```
WHITFIELD_CELL_CYCLE_G1_S, WHITFIELD_CELL_CYCLE_G1_S
                                                                                                                           REACTOME CONDENSATION OF PROPHASE CHROMOSOMES, REACTOME CONDENSATION OF PROPHASE CHROMOSOMES
                                                                                                                           REACTOME MEIOSIS, REACTOME MEIOSIS
                                                                                                                           REACTOME_OXIDATIVE_STRESS_INDUCED_SENESCENCE, REACTOME_OXIDATIVE_STRESS_INDUCED_SENESCENCE
                                                                                                                           REACTOME_BASE_EXCISION_REPAIR, REACTOME_BASE_EXCISION_REPAIR
                                                                                                                           REACTOME_MEIOTIC_RECOMBINATION, REACTOME_MEIOTIC_RECOMBINATION
                                                                                                                           GOBP_NUCLEOSOME_ASSEMBLY, GOBP_NUCLEOSOME_ASSEMBLY
                                                                                                                           REACTOME_REPRODUCTION, REACTOME_REPRODUCTION
                                                                                                                           REACTOME_DISEASES_OF_PROGRAMMED_CELL_DEATH, REACTOME_DISEASES_OF_PROGRAMMED_CELL_DEATH
                                                                                                                           REACTOME_SENESCENCE_ASSOCIATED_SECRETORY_PHENOTYPE_SASP, REACTOME_SENESCENCE_ASSOCIATED_SECRETORY_PHENOTYPE_SASP
                                                                                                                           REACTOME_RMTS_METHYLATE_HISTONE_ARGININES, REACTOME_RMTS_METHYLATE_HISTONE_ARGININES
                                                                                                                           REACTOME_DEPOSITION_OF_NEW_CENPA_CONTAINING_NUCLEOSOMES_AT_THE_CENTROMERE, REACTOME_DEPOSITION_OF_NEW_CENPA_CONTAINING_NUCLEOSOMES_AT_THE_CENTROMERE
                                                                                                                           GOCC_DNA_PACKAGING_COMPLEX, GOCC_DNA_PACKAGING_COMPLEX
                                                                                                                           REACTOME_PKMTS_METHYLATE_HISTONE_LYSINES, REACTOME_PKMTS_METHYLATE_HISTONE_LYSINES
                                                                                                                           GOBP_CENTROMERE_COMPLEX_ASSEMBLY, GOBP_CENTROMERE_COMPLEX_ASSEMBLY
                                                                                                                           REACTOME_ERCC6_CSB_AND_EHMT2_G9A_POSITIVELY_REGULATE_RRNA_EXPRESSION, REACTOME_ERCC6_CSB_AND_EHMT2_G9A_POSITIVELY_REGULATE_RRNA_EXPRESSION
                                                                                                                           REACTOME_PRC2_METHYLATES_HISTONES_AND_DNA, REACTOME_PRC2_METHYLATES_HISTONES_AND_DNA
