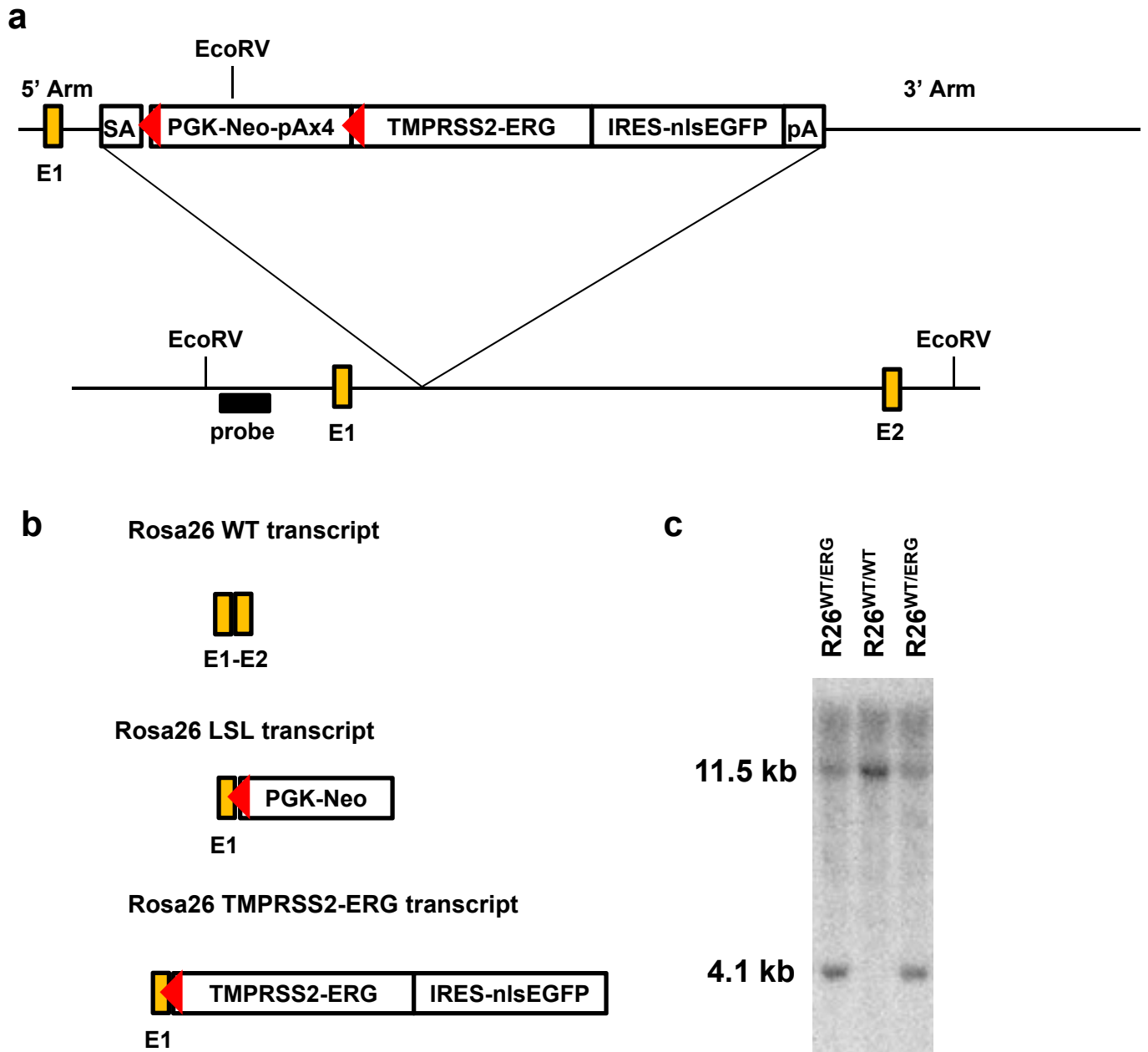


Journal: **Nature Medicine**

ETS factors reprogram the androgen receptor cistrome and prime prostate tumorigenesis in response to PTEN loss

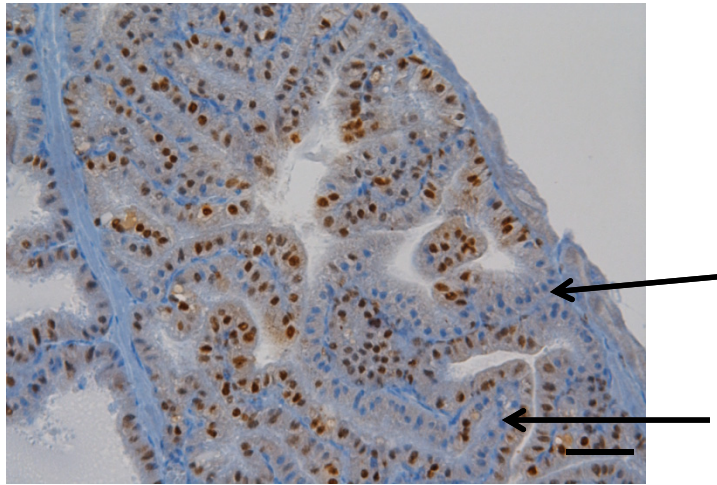
Yu Chen, Ping Chi, Shira Rockowitz, Phillip J. Iaquinta, Tambudzai Shamu, Shipra Shukla, Dong Gao, Inna Sirota, Brett S. Carver, John Wongvipat, Howard I. Scher, Deyou Zheng, Charles L. Sawyers*

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Supplementary Figure 3	Invasive prostate cancer in 8-week old mouse.
Supplementary Figure 4	IHC of basal and luminal markers.
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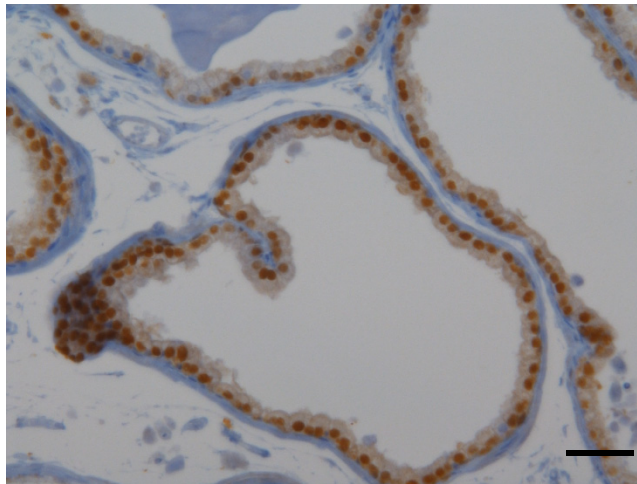


Supplementary Figure 1. Gene targeting strategy. (a) A sequence containing a splice acceptor (SA), followed by a transcriptional STOP (four consecutive poly A) between inverted LoxP sites, followed by the TMPRSS2-ERG cDNA, IRES, EGFP with 3 nuclear localization sequence was inserted in the intron between exon1 and exon2 of the non-coding Rosa26 gene. (b) Schematic of the endogenous Rosa26 transcript, targeted transcript prior to Cre mediated deletion of the STOP cassette, and targeted transcript expressing the transgene. (c) Southern blotting of ES cell genomic DNA digested with EcoRV showing correct targeting in two of three clones.

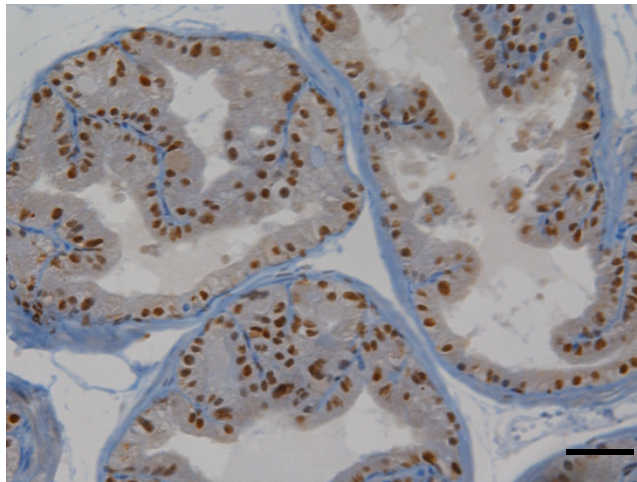
AP



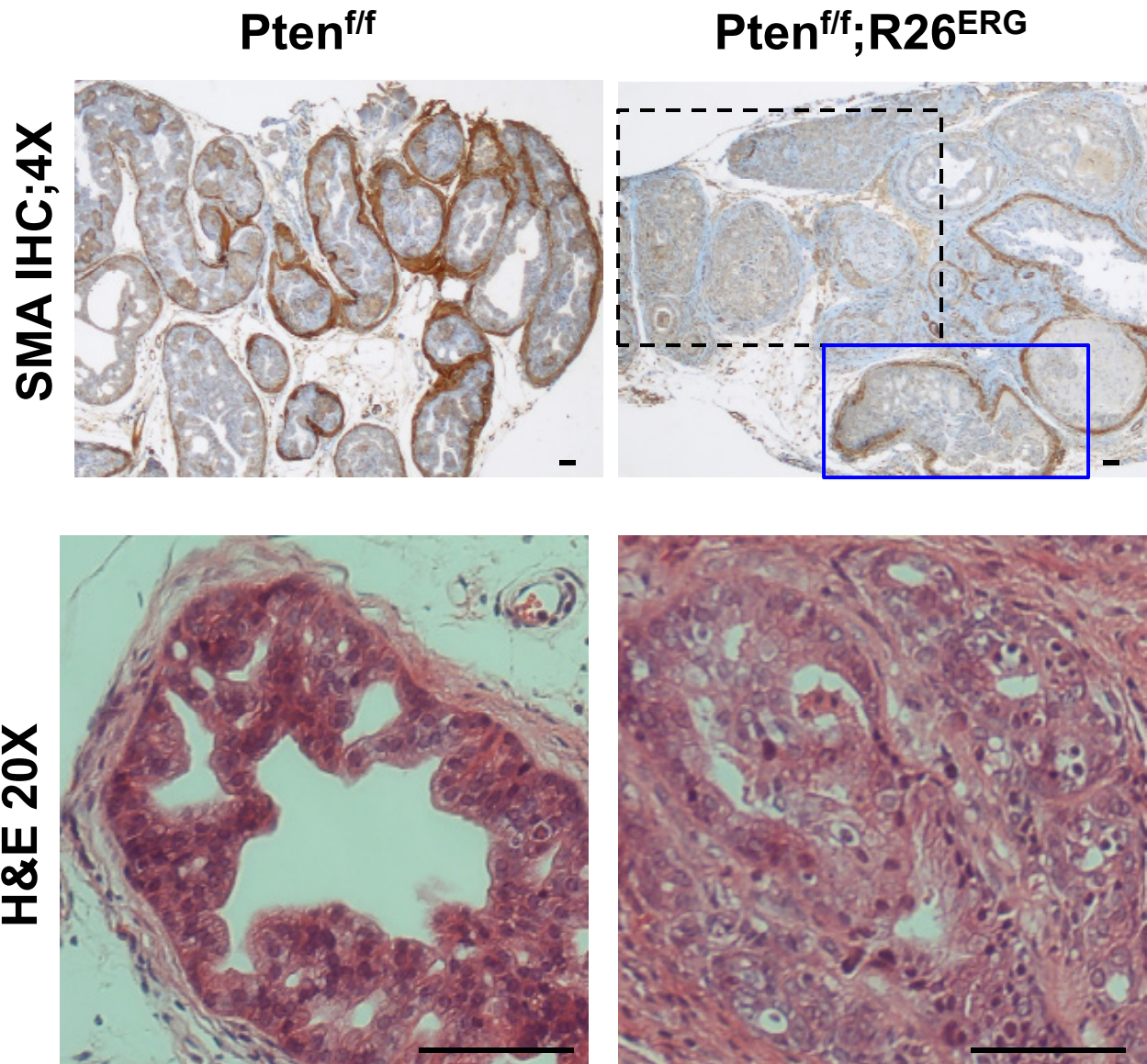
VP



DLP



Supplementary Figure 2. EGFP IHC of 8-week old mice. Prostates of 8-week old *Pb-Cre4;R26^{ERG}* mice were examined by EGFP IHC to assess for ERG expression through Cre-mediated excision of the STOP cassette. At this time point, the anterior lobe (AP) demonstrated incomplete expression (Arrows point to EGFP negative nuclei) whereas the ventral (VP) and dorsolateral lobes (DLP) showed uniform expression. Scale bars: 50 μ m.

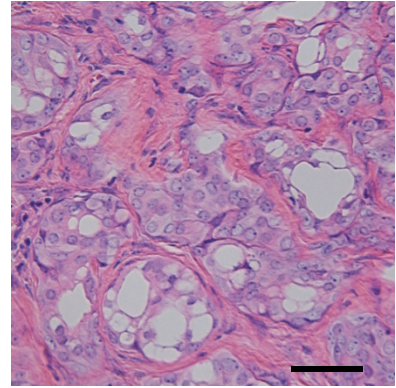
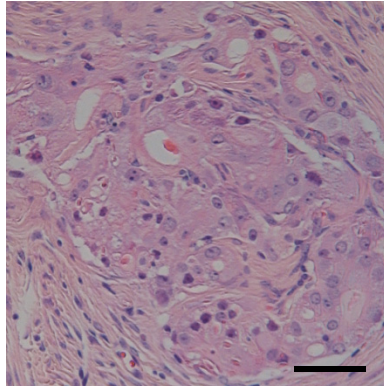
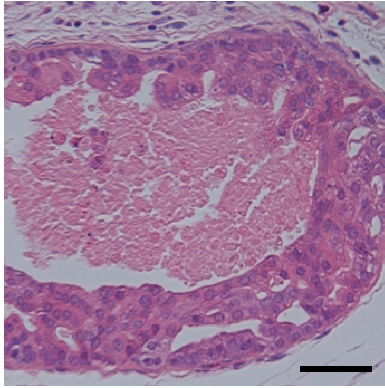


Supplementary Figure 3. Invasive prostate cancer in 8-week old mouse. H&E and SMA IHC of 8-week old *Pten*^{ff} and *Pten*^{ff};R26^{ERG} mice. This is an example of early invasive disease in *Pten*^{ff};R26^{ERG}. Invasive adenocarcinoma is clearly appreciated at low power by loss of smooth muscle actin (SMA) that surrounds non-invasive glands (black dashed box outline invasive regions and blue solid box outlines a non-invasive gland). Higher power view shows that the cells of the invasive regions display increased nuclear pleomorphism. Scale bars: 50µm.

