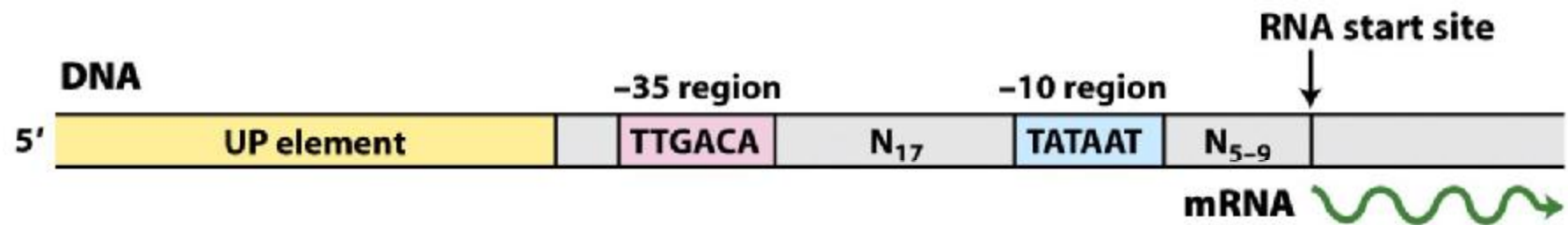


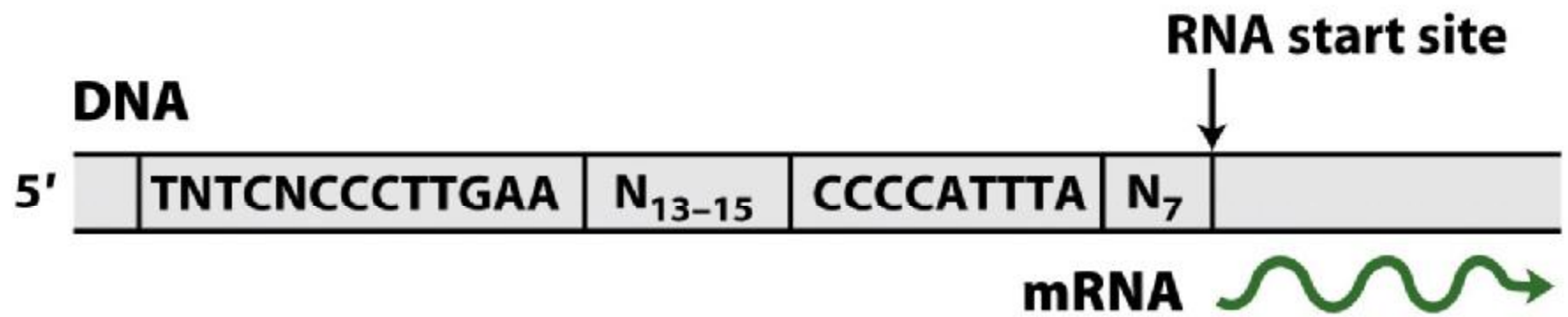
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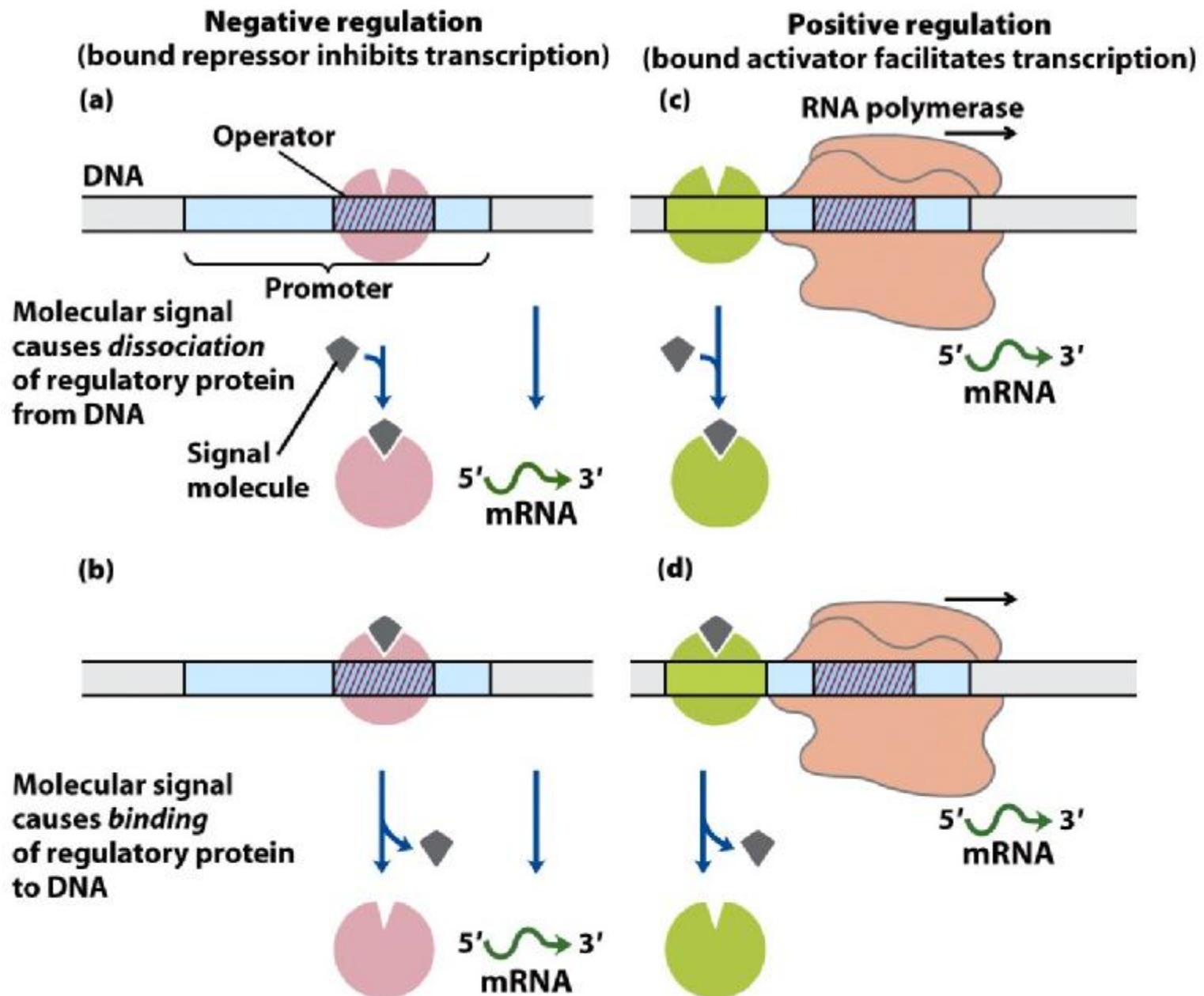
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**Figure 28-4**  
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# Negative regulation (bound repressor inhibits transcription)

