**Bellringer:**  Prokaryotic Gene Regulation

AP Biology

The diagrams below represent **operons**, clusters of genes that control gene expression in bacteria. Answer the questions for each diagram below.

|  |  |
| --- | --- |
|  | What is the role of each of the following:  Regulatory gene:  RNA polymerase:  Promoter:  Operator:  Repressor:  What is the effect of the inducer on the repressor? Why is it called an inducer?  Is this an inducible or a repressible operon? **Justify** your answer. |
|
|  | Examine the diagram of the trp operon at left. How is it similar to the diagram of the lac operon above?  Why do you think it is called a corepressor? What is the effect of the corepressor on gene expression?  Is this an inducible or a repressible operon? **Justify** your answer. |