Table S1. Molecules belonging to each pathway category (LPS+ELN vs. LPS).

| Ingenuity Canonical Pathways | -log(p-value) | Ratio | z-score | Molecules |
|---|---|---|---|---|
| Interferon Alpha/Beta Signaling | 13.2 | 0.239 | 3.153 | ADAR, GBP2, IFI35, IFIT1, IFIT2, IFIT3, IRF7, ISG20, OAS1, OAS2, OAS3, SOCS1, SOCS3, STAT1, STAT2, USP18, XAF1 |
| Role of Hypercytokinemia/hyperchemokinemia in the Pathogenesis of Influenza | 12.8 | 0.209 | 2.828 | CXCL10, EIF2AK2, IFIT2, IFIT3, IL10, IL1B, IL36G, IRF7, ISG20, OAS1, Oas1b, OAS2, OAS3, RIGI, S1PR1, STAT1, STAT2, TLR3 |
| Role of Pattern Recognition Receptors in Recognition of Bacteria and Viruses | 10.9 | 0.135 | 1.667 | CLCF1, CLEC6A, EIF2AK2, IL10, IL1B, IL36G, IRF7, OAS1, Oas1b, OAS2, OAS3, PRKCB, PRKCG, PTX3, RIGI, TGFB2, TLR3, TLR8, TNFSF10, TNFSF13, TNFSF15 |
| Pathogen Induced Cytokine Storm Signaling Pathway | 9.58 | 0.0809 | 0.365 | Ccl7, Ccl8, CCR3, CCR5, CIITA, CLCF1, COL15A1, COL23A1, CXCL10, CXCL16, DHX58, IL10, IL1B, IL1R1, IL21R, IL36G, IRF7, MAPK11, MYC, NLRC5, RIGI, SOCS3, STAT1, TGFB2, TLR3, TLR8, TNFSF10, TNFSF13, TNFSF15, ZBP1 |
| Interferon Gamma Signaling | 9.03 | 0.16 | 2.324 | CIITA, GBP2, GBP4, GBP6, GBP7, IRF7, OAS1, OAS2, OAS3, SOCS1, SOCS3, STAT1, TRIM14, TRIM46, TRIM5 |
| Macrophage Classical Activation Signaling Pathway | 7.78 | 0.101 | 1.147 | CIITA, CLCF1, CXCL10, GBP2, GBP4, IKBKG, IL10, IL1B, IL36G, PARP14, PARP9, SOCS1, SOCS3, STAT1, STAT2, TGFB2, TNFSF10, TNFSF13, TNFSF15 |
| Activation of IRF by Cytosolic Pattern Recognition Receptors | 7.05 | 0.169 | 1.508 | ADAR, DHX58, IFIT2, IKBKE, IKBKG, IL10, IRF7, RIGI, STAT1, STAT2, ZBP1 |
| Hematoma Resolution Signaling Pathway | 6.93 | 0.0814 | -2.4 | ARG1, CLCF1, CX3CR1, HMOX1, IL10, IL1B, IL36G, MAPK11, MMP2, NQO1, PLAT, PTGER1, S1PR1, SOCS1, SOCS3, STAT1, TGFB2, THBS1, TNFSF10, TNFSF13, TNFSF15 |
| Multiple Sclerosis Signaling Pathway | 6.67 | 0.0856 | 2.524 | CLCF1, IL10, IL1B, IL36G, MAPK11, PARP10, PARP12, PARP14, PARP16, PARP9, PLP1, RNF213, STAT1, TGFB2, TLR3, TLR8, TNFSF10, TNFSF13, TNFSF15 |
| Interferon Signaling | 6.23 | 0.222 | 2.828 | IFI35, IFIT1, IFIT3, OAS1, SOCS1, STAT1, STAT2, TAP1 |
| Molecular Mechanisms of Cancer | 6.18 | 0.0479 | 0.156 | ADCY6, ADORA2B, Aph1c, ARHGEF4, CCR3, CCR5, CCRL2, CELSR3, CNR2, CX3CR1, EDN1, EGF, GNAL, GPR146, GPR183, HDAC9, IL15RA, IL1B, IL1R1, IL21R, ITGA2B, ITGA3, ITGB4, ITGB5, MAP2K6, MAPK11, MMP2, MYC, P2RY12, PRKCB, PRKCG, PTGER1, PTGER2, RHOV, S1PR1, SHC3, SSTR5, SUCNR1, TGFB2, VIPR1, VIPR2 |
| Cachexia Signaling Pathway | 6.05 | 0.0652 | 1.633 | ADCY6, CASP4, CLCF1, EIF2AK2, GDF15, IKBKE, IKBKG, IL1B, IL1R1, IL36G, LCN2, MALAT1, MAPK11, PRKCB, PRKCG, S1PR1, SOCS3, STAT1, STAT2, TGFB2, TLR8, TNFSF10, TNFSF13, TNFSF15 |
| Pyroptosis Signaling Pathway | 5.4 | 0.117 | 1.508 | CASP4, GBP2, GBP4, GBP7, IL1B, IL1R1, KCNQ1OT1, MAPK11, PANX1, TLR3, TLR8 |
| IL-10 Signaling | 5.38 | 0.0909 | -0.535 | CCN4, CCR5, CREB3L4, HMOX1, IKBKE, IKBKG, IL10, IL1B, IL1R1, IL36G, MAP2K6, MAPK11, SOCS3, STAT1 |

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| CGAS-STING Signaling Pathway | 5.14 | 0.0929 | 0.832 | ATP6V0D2, CLCF1, IDO2, IKBKE, IKBKG, IL1B, IL36G, STAT1, TGFB2, TNFSF10, TNFSF13, TNFSF15, ZBP1 |
| NOD1/2 Signaling Pathway | 4.99 | 0.0794 | 0.775 | CLCF1, IKBKE, IKBKG, IL1B, IL36G, IRF7, MAP2K6, MAPK11, RIGI, TGFB2, TLR3, TLR8, TNFSF10, TNFSF13, TNFSF15 |
| Cardiac Hypertrophy Signaling (Enhanced) | 4.98 | 0.0517 | 1.147 | ADCY6, CLCF1, EDN1, HDAC9, IKBKE, IKBKG, IL15RA, IL1B, IL1R1, IL21R, IL36G, ITGA2B, ITGA3, ITGB4, ITGB5, MAP2K6, MAP3K13, MAPK11, MKNK2, MYC, PDE1B, PDE8B, PRKCB, PRKCG, TGFB2, TNFSF10, TNFSF13, TNFSF15 |
| Macrophage Alternative Activation Signaling Pathway | 4.97 | 0.0789 | -0.258 | ADORA2B, ARG1, CIITA, CREB3L4, IL10, IL1B, IL36G, MAPK11, MARCO, MYC, SOCS1, SOCS3, STAT1, TGFB2, THBS1 |
| Interleukin-4 and Interleukin-13 signaling | 4.74 | 0.1 | 0.302 | HMOX1, IL10, IL1B, LAMA5, LCN2, MMP2, MYC, S1PR1, SOCS1, SOCS3, STAT1 |
| OAS Antiviral Response | 4.67 | 0.444 | 2 | OAS1, OAS2, OAS3, RIGI |