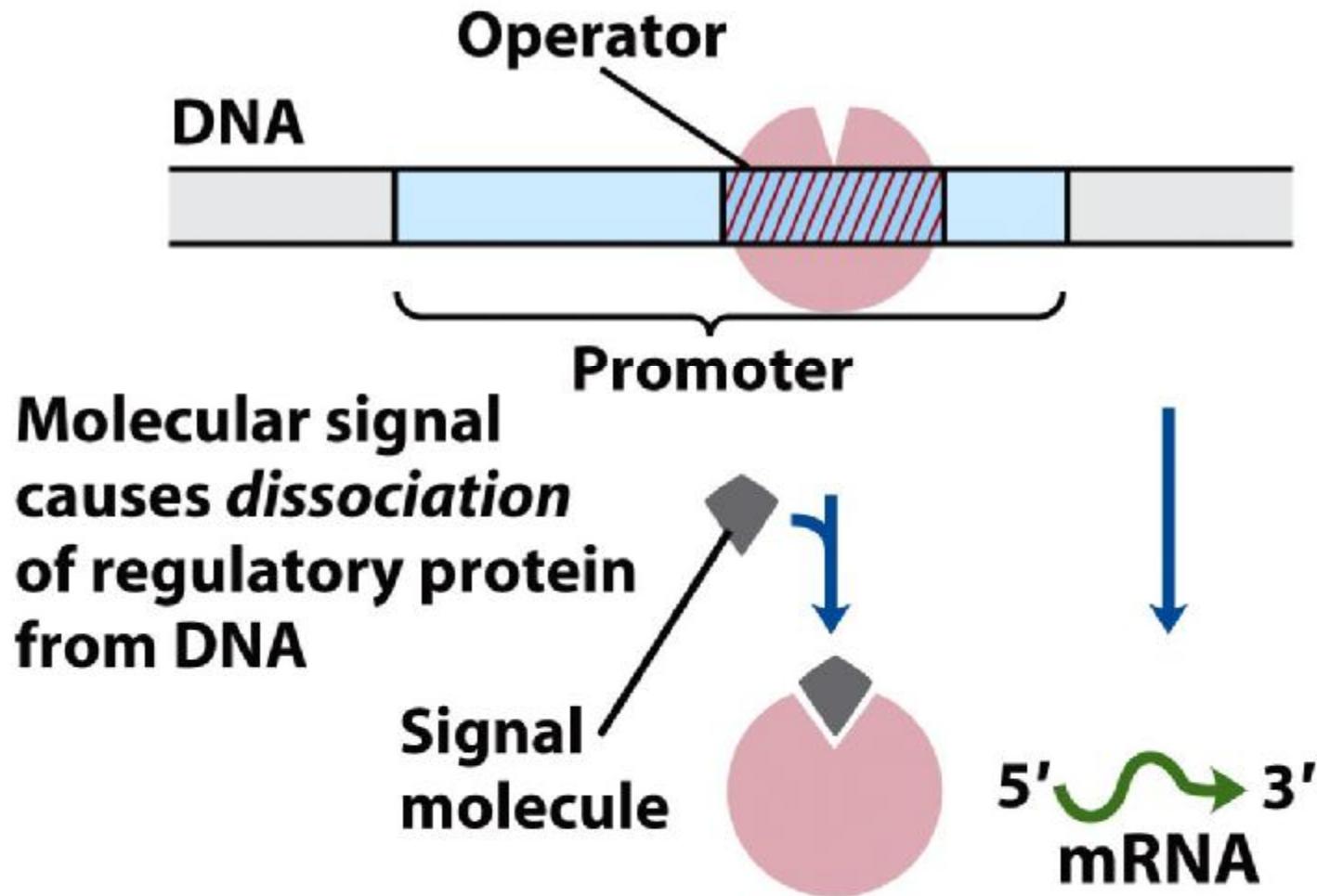
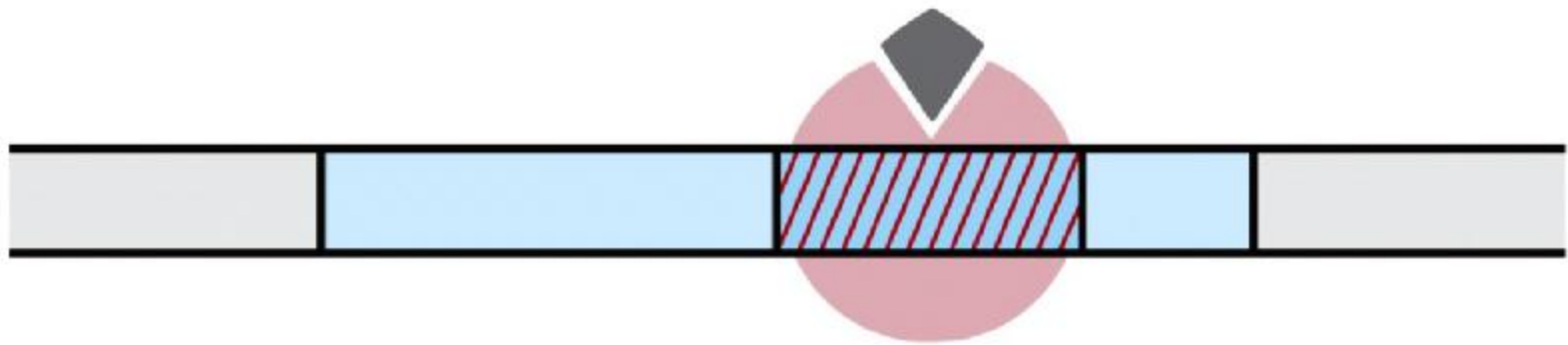
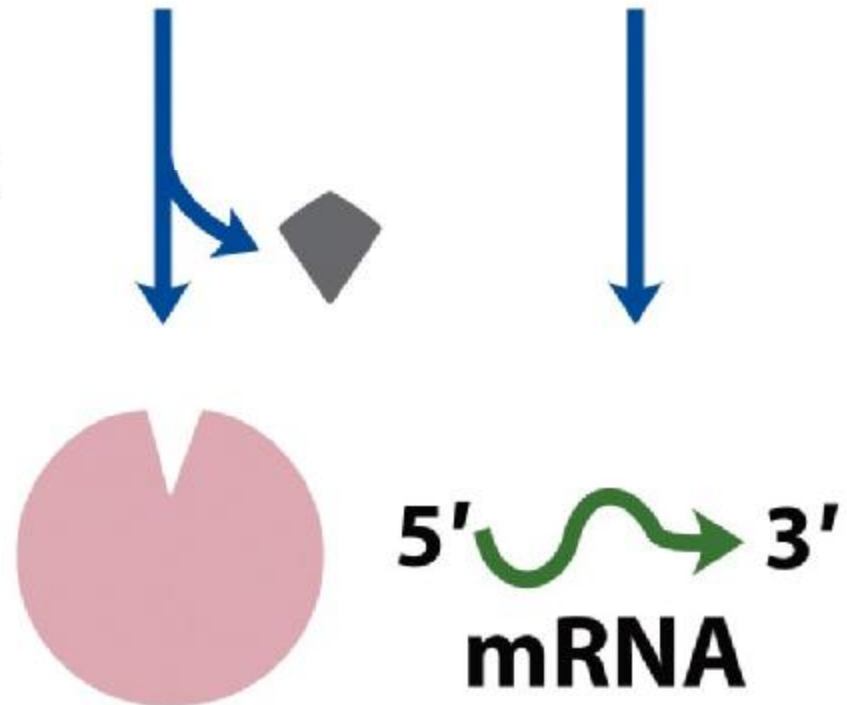


Figure 28-4a  
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**Molecular signal  
causes *binding*  
of regulatory protein  
to DNA**

