

MicroRNA-26b-5p Inhibits Mouse Liver Fibrogenesis and Angiogenesis by Targeting PDGF Receptor-beta

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Supplementary table 3. KEGG and Reactome pathways in TGF- β 1-treated BMSCs with or without miR-26b-5p mimics

Term	Database	ID	P-Value	Corrected P-Value	input_gene
Cytokine-cytokine receptor interaction	KEGG PATHWAY	mmu04060	8.663E-17	6.073E-14	Pbbp, 57349:down Cc12, 20296:up Cc117, 20295:down Cc112, 20293:up Figf, 14205:up Cxc112, 20315:up Tnf, 21926:up Cxc r6, 80901:down Kit1, 17311:up Pdgfc, 54635:down Tnfrsf11b, 18383:up Inhba, 16323:down Tnfsf9, 21950:up Cxc114, 57266:down Vegfb, 22340:up Egfr, 13649:down Cc19, 20308:up Cc16, 20305:up Cc17, 20306:up Cc18, 20307:up Cc13, 20302:up Cc14, 20303:up Tnfrsf12a, 27279:down Cxc19, 17329:up Bmpr1a, 12166:down Vegfa, 22339:down Tgfb2, 21808:down Tgfb3, 21809:down Cx3cr1, 13051:down
Extracellular matrix organization	Reactome	R-MMU-1474244	1.622E-14	5.684E-12	Ibsp, 15891:up P4ha1, 18451:down Col5a2, 12832:down Col5a1, 12831:down Col12a1, 12816:down Efemp1, 216616:up Col10a1, 12813:up Col3a1, 12825:down Plod2, 26432:down Mmp13, 17386:up Itgall, 319480:down Serpinh1, 12406:down T111, 21892:down Bmp4, 12159:up Vcan, 13003:down Col1a2, 12843:down Lama2, 16773:down Klk1b11, 16613:up Mmp2, 17390:down Ceacam1, 26365:up Col11a1, 12814:down Col8a1, 12837:down Tnc, 21923:down Adamts4, 240913:down Tgfb2, 21808:down Tgfb3, 21809:down
Collagen biosynthesis and modifying enzymes	Reactome	R-MMU-1650814	2.884E-10	6.740E-08	Col11a1, 12814:down P4ha1, 18451:down Serpinh1, 12406:down T111, 21892:down Col5a2, 12832:down Col5a1, 12831:down Col12a1, 12816:down Col8a1, 12837:down Col10a1, 12813:up Col1a2, 12843:down Col3a1, 12825:down Plod2, 26432:down
Collagen formation	Reactome	R-MMU-1474290	1.119E-09	1.961E-07	Col11a1, 12814:down P4ha1, 18451:down Serpinh1, 12406:down T111, 21892:down Col5a2, 12832:down Col5a1, 12831:down Col12a1, 12816:down Col8a1, 12837:down Col10a1, 12813:up Col1a2, 12843:down Col3a1, 12825:down Plod2, 26432:down Mmp13, 17386:up
Platelet degranulation	Reactome	R-MMU-114608	1.746E-09	2.246E-07	Igf2, 16002:up Pbbp, 57349:down Islr, 26968:up Kng1, 16644:up Kng2, 385643:up Vegfb, 22340:up Serping1, 12258:up Cd109, 235505:down Gas6, 14456:up Igf1, 16000:up Trf, 22041:up Vegfa, 22339:down Tgfb2, 21808:down Tgfb3, 21809:down Figf, 14205:up
Osteoclast differentiation	KEGG PATHWAY	mmu04380	1.922E-09	2.246E-07	Gm15448, 100041146:up Pira11, 18724:up Sirpb1a, 320832:down Lilra6, 18726:up Pira7, 18730:up Pira1, 18722:up Pira4, 18727:up Pira6, 18729:up Pparg, 19016:up Pira2, 18725:up Tnf, 21926:up Sirpb1b, 668101:down Tgfb2, 21808:down Gm14548, 100038909:up Tnfrsf11b, 18383:up
Response to elevated platelet cytosolic Ca ²⁺	Reactome	R-MMU-76005	2.800E-09	2.804E-07	Igf2, 16002:up Pbbp, 57349:down Islr, 26968:up Kng1, 16644:up Kng2, 385643:up Vegfb, 22340:up Serping1, 12258:up Cd109, 235505:down Gas6, 14456:up Igf1, 16000:up Trf, 22041:up Vegfa, 22339:down Tgfb2, 21808:down Tgfb3, 21809:down Figf, 14205:up
Peptide ligand-binding receptors	Reactome	R-MMU-375276	2.241E-08	1.821E-06	Cc117, 20295:down Cc19, 20308:up Cxc112, 20315:up Cc16, 20305:up Cc17, 20306:up Kng1, 16644:up Kng2, 385643:up Cc13, 20302:up Cc14, 20303:up Cxc19, 17329:up Pbbp, 57349:down Cc12, 20296:up Ednrb, 13618:up Cx3cr1, 13051:down C3, 12266:up Cxcr6, 80901:down
Chemokine receptors bind chemokines	Reactome	R-MMU-380108	2.338E-08	1.821E-06	Cc117, 20295:down Cxc112, 20315:up Cc17, 20306:up Cc13, 20302:up Cc14, 20303:up Cxc19, 17329:up Pbbp, 57349:down Cc12, 20296:up Cx3cr1, 13051:down Cxcr6, 80901:down
Degradation of the extracellular matrix	Reactome	R-MMU-1474228	4.638E-08	3.251E-06	Col11a1, 12814:down T111, 21892:down Col5a2, 12832:down Col5a1, 12831:down Col12a1, 12816:down Col8a1, 12837:down Adamts4, 240913:down Col10a1, 12813:up Mmp2, 17390:down Klk1b11, 16613:up Col3a1, 12825:down Col1a2, 12843:down Mmp13, 17386:up
AGE-RAGE signaling pathway in diabetic complications	KEGG PATHWAY	mmu04933	6.176E-08	3.936E-06	Mmp2, 17390:down F3, 14066:up Cc12, 20296:up Vegfb, 22340:up Tnf, 21926:up Vegfa, 22339:down Col3a1, 12825:down Tgfb2, 21808:down Tgfb3, 21809:down Col1a2, 12843:down Cc112, 20293:up Figf, 14205:up

Class A/1 (Rhodopsin-like receptors)	Reactome	R-MMU- 373076	7. 826E-08	4. 572E-06	Ednrb, 13618:up Cc117, 20295:down Cc19, 20308:up Cxc112, 20315:up Cc14, 20303:up Cc16, 20305:up Cc17, 20306:up Kng1, 16644:up Kng2, 385643:up Cc13, 20302:up Cxc6, 80901:down Cxc19, 17329:up Pbbp, 57349:down Ptgir, 19222:up Cc12, 20296:up C3, 12266:up Cx3cr1, 13051:down Htr2b, 15559:down Htr2a, 15558:down
Collagen degradation	Reactome	R-MMU- 1442490	9. 361E-08	5. 048E-06	Col11a1, 12814:down Col5a2, 12832:down Col5a1, 12831:down Col12a1, 12816:down Col8a1, 12837:down Col10a1, 12813:up Mmp2, 17390:down Col3a1, 12825:down Col1a2, 12843:down Mmp13, 17386:up
Hemostasis	Reactome	R-MMU- 109582	1. 984E-07	9. 387E-06	Pbbp, 57349:down Islr, 26968:up Prkar2b, 19088:up Kng1, 16644:up Gas6, 14456:up Figf, 14205:up Sirpb1a, 320832:down Dok2, 13449:up Plat, 18791:down Serping1, 12258:up Igf2, 16002:up Igf1, 16000:up Serpine2, 20720:up Kng2, 385643:up Vegfb, 22340:up Sirpb1b, 668101:down Trf, 22041:up Col1a2, 12843:down Ceacam1, 26365:up Cd109, 235505:down Ptgir, 19222:up Vegfa, 22339:down Tgfb2, 21808:down Tgfb3, 21809:down
Assembly of collagen fibrils and other multimeric structures	Reactome	R-MMU- 2022090	2. 009E-07	9. 387E-06	Col11a1, 12814:down T111, 21892:down Col5a2, 12832:down Col5a1, 12831:down Col8a1, 12837:down Col10a1, 12813:up Col1a2, 12843:down Col3a1, 12825:down Mmp13, 17386:up
Chemokine signaling pathway	KEGG PATHWAY	mmu04062	2. 257E-07	9. 887E-06	Cc18, 20307:up Cc117, 20295:down Cc19, 20308:up Cxc112, 20315:up Cc14, 20303:up Cc16, 20305:up Cc17, 20306:up Cxc114, 57266:down Cc13, 20302:up Cxc6, 80901:down Cxc19, 17329:up Pbbp, 57349:down Cc12, 20296:up Cx3cr1, 13051:down Cxc112, 20293:up
GPCR ligand binding	Reactome	R-MMU- 500792	2. 907E-07	1. 199E-05	Ednrb, 13618:up Cc13, 20302:up Glp1r, 14652:down Cc19, 20308:up Cxc112, 20315:up Cc14, 20303:up Cc16, 20305:up Cc17, 20306:up Kng1, 16644:up Kng2, 385643:up Adm, 11535:up Cxc6, 80901:down Cxc19, 17329:up Pbbp, 57349:down Ptgir, 19222:up Cc117, 20295:down Cc12, 20296:up C3, 12266:up Cx3cr1, 13051:down Htr2b, 15559:down Htr2a, 15558:down
Regulation of Insulin-like Growth Factor (IGF) transport and uptake by Insulin-like Growth Factor Binding Proteins (IGFBPs)	Reactome	R-MMU- 381426	5. 303E-07	2. 065E-05	Pappa, 18491:down Igf2, 16002:up Igfbp4, 16010:up Igf1, 16000:up Klk1b11, 16613:up Mmp2, 17390:down Igfbp3, 16009:up
Mineral absorption	KEGG PATHWAY	mmu04978	6. 255E-07	2. 308E-05	Hmox1, 15368:up Fxyd2, 11936:up Steap1, 70358:down Mt1, 17748:up Trf, 22041:up Slc40a1, 53945:up Vdr, 22337:down Mt2, 17750:up
Platelet activation, signaling and aggregation	Reactome	R-MMU- 76002	1. 193E-06	4. 182E-05	Igf2, 16002:up Pbbp, 57349:down Islr, 26968:up Kng1, 16644:up Kng2, 385643:up Vegfb, 22340:up Serping1, 12258:up Cd109, 235505:down Gas6, 14456:up Igf1, 16000:up Trf, 22041:up Vegfa, 22339:down Col1a2, 12843:down Tgfb2, 21808:down Tgfb3, 21809:down Figf, 14205:up
Pathways in cancer	KEGG PATHWAY	mmu05200	1. 549E-06	5. 169E-05	Pparg, 19016:up Lama2, 16773:down Ednrb, 13618:up Vegfa, 22339:down Cxc112, 20315:up Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Igf1, 16000:up Vegfb, 22340:up Kit1, 17311:up Mmp2, 17390:down Ptgs2, 19225:down Bmp4, 12159:up Wnt5a, 22418:down Epas1, 13819:up Tgfb2, 21808:down Tgfb3, 21809:down Egfr, 13649:down Figf, 14205:up
Non-integrin membrane-ECM interactions	Reactome	R-MMU- 3000171	4. 678E-06	1. 491E-04	Lama2, 16773:down Col5a2, 12832:down Col5a1, 12831:down Tnc, 21923:down Col10a1, 12813:up Col1a2, 12843:down Col3a1, 12825:down
Complement and coagulation cascades	KEGG PATHWAY	mmu04610	7. 382E-06	2. 250E-04	C1s2, 317677:up Plat, 18791:down Kng1, 16644:up Kng2, 385643:up Serping1, 12258:up F3, 14066:up C1s1, 50908:up C3, 12266:up Vsig4, 278180:down
Protein digestion and absorption	KEGG PATHWAY	mmu04974	9. 506E-06	2. 776E-04	Col11a1, 12814:down Fxyd2, 11936:up Col5a2, 12832:down Col5a1, 12831:down Col12a1, 12816:down Col10a1, 12813:up Col1a2, 12843:down Col3a1, 12825:down Mme, 17380:up