| p38 MAPK Signaling | 4.38 | 0.0917 | 0 | CREB3L4, DDIT3, IL1B, IL1R1, IL36G, MAP2K6, MAPK11, MKNK2, MYC, STAT1, TGFB2 |
| ISGylation Signaling Pathway | 4.07 | 0.0926 | 1.897 | EIF2AK2, IRF7, ITGA3, RIGI, STAT1, STAT2, TLR3, TLR8, UBA7, USP18 |
| IL-12 Signaling and Production in Macrophages | 4.05 | 0.0658 | 1.807 | CCR5, DHX58, IKBKE, IKBKG, IL10, MAP2K6, MAPK11, PRKCB, PRKCG, RIGI, SOCS3, STAT1, TGFB2, THBS1, TLR3 |
| STAT3 Pathway | 3.92 | 0.0815 | 1.134 | CISH, EGF, IL15RA, IL1B, IL1R1, IL21R, MAPK11, MYC, SOCS1, SOCS3, TGFB2 |
| Role of PKR in Interferon Induction and Antiviral Response | 3.89 | 0.0809 | 1.897 | EIF2AK2, IKBKE, IKBKG, IL1B, MAP2K6, MAPK11, MARCO, RIGI, STAT1, STAT2, TLR3 |
| Acute Phase Response Signaling | 3.87 | 0.0703 | 0.632 | CFB, HMOX1, HP, IKBKE, IKBKG, IL1B, IL1R1, IL36G, MAP2K6, MAPK11, Saa3, SOCS1, SOCS3 |
| FXR/RXR Activation | 3.82 | 0.0695 | -0.277 | CLCF1, DDIT3, FOXA1, GCLM, HMOX1, IL1B, IL36G, NQO1, SOCS3, TGFB2, TNFSF10, TNFSF13, TNFSF15 |
| Death Receptor Signaling | 3.76 | 0.0938 | 1.667 | IKBKE, IKBKG, PARP10, PARP12, PARP14, PARP16, PARP9, TNFSF10, TNFSF15 |
| HMGB1 Signaling | 3.7 | 0.0719 | 0 | CLCF1, IL1B, IL1R1, IL36G, MAP2K6, MAPK11, PLAT, RHOV, TGFB2, TNFSF10, TNFSF13, TNFSF15 |
| Toll-like Receptor Signaling | 3.67 | 0.103 | 0.816 | EIF2AK2, IKBKG, IL1B, IL36G, MAP2K6, MAPK11, TLR3, TLR8 |
| Role of JAK Family Kinases in IL-6-type Cytokine Signaling | 3.64 | 0.101 | 1.414 | CLCF1, IL10, MAPK11, MYC, SOCS1, SOCS3, STAT1, TGFB2 |
| Adrenergic Receptor Signaling Pathway (Enhanced) | 3.53 | 0.065 | 0.277 | ADCY6, ATP6V0D2, CLCF1, GNAL, IL1B, IL36G, IL4I1, PRKCB, PRKCG, TGFB2, TNFSF10, TNFSF13, TNFSF15 |
| PI3K/AKT Signaling | 3.53 | 0.065 | 1.342 | EPM2A, GDF15, IKBKE, IKBKG, IL15RA, IL1R1, IL21R, INPP5J, ITGA2B, ITGA3, ITGB4, ITGB5, SFN |
| Phagosome Formation | 3.49 | 0.0417 | -0.557 | ADORA2B, CCR3, CCR5, CCRL2, CELSR3, CNR2, CX3CR1, GPR146, GPR183, HMOX1, ITGA2B, ITGA3, ITGB4, ITGB5, |

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| | | | | MAP2K6, MARCO, MYL2, P2RY12, PRKCB, PRKCG, PTGER1, PTGER2, S1PR1, SSTR5, SUCNR1, TLR3, TLR8, VIPR1, VIPR2 |
| Coronavirus Pathogenesis Pathway | 3.45 | 0.0637 | -1.941 | DDIT3, HDAC9, IL1B, IRF7, MAPK11, OAS1, Oas1b, OAS2, OAS3, RIGI, STAT1, STAT2, TLR3 |
| Class A/1 (Rhodopsin-like receptors) | 3.44 | 0.0536 | -1.698 | ADORA2B, APLN, CCR3, CCR5, CCRL2, CNR2, CX3CR1, CXCL10, CXCL16, EDN1, GPR183, P2RY12, PTGER1, PTGER2, S1PR1, SSTR5, SUCNR1 |
| Neuroinflammation Signaling Pathway | 3.44 | 0.0536 | 0.775 | Aph1c, CREB3L4, CX3CR1, CXCL10, HMOX1, IKBKE, IKBKG, IL10, IL1B, IL1R1, IRF7, MAPK11, PRKCG, STAT1, TGFB2, TLR3, TLR8 |
| Hepatic Fibrosis Signaling Pathway | 3.31 | 0.048 | 0.243 | CREB3L4, EDN1, IKBKE, IKBKG, IL1B, IL1R1, IL36G, ITGA2B, ITGA3, ITGB4, ITGB5, MAP2K6, MAPK11, MYC, MYL2, PRKCB, PRKCG, RHOV, SUCNR1, TGFB2 |
| NFE2L2 Regulating Anti-oxidant/Detoxification Enzymes | 3.26 | 0.211 | 2 | GCLC, GCLM, HMOX1, NQO1 |
| Breast Cancer Regulation by Stathmin1 | 3.14 | 0.0421 | 0.408 | ADORA2B, ARHGEF4, CCR3, CCR5, CCRL2, CELSR3, CNR2, CREB3L4, CX3CR1, EGF, GPR146, GPR183, MMP2, P2RY12, PRKCB, PRKCG, PTGER1, PTGER2, S1PR1, SHC3, SSTR5, SUCNR1, TGFB2, VIPR1, VIPR2 |
| Parkinson's Signaling Pathway | 3.13 | 0.0521 | 1 | ATP6V0D2, CLCF1, CNR2, DDIT3, IL1B, IL36G, IL4I1, MAPK11, NQO1, SLC40A1, TGFB2, TLR3, TLR8, TNFSF10, TNFSF13, TNFSF15 |
| Neuregulin Signaling | 3.12 | 0.0769 | 0.447 | EGF, ERRFI1, ITGA2B, ITGA3, ITGB4, ITGB5, MYC, PRKCB, PRKCG |
| Hepatic Cholestasis | 3.09 | 0.0583 | 0.832 | ADCY6, CLCF1, IKBKE, IKBKG, IL1B, IL1R1, IL36G, PRKCB, PRKCG, TGFB2, TNFSF10, TNFSF13, TNFSF15 |
| MSP-RON Signaling in Macrophages Pathway | 3.07 | 0.0756 | -1.667 | ARG1, CIITA, CREB3L4, IKBKE, IKBKG, IL10, SOCS1, SOCS3, STAT1 |
| CREB Signaling in Neurons | 3.01 | 0.0412 | 0.209 | ADCY6, ADORA2B, CCR3, CCR5, CCRL2, CELSR3, CNR2, CREB3L4, CX3CR1, EGF, GNAL, GPR146, GPR183, P2RY12, PRKCB, PRKCG, PTGER1, PTGER2, S1PR1, SHC3, SSTR5, SUCNR1, TGFB2, VIPR1, VIPR2 |
