```
GSE12845_IGD_NEG_BLOOD_VS_DARKZONE_GC_TONSIL_BCELL_DN, GSE12845_IGD_NEG_BLOOD_VS_DARKZONE_GC_TONSIL_BCELL_DN
                                                                                                 GSE20152_SPHK1_KO_VS_WT_HTNFA_OVERXPRESS_ANKLE_DN, GSE20152_SPHK1_KO_VS_WT_HTNFA_OVERXPRESS_ANKLE_DN
                                                                                                 GSE7764_IL15_NK_CELL_24H_VS_SPLENOCYTE_UP, GSE7764_IL15_NK_CELL_24H_VS_SPLENOCYTE_UP
                                                                                                 GSE12366_GC_BCELL_VS_PLASMA_CELL_UP, GSE12366_GC_BCELL_VS_PLASMA_CELL_UP
                                                                                                 GSE14308_TH1_VS_NAIVE_CD4_TCELL_UP, GSE14308_TH1_VS_NAIVE_CD4_TCELL_UP
                                                                                                 GSE2770_UNTREATED_VS_IL12_TREATED_ACT_CD4_TCELL_48H_DN, GSE2770_UNTREATED_VS_IL12_TREATED_ACT_CD4_TCELL_48H_DN
                                                                                                 GSE1460_INTRATHYMIC_T_PROGENITOR_VS_CD4_THYMOCYTE_UP, GSE1460_INTRATHYMIC_T_PROGENITOR_VS_CD4_THYMOCYTE_UP
                                                                                                 GSE39152_BRAIN_VS_SPLEEN_CD103_NEG_MEMORY_CD8_TCELL_DN, GSE39152_BRAIN_VS_SPLEEN_CD103_NEG_MEMORY_CD8_TCELL_DN
                                                                                                 GSE12198_NK_VS_NK_ACT_EXPANSION_SYSTEM_DERIVED_NK_CELL_DN, GSE12198_NK_VS_NK_ACT_EXPANSION_SYSTEM_DERIVED_NK_CELL_DN
                                                                                                 KAECH NAIVE VS DAY8 EFF CD8 TCELL DN, KAECH NAIVE VS DAY8 EFF CD8 TCELL DN
                                                                                                 GSE8685_IL2_ACT_IL2_STARVED_VS_IL15_ACT_IL2_STARVED_CD4_TCELL_DN, GSE8685_IL2_ACT_IL2_STARVED_VS_IL15_ACT_IL2_STARVED_CD4_TCELL_DN
                                                                                                 GSE12845_IGD_POS_BLOOD_VS_NAIVE_TONSIL_BCELL_UP, GSE12845_IGD_POS_BLOOD_VS_NAIVE_TONSIL_BCELL_UP
                                                                                                 GSE3982_EOSINOPHIL_VS_NKCELL_DN, GSE3982_EOSINOPHIL_VS_NKCELL_DN
                                                                                                 GSE3982_BCELL_VS_CENT_MEMORY_CD4_TCELL_UP, GSE3982_BCELL_VS_CENT_MEMORY_CD4_TCELL_UP
                                                                                                 GAVIN_FOXP3_TARGETS_CLUSTER_T7, GAVIN_FOXP3_TARGETS_CLUSTER_T7
                                                                                                 GSE11864_CSF1_VS_CSF1_IFNG_IN_MAC_DN, GSE11864_CSF1_VS_CSF1_IFNG_IN_MAC_DN
                                                                                                 GSE24210_TCONV_VS_TREG_DN, GSE24210_TCONV_VS_TREG_DN
                                                                                                 GSE38681_WT_VS_LYL1_KO_LYMPHOID_PRIMED_MULTIPOTENT_PROGENITOR_UP, GSE38681_WT_VS_LYL1_KO_LYMPHOID_PRIMED_MULTIPOTENT_PROGENITOR_UP
                                                                                                 GO_ISOMERASE_ACTIVITY, GO_ISOMERASE_ACTIVITY
                                                                                                GSE3982_BASOPHIL_VS_TH2_UP, GSE3982_BASOPHIL_VS_TH2_UP
                                                                                                 KIM WT1 TARGETS 8HR DN, KIM WT1 TARGETS 8HR DN
                                                                                                 GSE13493 CD4INTCD8POS VS_CD8POS_THYMOCYTE_UP, GSE13493 CD4INTCD8POS_VS_CD8POS_THYMOCYTE_UP
