Table S3: GSEA reults of the meta-analysis rank for each database

| MSigDB | |
|---|---|
| Pathway | P-Value |
| SAMSON_APC_TARGETS_REQUIRE_MYC | 1.0e-04 |
| BCELL_VS_MDC_DAY7_FLU_VACCINE_DN | 1.0e-04 |
| TCONV_VS_TREG_2H_CULTURE_DN | 1.0e-04 |
| IL4_VS_IL4_AND_ROSIGLITAZONE_STIM_MACROPHAGE_6H_UP | 1.0e-04 |
| ALTERNATEVELY_ACT_M2_VS_CMYC_INHIBITED_MACROPHAGE_DN | 1.0e-04 |
| IRON_ION_BINDING | 1.0e-04 |
| INCORPORATION_OR_REDUCTION_OF_MOLECULAR_OXYGEN | 1.0e-04 |
| T_LYMPHOCYTES_ANERGY | 1.0e-04 |
| 2_OXOGLUTARATE_DEPENDENT_DIOXYGENASE_ACTIVITY | 1.0e-04 |
| MIR2467_5P | 2.0e-04 |
| GSE39022_LN_VS_SPLEEN_DC_UP | 2.0e-04 |
| GSE39864_WT_VS_GATA3_KO_TREG_UP | 2.0e-04 |
| DIOXYGENASE_ACTIVITY | 2.0e-04 |
| PROTEIN_HYDROXYLATION | 2.0e-04 |
| MIR938 | 4.0e-04 |
| CSR_LATE_UP.V1_UP | 5.0e-04 |
| GSE29618_PDC_VS_MDC_DN | 5.0e-04 |
| GSE42021_TREG_PLN_VS_CD24LO_TREG_THYMUS_DN | 5.0e-04 |
| BEIER_GLIOMA_STEM_CELL_DN | 5.0e-04 |
| BIOCARTA_MITOCHONDRIA_PATHWAY | 5.0e-04 |

| WikiPathway | |
|---|---|
| Pathway | P-Value |
| OXIDATIVE_DAMAGE | 1.6e-03 |
| APOPTOSIS_MODULATION_BY_HSP70 | 1.7e-03 |
| NANOMATERIAL_INDUCED_APOPTOSIS | 1.7e-03 |
| SARS_CORONAVIRUS_AND_INNATE_IMMUNITY | 2.8e-03 |
| SMALL_CELL_LUNG_CANCER | 4.1e-03 |
| ALZHEIMERS_DISEASE | 4.3e-03 |
| APOPTOSIS_MODULATION_AND_SIGNALING | 4.5e-03 |
| APOPTOSIS | 5.3e-03 |
| INDUCTION_OF_HEAT_SHOCK_POROTEINS | 6.3e-03 |
| PROXIMAL_TUBULE_EPITHELIAL_KIDNEY_CELLS | 1.4e-02 |
| INTERLUKIN11_SIGNALING_PATHWAY | 1.6e-02 |
| TUMOR_SUPPRESSOR_ACTIVITY_OF_SMARCB1 | 1.6e-02 |
| IL6_SIGNALING_PATHWAY | 2.2e-02 |
| GENES_INVOLVED_IN_MALE_INFERTILITY | 3.5e-02 |
| GEN_INTERACTION_OF_HUMAN_CORONAVIRUSES_APOPTOSIS | 3.6e-02 |
| TNF_ALPHA_SIGNALING_PATHWAY | 3.7e-02 |
| AMYOTROPHIC_LATERAL_SCLEROSIS | 3.9e-02 |
| NONGENOMIC_ACTIONS_OF_125_DIHYDROXYVITAMIN_D3 | 4.3e-02 |
| HUMAN_CORONA_VIRUSES_INTERFERON_INDUCTION | 4.4e-02 |
| GLYCOSILATION_AND_RELATED_CONGENITAL_DEFECTS | 4.6e-02 |