| Endocannabinoid Cancer Inhibition Pathway | 2.99 | 0.068 | 0 | ADCY6, CASP4, CNR2, CREB3L4, DDIT3, GNAL, MAP2K6, MMP2, MYC, SMPD3 |
| NLR signaling pathways | 2.98 | 0.107 | 1.633 | CASP4, HMOX1, IKBKG, MAP2K6, MAPK11, PANX1 |
| TREM1 Signaling | 2.96 | 0.0909 | -1.134 | CD83, CIITA, IL10, IL1B, NLRC5, TLR3, TLR8 |
| NF-κB Activation by Viruses | 2.93 | 0.0897 | 1.633 | CCR5, EIF2AK2, IKBKE, IKBKG, ITGA3, PRKCB, PRKCG |
| Type II Diabetes Mellitus Signaling | 2.86 | 0.0654 | 1 | ACSBG1, IKBKE, IKBKG, MAFA, PRKCB, PRKCG, SLC27A3, SMPD3, SOCS1, SOCS3 |
| cAMP-mediated Signaling | 2.86 | 0.0551 | 0.277 | ADCY6, ADORA2B, CNGA3, CNR2, CREB3L4, GNAL, P2RY12, PDE1B, PDE8B, PTGER2, S1PR1, VIPR1, VIPR2 |
| Growth Hormone Receptor Signaling | 2.86 | 0.167 | -1 | CISH, SOCS1, SOCS3, STAT1 |

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| IL-27 Signaling Pathway | 2.85 | 0.0703 | 0.333 | ENTPD1, GADD45G, IL10, IL1R1, MAPK11, SOCS3, STAT1, TLR3, TLR8 |
| Retinoic acid Mediated Apoptosis Signaling | 2.83 | 0.1 | 2.449 | PARP10, PARP12, PARP14, PARP16, PARP9, TNFSF10 |
| GADD45 Signaling | 2.83 | 0.1 | 1.633 | GADD45G, IL1B, MAP2K6, MAPK11, MYC, TGFB2 |
| IL-6 Signaling | 2.82 | 0.0698 | 0.707 | IKBKE, IKBKG, IL1B, IL1R1, IL36G, MAP2K6, MAPK11, SOCS1, SOCS3 |
| Extracellular Matrix Organization | 2.78 | 0.0755 | 0.707 | AGRN, CEACAM1, ITGA2B, ITGA3, ITGB4, ITGB5, LAMA5, TGFB2 |
| IL-17 Signaling | 2.73 | 0.0588 | 0.905 | CLCF1, IL1B, IL36G, LCN2, MAP2K6, MAPK11, MMP2, TGFB2, TNFSF10, TNFSF13, TNFSF15 |
| Role of Osteoclasts in Rheumatoid Arthritis Signaling Pathway | 2.68 | 0.0487 | 1.387 | ADAM22, Adam4/Gm4787, COL15A1, COL23A1, CREB3L4, IKBKE, IKBKG, IL10, IL1B, IL1R1, MAP2K6, MAPK11, MMP2, RHOV, SHC3 |
| Fatty acyl-CoA biosynthesis | 2.66 | 0.148 | 0 | ACSBG1, HACD4, SCD, SLC27A3 |
| Sleep REM Signaling Pathway | 2.66 | 0.0721 | 0 | CLCF1, CREB3L4, IL1B, IL36G, TGFB2, TNFSF10, TNFSF13, TNFSF15 |
| Regulation of the Epithelial Mesenchymal Transition by Growth Factors Pathway | 2.64 | 0.0573 | 1.265 | EGF, IKBKE, IKBKG, MAP2K6, MAPK11, MMP2, SHC3, TGFB2, TNFSF10, TNFSF13, TNFSF15 |
| Interleukin-10 Signaling | 2.64 | 0.111 | -2.236 | CCR5, CXCL10, IL10, IL1B, IL1R1 |
| Endothelin-1 Signaling | 2.6 | 0.0567 | 0.632 | ADCY6, CASP4, EDN1, GNAL, HMOX1, MAPK11, MYC, PRKCB, PRKCG, PTGER2, SHC3 |
| Cytosolic Sensors of Pathogen-associated DNA | 2.59 | 0.109 | 2.236 | IFI16, IKBKG, IRF7, TLR3, ZBP1 |
| Role of RIG1-like Receptors in Antiviral Innate Immunity | 2.59 | 0.109 | 1.342 | DHX58, IKBKE, IKBKG, IRF7, RIGI |
| G alpha (i) Signaling Events | 2.52 | 0.0504 | -0.277 | ADCY6, APLN, CCR3, CCR5, CNR2, CX3CR1, CXCL10, CXCL16, GPR183, P2RY12, RGS11, SSTR5, SUCNR1 |
| Ribonucleotide Reductase Signaling Pathway | 2.51 | 0.0585 | 2.53 | CREB3L4, MAPK11, MMP2, MYC, PARP10, PARP12, PARP14, PARP16, PARP9, THBS1 |
| Prolactin Signaling | 2.44 | 0.0737 | 0.816 | ABCC9, MYC, PRKCB, PRKCG, SOCS1, SOCS3, STAT1 |
| Erythropoietin Signaling Pathway | 2.42 | 0.0568 | -0.333 | CLCF1, IL1B, IL36G, PRKCB, PRKCG, SHC3, TGFB2, TNFSF10, TNFSF13, TNFSF15 |
| IL-1 Signaling | 2.42 | 0.0729 | 0 | ADCY6, GNAL, IKBKE, IKBKG, IL1R1, MAP2K6, MAPK11 |
| RAR Activation | 2.4 | 0.042 | 1.414 | ADCY6, CLCF1, CNGA3, CREB3L4, EGF, IL1B, IL36G, MAPK11, MMP2, PDE1B, PDE8B, RDH5, RHOV, SOCS3, TGFB2, TNFSF10, TNFSF13, TNFSF15 |
| Toll Like Receptor 3 (TLR3) Cascade | 2.38 | 0.125 | 2 | IKBKE, IKBKG, IRF7, TLR3 |

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| Role of Macrophages, Fibroblasts and Endothelial Cells in Rheumatoid Arthritis | 2.37 | 0.045 | 0.535 | CREB3L4, IKBKE, IKBKG, IL10, IL1B, IL1R1, IL36G, MAP2K6, MYC, PRKCB, PRKCG, SOCS1, SOCS3, TLR3, TLR8 |
| Serotonin Receptor Signaling | 2.34 | 0.0405 | 0.688 | ADCY6, CREB3L4, EDN1, FBP2, GNAL, HMOX1, IL1B, IL4I1, ITGA2B, MAP2K6, MAPK11, MMP2, MYC, MYL2, PRKCB, PRKCG, RHOV, SLC9A5, TGFB2 |
| Activin Inhibin Signaling Pathway | 2.32 | 0.0521 | 0.905 | IKBKE, IKBKG, IL1B, IL1R1, IL36G, MAP2K6, MAPK11, MMP2, TGFB2, TLR3, TLR8 |