Focal adhesion	KEGG PATHWAY	mmu04510	1. 055E-05	2. 959E-04	Ibsp, 15891:up Itga11, 319480:down Lama2, 16773:down Thbs2, 21826:down Igf1, 16000:up Vegfb, 22340:up Pdgfc, 54635:down Itga5, 16402:down Vegfa, 22339:down Col1a2, 12843:down Tnc, 21923:down Egfr, 13649:down Figf, 14205:up
PI3K-Akt signaling pathway	KEGG PATHWAY	mmu04151	1. 230E-05	3. 317E-04	Ibsp, 15891:up Lama2, 16773:down Itga11, 319480:down Fgfr2, 14183:up Fgfr1, 14182:down Thbs2, 21826:down Igf1, 16000:up Vegfb, 22340:up Kit1, 17311:up Pdgfc, 54635:down Itga5, 16402:down Vegfa, 22339:down Col1a2, 12843:down Creb3, 11, 26427:down Tnc, 21923:down Egfr, 13649:down Figf, 14205:up
Integrin cell surface interactions	Reactome	R-MMU-216083	1. 481E-05	3. 844E-04	Ibsp, 15891:up Itga11, 319480:down Col5a2, 12832:down Col5a1, 12831:down Tnc, 21923:down Col3a1, 12825:down Col8a1, 12837:down Col1a2, 12843:down
ECM proteoglycans	Reactome	R-MMU-3000178	2. 618E-05	6. 555E-04	Col5a2, 12832:down Col5a1, 12831:down Tnc, 21923:down Vcan, 13003:down Col1a2, 12843:down Col3a1, 12825:down
Rheumatoid arthritis	KEGG PATHWAY	mmu05323	3. 514E-05	8. 493E-04	Cxcl12, 20315:up Ccl2, 20296:up Ccl3, 20302:up Tnf, 21926:up Vegfa, 22339:down Tgfb2, 21808:down Tgfb3, 21809:down Ccl12, 20293:up
ECM-receptor interaction	KEGG PATHWAY	mmu04512	3. 807E-05	8. 895E-04	Ibsp, 15891:up Tnc, 21923:down Itga11, 319480:down Lama2, 16773:down Thbs2, 21826:down Itga5, 16402:down Npnt, 114249:up Col1a2, 12843:down
Hematopoietic cell lineage	KEGG PATHWAY	mmu04640	4. 120E-05	9. 316E-04	Cd24a, 12484:down Anpep, 16790:up Cd4, 12504:up Kit1, 17311:up Tnf, 21926:up Itga5, 16402:down Tfrc, 22042:up Mme, 17380:up
Proteoglycans in cancer	KEGG PATHWAY	mmu05205	5. 752E-05	1. 260E-03	Hpse, 15442:up Fgfr1, 14182:down Igf2, 16002:up Tnf, 21926:up Igf1, 16000:up Itga5, 16402:down Vegfa, 22339:down Wnt5a, 22418:down Col1a2, 12843:down Tgfb2, 21808:down Mmp2, 17390:down Egfr, 13649:down
Signal Transduction	Reactome	R-MMU-162582	1. 031E-04	2. 190E-03	Gplr, 14652:down Wnt5a, 22418:down Ret, 19713:up Prkar2b, 19088:up Kng1, 16644:up Col5a2, 12832:down Col5a1, 12831:down Pbbp, 57349:down Ccl3, 20302:up Adam12, 11489:down Nrg1, 211323:down Inhba, 16323:down Ccl17, 20295:down Htr2b, 15559:down Cxcr6, 80901:down Aldh1a3, 56847:down Kit1, 17311:up Ednrb, 13618:up Plat, 18791:down Cxcl12, 20315:up Cxc19, 17329:up Ccl2, 20296:up Pdgfc, 54635:down Gpc4, 14735:down Igf2, 16002:up Igf1, 16000:up Pr12c2, 18811:up Figf, 14205:up Crabp2, 12904:down Htr2a, 15558:down Rspo2, 239405:up Thbs2, 21826:down Aldh1a2, 19378:up Vegfb, 22340:up Kng2, 385643:up Fabp5, 16592:up Flrt2, 399558:down Lpl, 16956:up Col3a1, 12825:down C3, 12266:up Egfr, 13649:down Ccl9, 20308:up Ccl6, 20305:up Ccl7, 20306:up Fgfr1, 14182:down Adm, 11535:up Ccl4, 20303:up Pmepa1, 65112:down Tnf, 21926:up Bmpr1a, 12166:down Ptgir, 19222:up Vegfa, 22339:down Fstl3, 83554:down Cx3cr1, 13051:down Akr1c18, 105349:up Fgfr2, 14183:up
Malaria	KEGG PATHWAY	mmu05144	1. 084E-04	2. 234E-03	Ccl2, 20296:up Thbs2, 21826:down Tnf, 21926:up Tgfb2, 21808:down Tgfb3, 21809:down Ccl12, 20293:up
Initial triggering of complement	Reactome	R-MMU-166663	1. 172E-04	2. 346E-03	C1s2, 317677:up C1s1, 50908:up C1rb, 667277:up C3, 12266:up
Axon guidance	Reactome	R-MMU-422475	1. 366E-04	2. 660E-03	Sema7a, 20361:down Dok2, 13449:up Cd24a, 12484:down Col5a2, 12832:down Ret, 19713:up Ncam1, 17967:down Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Plxnd1, 67784:up Col5a1, 12831:down Vegfa, 22339:down Mmp2, 17390:down Nrg1, 211323:down Col3a1, 12825:down Egfr, 13649:down Dpys13, 22240:down
Developmental Biology	Reactome	R-MMU-1266738	2. 162E-04	4. 028E-03	Fgfr1, 14182:down Cd24a, 12484:down Ret, 19713:up Cdo1, 12583:up Plxnd1, 67784:up Col5a1, 12831:down Col3a1, 12825:down Nrg1, 211323:down Pparg, 19016:up Dok2, 13449:up Ncam1, 17967:down Kit1, 17311:up Egfr, 13649:down Dpys13, 22240:down Mmp2, 17390:down Lgi2, 246316:up Col5a2, 12832:down Fgfr2, 14183:up Sema7a, 20361:down Tnf, 21926:up Vegfa, 22339:down Fabp4, 11770:up
EGFR tyrosine kinase inhibitor resistance	KEGG PATHWAY	mmu01521	2. 184E-04	4. 028E-03	Fgfr2, 14183:up Igf1, 16000:up Gas6, 14456:up Pdgfc, 54635:down Vegfa, 22339:down Nrg1, 211323:down Egfr, 13649:down
Hypertrophic cardiomyopathy (HCM)	KEGG PATHWAY	mmu05410	2. 688E-04	4. 831E-03	Itga11, 319480:down Lama2, 16773:down Tnf, 21926:up Igf1, 16000:up Itga5, 16402:down Tgfb2, 21808:down Tgfb3, 21809:down

VEGF binds to VEGFR leading to receptor dimerization	Reactome	R-MMU-195399	2. 907E-04	4. 970E-03	Vegfb, 22340:up Vegfa, 22339:down Figf, 14205:up
VEGF ligand-receptor interactions	Reactome	R-MMU-194313	2. 907E-04	4. 970E-03	Vegfb, 22340:up Vegfa, 22339:down Figf, 14205:up
Dilated cardiomyopathy	KEGG PATHWAY	mmu05414	3. 501E-04	5. 708E-03	Itga11, 319480:down Lama2, 16773:down Tnf, 21926:up Igf1, 16000:up Itga5, 16402:down Tgfb2, 21808:down Tgfb3, 21809:down
Creation of C4 and C2 activators	Reactome	R-MMU-166786	3. 956E-04	6. 163E-03	C1s2, 317677:up C1s1, 50908:up C1rb, 667277:up
Classical antibody-mediated complement activation	Reactome	R-MMU-173623	3. 956E-04	6. 163E-03	C1s2, 317677:up C1s1, 50908:up C1rb, 667277:up
Intrinsic Pathway of Fibrin Clot Formation	Reactome	R-MMU-140837	4. 862E-04	7. 410E-03	Serpine2, 20720:up Kng1, 16644:up Kng2, 385643:up Serpin1, 12258:up
Signaling by PDGF	Reactome	R-MMU-186797	5. 827E-04	8. 510E-03	Fgfr1, 14182:down Plat, 18791:down Ret, 19713:up Fgfr2, 14183:up Prkar2b, 19088:up Thbs2, 21826:down Col5a1, 12831:down Kit1, 17311:up Col5a2, 12832:down Pdgfc, 54635:down Nrg1, 211323:down Col3a1, 12825:down Egfr, 13649:down
NCAM1 interactions	Reactome	R-MMU-419037	6. 439E-04	9. 212E-03	Col3a1, 12825:down Col5a1, 12831:down Col5a2, 12832:down Ncam1, 17967:down
Pertussis	KEGG PATHWAY	mmu05133	8. 419E-04	1. 163E-02	C1s2, 317677:up Serpin1, 12258:up Tnf, 21926:up Itga5, 16402:down C1s1, 50908:up C3, 12266:up
Chagas disease (American trypanosomiasis)	KEGG PATHWAY	mmu05142	8. 460E-04	1. 163E-02	Cc12, 20296:up Cc13, 20302:up Tnf, 21926:up Tgfb2, 21808:down Tgfb3, 21809:down C3, 12266:up Cc112, 20293:up
Signaling by Retinoic Acid	Reactome	R-MMU-5362517	1. 321E-03	1. 715E-02	Fabp5, 16592:up Crabp2, 12904:down Akr1c18, 105349:up Aldh1a2, 19378:up Aldh1a3, 56847:down
Molecules associated with elastic fibres	Reactome	R-MMU-2129379	1. 480E-03	1. 887E-02	Tgfb2, 21808:down Tgfb3, 21809:down Efemp1, 216616:up Bmp4, 12159:up
TGF-beta signaling pathway	KEGG PATHWAY	mmu04350	1. 646E-03	2. 030E-02	Inhba, 16323:down Tnf, 21926:up Bmpr1a, 12166:down Bmp4, 12159:up Tgfb2, 21808:down Tgfb3, 21809:down
Glutathione metabolism	KEGG PATHWAY	mmu00480	1. 651E-03	2. 030E-02	Gstm1, 14862:up Gstt1, 14871:up Gsta4, 14860:up Anpep, 16790:up Ggt5, 23887:up
NCAM signaling for neurite out-growth	Reactome	R-MMU-375165	1. 719E-03	2. 068E-02	Ret, 19713:up Ncam1, 17967:down Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Col5a2, 12832:down Col5a1, 12831:down Nrg1, 211323:down Col3a1, 12825:down Egfr, 13649:down
Cell surface interactions at the vascular wall	Reactome	R-MMU-202733	1. 741E-03	2. 068E-02	Sirpb1a, 320832:down Dok2, 13449:up Sirpb1b, 668101:down Gas6, 14456:up Col1a2, 12843:down Ceacam1, 26365:up
Elastic fibre formation	Reactome	R-MMU-1566948	1. 815E-03	2. 121E-02	Tgfb2, 21808:down Tgfb3, 21809:down Efemp1, 216616:up Bmp4, 12159:up
Antagonism of Activin by Follistatin	Reactome	R-MMU-2473224	1. 846E-03	2. 122E-02	Fstl3, 83554:down Inhba, 16323:down
Complement cascade	Reactome	R-MMU-166658	2. 001E-03	2. 262E-02	C1s2, 317677:up C1s1, 50908:up C1rb, 667277:up C3, 12266:up
Prostate cancer	KEGG PATHWAY	mmu05215	2. 050E-03	2. 281E-02	Fgfr2, 14183:up Fgfr1, 14182:down Igf1, 16000:up Pdgfc, 54635:down Creb311, 26427:down Egfr, 13649:down
G alpha (i) signalling events	Reactome	R-MMU-418594	2. 199E-03	2. 408E-02	Pbbp, 57349:down Cc19, 20308:up Cxc112, 20315:up Cc16, 20305:up Kng1, 16644:up Kng2, 385643:up Cxc19, 17329:up C3, 12266:up Cxcr6, 80901:down
Immune System	Reactome	R-MMU-168256	2. 590E-03	2. 761E-02	C1s2, 317677:up Cd200, 17470:down Prkar2b, 19088:up Col1a2, 12843:down Nrg1, 211323:down C1rb, 667277:up Sec23a, 20334:down Sirpb1a, 320832:down S100a1, 20193:up Cd4, 12504:up Kit1, 17311:up Ret, 19713:up C1s1, 50908:up Pr12c2, 18811:up Tnfrsf11b, 18383:up Cr1f1, 12931:down H2-T24, 15042:up Clec4n, 56620:up Sirpb1b, 668101:down I11rn, 16181:up Col3a1, 12825:down Egfr, 13649:down Fgfr2, 14183:up Fgfr1, 14182:down Tnfrsf12a, 27279:down Tnf, 21926:up I11r11, 17082:down Clec2d, 93694:up C3, 12266:up
Metallothioneins bind metals	Reactome	R-MMU-5661231	2. 744E-03	2. 761E-02	Mt2, 17750:up Mt1, 17748:up

Response to metal ions	Reactome	R-MMU-5660526	2.744E-03	2.761E-02	Mt2, 17750:up Mt1, 17748:up
Gastrin-CREB signalling pathway via PKC and MAPK	Reactome	R-MMU-881907	2.807E-03	2.761E-02	Cc19, 20308:up Ret, 19713:up Cc16, 20305:up Fgfr2, 14183:up Fgfr1, 14182:down Kng1, 16644:up Kng2, 385643:up Kit1, 17311:up Nrg1, 211323:down Ednrb, 13618:up Htr2b, 15559:down Htr2a, 15558:down Egfr, 13649:down
Leishmaniasis	KEGG PATHWAY	mmu05140	2.824E-03	2.761E-02	Tgfb2, 21808:down Tnf, 21926:up Ptgs2, 19225:down C3, 12266:up Tgfb3, 21809:down
Metabolism of xenobiotics by cytochrome P450	KEGG PATHWAY	mmu00980	2.824E-03	2.761E-02	Gstm1, 14862:up Cbr2, 12409:up Gstt1, 14871:up Aldh1a3, 56847:down Gsta4, 14860:up
Iron uptake and transport	Reactome	R-MMU-917937	2.875E-03	2.761E-02	Slc40a1, 53945:up Hmox1, 15368:up Trf, 22041:up Tfrc, 22042:up
Formation of Fibrin Clot (Clotting Cascade)	Reactome	R-MMU-140877	2.875E-03	2.761E-02	Serpine2, 20720:up Kng1, 16644:up Kng2, 385643:up Serpin1, 12258:up
Drug metabolism - cytochrome P450	KEGG PATHWAY	mmu00982	3.192E-03	3.024E-02	Gstm1, 14862:up Gstt1, 14871:up Maob, 109731:up Gsta4, 14860:up Aldh1a3, 56847:down
SHC-related events triggered by IGF1R	Reactome	R-MMU-2428933	3.807E-03	3.511E-02	Igf2, 16002:up Igf1, 16000:up
Crosslinking of collagen fibrils	Reactome	R-MMU-2243919	3.807E-03	3.511E-02	Col1a2, 12843:down T111, 21892:down
Rapl signaling pathway	KEGG PATHWAY	mmu04015	3.971E-03	3.615E-02	Fgfr2, 14183:up Fgfr1, 14182:down Igf1, 16000:up Vegfb, 22340:up Kit1, 17311:up Pdgfc, 54635:down Vegfa, 22339:down Egfr, 13649:down Figf, 14205:up
Tuberculosis	KEGG PATHWAY	mmu05152	4.158E-03	3.737E-02	Tgfb2, 21808:down Tnf, 21926:up Mrc1, 17533:up Mrc2, 17534:down Vdr, 22337:down Tgfb3, 21809:down C3, 12266:up Clec4e, 56619:up
Signaling pathways regulating pluripotency of stem cells	KEGG PATHWAY	mmu04550	4.399E-03	3.850E-02	Inhba, 16323:down Fgfr2, 14183:up Fgfr1, 14182:down Igf1, 16000:up Bmpr1a, 12166:down Bmp4, 12159:up Wnt5a, 22418:down
Immunoregulatory interactions between a Lymphoid and a non-Lymphoid cell	Reactome	R-MMU-198933	4.449E-03	3.850E-02	H2-T24, 15042:up Cd200, 17470:down Col1a2, 12843:down Clec2d, 93694:up Col3a1, 12825:down C3, 12266:up
Cargo recognition for clathrin-mediated endocytosis	Reactome	R-MMU-8856825	4.756E-03	4.066E-02	Cd4, 12504:up Trf, 22041:up Egfr, 13649:down Wnt5a, 22418:down Tfrc, 22042:up
HIF-1 signaling pathway	KEGG PATHWAY	mmu04066	4.852E-03	4.098E-02	Hmox1, 15368:up Igf1, 16000:up Trf, 22041:up Vegfa, 22339:down Tfrc, 22042:up Egfr, 13649:down
Amoebiasis	KEGG PATHWAY	mmu05146	5.282E-03	4.306E-02	Lama2, 16773:down Tnf, 21926:up Col3a1, 12825:down Tgfb3, 21809:down Tgfb2, 21808:down Col1a2, 12843:down
PI3P, PP2A and IER3 Regulate PI3K/AKT Signaling	Reactome	R-MMU-6811558	5.861E-03	4.722E-02	Nrg1, 211323:down Kit1, 17311:up Fgfr2, 14183:up Fgfr1, 14182:down Egfr, 13649:down
Ras signaling pathway	KEGG PATHWAY	mmu04014	6.035E-03	4.807E-02	Fgfr2, 14183:up Fgfr1, 14182:down Igf1, 16000:up Vegfb, 22340:up Kit1, 17311:up Pdgfc, 54635:down Vegfa, 22339:down Egfr, 13649:down Figf, 14205:up
@@Heme degradation	Reactome	R-MMU-189483	6.408E-03	5.047E-02	Hmox1, 15368:up Blvrb, 233016:up
Histidine metabolism	KEGG PATHWAY	mmu00340	6.605E-03	5.144E-02	Maob, 109731:up Aldh1a3, 56847:down Hal, 15109:up
MicroRNAs in cancer	KEGG PATHWAY	mmu05206	7.164E-03	5.519E-02	Mir199a-2, 723821:down Mirlet7e, 387248:down Mir214, 387210:down Mirlet7c-1, 387246:down Ptgs2, 19225:down Itga5, 16402:down Vegfa, 22339:down Tgfb2, 21808:down Tnc, 21923:down Egfr, 13649:down
Negative regulation of the PI3K/AKT network	Reactome	R-MMU-199418	7.481E-03	5.700E-02	Nrg1, 211323:down Kit1, 17311:up Fgfr2, 14183:up Fgfr1, 14182:down Egfr, 13649:down

