* **GM12878**
  + B-lymphocyte cell type
  + Disease: chronic myelogenous leukemia; 53-year-old female
* **C-fos**
  + “[implicated](https://www.ncbi.nlm.nih.gov/gene?cmd=Retrieve&dopt=full_report&list_uids=2353) as regulators of cell proliferation, differentiation, and transformation.” “expression… has been associated with apoptotic cell death”
  + involved in angiogenesis
  + possible marker for neuronal activity
  + <http://www.sciencedirect.com/science/article/pii/S0197018698000230>
    - “promotes heterodimerization with members of the Jun family” *not really sure that this means because the overlap with JunD(Igg and Std) is pretty low*
    - “association of c-fos expression with neuronal cell death”
  + <http://www.nature.com/onc/journal/v22/n32/full/1206570a.html>
    - AP-1 *has also popped up a couple of times in other searches. Might be worth looking into again.*
    - AP-1: Fos, Jun, helps with tumor progression
    - Overexpression of C-fos strongly activates AP-1.
* **Mafk**
  + Structure: region for DNA binding and leucine zipper for dimer formation
  + Diseases associated: fibrosarcoma
  + Transcriptional repressors when they form a homodimer; transcriptional activators when they form a heterodimer
  + http://www.sciencedirect.com/science/article/pii/S0167488912001693
    - Diseases linked: diabetes, neuronal disorders, thrombocytopenia (low blood platelet count), carcinogenesis
    - “expression and activity is tightly regulated” *Does that explain low overlap with other TFs?*
* **E2f4**
  + Function: role in cell cycle control and action of tumor suppressor proteins; target of transforming proteins of small DNA tumor viruses
  + Diseases associated: retinoblastoma and retinal cancer
  + <https://www.ncbi.nlm.nih.gov/gene/1874>
    - “Protein binds to tumor suppressor proteins”; “increased expression may be associated with human cancer”
* **Max**
  + Forms homodimers and heterodimers with Mad (repressor), Mxl1, and Myc (transcriptional activator). Yup, good overlap with Mxl1.
  + Gene mutated in patients with hereditary pheochromocytoma (tumor of medulla of the adrenal glands.)
  + BRG1 regulates expression of MAX.
  + Another name: bHLHd4 Weird because there’s a lot of overlap with bhlhe40. Coincidence? “efficient DNA binding requires dimerization with another bHLH protein” (UniProt)
* **Pol2** **(DNA Polymerase II/epsilon)**
  + Catalyzes transcription of DNA
* **Pol2s2**
  + Antibody target of Pol2? <https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSM915167>
  + Antibody captures RNA polymerase II when in a stalled state
* **Spt20**
  + Transcription regulator
  + Recruits TATA binding protein and other proteins that can bind to TATA box (a promoter sequence)
* **Srebp1**
  + Transcription factors bind to promoter sequence, sterol regulatory element 1
  + Protein synthesized as a precursor attached to nuclear membrane and ER.
  + Interacts with BHLHE40
* **Srebp2**
  + Transcription controls cholesterol homeostasis by stimulating transcription of sterol-regulated genes.