                                                                                                 GSE360 CTRL VS T GONDII MAC DN, GSE360 CTRL VS T GONDII MAC DN
                                                                                                 BRACHAT_RESPONSE_TO_CAMPTOTHECIN_DN, BRACHAT_RESPONSE_TO_CAMPTOTHECIN_DN
                                                                                                 GSE43955_TH0_VS_TGFB_IL6_IL23_TH17_ACT_CD4_TCELL_52H_UP, GSE43955_TH0_VS_TGFB_IL6_IL23_TH17_ACT_CD4_TCELL_52H_UP
                                                                                                 GSE25088_IL4_VS_IL4_AND_ROSIGLITAZONE_STIM_MACROPHAGE_DAY10_DN, GSE25088_IL4_VS_IL4_AND_ROSIGLITAZONE_STIM_MACROPHAGE_DAY10_DN
                                                                                                 GSE8515_IL1_VS_IL6_4H_STIM_MAC_UP, GSE8515_IL1_VS_IL6_4H_STIM_MAC_UP
                                                                                                 GSE2585_THYMIC_MACROPHAGE_VS_MTEC_UP, GSE2585_THYMIC_MACROPHAGE_VS_MTEC_UP
                                                                                                 MORF_ERCC2, MORF_ERCC2
                                                                                                 GSE10240_IL22_VS_IL22_AND_IL17_STIM_PRIMARY_BRONCHIAL_EPITHELIAL_CELLS_DN, GSE10240_IL22_VS_IL22_AND_IL17_STIM_PRIMARY_BRONCHIAL_EPITHELIAL_CELLS_
                                                                                                 GENTILE_UV_RESPONSE_CLUSTER_D7, GENTILE_UV_RESPONSE_CLUSTER_D7
                                                                                                 GSE42021_TCONV_PLN_VS_CD24LO_TCONV_THYMUS_UP, GSE42021_TCONV_PLN_VS_CD24LO_TCONV_THYMUS_UP
                                                                                                 GO_RNA_POLYMERASE_II_TRANSCRIPTION_FACTOR_COMPLEX, GO_RNA_POLYMERASE_II_TRANSCRIPTION_FACTOR_COMPLEX
                                                                                                 GO_BETA_CATENIN_TCF_COMPLEX_ASSEMBLY, GO_BETA_CATENIN_TCF_COMPLEX_ASSEMBLY
                                                                                                 GSE21379_WT_VS_SAP_KO_CD4_TCELL_UP, GSE21379_WT_VS_SAP_KO_CD4_TCELL_UP
                                                                                                 GSE12707_AT16L1_HYPOMORPH_VS_WT_THYMUS_UP, GSE12707_AT16L1_HYPOMORPH_VS_WT_THYMUS_UP
                                                                                                 MARSON_FOXP3_TARGETS_UP, MARSON_FOXP3_TARGETS_UP
                                                                                                 GO_INO80_TYPE_COMPLEX, GO_INO80_TYPE_COMPLEX
                                                                                                 GSE37301_COMMON_LYMPHOID_PROGENITOR_VS_RAG2_KO_NK_CELL_DN, GSE37301_COMMON_LYMPHOID_PROGENITOR_VS_RAG2_KO_NK_CELL_DN
                                                                                                 UEDA_CENTRAL_CLOCK, UEDA_CENTRAL_CLOCK
                                                                                                 FARDIN_HYPOXIA_11, FARDIN_HYPOXIA_11
                                                                                                GO_HISTONE_H2A_ACETYLATION, GO_HISTONE_H2A_ACETYLATION
                                                                                                GSE360_L_DONOVANI_VS_L_MAJOR_DC_DN, GSE360_L_DONOVANI_VS_L_MAJOR_DC_DN
ARKZONE_GC_TONSIL_BCELL_DN, GSE12845_NAIVE_VS_DARKZONE_GC_TONSIL_BCELL_DN
                                                                                                 GSE17721_LPS_VS_POLYIC_2H_BMDC_UP, GSE17721_LPS_VS_POLYIC_2H_BMDC_UP