| Gαs Signaling | 2.32 | 0.0635 | 0 | ADCY6, ADORA2B, CNGA3, CREB3L4, GNAL, PTGER2, VIPR1, VIPR2 |
| Cellular Effects of Sildenafil (Viagra) | 2.29 | 0.0363 | 1 | ADCY6, ADORA2B, CCR3, CCR5, CCRL2, CELSR3, CNGA3, CNR2, CREB3L4, CX3CR1, GPR146, GPR183, MAP2K6, MAPK11, MYL2, P2RY12, PTGER1, PTGER2, S1PR1, SSTR5, STAR, SUCNR1, TGFB2, VIPR1, VIPR2 |
| Interleukin-1 Family Signaling | 2.26 | 0.062 | 0.707 | IKBKG, IL18BP, IL1B, IL1R1, IL36G, MAP2K6, PTPN14, PTPN5 |
| VDR/RXR Activation | 2.25 | 0.0769 | 0 | CXCL10, HSD17B2, IGFBP5, PRKCB, PRKCG, TGFB2 |
| DDX58/IFIH1-mediated Induction of Interferon-alpha/beta | 2.22 | 0.0759 | 2.449 | IKBKE, IKBKG, IRF7, NLRC5, RIGI, UBA7 |
| S100 Family Signaling Pathway | 2.22 | 0.035 | -0.577 | ADORA2B, CCR3, CCR5, CCRL2, CELSR3, CNR2, CREB3L4, CX3CR1, EGF, GPR146, GPR183, IL1B, MAP2K6, MAPK11, MMP2, P2RY12, PLAT, PRKCB, PRKCG, PTGER1, PTGER2, S1PR1, SSTR5, SUCNR1, TGFB2, VIPR1, VIPR2 |
| IL-17A Signaling in Fibroblasts | 2.2 | 0.075 | 0.816 | IKBKE, IKBKG, IL1B, LCN2, MAPK11, PRKCB |
| BBSome Signaling Pathway | 2.16 | 0.0389 | -0.943 | ADORA2B, CBX8, CCR3, CCR5, CCRL2, CELSR3, CNR2, CX3CR1, GPR146, GPR183, MAPK11, P2RY12, PTGER1, PTGER2, S1PR1, SSTR5, SUCNR1, VIPR1, VIPR2 |
| PPARα/RXRα Activation | 2.13 | 0.0515 | -0.333 | ADCY6, HELZ2, IKBKE, IKBKG, IL1B, IL1R1, ITGB5, MAP2K6, PRKCB, TGFB2 |
| Integrin Cell Surface Interactions | 2.07 | 0.0706 | 0.816 | AGRN, COL23A1, ITGA2B, ITGA3, ITGB5, THBS1 |
| LPS-stimulated MAPK Signaling | 2.07 | 0.0706 | 0.447 | IKBKE, IKBKG, MAP2K6, MAPK11, PRKCB, PRKCG |
| Systemic Lupus Erythematosus in B Cell Signaling Pathway | 2.03 | 0.0346 | 0.816 | CD79B, CLCF1, IFIT2, IFIT3, Ighv1-58, IL10, IL1B, IL36G, INPP5J, IRF7, ISG20, LILRB4, MYC, PRKCB, PRKCG, RASGRP3, SHC3, STAT1, STAT2, TGFB2, TLR3, TLR8, TNFSF10, TNFSF13, TNFSF15 |
| CDX Gastrointestinal Cancer Signaling Pathway | 2.01 | 0.0495 | -0.632 | CLCF1, IKBKE, IKBKG, IL1B, IL36G, MAPK11, TGFB2, TNFSF10, TNFSF13, TNFSF15 |
| Ephrin Receptor Signaling | 2.01 | 0.0495 | 2.236 | CREB3L4, EGF, EPHB3, GNAL, ITGA2B, ITGA3, ITGB4, ITGB5, NCK2, SH2D3C |
| Xenobiotic Metabolism General Signaling Pathway | 2 | 0.0559 | 1.414 | GCLC, HMOX1, MAP2K6, MAP3K13, MAPK11, NQO1, PRKCB, PRKCG |
| IL-13 Signaling Pathway | 1.97 | 0.0603 | 1.134 | ARG1, IL10, MAPK11, SOCS1, SOCS3, STAT1, TGFB2 |

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| Immunogenic Cell Death Signaling Pathway | 1.96 | 0.0667 | 0.816 | CXCL10, DDIT3, GZMM, IL1B, PANX1, TLR3 |
| PAK Signaling | 1.96 | 0.0598 | 1 | EPHB3, ITGA2B, ITGA3, ITGB4, ITGB5, MYL2, NCK2 |
| Colorectal Cancer Metastasis Signaling | 1.94 | 0.0443 | 1.265 | ADCY6, EGF, GNAL, MMP2, MYC, PTGER1, PTGER2, RHOV, STAT1, TGFB2, TLR3, TLR8 |
| IL-8 Signaling | 1.9 | 0.0476 | 1.414 | GNAL, HMOX1, IKBKE, IKBKG, MMP2, MYL2, PRKCB, PRKCG, RAB11FIP2, RHOV |
| ERBB Signaling | 1.89 | 0.0645 | 0.447 | EGF, MAP2K6, MAPK11, NCK2, PRKCB, PRKCG |
| Th1 Pathway | 1.86 | 0.0574 | -0.378 | Aph1c, CCR5, IL10, MAP2K6, SOCS1, SOCS3, STAT1 |
| Role of JAK1 and JAK3 in γc Cytokine Signaling | 1.85 | 0.0725 | 2.236 | IL15RA, IL21R, SOCS1, SOCS3, STAT1 |
| Eicosanoid Signaling | 1.84 | 0.0429 | 0.577 | ABCC9, ADCY6, CREB3L4, GNAL, IL10, MAPK11, MMP2, MYC, PRKCB, PRKCG, PTGER1, PTGER2 |
| ERK/MAPK Signaling | 1.83 | 0.0465 | 0.378 | CREB3L4, ITGA2B, ITGA3, ITGB4, ITGB5, MKNK2, MYC, PRKCB, PRKCG, STAT1 |
| Docosahexaenoic Acid (DHA) Signaling | 1.8 | 0.044 | 1.508 | ADCY6, Aph1c, CREB3L4, EGF, HMOX1, IL1B, OSGIN1, PRKCB, PRKCG, SYT3, TGFB2 |
| ISG15 Antiviral Mechanism | 1.8 | 0.0704 | 2.236 | EIF2AK2, IFIT1, RIGI, STAT1, UBA7 |
| Growth Hormone Signaling | 1.8 | 0.0704 | 1.342 | PRKCB, PRKCG, SOCS1, SOCS3, STAT1 |
| FAK Signaling | 1.79 | 0.0309 | 0.707 | ADORA2B, CCR3, CCR5, CCRL2, CELSR3, CNR2, CX3CR1, EGF, GPR146, GPR183, IL15RA, IL1R1, IL21R, ITGA2B, ITGA3, ITGB4, ITGB5, MAPK11, MMP2, MYC, NCK2, P2RY12, PTGER1, PTGER2, S1PR1, SOCS1, SOCS3, SSTR5, SUCNR1, TGFB2, VIPR1, VIPR2 |
| RHOGDI Signaling | 1.77 | 0.0455 | -1.342 | ARHGEF4, CDH24, GNAL, GRIP1, ITGA2B, ITGA3, ITGB4, ITGB5, MYL2, RHOV |