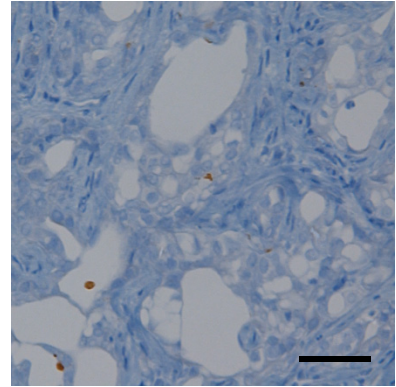
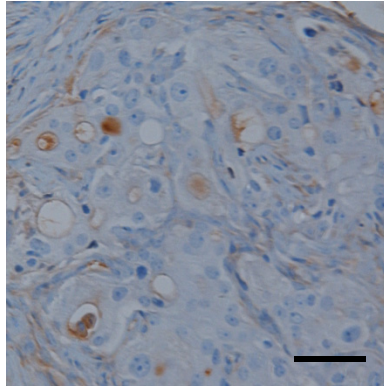
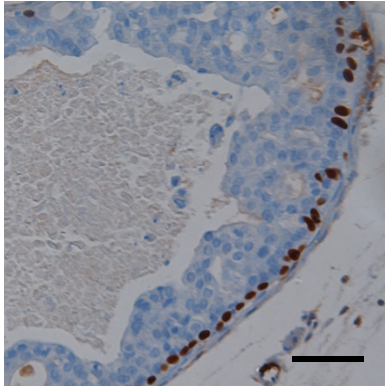
***Pten*^{ff} (PIN)**

***Pten*^{ff};R26^{ERG} (carcinoma)**

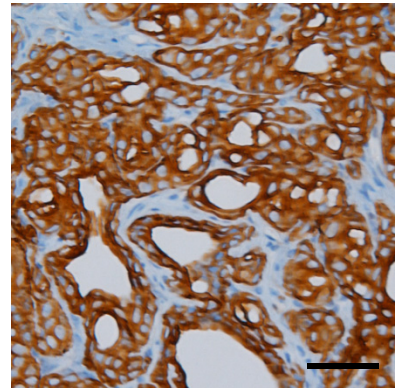
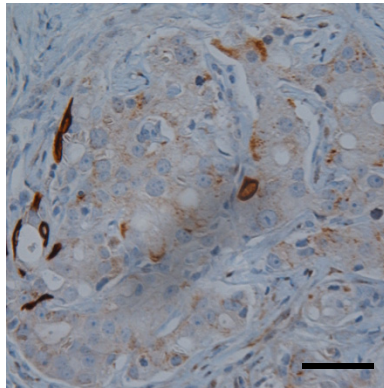
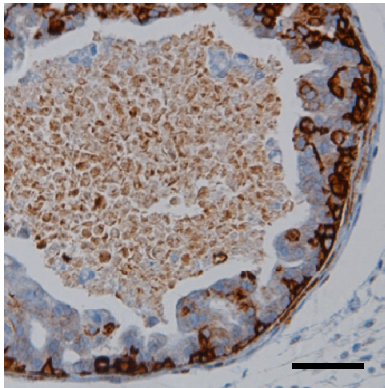
H&E



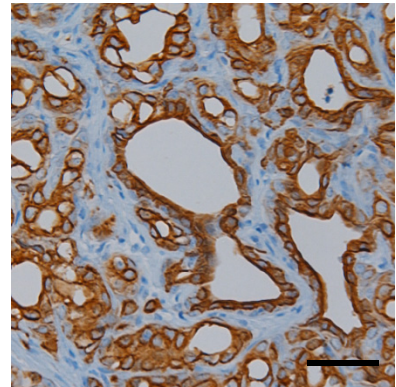
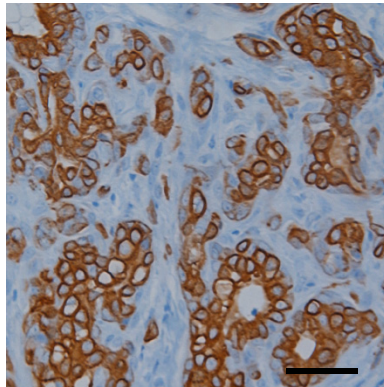
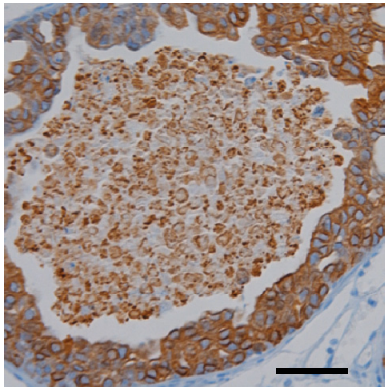
p63



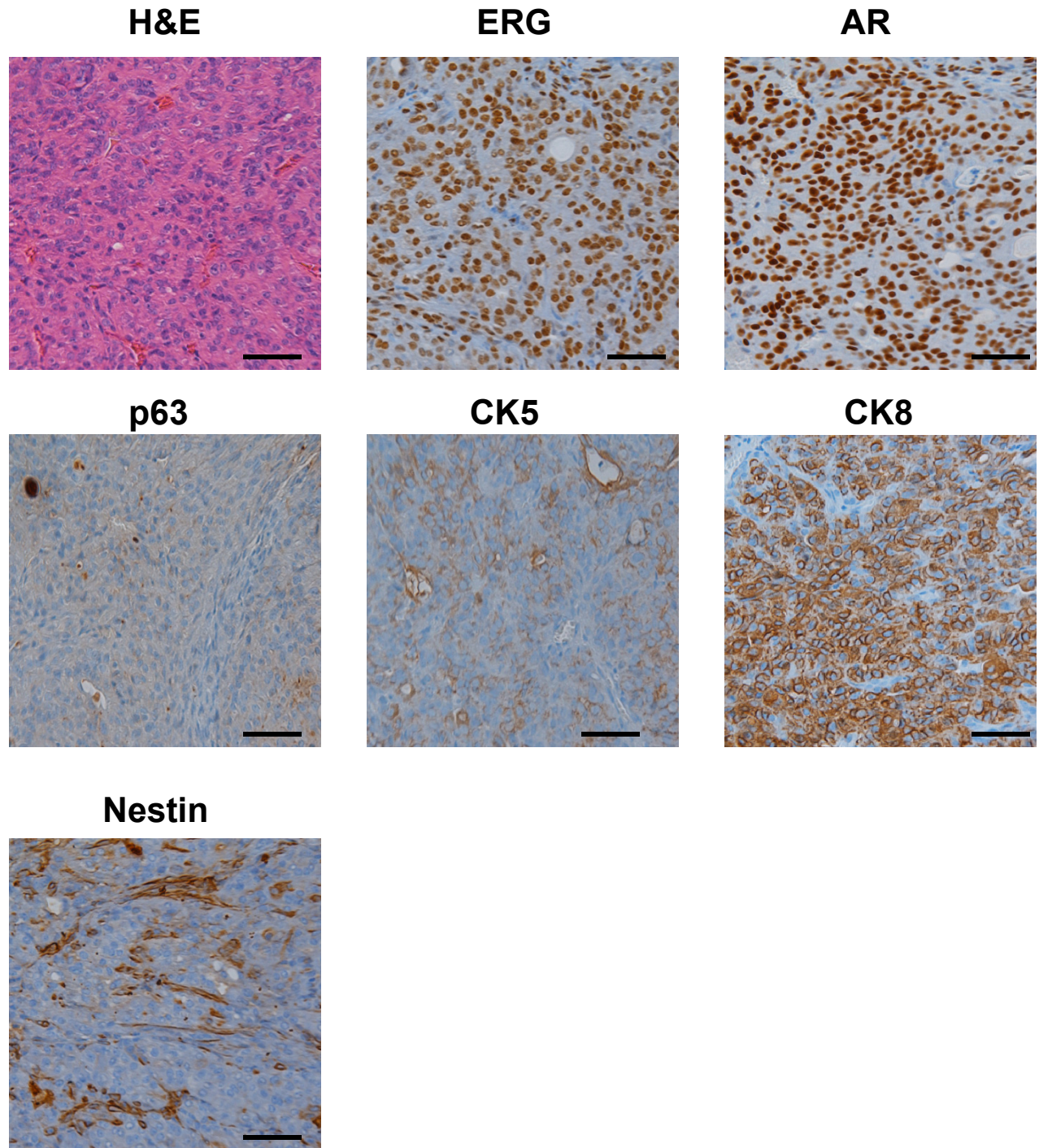
CK5



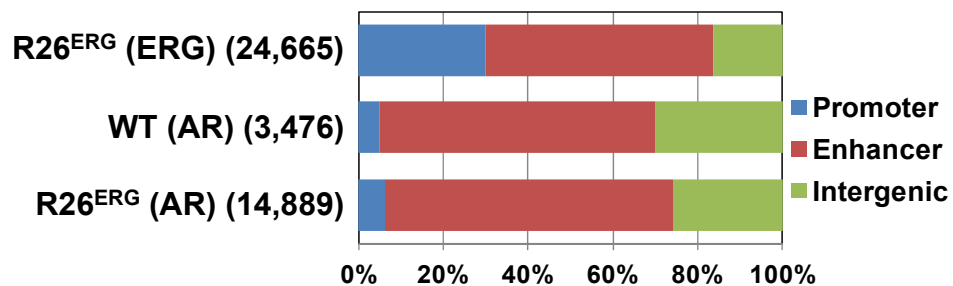
CK8



Supplementary Figure 4. IHC of basal and luminal markers. Representative H&E and IHC of one 6-month old *Pten*^{ff} prostate (PIN, column 1) and two *Pten*^{ff};R26^{ERG} prostates (invasive cancer) showing loss of P63, differential CK5 and CK8 positive staining in *Pten*^{ff};R26^{ERG} invasive cancer. Scale bars: 50µm.

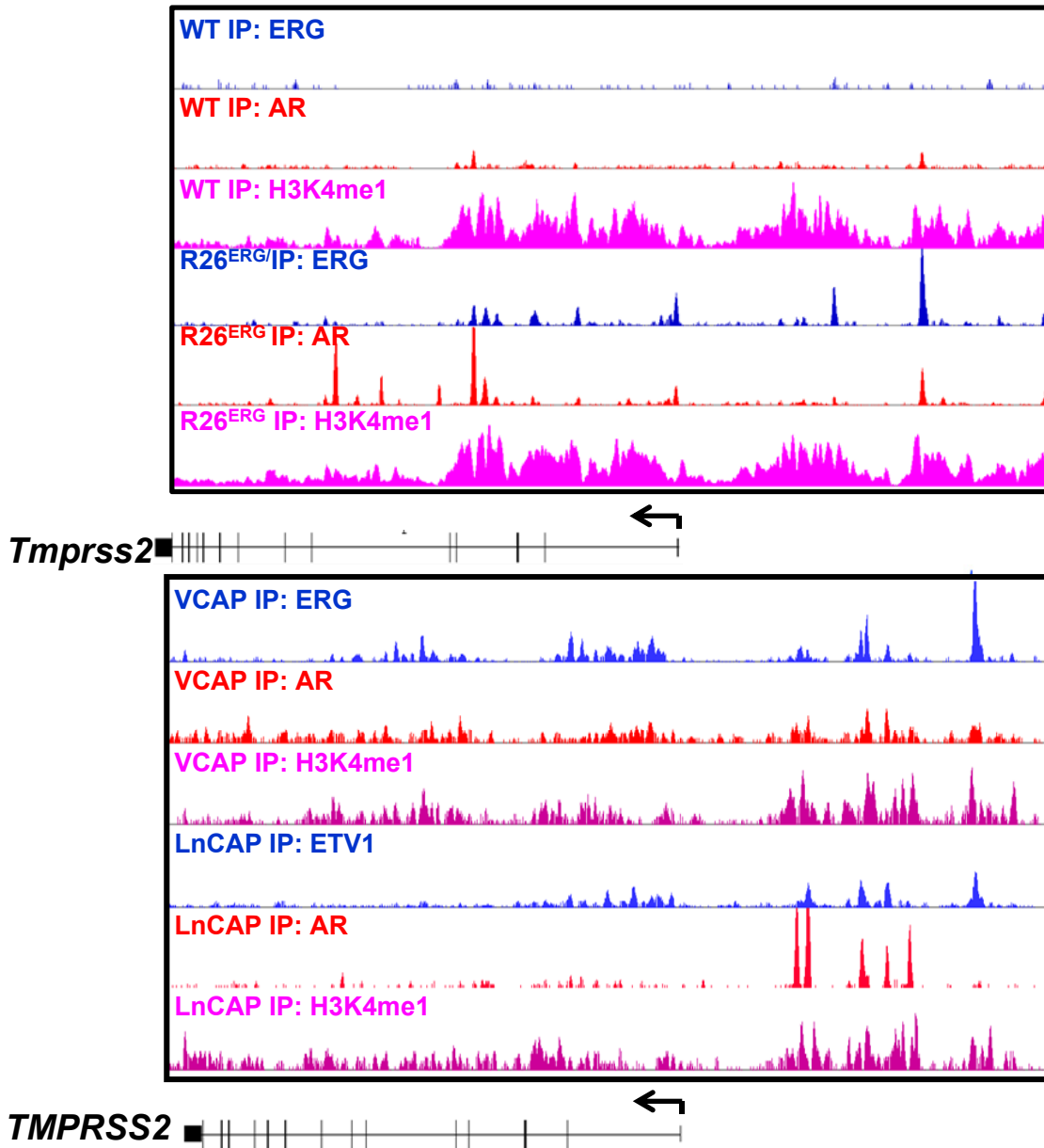


Supplementary Figure 5. IHC of poorly differentiated adenocarcinoma. H&E and IHC of 12-month old *Pten^{fl/fl} R26^{ERG}* mice. IHC shows the tumor stains positive for ERG, AR, and CK8 while it stains negative for p63 and CK5. There is focal nestin staining indicative of focal neuroendocrine differentiation. Scale bars: 50 μ m.

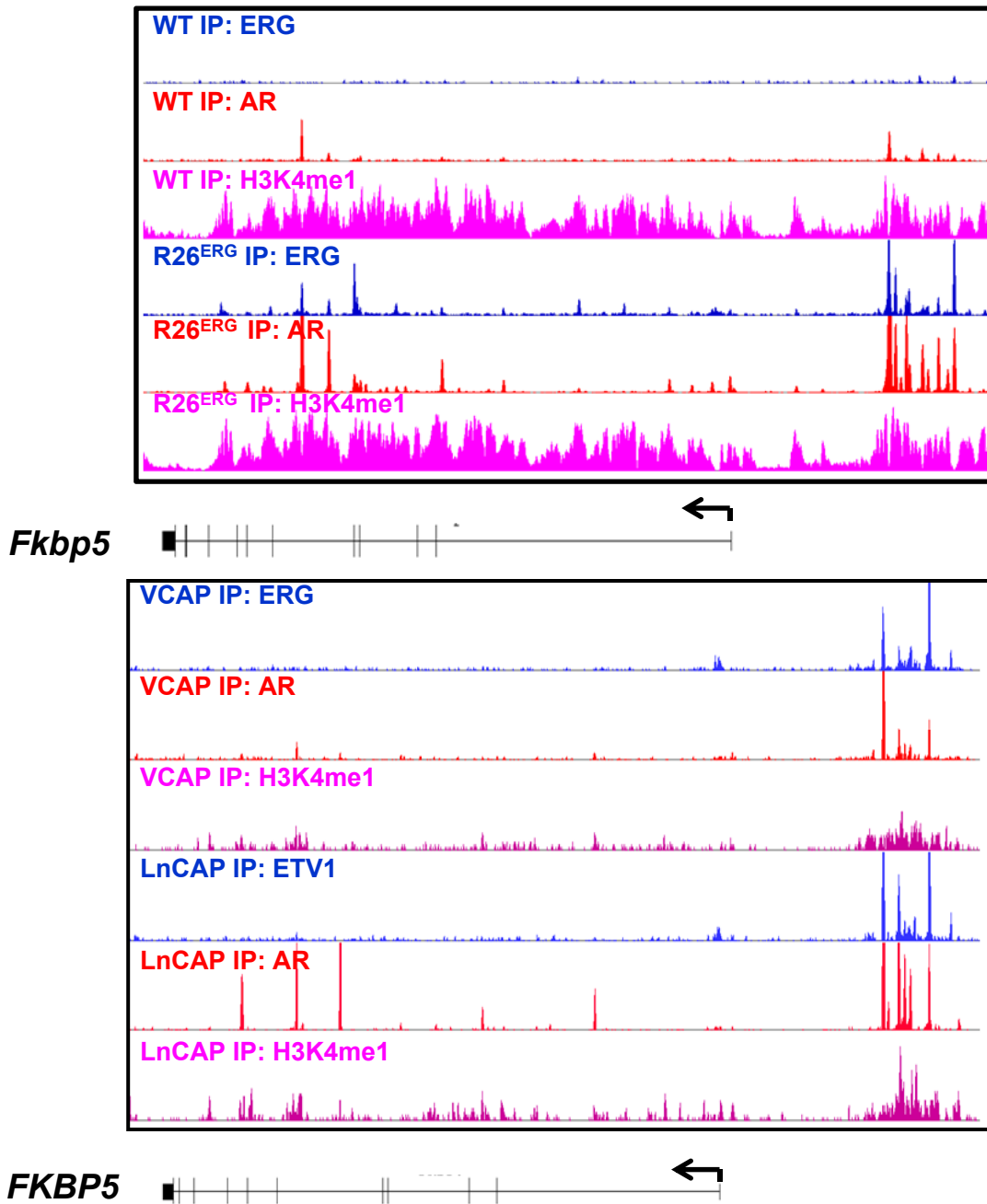


Supplementary Figure 6. Genomic distribution of ERG and AR ChIP-seq peaks.

