CONCEPT: ARABINOSE OPERON

●The **arabinose operon** encodes genes that control the breakdown of arabinose _____

□ The *araI* (**initiator)** and *araO* regions are responsible for regulating the ara operon

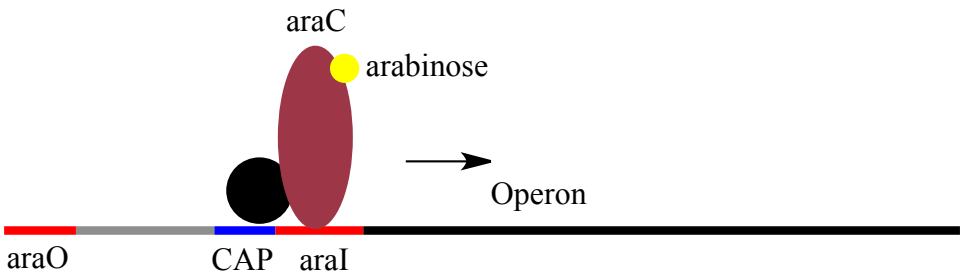
- When arabinose is present: **araC** protein binds to *araI* and initiates transcription

- cAMP/CAP complex also binds this region to help initiate transcription

- When arabinose is not present: araC binds to *araI* and *araO* and represses transcription

- This confirmation forms a DNA loop and prevents the polymerase from binding

EXAMPLE:



PRACTICE: The genes in the arabinose operon are responsible for what?

a. Synthesizing arabinose
b. Breaking down arabinose
c. Converting arabinose into starch
d. Synthesizing sugar

PRACTICE: When arabinose is present, the arabinose operon is what?

a. Active – meaning the genes are being transcribed
b. Inactive – meaning the genes are not being transcribed
c. Nothing, arabinose does not control the arabinose operon