| KEGG | |
|---|---|
| Pathway | P-Value |
| APOPTOSIS | 1.2e-02 |
| PS3_SIGNALING_PATHWAY | 1.3e-02 |
| SMALL_CELL_LUNG_CANCER | 2.5e-02 |
| AMYOTROPHIC_LATERAL_SCLEROSIS | 3.2e-02 |
| PATHOGENIC_ECOLI_INFECTION | 6.5e-02 |
| JAK_STAT_SIGNALING_PATHWAY | 7.5e-02 |
| PYRUVATE_METABOLISM | 7.9e-02 |
| PROTEIN_EXPORT | 1.0e-01 |
| ALZEHIMERS_DISEASE | 1.1e-01 |
| TIGHT_JUNCTION | 1.1e-01 |
| HUNTINGTONGS_DISEASE | 1.2e-01 |
| PARKINSONS_DISEASE | 1.2e-01 |
| PHOSPHATIDYLINOSITOL_GPI_ANCHOR_BIOS | 1.2e-01 |
| TGFBETA_SIGNALING_PATHWAY | 1.2e-01 |
| PEROXISOME | 1.4e-01 |
| NEUROTHROPHIN_SIGNALING_PATHWAY | 1.4e-01 |
| ADHERENS_JUNCTION | 1.5e-01 |
| VASCULAR_SMOOTH_MUSCLE_CONTRACTION | 1.5e-01 |
| VIRAL_MYOCARDITIS | 1.6e-01 |
| N_GLYCAN_BIOSYNTHESIS | 1.7e-01 |

| Reactome | |
|---|---|
| Pathway | P-Value |
| TRANSCRIPTIONAL_REGULATION_BY_E2F6 | 1.0e-03 |
| INTRINSIC_PATHWAY_FOR_APOPTOSIS | 1.1e-03 |
| INTERFERON_ALPHA_BETA_SIGNALING | 1.5e-03 |
| INTERLEUKIN_4_AND_INTERLEUKIN_13_SIGNALING | 1.7e-03 |
| INTERLEUKIN_12_SIGNALING | 2.5e-03 |
| INTERLEUKIN_12_FAMILY_SIGNALING | 2.6e-03 |
| TP53_REGULATES_TRANSCRIPTION_OF_CELL_DEATH_GENES | 3.7e-03 |
| POTENTIAL_THERAPEUTICS_FOR_SARS | 6.6e-03 |
| PROGRAMMED_CELL_DEATH | 7.2e-03 |
| INTERFERON_SIGNALING | 1.3e-02 |
| RMTS_METHYLATE_HISTON_ARGININES | 1.4e-02 |
| FATTY_ACYL_COA_BIOSYNTHESIS | 1.5e-02 |
| DNA_DAMAGE_TELOMER_STRESS_INDUCED_SENESCENCE | 2.0e-02 |
| PROCESSING_OF_DNA_DOUBLE_STRAND_BREAK_ENDS | 2.3e-02 |
| G2_M_DNA_DAMAGE_CHECKPOINT | 2.3e-02 |
| PROCESSING_OF_CAPPED_INTRONLESS_PRE_MRNA | 2.8e-02 |
| PROCESSING_OF_INTRONLESS_PRE_MRNA | 2.8e-02 |
| P75_NTR_RECEPTOR_MEDIATED_SIGNALING | 3.2e-02 |
| MAPK_FAMILY_SIGNALING_CASCADES | 3.3e-02 |
| CELLULAR_RESPONSE_TO_HYPOXIA | 3.5e-02 |

| Gene Ontology | |
|---|---|
| Pathway | P-Value |
| IRON_ION_BINDING | 1.0e-04 |
| INCORPORATION_OR_REDUCTION_OF_MOLECULAR_OXYGEN | 1.0e-04 |
| 2_OXOGLUTARATE_DEPENDENT_DIOXYGENASE_ACTIVITY | 1.0e-04 |
| DIOXYGENASE_ACTIVITY | 2.0e-04 |
| PROTEIN_HYDROXYLATION | 3.0e-04 |
| DNA_CATABOLIC_PROCESS | 5.0e-04 |
| REGULATOR_ACTIVITY_INVOLVED_IN_APOPTOTIC_PROCESS | 5.0e-04 |
| G0_TO_G1_TRANSITION | 6.0e-04 |
| DNA_CATABOLIC_PROCESS_ENDONUCLEOLYTIC | 8.0e-04 |
| NEURON_APOPTOTIC_PROCESS | 1.3e-03 |
| REGULATION_OF_NECROTIC_CELL_DEATH | 2.4e-03 |
| RESPONSE_TO_INTERLEUKIN_12 | 2.7e-03 |
| REGULATION_OF_PROGRAMMED_NECROTIC_CELL_DEATH | 2.9e-03 |
| RESPONSE_TO_ENDOPLASMATIC_RETICULUM_STRESS | 3,00E-03 |
| NUCLEIC_ACID_PHOSPHODIESTER_BOND_HYDROLISIS | 3.1e-03 |
| IDENTICAL_PROTEIN_BINDING | 3.3e-03 |
| PROTEIN_HOMODIMERIZATION_ACITVITY | 3.5e-03 |
| ADP_BINDING | 4.0e-03 |
| HEAT_SHOCK_PROTEIN_BINDING | 4.1e-03 |
| PROTEIN_K63_LINKED_DEUBIQUITINATION | 5.2e-03 |