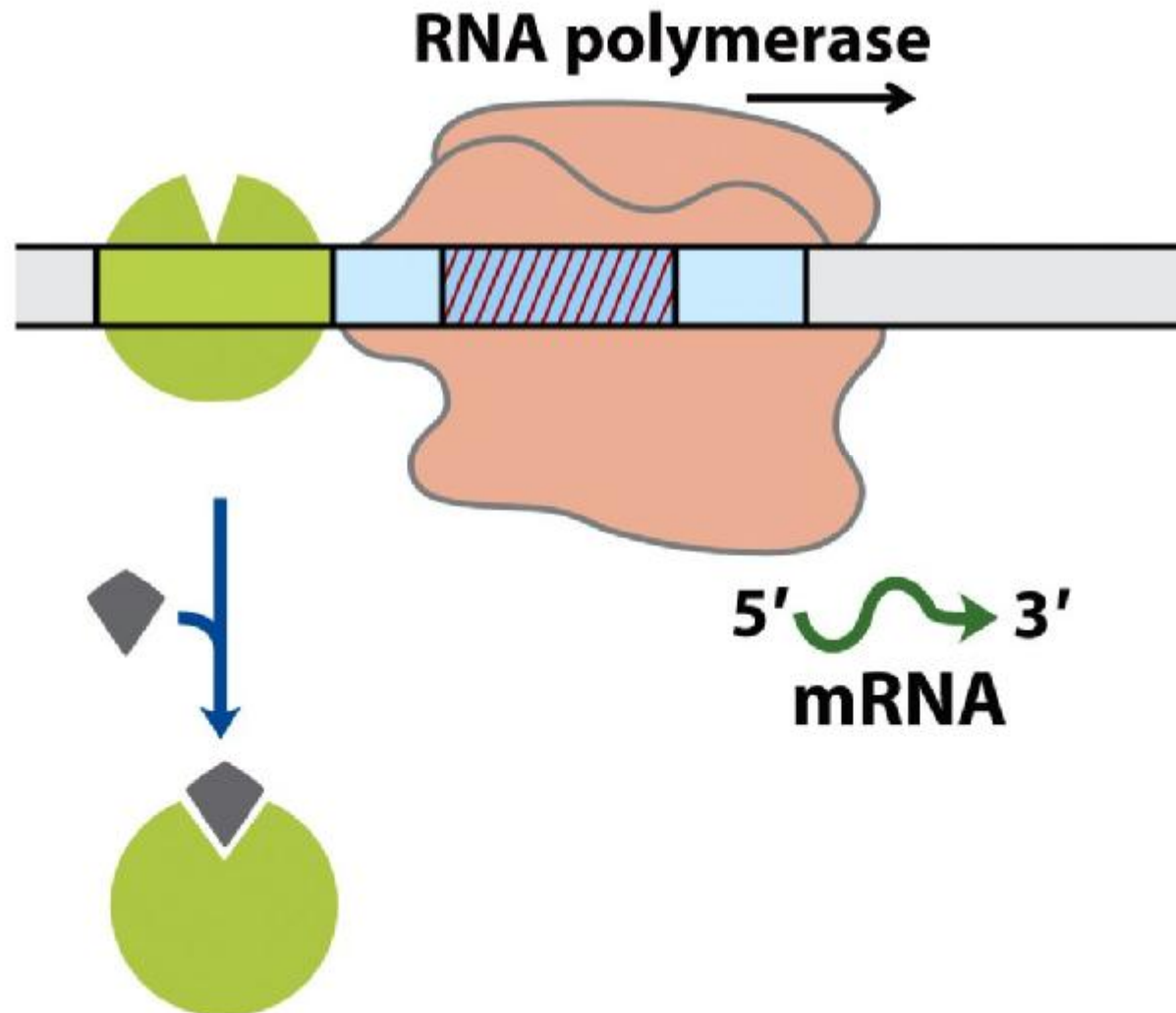


**Figure 28-4b**

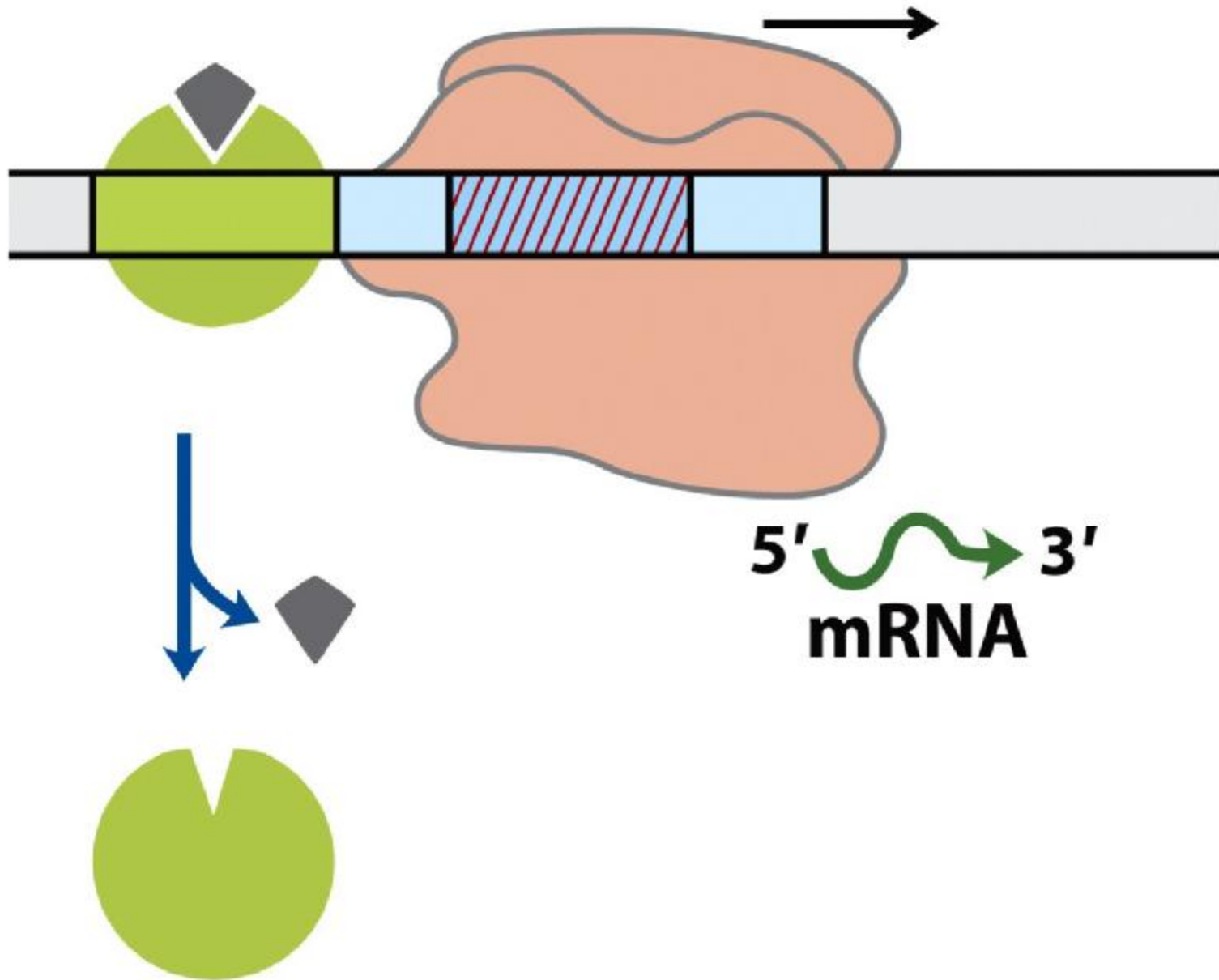
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# Positive regulation (bound activator facilitates transcription)



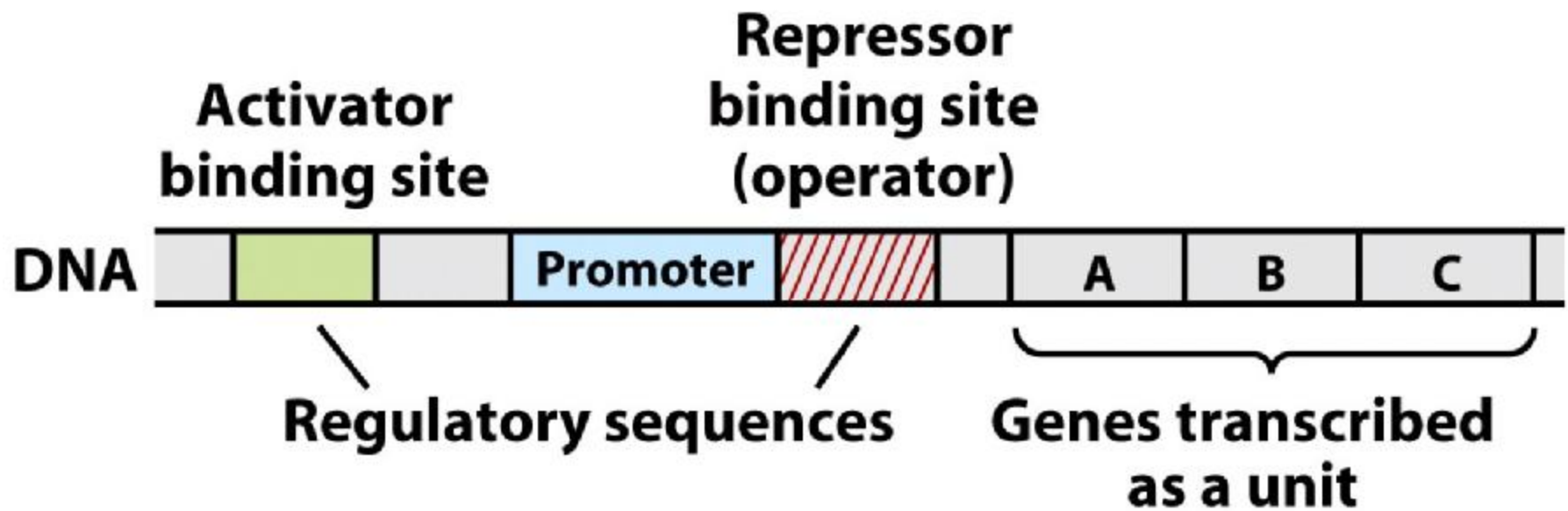
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**Figure 28-4d**

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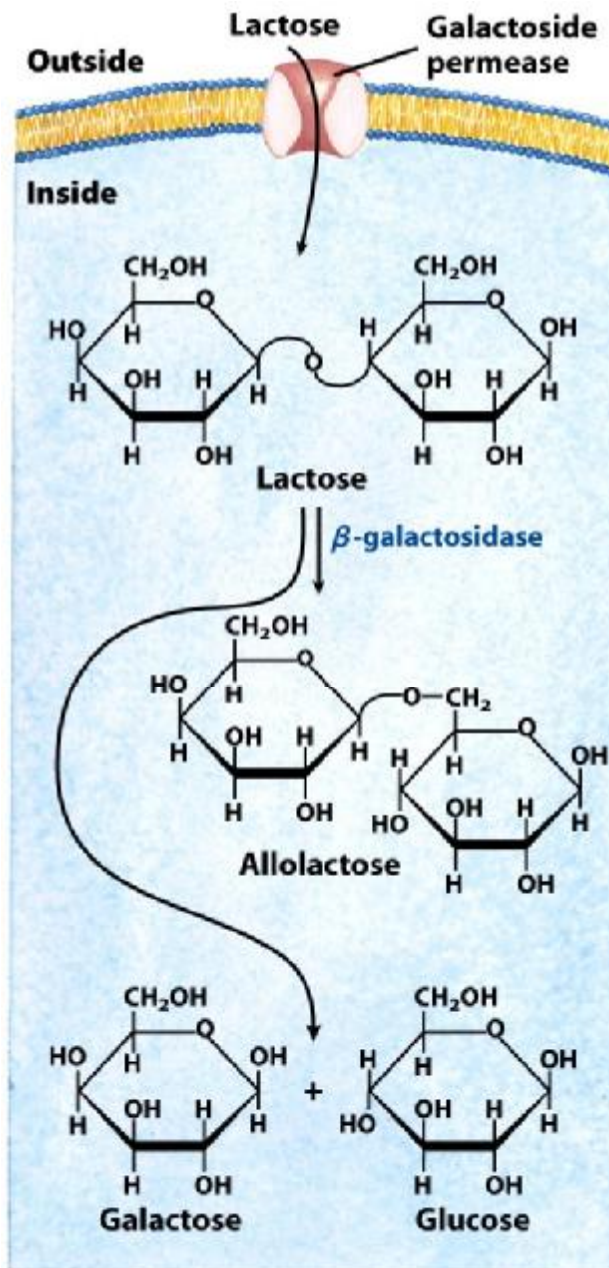




