T\_Cell\_Exhaustion = ['AHR', 'BATF', 'CASP3', 'CCL3/L1', 'CD160', 'CD244', 'CD86', 'CTLA4', 'DGKA', 'DGKZ', 'EOMES', 'FASLG', 'HAVCR2', 'IRF4', 'KLRG1', 'LAG3', 'LILRB4', 'NFIL3', 'PBX3', 'PDCD1', 'PLSCR1', 'PTGER4', 'RGS16', 'TIGIT', 'TNFRSF9', 'TNFSF9', 'TOX2', 'TOX3', 'TOX4', 'YY1']

TCR\_signaling = ['BTRC', 'CARD11', 'CBLB', 'CD101', 'CD28', 'CD3D', 'CD3E', 'CD3G', 'CD4', 'CD40LG', 'CD45R0', 'CD45RA', 'CD6', 'CD69', 'CD8A', 'CD8B', 'CDC42', 'CSF2', 'CTLA4', 'CUL1', 'FYN', 'GRAP2', 'GRB2', 'GSK3B', 'HLA-DRB1/3', 'ICOS', 'IL2', 'INPP5D', 'ITGAE', 'LCK', 'LCP2', 'MALT1', 'MAP3K8', 'MAPK10', 'MAPK11', 'MAPK13', 'MAPK14', 'MAPK9', 'NFAT5', 'NFATC1', 'NFATC2', 'NFATC3', 'NFKBIA', 'NFKBIB', 'NFKBIE', 'PDCD1', 'PLCG1', 'PLCG2', 'PPP3CA', 'PPP3CC', 'PPP3R1', 'PTPN22', 'PTPN6', 'PTPRC', 'PTPRJ', 'RASGRP1', 'TAB2', 'TRAC', 'TRAT1', 'TRBC1/2', 'TRDC', 'TRDV1', 'TRDV2', 'TRDV3', 'TRGC1', 'TRGC2', 'TRGV2', 'TRGV3/5', 'TRGV4', 'TRGV8', 'TRGV9', 'UBE2D1', 'VAV2', 'VAV3', 'ZAP70']

T\_Cell\_Checkpoints = ['ADORA2A', 'BTLA', 'CD200R1', 'CD27', 'CD274', 'CD276', 'CD28', 'CD40', 'CD40LG', 'CD70', 'CD80', 'CD86', 'CDH1', 'CTLA4', 'HAVCR2', 'ICOS', 'ICOSLG', 'LAG3', 'PDCD1', 'PDCD1LG2', 'PECAM1', 'PVRIG', 'TIGIT', 'TNFRSF14', 'TNFRSF18', 'TNFRSF4', 'TNFRSF9', 'TNFSF18', 'TNFSF4', 'TNFSF9', 'VSIR', 'VTCN1']

Senescence\_Quiescence ['ANAPC4', 'ATM', 'ATR', 'BTRC', 'CALM1', 'CCNA1', 'CCNB1', 'CCNB3', 'CDC16', 'CDC25A', 'CDKN2C', 'CEBPB', 'CHEK1', 'CXCL8', 'E2F1', 'E2F2', 'E2F5', 'FOXO1', 'FOXO3', 'GADD45A', 'HIPK1', 'HLA-E', 'IL1A', 'ITPR1', 'ITPR2', 'KIR2DL1/2', 'KIR2DL3/4', 'KIR2DL5A/B', 'KLF2', 'KRAS', 'MAPK10', 'MAPK11', 'MAPK13', 'MAPK14', 'MAPK9', 'MRAS', 'NFATC1', 'NFATC2', 'NFATC3', 'NFATC4', 'PHC3', 'PPP1CB', 'PPP3CA', 'PPP3CC', 'PPP3R1', 'RBL2', 'RHEB', 'RRAS', 'SESN1', 'SESN2', 'SESN3', 'SMAD2', 'SMAD3', 'TERT', 'TGFB1', 'TGFB2', 'TRPM7', 'UBE2D1', 'VDAC1', 'ZFP36L2']