                                                                                                 HEIDENBLAD_AMPLICON_8Q24_DN, HEIDENBLAD_AMPLICON_8Q24_DN
                                                                                                 GSE37534 GW1929 VS ROSIGLITAZONE TREATED CD4 TCELL PPARG1 FOXP3 TRANSDUCED UP, GSE37534 GW1929 VS ROSIGLITAZONE TREATED CD4 TCELL PPARG1 FO
                                                                                                 LANDIS_ERBB2_BREAST_TUMORS_65_UP, LANDIS_ERBB2_BREAST_TUMORS_65_UP
                                                                                                 GO_BLOC_COMPLEX, GO_BLOC_COMPLEX
                                                                                                 GO_HEXOSE_CATABOLIC_PROCESS, GO_HEXOSE_CATABOLIC_PROCESS
                                                                                                 HUANG_DASATINIB_RESISTANCE_UP, HUANG_DASATINIB_RESISTANCE_UP
                                                                                                 GSE19512_NAUTRAL_VS_INDUCED_TREG_DN, GSE19512_NAUTRAL_VS_INDUCED_TREG_DN
                                                                                                 AKL_HTLV1_INFECTION_DN, AKL_HTLV1_INFECTION_DN
                                                                                                 GUENTHER GROWTH SPHERICAL VS ADHERENT DN, GUENTHER GROWTH SPHERICAL VS ADHERENT DN
                                                                                                 KEGG_AMINO_SUGAR_AND_NUCLEOTIDE_SUGAR_METABOLISM, KEGG_AMINO_SUGAR_AND_NUCLEOTIDE_SUGAR_METABOLISM
                                                                                                 GSE43955_1H_VS_60H_ACT_CD4_TCELL_WITH_TGFB_IL6_DN, GSE43955_1H_VS_60H_ACT_CD4_TCELL_WITH_TGFB_IL6_DN
                                                                                                 GSE29617_DAY3_VS_DAY7_TIV_FLU_VACCINE_PBMC_2008_UP, GSE29617_DAY3_VS_DAY7_TIV_FLU_VACCINE_PBMC_2008_UP
                                                                                                 BRACHAT_RESPONSE_TO_METHOTREXATE_DN, BRACHAT_RESPONSE_TO_METHOTREXATE_DN
                                                                                                 GSE19923_WT_VS_E2A_KO_DP_THYMOCYTE_UP, GSE19923_WT_VS_E2A_KO_DP_THYMOCYTE_UP
                                                                                                 PID_MYC_PATHWAY, PID_MYC_PATHWAY
                                                                                                 GSE28783_ANTI_MIR33_VS_UNTREATED_ATHEROSCLEROSIS_MACROPHAGE_UP, GSE28783_ANTI_MIR33_VS_UNTREATED_ATHEROSCLEROSIS_MACROPHAGE_UP
                                                                                                 GO_POSITIVE_REGULATION_OF_RNA_SPLICING, GO_POSITIVE_REGULATION_OF_RNA_SPLICING
                                                                                                 GSE32901_TH1_VS_TH17_NEG_CD4_TCELL_DN, GSE32901_TH1_VS_TH17_NEG_CD4_TCELL_DN
                                                                                                 REACTOME_APOPTOTIC_EXECUTION_PHASE, REACTOME_APOPTOTIC_EXECUTION_PHASE
                                                                                                 GO_LIGAND_GATED_CALCIUM_CHANNEL_ACTIVITY, GO_LIGAND_GATED_CALCIUM_CHANNEL_ACTIVITY
                                                                                                 GO_INTRAMOLECULAR_OXIDOREDUCTASE_ACTIVITY, GO_INTRAMOLECULAR_OXIDOREDUCTASE_ACTIVITY
                                                                                                GO_NUCLEOSIDE_DIPHOSPHATE_METABOLIC_PROCESS, GO_NUCLEOSIDE_DIPHOSPHATE_METABOLIC_PROCESS