                                                                                                                           REACTOME_ACTIVATION_OF_ANTERIOR_HOX_GENES_IN_HINDBRAIN_DEVELOPMENT_DURING_EARLY_EMBRYOGENESIS, REACTOME_ACTIVATION_OF_ANTERIOR_HOX_GENES_IN_HINDBRAIN_DEVELOPMENT_DURING_EARLY_EMBRYOGENES_IN_HINDBRAIN_DEVELOPMENT_DURING_EARLY_EMBRYOGENES_IN_HINDBRAIN_DEVELOPMENT_DURING_EARLY_EMBRYOGENES_IN_HINDBRAIN_DEVELOPMENT_DURING_EARLY_EMBRYOGENES_IN_HINDBRAIN_DEVELOPMENT_DURING_EARLY_EMBRYOGENES_IN_HINDBRAIN_DEVELOPMENT_DURING_EARLY_EMBRYOGENES_IN_HINDBRAIN_DEVELOPMENT_DURING_EARLY_EMBRYOGENES_IN_HINDBRAIN_DEVELOPMENT_DURING_EARLY_EMBRYOGENES_IN_HINDBRAIN_DEVELOPMENT_DURING_EARLY_EMBRYOGENES_IN_HINDBRAIN_DEVELOPMENT_DURING_EARLY_EMBRYOGENES_IN_HINDBRAIN_DEVELOPMENT_DURING_EARLY_EMBRYOGENES_IN_HINDBRAIN_DEVELOPMENT_DURING_EARLY_EMBRYOGENES_IN_HINDBRAIN_DEVELOPMENT_DURING_EARLY_EMBRYOGENES_IN_HINDBRAIN_DEVELOPMENT_DURING_EARLY_EMBRYOGENES_IN_HINDBRAIN_DEVELOPMENT_DURING_EARLY_EMBRYOGENES_IN_HINDBRAIN_DEVELOPMENT_DURING_EARLY_EMBRYOGENES_IN_HINDBRAIN_DURING_EARLY_EMBRYOGENES_IN_HINDBRAIN_DURING_EARLY_
                                                                                                                           REACTOME_DNA_METHYLATION, REACTOME_DNA_METHYLATION
                                                                                                                           GOBP_NEGATIVE_REGULATION_OF_GENE_EXPRESSION_EPIGENETIC, GOBP_NEGATIVE_REGULATION_OF_GENE_EXPRESSION_EPIGENETIC
                                                                                                                           REACTOME ACTIVATED PKN1 STIMULATES TRANSCRIPTION OF AR ANDROGEN RECEPTOR REGULATED GENES KLK2 AND KLK3, REACTOME ACTIVATED PKN1 STIMULATES TRANSCRIPTION OF AR ANDROGEN RECEPTOR REGULATED GENES KLK2 AND KLK3, REACTOME ACTIVATED PKN1 STIMULATES TRANSCRIPTION OF AR ANDROGEN RECEPTOR REGULATED GENES KLK2 AND KLK3, REACTOME ACTIVATED PKN1 STIMULATES TRANSCRIPTION OF AR ANDROGEN RECEPTOR REGULATED GENES KLK2 AND KLK3, REACTOME ACTIVATED PKN1 STIMULATES TRANSCRIPTION OF AR ANDROGEN RECEPTOR REGULATED GENES KLK2 AND KLK3, REACTOME ACTIVATED PKN1 STIMULATES TRANSCRIPTION OF AR ANDROGEN RECEPTOR REGULATED GENES KLK2 AND KLK3, REACTOME ACTIVATED PKN1 STIMULATES TRANSCRIPTION OF AR ANDROGEN RECEPTOR REGULATED GENES KLK2 AND KLK3, REACTOME ACTIVATED PKN1 STIMULATES TRANSCRIPTION OF AR ANDROGEN RECEPTOR REGULATED GENES KLK2 AND KLK3, REACTOME ACTIVATED PKN1 STIMULATES TRANSCRIPTION OF AR ANDROGEN RECEPTOR REGULATED GENES KLK2 AND KLK3, REACTOME ACTIVATED PKN1 STIMULATES TRANSCRIPTION OF AR ANDROGEN RECEPTOR REGULATED GENES KLK2 AND KLK3, REACTOME ACTIVATED PKN1 STIMULATES TRANSCRIPTION OF AR ANDROGEN RECEPTOR REGULATED GENES KLK2 AND KLK3, REACTOME ACTIVATED PKN1 STIMULATES TRANSCRIPTION OF AR ANDROGEN RECEPTOR REGULATED GENES KLK2 AND KLK3, REACTOME ACTIVATED PKN1 STIMULATES TRANSCRIPTION OF AR ANDROGEN RECEPTOR REGULATED GENES KLK2 AND KLK3, REACTOME ACTIVATED PKN1 STIMULATES TRANSCRIPTION OF AR ANDROGEN RECEPTOR REGULATED GENES KLK2 AND KLK3, REACTOME ACTIVATED PKN1 STIMULATES TRANSCRIPTION OF AR ANDROGEN RECEPTOR REGULATED GENES KLK2 AND KLK3, REACTOME ACTIVATED PKN1 STIMULATES TRANSCRIPTION OF AR ANDROGEN RECEPTOR REGULATED FKN1 STIMULATED FKN1 STIMULATED
                                                                                                                           WP_HISTONE_MODIFICATIONS, WP_HISTONE_MODIFICATIONS
                                                                                                                           REACTOME DNA DAMAGE TELOMERE STRESS INDUCED SENESCENCE, REACTOME DNA DAMAGE TELOMERE STRESS INDUCED SENESCENCE
                                                                                                                           REACTOME_MEIOTIC_SYNAPSIS, REACTOME_MEIOTIC_SYNAPSIS
                                                                                                                           GOBP_DNA_REPLICATION_INDEPENDENT_NUCLEOSOME_ORGANIZATION, GOBP_DNA_REPLICATION_INDEPENDENT_NUCLEOSOME_ORGANIZATION
                                                                                                                           REACTOME_INHIBITION_OF_DNA_RECOMBINATION_AT_TELOMERE, REACTOME_INHIBITION_OF_DNA_RECOMBINATION_AT_TELOMERE
