

Reading Assignment for Gene Expression in Prokaryotes – Lac Operon Lecture:

Chapter 7 – Control of Gene Expression

MBOC 5th edition

<u>Pages</u>	<u>Sections</u>
411-420	<p>Introduction</p> <p>An overview of gene control</p> <p>The different cell types of a multicellular organism contain the same DNA</p> <p>Different cell types synthesize different sets of proteins</p> <p>External signals can cause a cell to change the expression of its genes</p> <p>Gene expression can be regulated at many of the steps in the pathway from DNA to RNA to Protein</p> <p>DNA Binding motifs in gene regulatory proteins</p> <p>Gene regulatory proteins were discovered using bacterial genetics</p> <p>The outside of the DNA helix can be read by proteins</p> <p>Short DNA sequences are components of genetic switches</p> <p>Gene regulatory proteins contain structural motifs that can read DNA sequences</p> <p>The Helix-Turn-Helix motif is one of the simplest and most common DNA-binding motifs</p>
432-437	<p>How genetic switches work</p> <p>The tryptophan repressor is a simple switch that turns genes on and off in bacteria</p> <p>Transcriptional activators turn genes on</p> <p>A transcriptional activator and a transcriptional repressor control the Lac Operon</p>