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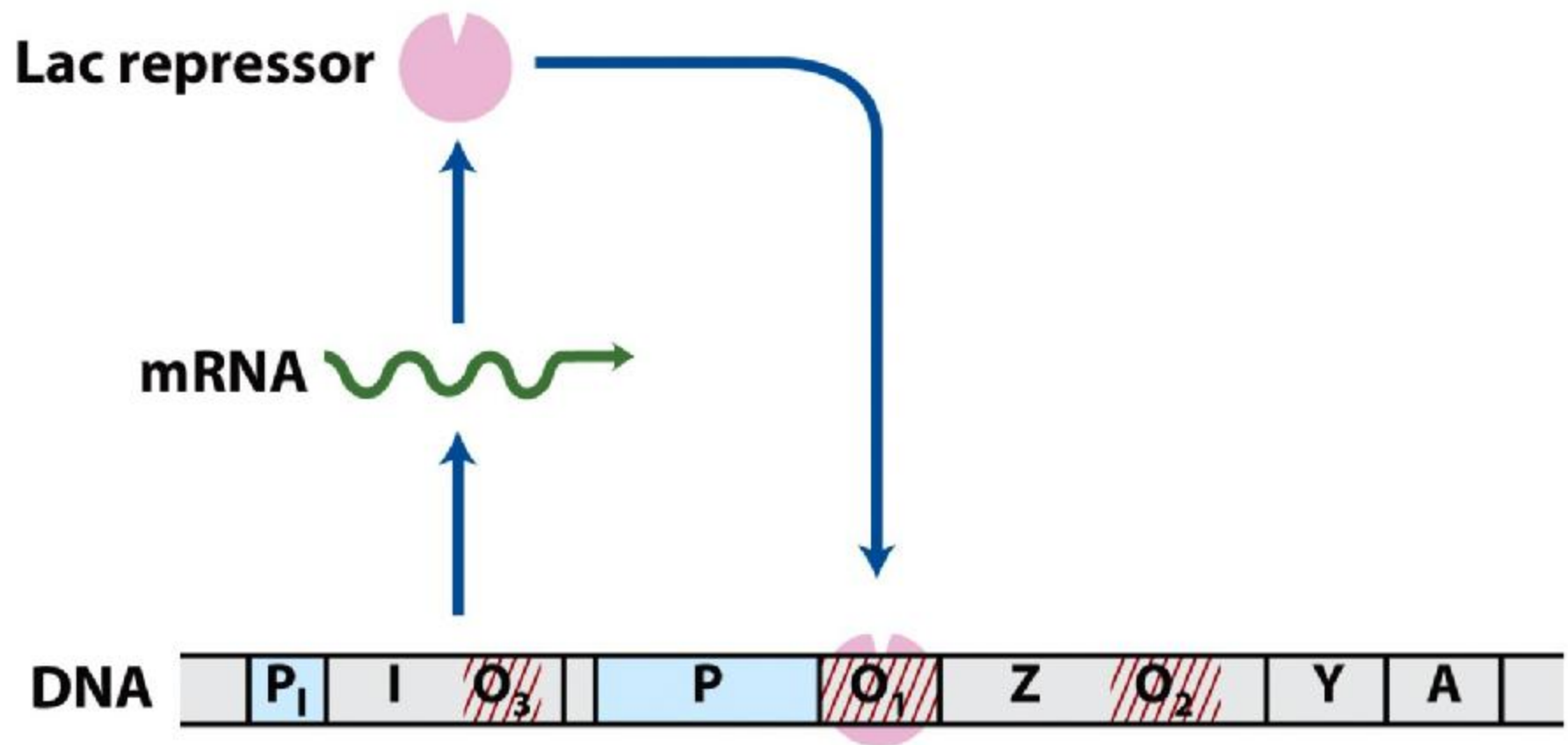
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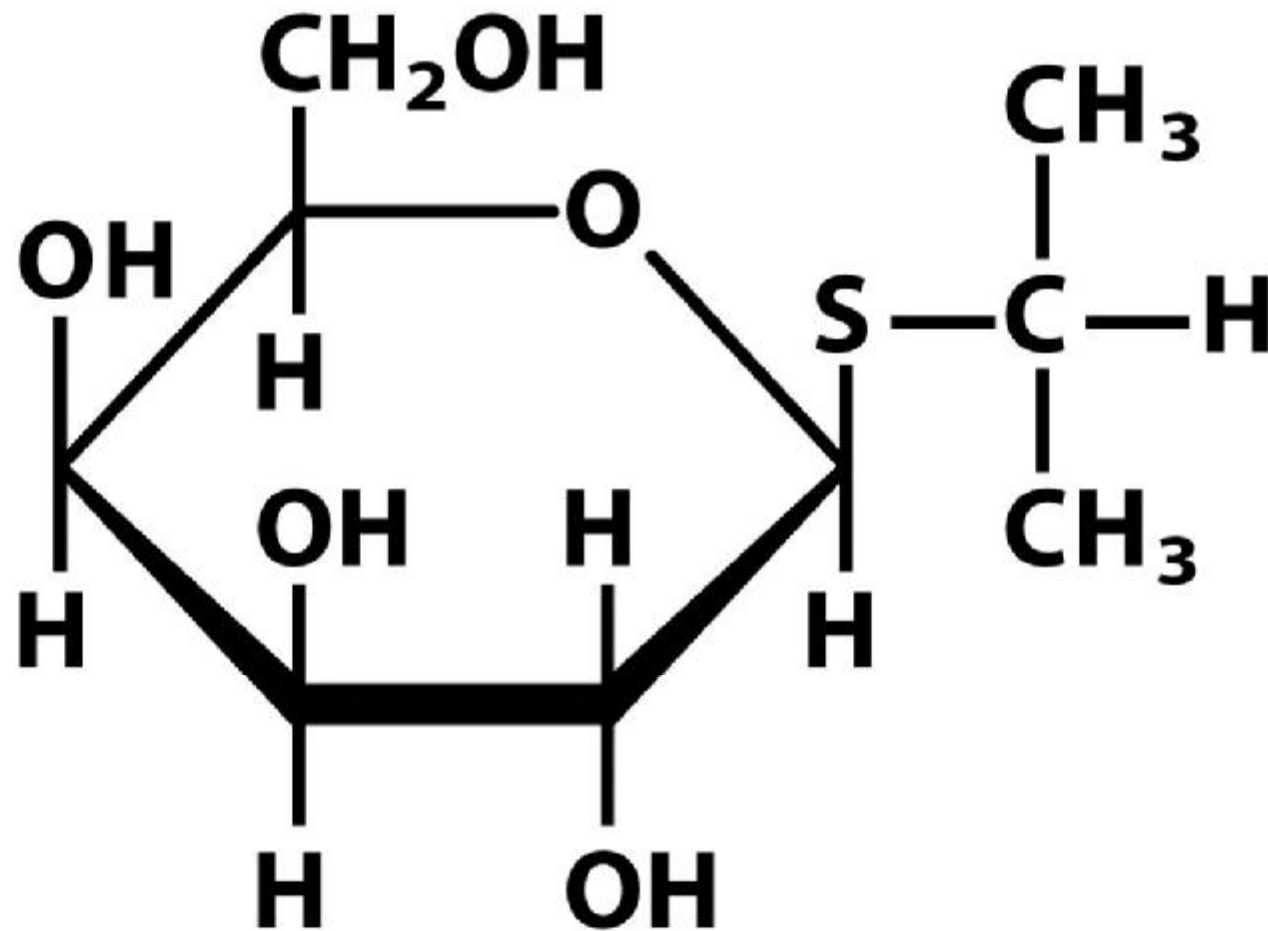
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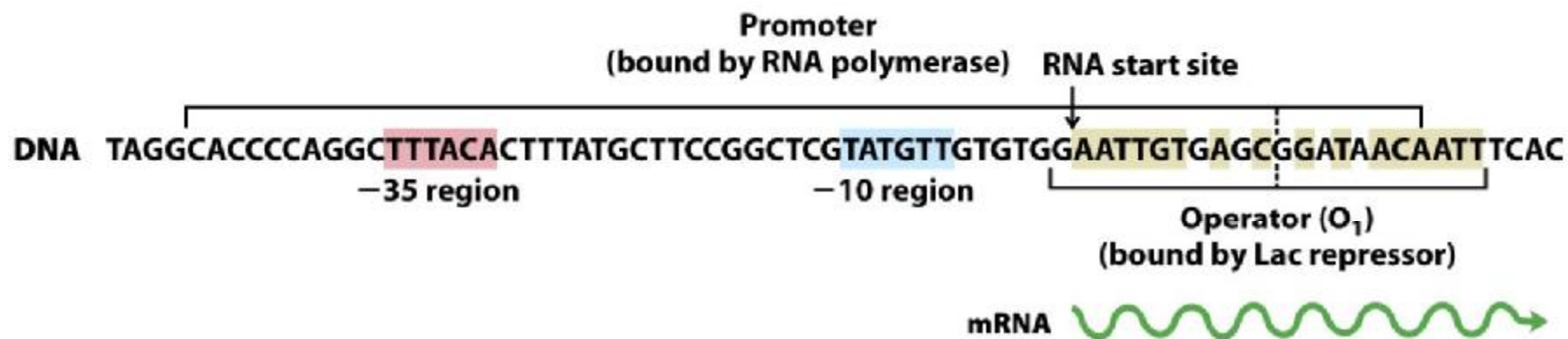


# Isopropyl-β-D-thiogalactoside (IPTG)

Unnumbered 28 p1121

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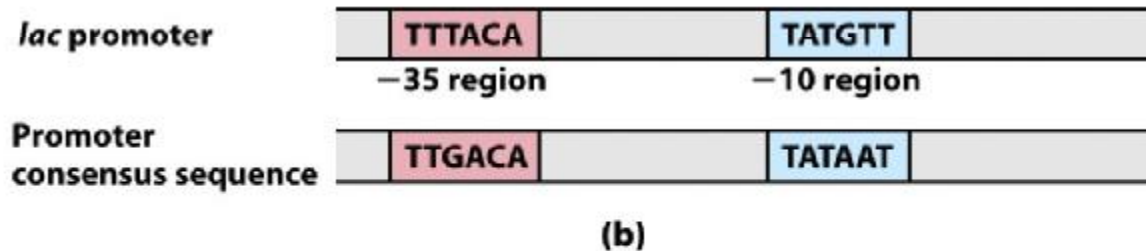
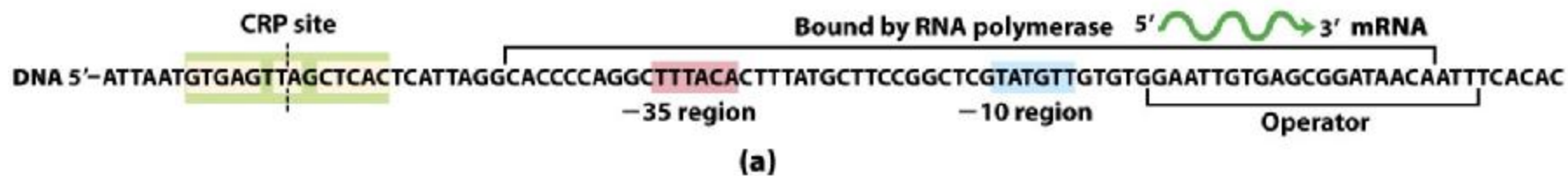
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**Figure 28-17a**

