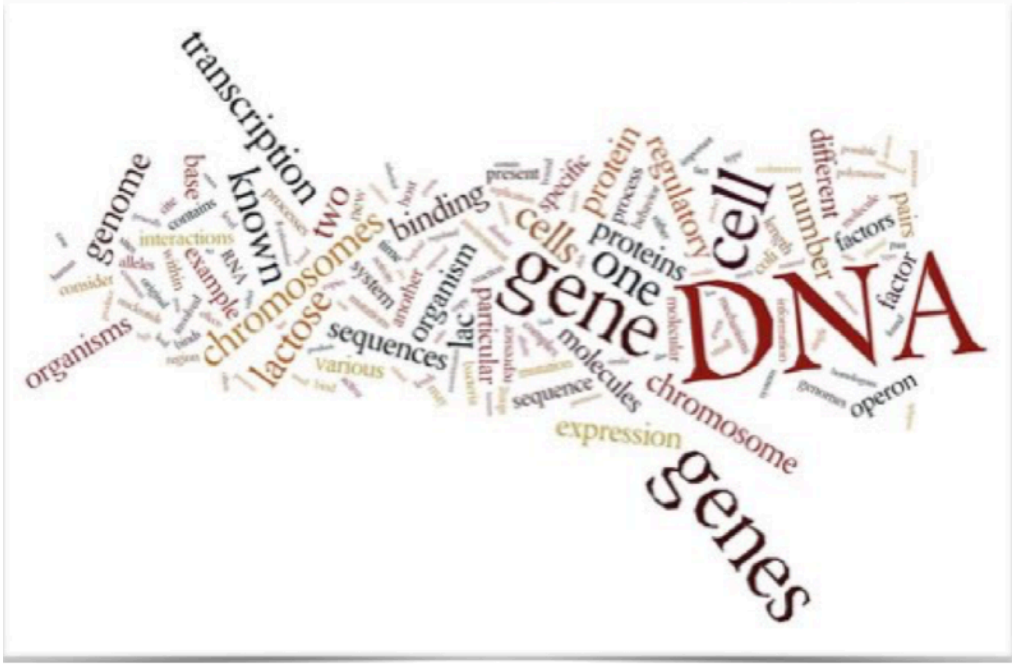


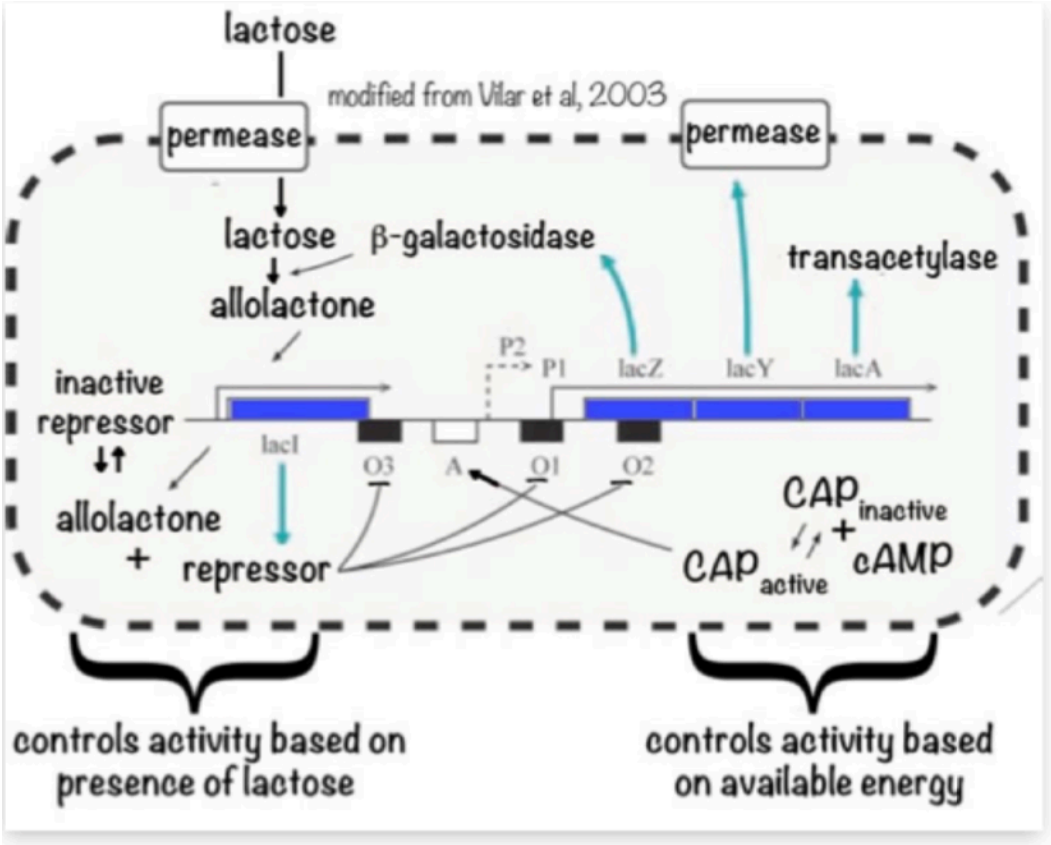
chapter 10
pages 217-220.

syllabus (link)
altered final reading

When a gene turns on:

What happens when mutated

lacI
repressor binding sites
CAP binding site
CAP
lacZ
lacY
lacA



what types of mutations can you imagine for each; how does that change your response?

where a gene turns on..

FOXP2 is a transcription factor

Genetics Home Reference | Your Guide to Understanding Genetic Conditions

FOXP2-related speech and language disorder is a condition that affects the development of speech and language starting in early childhood. Affected individuals have a speech problem known as **childhood apraxia of speech**, which makes it difficult to produce sequences of sounds, syllables, and words. This condition results from abnormalities involving **parts of the brain that plan and coordinate movements of the lips, mouth, and tongue**. Children with childhood apraxia of speech typically say their first words later than other children. Their speech is often difficult to understand, although the clarity of speech improves somewhat over time. Some affected individuals also cannot cough, sneeze, or clear their throats.

…people with *FOXP2*-related speech and language disorder may have difficulty with understanding speech (receptive language). Some also have trouble with other language-related skills, such as reading, writing, spelling, and grammar. In some affected individuals, problems with speech and language are the only features of the condition.

genomicus :

What is synteny? Reconstructing ancestral states

Chromosomal reorganizations (during evolution)

Looking a chromosomal structure: (FoxP2) bilateria

How might mutations in FoxP2 from the ancestral form have played a role in the evolution of speech in humans.

Exac exome sequence: **Exac video (LINK)**

What is an exome?

What parts of a gene does it reveal, what parts does it NOT reveal?

Use Exac Browser (LINK) to get an idea of what FoxP2 alleles exist in the human (non-mutant) population.

Consider the Griffith Streptococcus transformation studies. How was the R to S transformation similar to and different from normal genetic inheritance?