                                                                                                                            REACTOME RUNX1 REGULATES GENES INVOLVED IN MEGAKARYOCYTE DIFFERENTIATION AND PLATELET FUNCTION, REACTOME RUNX1 REGULATES GENES INVOLVED IN MEGAKARYOCYTE DIFFERENTIATION AND PLATELET
                                                                                                                            HP_ABNORMALITY_OF_FEMALE_EXTERNAL_GENITALIA, HP_ABNORMALITY_OF_FEMALE_EXTERNAL_GENITALIA
                                                                                                                            REACTOME_RHO_GTPASES_ACTIVATE_PKNS, REACTOME_RHO_GTPASES_ACTIVATE_PKNS
                                                                                                                           GOBP_MEGAKARYOCYTE_DIFFERENTIATION, GOBP_MEGAKARYOCYTE_DIFFERENTIATION
                                                                                                                            REACTOME_BASE_EXCISION_REPAIR_AP_SITE_FORMATION, REACTOME_BASE_EXCISION_REPAIR_AP_SITE_FORMATION
                                                                                                                            REACTOME_PRE_NOTCH_EXPRESSION_AND_PROCESSING, REACTOME_PRE_NOTCH_EXPRESSION_AND_PROCESSING
                                                                                                                            WP_22Q112_COPY_NUMBER_VARIATION_SYNDROME, WP_22Q112_COPY_NUMBER_VARIATION_SYNDROME
                                                                                                                            REACTOME_RECOGNITION_AND_ASSOCIATION_OF_DNA_GLYCOSYLASE_WITH_SITE_CONTAINING_AN_AFFECTED_PURINE, REACTOME_RECOGNITION_AND_ASSOCIATION_OF_DNA_GLYCOSYLASE_WITH_SITE_CONTAINING_AN_ASSOCIATION_ASSOCIATION_OF_DNA_GLYCOSYLASE_WITH_SITE_CONTAINING_AN_ASSOCIATION_OF_DNA_GLYCOSYLASE_WITH_SITE_CONTAINING_AN_ASSOCIATION_OF_DNA_GLYCOSYLASE_WITH_SITE_CONTAINING_AN_ASSOCIATION_OF_DNA_GLYCOSYLASE_WITH_SITE_CONTAINING_AN_ASSOCIATION_OF_DNA_GLYCOSYLASE_WITH_SITE_CONTAINING_AND_ASSOCIATION_OF_DNA_GLYCOSYLASE_WITH_SITE_CONTAINING_ASSOCIATION_OF_DNA_GLYCOSYLASE_WITH_SITE_CONTAINING_ASSOCIATION_OF_DNA_GLY
                                                                                                                           GOBP_RDNA_HETEROCHROMATIN_ASSEMBLY, GOBP_RDNA_HETEROCHROMATIN_ASSEMBLY
                                                                                                                           GOBP_DNA_REPLICATION_DEPENDENT_NUCLEOSOME_ORGANIZATION, GOBP_DNA_REPLICATION_DEPENDENT_NUCLEOSOME_ORGANIZATION
                                                                                                                            GOBP_TELOMERE_CAPPING, GOBP_TELOMERE_CAPPING
                                                                                                                           HP_ABNORMALITY_OF_THE_CLITORIS, HP_ABNORMALITY_OF_THE_CLITORIS
                                                                                                                           REACTOME_AMYLOID_FIBER_FORMATION, REACTOME_AMYLOID_FIBER_FORMATION
                                                                                                                           HP ABNORMAL SIZE OF THE CLITORIS, HP ABNORMAL SIZE OF THE CLITORIS
                                                                                                                            REACTOME_HDMS_DEMETHYLATE_HISTONES, REACTOME_HDMS_DEMETHYLATE_HISTONES
                                                                                                                            GOBP_REGULATION_OF_MEGAKARYOCYTE_DIFFERENTIATION, GOBP_REGULATION_OF_MEGAKARYOCYTE_DIFFERENTIATION
                                                                                                                            GOMF_CHAPERONE_BINDING, GOMF_CHAPERONE_BINDING
                                                                                                                           GSE37533 UNTREATED VS PIOGLIZATONE TREATED CD4 TCELL FOXP3 TRASDUCED CD4 TCELL UP, GSE37533 UNTREATED VS PIOGLIZATONE TREATED CD4 TCELL FOXP3 TRASDUCED CD4 TCELL UP
                                                                                                                            REACTOME_RUNX1_INTERACTS_WITH_CO_FACTORS_WHOSE_PRECISE_EFFECT_ON_RUNX1_TARGETS_IS_NOT_KNOWN, REACTOME_RUNX1_INTERACTS_WITH_CO_FACTORS_WHOSE_PRECISE_EFFECT_ON_RUNX1_TARGETS_IS_NOT_KNOWN
                                                                                                                            HP_ABNORMAL_SYNAPTIC_TRANSMISSION_AT_THE_NEUROMUSCULAR_JUNCTION, HP_ABNORMAL_SYNAPTIC_TRANSMISSION_AT_THE_NEUROMUSCULAR_JUNCTION
                                                                                                                           GOBP_G0_TO_G1_TRANSITION, GOBP_G0_TO_G1_TRANSITION
                                                                                                                           GOCC_PCG_PROTEIN_COMPLEX, GOCC_PCG_PROTEIN_COMPLEX
                                                                                                                           PASINI_SUZ12_TARGETS_UP, PASINI_SUZ12_TARGETS_UP
                                                                                                                          ZHOU_TNF_SIGNALING_4HR, ZHOU_TNF_SIGNALING_4HR
S OF FLI1 AND DAX1 DN, GARCIA TARGETS OF FLI1 AND DAX1 DN
                                                                                                                           HP_ABNORMAL_LABIA_MORPHOLOGY, HP_ABNORMAL_LABIA_MORPHOLOGY
                                                                                                                           ROVERSI_GLIOMA_COPY_NUMBER_DN, ROVERSI_GLIOMA_COPY_NUMBER_DN
                                                                                                                           HP_LOWER_LIMB_AMYOTROPHY, HP_LOWER_LIMB_AMYOTROPHY
                                                                                                                           HP_APLASIA_OF_THE_FINGERS, HP_APLASIA_OF_THE_FINGERS
                                                                                                                           HP_FATIGABLE_WEAKNESS_OF_RESPIRATORY_MUSCLES, HP_FATIGABLE_WEAKNESS_OF_RESPIRATORY_MUSCLES
                                                                                                                           HP_RADIAL_DEVIATION_OF_THE_HAND_OR_OF_FINGERS_OF_THE_HAND, HP_RADIAL_DEVIATION_OF_THE_HAND_OR_OF_FINGERS_OF_THE_HAND
                                                                                                                            HSF4_TARGET_GENES, HSF4_TARGET_GENES
                                                                                                                            GSE22935_UNSTIM_VS_48H_MBOVIS_BCG_STIM_MYD88_KO_MACROPHAGE_DN, GSE22935_UNSTIM_VS_48H_MBOVIS_BCG_STIM_MYD88_KO_MACROPHAGE_DN
                                                                                                                            HP_PSEUDOBULBAR_SIGNS, HP_PSEUDOBULBAR_SIGNS
                                                                                                                            GOMF_HSP90_PROTEIN_BINDING, GOMF_HSP90_PROTEIN_BINDING
                                                                                                                            HP_OLIGODACTYLY, HP_OLIGODACTYLY
                                                                                                                            HP_HYPOPLASTIC_FEMALE_EXTERNAL_GENITALIA, HP_HYPOPLASTIC_FEMALE_EXTERNAL_GENITALIA
                                                                                                                            GOMF_ACTIVATING_TRANSCRIPTION_FACTOR_BINDING, GOMF_ACTIVATING_TRANSCRIPTION_FACTOR_BINDING
                                                                                                                           HP_APLASIA_HYPOPLASIA_OF_THE_PATELLA, HP_APLASIA_HYPOPLASIA_OF_THE_PATELLA
                                                                                                                            HP_GOWERS_SIGN, HP_GOWERS_SIGN
                                                                                                                            HP_ABNORMAL_RENAL_COLLECTING_SYSTEM_MORPHOLOGY, HP_ABNORMAL_RENAL_COLLECTING_SYSTEM_MORPHOLOGY
                                                                                                                            MODULE_284, MODULE_284
                                                                                                                           HP_HIP_CONTRACTURE, HP_HIP_CONTRACTURE
                                                                                                                            BLANCO_MELO_COVID19_SARS_COV_2_INFECTION_A594_CELLS_DN, BLANCO_MELO_COVID19_SARS_COV_2_INFECTION_A594_CELLS_DN
                                                                                                                           HP_DUPLICATED_COLLECTING_SYSTEM, HP_DUPLICATED_COLLECTING_SYSTEM
                                                                                                                           HP_AXIAL_MUSCLE_WEAKNESS, HP_AXIAL_MUSCLE_WEAKNESS
                                                                                                                           GOBP_NEGATIVE_REGULATION_OF_MEGAKARYOCYTE_DIFFERENTIATION, GOBP_NEGATIVE_REGULATION_OF_MEGAKARYOCYTE_DIFFERENTIATION
                                                                                                                           GOMF_POLY_A_SPECIFIC_RIBONUCLEASE_ACTIVITY, GOMF_POLY_A_SPECIFIC_RIBONUCLEASE_ACTIVITY
                                                                                                                           HP_CARPAL_SYNOSTOSIS, HP_CARPAL_SYNOSTOSIS
                                                                                                                           HP_SHORT_MIDDLE_PHALANX_OF_FINGER, HP_SHORT_MIDDLE_PHALANX_OF_FINGER
                                                                                                                           GOBP_POSTSYNAPTIC_MEMBRANE_ORGANIZATION, GOBP_POSTSYNAPTIC_MEMBRANE_ORGANIZATION
                                                                                                                           KYNG_RESPONSE_TO_H2O2_VIA_ERCC6, KYNG_RESPONSE_TO_H2O2_VIA_ERCC6
                                                                                                                           MANN_RESPONSE_TO_AMIFOSTINE_DN, MANN_RESPONSE_TO_AMIFOSTINE_DN
                                                                                                                           GOERING BLOOD HDL CHOLESTEROL QTL CIS, GOERING BLOOD HDL CHOLESTEROL QTL CIS
                                                                                                                           POS_RESPONSE_TO_HISTAMINE_DN, POS_RESPONSE_TO_HISTAMINE_DN
                                                                                                                           REACTOME REGULATION OF BACH1_ACTIVITY, REACTOME_REGULATION_OF_BACH1_ACTIVITY
                                                                                                                           REACTOME_INLA_MEDIATED_ENTRY_OF_LISTERIA_MONOCYTOGENES_INTO_HOST_CELLS, REACTOME_INLA_MEDIATED_ENTRY_OF_LISTERIA_MONOCYTOGENES_INTO_HOST_CELLS
                                                                                                                           REACTOME_DOWNREGULATION_OF_ERBB2_SIGNALING, REACTOME_DOWNREGULATION_OF_ERBB2_SIGNALING
                                                                                                                            TERAO_AOX4_TARGETS_SKIN_DN, TERAO_AOX4_TARGETS_SKIN_DN
                                                                                                                           LANDIS_ERBB2_BREAST_PRENEOPLASTIC_UP, LANDIS_ERBB2_BREAST_PRENEOPLASTIC_UP
                                                                                                                           HP_GANGLIONEUROMA, HP_GANGLIONEUROMA
                                                                                                                           HP_SMALL_PLACENTA, HP_SMALL_PLACENTA
                                                                                                                           GOBP_NEUROMUSCULAR_PROCESS_CONTROLLING_POSTURE, GOBP_NEUROMUSCULAR_PROCESS_CONTROLLING_POSTURE
                                                                                                                           HP TESTICULAR DYSGENESIS, HP TESTICULAR DYSGENESIS
                                                                                                                           AMIT_EGF_RESPONSE_240_MCF10A, AMIT_EGF_RESPONSE_240_MCF10A
                                                                                                                           HP_TYPE_1_MUSCLE_FIBER_ATROPHY, HP_TYPE_1_MUSCLE_FIBER_ATROPHY
                                                                                                                           KENNEDY_PBMC_DRYVAX_AGE_18_50YO_STIMULATED_VS_UNSTIMULATED_1_TO_48MO_TOP_DEG_UP, KENNEDY_PBMC_DRYVAX_AGE_18_50YO_STIMULATED_VS_UNSTIMULATED_1_TO_48MO_TOP_DEG_UP
                                                                                                                           GOBP AMPA GLUTAMATE RECEPTOR CLUSTERING, GOBP AMPA GLUTAMATE RECEPTOR CLUSTERING
                                                                                                                           GOBP_DETOXIFICATION_OF_INORGANIC_COMPOUND, GOBP_DETOXIFICATION_OF_INORGANIC_COMPOUND
                                                                                                                           HP_SEX_REVERSAL, HP_SEX_REVERSAL
                                                                                                                           GOBP_NEGATIVE_REGULATION_OF_NODAL_SIGNALING_PATHWAY, GOBP_NEGATIVE_REGULATION_OF_NODAL_SIGNALING_PATHWAY
                                                                                                                           MODULE_234, MODULE_234
                                                                                                                           DAWSON_METHYLATED_IN_LYMPHOMA_TCL1, DAWSON_METHYLATED_IN_LYMPHOMA_TCL1
```

GOBP\_PARASYMPATHETIC\_NERVOUS\_SYSTEM\_DEVELOPMENT, GOBP\_PARASYMPATHETIC\_NERVOUS\_SYSTEM\_DEVELOPMENT

HP\_ABSENT\_DISTAL\_INTERPHALANGEAL\_CREASES, HP\_ABSENT\_DISTAL\_INTERPHALANGEAL\_CREASES

GOCC\_NEUROFILAMENT, GOCC\_NEUROFILAMENT

REACTOME\_CELLULAR\_SENESCENCE, REACTOME\_CELLULAR\_SENESCENCE