MAIN DATA SETS

<PPI+ncPPI> ncPPI\_PPI\_2022\_04042022.csv

<immune db> immunity\_genes\_all\_noncoding.tsv

<GDA>

<dis LCCs>

<dis Sab and Jacc>

0\_All\_Immune\_Gene\_Curation.Rmd

Collects genes associated with the immune system from GO, KEGG, InnateDB, ReactomeDB

At the end, filters for proteins in the ncPPI

INPUT: innatedb\_curated\_genes\_innate\_immunity.xls

multiple\_hgnc\_dict\_set\_2022-04-04.txt

OUTPUT: immunity\_genes\_all\_noncoding.tsv

0.0.1\_newData2\_adds\_Autoimmune\_dis\_to\_GDA.Rmd

Most updated grouping of autoimmune diseases and their MeSH groupings by synonym, uses the most updated GDA data, as well

OUTPUT: GDA\_auto\_new2.tsv

0.2\_newData2\_Immune\_DB\_Examination.Rmd

Info for table of immune system genes and pathways

Database Complex Upset Plots

OUTPUT: Immune\_DB\_ComplexUpset.pdf

Immune\_DB\_Jacc\_Sep.pdf

Immune\_DB\_Jacc\_Imm\_Components.pdf

1.0\_Autoimmune\_Disease\_Analysis.Rmd

Calculates simple GDA statistics

Number of genes associated with each disease

Number of diseases associated with each gene

Autoimmune disease network (how diseases are connected by genes)

Plots a grouped bar graph exhibiting the number of disease-associated genes per disease and quantities in innate and adaptive immune components

OUTPUT: <filenames>

1.1\_newData2\_Autoimmune\_Disease\_LCCs.Rmd

Calculates disease LCCs, Sabs, and Jaccard similarity between diseases and stores it in a file

OUTPUT: AutoDis\_LCCs\_ncppi.tsv

AutoDis\_Sep\_Signif\_whole\_ncppi.tsv

AutoDis\_ncppi\_jacc\_sep.tsv

2.0.1.2\_newData2\_LCC\_Jacc\_Sab\_analysis.Rmd

Plots of disease LCCs and rLCCs

Jaccard similarity graph

Sab graph

2.0.3\_newData2\_Disease\_Tissue\_LCCs.Rmd

Calculates disease tissue modules using log normalized DE genes from GTEx

Plot disease-tissue LCC results in a correlogram-like fashion

2.0.3.3\_newData2\_Disease\_Tissue\_LCCs\_HPA.Rmd

Calculates disease tissue modules using pTPM units from HPA

Plot disease-tissue LCC results in a correlogram-like fashion

2.0.4\_newData2\_LCCs\_nonImmune.Rmd

Calculates and plots non-immune system autoimmune disease modules

Calculates and plots immune system disease modules

2.3\_newData2\_Disease\_Immune\_cell\_LCC.Rmd

Figure 1: Fig1.pdf = Fig1A.pdf + Database\_Jacc\_Sep.pdf + Database\_Jacc\_Imm\_Components.pdf

Figure 2:

Figure 3:

Figure 4: Fig4.ppt = Immune\_vs\_Full\_LCC.pdf + Fig4B.pdf

Figure 5: