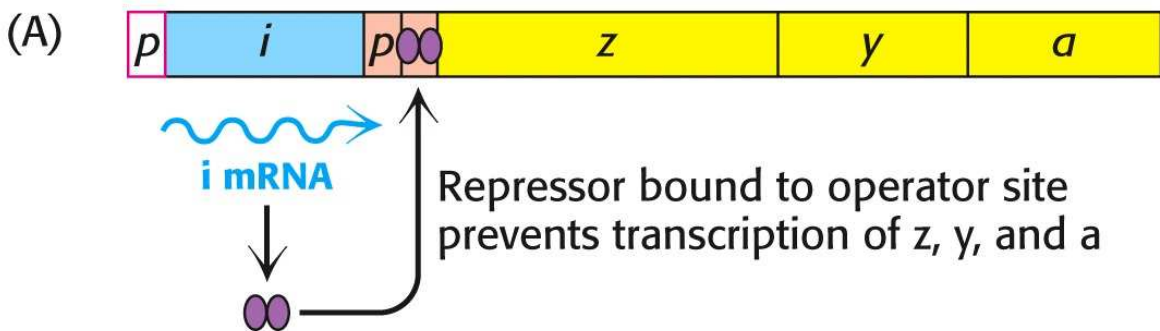
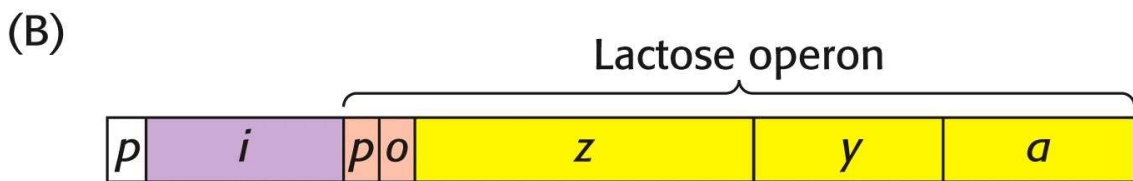
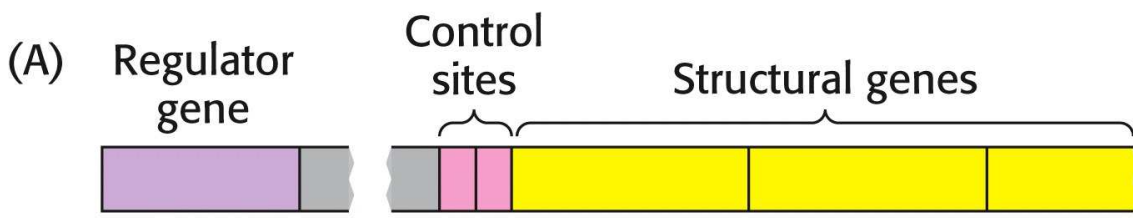
(B)





**REGULACE PROTEOSYNTÉZY**





## POSTTRANSLAČNÍ MODIFIKACE – maturace proteinů