PPAR signaling pathway	KEGG PATHWAY	mmu03320	8. 208E-03	6. 121E-02	Fabp4, 11770:up Fabp5, 16592:up Adipoq, 11450:up Pparg, 19016:up Lpl, 16956:up
Cytokine Signaling in Immune system	Reactome	R-MMU-1280215	9. 816E-03	7. 243E-02	Tnfrsf12a, 27279:down Crlf1, 12931:down Cd4, 12504:up Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Tnf, 21926:up Il1rn, 16181:up Il1rl1, 17082:down Nrg1, 211323:down Pr12c2, 18811:up Tnfrsf11b, 18383:up Egfr, 13649:down
G alpha (q) signalling events	Reactome	R-MMU-416476	1. 011E-02	7. 381E-02	Cc19, 20308:up Cc16, 20305:up Kng1, 16644:up Kng2, 385643:up EdnrB, 13618:up Htr2b, 15559:down Htr2a, 15558:down
Formyl peptide receptors bind formyl peptides and many other ligands	Reactome	R-MMU-444473	1. 143E-02	8. 177E-02	Cc16, 20305:up Cc19, 20308:up
Chemical carcinogenesis	KEGG PATHWAY	mmu05204	1. 161E-02	8. 220E-02	Gstm1, 14862:up Ptgs2, 19225:down Gstt1, 14871:up Aldh1a3, 56847:down Gsta4, 14860:up
Herpes simplex infection	KEGG PATHWAY	mmu05168	1. 229E-02	8. 618E-02	H2-T24, 15042:up Oas3, 246727:up Ifit1, 15957:up Tnf, 21926:up Cc12, 20296:up Oas1a, 246730:up C3, 12266:up Cc112, 20293:up
Signaling by GPCR	Reactome	R-MMU-372790	1. 277E-02	8. 861E-02	G1pr, 14652:down Ret, 19713:up Prkar2b, 19088:up Kng1, 16644:up Cc12, 20296:up Ppbp, 57349:down Cc13, 20302:up Nrg1, 211323:down Cc117, 20295:down Htr2b, 15559:down Cxc6, 80901:down EdnrB, 13618:up Cxc112, 20315:up Htr2a, 15558:down Kit1, 17311:up Kng2, 385643:up Egfr, 13649:down Cc19, 20308:up Cc16, 20305:up Cc17, 20306:up Fgfr1, 14182:down Adm, 11535:up Cc14, 20303:up Cxc19, 17329:up Ptgir, 19222:up Cx3cr1, 13051:down C3, 12266:up Fgfr2, 14183:up
Taurine and hypotaurine metabolism	KEGG PATHWAY	mmu00430	1. 339E-02	8. 938E-02	Cdo1, 12583:up Ggt5, 23887:up
SHC1 events in ERBB2 signaling	Reactome	R-MMU-1250196	1. 339E-02	8. 938E-02	Nrg1, 211323:down Egfr, 13649:down
Serotonin receptors	Reactome	R-MMU-390666	1. 339E-02	8. 938E-02	Htr2b, 15559:down Htr2a, 15558:down
RA biosynthesis pathway	Reactome	R-MMU-5365859	1. 430E-02	9. 459E-02	Akr1c18, 105349:up Aldh1a2, 19378:up Aldh1a3, 56847:down
Renin-angiotensin system	KEGG PATHWAY	mmu04614	1. 537E-02	9. 552E-02	Klk1b11, 16613:up Mme, 17380:up Anpep, 16790:up
Signal regulatory protein (SIRP) family interactions	Reactome	R-MMU-391160	1. 548E-02	9. 552E-02	Sirpb1a, 320832:down Sirpb1b, 668101:down
Signaling by Activin	Reactome	R-MMU-1502540	1. 548E-02	9. 552E-02	Fstl3, 83554:down Inhba, 16323:down
ERBB2 Activates PTK6 Signaling	Reactome	R-MMU-8847993	1. 548E-02	9. 552E-02	Nrg1, 211323:down Egfr, 13649:down
Phagosome	KEGG PATHWAY	mmu04145	1. 584E-02	9. 552E-02	H2-T24, 15042:up Thbs2, 21826:down Itga5, 16402:down Tfrc, 22042:up Mrc2, 17534:down C3, 12266:up Mrc1, 17533:up
Central carbon metabolism in cancer	KEGG PATHWAY	mmu05230	1. 600E-02	9. 552E-02	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Egfr, 13649:down
Pancreatic cancer	KEGG PATHWAY	mmu05212	1. 600E-02	9. 552E-02	Tgfb2, 21808:down Tgfb3, 21809:down Egfr, 13649:down Vegfa, 22339:down
PI-3K cascade:FGFR4	Reactome	R-MMU-5654720	1. 646E-02	9. 552E-02	Nrg1, 211323:down Kit1, 17311:up Fgfr2, 14183:up Fgfr1, 14182:down Egfr, 13649:down
PI-3K cascade:FGFR3	Reactome	R-MMU-5654710	1. 646E-02	9. 552E-02	Nrg1, 211323:down Kit1, 17311:up Fgfr2, 14183:up Fgfr1, 14182:down Egfr, 13649:down
PI-3K cascade:FGFR1	Reactome	R-MMU-5654689	1. 646E-02	9. 552E-02	Nrg1, 211323:down Kit1, 17311:up Fgfr2, 14183:up Fgfr1, 14182:down Egfr, 13649:down
PI-3K cascade:FGFR2	Reactome	R-MMU-5654695	1. 646E-02	9. 552E-02	Nrg1, 211323:down Kit1, 17311:up Fgfr2, 14183:up Fgfr1, 14182:down Egfr, 13649:down
PI3K events in ERBB4 signaling	Reactome	R-MMU-1250342	1. 646E-02	9. 552E-02	Nrg1, 211323:down Kit1, 17311:up Fgfr2, 14183:up Fgfr1, 14182:down Egfr, 13649:down
PIP3 activates AKT signaling	Reactome	R-MMU-1257604	1. 646E-02	9. 552E-02	Nrg1, 211323:down Kit1, 17311:up Fgfr2, 14183:up Fgfr1, 14182:down Egfr, 13649:down

Renal cell carcinoma	KEGG PATHWAY	mmu05211	1.677E-02	9.639E-02	Tgfb2, 21808:down Tgfb3, 21809:down Vegfa, 22339:down Epsa1, 13819:up
GAB1 signalosome	Reactome	R-MMU-180292	1.833E-02	1.036E-01	Nrg1, 211323:down Kit1, 17311:up Fgfr2, 14183:up Fgfr1, 14182:down Egfr, 13649:down
PI3K/AKT activation	Reactome	R-MMU-198203	1.833E-02	1.036E-01	Nrg1, 211323:down Kit1, 17311:up Fgfr2, 14183:up Fgfr1, 14182:down Egfr, 13649:down
Clathrin-mediated endocytosis	Reactome	R-MMU-8856828	1.966E-02	1.101E-01	Cd4, 12504:up Trf, 22041:up Egfr, 13649:down Wnt5a, 22418:down Tfrc, 22042:up
Hormone-sensitive lipase (HSL)-mediated triacylglycerol hydrolysis	Reactome	R-MMU-163560	2.004E-02	1.101E-01	Fabp4, 11770:up Fabp5, 16592:up
ERBB2 Regulates Cell Motility	Reactome	R-MMU-6785631	2.004E-02	1.101E-01	Nrg1, 211323:down Egfr, 13649:down
Melanoma	KEGG PATHWAY	mmu05218	2.011E-02	1.101E-01	Pdgfc, 54635:down Fgfr1, 14182:down Igf1, 16000:up Egfr, 13649:down
Signaling by VEGF	Reactome	R-MMU-194138	2.070E-02	1.125E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Vegfb, 22340:up Kit1, 17311:up Vegfa, 22339:down Nrg1, 211323:down Egfr, 13649:down Figf, 14205:up
TNF signaling pathway	KEGG PATHWAY	mmu04668	2.104E-02	1.135E-01	Creb3l1, 26427:down Tnf, 21926:up Ptgs2, 19225:down Cc112, 20293:up Cc12, 20296:up
Glycosaminoglycan metabolism	Reactome	R-MMU-1630316	2.176E-02	1.155E-01	Chst11, 58250:down Pre1p, 116847:up Hpse, 15442:up Vcan, 13003:down Gpc4, 14735:down
Role of LAT2/NTAL/LAB on calcium mobilization	Reactome	R-MMU-2730905	2.176E-02	1.155E-01	Nrg1, 211323:down Kit1, 17311:up Fgfr2, 14183:up Fgfr1, 14182:down Egfr, 13649:down
Anchoring fibril formation	Reactome	R-MMU-2214320	2.251E-02	1.178E-01	Colla2, 12843:down T111, 21892:down
PI3K events in ERBB2 signaling	Reactome	R-MMU-1963642	2.251E-02	1.178E-01	Nrg1, 211323:down Egfr, 13649:down
Bladder cancer	KEGG PATHWAY	mmu05219	2.272E-02	1.180E-01	Mmp2, 17390:down Egfr, 13649:down Vegfa, 22339:down
Arachidonic acid metabolism	Reactome	R-MMU-2142753	2.383E-02	1.228E-01	Hpgd, 15446:up Ptgs2, 19225:down Akr1c18, 105349:up Ggt5, 23887:up
DAP12 interactions	Reactome	R-MMU-2172127	2.694E-02	1.334E-01	Sirpb1a, 320832:down Prkar2b, 19088:up Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Sirpb1b, 668101:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
@@Disease	Reactome	R-MMU-1643685	2.740E-02	1.334E-01	Fgfr2, 14183:up
Signaling by FGFR2 IIIa TM	Reactome	R-MMU-8851708	2.740E-02	1.334E-01	Fgfr2, 14183:up
FGFR2 mutant receptor activation	Reactome	R-MMU-1839126	2.740E-02	1.334E-01	Fgfr2, 14183:up
Signaling by FGFR2 in disease	Reactome	R-MMU-5655253	2.740E-02	1.334E-01	Fgfr2, 14183:up
Signaling by FGFR in disease	Reactome	R-MMU-1226099	2.740E-02	1.334E-01	Fgfr2, 14183:up
Diseases of signal transduction	Reactome	R-MMU-5663202	2.740E-02	1.334E-01	Fgfr2, 14183:up
Innate Immune System	Reactome	R-MMU-168249	2.750E-02	1.334E-01	Sirpb1a, 320832:down Prkar2b, 19088:up S100a1, 20193:up Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Sirpb1b, 668101:down Kit1, 17311:up C1s2, 317677:up Nrg1, 211323:down C1s1, 50908:up C1rb, 667277:up C3, 12266:up Clec4n, 56620:up Egfr, 13649:down
Signaling by Type 1 Insulin-like Growth Factor 1 Receptor (IGF1R)	Reactome	R-MMU-2404192	2.797E-02	1.334E-01	Kit1, 17311:up Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Igf2, 16002:up Igf1, 16000:up Nrg1, 211323:down Egfr, 13649:down
IRS-related events triggered by IGF1R	Reactome	R-MMU-2428928	2.797E-02	1.334E-01	Kit1, 17311:up Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Igf2, 16002:up Igf1, 16000:up Nrg1, 211323:down Egfr, 13649:down
IGF1R signaling cascade	Reactome	R-MMU-2428924	2.797E-02	1.334E-01	Kit1, 17311:up Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Igf2, 16002:up Igf1, 16000:up Nrg1, 211323:down Egfr, 13649:down

Chondroitin sulfate/dermatan sulfate metabolism	Reactome	R-MMU-1793185	3.007E-02	1.403E-01	Chst11, 58250:down Vcan, 13003:down Gpc4, 14735:down
Retinoid metabolism and transport	Reactome	R-MMU-975634	3.007E-02	1.403E-01	Akr1c18, 105349:up Lpl, 16956:up Gpc4, 14735:down
VEGFR2 mediated cell proliferation	Reactome	R-MMU-5218921	3.019E-02	1.403E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Vegfa, 22339:down Nrg1, 211323:down Egfr, 13649:down
Pantothenate and CoA biosynthesis	KEGG PATHWAY	mmu00770	3.061E-02	1.403E-01	Enpp3, 209558:down Enpp1, 18605:down
Other semaphorin interactions	Reactome	R-MMU-416700	3.061E-02	1.403E-01	Plxnd1, 67784:up Sema7a, 20361:down
Metabolism of porphyrins	Reactome	R-MMU-189445	3.061E-02	1.403E-01	Hmx1, 15368:up Blvrb, 233016:up
Activation of Matrix Metalloproteinases	Reactome	R-MMU-1592389	3.167E-02	1.432E-01	Klk1b11, 16613:up Mmp2, 17390:down Mmp13, 17386:up
Heparan sulfate/heparin (HS-GAG) metabolism	Reactome	R-MMU-1638091	3.167E-02	1.432E-01	Hpse, 15442:up Vcan, 13003:down Gpc4, 14735:down
Signal transduction by L1	Reactome	R-MMU-445144	3.353E-02	1.497E-01	Fgfr1, 14182:down Egfr, 13649:down
Chondroitin sulfate biosynthesis	Reactome	R-MMU-2022870	3.353E-02	1.497E-01	Chst11, 58250:down Vcan, 13003:down
Signaling by Interleukins	Reactome	R-MMU-449147	3.468E-02	1.539E-01	Crlf1, 12931:down Cd4, 12504:up Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Il1rn, 16181:up Il1r11, 17082:down Nrg1, 211323:down Egfr, 13649:down
Transcriptional regulation of white adipocyte differentiation	Reactome	R-MMU-381340	3.500E-02	1.543E-01	Tnf, 21926:up Pparg, 19016:up Fabp4, 11770:up
Gap junction	KEGG PATHWAY	mmu04540	3.608E-02	1.580E-01	Pdgfc, 54635:down Htr2b, 15559:down Htr2a, 15558:down Egfr, 13649:down
HS-GAG degradation	Reactome	R-MMU-2024096	3.655E-02	1.580E-01	Hpse, 15442:up Gpc4, 14735:down
Synthesis of Prostaglandins (PG) and Thromboxanes (TX)	Reactome	R-MMU-2162123	3.655E-02	1.580E-01	Ptgs2, 19225:down Akr1c18, 105349:up
Arginine and proline metabolism	KEGG PATHWAY	mmu00330	3.674E-02	1.580E-01	P4ha1, 18451:down Gatm, 67092:down Maob, 109731:up
RET signaling	Reactome	R-MMU-8853659	3.721E-02	1.590E-01	Dok2, 13449:up Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
Staphylococcus aureus infection	KEGG PATHWAY	mmu05150	3.851E-02	1.636E-01	C1s1, 50908:up C1s2, 317677:up C3, 12266:up
Fructose biosynthesis	Reactome	R-MMU-5652227	4.082E-02	1.654E-01	Sord, 20322:up
Biogenic amines are oxidatively deaminated to aldehydes by MAOA and MAOB	Reactome	R-MMU-141333	4.082E-02	1.654E-01	Maob, 109731:up
TP53 Regulates Transcription of Death Receptors and Ligands	Reactome	R-MMU-6803211	4.082E-02	1.654E-01	Igfbp3, 16009:up
Transcriptional misregulation in cancer	KEGG PATHWAY	mmu05202	4.191E-02	1.688E-01	Hpgd, 15446:up Pparg, 19016:up Plat, 18791:down Igf1, 16000:up Ly11, 17095:up Igfbp3, 16009:up
Metabolism of fat-soluble vitamins	Reactome	R-MMU-6806667	4.219E-02	1.690E-01	Akr1c18, 105349:up Lpl, 16956:up Gpc4, 14735:down