Number of total peaks is indicated in parenthesis. Promoter: ± 2 kb TSS (transcription start site); Enhancer: -50kb TSS to +5kb TES (transcription end site).

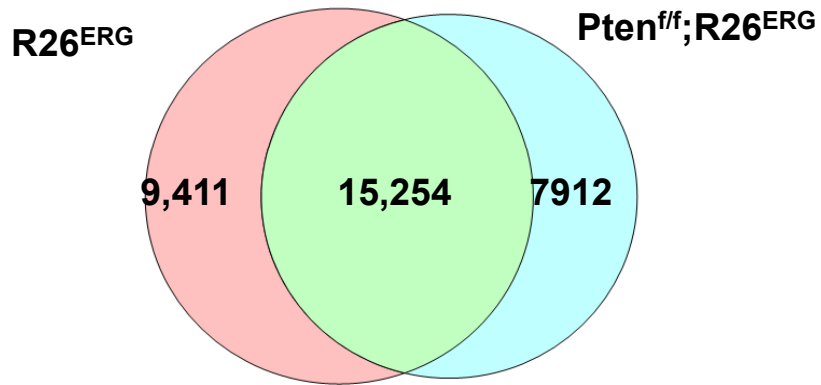


Supplementary Figure 7. Comparison of ChIP-seq peaks of wild-type (*WT*) and *R26^{ERG}* mouse prostates and homologous genes in VCAP and LnCAP human prostate cancer cell lines at the *Tmprss2* locus.



Supplementary Figure 8. Comparison of ChIP-seq peaks of wild-type (*WT*) and *R26^{ERG}* mouse prostates and homologous genes in VCAP and LnCAP human prostate cancer cell lines at the *Fkbp5* locus.

ERG Peaks Overlap

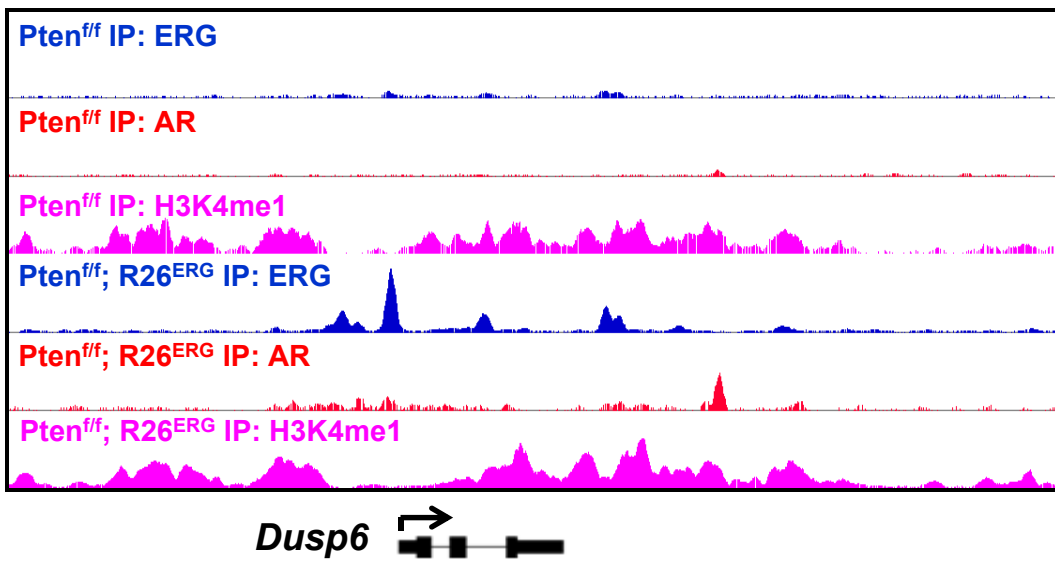


ERG Gene Overlap

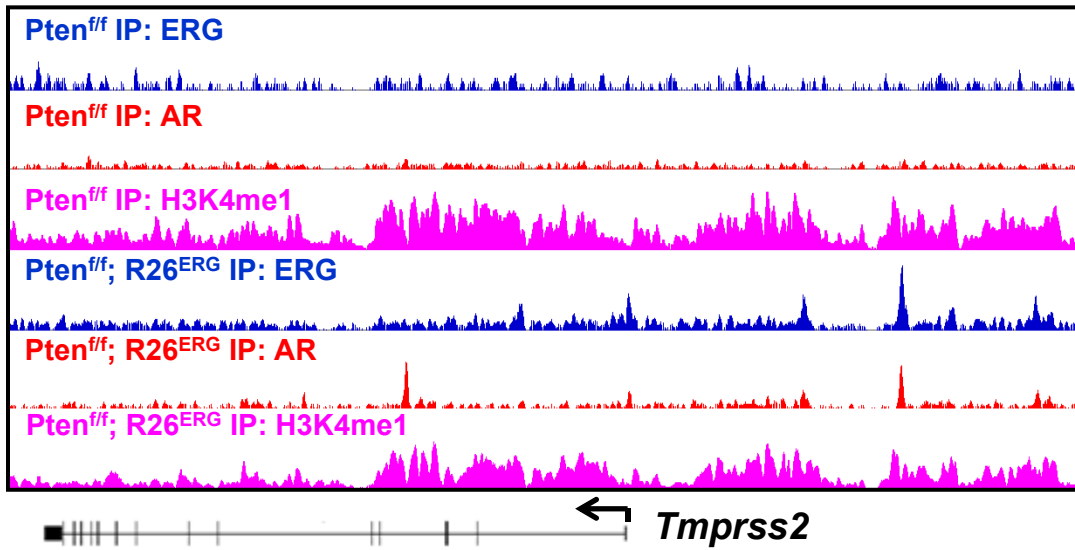


Supplementary Figure 9. Venn diagram of ERG ChIP-seq peak overlap and ERG-bound gene overlap in *Pten^{WT};R26^{ERG}* (*R26^{ERG}*) and *Pten^{ff};R26^{ERG}* prostates.

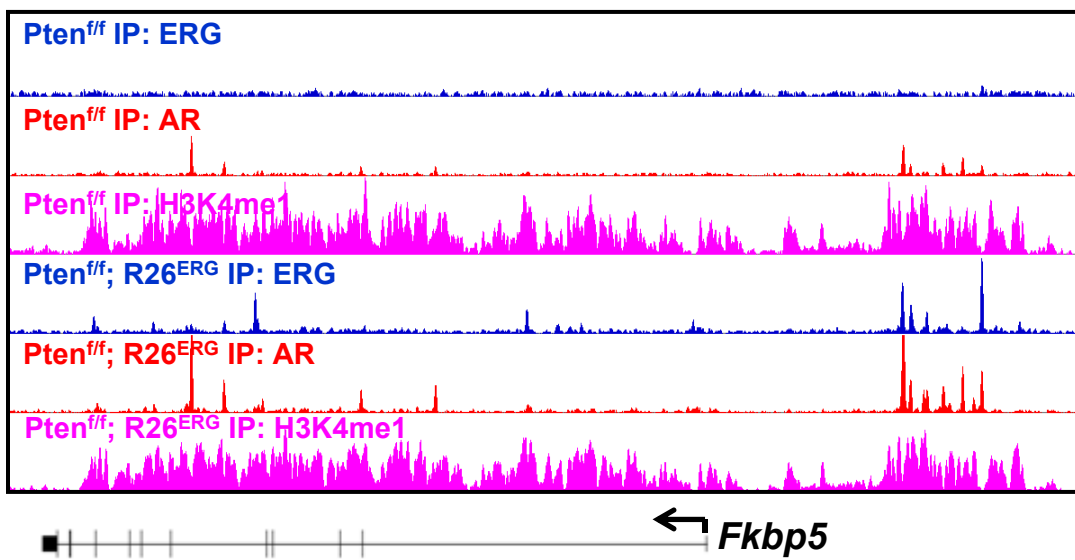
Normalized ChIP-seq Tag Count



Normalized ChIP-seq Tag Count

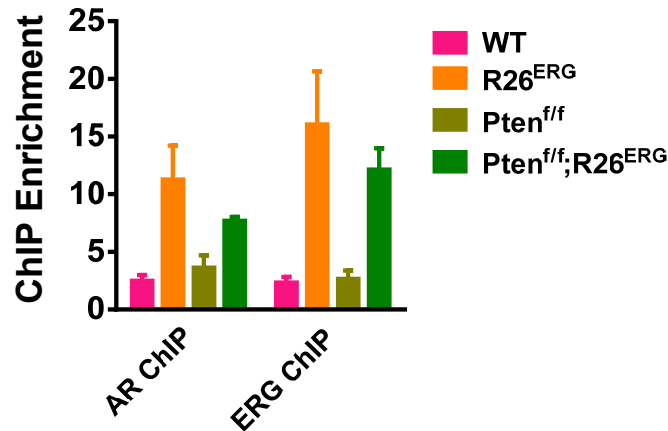


Normalized ChIP-seq Tag Count

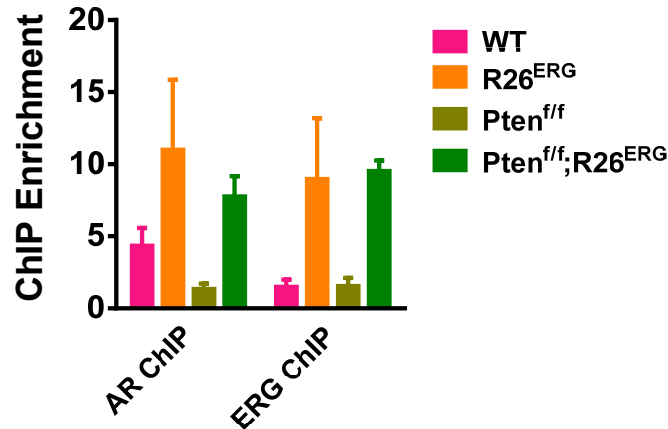


Supplementary Figure 10. ChIP-seq profile of ERG, AR, and H3K4me1 at the *Dusp6*, *Tmprss2*, and *Fkbp5* locus of *Pten^{fl/fl}* and *Pten^{fl/fl};R26^{ERG}* prostates.

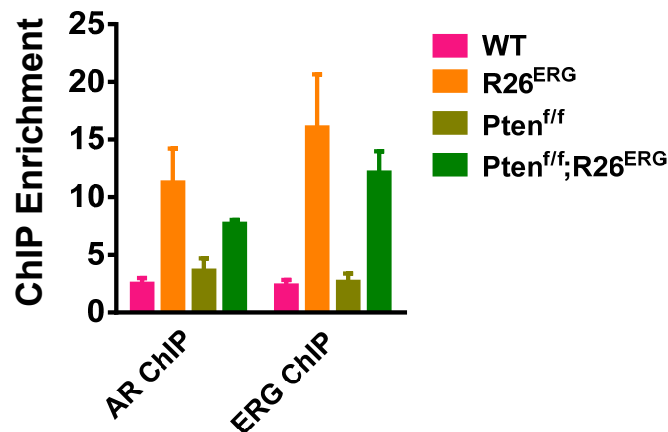
Fkbp5 Enhancer



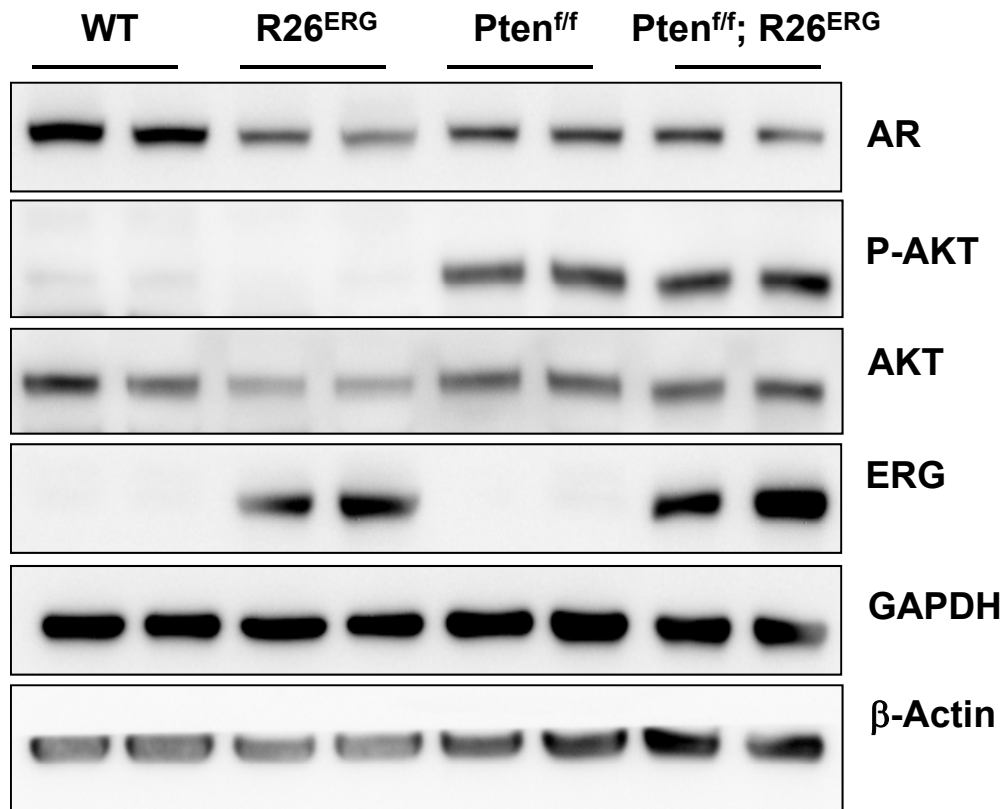
Nkx3-1 Enhancer



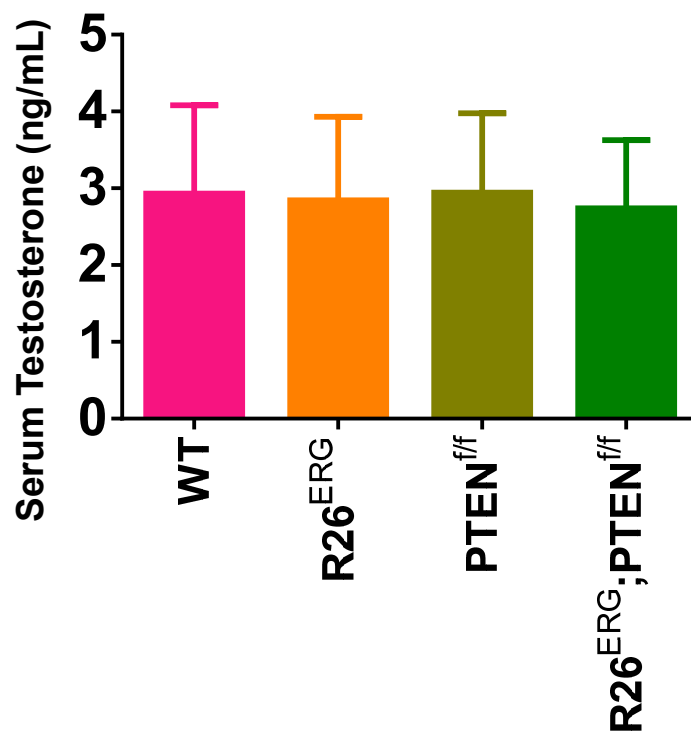
Tmprss2 Enhancer



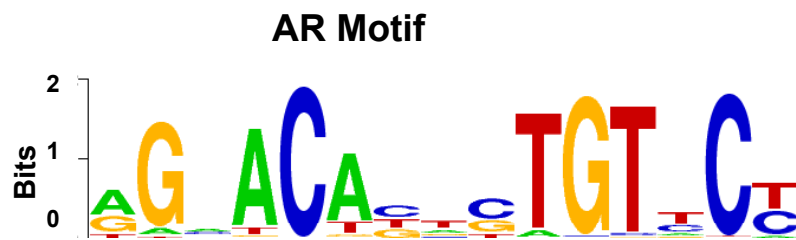
Supplementary Figure 11. ChIP-qPCR of AR and ERG. Chromatin from independent set of WT, R26^{ERG}, Pten^{f/f} and Pten^{f/f};R26^{ERG} prostates were immunoprecipitated with anti-AR, anti-ERG, and anti-rabbit IgG antibodies. qPCR was performed at the *Fkbp5*, *Nkx3-1*, and *Tmprss2* enhancers and relative enrichment over IgG is shown (mean ± SD).