| Apelin Cardiomyocyte Signaling Pathway | 1.77 | 0.0606 | 0 | APLN, MAPK11, MYL2, PRKCB, PRKCG, SLC9A5 |
| PFKFB4 Signaling Pathway | 1.73 | 0.0816 | 1 | CREB3L4, FBP2, MAP2K6, TGFB2 |
| Thrombin Signaling | 1.71 | 0.0444 | 0.816 | ADCY6, ARHGEF37, ARHGEF4, EGF, GNAL, MAPK11, MYL2, PRKCB, PRKCG, RHOV |
| Caveolar-mediated Endocytosis Signaling | 1.7 | 0.0667 | 0.447 | EGF, ITGA2B, ITGA3, ITGB4, ITGB5 |
| Response to Elevated Platelet Cytosolic Ca2+ | 1.69 | 0.053 | 1.134 | EGF, GTPBP2, ITGA2B, PRKCB, PRKCG, TGFB2, THBS1 |
| HGF Signaling | 1.69 | 0.053 | 1 | ITGA2B, ITGA3, ITGB4, ITGB5, MAP3K13, PRKCB, PRKCG |
| P2Y Purinergic Receptor Signaling Pathway | 1.68 | 0.0526 | 0.816 | ADCY6, CREB3L4, ITGA2B, MYC, P2RY12, PRKCB, PRKCG |
| Role of MAPK Signaling in Inhibiting the Pathogenesis of Influenza | 1.62 | 0.0633 | -0.447 | CXCL10, EIF2AK2, IL1B, MAP2K6, MAPK11 |
| Reelin Signaling in Neurons | 1.6 | 0.0507 | 1.633 | ARHGEF37, ARHGEF4, CNR2, ITGA3, LRP8, MAP2K6, MAPK8IP3 |

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| Protein Kinase A Signaling | 1.6 | 0.0365 | 1.155 | ADCY6, CNGA3, CREB3L4, EPM2A, MYL2, PDE1B, PDE8B, PRKCB, PRKCG, PTPN14, PTPN5, PTPRF, Ptprv, SFN, TGFB2 |
| Gαq Signaling | 1.59 | 0.0471 | 1.633 | EPM2A, GNAL, HMOX1, IKBKE, IKBKG, PRKCB, PRKCG, RHOV |
| Chemokine Signaling | 1.58 | 0.0617 | -2 | CCR3, CCR5, MAPK11, MYL2, PRKCB |
| JAK/STAT Signaling | 1.56 | 0.061 | 2.236 | CISH, SOCS1, SOCS3, STAT1, STAT2 |
| O-linked Glycosylation | 1.55 | 0.0541 | -0.816 | ADAMTS6, B3GNT6, GALNT3, SEMA5B, ST6GAL1, THBS1 |
| Role of Tissue Factor in Cancer | 1.53 | 0.0435 | 1.667 | EGF, IKBKE, IKBKG, IL1B, ITGA3, MAP2K6, MAPK11, MMP2, TGFB2 |
| TNF Signaling | 1.52 | 0.0702 | 0 | IKBKE, IKBKG, OTUD1, SMPD3 |
| CD27 Signaling in Lymphocytes | 1.52 | 0.0702 | 1 | IKBKE, IKBKG, MAP2K6, MAP3K13 |
| HIF1α Signaling | 1.51 | 0.0431 | 0.333 | EDN1, EGF, HMOX1, MAP2K6, MKNK2, MMP2, PRKCB, PRKCG, TGFB2 |
| Role of Osteoblasts in Rheumatoid Arthritis Signaling Pathway | 1.5 | 0.041 | 1.265 | CLCF1, IL1B, IL36G, MMP2, STAT1, STAT2, TGFB2, TNFSF10, TNFSF13, TNFSF15 |
| G alpha (s) Signaling Events | 1.5 | 0.0483 | 0.378 | ADCY6, ADORA2B, PDE1B, PDE8B, PTGER2, VIPR1, VIPR2 |
| Signaling by PDGF | 1.49 | 0.069 | 0 | NCK2, PLAT, STAT1, THBS1 |
| Iron uptake and Transport | 1.49 | 0.069 | 1 | ATP6V0D2, HMOX1, LCN2, SLC40A1 |
| Oxidative Stress Induced Senescence | 1.48 | 0.0581 | 1 | CBX4, CBX8, MAP2K6, MAPK11, mir-24 (includes others) |
| Tumor Microenvironment Pathway | 1.47 | 0.0447 | -0.707 | ARG1, EGF, IDO2, IL10, IL1B, MMP2, MYC, TGFB2 |
| PDGF Signaling | 1.46 | 0.0575 | -0.447 | EIF2AK2, INPP5J, MYC, PRKCB, STAT1 |
| CLEAR Signaling Pathway | 1.44 | 0.0386 | -0.302 | ATP6V0D2, CREB3L4, EGF, MAPK11, PRKCB, PRKCG, SFN, SGSH, TGFB2, TLR3, TLR8 |
| Semaphorin Neuronal Repulsive Signaling Pathway | 1.43 | 0.0467 | 0 | ITGA2B, ITGA3, ITGB4, ITGB5, MAP2K6, MYL2, SEMA4D |
| Cholecystokinin/Gastrin-mediated Signaling | 1.42 | 0.0504 | 0 | IL1B, IL36G, MAP2K6, PRKCB, PRKCG, RHOV |
| NAD Signaling Pathway | 1.42 | 0.0464 | 2.646 | EGF, PARP10, PARP12, PARP14, PARP16, PARP9, TGFB2 |
| PTEN Signaling | 1.42 | 0.0464 | -2 | IKBKE, IKBKG, INPP5J, ITGA2B, ITGA3, ITGB4, ITGB5 |
| NGF Signaling | 1.41 | 0.05 | 1.342 | CREB3L4, IKBKE, IKBKG, MAP3K13, SHC3, SMPD3 |
| Corticotropin Releasing Hormone Signaling | 1.4 | 0.0461 | 0.816 | ADCY6, CREB3L4, Gucy2g, MAPK11, NR4A1, PRKCB, PRKCG |
| Glutaminergic Receptor Signaling Pathway (Enhanced) | 1.4 | 0.0369 | 2.309 | ADCY6, CREB3L4, DGKI, GNAL, HMOX1, IKBKE, IKBKG, KCNK10, MAPK11, PRKCB, PRKCG, TGFB2 |
| IL-33 Signaling Pathway | 1.4 | 0.0432 | 1.414 | CASP4, CREB3L4, IKBKE, IKBKG, IL1B, IL36G, MAPK11, MMP2 |
| RANK Signaling in Osteoclasts | 1.39 | 0.0549 | 1 | IKBKE, IKBKG, MAP2K6, MAP3K13, MAPK11 |
| Myelination Signaling Pathway | 1.39 | 0.0367 | -0.577 | ADAM22, Aph1c, CREB3L4, EGR2, HDAC9, ITGA3, ITGB4, ITGB5, LAMA5, PLP1, SCD, XAF1 |
| Thrombopoietin Signaling | 1.38 | 0.0635 | 0 | MYC, PRKCB, PRKCG, STAT1 |