Downstream signaling of activated FGFR1	Reactome	R-MMU-5654687	4. 351E-02	1. 733E-01	Prkar2b, 19088:up Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Flrt2, 399558:down Nrg1, 211323:down Egfr, 13649:down
FoxO signaling pathway	KEGG PATHWAY	mmu04068	4. 386E-02	1. 737E-01	Tgfb2, 21808:down Tgfb3, 21809:down Igf1, 16000:up Egfr, 13649:down Plk2, 20620:down
Endocrine and other factor-regulated calcium reabsorption	KEGG PATHWAY	mmu04961	4. 410E-02	1. 737E-01	Vdr, 22337:down Klk1b11, 16613:up Fxyd2, 11936:up
Semaphorin interactions	Reactome	R-MMU-373755	4. 604E-02	1. 790E-01	Plxnd1, 67784:up Sema7a, 20361:down Dpys13, 22240:down
Hepatitis C	KEGG PATHWAY	mmu05160	4. 615E-02	1. 790E-01	Oas1a, 246730:up Tnf, 21926:up Oas3, 246727:up Ifit1, 15957:up Egfr, 13649:down
Phenylalanine metabolism	KEGG PATHWAY	mmu00360	4. 621E-02	1. 790E-01	Maob, 109731:up Aldh1a3, 56847:down
Signaling by FGFR1	Reactome	R-MMU-5654736	4. 734E-02	1. 823E-01	Prkar2b, 19088:up Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Flrt2, 399558:down Nrg1, 211323:down Egfr, 13649:down
Longevity regulating pathway	KEGG PATHWAY	mmu04211	4. 837E-02	1. 853E-01	Creb311, 26427:down Igf1, 16000:up Adipoq, 11450:up Pparg, 19016:up
A tetrasaccharide linker sequence is required for GAG synthesis	Reactome	R-MMU-1971475	4. 962E-02	1. 890E-01	Vcan, 13003:down Gpc4, 14735:down
NOD-like receptor signaling pathway	KEGG PATHWAY	mmu04621	5. 213E-02	1. 919E-01	Cc12, 20296:up Tnf, 21926:up Cc112, 20293:up
Adaptive Immune System	Reactome	R-MMU-1280218	5. 232E-02	1. 919E-01	Sec23a, 20334:down H2-T24, 15042:up Cd200, 17470:down Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Clec2d, 93694:up Colla2, 12843:down Nrg1, 211323:down Col3a1, 12825:down C3, 12266:up Cd4, 12504:up Egfr, 13649:down
NF-kappa B signaling pathway	KEGG PATHWAY	mmu04064	5. 291E-02	1. 919E-01	Tnf, 21926:up Ptgs2, 19225:down Cxc112, 20315:up Cc14, 20303:up
Oxygen-dependent asparagine hydroxylation of Hypoxia-inducible Factor Alpha	Reactome	R-MMU-1234162	5. 405E-02	1. 919E-01	Epas1, 13819:up
WNT5A-dependent internalization of FZD2, FZD5 and ROR2	Reactome	R-MMU-5140745	5. 405E-02	1. 919E-01	Wnt5a, 22418:down
Vitamins B6 activation to pyridoxal phosphate	Reactome	R-MMU-964975	5. 405E-02	1. 919E-01	Pdxk, 216134:up
Alternative complement activation	Reactome	R-MMU-173736	5. 405E-02	1. 919E-01	C3, 12266:up
FGFR1c and Klotho ligand binding and activation	Reactome	R-MMU-190374	5. 405E-02	1. 919E-01	Fgfr1, 14182:down
Inflammatory bowel disease (IBD)	KEGG PATHWAY	mmu05321	5. 425E-02	1. 919E-01	Tgfb2, 21808:down Tnf, 21926:up Tgfb3, 21809:down
Melanogenesis	KEGG PATHWAY	mmu04916	5. 448E-02	1. 919E-01	Kit1, 17311:up Creb311, 26427:down Ednrb, 13618:up Wnt5a, 22418:down
Metabolism of vitamins and cofactors	Reactome	R-MMU-196854	5. 598E-02	1. 962E-01	Ptgs2, 19225:down Pdxk, 216134:up Akr1c18, 105349:up Lpl, 16956:up Gpc4, 14735:down
Toll-like receptor signaling pathway	KEGG PATHWAY	mmu04620	5. 769E-02	2. 012E-01	Tnf, 21926:up Cc14, 20303:up Cc13, 20302:up Cxc19, 17329:up
L1CAM interactions	Reactome	R-MMU-373760	5. 859E-02	2. 024E-01	Fgfr1, 14182:down Cd24a, 12484:down Egfr, 13649:down
Wnt signaling pathway	KEGG PATHWAY	mmu04310	5. 861E-02	2. 024E-01	Sfrp4, 20379:up Sfrp2, 20319:up Sfrp1, 20377:up Wnt5a, 22418:down Gpc4, 14735:down

Signaling by EGFR	Reactome	R-MMU-177929	5.922E-02	2.035E-01	Prkar2b, 19088:up Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Adam12, 11489:down Nrg1, 211323:down Egfr, 13649:down
Transferrin endocytosis and recycling	Reactome	R-MMU-917977	6.035E-02	2.054E-01	Trf, 22041:up Tfrc, 22042:up
TRP channels	Reactome	R-MMU-3295583	6.035E-02	2.054E-01	Mcoln3, 171166:up Mcoln2, 68279:up
Signaling by ERBB4	Reactome	R-MMU-1236394	6.484E-02	2.081E-01	Cxcl12, 20315:up Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Prl2c2, 18811:up Egfr, 13649:down
GRB2 events in EGFR signaling	Reactome	R-MMU-179812	6.547E-02	2.081E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
Signalling to p38 via RIT and RIN	Reactome	R-MMU-187706	6.547E-02	2.081E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
SHC1 events in ERBB4 signaling	Reactome	R-MMU-1250347	6.547E-02	2.081E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
SOS-mediated signalling	Reactome	R-MMU-112412	6.547E-02	2.081E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
RAF/MAP kinase cascade	Reactome	R-MMU-5673001	6.547E-02	2.081E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
SHC1 events in EGFR signaling	Reactome	R-MMU-180336	6.547E-02	2.081E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
FRS-mediated FGFR2 signaling	Reactome	R-MMU-5654700	6.669E-02	2.081E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
FRS-mediated FGFR4 signaling	Reactome	R-MMU-5654712	6.669E-02	2.081E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
FRS-mediated FGFR3 signaling	Reactome	R-MMU-5654706	6.669E-02	2.081E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
FRS-mediated FGFR1 signaling	Reactome	R-MMU-5654693	6.669E-02	2.081E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
Riboflavin metabolism	KEGG PATHWAY	mmu00740	6.711E-02	2.081E-01	Blvrb, 233016:up
Amine Oxidase reactions	Reactome	R-MMU-140179	6.711E-02	2.081E-01	Maob, 109731:up
Prostacyclin signalling through prostacyclin receptor	Reactome	R-MMU-392851	6.711E-02	2.081E-01	Ptgir, 19222:up
Fibronectin matrix formation	Reactome	R-MMU-1566977	6.711E-02	2.081E-01	Ceacam1, 26365:up
Dectin-2 family	Reactome	R-MMU-5621480	6.711E-02	2.081E-01	Clec4n, 56620:up
Thyroid cancer	KEGG PATHWAY	mmu05216	6.790E-02	2.097E-01	Ret, 19713:up Pparg, 19016:up
Hippo signaling pathway	KEGG PATHWAY	mmu04390	6.984E-02	2.147E-01	Tgfb2, 21808:down Tgfb3, 21809:down Bmpr1a, 12166:down Bmp4, 12159:up Wnt5a, 22418:down
Frs2-mediated activation	Reactome	R-MMU-170968	7.171E-02	2.160E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
MAPK1/MAPK3 signaling	Reactome	R-MMU-5684996	7.171E-02	2.160E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
Signalling to RAS	Reactome	R-MMU-167044	7.171E-02	2.160E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
ARMS-mediated activation	Reactome	R-MMU-170984	7.171E-02	2.160E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
EGFR interacts with phospholipase C-gamma	Reactome	R-MMU-212718	7.179E-02	2.160E-01	Prkar2b, 19088:up Egfr, 13649:down
Peptide hormone metabolism	Reactome	R-MMU-2980736	7.256E-02	2.172E-01	Igf1, 16000:up Inhba, 16323:down Mme, 17380:up
@@Signaling by FGFR	Reactome	R-MMU-190236	7.283E-02	2.172E-01	Prkar2b, 19088:up Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Flrt2, 399558:down Nrg1, 211323:down Egfr, 13649:down
Signaling by Leptin	Reactome	R-MMU-2586552	7.431E-02	2.207E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down

Transmembrane transport of small molecules	Reactome	R-MMU-382551	7.500E-02	2.218E-01	Hmx1, 15368:up Ank, 11732:down Fxyd2, 11936:up Prkar2b, 19088:up Fxyd1, 56188:up Emb, 13723:up Trf, 22041:up Mcoln2, 68279:up Tfrc, 22042:up Slc40a1, 53945:up Mcoln3, 171166:up Slc29a1, 63959:up Slc2a6, 227659:up
Prolonged ERK activation events	Reactome	R-MMU-169893	7.562E-02	2.218E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
Interleukin receptor SHC signaling	Reactome	R-MMU-912526	7.562E-02	2.218E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
Toxoplasmosis	KEGG PATHWAY	mmu05145	7.897E-02	2.270E-01	Tgfb2, 21808:down Tnf, 21926:up Lama2, 16773:down Tgfb3, 21809:down
Catabolism of glucuronate to xylulose-5-phosphate	Reactome	R-MMU-5661270	7.998E-02	2.270E-01	Sord, 20322:up
Activation of C3 and C5	Reactome	R-MMU-174577	7.998E-02	2.270E-01	C3, 12266:up
GRB7 events in ERBB2 signaling	Reactome	R-MMU-1306955	7.998E-02	2.270E-01	Nrg1, 211323:down
Synthesis of Lipoxins (LX)	Reactome	R-MMU-2142700	7.998E-02	2.270E-01	Hpgd, 15446:up
Synthesis of 15-eicosatetraenoic acid derivatives	Reactome	R-MMU-2142770	7.998E-02	2.270E-01	Ptgs2, 19225:down
Signalling to ERKs	Reactome	R-MMU-187687	8.240E-02	2.329E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
Interleukin-2 signaling	Reactome	R-MMU-451927	8.520E-02	2.389E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
Regulation of actin cytoskeleton	KEGG PATHWAY	mmu04810	8.950E-02	2.432E-01	Itga11, 319480:down Fgfr2, 14183:up Fgfr1, 14182:down Pdgfc, 54635:down Itga5, 16402:down Egfr, 13649:down
Arrhythmogenic right ventricular cardiomyopathy (ARVC)	KEGG PATHWAY	mmu05412	9.054E-02	2.432E-01	Itga11, 319480:down Lama2, 16773:down Itga5, 16402:down
Interleukin-3, 5 and GM-CSF signaling	Reactome	R-MMU-512988	9.096E-02	2.432E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
Nicotinate and nicotinamide metabolism	KEGG PATHWAY	mmu00760	9.222E-02	2.432E-01	Enpp3, 209558:down Enpp1, 18605:down
Amine ligand-binding receptors	Reactome	R-MMU-375280	9.222E-02	2.432E-01	Htr2b, 15559:down Htr2a, 15558:down
Signaling by ERBB2	Reactome	R-MMU-1227986	9.222E-02	2.432E-01	Nrg1, 211323:down Egfr, 13649:down
AMPK inhibits chREBP transcriptional activation activity	Reactome	R-MMU-163680	9.267E-02	2.432E-01	Adipoq, 11450:up
Proton-coupled monocarboxylate transport	Reactome	R-MMU-433692	9.267E-02	2.432E-01	Emb, 13723:up
PTK6 promotes HIF1A stabilization	Reactome	R-MMU-8857538	9.267E-02	2.432E-01	Egfr, 13649:down
FGFR1b ligand binding and activation	Reactome	R-MMU-190370	9.267E-02	2.432E-01	Fgfr1, 14182:down
TNFR1-mediated ceramide production	Reactome	R-MMU-5626978	9.267E-02	2.432E-01	Tnf, 21926:up
Downstream signaling of activated FGFR4	Reactome	R-MMU-5654716	9.296E-02	2.432E-01	Prkar2b, 19088:up Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
Downstream signaling of activated FGFR2	Reactome	R-MMU-5654696	9.296E-02	2.432E-01	Prkar2b, 19088:up Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down