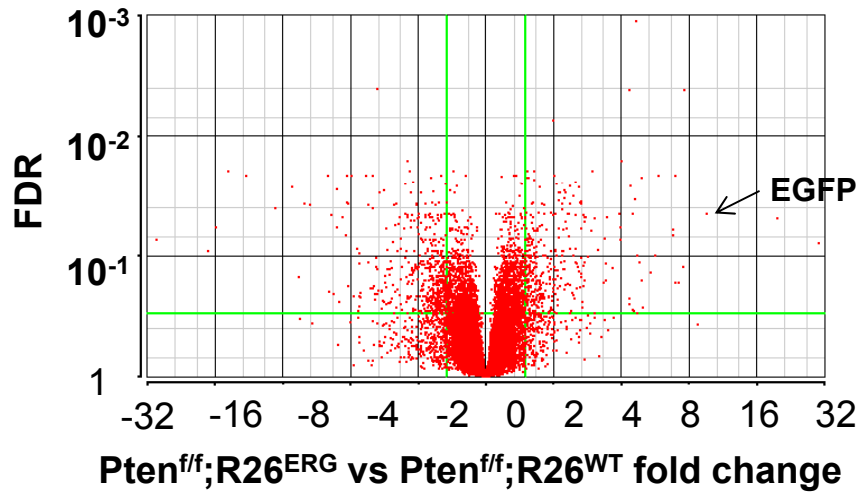
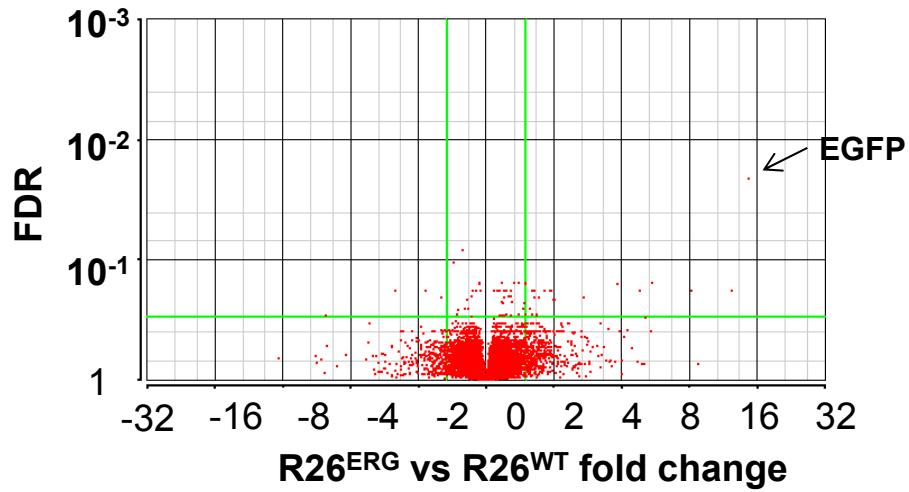
Supplementary Figure 12. ERG expression and AKT phosphorylation status in mouse prostates. Western blots of the 6-month old prostate lysates of WT, R26^{ERG}, Pten^{ff} and Pten^{ff};R26^{ERG} mice using the indicated antibody is shown.



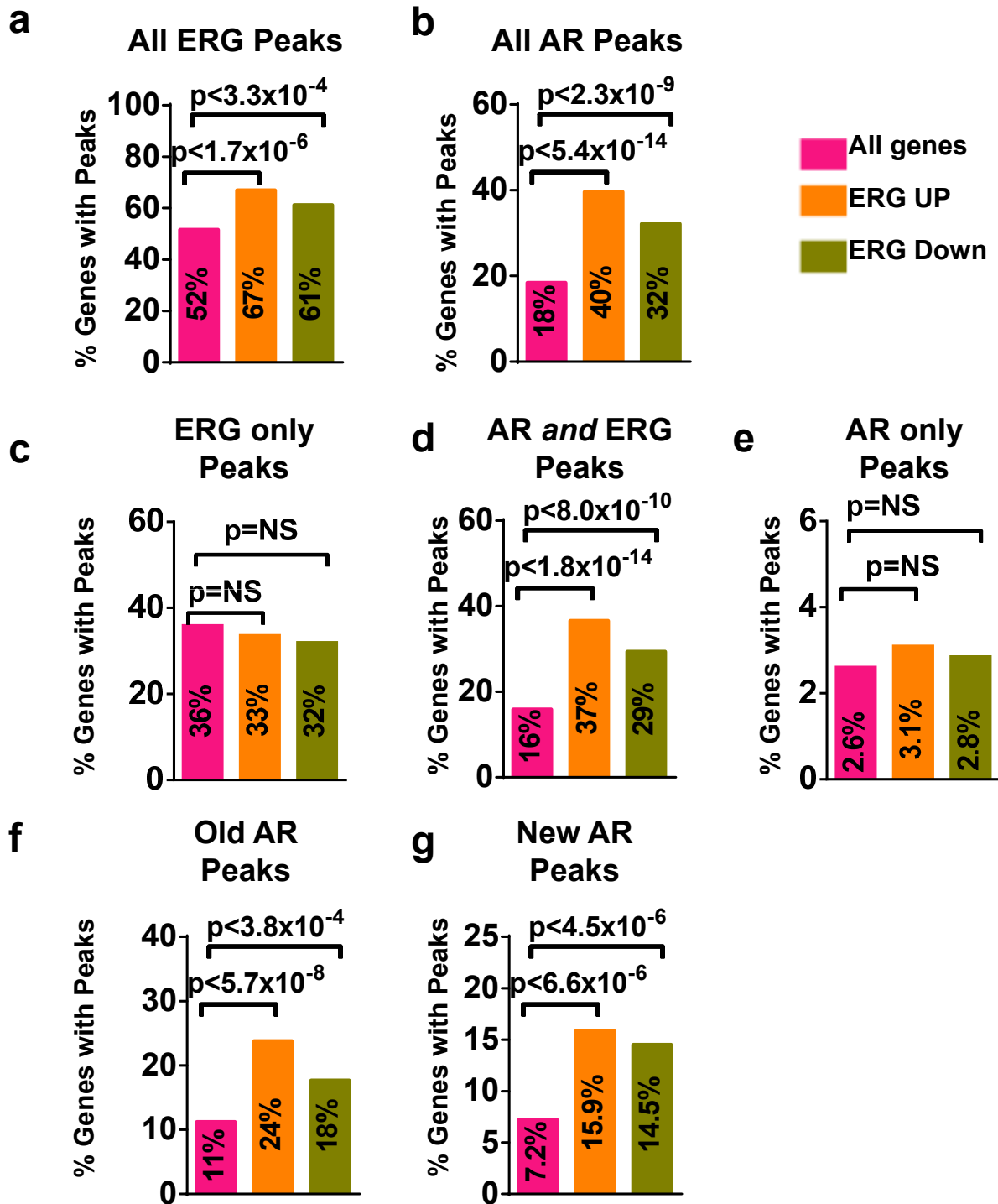
Supplementary Figure 13. Serum testosterone levels. Serum testosterone was assayed using ELISA in 6-month old mice ($n = 6$, mean \pm SD).



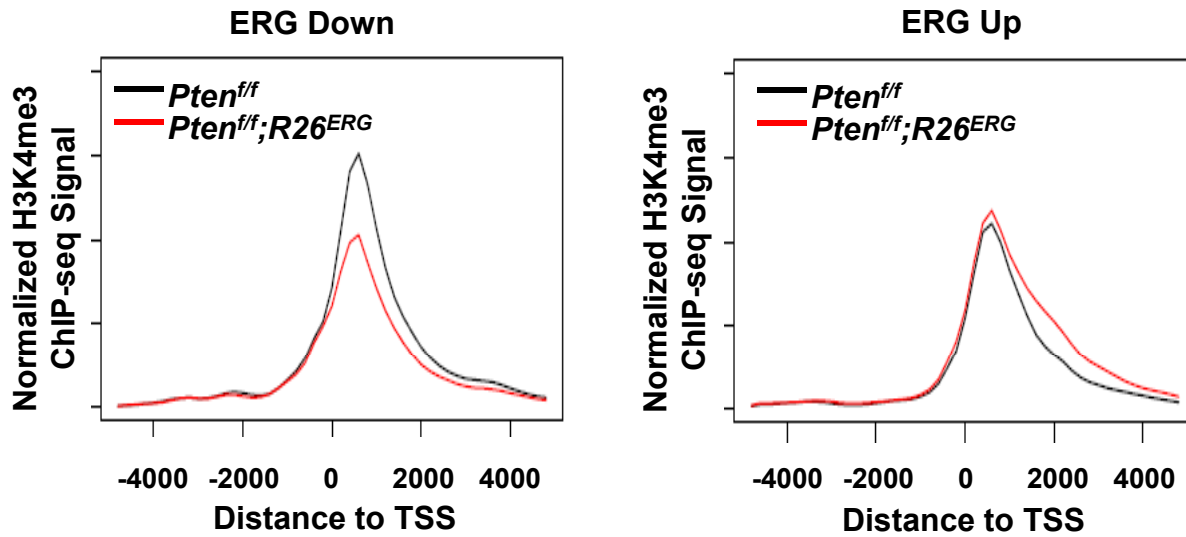
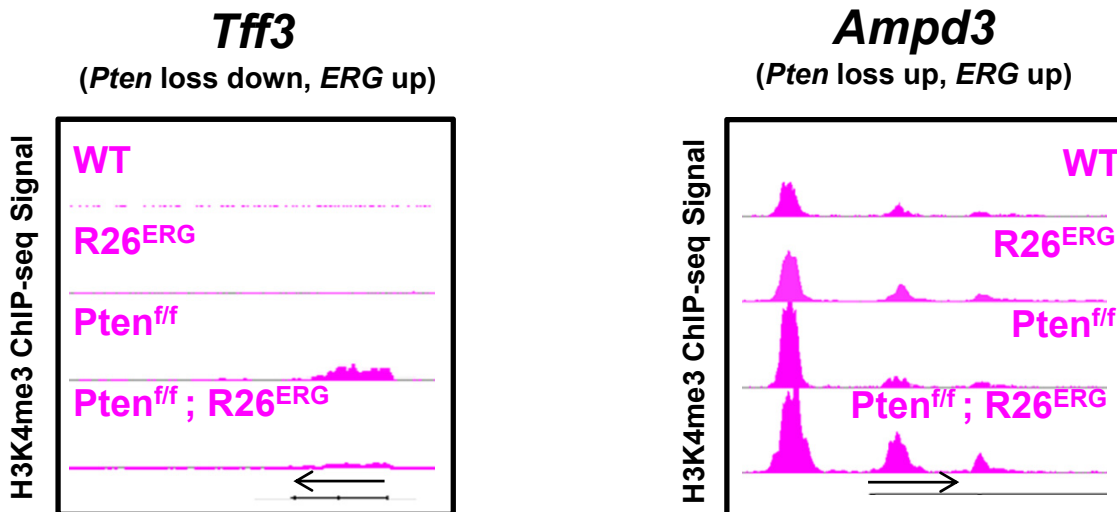
Supplementary Figure 14. MEME motif analysis of mouse prostate CHIP-Seq. The consensus sequence motif identified by MEME in the ERG peaks in *R26^{ERG}* prostates and in AR peaks in both *WT* and *R26^{ERG}* mouse prostates.



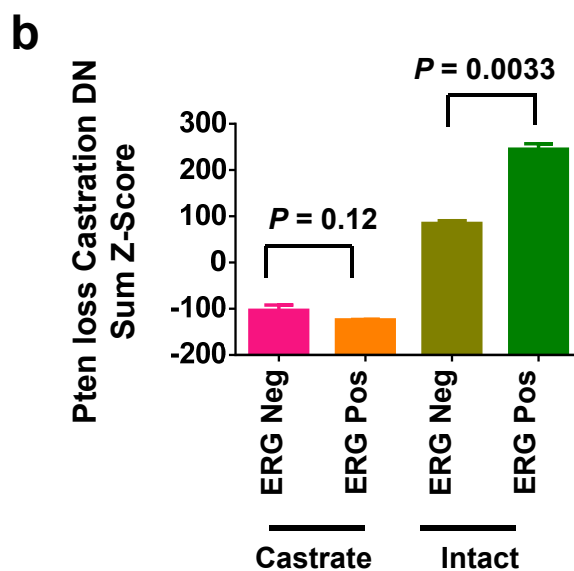
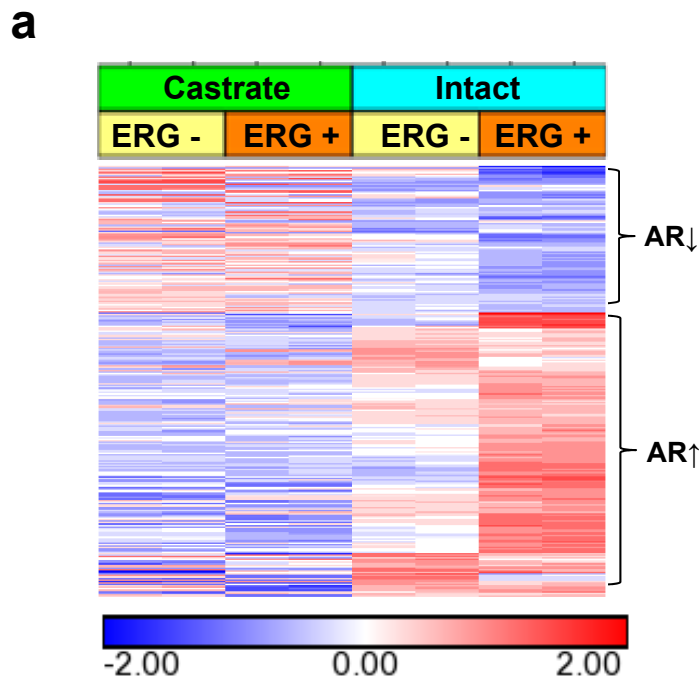
Supplementary Figure 15. Gene expression analysis of *ERG* expression in *Pten*^{WT} type and *Pten*^{ff} prostate. Volcano plots of fold change (x-axis) and FDR (y-axis) showing that only 20 genes are affected by ERG expression in *Pten* wild-type but many more are affected by ERG expression in *Pten* loss. Green lines are FDR=0.3 and fold-change=1.5. The microarray contained a probe for EGFP, which is highly and significantly overexpressed.