                                                                                                 FONTAINE_FOLLICULAR_THYROID_ADENOMA_UP, FONTAINE_FOLLICULAR_THYROID_ADENOMA_UP
                                                                                                 GO_PTERIDINE_CONTAINING_COMPOUND_BIOSYNTHETIC_PROCESS, GO_PTERIDINE_CONTAINING_COMPOUND_BIOSYNTHETIC_PROCESS
                                                                                                GO_FOLIC_ACID_CONTAINING_COMPOUND_BIOSYNTHETIC_PROCESS, GO_FOLIC_ACID_CONTAINING_COMPOUND_BIOSYNTHETIC_PROCESS
                                                                                                 GO_TRANSFERASE_ACTIVITY_TRANSFERRING_ALKYL_OR_ARYL_OTHER_THAN_METHYL_GROUPS, GO_TRANSFERASE_ACTIVITY_TRANSFERRING_ALKYL_OR_ARYL_OTHER
                                                                                                 GNF2_CASP4, GNF2_CASP4
                                                                                                 BECKER_TAMOXIFEN_RESISTANCE_DN, BECKER_TAMOXIFEN_RESISTANCE_DN
                                                                                                CHEOK_RESPONSE_TO_MERCAPTOPURINE_AND_HD_MTX_DN, CHEOK_RESPONSE_TO_MERCAPTOPURINE_AND_HD_MTX_DN
                                                                                                 ST_T_CELL_SIGNAL_TRANSDUCTION, ST_T_CELL_SIGNAL_TRANSDUCTION
                                                                                                 VERRECCHIA_EARLY_RESPONSE_TO_TGFB1, VERRECCHIA_EARLY_RESPONSE_TO_TGFB1
                                                                                                 GO POSITIVE REGULATION OF DEPHOSPHORYLATION, GO POSITIVE REGULATION OF DEPHOSPHORYLATION
                                                                                                 GO SOMATIC RECOMBINATION OF IMMUNOGLOBULIN GENE SEGMENTS, GO SOMATIC RECOMBINATION OF IMMUNOGLOBULIN GENE SEGMENTS
                                                                                                GO_PROTEASOME_ASSEMBLY, GO_PROTEASOME_ASSEMBLY
                                                                                                 GSE21360_PRIMARY_VS_SECONDARY_MEMORY_CD8_TCELL_DN, GSE21360_PRIMARY_VS_SECONDARY_MEMORY_CD8_TCELL_DN
                                                                                                 GO_INTRACELLULAR_LIGAND_GATED_ION_CHANNEL_ACTIVITY, GO_INTRACELLULAR_LIGAND_GATED_ION_CHANNEL_ACTIVITY
                                                                                                REACTOME_PURINE_RIBONUCLEOSIDE_MONOPHOSPHATE_BIOSYNTHESIS, REACTOME_PURINE_RIBONUCLEOSIDE_MONOPHOSPHATE_BIOSYNTHESIS
                                                                                                 GO_CELL_DEATH_IN_RESPONSE_TO_OXIDATIVE_STRESS, GO_CELL_DEATH_IN_RESPONSE_TO_OXIDATIVE_STRESS
                                                                                                 ZHAN_MULTIPLE_MYELOMA_PR_DN, ZHAN_MULTIPLE_MYELOMA_PR_DN
                                                                                                 chr4q12, chr4q12
                                                                                                 GSE17721_POLYIC_VS_GARDIQUIMOD_0.5H_BMDC_UP, GSE17721_POLYIC_VS_GARDIQUIMOD_0.5H_BMDC_UP
                                                                                                 KYNG_DNA_DAMAGE_BY_UV, KYNG_DNA_DAMAGE_BY_UV
                                                                                                 GSE2585_CD80_HIGH_VS_LOW_MTEC_DN, GSE2585_CD80_HIGH_VS_LOW_MTEC_DN
```

GO_MONOSACCHARIDE_BINDING, GO_MONOSACCHARIDE_BINDING

GSE12845_IGD_POS_BLOOD_VS_DARKZONE_GC_TONSIL_BCELL_DN, GSE12845_IGD_POS_BLOOD_VS_DARKZONE_GC_TONSIL_BCELL_DN

GSE31082_DN_VS_CD4_SP_THYMOCYTE_UP, GSE31082_DN_VS_CD4_SP_THYMOCYTE_UP