Downstream signaling of activated FGFR3	Reactome	R-MMU-5654708	9.296E-02	2.432E-01	Prkar2b, 19088:up Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
Downstream signaling events of B Cell Receptor (BCR)	Reactome	R-MMU-1168372	9.384E-02	2.445E-01	Nrg1, 211323:down Kit1, 17311:up Fgfr2, 14183:up Fgfr1, 14182:down Egfr, 13649:down
FCERI mediated MAPK activation	Reactome	R-MMU-2871796	9.542E-02	2.472E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
Influenza A	KEGG PATHWAY	mmu05164	9.557E-02	2.472E-01	Oas1a, 246730:up Tnf, 21926:up Cc12, 20296:up Oas3, 246727:up Cc112, 20293:up
Signaling by FGFR4	Reactome	R-MMU-5654743	9.697E-02	2.499E-01	Prkar2b, 19088:up Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
VEGFA-VEGFR2 Pathway	Reactome	R-MMU-4420097	9.832E-02	2.515E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Vegfa, 22339:down Nrg1, 211323:down Egfr, 13649:down
Signaling by FGFR3	Reactome	R-MMU-5654741	9.832E-02	2.515E-01	Prkar2b, 19088:up Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
Platinum drug resistance	KEGG PATHWAY	mmu01524	1.016E-01	2.587E-01	Gstm1, 14862:up Gstt1, 14871:up Gsta4, 14860:up
MAPK family signaling cascades	Reactome	R-MMU-5683057	1.047E-01	2.587E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
Glycerophospholipid catabolism	Reactome	R-MMU-6814848	1.052E-01	2.587E-01	Gdpd1, 66569:up
Regulation of gene expression by Hypoxia-inducible Factor	Reactome	R-MMU-1234158	1.052E-01	2.587E-01	Epas1, 13819:up
Histidine catabolism	Reactome	R-MMU-70921	1.052E-01	2.587E-01	Hal1, 15109:up
Creatine metabolism	Reactome	R-MMU-71288	1.052E-01	2.587E-01	Gatm, 67092:down
Degradation of cysteine and homocysteine	Reactome	R-MMU-1614558	1.052E-01	2.587E-01	Cdo1, 12583:up
Nicotinamide salvaging	Reactome	R-MMU-197264	1.052E-01	2.587E-01	Ptgs2, 19225:down
Fructose metabolism	Reactome	R-MMU-5652084	1.052E-01	2.587E-01	Sord, 20322:up
Downstream signal transduction	Reactome	R-MMU-186763	1.095E-01	2.677E-01	Prkar2b, 19088:up Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
Tyrosine metabolism	KEGG PATHWAY	mmu00350	1.096E-01	2.677E-01	Maob, 109731:up Aldh1a3, 56847:down
Endocytosis	KEGG PATHWAY	mmu04144	1.110E-01	2.702E-01	H2-T24, 15042:up Ret, 19713:up Fgfr2, 14183:up Tfrc, 22042:up Tgfb2, 21808:down Tgfb3, 21809:down Egfr, 13649:down
AMPK signaling pathway	KEGG PATHWAY	mmu04152	1.125E-01	2.729E-01	Creb311, 26427:down Igf1, 16000:up Adipoq, 11450:up Pparg, 19016:up
Glycine, serine and threonine metabolism	KEGG PATHWAY	mmu00260	1.141E-01	2.748E-01	Gatm, 67092:down Maob, 109731:up
Aldosterone-regulated sodium reabsorption	KEGG PATHWAY	mmu04960	1.141E-01	2.748E-01	Fxyd2, 11936:up Igf1, 16000:up
DAP12 signaling	Reactome	R-MMU-2424491	1.169E-01	2.762E-01	Prkar2b, 19088:up Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
TNFR1-induced proapoptotic signaling	Reactome	R-MMU-5357786	1.175E-01	2.762E-01	Tnf, 21926:up

Transport of nucleosides and free purine and pyrimidine bases across the plasma membrane	Reactome	R-MMU-83936	1. 175E-01	2. 762E-01	Slc29a1, 63959:up
FGFR2b ligand binding and activation	Reactome	R-MMU-190377	1. 175E-01	2. 762E-01	Fgfr2, 14183:up
Negative regulation of TCF-dependent signaling by WNT ligand antagonists	Reactome	R-MMU-3772470	1. 175E-01	2. 762E-01	Wnt5a, 22418:down
Synthesis of UDP-N-acetyl-glucosamine	Reactome	R-MMU-446210	1. 175E-01	2. 762E-01	Gfpt2, 14584:down
Porphyrin and chlorophyll metabolism	KEGG PATHWAY	mmu00860	1. 186E-01	2. 762E-01	Hmx1, 15368:up Blvrb, 233016:up
Antigen Presentation: Folding, assembly and peptide loading of class I MHC	Reactome	R-MMU-983170	1. 186E-01	2. 762E-01	Sec23a, 20334:down H2-T24, 15042:up
Serotonergic synapse	KEGG PATHWAY	mmu04726	1. 194E-01	2. 772E-01	Ptgs2, 19225:down Htr2b, 15559:down Htr2a, 15558:down Maob, 109731:up
Metabolism	Reactome	R-MMU-1430728	1. 203E-01	2. 782E-01	G1plr, 14652:down Prkar2b, 19088:up Mt1, 17748:up Ha1, 15109:up Cdo1, 12583:up Maob, 109731:up Hmx1, 15368:up Blvrb, 233016:up Gpc4, 14735:down Pre1p, 116847:up Vcan, 13003:down Ddah1, 69219:down Gdpd1, 66569:up Hpgd, 15446:up Gatm, 67092:down Hpse, 15442:up Fabp5, 16592:up Chst11, 58250:down Lp1, 16956:up Uck2, 80914:down Mt2, 17750:up Plpp3, 67916:up Pdxk, 216134:up Sord, 20322:up Adipoq, 11450:up Ptgs2, 19225:down Ampd3, 11717:up Ggt5, 23887:up Fabp4, 11770:up Akr1c18, 105349:up
Insulin secretion	KEGG PATHWAY	mmu04911	1. 221E-01	2. 815E-01	Creb311, 26427:down Fxyd2, 11936:up G1plr, 14652:down
Phospholipase C-mediated cascade: FGFR1	Reactome	R-MMU-5654219	1. 278E-01	2. 887E-01	Fgfr1, 14182:down Prkar2b, 19088:up
@@Vitamin B6 metabolism	KEGG PATHWAY	mmu00750	1. 297E-01	2. 887E-01	Pdxk, 216134:up
Glycoprotein hormones	Reactome	R-MMU-209822	1. 297E-01	2. 887E-01	Inhba, 16323:down
Downregulation of ERBB2:ERBB3 signaling	Reactome	R-MMU-1358803	1. 297E-01	2. 887E-01	Nrg1, 211323:down
Dissolution of Fibrin Clot	Reactome	R-MMU-75205	1. 297E-01	2. 887E-01	Plat, 18791:down
Reactions specific to the complex N-glycan synthesis pathway	Reactome	R-MMU-975578	1. 297E-01	2. 887E-01	Man2a2, 140481:up
Prostanoid ligand receptors	Reactome	R-MMU-391908	1. 297E-01	2. 887E-01	Ptgir, 19222:up
EGFR Transactivation by Gastrin	Reactome	R-MMU-2179392	1. 297E-01	2. 887E-01	Egfr, 13649:down
Lipid digestion, mobilization, and transport	Reactome	R-MMU-73923	1. 313E-01	2. 903E-01	Fabp4, 11770:up Fabp5, 16592:up Lp1, 16956:up
Visual phototransduction	Reactome	R-MMU-2187338	1. 313E-01	2. 903E-01	Akr1c18, 105349:up Lp1, 16956:up Gpc4, 14735:down
@@Arachidonic acid metabolism	KEGG PATHWAY	mmu00590	1. 344E-01	2. 962E-01	Ptgs2, 19225:down Cbr2, 12409:up Ggt5, 23887:up

Signaling by the B Cell Receptor (BCR)	Reactome	R-MMU-983705	1.356E-01	2.979E-01	Nrg1, 211323:down Kit1, 17311:up Fgfr2, 14183:up Fgfr1, 14182:down Egfr, 13649:down
Phospholipase C-mediated cascade; FGFR2	Reactome	R-MMU-5654221	1.371E-01	2.985E-01	Fgfr2, 14183:up Prkar2b, 19088:up
Ton transport by P-type ATPases	Reactome	R-MMU-936837	1.371E-01	2.985E-01	Fxyd2, 11936:up Fxyd1, 56188:up
@@Signaling by FGFR2	Reactome	R-MMU-5654738	1.371E-01	2.985E-01	Prkar2b, 19088:up Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
Antigen processing and presentation	KEGG PATHWAY	mmu04612	1.375E-01	2.985E-01	Tnf, 21926:up Cd4, 12504:up H2-T24, 15042:up
IRS-mediated signalling	Reactome	R-MMU-112399	1.387E-01	2.993E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
NGF signalling via TRKA from the plasma membrane	Reactome	R-MMU-187037	1.388E-01	2.993E-01	Prkar2b, 19088:up Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
Calcitonin-like ligand receptors	Reactome	R-MMU-419812	1.417E-01	3.020E-01	Adm, 11535:up
Dermatan sulfate biosynthesis	Reactome	R-MMU-2022923	1.417E-01	3.020E-01	Vcan, 13003:down
Sperm Motility And Taxes	Reactome	R-MMU-1300642	1.417E-01	3.020E-01	Hvcn1, 74096:up
Pyrimidine salvage reactions	Reactome	R-MMU-73614	1.417E-01	3.020E-01	Uck2, 80914:down
TNFR2 non-canonical NF-kB pathway	Reactome	R-MMU-5668541	1.439E-01	3.039E-01	Tnfrsf12a, 27279:down Tnf, 21926:up Tnfrsf11b, 18383:up
Transport of glucose and other sugars, bile salts and organic acids, metal ions and amine compounds	Reactome	R-MMU-425366	1.439E-01	3.039E-01	Slc40a1, 53945:up Emb, 13723:up Slc2a6, 227659:up
Insulin receptor signalling cascade	Reactome	R-MMU-74751	1.461E-01	3.075E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
MAPK signaling pathway	KEGG PATHWAY	mmu04010	1.480E-01	3.086E-01	Fgfr2, 14183:up Fgfr1, 14182:down Tnf, 21926:up Tgfb2, 21808:down Tgfb3, 21809:down Egfr, 13649:down
Phospholipase D signaling pathway	KEGG PATHWAY	mmu04072	1.487E-01	3.086E-01	Kit1, 17311:up Pdgfc, 54635:down Plpp3, 67916:up Egfr, 13649:down
Systemic lupus erythematosus	KEGG PATHWAY	mmu05322	1.513E-01	3.086E-01	Tnf, 21926:up C1s2, 317677:up C3, 12266:up C1s1, 50908:up
Hepatitis B	KEGG PATHWAY	mmu05161	1.513E-01	3.086E-01	Creb311, 26427:down Tnf, 21926:up Tgfb2, 21808:down Tgfb3, 21809:down
Cocaine addiction	KEGG PATHWAY	mmu05030	1.514E-01	3.086E-01	Creb311, 26427:down Maob, 109731:up
Transcriptional Regulation of Adipocyte Differentiation in 3T3-L1 Pre-adipocytes	Reactome	R-MMU-442533	1.514E-01	3.086E-01	Tnf, 21926:up Fabp4, 11770:up
Metabolism of carbohydrates	Reactome	R-MMU-71387	1.517E-01	3.086E-01	Sord, 20322:up Hpse, 15442:up Gpc4, 14735:down Chst11, 58250:down Vcan, 13003:down Pre1p, 116847:up
FGFR1c ligand binding and activation	Reactome	R-MMU-190373	1.536E-01	3.086E-01	Fgfr1, 14182:down
CS/DS degradation	Reactome	R-MMU-2024101	1.536E-01	3.086E-01	Vcan, 13003:down

Transport of gamma-carboxylated protein precursors from the endoplasmic reticulum to the Golgi apparatus	Reactome	R-MMU-159763	1.536E-01	3.086E-01	Gas6, 14456:up
Keratan sulfate degradation	Reactome	R-MMU-2022857	1.536E-01	3.086E-01	Pre1p, 116847:up
Peptide hormone biosynthesis	Reactome	R-MMU-209952	1.536E-01	3.086E-01	Inhba, 16323:down
Platelet Adhesion to exposed collagen	Reactome	R-MMU-75892	1.536E-01	3.086E-01	Colla2, 12843:down
Endocrine resistance	KEGG PATHWAY	mmu01522	1.536E-01	3.086E-01	Mmp2, 17390:down Igf1, 16000:up Egfr, 13649:down
Amino sugar and nucleotide sugar metabolism	KEGG PATHWAY	mmu00520	1.562E-01	3.129E-01	Gfpt2, 14584:down Np1, 74091:up
Estrogen signaling pathway	KEGG PATHWAY	mmu04915	1.602E-01	3.198E-01	Creb311, 26427:down Mmp2, 17390:down Egfr, 13649:down
Type II diabetes mellitus	KEGG PATHWAY	mmu04930	1.611E-01	3.198E-01	Tnf, 21926:up Adipoq, 11450:up
Nuclear Receptor transcription pathway	Reactome	R-MMU-383280	1.611E-01	3.198E-01	Vdr, 22337:down Pparg, 19016:up
Integration of energy metabolism	Reactome	R-MMU-163685	1.636E-01	3.200E-01	Adipoq, 11450:up Glp1r, 14652:down Prkar2b, 19088:up
TP53 Regulates Transcription of Cell Death Genes	Reactome	R-MMU-5633008	1.653E-01	3.200E-01	Igfbp3, 16009:up
Translocation of ZAP-70 to Immunological synapse	Reactome	R-MMU-202430	1.653E-01	3.200E-01	Cd4, 12504:up
eNOS activation	Reactome	R-MMU-203615	1.653E-01	3.200E-01	Ddah1, 69219:down
Facilitative Na ⁺ -independent glucose transporters	Reactome	R-MMU-428790	1.653E-01	3.200E-01	Slc2a6, 227659:up
Metabolism of Angiotensinogen to Angiotensins	Reactome	R-MMU-2022377	1.653E-01	3.200E-01	Mme, 17380:up
Removal of aminoterminal propeptides from gamma-carboxylated proteins	Reactome	R-MMU-159782	1.653E-01	3.200E-01	Gas6, 14456:up
GRB2 events in ERBB2 signaling	Reactome	R-MMU-1963640	1.653E-01	3.200E-01	Nrg1, 211323:down
Formation of Senescence-Associated Heterochromatin Foci (SAHF)	Reactome	R-MMU-2559584	1.653E-01	3.200E-01	Hmgal-rs1, 111241:up
Ion homeostasis	Reactome	R-MMU-5578775	1.659E-01	3.204E-01	Fxyd2, 11936:up Fxyd1, 56188:up
Class B/2 (Secretin family receptors)	Reactome	R-MMU-373080	1.708E-01	3.290E-01	Glp1r, 14652:down Adm, 11535:up
Choline metabolism in cancer	KEGG PATHWAY	mmu05231	1.737E-01	3.331E-01	Pdgfc, 54635:down Plpp3, 67916:up Egfr, 13649:down
Nuclear signaling by ERBB4	Reactome	R-MMU-1251985	1.758E-01	3.331E-01	Pr12c2, 18811:up Cxc112, 20315:up