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***lac* promoter**



**Promoter  
consensus sequence**

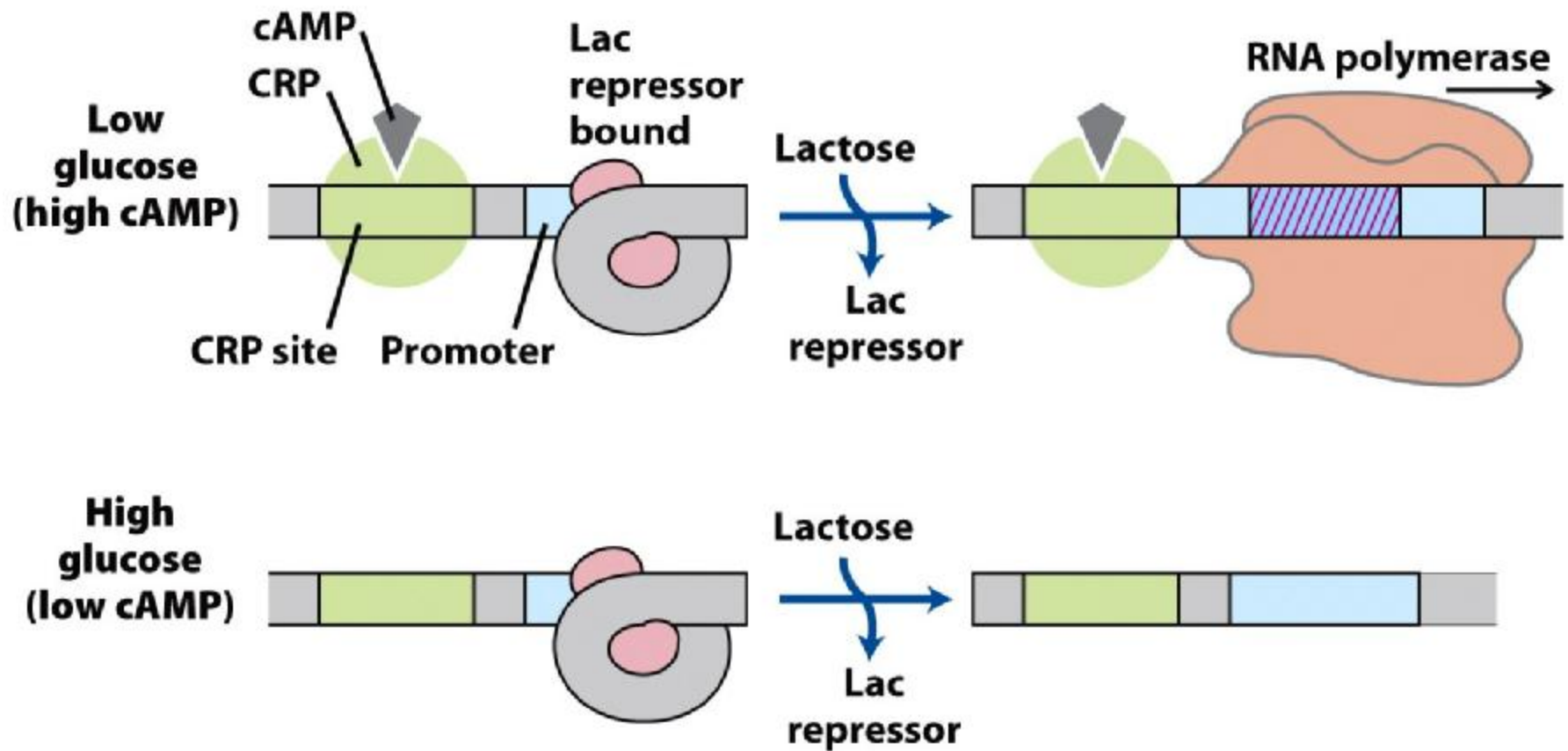


**Figure 28-17b**

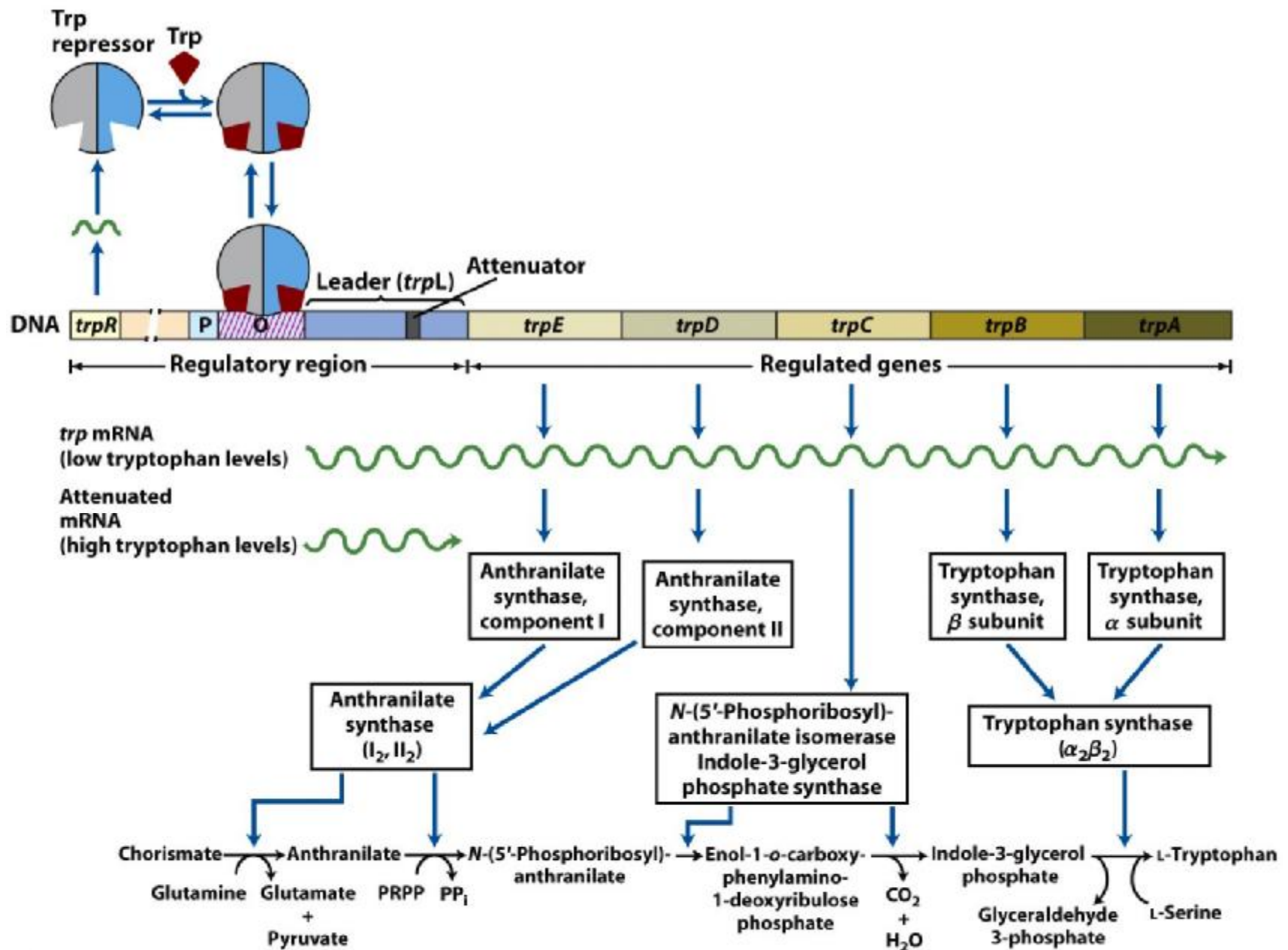
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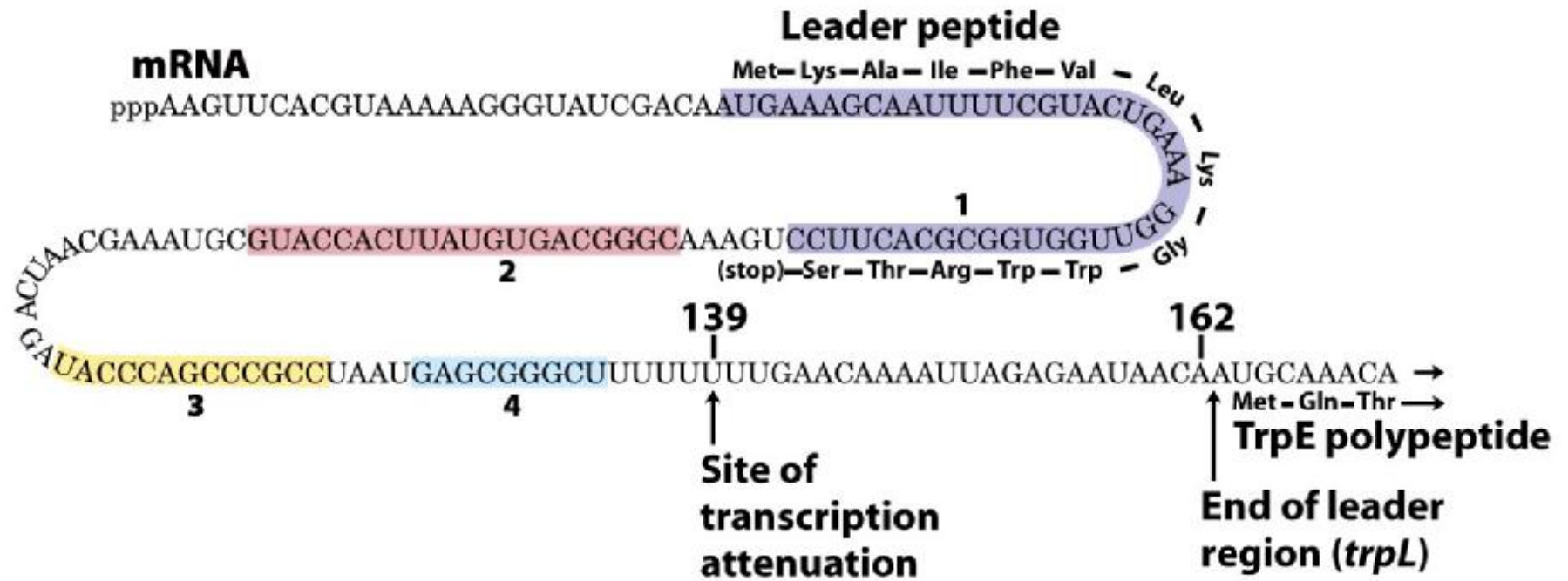


