

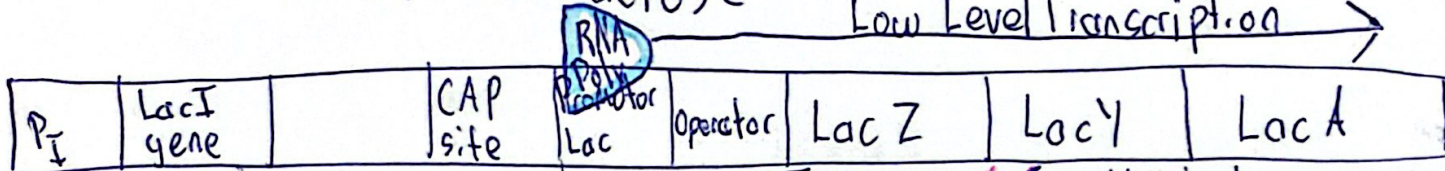
# Regulation of Escherichia coli

Tyler Hector  
3/25/2024

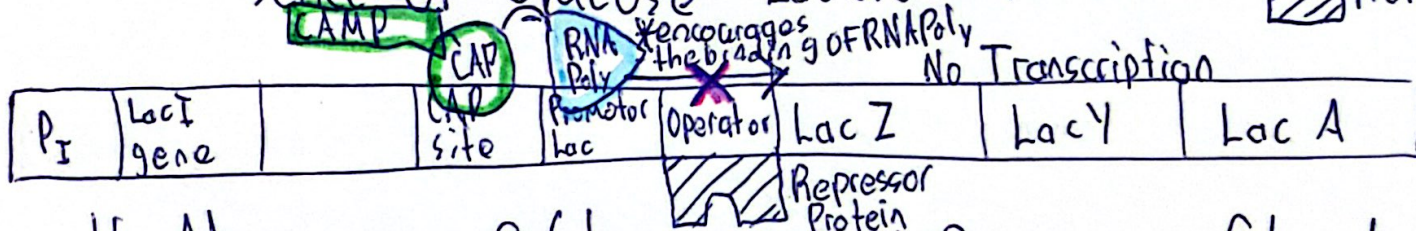
## 1. Absence of Lactose No Transcription



## 2. Presence of Lactose Low Level Transcription

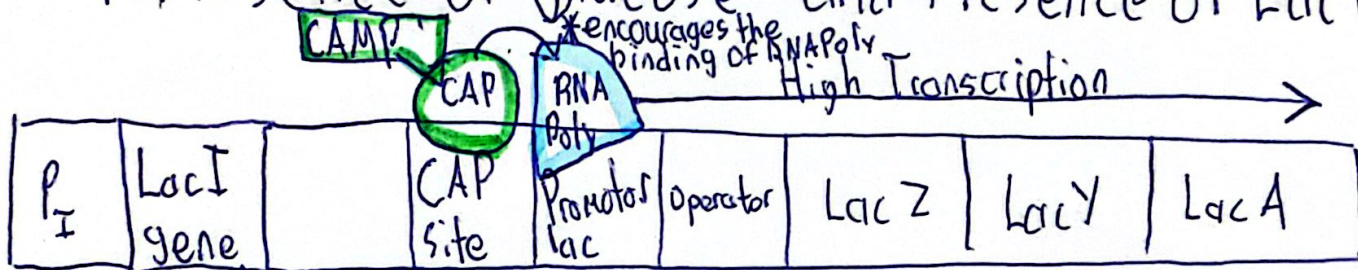


## 3. Absence of Glucose Lactose $\rightarrow$ AlloLactose



Because of the absence of Glucose CAMP is increase which binds to the CAP site

## 4. Absence of Glucose and Presence of Lactose High Transcription



Lactose  $\rightarrow$  AlloLactose Repressor Protein unable to bind to operator

Because of the Absence of Glucose CAMP is increased which binds to the CAP site

5. What Part of Gene expression does Lac Operon regulation take Place?

Gene regulation controlled by the Lac Operon happens at the transcriptional level. The reason it is at the transcriptional level is that the Repressor Protein prevents the conversion of DNA by RNA Polymerase into mRNA.

Tyler Rector  
3/25/2024