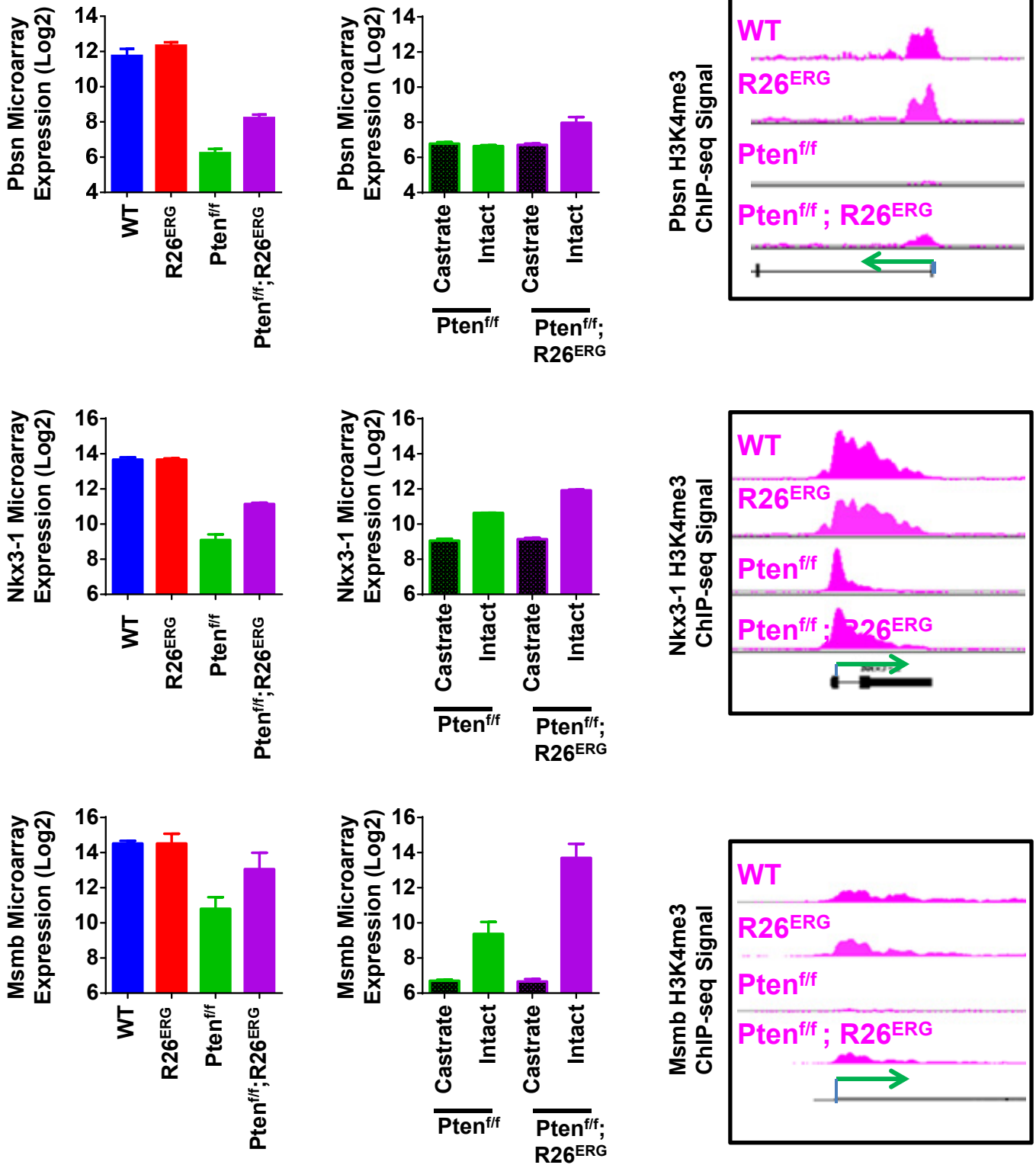
Supplementary Figure 16. Cistrome and transcriptome integration of mouse prostates. Plot of percentage of *ERG*-upregulated and down-regulated genes in the *Pten* loss background (*Pten^{fl/fl};R26^{ERG}* vs *Pten^{fl/fl}*) with ChIP-seq peaks. (a) All ERG peaks are defined by the peaks found in *Pten^{fl/fl};R26^{ERG}* mice shows ERG regulated genes are enriched for ERG binding. (b) All AR peaks defined by peaks found in *Pten^{fl/fl};R26^{ERG}* mice shows ERG regulated genes are enriched for AR binding. (c-e) ERG only peaks are genes with only ERG peaks, AR and ERG peaks as genes with both, and AR only peaks as genes with only AR peaks. This shows ERG regulated genes are enriched for those with both ERG and AR peaks. (f, g). Old AR peaks as genes in *Pten^{fl/fl}* with AR peaks and new AR peaks as genes with AR peaks only in *Pten^{fl/fl};R26^{ERG}* mice.

a**b**

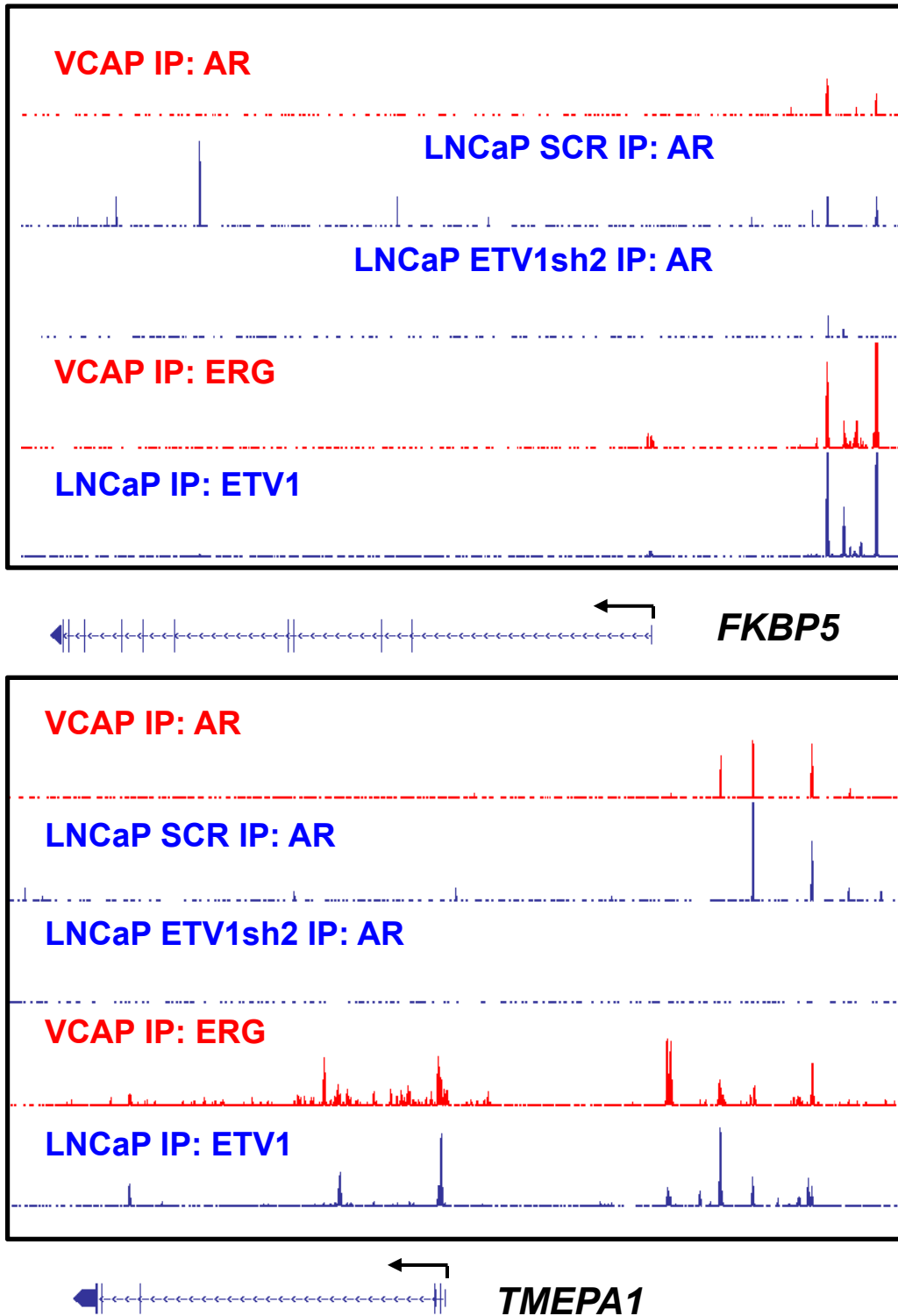
Supplementary Figure 17. Integration of H3K4me3 peaks with gene expression. (a) Normalized average H3K4me3 ChIP-seq profile of ERG positive and ERG negative prostates of ERG upregulated and ERG downregulated genes in the setting of *Pten* loss. **(b)** H3K4me3 ChIP-seq profile around the *Tff3* and *Ampd3* genes.



Supplementary Figure 18. Expression profile of castrate and intact Pten loss mouse prostates. (a) Intact and two-day castrate six month old *Pten^{fl/fl}* and *Pten^{fl/fl} R26^{ERG}* prostates ($n = 2$ each) were profiled. Hierarchical clustering of genes differentially expressed by castration ($P < 0.05$, $FC > 2.0$) is shown suggesting that AR-downregulated genes (castration up) are further downregulated by ERG expression and AR-upregulated genes are further upregulated. (b) Sum expression score (sum of the positive of Z-score of AR-upregulated and negative of Z-score of AR-downregulated genes) shows statistically significant increase of AR-regulated gene expression in ERG-positive prostates (mean \pm SD).

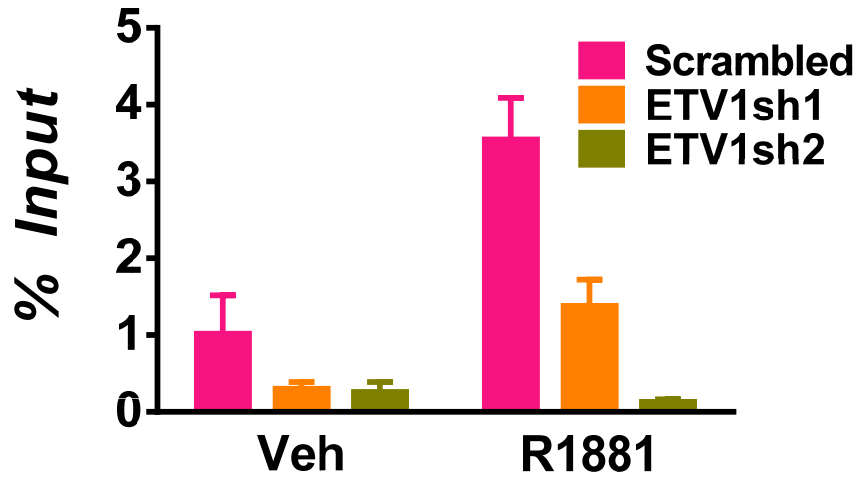


Supplementary Figure 19. Examples of gene expression of AR regulated genes *Pbsn*, *Nkx3-1*, and *Msmb* and *H3K4me3* ChIP-seq profile. Plots of microarray gene expression from profiling of 4-month old WT, *R26^{ERG}*, *Pten^{ff}* and *Pten^{ff} R26^{ERG}* mice (left column), H3K4me4 profile of an independent set of mice (right column), and gene expression from profiling of 6-month old castrated and intact *Pten^{ff}* and *Pten^{ff} R26^{ERG}* mice (middle column). Plots are mean ± SD.

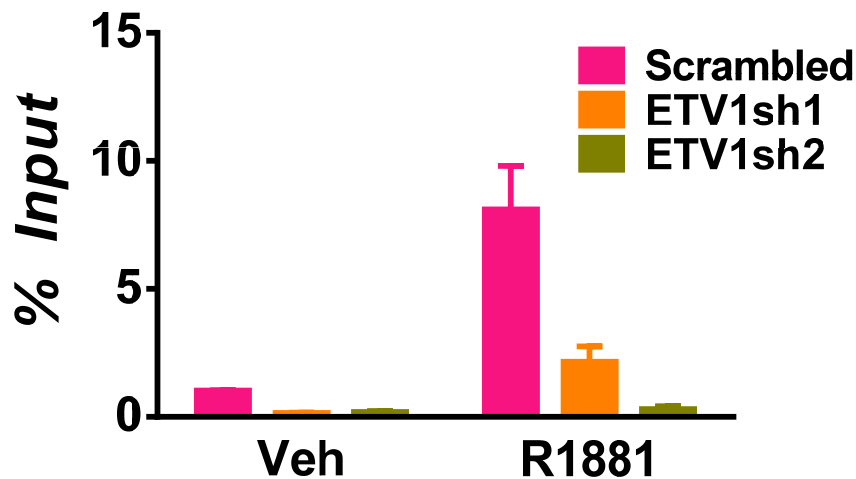


Supplementary Figure 20. ChIP-seq profiles at *FKBP5* and *TMEPA1* locus. Shown are ERG and AR ChIP-seq profiles in VCAP cells and ETV1 ChiP-Seq profile of unperturbed LNCaP cells and AR ChIP-seq of LNCaP cells infected with scrambled and *ETV1sh2* shRNA.