Folate biosynthesis	KEGG PATHWAY	mmu00790	1.768E-01	3.331E-01	Alpl, 11647:up
Nicotinate metabolism	Reactome	R-MMU-196807	1.768E-01	3.331E-01	Ptgs2, 19225:down
FGFR2c ligand binding and activation	Reactome	R-MMU-190375	1.768E-01	3.331E-01	Fgfr2, 14183:up
LGI-ADAM interactions	Reactome	R-MMU-5682910	1.768E-01	3.331E-01	Lgi2, 246316:up
Gamma-carboxylation, transport, and amino-terminal cleavage of proteins	Reactome	R-MMU-159854	1.768E-01	3.331E-01	Gas6, 14456:up
Starch and sucrose metabolism	KEGG PATHWAY	mmu00500	1.807E-01	3.396E-01	Enpp3, 209558:down Enpp1, 18605:down
Basal cell carcinoma	KEGG PATHWAY	mmu05217	1.857E-01	3.453E-01	Bmp4, 12159:up Wnt5a, 22418:down
Signaling by SCF-KIT	Reactome	R-MMU-1433557	1.875E-01	3.453E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kitl, 17311:up Nrg1, 211323:down Egfr, 13649:down
Downregulation of TGF-beta receptor signaling	Reactome	R-MMU-2173788	1.881E-01	3.453E-01	Pmepa1, 65112:down
Eicosanoid ligand-binding receptors	Reactome	R-MMU-391903	1.881E-01	3.453E-01	Ptgir, 19222:up
Regulation of FZD by ubiquitination	Reactome	R-MMU-4641263	1.881E-01	3.453E-01	Rspo2, 239405:up
Phosphorylation of CD3 and TCR zeta chains	Reactome	R-MMU-202427	1.881E-01	3.453E-01	Cd4, 12504:up
Purine salvage	Reactome	R-MMU-74217	1.881E-01	3.453E-01	Ampd3, 11717:up
Synthesis of Leukotrienes (LT) and Eoxins (EX)	Reactome	R-MMU-2142691	1.881E-01	3.453E-01	Ggt5, 23887:up
Miscellaneous transport and binding events	Reactome	R-MMU-5223345	1.881E-01	3.453E-01	Ank, 11732:down
Signaling by PTK6	Reactome	R-MMU-8848021	1.907E-01	3.490E-01	Nrg1, 211323:down Egfr, 13649:down
Metabolic pathways	KEGG PATHWAY	mmu01100	1.923E-01	3.510E-01	Maob, 109731:up P4ha1, 18451:down Gatm, 67092:down Enpp1, 18605:down Hal, 15109:up Cdo1, 12583:up Aldh1a3, 56847:down Cbr2, 12409:up Man2a2, 140481:up Alpl, 11647:up Hpse, 15442:up Aldh1a2, 19378:up Uck2, 80914:down Gfpt2, 14584:down Plpp3, 67916:up Pdxk, 216134:up Sord, 20322:up Enpp3, 209558:down Anep, 16790:up Ptgs2, 19225:down Ampd3, 11717:up Ggt5, 23887:up
Signaling by Insulin receptor	Reactome	R-MMU-74752	1.937E-01	3.528E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kitl, 17311:up Nrg1, 211323:down Egfr, 13649:down
Regulation of lipolysis in adipocytes	KEGG PATHWAY	mmu04923	1.957E-01	3.553E-01	Fabp4, 11770:up Ptgs2, 19225:down
Regulation of KIT signaling	Reactome	R-MMU-1433559	1.993E-01	3.556E-01	Kitl, 17311:up
Syndecan interactions	Reactome	R-MMU-3000170	1.993E-01	3.556E-01	Tnc, 21923:down
WNT5A-dependent internalization of FZD4	Reactome	R-MMU-5099900	1.993E-01	3.556E-01	Wnt5a, 22418:down
PKA activation	Reactome	R-MMU-163615	1.993E-01	3.556E-01	Prkar2b, 19088:up
FGFR1 ligand binding and activation	Reactome	R-MMU-190242	1.993E-01	3.556E-01	Fgfr1, 14182:down

PKA-mediated phosphorylation of CREB	Reactome	R-MMU-111931	1.993E-01	3.556E-01	Prkar2b, 19088:up
Legionellosis	KEGG PATHWAY	mmu05134	2.007E-01	3.562E-01	Tnf, 21926:up C3, 12266:up
Ovarian steroidogenesis	KEGG PATHWAY	mmu04913	2.007E-01	3.562E-01	Ptgs2, 19225:down Igf1, 16000:up
Glycerolipid metabolism	KEGG PATHWAY	mmu00561	2.057E-01	3.623E-01	Plpp3, 67916:up Lpl, 16956:up
Synthesis of substrates in N-glycan biosynthesis	Reactome	R-MMU-446219	2.057E-01	3.623E-01	Gfpt2, 14584:down Npl, 74091:up
Insulin resistance	KEGG PATHWAY	mmu04931	2.086E-01	3.639E-01	Creb311, 26427:down Gfpt2, 14584:down Tnf, 21926:up
G alpha (s) signalling events	Reactome	R-MMU-418555	2.086E-01	3.639E-01	Gplr1, 14652:down Ptgir, 19222:up Adm, 11535:up
Scavenging of heme from plasma	Reactome	R-MMU-2168880	2.104E-01	3.639E-01	Hp, 15439:up
PD-1 signaling	Reactome	R-MMU-389948	2.104E-01	3.639E-01	Cd4, 12504:up
Oxygen-dependent proline hydroxylation of Hypoxia-inducible Factor Alpha	Reactome	R-MMU-1234176	2.104E-01	3.639E-01	Epas1, 13819:up
PKA activation in glucagon signalling	Reactome	R-MMU-164378	2.104E-01	3.639E-01	Prkar2b, 19088:up
CRMPs in Sema3A signaling	Reactome	R-MMU-399956	2.104E-01	3.639E-01	Dpysl3, 22240:down
VEGF signaling pathway	KEGG PATHWAY	mmu04370	2.108E-01	3.639E-01	Ptgs2, 19225:down Vegfa, 22339:down
Cell adhesion molecules (CAMs)	KEGG PATHWAY	mmu04514	2.143E-01	3.690E-01	Ncam1, 17967:down Cd4, 12504:up Vcan, 13003:down H2-T24, 15042:up
Allograft rejection	KEGG PATHWAY	mmu05330	2.209E-01	3.747E-01	Tnf, 21926:up H2-T24, 15042:up
TP53 regulates transcription of additional cell cycle genes whose exact role in the p53 pathway remain uncertain	Reactome	R-MMU-6804115	2.213E-01	3.747E-01	Plk2, 20620:down
TNF receptor superfamily (TNFSF) members mediating non-canonical NF-kB pathway	Reactome	R-MMU-5676594	2.213E-01	3.747E-01	Tnfrsf12a, 27279:down
Synthesis of bile acids and bile salts via 24-hydroxycholesterol	Reactome	R-MMU-193775	2.213E-01	3.747E-01	Akr1c18, 105349:up
Synthesis of bile acids and bile salts via 27-hydroxycholesterol	Reactome	R-MMU-193807	2.213E-01	3.747E-01	Akr1c18, 105349:up
Colorectal cancer	KEGG PATHWAY	mmu05210	2.311E-01	3.846E-01	Tgfb2, 21808:down Tgfb3, 21809:down
Graft-versus-host disease	KEGG PATHWAY	mmu05332	2.311E-01	3.846E-01	Tnf, 21926:up H2-T24, 15042:up
FGFR2 ligand binding and activation	Reactome	R-MMU-190241	2.321E-01	3.846E-01	Fgfr2, 14183:up

Synthesis, secretion, and deacylation of Ghrelin	Reactome	R-MMU-422085	2. 321E-01	3. 846E-01	Igf1, 16000:up
DARPP-32 events	Reactome	R-MMU-180024	2. 321E-01	3. 846E-01	Prkar2b, 19088:up
Tie2 Signaling	Reactome	R-MMU-210993	2. 321E-01	3. 846E-01	Dok2, 13449:up
Glioma	KEGG PATHWAY	mmu05214	2. 362E-01	3. 898E-01	Igf1, 16000:up Egfr, 13649:down
Metabolism of proteins	Reactome	R-MMU-392499	2. 363E-01	3. 898E-01	Sec23a, 20334:down Inhba, 16323:down Pappa, 18491:down Igfbp4, 16010:up Man2a2, 140481:up Lmcd1, 30937:up Np1, 74091:up Igf2, 16002:up Gas6, 14456:up Igf1, 16000:up Uchl5, 56207:up Mmp2, 17390:down Klk1b11, 16613:up Gfpt2, 14584:down Mme, 17380:up Igfbp3, 16009:up
Regulation of TLR by endogenous ligand	Reactome	R-MMU-5686938	2. 427E-01	3. 984E-01	S100a1, 20193:up
Amphetamine addiction	KEGG PATHWAY	mmu05031	2. 464E-01	4. 026E-01	Creb311, 26427:down Maob, 109731:up
RNA polymerase II transcribes snRNA genes	Reactome	R-MMU-6807505	2. 464E-01	4. 026E-01	Ice1, 218333:down Nabp1, 109019:down
Calcium signaling pathway	KEGG PATHWAY	mmu04020	2. 496E-01	4. 060E-01	Ednrb, 13618:up Htr2b, 15559:down Htr2a, 15558:down Egfr, 13649:down
Fc epsilon receptor (FCERI) signaling	Reactome	R-MMU-2454202	2. 510E-01	4. 060E-01	Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
p53 signaling pathway	KEGG PATHWAY	mmu04115	2. 515E-01	4. 060E-01	Igf1, 16000:up Igfbp3, 16009:up
Platelet activation	KEGG PATHWAY	mmu04611	2. 522E-01	4. 060E-01	Col3a1, 12825:down Ptgir, 19222:up Colla2, 12843:down
Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	KEGG PATHWAY	mmu00532	2. 531E-01	4. 060E-01	Chst11, 58250:down
EGFR downregulation	Reactome	R-MMU-182971	2. 531E-01	4. 060E-01	Egfr, 13649:down
SHC-mediated cascade:FGFR1	Reactome	R-MMU-5654688	2. 531E-01	4. 060E-01	Fgfr1, 14182:down
Type I diabetes mellitus	KEGG PATHWAY	mmu04940	2. 566E-01	4. 098E-01	Tnf, 21926:up H2-T24, 15042:up
Biosynthesis of the N-glycan precursor (dolichol lipid-linked oligosaccharide, LLO) and transfer to a nascent protein	Reactome	R-MMU-446193	2. 566E-01	4. 098E-01	Gfpt2, 14584:down Np1, 74091:up
Ion channel transport	Reactome	R-MMU-983712	2. 616E-01	4. 122E-01	Fxyd2, 11936:up Mcoln3, 171166:up Mcoln2, 68279:up Fxyd1, 56188:up
Thyroid hormone synthesis	KEGG PATHWAY	mmu04918	2. 617E-01	4. 122E-01	Creb311, 26427:down Fxyd2, 11936:up
Inflammatory mediator regulation of TRP channels	KEGG PATHWAY	mmu04750	2. 634E-01	4. 122E-01	Igf1, 16000:up Htr2b, 15559:down Htr2a, 15558:down
Glycosaminoglycan degradation	KEGG PATHWAY	mmu00531	2. 634E-01	4. 122E-01	Hpse, 15442:up
Sulfur amino acid metabolism	Reactome	R-MMU-1614635	2. 634E-01	4. 122E-01	Cdo1, 12583:up
Regulation of Hypoxia-inducible Factor (HIF) by oxygen	Reactome	R-MMU-1234174	2. 634E-01	4. 122E-01	Epas1, 13819:up

IL-6-type cytokine receptor ligand interactions	Reactome	R-MMU-6788467	2.634E-01	4.122E-01	Cr1f1, 12931:down
Cellular response to hypoxia	Reactome	R-MMU-2262749	2.634E-01	4.122E-01	Epas1, 13819:up
TGF-beta receptor signaling activates SMADs	Reactome	R-MMU-2173789	2.634E-01	4.122E-01	Pmepa1, 65112:down
Adipocytokine signaling pathway	KEGG PATHWAY	mmu04920	2.720E-01	4.197E-01	Tnf, 21926:up Adipoq, 11450:up
Proximal tubule bicarbonate reclamation	KEGG PATHWAY	mmu04964	2.736E-01	4.197E-01	Fxyd2, 11936:up
Chylomicron-mediated lipid transport	Reactome	R-MMU-174800	2.736E-01	4.197E-01	Lpl, 16956:up
Surfactant metabolism	Reactome	R-MMU-5683826	2.736E-01	4.197E-01	Lmcd1, 30937:up
eNOS activation and regulation	Reactome	R-MMU-203765	2.736E-01	4.197E-01	Ddah1, 69219:down
TNFs bind their physiological receptors	Reactome	R-MMU-5669034	2.736E-01	4.197E-01	Tnfrsf11b, 18383:up
Metabolism of nitric oxide	Reactome	R-MMU-202131	2.736E-01	4.197E-01	Ddah1, 69219:down
Common Pathway of Fibrin Clot Formation	Reactome	R-MMU-140875	2.736E-01	4.197E-01	Serpine2, 20720:up
Chronic myeloid leukemia	KEGG PATHWAY	mmu05220	2.771E-01	4.241E-01	Tgfb2, 21808:down Tgfb3, 21809:down
Adherens junction	KEGG PATHWAY	mmu04520	2.822E-01	4.257E-01	Fgfr1, 14182:down Egfr, 13649:down
EPH-Ephrin signaling	Reactome	R-MMU-2682334	2.822E-01	4.257E-01	Mmp2, 17390:down Vegfa, 22339:down
Fertilization	Reactome	R-MMU-1187000	2.836E-01	4.257E-01	Hvcn1, 74096:up
Regulation of Complement cascade	Reactome	R-MMU-977606	2.836E-01	4.257E-01	C3, 12266:up
Reproduction	Reactome	R-MMU-1474165	2.836E-01	4.257E-01	Hvcn1, 74096:up
TNFR1-induced NFkappaB signaling pathway	Reactome	R-MMU-5357956	2.836E-01	4.257E-01	Tnf, 21926:up
Metal ion SLC transporters	Reactome	R-MMU-425410	2.836E-01	4.257E-01	Slc40a1, 53945:up
Signaling by BMP	Reactome	R-MMU-201451	2.836E-01	4.257E-01	Bmpr1a, 12166:down
@@Pyrimidine metabolism	Reactome	R-MMU-73848	2.935E-01	4.359E-01	Uck2, 80914:down
Asthma	KEGG PATHWAY	mmu05310	2.935E-01	4.359E-01	Tnf, 21926:up
Myogenesis	Reactome	R-MMU-525793	2.935E-01	4.359E-01	Cdo1, 12583:up
CDO in myogenesis	Reactome	R-MMU-375170	2.935E-01	4.359E-01	Cdo1, 12583:up
PI3K Cascade	Reactome	R-MMU-109704	2.975E-01	4.409E-01	Fgfr2, 14183:up Fgfr1, 14182:down
Signalling by NGF	Reactome	R-MMU-166520	2.982E-01	4.410E-01	Prkar2b, 19088:up Ret, 19713:up Fgfr2, 14183:up Fgfr1, 14182:down Kit1, 17311:up Nrg1, 211323:down Egfr, 13649:down
Salmonella infection	KEGG PATHWAY	mmu05132	3.026E-01	4.438E-01	Cc13, 20302:up Cc14, 20303:up
N-glycan antennae elongation in the medial/trans-Golgi	Reactome	R-MMU-975576	3.033E-01	4.438E-01	Man2a2, 140481:up