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| Necroptosis Signaling Pathway | 1.37 | 0.0452 | 2.646 | EIF2AK2, IKBKG, STAT1, STAT2, TLR3, TNFSF10, ZBP1 |
| GNRH Signaling | 1.34 | 0.0419 | 1.134 | ADCY6, CREB3L4, MAP2K6, MAP3K13, MAPK11, MMP2, PRKCB, PRKCG |
| Production of Nitric Oxide and Reactive Oxygen Species in Macrophages | 1.34 | 0.0419 | 1.89 | IKBKE, IKBKG, MAP3K13, MAPK11, PRKCB, PRKCG, RHOV, STAT1 |
| HER-2 Signaling in Breast Cancer | 1.32 | 0.0396 | 0.333 | EGF, IKBKE, IKBKG, ITGB4, ITGB5, MMP2, MYC, PRKCB, PRKCG |
| GP6 Signaling Pathway | 1.31 | 0.0472 | 0.816 | COL15A1, COL23A1, ITGA2B, LAMA5, PRKCB, PRKCG |
| Endocannabinoid Developing Neuron Pathway | 1.31 | 0.0472 | 0.447 | ADCY6, CNR2, CREB3L4, GNAL, MAP2K6, MAPK11 |
| Acetylcholine Receptor Signaling Pathway | 1.3 | 0.0412 | 1.414 | ADCY6, Aph1c, CASP4, CREB3L4, GNAL, HMOX1, PRKCB, PRKCG |
| Pulmonary Healing Signaling Pathway | 1.25 | 0.0402 | 0 | EGF, MAPK11, MMP2, MYC, PRKCB, PRKCG, TGFB2, THBS1 |
| Adrenomedullin Signaling Pathway | 1.25 | 0.0402 | 0.378 | ADCY6, Gucy2g, IL1B, IL36G, MAP2K6, MAPK11, MMP2, SHC3 |
| Osteoarthritis Pathway | 1.23 | 0.0381 | -0.816 | CASP4, CCN4, CREB3L4, IL1B, IL1R1, ITGA2B, ITGA3, ITGB4, ITGB5 |
| ILK Signaling | 1.23 | 0.0398 | -0.707 | CREB3L4, ITGB4, ITGB5, MAP2K6, MYC, MYL2, NCK2, RHOV |
| NRF2-mediated Oxidative Stress Response | 1.23 | 0.038 | 1.134 | AOX1, CYP2S1, GCLC, GCLM, HMOX1, MAP2K6, NQO1, PRKCB, PRKCG |
| Th2 Pathway | 1.18 | 0.0438 | -0.816 | Aph1c, CCR3, CCR5, IL10, S1PR1, SOCS3 |
| ERK5 Signaling | 1.17 | 0.0541 | 1 | CREB3L4, EGF, MYC, SFN |
| Gαi Signaling | 1.14 | 0.0429 | -1 | ADCY6, CNR2, GNAL, P2RY12, S1PR1, SHC3 |
| PPAR Signaling | 1.14 | 0.0467 | -0.447 | IKBKE, IKBKG, IL1B, IL1R1, IL36G |
| Pancreatic Secretion Signaling Pathway | 1.13 | 0.0363 | 0.333 | ADCY6, ADORA2B, ARHGEF4, EGF, PRKCB, PRKCG, RASGRP3, VIPR1, VIPR2 |
| Neutrophil Extracellular Trap Signaling Pathway | 1.13 | 0.0325 | 0.277 | CASP4, CCR5, COL15A1, COL23A1, IL10, IL1B, ITGA3, MAP2K6, MAPK11, MMP2, PRKCB, PRKCG, TLR8 |
| Pulmonary Fibrosis Idiopathic Signaling Pathway | 1.1 | 0.0337 | -0.302 | CCN4, COL15A1, COL23A1, EDN1, EPHB3, IL1B, MAP2K6, MAPK11, MMP2, TGFB2, THBS1 |
| Sleep NREM Signaling Pathway | 1.04 | 0.0435 | -1.342 | ADCY6, ADORA2B, CREB3L4, MAP2K6, SFN |
| Role of NFAT in Cardiac Hypertrophy | 1.02 | 0.0357 | 0.447 | ADCY6, HDAC9, MAP2K6, MAPK11, PRKCB, PRKCG, SHC3, TGFB2 |
| Fc Epsilon RI Signaling | 1 | 0.0424 | 0 | INPP5J, MAP2K6, MAPK11, PRKCB, PRKCG |
| Factors Promoting Cardiogenesis in Vertebrates | 1 | 0.0392 | 0 | CREB3L4, MYC, MYL2, PRKCB, PRKCG, TGFB2 |
| Sphingosine-1-phosphate Signaling | 0.981 | 0.0417 | -1.342 | ADCY6, CASP4, RHOV, S1PR1, SMPD3 |
| Signaling by Rho Family GTPases | 0.979 | 0.0337 | 1.342 | ARHGEF4, CDH24, GNAL, ITGA2B, ITGA3, ITGB4, ITGB5, MYL2, RHOV |

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| LXR/RXR Activation | 0.948 | 0.0407 | 0 | IL1B, IL1R1, IL36G, SCD, TLR3 |
| Opioid Signaling | 0.932 | 0.0444 | 2 | ADCY6, GNAL, PDE1B, PRKCG |
| Sertoli Cell-Germ Cell Junction Signaling Pathway (Enhanced) | 0.925 | 0.0339 | 0.707 | IL1R1, ITGA3, LAMA5, MAP2K6, MAP3K13, MAPK11, MMP2, TGFB2 |
| Insulin Secretion Signaling Pathway | 0.921 | 0.0327 | 1.667 | ABCC9, ADCY6, CREB3L4, MAFA, MAPK11, PRKCB, PRKCG, STAT1, STAT2 |
| Opioid Signaling Pathway | 0.887 | 0.0321 | -0.333 | ADCY6, CREB3L4, GNAL, MAP2K6, MYC, PDE1B, PRKCB, PRKCG, RGS11 |
| EPH-Ephrin Signaling | 0.882 | 0.0426 | 1 | Aph1c, EPHB3, MMP2, NCK2 |
| Fcγ Receptor-mediated Phagocytosis in Macrophages and Monocytes | 0.882 | 0.0426 | 1 | HMOX1, NCK2, PRKCB, PRKCG |
| Oxytocin Signaling Pathway | 0.874 | 0.0319 | 1 | ABCC9, CREB3L4, GNAL, Gucy2g, MAPK11, MYL2, PRKCB, PRKCG, SHC3 |
| Sertoli Cell-Sertoli Cell Junction Signaling | 0.873 | 0.0329 | 0.707 | CDH24, CGN, CREB3L4, IL1R1, ITGA3, LAMA5, MAP3K13, MAPK11 |
| CXCR4 Signaling | 0.863 | 0.0357 | -0.447 | ADCY6, GNAL, MYL2, PRKCB, PRKCG, RHOV |
