

Source: [KBBiologyMasterIndex](#)

0.1 | **#flo #ret**

1 | **Notes**

1.0.1 | **Overview**

- Organisms turn genes on and off which is called Gene Expression
 - This can be done in response to external and internal signals
 - These signals are based off of environmental factors
 - This is also be done in order to specialize cells
 - Certain cells need certain genes to preform their specific role ### Differential Gene Expression
- Human Cells can express about 20% of it's protein coded genes at any given time
- Most cells contain the same genome
 - Each cell type must use specific parts of this genome
 - This is called Differential gene expression
 - Exception would be cells of the immune system
- Due to the importance of gene expression when it has issues it can affect the organism significantly
- Process of Gene expression in a Eukaryotic cell
 - Chromatin (DNA unpacking) ->
 - RNA processing ->
 - Transport to cytoplasm ->
 - Translation ->
 - Protein processing ->
 - Transport to cellular destination->
- This process can often be equated to transcription for Prokaryote cells