HS-GAG biosynthesis	Reactome	R-MMU-2022928	3. 033E-01	4. 438E-01	Gpc4, 14735:down
SHC-mediated cascade:FGFR2	Reactome	R-MMU-5654699	3. 033E-01	4. 438E-01	Fgfr2, 14183:up
Keratan sulfate biosynthesis	Reactome	R-MMU-2022854	3. 033E-01	4. 438E-01	Pre1p, 116847:up
cAMP signaling pathway	KEGG PATHWAY	mmu04024	3. 046E-01	4. 448E-01	Creb311, 26427:down Fxyd2, 11936:up G1plr, 14652:down Fxyd1, 56188:up
Dorso-ventral axis formation	KEGG PATHWAY	mmu04320	3. 129E-01	4. 467E-01	Egfr, 13649:down
G protein gated Potassium channels	Reactome	R-MMU-1296059	3. 129E-01	4. 467E-01	Kcnj15, 16516:down
Inhibition of voltage gated Ca2+ channels via Gbeta/gamma subunits	Reactome	R-MMU-997272	3. 129E-01	4. 467E-01	Kcnj15, 16516:down
Synthesis of bile acids and bile salts via 7alpha-hydroxycholesterol	Reactome	R-MMU-193368	3. 129E-01	4. 467E-01	Akr1c18, 105349:up
Generation of second messenger molecules	Reactome	R-MMU-202433	3. 129E-01	4. 467E-01	Cd4, 12504:up
Regulation of TNFR1 signaling	Reactome	R-MMU-5357905	3. 129E-01	4. 467E-01	Tnf, 21926:up
Calmodulin induced events	Reactome	R-MMU-111933	3. 129E-01	4. 467E-01	Prkar2b, 19088:up
WNT ligand biogenesis and trafficking	Reactome	R-MMU-3238698	3. 129E-01	4. 467E-01	Wnt5a, 22418:down
CaM pathway	Reactome	R-MMU-111997	3. 129E-01	4. 467E-01	Prkar2b, 19088:up
Laminin interactions	Reactome	R-MMU-3000157	3. 129E-01	4. 467E-01	Lama2, 16773:down
Activation of G protein gated Potassium channels	Reactome	R-MMU-1296041	3. 129E-01	4. 467E-01	Kcnj15, 16516:down
DAG and IP3 signaling	Reactome	R-MMU-1489509	3. 224E-01	4. 575E-01	Prkar2b, 19088:up
PLC-gamma1 signalling	Reactome	R-MMU-167021	3. 224E-01	4. 575E-01	Prkar2b, 19088:up
EPHA-mediated growth cone collapse	Reactome	R-MMU-3928663	3. 224E-01	4. 575E-01	Vegfa, 22339:down
Vesicle-mediated transport	Reactome	R-MMU-5653656	3. 236E-01	4. 583E-01	Kdelr3, 105785:down Sec23a, 20334:down Cd4, 12504:up Trf, 22041:up Wnt5a, 22418:down Tfrc, 22042:up Egfr, 13649:down Hp, 15439:up
Interleukin-6 family signaling	Reactome	R-MMU-6783589	3. 317E-01	4. 660E-01	Cr1f1, 12931:down
Cargo concentration in the ER	Reactome	R-MMU-5694530	3. 317E-01	4. 660E-01	Sec23a, 20334:down
Ca-dependent events	Reactome	R-MMU-111996	3. 317E-01	4. 660E-01	Prkar2b, 19088:up
Endosomal/Vacuolar pathway	Reactome	R-MMU-1236977	3. 317E-01	4. 660E-01	H2-T24, 15042:up
Small cell lung cancer	KEGG PATHWAY	mmu05222	3. 381E-01	4. 740E-01	Ptgs2, 19225:down Lama2, 16773:down
Ca2+ pathway	Reactome	R-MMU-4086398	3. 410E-01	4. 771E-01	Wnt5a, 22418:down
Viral myocarditis	KEGG PATHWAY	mmu05416	3. 431E-01	4. 791E-01	H2-T24, 15042:up Lama2, 16773:down
ErbB signaling pathway	KEGG PATHWAY	mmu04012	3. 481E-01	4. 840E-01	Nrg1, 211323:down Egfr, 13649:down

Synthesis of bile acids and bile salts	Reactome	R-MMU-192105	3.501E-01	4.840E-01	Akr1c18, 105349:up
Negative regulation of FGFR1 signaling	Reactome	R-MMU-5654726	3.501E-01	4.840E-01	Fgfr1, 14182:down
Keratan sulfate/keratin metabolism	Reactome	R-MMU-1638074	3.501E-01	4.840E-01	Pre1p, 116847:up
GnRH signaling pathway	KEGG PATHWAY	mmu04912	3.531E-01	4.872E-01	Mmp2, 17390:down Egfr, 13649:down
Glucagon-type ligand receptors	Reactome	R-MMU-420092	3.590E-01	4.926E-01	Glp1r, 14652:down
Sialic acid metabolism	Reactome	R-MMU-4085001	3.590E-01	4.926E-01	Npl, 74091:up
TP53 Regulates Transcription of Cell Cycle Genes	Reactome	R-MMU-6791312	3.590E-01	4.926E-01	Plk2, 20620:down
Inwardly rectifying K+ channels	Reactome	R-MMU-1296065	3.679E-01	5.017E-01	Kcnj15, 16516:down
Gamma carboxylation, hypusine formation and arylsulfatase activation	Reactome	R-MMU-163841	3.679E-01	5.017E-01	Gas6, 14456:up
Negative regulation of FGFR2 signaling	Reactome	R-MMU-5654727	3.679E-01	5.017E-01	Fgfr2, 14183:up
HTLV-I infection	KEGG PATHWAY	mmu05166	3.686E-01	5.017E-01	Tgfb2, 21808:down Tnf, 21926:up H2-T24, 15042:up Wnt5a, 22418:down Tgfb3, 21809:down
Neuroactive ligand-receptor interaction	KEGG PATHWAY	mmu04080	3.713E-01	5.044E-01	Ednrb, 13618:up Glp1r, 14652:down Htr2b, 15559:down Htr2a, 15558:down Ptgir, 19222:up
mTOR signaling pathway	KEGG PATHWAY	mmu04150	3.723E-01	5.047E-01	Tnf, 21926:up Igf1, 16000:up Wnt5a, 22418:down
Metabolism of water-soluble vitamins and cofactors	Reactome	R-MMU-196849	3.730E-01	5.047E-01	Ptgs2, 19225:down Pdxk, 216134:up
beta-Alanine metabolism	KEGG PATHWAY	mmu00410	3.766E-01	5.068E-01	Aldh1a3, 56847:down
Glucagon signaling in metabolic regulation	Reactome	R-MMU-163359	3.766E-01	5.068E-01	Prkar2b, 19088:up
Metabolism of nucleotides	Reactome	R-MMU-15869	3.828E-01	5.140E-01	Ampd3, 11717:up Uck2, 80914:down
Prion diseases	KEGG PATHWAY	mmu05020	3.852E-01	5.154E-01	Ncam1, 17967:down
Binding and Uptake of Ligands by Scavenger Receptors	Reactome	R-MMU-2173782	3.852E-01	5.154E-01	Hp, 15439:up
Cell-Cell communication	Reactome	R-MMU-1500931	3.877E-01	5.176E-01	Sirpb1a, 320832:down Sirpb1b, 668101:down
@@Purine metabolism	Reactome	R-MMU-73847	3.937E-01	5.198E-01	Ampd3, 11717:up
Primary immunodeficiency	KEGG PATHWAY	mmu05340	3.937E-01	5.198E-01	Cd4, 12504:up
Fructose and mannose metabolism	KEGG PATHWAY	mmu00051	3.937E-01	5.198E-01	Sord, 20322:up
African trypanosomiasis	KEGG PATHWAY	mmu05143	3.937E-01	5.198E-01	Tnf, 21926:up
ER-Phagosome pathway	Reactome	R-MMU-1236974	3.937E-01	5.198E-01	H2-T24, 15042:up

Prolactin receptor signaling	Reactome	R-MMU-1170546	3.937E-01	5.198E-01	Pr12c2, 18811:up
Membrane Trafficking	Reactome	R-MMU-199991	3.961E-01	5.219E-01	Kdelr3, 105785:down Sec23a, 20334:down Cd4, 12504:up Trf, 22041:up Wnt5a, 22418:down Tfrc, 22042:up Egfr, 13649:down
Stimuli-sensing channels	Reactome	R-MMU-2672351	3.974E-01	5.227E-01	Mcoln3, 171166:up Mcoln2, 68279:up
Pentose and glucuronate interconversions	KEGG PATHWAY	mmu00040	4.021E-01	5.251E-01	Sord, 20322:up
Glucagon-like Peptide-1 (GLP1) regulates insulin secretion	Reactome	R-MMU-381676	4.021E-01	5.251E-01	Glp1r, 14652:down
TNF signaling	Reactome	R-MMU-75893	4.021E-01	5.251E-01	Tnf, 21926:up
Cardiac conduction	Reactome	R-MMU-5576891	4.023E-01	5.251E-01	Fxyd2, 11936:up Fxyd1, 56188:up
Alanine, aspartate and glutamate metabolism	KEGG PATHWAY	mmu00250	4.104E-01	5.317E-01	Gfpt2, 14584:down
Transport of vitamins, nucleosides, and related molecules	Reactome	R-MMU-425397	4.104E-01	5.317E-01	Slc29a1, 63959:up
EPH-ephrin mediated repulsion of cells	Reactome	R-MMU-3928665	4.185E-01	5.383E-01	Mmp2, 17390:down
Interleukin-1 signaling	Reactome	R-MMU-446652	4.185E-01	5.383E-01	Il1rn, 16181:up
Histidine, lysine, phenylalanine, tyrosine, proline and tryptophan catabolism	Reactome	R-MMU-6788656	4.266E-01	5.466E-01	Hal, 15109:up
Alzheimer's disease	KEGG PATHWAY	mmu05010	4.315E-01	5.488E-01	Tnf, 21926:up Mme, 17380:up Lpl, 16956:up
cGMP-PKG signaling pathway	KEGG PATHWAY	mmu04022	4.315E-01	5.488E-01	Creb3l1, 26427:down Fxyd2, 11936:up Ednrb, 13618:up
Fat digestion and absorption	KEGG PATHWAY	mmu04975	4.345E-01	5.488E-01	Plpp3, 67916:up
PLC beta mediated events	Reactome	R-MMU-112043	4.345E-01	5.488E-01	Prkar2b, 19088:up
Phospholipase C-mediated cascade; FGFR3	Reactome	R-MMU-5654227	4.345E-01	5.488E-01	Prkar2b, 19088:up
GABA B receptor activation	Reactome	R-MMU-977444	4.345E-01	5.488E-01	Kcnj15, 16516:down
Activation of GABAB receptors	Reactome	R-MMU-991365	4.345E-01	5.488E-01	Kcnj15, 16516:down
T cell receptor signaling pathway	KEGG PATHWAY	mmu04660	4.356E-01	5.492E-01	Tnf, 21926:up Cd4, 12504:up
Bile acid and bile salt metabolism	Reactome	R-MMU-194068	4.423E-01	5.527E-01	Akr1c18, 105349:up
G-protein mediated events	Reactome	R-MMU-112040	4.423E-01	5.527E-01	Prkar2b, 19088:up
Phospholipase C-mediated cascade; FGFR4	Reactome	R-MMU-5654228	4.423E-01	5.527E-01	Prkar2b, 19088:up
Death Receptor Signalling	Reactome	R-MMU-73887	4.423E-01	5.527E-01	Tnf, 21926:up
Asparagine N-linked glycosylation	Reactome	R-MMU-446203	4.443E-01	5.542E-01	Gfpt2, 14584:down Npl, 74091:up Man2a2, 140481:up Sec23a, 20334:down

GPCR downstream signaling	Reactome	R-MMU-388396	4. 493E-01	5. 573E-01	Ednrb, 13618:up Glp1r, 14652:down Cc19, 20308:up Cxc112, 20315:up Cc16, 20305:up Kng1, 16644:up Kng2, 385643:up Adm, 11535:up Cxcr6, 80901:down Cxc19, 17329:up Pbbp, 57349:down Ptgir, 19222:up C3, 12266:up Htr2b, 15559:down Htr2a, 15558:down
@Axon guidance	KEGG PATHWAY	mmu04360	4. 496E-01	5. 573E-01	Sema7a, 20361:down Cxc112, 20315:up Wnt5a, 22418:down
Intestinal immune network for IgA production	KEGG PATHWAY	mmu04672	4. 500E-01	5. 573E-01	Cxc112, 20315:up
Vasopressin regulates renal water homeostasis via Aquaporins	Reactome	R-MMU-432040	4. 500E-01	5. 573E-01	Prkar2b, 19088:up
@Purine metabolism	KEGG PATHWAY	mmu00230	4. 532E-01	5. 603E-01	Ampd3, 11717:up Enpp3, 209558:down Enpp1, 18605:down
Vasopressin-regulated water reabsorption	KEGG PATHWAY	mmu04962	4. 576E-01	5. 638E-01	Creb311, 26427:down
Sphingolipid de novo biosynthesis	Reactome	R-MMU-1660661	4. 576E-01	5. 638E-01	Plpp3, 67916:up
SLC-mediated transmembrane transport	Reactome	R-MMU-425407	4. 625E-01	5. 688E-01	Slc40a1, 53945:up Emb, 13723:up Slc29a1, 63959:up Slc2a6, 227659:up
Ether lipid metabolism	KEGG PATHWAY	mmu00565	4. 651E-01	5. 690E-01	Plpp3, 67916:up
DNA Damage/Telomere Stress Induced Senescence	Reactome	R-MMU-2559586	4. 651E-01	5. 690E-01	Hmgal-rs1, 111241:up
Growth hormone receptor signaling	Reactome	R-MMU-982772	4. 651E-01	5. 690E-01	Pr12c2, 18811:up
Carbohydrate digestion and absorption	KEGG PATHWAY	mmu04973	4. 725E-01	5. 770E-01	Fxyd2, 11936:up
Tryptophan metabolism	KEGG PATHWAY	mmu00380	4. 798E-01	5. 849E-01	Maob, 109731:up
Thyroid hormone signaling pathway	KEGG PATHWAY	mmu04919	4. 903E-01	5. 967E-01	Fxyd2, 11936:up Bmp4, 12159:up
Sphingolipid metabolism	KEGG PATHWAY	mmu00600	4. 941E-01	5. 971E-01	Plpp3, 67916:up
Cysteine and methionine metabolism	KEGG PATHWAY	mmu00270	4. 941E-01	5. 971E-01	Cdo1, 12583:up
GPVI-mediated activation cascade	Reactome	R-MMU-114604	4. 941E-01	5. 971E-01	Col1a2, 12843:down
Aquaporin-mediated transport	Reactome	R-MMU-445717	4. 941E-01	5. 971E-01	Prkar2b, 19088:up
N-Glycan biosynthesis	KEGG PATHWAY	mmu00510	5. 010E-01	6. 045E-01	Man2a2, 140481:up
Leukocyte transendothelial migration	KEGG PATHWAY	mmu04670	5. 078E-01	6. 108E-01	Mmp2, 17390:down Cxc112, 20315:up
Golgi Associated Vesicle Biogenesis	Reactome	R-MMU-432722	5. 079E-01	6. 108E-01	Tfrc, 22042:up
Metabolism of lipids and lipoproteins	Reactome	R-MMU-556833	5. 124E-01	6. 147E-01	Hpgd, 15446:up Ggt5, 23887:up Fabp5, 16592:up Ptgs2, 19225:down Lp1, 16956:up Fabp4, 11770:up Plpp3, 67916:up Gdpd1, 66569:up Akr1c18, 105349:up
Drug metabolism - other enzymes	KEGG PATHWAY	mmu00983	5. 147E-01	6. 147E-01	Uck2, 80914:down
COPI-dependent Golgi-to-ER retrograde traffic	Reactome	R-MMU-6811434	5. 147E-01	6. 147E-01	Kdelr3, 105785:down