| Gap Junction Signaling | 0.854 | 0.0308 | 0 | ADCY6, CREB3L4, EGF, Gucy2g, IL1B, MYC, P2RY12, PRKCB, PRKCG, PTGER2 |
| Salvage Pathways of Pyrimidine Ribonucleotides | 0.846 | 0.0412 | 0 | CMPK2, EIF2AK2, MAP2K6, UPP2 |
| Estrogen Receptor Signaling | 0.838 | 0.0293 | 1.155 | ADCY6, CREB3L4, EGF, FOXA1, GNAL, MDK, MMP2, MYC, MYL2, PRKCB, PRKCG, SHC3 |
| Integrin Signaling | 0.817 | 0.033 | 0.378 | ITGA2B, ITGA3, ITGB4, ITGB5, MYL2, NCK2, RHOV |
| p75 NTR Receptor-mediated Signaling | 0.813 | 0.04 | 1 | Aph1c, ARHGEF37, ARHGEF4, MCF2L |
| ABC-family Proteins Mediated Transport | 0.802 | 0.0396 | -1 | ABCA6, ABCA8, ABCC9, ABCD2 |
| Ephrin A Signaling | 0.789 | 0.036 | -1.342 | Aph1c, EGF, MYL2, NCK2, TGFB2 |
| Role of Chondrocytes in Rheumatoid Arthritis Signaling Pathway | 0.771 | 0.0355 | 0.447 | IL1B, IL1R1, IL36G, MAPK11, MMP2 |
| Apelin Endothelial Signaling Pathway | 0.771 | 0.0355 | -0.447 | ADCY6, APLN, GNAL, PRKCB, PRKCG |
| Cardiac Hypertrophy Signaling | 0.754 | 0.0307 | 0.816 | ADCY6, GNAL, MAP2K6, MAP3K13, MAPK11, MYL2, RHOV, TGFB2 |
| MicroRNA Biogenesis Signaling Pathway | 0.714 | 0.0321 | 0.816 | ADAR, EGF, HMOX1, MAPK11, MYC, TGFB2 |
| Dilated Cardiomyopathy Signaling Pathway | 0.696 | 0.0333 | 1.342 | ABCC9, ADCY6, MAPK11, MYL2, RBM20 |
| Leukocyte Extravasation Signaling | 0.673 | 0.0311 | 1.342 | ITGA3, MAPK11, MMP2, PRKCB, PRKCG, TIMP2 |

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| 3-phosphoinositide Degradation | 0.666 | 0.0309 | -2.236 | DUSP14, INPP5J, PALD1, PANK4, PTPRF, SOCS3 |
| Superpathway of Inositol Phosphate Compounds | 0.653 | 0.0295 | -1.633 | DUSP14, INPP5J, IP6K3, PALD1, PANK4, PTPRF, SOCS3 |
| Orexin Signaling Pathway | 0.647 | 0.0294 | 1.134 | ADCY6, ATP6V0D2, IL1B, MAPK11, PRKCB, PRKCG, STAR |
| Virus Entry via Endocytic Pathways | 0.64 | 0.0339 | -1 | ITGB4, ITGB5, PRKCB, PRKCG |
| Oxytocin in Brain Signaling Pathway | 0.634 | 0.0302 | 0.816 | CREB3L4, DDIT3, GNAL, IL1B, PRKCB, PRKCG |
| ID1 Signaling Pathway | 0.621 | 0.0299 | 0 | BHLHE41, EGF, MAPK11, MMP2, MYC, TGFB2 |
| Inhibition of ARE-Mediated mRNA Degradation Pathway | 0.602 | 0.0307 | 0.447 | MAPK11, SFN, TNFSF10, TNFSF13, TNFSF15 |
| Regulation of Insulin-like Growth Factor (IGF) transport and uptake by IGFBPs | 0.591 | 0.0323 | 0 | FAM20A, IGFBP5, MMP2, STC2 |
| L1CAM interactions | 0.584 | 0.032 | 1 | DLG3, ITGA2B, LAMA5, NRCAM |
| Senescence Pathway | 0.55 | 0.0268 | 0.707 | CBX8, GADD45G, IKBKE, IKBKG, MAP2K6, Saa3, TGFB2, YPEL3 |
| Neutrophil degranulation | 0.545 | 0.0252 | -0.577 | ARG1, CEACAM1, CRISPLD2, HP, LCN2, OLR1, PTX3, SERPINB12, SIRPB1, SLPI, TARM1, TIMP2 |
| Gα12/13 Signaling | 0.526 | 0.0301 | 0 | CDH24, IKBKE, IKBKG, MYL2 |
| Autism Signaling Pathway | 0.511 | 0.026 | 0.707 | CLCF1, IL1B, IL36G, MTHFR, TGFB2, TNFSF10, TNFSF13, TNFSF15 |
| Hereditary Breast Cancer Signaling | 0.494 | 0.029 | 0 | EGF, GADD45G, SFN, TGFB2 |
| D-myo-inositol (1, 4, 5, 6)-Tetrakisphosphate Biosynthesis | 0.481 | 0.0273 | -2 | DUSP14, PALD1, PANK4, PTPRF, SOCS3 |
| D-myo-inositol (3, 4, 5, 6)-tetrakisphosphate Biosynthesis | 0.481 | 0.0273 | -2 | DUSP14, PALD1, PANK4, PTPRF, SOCS3 |
| Synaptogenesis Signaling Pathway | 0.481 | 0.0254 | 1.414 | ADCY6, CDH24, CREB3L4, EPHB3, LRP8, SHC3, SYT3, THBS1 |
| MSP-RON Signaling in Cancer Cells Pathway | 0.481 | 0.0286 | 1 | CREB3L4, ITGB4, MYC, SFN |
| Chronic Myeloid Leukemia Signaling | 0.45 | 0.0252 | 0.378 | ADAR, HDAC9, IKBKE, IKBKG, MYC, TGFB2, TNFSF10 |
| WNT/SHH Axonal Guidance Signaling Pathway | 0.429 | 0.0268 | 1 | ADCY6, CELSR3, SEMA3C, SFN |
| Huntington's Disease Signaling | 0.426 | 0.0246 | 0 | CASP4, CREB3L4, EGF, HDAC9, PRKCB, PRKCG, SHC3 |
| Transcriptional regulation by RUNX1 | 0.413 | 0.0263 | 0 | CBX4, CBX8, PRKCB, SOCS3 |
| D-myo-inositol-5-phosphate Metabolism | 0.403 | 0.0251 | -2 | DUSP14, PALD1, PANK4, PTPRF, SOCS3 |
| Human Embryonic Stem Cell Pluripotency | 0.394 | 0.0249 | -0.447 | MAP2K6, MYC, PRKCB, PRKCG, TGFB2 |
| Gustation Pathway | 0.385 | 0.0246 | 0.447 | ABCC9, ADCY6, P2RX6, P2RY12, PANX1 |