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**Figure 28-19**

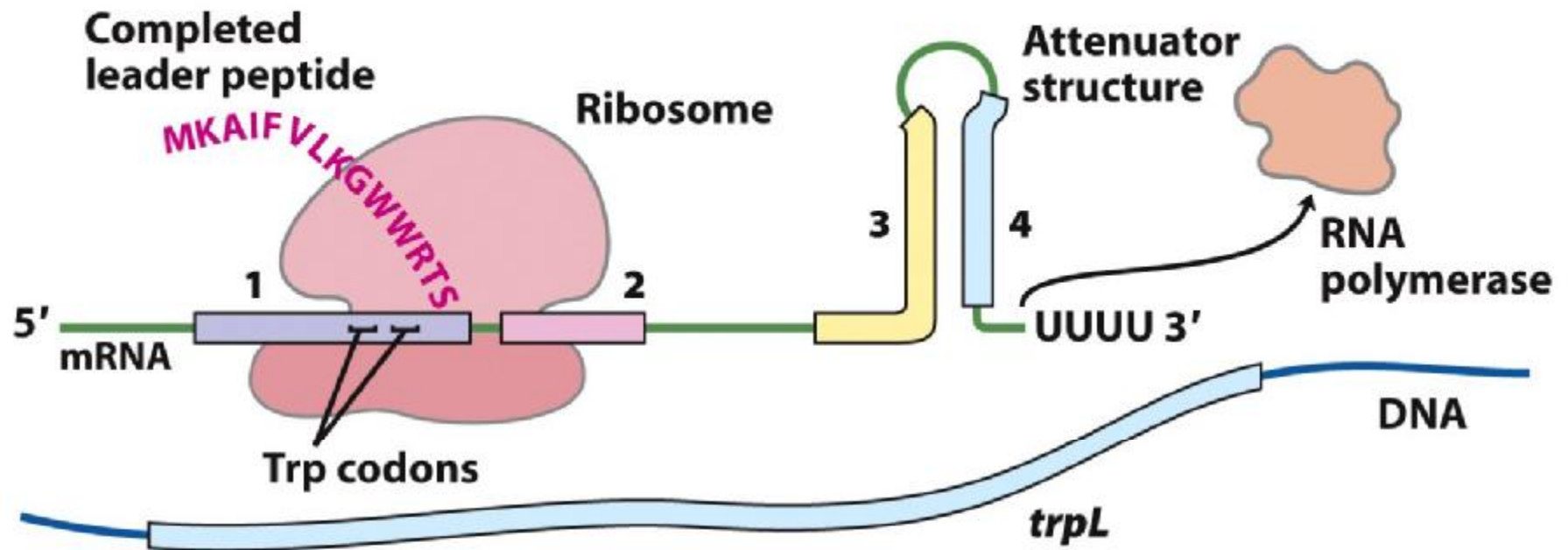
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**Figure 28-21a**

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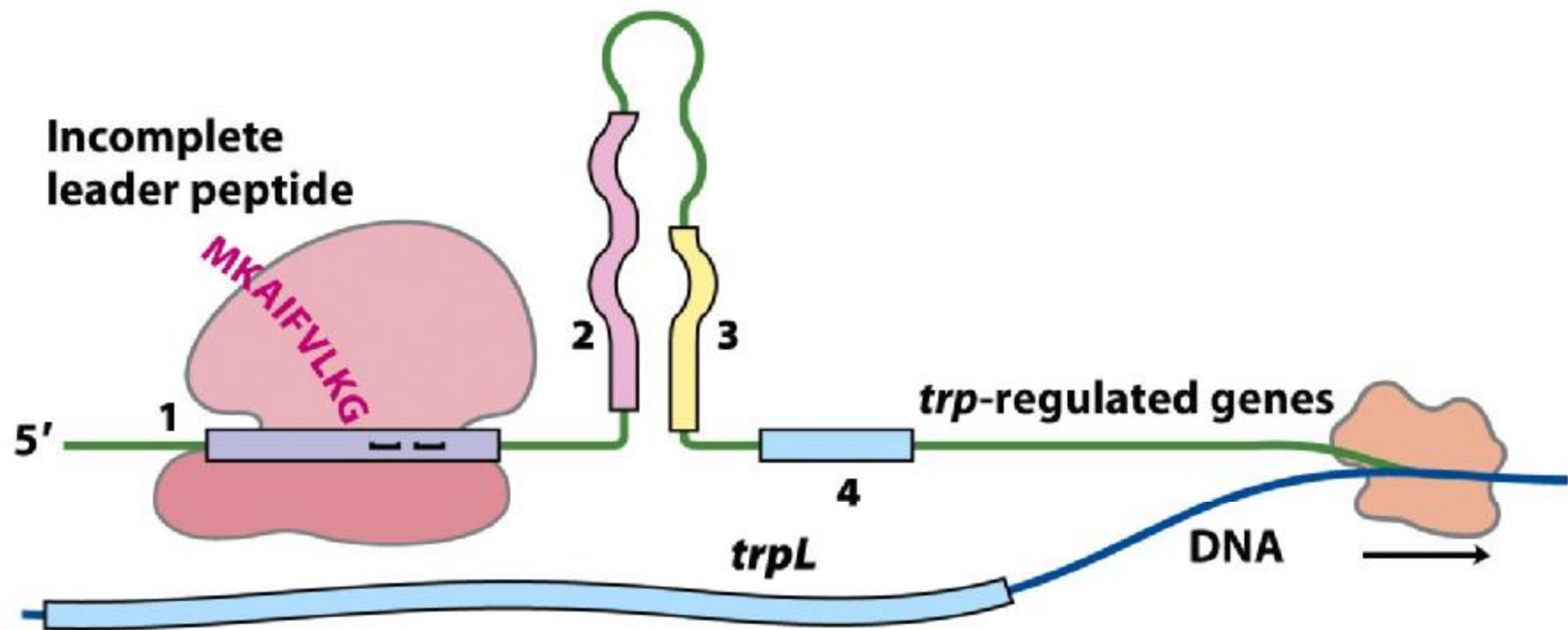


**When tryptophan levels are high, the ribosome quickly translates sequence 1 (open reading frame encoding leader peptide) and blocks sequence 2 before sequence 3 is transcribed. Continued transcription leads to attenuation at the terminator-like attenuator structure formed by sequences 3 and 4.**

