To do list:

12-19-19

1. Coursera
2. TB pathways
3. Haircut
4. Nightly activity
   1. Yoga?
   2. Jiu jitsu?
5. Clear head
6. Outline paper/questions
7. Biotech startup idea
8. TB Effect on PBMC pathways
   1. History/background:
      1. TB affects millions, many people die from it
      2. Number one infectious disease
      3. Decrease in developed countries due to good nutrition
      4. Increase is relevant due to drug resistant strains and HIV
      5. High cost and side effects of treatment
      6. Many are infected with TB but do not develop disease
      7. Important to identify these to save cost on treatment
      8. Biomarker signatures were developed
         1. Analyzed and scored using TB signature profiler
         2. Several scored low, predict29 scores well
      9. Biomarkers may suggest a mechanism, we do not understand the mechanism by which some develop the disease and others manage TB successfully
      10. Mechanism is important for understanding the disease, and how to treat it
      11. Here we analyze genes differentially regulated between patients affected by TB and use database to determine relevant pathways
   2. Method
      1. Patients separated into groups based on TB diagnosis
         1. Control, Latent, Converter, Progressor, Subclinical, and TB disease
         2. Description
      2. Blood was taken, PBMCs were analyzed for genes using pax-gene kit
         1. RNA transcript reading
      3. Analysis
         1. Using SSTK,
            1. Counts, to counts/million (CPM), logCPM
            2. Differential expression using limma
            3. Top 500 differentially regulated genes between groups based on adjusted p value
            4. Top 500 genes (or less, depending on adjusted p value) were entered into EnrichR to use different databases to identify pathways involving Top500 genes
         2. Results
            1. Latent vs Progressors
            2. Each vs each

Control vs Converter

Control vs TB\_disease

Control vs Latent

Control vs Progressor

Control vs Subclinical

Converter vs TB\_disease

Converter vs Latent

Converter vs Progressors

Converter vs Subclinical

TB\_Disease vs Latent

TB\_Disease vs Progressor

TB\_Disease vs Subclinical

Latent vs progressor

Mid-latent, to determine most relevant pathways

However, may just be those fighting it vs those already managed

Most relevant pathways

Dectin-1

Latent vs subclinical

Progressor vs subclinical

* + - * 1. Each vs all

Control

Converter

Latent

Progressor

Subclinical

TB\_disease