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| Histone Modification Signaling Pathway | 0.385 | 0.0237 | 1.134 | CBX4, DNMT3L, MMP2, MYC, PRDM9, PRKCB, SFN |
| Epithelial Adherens Junction Signaling | 0.382 | 0.0253 | 0 | EGF, NANOS1, SFN, TGFB2 |
| HEY1 Signaling Pathway | 0.368 | 0.0248 | 0 | Aph1c, ITGA2B, MMP2, TGFB2 |
| 3-Phosphoinositide Biosynthesis | 0.36 | 0.0239 | -2 | DUSP14, PALD1, PANK4, PTPRF, SOCS3 |
| Cell surface interactions at the vascular wall | 0.352 | 0.0237 | -0.447 | CD2, CEACAM1, ITGA3, OLR1, PROCR |
| RAF/MAP kinase cascade | 0.337 | 0.0229 | 0.816 | DLG3, EGF, ITGA2B, KSR2, RASGRP3, SHC3 |
| Deubiquitination | 0.334 | 0.0228 | 0.816 | H2AC1, IKBKG, MYC, RIGI, USP11, USP18 |
| Autophagy | 0.329 | 0.023 | 0.447 | CREB3L4, DDIT3, EGF, MYC, TGFB2 |
| Signaling by the B Cell Receptor (BCR) | 0.328 | 0.0235 | -1 | CD79B, IKBKG, PRKCB, RASGRP3 |
| Nuclear Cytoskeleton Signaling Pathway | 0.318 | 0.0227 | 0.447 | CDH24, ITGA2B, ITGA3, ITGB4, ITGB5 |
| Netrin Signaling | 0.316 | 0.0231 | 0 | ADORA2B, NCK2, PRKCB, PRKCG |
| Protein Sorting Signaling Pathway | 0.296 | 0.0225 | 2 | ADCY6, HMOX1, SEC31B, SNX32 |
| Class I MHC Mediated Antigen Processing and Presentation | 0.287 | 0.0213 | 0.707 | ASB4, HERC6, IKBKG, RNF213, SOCS1, SOCS3, TAP1, UBA7 |
| Ion Channel Transport | 0.278 | 0.0219 | 1 | ATP6V0D2, CLCN1, MCOLN2, TRPM3 |
| Generic Transcription Pathway | 0.276 | 0.021 | -0.333 | HDAC9, NR4A1, ZNF112, ZNF205, ZNF442, ZNF558, ZNF605, ZNF667, ZNF703 |
| Dopamine-DARPP32 Feedback in cAMP Signaling | 0.268 | 0.0215 | 1 | ADCY6, CREB3L4, PRKCB, PRKCG |
| Synaptic Long Term Depression | 0 | 0.0202 | 1 | GNAL, Gucy2g, PRKCB, PRKCG |
| Chaperone Mediated Autophagy Signaling Pathway | 0 | 0.00787 | 0.447 | ATP6V0D2, IL1B, MAPK11, MMP2, MYC |
| NFKBIE Signaling Pathway | 0 | 0.0111 | 0.447 | IKBKE, IKBKG, TNFSF10, TNFSF13, TNFSF15 |
| RHO GTPase Cycle | 0 | 0.02 | 1.667 | ARHGAP24, ARHGEF4, BAIAP2L1, MCF2L, NCK2, PKN3, RHOV, RHPN2, ZNF512B |
| Role of NFAT in Regulation of the Immune Response | 0 | 0.00484 | 1 | CD79B, GNAL, Ighv1-58, IKBKE, IKBKG |
| CTLA4 Signaling in Cytotoxic T Lymphocytes | 0 | 0.0132 | -0.707 | H2-K2/H2-Q9, H2-M2, H2-T24, HMOX1, IDO2, ITGA3, MAPK11, TGFB2 |
| Dendritic Cell Maturation | 0 | 0.0185 | 0.905 | CD83, CREB3L4, IKBKE, IKBKG, IL10, IL1B, IL36G, MAPK11, STAT1, STAT2, TLR3 |
| Type I Diabetes Mellitus Signaling | 0 | 0.0177 | 0.707 | IKBKE, IKBKG, IL1B, IL1R1, MAP2K6, MAPK11, SOCS1, SOCS3, STAT1 |
| mTOR Signaling | 0 | 0.0187 | 1 | HMOX1, PRKCB, PRKCG, RHOV |
| Communication between Innate and Adaptive Immune Cells | 0 | 0.0107 | -1.265 | CD79B, CD83, CXCL10, Ighv1-58, IL10, IL1B, IL36G, TLR3, TLR8, TNFSF13 |

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| Phospholipase C Signaling | 0 | 0.0134 | 0.333 | ADCY6, ARHGEF4, CD79B, CREB3L4, HDAC9, HMOX1, Ighv1-58, ITGA2B, ITGA3, ITGB4, ITGB5, MYL2, PRKCB, PRKCG, RHOV |
| NUR77 Signaling in T Lymphocytes | 0 | 0.0156 | 0.447 | H2-K2/H2-Q9, H2-M2, H2-T24, HDAC9, NR4A1, PRKCB, PRKCG, TNFSF10 |
| TEC Kinase Signaling | 0 | 0.019 | 1.633 | GNAL, ITGA2B, ITGA3, ITGB4, ITGB5, PRKCB, PRKCG, RHOV, STAT1, STAT2, TNFSF10 |
| IL-4 Signaling | 0 | 0.0121 | 1.134 | ARG1, COL15A1, COL23A1, CREB3L4, MAPK11, SOCS1, TGFB2 |
| B Cell Receptor Signaling | 0 | 0.0158 | 0.707 | CD79B, CREB3L4, Ighv1-58, IKBKE, IKBKG, INPP5J, MAP2K6, MAP3K13, MAPK11, PRKCB |
| NF-κB Signaling | 0 | 0.0175 | 0 | EGF, EIF2AK2, IKBKG, IL1B, IL1R1, IL36G, MAP2K6, PRKCB, TLR3, TLR8 |
| T Cell Receptor Signaling | 0 | 0.0146 | 1.667 | H2-K2/H2-Q9, H2-M2, H2-T24, IKBKE, IKBKG, ITGA3, MAP2K6, MAPK11, SHC3 |
| Th17 Activation Pathway | 0 | 0.0124 | 0 | IL10, IL1B, IL1R1, IL21R, PTGER2, SOCS3 |
| Systemic Lupus Erythematosus in T Cell Signaling Pathway | 0 | 0.0124 | 0.707 | CASP4, CREB3L4, H2-K2/H2-Q9, H2-M2, H2-T24, IL10, MAP2K6, RHOV |
| Xenobiotic Metabolism CAR Signaling Pathway | 0 | 0.0206 | 1 | GRIP1, MAP2K6, PRKCB, PRKCG |
| Xenobiotic Metabolism PXR Signaling Pathway | 0 | 0.0205 | 1 | GRIP1, IL4I1, PRKCB, PRKCG |