**Figure 28-21b part 1**

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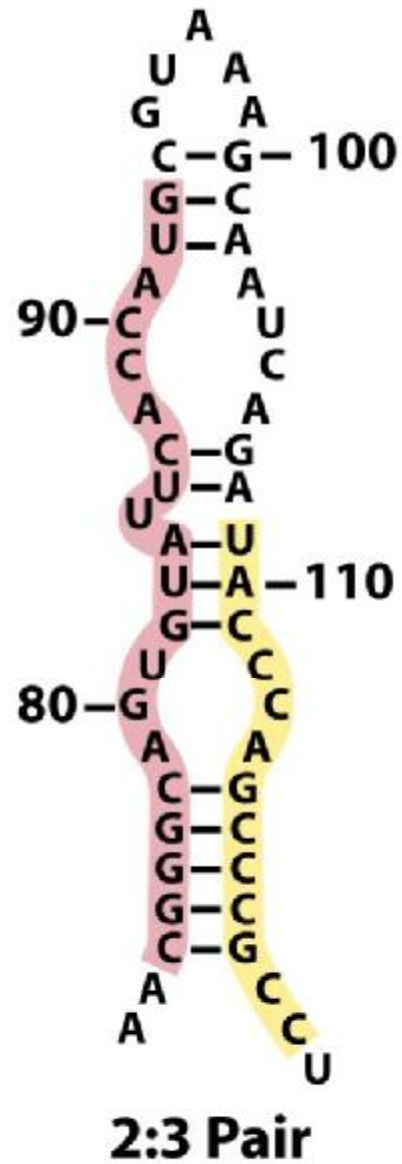
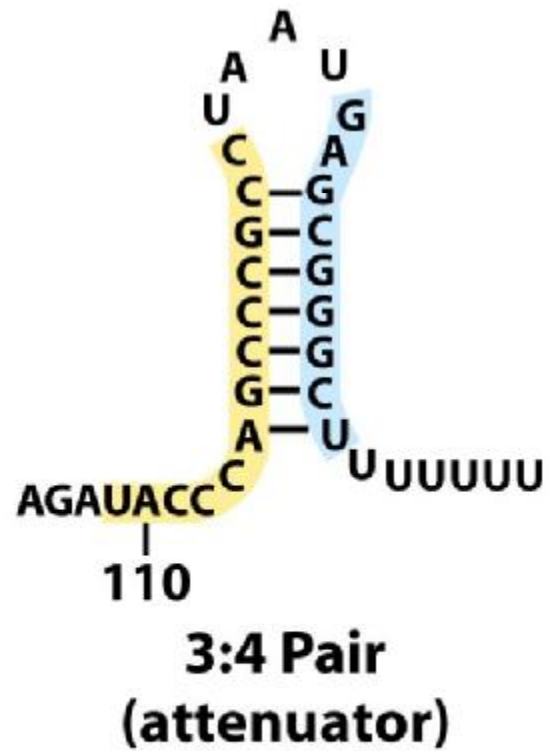
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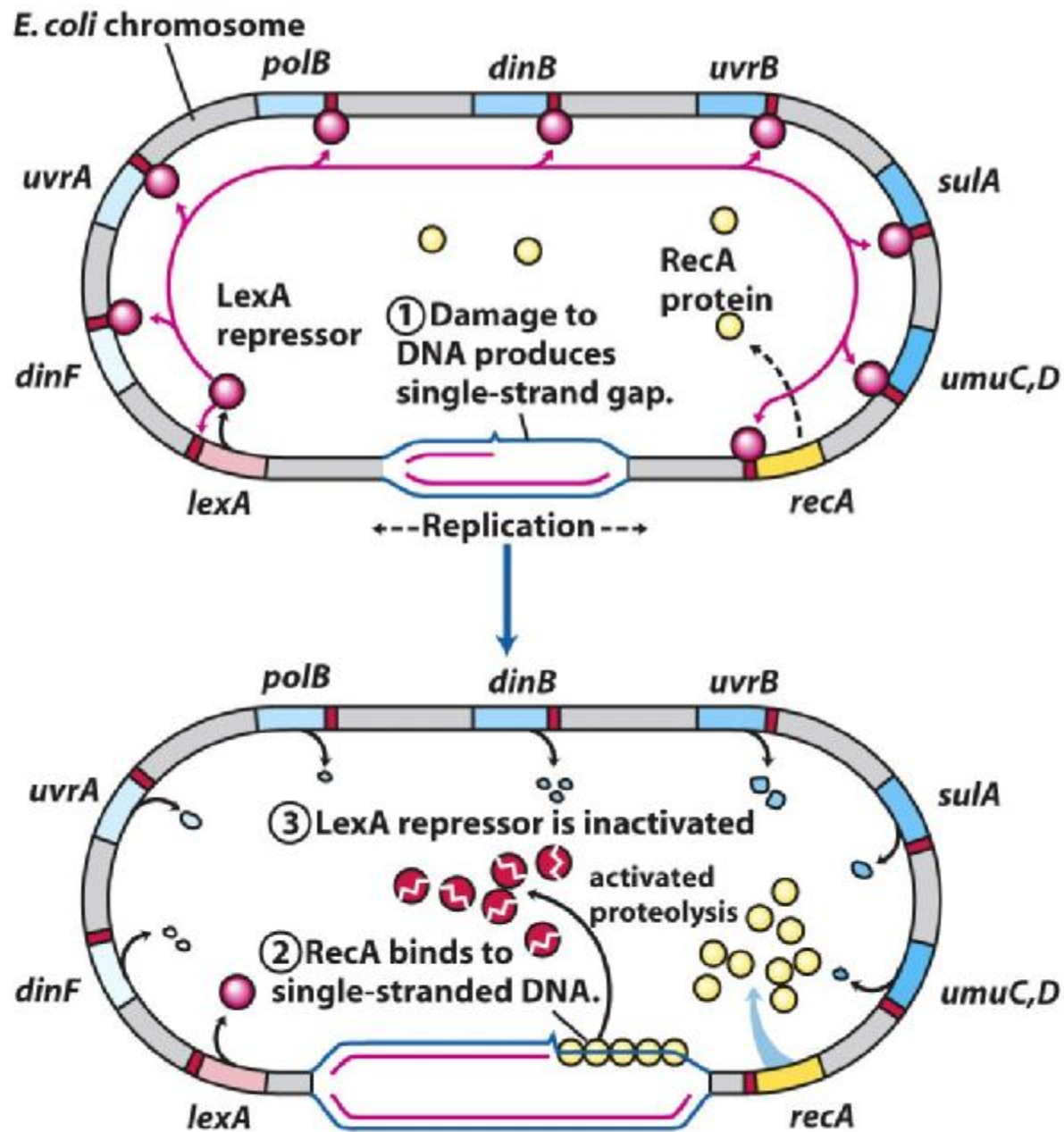
**When tryptophan levels are low, the ribosome pauses at the Trp codons in sequence 1. Formation of the paired structure between sequences 2 and 3 prevents attenuation, because sequence 3 is no longer available to form the attenuator structure with sequence 4. The 2:3 structure, unlike the 3:4 attenuator, does not prevent transcription.**

Figure 28-21b part 2  
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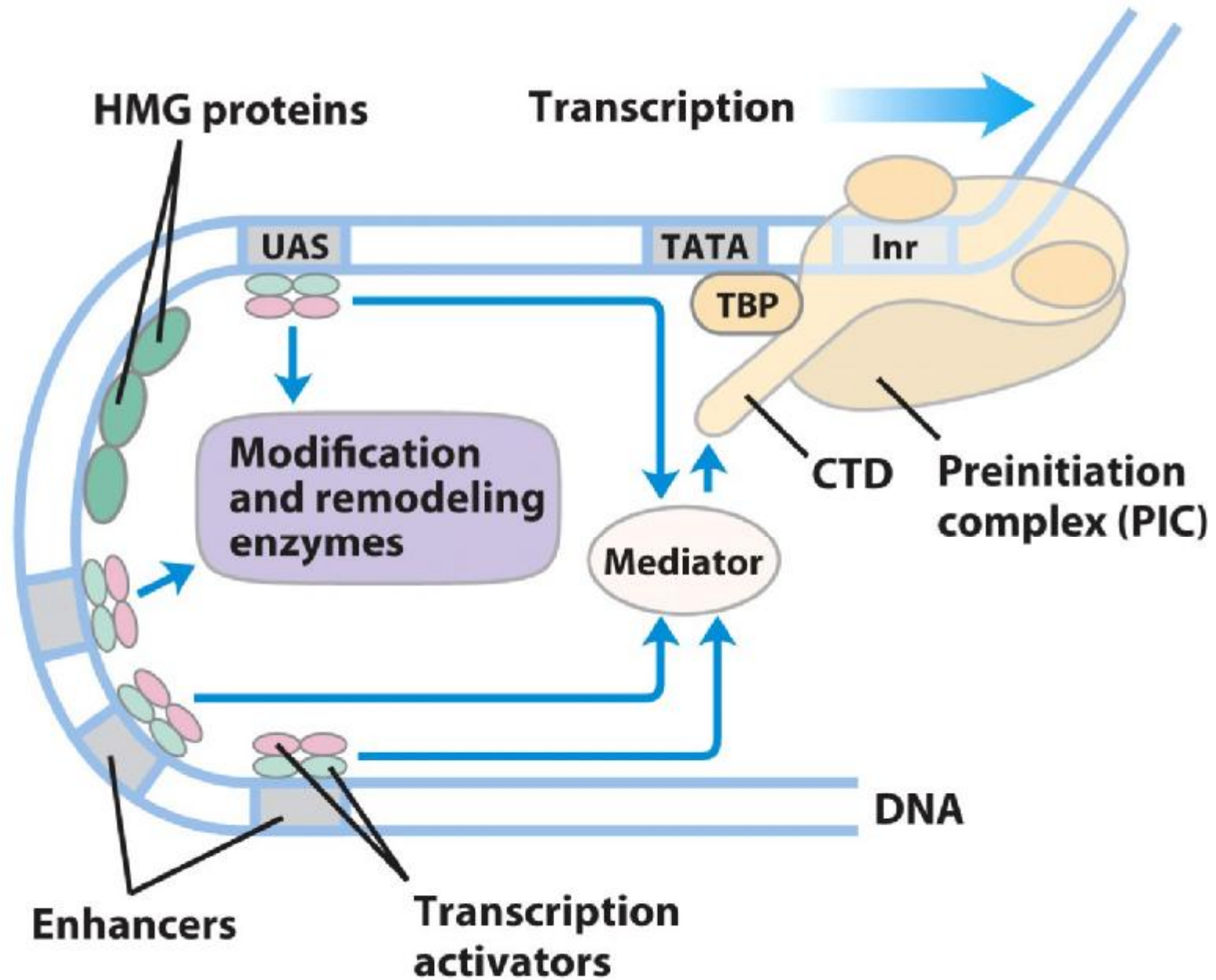