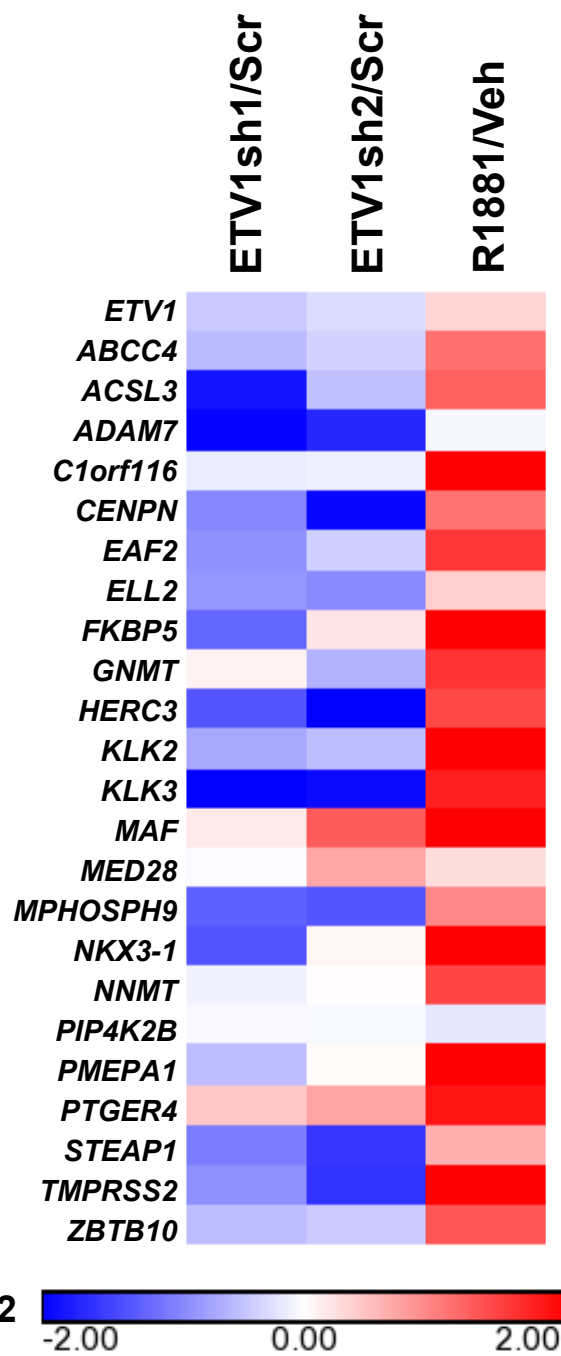
KLK3 Enhancer



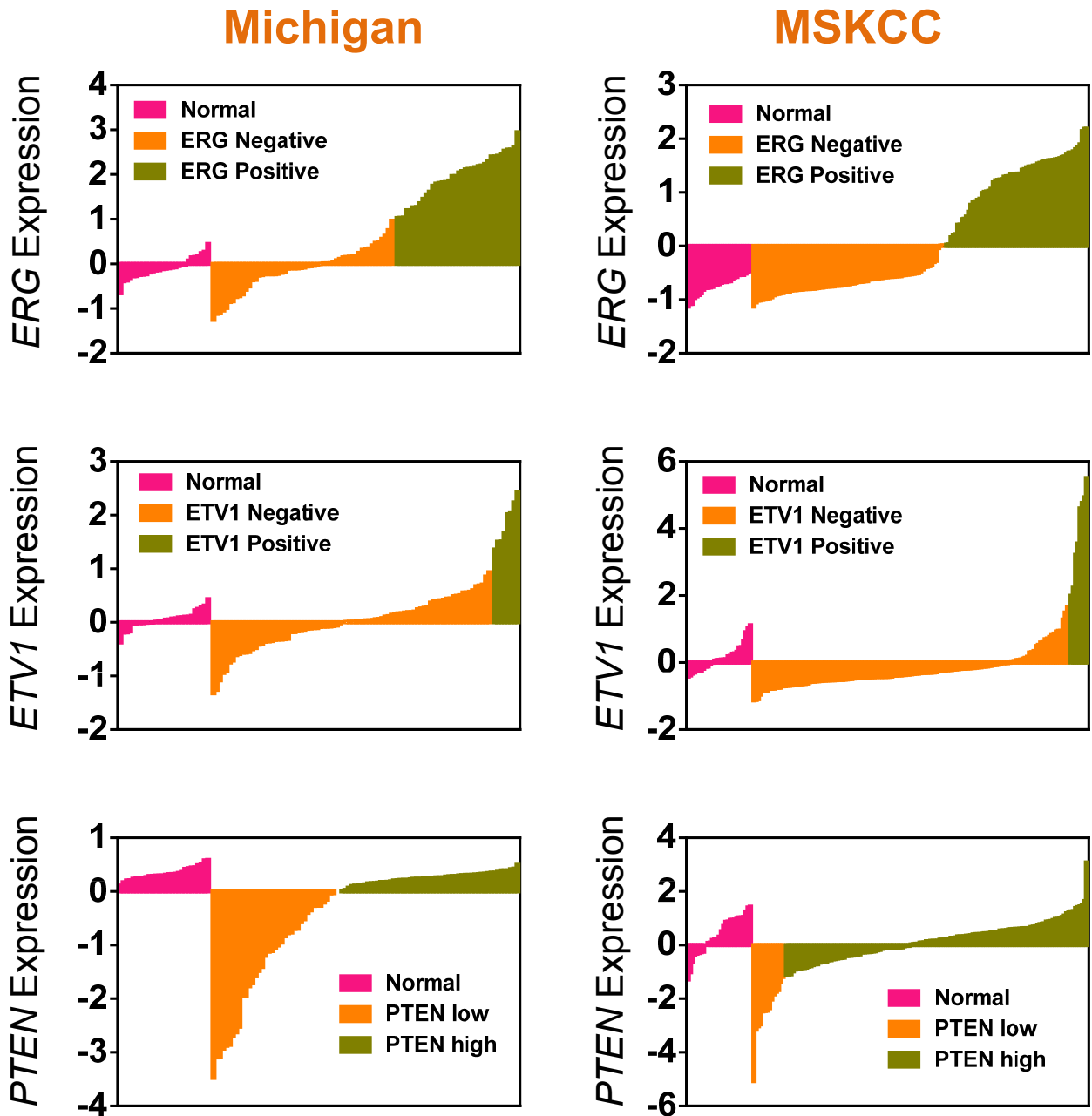
TMPRSS2 Enhancer



Supplementary Figure 21. ChIP-qPCR of AR IP in LNCaP cells. LNCaP cells were infected with scrambled or two different *ETV1* haripins for 72-hours and subsequently treated with vehicle or R1881 for 8 hours prior to chromatin harvest and qPCR.



Supplementary Figure 22. Heatmap of change in expression of AR signature genes induced by two *ETV1* hairpins and by R1881 in LNCaP cells.



Supplementary Figure 23. Expression of *ERG*, *ETV1*, and *PTEN* in University of Michigan and MSKCC datasets. Cutoffs used for analysis is shown. Of note is the increased number of PTEN low samples in the Michigan autopsy dataset enriched for castration-resistant disease compared to the MSKCC prostatectomy dataset.

Supplementary Table 1. ChIP-seq peak overlap table.

		WT			R26 ^{ERG}			Pten ^{ff}			Pten ^{ff} ;R26 ^{ERG}		
		AR IP	ERG IP	H3K4me1 IP	AR IP	ERG IP	H3K4me1 IP	AR IP	ERG IP	H3K4me1 IP	AR IP	ERG IP	H3K4me1 IP
WT	AR IP	3,476	149	2,883	3,202	2,161	3,198	1,836	105	2,764	2,850	1,080	3,101
	ERG IP	193	348	16	158	160	40	152	128	16	225	215	39
	H3K4me1 IP	3,261	16	121,355	12,142	19,395	118,320	2,826	97	99,051	7,726	16,114	112,723
R26 ^{ERG}	AR IP	3,137	87	11,111	14,889	6,090	13,248	2,779	79	10,969	6,376	3,123	12,604
	ERG IP	2,100	81	17,644	6,044	24,665	23,026	1,599	828	18,848	4,146	15,254	22,970
	H3K4me1 IP	2,921	38	71,461	11,110	20,915	101,297	2,855	599	73,521	6,751	19,359	88,624
Pten ^{ff}	AR IP	1,844	121	2,591	2,829	1,636	3,018	3,353	112	2,646	2,885	920	2,977
	ERG IP	114	109	97	104	882	593	122	1,006	167	140	960	459
	H3K4me1 IP	2,845	16	85,678	10,855	18,884	108,154	2,703	163	123,110	7,122	17,765	117,281
Pten ^{ff} , R26 ^{ERG}	AR IP	2,793	147	6,777	6,391	4,167	7,507	2,839	114	6,854	8,071	2,720	7,539
	ERG IP	1,028	125	14,813	3,079	15,169	20,296	886	900	17,538	2,669	23,166	21,694
	H3K4me1 IP	2,857	37	72,627	10,817	21,414	95,015	2,831	455	84,997	6,845	20,876	119,429

Supplementary Table 2: DREME Motif Analysis

Background	Peaks	DREME motif	E-value	Unersated E-value	LOGO	RC LOGO
PtenWT; ERG	ERG peaks	1. ETS (ERG)	2.2e-3382	2.2e-3382		
		2. Hox (HoxC, Cdx1/2)	2.4e-339	4.7e-356		
		3. Stat3/FEV/ASG1	1.20E-293	7.9e-2736		
		4. SP1/Klf4/Klf7	1.50E-201	2.20E-212		
		5. FKH (FoxA1)	2.10E-138	2.30E-193		
		6. AR	1.10E-102	7.50E-219		
	ALL AR peaks	1. AR	1.6e-1387	1.6e-1387		
		2. FKH (FoxA1)	4.1e-324	1.1e-352		
		3. Zscan4/Gm387 secondary	9.80E-148	8.90E-161		
		4. Hox (HoxD/HoxB/Cdx2)	3.30E-135	1.10E-219		
5. ETS (ERG)		7.20E-121	6.10E-294			
6. Gata (Gata6/Gata1/Gata5/Evi1)		2.80E-73	2.30E-114			
7. N/A		4.20E-68	4.40E-95			
8. SP1/INSM1		3.80E-56	2.40E-109			
9. N/A		1.70E-22	4.10E-116			
10. N/A		1.60E-21	3.90E-41			
Old AR peaks	1. AR	4.60E-302	4.60E-302			
	2. FKH (FoxA1)	7.50E-130	3.40E-138			
	3. Hox (HoxD/HoxB/Cdx2)	3.90E-59	4.10E-92			
	4. ETS (ERG)	3.90E-17	4.40E-89			
	5. RIM101	5.10E-07	1.80E-14			
	6. Zfp187	1.80E-06	1.70E-46			
	7. N/A	5.60E-06	6.30E-11			
	8. N/A	7.20E-06	6.90E-20			
	9. FKH2 (FoxA2/Foxd1)	2.20E-04	1.40E-06			
	10. N/A	2.40E-03	1.00E-24			
	11. SP1/Zfp281/Klf7	4.80E-03	3.10E-03			
	12. N/A	7.10E-03	8.00E-05			
	13. N/A	2.40E-02	1.40E-02			
New AR peaks	1. AR	2.3e-1077	2.3e-1077			
	2. FKH (FoxA1)	9.10E-213	6.70E-229			
	3. ETS (ERG)	6.30E-120	1.70E-304			
	4. Zscan4/GM397 secondary	2.70E-105	1.10E-118			
	5. Gata (Gata6/Gata1/Gata5)	1.80E-83	1.20E-105			
	6. Hox (HoxB/HoxD/Cdx2)	5.90E-67	5.60E-144			
	7. N/A	5.20E-42	1.10E-77			
	8. N/A	2.10E-32	1.00E-67			
	9. N/A	2.20E-22	2.60E-179			
	10. RIM101	7.70E-16	3.90E-38			
	11. SRD1	7.70E-13	5.80E-17			
	12. SP1/Klf4	2.80E-10	5.00E-13			
	13. N/A	2.10E-09	2.70E-13			
	14. RxRA//NR2F1/ZAP1	1.90E-07	7.10E-11			
	15. Gata (Gata 1/Gata 5)	1.60E-05	2.70E-42			
PTEN loss; ERG	ERG peaks	1. ETS (ERG)	8.6e-4471	8.6e-4471		
		2. ETS (SPDEF)	4.40E-227	3.0e-3520		
		3. FKH2 (FoxA2/ FoxF2/ Foxl1..)	2.00E-172	9.20E-199		
		4. SP1/Klf4/Klf7	1.20E-163	6.50E-171		
		5. Fos/AP1	6.30E-131	1.10E-134		
		6. Hox (HoxB/HoxD/Cdx1/2)	2.20E-102	1.30E-134		
	ALL AR peaks	1. AR	4.0e-603	4.0e-603		
		2. FKH (FoxA1)	2.5e-315	1.1e-342		
		3. Zscan4/GM397	2.00E-76	5.80E-84		
		4. ETS (ERG)	6.70E-71	1.60E-163		
		5. Hox (HoxD/HoxB/Cdx2)	7.00E-60	1.10E-120		
		6. N/A	3.00E-22	2.20E-36		
		7. ACE2	1.90E-19	4.10E-55		
8. Zscan4/GM397	3.40E-16	2.40E-99				
9. SP1/Klf4/Zfp281	1.50E-14	8.40E-17				
10. FKH2 (FoxA2/FoxA1/FoxF2)	2.00E-14	7.50E-24				
11. AP1/NFE2L2	8.10E-12	3.70E-13				
12. ETS(ERG/SPI1/FEV)	1.50E-10	4.00E-84				
13. GATA (Gata3/Gata1/Gata6)	1.00E-08	2.30E-20				

	14. RIM101	4.10E-07	8.20E-23	CTGGCC	GCCAG
	15. N/A	8.60E-06	2.00E-04	AATATGCC	CCATATT
	16. SP1/Klf7/Klf4	3.90E-05	2.80E-07	C ₂ CGCCC	GGCG ₂ G
	17. Put3/NHP10	1.20E-04	4.90E-32	CCG ₂ G	C ₂ CGG
	18. Stat3	2.40E-04	8.10E-35	CTG ₂ AA	TT ₂ CAG
	19. N/A	3.90E-03	6.10E-07	AATACACA	TGTGTATT
	20. Zbtb12	1.00E-02	5.40E-06	GAGTTC ₂	GAACTC
	21. N/A	1.50E-02	1.50E-03	GAGAT ₂ GC	CCATCTC
	22. YY1	2.60E-02	1.20E-05	AAATGAGA	TCTCATTT
	23. FoxA1	3.70E-02	5.10E-20	AAG ₂ AAAC	GTTT ₂ CTT
Old AR peaks	1. AR	2.10E-254	2.10E-254	G ₂ ACA	TGT ₂ C ₂
	2. FKH (FoxA1)	2.70E-141	1.50E-148	AAA ₂ A	T ₂ TTT ₂
	3. Zscan4/GM397	1.60E-24	8.70E-29	GCACA ₂	TGTGC ₂
	4. Hox (HoxD/HoxB/Cdx2)	1.80E-22	1.40E-52	ATAAA	TTTTAT
	5. ETS (ERG)	1.30E-09	1.40E-13	AGGAA ₂	TTCCCT
	6. FKH2 (FoxA2/FoxD1)	1.10E-08	2.80E-88	GTA ₂ A ₂	T ₂ TAC
	7. Lin-14	3.60E-08	3.50E-11	CGTTC ₂	GAACG
	8. FKH2 (FoxA2/FoxD1/Meis1)	7.10E-06	9.60E-10	T ₂ TTGAC ₂	GTCAA ₂ A
	9. SP1/Klf7/Klf4	5.70E-03	3.30E-03	CCCC ₂ CCC	GGG ₂ GGGG
	10. RIM101	1.30E-02	1.00E-07	CT ₂ GGC	GCC ₂ AG
	11. N/A	3.00E-02	2.20E-03	CAGCCTC ₂	GAGGCTG
New AR peaks	1. AR	1.3e-342	1.3e-342	G ₂ ACA	TGT ₂ C ₂
	2. FKH (FoxA1)	3.70E-195	6.90E-214	AAA ₂ A	T ₂ TTT ₂
	3. ETS (ERG/ELF3/SPI1)	3.10E-64	9.50E-124	GGAA	TTCC ₂
	4. Hox (HoxD/HoxB/Cdx2)	3.00E-39	8.60E-76	ATAAA	TTTTAT
	5. Zscan4/GM397	7.40E-34	2.10E-40	GCACA ₂	TGTGC ₂
	6. INSM1	4.40E-17	7.20E-37	CC ₂ G ₂ C	G ₂ C ₂ GG
	7. N/A	2.10E-11	6.00E-22	CGT ₂ C ₂	G ₂ ACG
	8. AP1/NFE2L2/FOS	1.60E-09	3.90E-10	TGAGTCA ₂	TGACTCA
	9. RIM101	7.40E-08	1.80E-20	CT ₂ GGC	GCC ₂ AG
	10. GM397	7.50E-08	6.30E-68	ACACA ₂	TGTGT
	11. Gata (Gata2/Gata3/Gata6)	1.80E-06	1.20E-13	AGATAA	TTATCT
	12. Stat3	4.40E-06	1.80E-38	CTGG ₂ A	T ₂ CCAG
	13. ETS (ERG)	2.00E-05	4.90E-68	AGGAA ₂	TTCCCT
	14. SP1/Klf4/Klf7	7.20E-04	1.60E-06	CCCC ₂ CCC	GGG ₂ GGGG
	15. ETS (ELK/SPDEF)	4.20E-03	1.80E-04	A ₂ CCGG	CCGG ₂ T
	16. Foxo3	5.90E-03	2.90E-14	TTTACA ₂	TGTAAA
Pten loss; ERG vs. Pten WT; ERG	Lost AR peaks	1. AR	2.2e-793	2.2e-793	TGT ₂ C ₂
	2. Hox (HoxD/HoxB/Cdx2)	2.00E-107	7.90E-114	ATAAA	TTTTAT
	3. Zscan4/Gm397	2.20E-86	1.30E-92	GCACA ₂	TGTGC ₂
	4. Gata (Gata6/Gata1)	1.10E-71	1.90E-97	GATAA	TTATC ₂
	5. ETS (ERG/SPI1)	5.70E-61	8.30E-160	AGGAA ₂	TTCCCT
	6. FKH2 (FoxA2/Foxo3)	1.80E-52	4.80E-92	GTA ₂ A ₂ A	T ₂ T ₂ TAC
	7. N/A	2.30E-42	1.00E-67	GTTTC ₂	GAAC ₂
	8. N/A	1.30E-23	6.80E-40	G ₂ CAG ₂	CTG ₂ C
	9. FKH (FoxA1/FoxO3)	1.90E-18	4.40E-104	G ₂ A ₂ ACA	TGT ₂ T ₂ C
	10. Zfp187	1.30E-12	1.00E-149	GTAC ₂	GTAC
	11. FKH1 (FoxK1/Foxj1/FoxA2)	7.60E-11	2.40E-25	AAACAAA	TTT ₂ TTT
	12. RXRA/NR2F1	4.90E-10	1.40E-12	AAA ₂ G ₂ CA	TG ₂ C ₂ TTT
	13. RIM101	2.70E-09	1.20E-28	CT ₂ GGC	GCC ₂ AG
	14. SPI1/GCR2/SP1	2.10E-08	4.60E-18	C ₂ TCCC	GGGA ₂ G
	15. ARID3A	7.20E-05	3.40E-07	ATTAAA	TTTAAT ₂
	16. N/A	2.20E-04	8.10E-33	CA ₂ ATA	TAT ₂ TG
	17. Rhox11	1.60E-03	2.00E-10	CTGTAA ₂	TTACAG
	18. CBF1/Myc/HIF1A	3.00E-03	3.50E-37	CGT ₂ C	G ₂ ACG
	19. Klf4/Klf7/SP1	2.30E-02	2.40E-03	CC ₂ C ₂ CC	GGC ₂ GG
	20. TEAD1/TEC1	4.10E-02	1.40E-04	CATTCC ₂ G	C ₂ GGAATG

