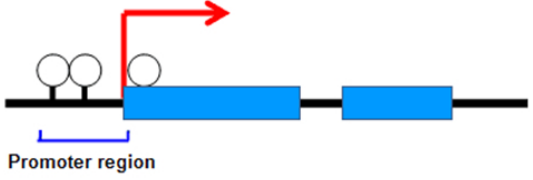
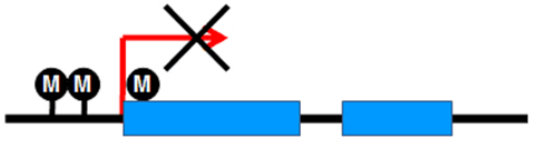


Genes that can be expressed

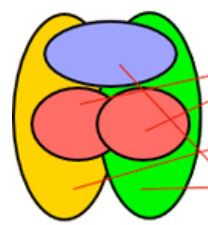


Genes inactivated by DNA methylation

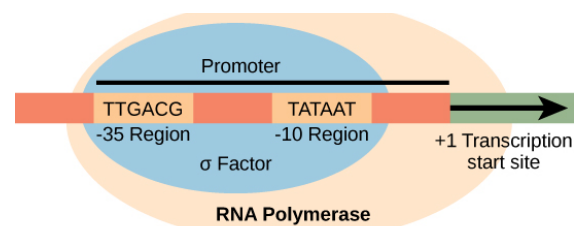
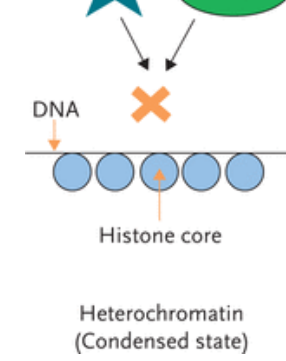
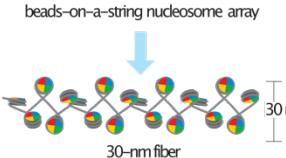
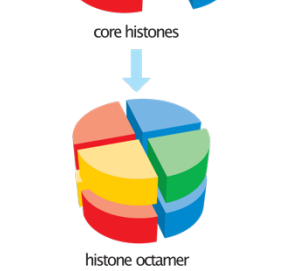
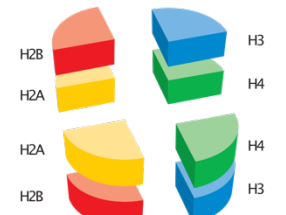


M Methylated
○ Unmethylated

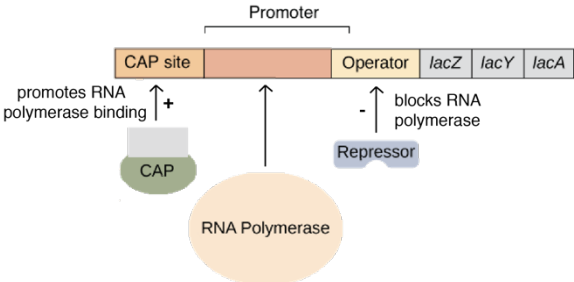
Prokaryotic RNA Polymerase: Holoenzyme Enzyme



Subunit	Size	#/Molecule	Function
α	36.5 kD	2	chain initiation and interaction with regulatory proteins
β	151 kD	1	chain initiation and elongation
β'	155 kD	1	DNA binding
σ	70 kD	1	promoter recognition



The *lac* operon:



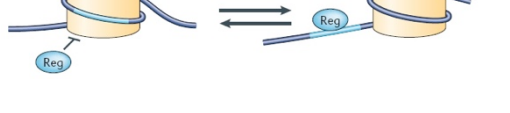
a Composition



b Modification



c Positioning



Acetylation, Demethylation, Phosphorylation

De-acetylation, Methylation, De-phosphorylation

