Ch 14 Lab Answer Key

1. BP: Biological Processes  
   CC: Cellular Component  
   MF: Molecular Function
2. How many GO BP terms are significantly enriched in the Upregulated gene list (Benjamini P-value <0.05)?   
     
   24 or 2  
     
   What percent of the list has a GO BP term associated with it?  
     
   77.9%
3. Now upload the downregulated list. How many GO BP terms are significantly enriched for the downreulated list?   
     
   11, or LOTS  
     
   What overall differences in GO terms do you notice?  
     
   more developmental pathways in Up regulated
4. Explore the other types of GO terms (CC and MF) and note any interesting observations.  
     
   Various
5. Under Pathways, select the KEGG\_PATHWAY Chart and examine the top results for both up and downregulated lists (you can click on the lists and click Use to switch between two uploaded lists)  
     
   only downregulated has significant pathways.

Next you will upload a modified version of the list containing both sets of genes to the KEGG pathway coloring tool. This list contains both differentially expressed gene sets but labeled by color. Upregulated genes are RED and downregulated genes are GREEN.

Save the image of a KEGG pathway colorized with the genes from your microarray experiment. Write a paragraph of what you did and any observations or findings. Based on your analysis, which handful of genes would you suggest to follow up using reverse genetics methods? What phenotype would you examine in your experiment?