Supplementary Table 3: ERG-reguated genes in *Pten* wild-type prostates

Probe ID	Symbol	p-Value	FDR	Mean(ERG Neg)	Mean(ERG Pos)	Diff	Fold Change
460682	2200001I15Rik	3.89E-04	0.29	7.94	10.30	-2.36	-5.15
580022	Sgsh	1.09E-04	0.18	7.77	9.10	-1.33	-2.52
1010497	Tomm22	1.17E-04	0.18	9.90	10.79	-0.89	-1.85
5360358	1110017F19Rik	1.82E-04	0.21	6.73	7.40	-0.66	-1.58
6660747	Slc27a3	2.84E-04	0.26	8.51	7.87	0.64	1.56
1070091	Gmfg	1.02E-04	0.18	10.11	9.43	0.67	1.59
3780338	Cdc42ep2	3.71E-04	0.29	9.35	8.68	0.68	1.60
6760661	Sipa11	8.28E-05	0.18	11.44	10.73	0.71	1.64
1510270	Tsga14	1.79E-04	0.21	9.14	8.43	0.71	1.64
6100392	Tmem53	3.54E-04	0.29	9.67	8.93	0.74	1.67
3310537	P4ha2	3.80E-04	0.29	10.76	10.01	0.75	1.68
5960754	P4ha2	1.80E-04	0.21	9.91	9.14	0.77	1.71
1260400	Stxbp1	1.27E-04	0.18	11.27	10.41	0.86	1.82
5550470	Aldoc	1.13E-04	0.18	9.90	8.96	0.94	1.92
4490253	Klb	5.31E-05	0.18	7.41	6.46	0.95	1.94
5560692	Paip1	2.07E-04	0.22	8.73	7.74	0.99	1.99
5290561	Prr13	2.04E-04	0.22	13.51	12.51	1.00	2.00
4610433	Srgn	1.66E-04	0.21	8.86	7.42	1.43	2.70
6980452	Srms	4.09E-05	0.16	8.31	6.36	1.94	3.84
3800148	Nyx	5.60E-05	0.18	9.28	7.01	2.27	4.83
3190408	Mest	2.73E-05	0.16	9.05	6.60	2.45	5.46
1690019	Mest	9.11E-05	0.18	10.01	6.99	3.03	8.15
6770356	Mest	6.20E-05	0.18	10.79	7.17	3.62	12.26
5310220	eGFP	4.63E-07	0.02	10.42	6.55	3.86	14.57

Supplementary Table 4: ERG-regulated genes in *Pten* loss prostates

Probe ID	Symbol	p-Value	FDR	mean(ERG Ne)	mean(ERG Pc)	Diff	Fold Change
4260241	Dlk1	4.36E-04	0.07	7.02	11.87	4.86	28.96
5310220	eGFP	6.52E-09	0.00	6.40	10.65	4.25	19.08
2850020	Dlk1	7.67E-04	0.09	6.08	10.18	4.10	17.13
6900278	Otos	2.40E-04	0.06	6.18	10.17	3.99	15.88
1300600	Lman1l	6.42E-06	0.02	7.88	11.69	3.81	14.05
3890220	Lman1l	1.24E-05	0.02	6.86	10.40	3.54	11.64
3180671	Fbp1	8.07E-05	0.04	6.79	9.90	3.11	8.62
990484	Lman1l	2.88E-05	0.03	6.57	9.42	2.86	7.24
7200672	LOC635815	3.02E-03	0.15	7.90	10.66	2.76	6.78
360021	Otop1	6.39E-05	0.04	6.40	9.08	2.68	6.42
240093	Otop1	7.36E-05	0.04	7.26	9.85	2.59	6.02
1510373	Aqp5	9.99E-06	0.02	8.49	10.83	2.34	5.05
5050474	Muc2	6.74E-03	0.20	6.83	9.14	2.31	4.95
60288	Atp2a3	1.35E-04	0.05	10.24	12.52	2.28	4.85
7040253	Msemb	7.41E-03	0.21	10.80	13.06	2.25	4.77
520403	Cxcl15	2.45E-04	0.06	12.21	14.42	2.21	4.62
7560747	Aldh1l2	3.06E-05	0.03	7.44	9.63	2.19	4.58
5570168	1245_ig_kappa_va	1.20E-02	0.24	7.88	10.05	2.17	4.49
610255	LOC100046616	1.58E-04	0.05	7.58	9.70	2.12	4.35
450193	Fbp3	3.66E-04	0.07	6.24	8.30	2.06	4.18
5550470	Aldoc	5.90E-05	0.04	9.76	11.81	2.05	4.14
2810731	Nkx3-1	1.30E-05	0.02	9.10	11.15	2.05	4.14
2570672	Atp2a3	6.88E-05	0.04	11.04	13.08	2.04	4.10
150162	Reg3b	4.79E-03	0.18	11.18	13.21	2.03	4.09
4670671	Pbsn	1.32E-05	0.02	6.23	8.22	1.99	3.97
1740008	Ptx3	8.24E-03	0.22	6.13	8.08	1.95	3.88
780554	Sema7a	6.28E-04	0.09	7.09	9.00	1.90	3.74
3390341	Tmem87a	1.80E-02	0.29	7.71	9.60	1.89	3.70
3610082	Cxcl1	1.46E-02	0.26	10.43	12.30	1.88	3.67
150114	Chi3l1	1.39E-03	0.12	7.55	9.42	1.87	3.67
3800246	Igh-V11	8.23E-03	0.22	6.35	8.22	1.87	3.66
6650424	LOC100046690	8.43E-04	0.10	7.02	8.88	1.86	3.63
5390136	Ptx3	8.98E-03	0.22	6.20	8.05	1.85	3.61
1170139	Spp1	7.03E-03	0.20	10.23	12.08	1.85	3.60
6520450	Bace2	8.38E-06	0.02	8.53	10.30	1.77	3.41
4780341	Alms1	1.31E-03	0.11	6.25	7.99	1.74	3.34
510020	Pde2a	7.41E-05	0.04	7.48	9.22	1.73	3.32
6250494	Cp	5.38E-03	0.18	11.20	12.90	1.70	3.26
650524	Gdf15	8.23E-05	0.04	7.03	8.70	1.67	3.18
1340746	Faim2	1.04E-05	0.02	6.58	8.25	1.67	3.17
6900424	Reg3b	5.42E-03	0.18	7.17	8.83	1.66	3.17
450327	LOC635601	4.93E-03	0.18	7.52	9.17	1.65	3.14
4390136	Slc12a8	7.39E-03	0.21	8.23	9.87	1.64	3.12
2000465	961_ig_heavy_var	1.03E-02	0.23	7.40	9.04	1.64	3.11

650669	Serpinb11	1.08E-03	0.10	10.98	12.60	1.62	3.07
270086	Slc5a5	1.75E-03	0.12	8.29	9.90	1.61	3.06
4850754	Calml4	7.47E-03	0.21	7.56	9.17	1.61	3.05
3390221	Bace2	3.61E-07	0.00	11.75	13.36	1.60	3.04
540121	Cp	2.16E-03	0.13	7.25	8.85	1.60	3.03
270324	Tnc	6.32E-03	0.20	8.95	10.53	1.58	2.99
3290519	Kank4	3.97E-05	0.03	7.20	8.77	1.57	2.98
5050059	Glycam1	6.71E-03	0.20	6.86	8.40	1.55	2.92
5700669	D11Bwg0517e	6.19E-03	0.19	7.71	9.24	1.54	2.90
5550711	Tesc	1.60E-02	0.27	8.26	9.79	1.53	2.89
2600041	Muc3	1.08E-02	0.24	5.93	7.46	1.53	2.88
7200392	Saa4	1.19E-02	0.24	6.41	7.92	1.51	2.84
290685	Creld2	3.26E-05	0.03	10.32	11.83	1.50	2.83
7000289	Adora2b	2.83E-03	0.15	8.93	10.43	1.50	2.82
5420333	Tnc	4.15E-03	0.17	8.59	10.08	1.50	2.82
5810575	LOC635601	1.32E-02	0.25	7.68	9.16	1.48	2.79
870195	Pde4b	2.69E-04	0.06	8.19	9.67	1.48	2.79
1170079	1229_ig_kappa_va	5.35E-03	0.18	7.32	8.79	1.47	2.78
1470176	Wars	6.79E-04	0.09	8.90	10.36	1.46	2.76
2260059	Bmp7	2.03E-03	0.13	7.24	8.70	1.46	2.75
1570594	Socs3	1.23E-02	0.25	9.36	10.80	1.44	2.71
5560338	Abo	2.12E-03	0.13	10.47	11.90	1.43	2.69
1980603	S100a9	1.24E-02	0.25	9.61	11.04	1.43	2.69
5130553	Tpsab1	2.74E-03	0.14	6.80	8.22	1.42	2.68
3800187	Gsdma1	1.23E-03	0.11	7.64	9.04	1.41	2.65
3420754	Il1b	1.13E-02	0.24	8.63	10.04	1.40	2.64
1260255	Ank1	1.94E-03	0.13	7.20	8.60	1.40	2.63
6940750	Gtl2	9.33E-03	0.22	8.21	9.60	1.39	2.62
830619	Reg3g	4.60E-03	0.17	12.18	13.55	1.37	2.59
1340601	Qsox1	4.89E-04	0.08	10.11	11.49	1.37	2.59
1170167	Kank4	7.05E-05	0.04	6.69	8.05	1.36	2.57
4290465	Selp	6.59E-03	0.20	8.09	9.43	1.34	2.53
1740338	Tinagl	2.23E-04	0.06	7.94	9.28	1.33	2.52
2350397	Wars	6.67E-05	0.04	10.97	12.30	1.33	2.51
1990021	SMUSG000000687	1.49E-02	0.27	7.64	8.97	1.32	2.50
1580730	Ampd3	7.73E-04	0.09	9.58	10.89	1.31	2.49
7000224	Cd177	5.99E-03	0.19	6.27	7.57	1.30	2.46
650167	Wars	2.20E-04	0.06	8.07	9.36	1.29	2.44
670554	Chrnbl	1.51E-04	0.05	9.55	10.83	1.28	2.43
520070	Saa1	7.73E-03	0.21	7.44	8.72	1.28	2.42
4730039	Rap1gap	6.22E-04	0.09	9.84	11.10	1.26	2.40
3400026	Asph	3.33E-03	0.16	7.44	8.70	1.26	2.39
1190546	S100a8	1.33E-02	0.25	10.64	11.90	1.26	2.39
7400717	Hpcal4	6.15E-04	0.09	6.77	8.02	1.26	2.39
1660327	Tinagl1	4.22E-04	0.07	7.75	9.00	1.26	2.39
7160711	Retnlg	1.70E-02	0.28	6.84	8.08	1.24	2.36
3780717	Spcs3	1.79E-03	0.12	10.52	11.75	1.24	2.35

7610114	Mgst1	2.64E-04	0.06	11.73	12.94	1.21	2.31
2760139	Lonrf3	1.06E-03	0.10	8.73	9.93	1.20	2.29
6200112	Cp	1.02E-04	0.04	9.25	10.45	1.20	2.29
4610095	Dnajc3	2.35E-05	0.03	10.35	11.55	1.19	2.28
7380670	Asph	7.37E-04	0.09	8.88	10.06	1.18	2.26
670360	Tubb6	3.09E-03	0.15	10.06	11.24	1.17	2.26
3450220	Car9	1.19E-02	0.24	7.46	8.63	1.17	2.25
1030142	Pygl	2.00E-02	0.30	9.15	10.32	1.16	2.24
1300095	Il8rb	8.19E-03	0.22	7.10	8.26	1.16	2.23
6770356	Mest	4.27E-03	0.17	6.35	7.51	1.16	2.23
2030497	Unc5b	3.22E-06	0.02	7.60	8.76	1.16	2.23
3420398	Il8ra	1.29E-04	0.05	6.21	7.37	1.15	2.22
3520592	Cp	9.39E-03	0.23	6.88	8.03	1.15	2.22
3450735	Wars	1.49E-04	0.05	8.00	9.15	1.15	2.22
7650048	Fpr2	9.76E-03	0.23	8.44	9.58	1.15	2.22
6840040	Csf3r	1.35E-03	0.11	8.00	9.14	1.14	2.21
4900722	H2-T10	3.93E-03	0.16	8.01	9.16	1.14	2.21
6110681	2210010N04Rik	4.59E-06	0.02	7.60	8.73	1.13	2.19
10170	Clec4d	8.88E-03	0.22	8.59	9.71	1.12	2.18
4180437	LOC100047619	2.75E-03	0.14	10.18	11.29	1.12	2.17
1570358	9930021D14Rik	1.87E-04	0.05	6.96	8.07	1.11	2.16
3400270	Tmem97	3.75E-05	0.03	9.07	10.17	1.10	2.15
5310133	Tcn2	2.42E-04	0.06	10.14	11.25	1.10	2.15
5570079	Hgf	8.57E-03	0.22	7.20	8.30	1.10	2.14
4640328	2610307O08Rik	2.01E-03	0.13	10.07	11.17	1.10	2.14
1170451	EG226654	2.78E-03	0.14	8.05	9.15	1.10	2.14
3060754	Apbb2	1.25E-04	0.05	8.47	9.57	1.09	2.13
2120091	Fut2	2.21E-03	0.13	9.91	11.00	1.09	2.12
3190639	Kif5c	4.30E-03	0.17	7.20	8.28	1.08	2.12
5340750	Gpr110	1.86E-05	0.02	6.18	7.26	1.08	2.12
1070274	St3gal4	3.53E-03	0.16	7.23	8.31	1.08	2.12
6900315	Fbln1	2.52E-03	0.14	7.56	8.64	1.08	2.11
6980452	Srms	1.84E-02	0.29	6.37	7.45	1.07	2.11
520673	D030018L15Rik	1.66E-02	0.28	7.53	8.60	1.07	2.10
7610450	Itpr2	1.91E-04	0.05	9.31	10.38	1.07	2.09
7400719	Derl3	7.72E-04	0.09	6.59	7.65	1.06	2.09
290242	Bin1	2.29E-03	0.13	9.82	10.88	1.06	2.08
4070253	Chrnbl	1.58E-03	0.12	8.02	9.07	1.05	2.06
7040100	Slco2a1	1.77E-02	0.28	8.49	9.54	1.05	2.06
6330300	2310040A07Rik	1.90E-03	0.13	6.87	7.92	1.05	2.06
7570292	Spon2	1.01E-02	0.23	10.31	11.35	1.04	2.06
2680605	Chl1	1.96E-03	0.13	6.32	7.36	1.04	2.06
5900259	Csf3r	1.62E-03	0.12	7.28	8.32	1.04	2.05
5290068	Kank4	1.96E-08	0.00	6.39	7.42	1.03	2.04
2120634	Serpine2	6.40E-05	0.04	7.55	8.57	1.02	2.03
3400703	Macrod1	7.18E-05	0.04	8.54	9.56	1.02	2.03
160187	Padi4	8.54E-03	0.22	7.14	8.16	1.02	2.03