Cell cycle	KEGG PATHWAY	mmu04110	5. 207E-01	6. 185E-01	Tgfb2, 21808:down Tgfb3, 21809:down
Endometrial cancer	KEGG PATHWAY	mmu05213	5. 215E-01	6. 185E-01	Egfr, 13649:down
Amyotrophic lateral sclerosis (ALS)	KEGG PATHWAY	mmu05014	5. 215E-01	6. 185E-01	Tnf, 21926:up
Lysine degradation	KEGG PATHWAY	mmu00310	5. 215E-01	6. 185E-01	Plod2, 26432:down
Platelet homeostasis	Reactome	R-MMU-418346	5. 281E-01	6. 253E-01	Ptgir, 19222:up
Alcoholism	KEGG PATHWAY	mmu05034	5. 327E-01	6. 298E-01	Creb311, 26427:down Slc29a1, 63959:up Maob, 109731:up
Non-small cell lung cancer	KEGG PATHWAY	mmu05223	5. 474E-01	6. 427E-01	Egfr, 13649:down
Lipoprotein metabolism	Reactome	R-MMU-174824	5. 474E-01	6. 427E-01	Lpl, 16956:up
GABA receptor activation	Reactome	R-MMU-977443	5. 474E-01	6. 427E-01	Kcnj15, 16516:down
Asymmetric localization of PCP proteins	Reactome	R-MMU-4608870	5. 474E-01	6. 427E-01	Wnt5a, 22418:down
COPII (Coat Protein 2) Mediated Vesicle Transport	Reactome	R-MMU-204005	5. 536E-01	6. 479E-01	Sec23a, 20334:down
PI Metabolism	Reactome	R-MMU-1483255	5. 536E-01	6. 479E-01	Gdpd1, 66569:up
Dopaminergic synapse	KEGG PATHWAY	mmu04728	5. 579E-01	6. 518E-01	Creb311, 26427:down Maob, 109731:up
Opioid Signalling	Reactome	R-MMU-111885	5. 598E-01	6. 519E-01	Prkar2b, 19088:up
Costimulation by the CD28 family	Reactome	R-MMU-388841	5. 598E-01	6. 519E-01	Cd4, 12504:up
Signaling by TGF-beta Receptor Complex	Reactome	R-MMU-170834	5. 719E-01	6. 637E-01	Pmepa1, 65112:down
Measles	KEGG PATHWAY	mmu05162	5. 737E-01	6. 648E-01	Oas1a, 246730:up Oas3, 246727:up
Cytosolic DNA-sensing pathway	KEGG PATHWAY	mmu04623	5. 778E-01	6. 662E-01	Cc14, 20303:up
Long-term depression	KEGG PATHWAY	mmu04730	5. 778E-01	6. 662E-01	Igf1, 16000:up
Metabolism of amino acids and derivatives	Reactome	R-MMU-71291	5. 841E-01	6. 723E-01	Cdo1, 12583:up Gatm, 67092:down Hal, 15109:up
Transport to the Golgi and subsequent modification	Reactome	R-MMU-948021	5. 892E-01	6. 771E-01	Sec23a, 20334:down Man2a2, 140481:up
Longevity regulating pathway - multiple species	KEGG PATHWAY	mmu04213	5. 951E-01	6. 827E-01	Igf1, 16000:up
Glycolysis / Gluconeogenesis	KEGG PATHWAY	mmu00010	6. 007E-01	6. 858E-01	Aldh1a3, 56847:down
Loss of proteins required for interphase microtubule organization from the centrosome	Reactome	R-MMU-380284	6. 007E-01	6. 858E-01	Prkar2b, 19088:up
Loss of Nlp from mitotic centrosomes	Reactome	R-MMU-380259	6. 007E-01	6. 858E-01	Prkar2b, 19088:up
trans-Golgi Network Vesicle Budding	Reactome	R-MMU-199992	6. 062E-01	6. 899E-01	Tfrc, 22042:up

Clathrin derived vesicle budding	Reactome	R-MMU-421837	6.062E-01	6.899E-01	Tfrc, 22042:up
Fc epsilon RI signaling pathway	KEGG PATHWAY	mmu04664	6.117E-01	6.949E-01	Tnf, 21926:up
RIG-I-like receptor signaling pathway	KEGG PATHWAY	mmu04622	6.170E-01	6.988E-01	Tnf, 21926:up
AURKA Activation by TPX2	Reactome	R-MMU-8854518	6.170E-01	6.988E-01	Prkar2b, 19088:up
Adrenergic signaling in cardiomyocytes	KEGG PATHWAY	mmu04261	6.260E-01	7.077E-01	Creb311, 26427:down Fxyd2, 11936:up
Bile secretion	KEGG PATHWAY	mmu04976	6.327E-01	7.122E-01	Fxyd2, 11936:up
Non-alcoholic fatty liver disease (NAFLD)	KEGG PATHWAY	mmu04932	6.330E-01	7.122E-01	Tnf, 21926:up Adipoq, 11450:up
Muscle contraction	Reactome	R-MMU-397014	6.365E-01	7.149E-01	Fxyd2, 11936:up Fxyd1, 56188:up
Viral carcinogenesis	KEGG PATHWAY	mmu05203	6.374E-01	7.149E-01	Creb311, 26427:down H2-T24, 15042:up C3, 12266:up
Gastric acid secretion	KEGG PATHWAY	mmu04971	6.428E-01	7.159E-01	Kcnj15, 16516:down
Regulation of insulin secretion	Reactome	R-MMU-422356	6.428E-01	7.159E-01	Glp1r, 14652:down
Centrosome maturation	Reactome	R-MMU-380287	6.428E-01	7.159E-01	Prkar2b, 19088:up
Recruitment of mitotic centrosome proteins and complexes	Reactome	R-MMU-380270	6.428E-01	7.159E-01	Prkar2b, 19088:up
TCF dependent signaling in response to WNT	Reactome	R-MMU-201681	6.434E-01	7.159E-01	Rspo2, 239405:up Wnt5a, 22418:down
Oxytocin signaling pathway	KEGG PATHWAY	mmu04921	6.502E-01	7.223E-01	Ptgs2, 19225:down Egfr, 13649:down
Autoimmune thyroid disease	KEGG PATHWAY	mmu05320	6.622E-01	7.327E-01	H2-T24, 15042:up
Salivary secretion	KEGG PATHWAY	mmu04970	6.622E-01	7.327E-01	Fxyd2, 11936:up
Bacterial invasion of epithelial cells	KEGG PATHWAY	mmu05100	6.668E-01	7.327E-01	Itga5, 16402:down
Cardiac muscle contraction	KEGG PATHWAY	mmu04260	6.668E-01	7.327E-01	Fxyd2, 11936:up
PCP/CE pathway	Reactome	R-MMU-4086400	6.668E-01	7.327E-01	Wnt5a, 22418:down
Metabolism of polyamines	Reactome	R-MMU-351202	6.668E-01	7.327E-01	Gatm, 67092:down
Golgi-to-ER retrograde transport	Reactome	R-MMU-8856688	6.668E-01	7.327E-01	Kdelr3, 105785:down
@@Sphingolipid metabolism	Reactome	R-MMU-428157	6.714E-01	7.366E-01	Plpp3, 67916:up
Regulation of PLK1 Activity at G2/M Transition	Reactome	R-MMU-2565942	6.760E-01	7.404E-01	Prkar2b, 19088:up
Aldosterone synthesis and secretion	KEGG PATHWAY	mmu04925	6.978E-01	7.619E-01	Creb311, 26427:down
Downstream TCR signaling	Reactome	R-MMU-202424	7.020E-01	7.653E-01	Cd4, 12504:up
Steroid hormone biosynthesis	KEGG PATHWAY	mmu00140	7.061E-01	7.686E-01	Akr1c18, 105349:up
Fc gamma R-mediated phagocytosis	KEGG PATHWAY	mmu04666	7.102E-01	7.718E-01	Plpp3, 67916:up

Retinol metabolism	KEGG PATHWAY	mmu00830	7.142E-01	7.726E-01	Aldh1a2, 19378:up
Progesterone-mediated oocyte maturation	KEGG PATHWAY	mmu04914	7.142E-01	7.726E-01	Igf1, 16000:up
MHC class II antigen presentation	Reactome	R-MMU-2132295	7.142E-01	7.726E-01	Sec23a, 20334:down
Antigen processing-Cross presentation	Reactome	R-MMU-1236975	7.181E-01	7.757E-01	H2-T24, 15042:up
Anchoring of the basal body to the plasma membrane	Reactome	R-MMU-5620912	7.221E-01	7.775E-01	Prkar2b, 19088:up
UCH proteinases	Reactome	R-MMU-5689603	7.221E-01	7.775E-01	Uch15, 56207:up
Glycerophospholipid metabolism	KEGG PATHWAY	mmu00564	7.334E-01	7.874E-01	Plpp3, 67916:up
Potassium Channels	Reactome	R-MMU-1296071	7.334E-01	7.874E-01	Kcnj15, 16516:down
Huntington's disease	KEGG PATHWAY	mmu05016	7.503E-01	8.042E-01	Creb311, 26427:down Pparg, 19016:up
Glucagon signaling pathway	KEGG PATHWAY	mmu04922	7.582E-01	8.102E-01	Creb311, 26427:down
Beta-catenin independent WNT signaling	Reactome	R-MMU-3858494	7.582E-01	8.102E-01	Wnt5a, 22418:down
@@Pyrimidine metabolism	KEGG PATHWAY	mmu00240	7.616E-01	8.113E-01	Uck2, 80914:down
Retrograde endocannabinoid signaling	KEGG PATHWAY	mmu04723	7.616E-01	8.113E-01	Ptgs2, 19225:down
Pancreatic secretion	KEGG PATHWAY	mmu04972	7.649E-01	8.115E-01	Fxyd2, 11936:up
Class I MHC mediated antigen processing & presentation	Reactome	R-MMU-983169	7.652E-01	8.115E-01	Sec23a, 20334:down H2-T24, 15042:up
TCR signaling	Reactome	R-MMU-202403	7.745E-01	8.201E-01	Cd4, 12504:up
Factors involved in megakaryocyte development and platelet production	Reactome	R-MMU-983231	7.776E-01	8.222E-01	Prkar2b, 19088:up
Hedgehog 'off' state	Reactome	R-MMU-5610787	7.807E-01	8.241E-01	Prkar2b, 19088:up
Generic Transcription Pathway	Reactome	R-MMU-212436	7.818E-01	8.241E-01	Vdr, 22337:down Pparg, 19016:up Igf1, 16000:up Plk2, 20620:down
C-type lectin receptors (CLRs)	Reactome	R-MMU-5621481	7.897E-01	8.300E-01	Clec4n, 56620:up
ER to Golgi Anterograde Transport	Reactome	R-MMU-199977	7.897E-01	8.300E-01	Sec23a, 20334:down
Cholinergic synapse	KEGG PATHWAY	mmu04725	7.926E-01	8.318E-01	Creb311, 26427:down
Oocyte meiosis	KEGG PATHWAY	mmu04114	8.011E-01	8.370E-01	Igf1, 16000:up
Mus musculus biological processes	Reactome	R-MMU-5334727	8.012E-01	8.370E-01	Tnf, 21926:up Fabp4, 11770:up
Natural killer cell mediated cytotoxicity	KEGG PATHWAY	mmu04650	8.119E-01	8.470E-01	Tnf, 21926:up
Sphingolipid signaling pathway	KEGG PATHWAY	mmu04071	8.246E-01	8.576E-01	Tnf, 21926:up

Toll-Like Receptors Cascades	Reactome	R-MMU-168898	8.246E-01	8.576E-01	S100a1, 20193:up
Signaling by Wnt	Reactome	R-MMU-195721	8.267E-01	8.585E-01	Rspo2, 239405:up Wnt5a, 22418:down
Cellular Senescence	Reactome	R-MMU-2559583	8.318E-01	8.626E-01	Hmgal-rs1, 111241:up
Vascular smooth muscle contraction	KEGG PATHWAY	mmu04270	8.341E-01	8.637E-01	Ptgir, 19222:up
Neurotransmitter Receptor Binding And Downstream Transmission In The Postsynaptic Cell	Reactome	R-MMU-112314	8.431E-01	8.717E-01	Kcnj15, 16516:down
Intra-Golgi and retrograde Golgi-to-ER traffic	Reactome	R-MMU-6811442	8.475E-01	8.736E-01	Kdelr3, 105785:down
Phase 1 - Functionalization of compounds	Reactome	R-MMU-211945	8.475E-01	8.736E-01	Maob, 109731:up
Apoptosis	KEGG PATHWAY	mmu04210	8.557E-01	8.809E-01	Tnf, 21926:up
Tight junction	KEGG PATHWAY	mmu04530	8.597E-01	8.837E-01	Shroom4, 208431:down
Insulin signaling pathway	KEGG PATHWAY	mmu04910	8.617E-01	8.844E-01	Prkar2b, 19088:up
Transcriptional Regulation by TP53	Reactome	R-MMU-3700989	8.662E-01	8.877E-01	Igfbp3, 16009:up P1k2, 20620:down
Signaling by Hedgehog	Reactome	R-MMU-5358351	8.710E-01	8.913E-01	Prkar2b, 19088:up
Phospholipid metabolism	Reactome	R-MMU-1483257	8.830E-01	9.023E-01	Gdpd1, 66569:up
G2/M Transition	Reactome	R-MMU-69275	8.878E-01	9.059E-01	Prkar2b, 19088:up
Mitotic G2-G2/M phases	Reactome	R-MMU-453274	8.909E-01	9.078E-01	Prkar2b, 19088:up
Post-translational protein modification	Reactome	R-MMU-597592	8.991E-01	9.148E-01	Sec23a, 20334:down Npl, 74091:up Man2a2, 140481:up Gas6, 14456:up Uch15, 56207:up Gfpt2, 14584:down
Protein processing in endoplasmic reticulum	KEGG PATHWAY	mmu04141	9.025E-01	9.168E-01	Sec23a, 20334:down
Assembly of the primary cilium	Reactome	R-MMU-5617833	9.116E-01	9.247E-01	Prkar2b, 19088:up
Cellular responses to stress	Reactome	R-MMU-2262752	9.170E-01	9.290E-01	Hmgal-rs1, 111241:up Epas1, 13819:up
Transmission across Chemical Synapses	Reactome	R-MMU-112315	9.322E-01	9.430E-01	Kcnj15, 16516:down
Biological oxidations	Reactome	R-MMU-211859	9.488E-01	9.583E-01	Maob, 109731:up
Epstein-Barr virus infection	KEGG PATHWAY	mmu05169	9.522E-01	9.605E-01	H2-T24, 15042:up
Deubiquitination	Reactome	R-MMU-5688426	9.607E-01	9.676E-01	Uch15, 56207:up
Organelle biogenesis and maintenance	Reactome	R-MMU-1852241	9.800E-01	9.856E-01	Prkar2b, 19088:up
Neuronal System	Reactome	R-MMU-112316	9.853E-01	9.895E-01	Kcnj15, 16516:down
Cell Cycle, Mitotic	Reactome	R-MMU-69278	9.972E-01	9.993E-01	Prkar2b, 19088:up

Gene Expression	Reactome	R-MMU-74160	9.979E-01	9.993E-01	Pparg, 19016:up Nabp1, 109019:down Plk2, 20620:down Ice1, 218333:down Vdr, 22337:down Igfbp3, 16009:up
@Cell Cycle	Reactome	R-MMU-1640170	9.997E-01	9.997E-01	Prkar2b, 19088:up