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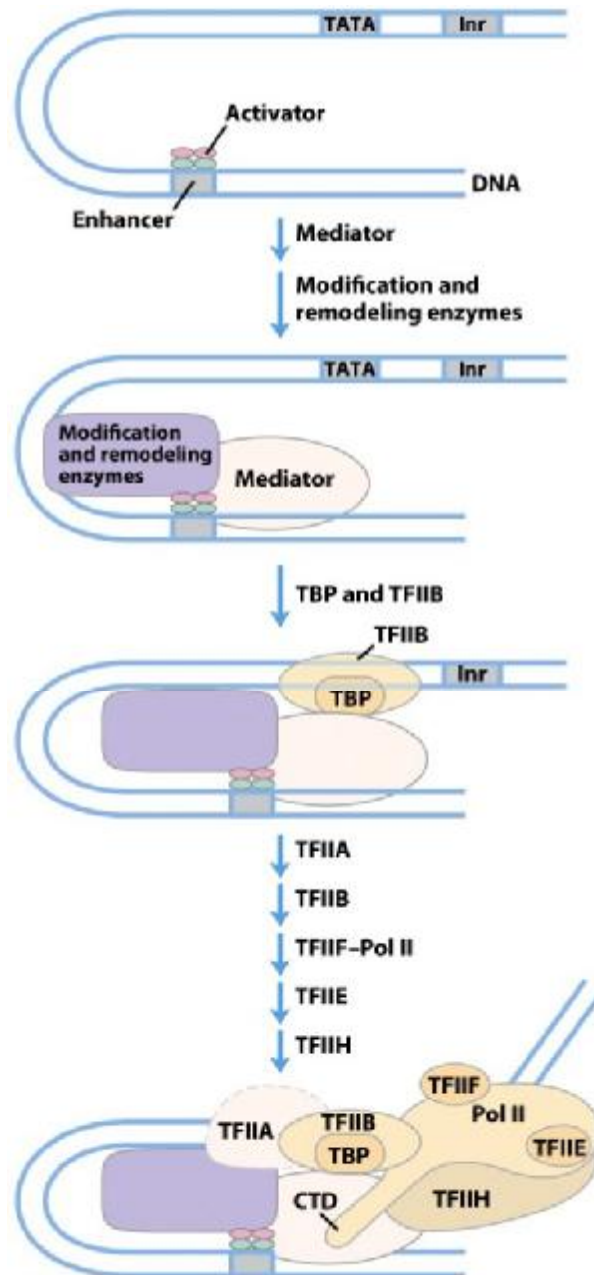


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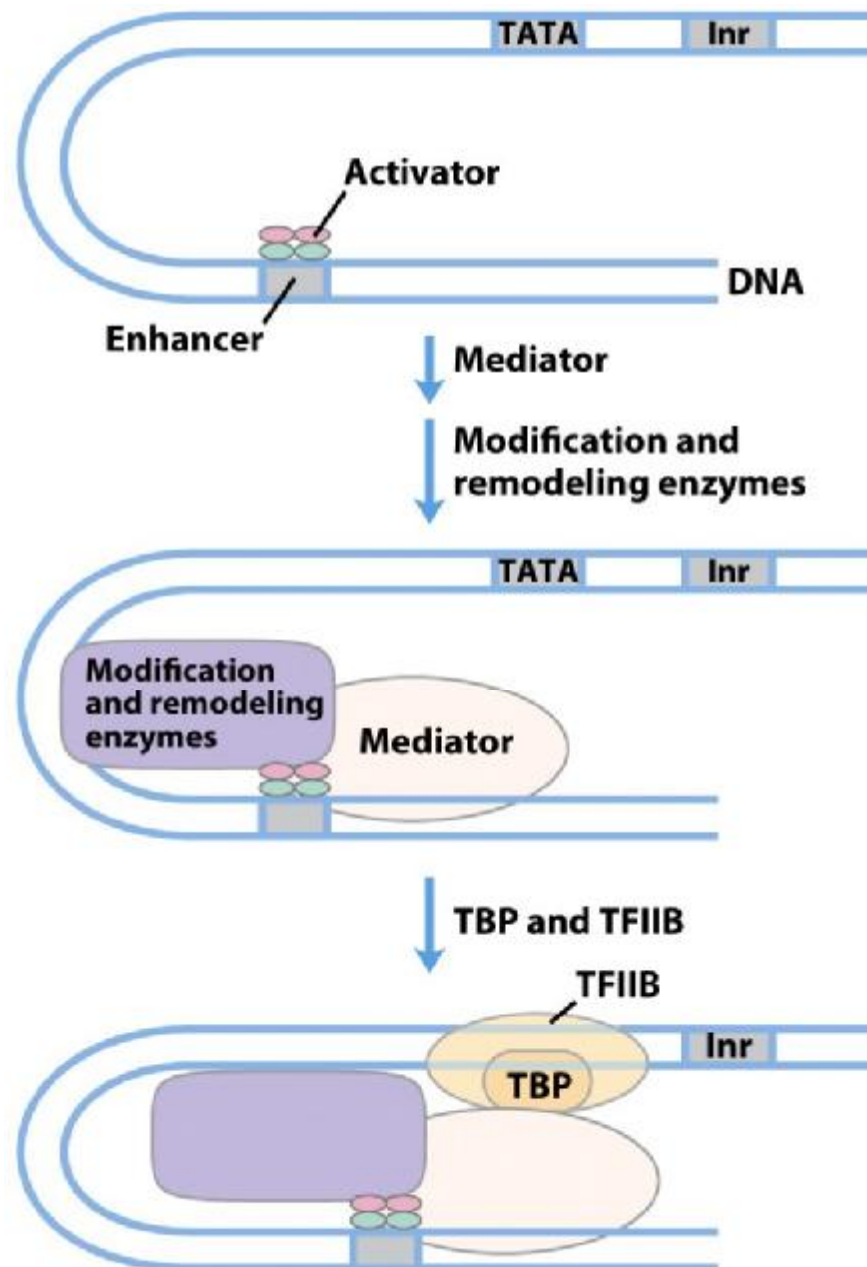




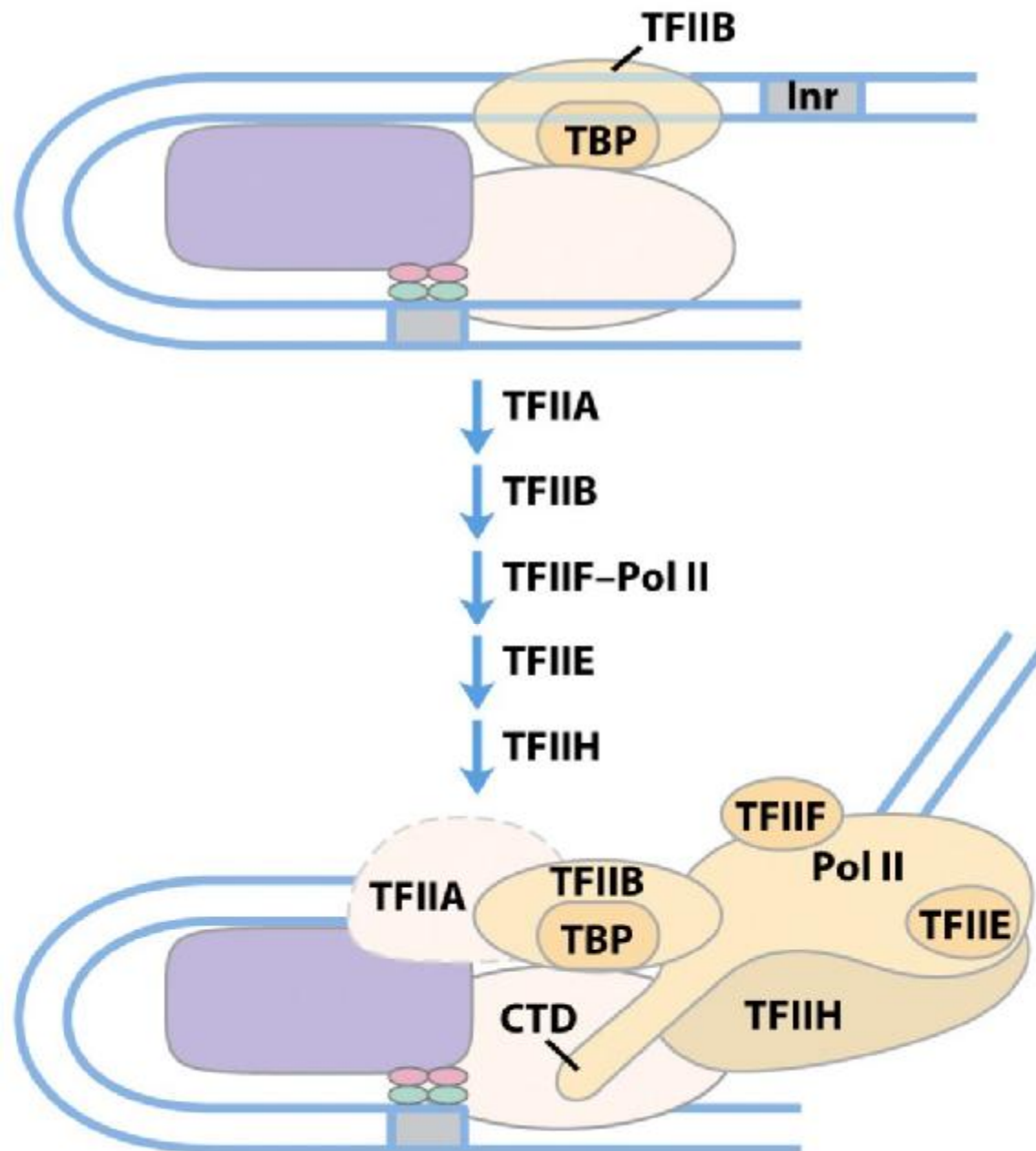
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**Figure 28-30 part 2**  
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