6290441	LOC280487	3.35E-03	0.16	8.38	9.39	1.02	2.02
1440300	Palmd	2.04E-03	0.13	8.96	9.97	1.01	2.02
1190364	Dbc1	1.71E-04	0.05	6.52	7.53	1.01	2.02
5090376	Thsd1	1.71E-03	0.12	6.74	7.76	1.01	2.02
5360575	EG666668	2.51E-04	0.06	6.89	7.90	1.01	2.01
5080279	Palmd	1.88E-03	0.12	8.76	9.76	1.01	2.01
3850148	EG432867	1.12E-04	0.05	6.32	7.32	1.00	2.00
5090619	Csgalnact1	1.74E-03	0.12	7.05	8.05	1.00	2.00
5390553	LOC640696	1.86E-02	0.29	6.98	7.97	1.00	1.99
1110088	Apobec1	1.59E-04	0.05	9.50	10.49	0.99	1.99
4230136	Rasl11a	3.42E-04	0.07	6.96	7.95	0.99	1.99
6370594	Atp2a3	9.31E-04	0.10	6.49	7.47	0.98	1.97
5310692	Slc5a5	1.49E-03	0.12	6.40	7.38	0.98	1.97
1940762	2310040A07Rik	8.18E-03	0.22	7.18	8.15	0.97	1.96
3800300	LOC100041569	6.12E-03	0.19	7.40	8.37	0.97	1.95
5310376	Mthfd2	3.59E-05	0.03	7.80	8.76	0.97	1.95
2360070	Tmc5	4.19E-04	0.07	7.34	8.31	0.96	1.95
2100689	Unc93b1	1.27E-03	0.11	9.18	10.14	0.96	1.95
3890528	Rgs16	1.79E-02	0.28	7.06	8.02	0.96	1.94
2190280	C330008K14Rik	4.20E-04	0.07	7.78	8.74	0.95	1.94
870743	Bace2	2.07E-04	0.05	7.76	8.72	0.95	1.93
6380156	Rhoj	2.64E-03	0.14	9.53	10.48	0.95	1.93
2690221	Rai3	4.42E-04	0.07	9.71	10.66	0.95	1.93
1430110	Ptpn1	1.59E-03	0.12	9.27	10.22	0.95	1.93
2970376	Dio3	1.08E-02	0.24	7.07	8.01	0.95	1.93
4900475	LOC100046025	2.04E-02	0.30	8.23	9.18	0.95	1.93
7000097	LOC100044257	6.43E-03	0.20	6.72	7.66	0.94	1.92
3370433	Hgf	5.86E-03	0.19	6.84	7.78	0.94	1.92
1400398	2310014H01Rik	4.79E-03	0.18	10.48	11.42	0.94	1.92
7040243	D0H4S114	1.26E-03	0.11	10.39	11.32	0.93	1.91
3060639	Defb10	4.66E-03	0.17	6.69	7.62	0.93	1.90
5550671	Ly6c1	8.28E-03	0.22	13.14	14.07	0.93	1.90
2370039	Gpr171	1.35E-02	0.26	7.05	7.97	0.92	1.90
840209	6330406I15Rik	6.00E-03	0.19	9.37	10.29	0.92	1.90
1030082	Mia1	4.81E-04	0.08	9.79	10.71	0.92	1.90
6520711	439_lg_heavy_var	4.24E-03	0.17	7.19	8.11	0.92	1.90
6200037	Cp	1.53E-03	0.12	7.44	8.35	0.91	1.88
5260541	Cfb	1.60E-02	0.27	9.18	10.09	0.91	1.88
4200452	D630010B17Rik	1.31E-02	0.25	6.76	7.67	0.90	1.87
1070630	Tnfaip2	3.86E-03	0.16	8.01	8.91	0.90	1.87
2850521	Rasl11a	1.54E-04	0.05	6.51	7.41	0.90	1.87
6180202	LOC100044702	1.90E-02	0.29	9.78	10.68	0.90	1.87
6550671	D17Wsu104e	6.44E-05	0.04	10.04	10.94	0.90	1.86
5820739	Gp49a	8.21E-03	0.22	8.55	9.44	0.90	1.86
4880619	Tmed3	3.53E-03	0.16	10.78	11.68	0.90	1.86
360427	Megf11	1.91E-03	0.13	6.18	7.07	0.89	1.86
1340762	Tiam2	1.28E-04	0.05	6.89	7.78	0.89	1.86

5860475	Slc16a6	2.86E-04	0.06	7.36	8.26	0.89	1.86
2650019	6330406I15Rik	4.45E-04	0.07	9.49	10.38	0.89	1.86
4480333	Ppic	8.53E-04	0.10	10.92	11.81	0.89	1.85
7040717	Ccl6	9.28E-03	0.22	8.59	9.48	0.88	1.85
4260025	EG433016	8.72E-03	0.22	6.89	7.77	0.88	1.85
5490008	St3gal1	1.08E-02	0.24	7.30	8.18	0.88	1.84
3120427	Slc16a6	2.48E-04	0.06	8.31	9.18	0.87	1.83
650324	Prss22	7.19E-03	0.21	7.69	8.55	0.87	1.82
4120167	Slco2a1	1.79E-02	0.28	7.48	8.34	0.86	1.82
450133	Tgfb1	1.24E-03	0.11	10.55	11.41	0.86	1.82
2570148	Vcan	1.99E-03	0.13	6.85	7.71	0.86	1.81
4540615	Cpne2	6.30E-04	0.09	7.41	8.27	0.86	1.81
6290528	Cpne8	1.47E-03	0.12	8.79	9.65	0.86	1.81
5810538	Ccdc80	1.54E-02	0.27	10.71	11.57	0.85	1.81
7400601	Tnfaip2	1.18E-02	0.24	6.74	7.60	0.85	1.81
3400646	Sirpa	7.77E-04	0.09	10.82	11.67	0.85	1.81
6550072	Car9	6.99E-03	0.20	6.86	7.72	0.85	1.81
3990228	Tmem44	1.27E-03	0.11	7.88	8.73	0.85	1.81
4390347	Tmed9	1.08E-02	0.24	7.55	8.41	0.85	1.80
1260075	Sec14l2	3.61E-03	0.16	7.77	8.62	0.85	1.80
2470228	6330404C01Rik	5.18E-03	0.18	6.72	7.56	0.84	1.79
2480139	Mia1	1.24E-04	0.05	9.22	10.05	0.84	1.79
5360056	Clec4n	9.32E-03	0.22	7.66	8.50	0.84	1.79
7000746	Darc	1.38E-02	0.26	8.25	9.09	0.84	1.78
130239	Wisp1	1.14E-04	0.05	7.95	8.78	0.83	1.78
1940347	Dab2	1.50E-03	0.12	10.26	11.10	0.83	1.78
5700382	B430305P08Rik	8.81E-03	0.22	9.18	10.01	0.83	1.78
540487	9930021D14Rik	1.70E-03	0.12	6.29	7.12	0.83	1.78
6510240	Nes	1.90E-02	0.29	7.05	7.88	0.83	1.77
6250452	Ephb4	1.13E-03	0.11	9.36	10.18	0.83	1.77
7550356	Slc38a10	1.62E-04	0.05	7.29	8.11	0.82	1.77
4780377	Sec63	2.98E-03	0.15	9.53	10.36	0.82	1.77
2030066	Npw	6.32E-03	0.20	6.27	7.10	0.82	1.77
6650156	Preli2	4.29E-04	0.07	6.89	7.71	0.82	1.77
3310537	P4ha2	2.53E-04	0.06	9.41	10.23	0.82	1.77
6620521	Kcnk6	2.39E-03	0.14	8.62	9.44	0.82	1.77
3140041	2310046K01Rik	2.13E-03	0.13	8.64	9.46	0.82	1.76
5870367	LOC666403	1.57E-05	0.02	13.15	13.96	0.82	1.76
6520075	Ier3	5.06E-04	0.08	11.33	12.15	0.82	1.76
4220717	Ccl19	1.52E-02	0.27	6.95	7.76	0.81	1.76
4280519	LOC384710	1.53E-03	0.12	10.55	11.37	0.81	1.75
3840731	Ephb4	3.36E-03	0.16	8.52	9.33	0.81	1.75
1660129	Dio2	1.10E-02	0.24	6.63	7.44	0.81	1.75
6520064	Elmo1	1.21E-02	0.25	6.62	7.43	0.81	1.75
5700019	Rcan1	1.44E-02	0.26	6.30	7.11	0.81	1.75
1190592	Pard6g	5.82E-03	0.19	9.42	10.22	0.81	1.75
3840750	Tnfaip2	8.15E-03	0.22	7.41	8.21	0.80	1.75

2850133	Msn	9.82E-04	0.10	8.49	9.29	0.80	1.74
2470242	Hsd3b7	5.88E-05	0.04	11.31	12.11	0.80	1.74
840349	Ifitm2	1.55E-04	0.05	12.83	13.63	0.80	1.74
6560487	Sema3f	5.52E-03	0.19	9.91	10.71	0.80	1.74
870446	H2-T10	1.73E-02	0.28	9.29	10.08	0.80	1.74
3190048	Dctd	9.80E-03	0.23	8.18	8.98	0.80	1.74
1110762	Upk1a	9.33E-03	0.22	9.41	10.20	0.79	1.74
3460736	LOC100048332	1.09E-03	0.10	7.59	8.39	0.79	1.73
1050609	Dab2	1.83E-03	0.12	9.94	10.74	0.79	1.73
2570372	Tuba1a	1.02E-02	0.23	9.84	10.64	0.79	1.73
3290164	LOC622994	1.58E-02	0.27	11.97	12.76	0.79	1.73
380369	Napsa	5.50E-04	0.08	7.80	8.59	0.79	1.73
450309	Rab8b	2.90E-03	0.15	9.73	10.52	0.79	1.73
610010	Tnfrsf1a	3.01E-03	0.15	8.45	9.24	0.79	1.73
6550044	Kank1	7.62E-04	0.09	9.84	10.62	0.79	1.72
2760561	Plat	3.46E-05	0.03	10.62	11.40	0.78	1.72
1510564	Asph	6.73E-03	0.20	6.40	7.18	0.78	1.72
5260725	Adamts1	3.22E-03	0.15	7.15	7.93	0.78	1.72
7040181	2410008K03Rik	4.70E-04	0.08	7.98	8.76	0.78	1.72
110706	Ppic	4.31E-03	0.17	8.73	9.51	0.78	1.72
5860435	H2-Ab1	8.27E-03	0.22	10.96	11.74	0.78	1.72
2650681	Mme	7.56E-03	0.21	8.71	9.49	0.78	1.72
2970743	9430047F21Rik	2.01E-02	0.30	7.05	7.83	0.78	1.72
3870139	467_lg_heavy_var	1.26E-02	0.25	6.38	7.16	0.78	1.72
780546	Htra3	1.82E-02	0.29	8.60	9.38	0.78	1.71
6020743	LOC100047419	1.10E-03	0.11	9.01	9.79	0.78	1.71
1050671	Fkbp11	4.72E-03	0.18	9.89	10.66	0.77	1.71
430301	Tnfrsf22	5.80E-03	0.19	9.19	9.96	0.77	1.71
1440307	H2-Ab1	8.24E-03	0.22	11.52	12.29	0.77	1.71
6040242	Sema3f	3.76E-03	0.16	9.36	10.13	0.77	1.71
3520142	Zbtb32	4.36E-04	0.07	7.35	8.12	0.77	1.71
5820528	Csf2rb2	8.52E-03	0.22	7.56	8.33	0.77	1.71
7100021	Hyou1	1.84E-04	0.05	8.09	8.86	0.77	1.71
1780474	Msn	3.21E-03	0.15	7.78	8.56	0.77	1.71
4560609	Tmem125	1.22E-02	0.25	9.10	9.87	0.77	1.71
2480132	Prom	8.82E-03	0.22	9.20	9.96	0.77	1.70
1110326	Fcgr2b	1.90E-02	0.29	9.26	10.02	0.77	1.70
4780239	Tmem160	3.50E-04	0.07	10.89	11.65	0.76	1.69
2970332	Klf2	1.71E-03	0.12	8.77	9.53	0.76	1.69
2030615	Abo	7.40E-04	0.09	10.29	11.05	0.76	1.69
5670240	Map3k6	2.05E-02	0.30	8.12	8.87	0.76	1.69
2060328	Egfl7	1.23E-02	0.25	9.80	10.55	0.75	1.68
6040521	Fbln2	2.21E-04	0.06	7.41	8.16	0.75	1.68
1260400	Stxbp1	1.57E-03	0.12	10.76	11.51	0.75	1.68
6560301	Cd53	1.28E-02	0.25	9.25	10.00	0.75	1.68
60600	Mocs1	4.39E-04	0.07	10.46	11.21	0.75	1.68
870246	Hif1a	1.25E-03	0.11	8.53	9.28	0.75	1.68

4070072	LOC331139	1.08E-02	0.24	6.68	7.42	0.75	1.68
1090056	Htr2b	4.36E-03	0.17	6.58	7.32	0.75	1.68
1230767	Thbd	9.27E-03	0.22	9.61	10.36	0.74	1.67
1240259	Comt	9.41E-03	0.23	10.36	11.10	0.74	1.67
5700066	Spsb1	1.71E-02	0.28	9.06	9.80	0.74	1.67
2940138	Ctla2b	2.00E-02	0.30	6.95	7.69	0.74	1.67
3130020	Lrig1	1.84E-02	0.29	8.67	9.41	0.74	1.67
2810424	Snx20	1.36E-02	0.26	6.91	7.65	0.74	1.67
6980446	Dok1	4.49E-03	0.17	7.03	7.77	0.74	1.67
4780196	Fxyd5	1.47E-02	0.27	9.48	10.22	0.74	1.67
4760041	Tmem160	5.37E-04	0.08	10.08	10.82	0.74	1.67
6760228	Elmo1	2.28E-03	0.13	9.18	9.92	0.74	1.67
4200735	Fkbp2	7.20E-05	0.04	7.39	8.13	0.74	1.67
6900192	Fn1	7.03E-03	0.20	7.58	8.32	0.74	1.67
1690019	Mest	4.02E-03	0.17	6.10	6.84	0.74	1.66
3140524	Gcg	1.53E-02	0.27	5.89	6.62	0.74	1.66
2120397	Ccr5	1.34E-02	0.26	7.98	8.71	0.73	1.66
430561	Bcat1	1.46E-02	0.26	6.60	7.33	0.73	1.66
3460026	LOC100047167	3.09E-03	0.15	8.57	9.30	0.73	1.66
7610477	Tm4sf1	2.91E-03	0.15	6.39	7.11	0.73	1.66
1780324	Ccr5	1.30E-02	0.25	7.88	8.61	0.73	1.66
360053	5033414K04Rik	1.50E-02	0.27	9.86	10.59	0.73	1.66
2630008	Fxyd5	1.37E-02	0.26	10.46	11.18	0.73	1.66
2350368	Mfsd2	1.91E-02	0.29	8.54	9.27	0.73	1.65
2900692	Has2	1.90E-02	0.29	6.39	7.12	0.73	1.65
7330392	Plekho2	7.73E-04	0.09	9.23	9.96	0.72	1.65
1820075	Plek	4.60E-03	0.17	8.37	9.09	0.72	1.65
1940608	Lyzs	1.16E-02	0.24	11.34	12.06	0.72	1.65
3890762	2600011E07Rik	3.66E-03	0.16	6.86	7.58	0.72	1.65
7320138	Klra17	1.91E-02	0.29	6.97	7.69	0.72	1.65
6100092	Cpne8	7.56E-03	0.21	7.72	8.44	0.72	1.65
5560349	Rftn1	1.24E-03	0.11	7.05	7.77	0.72	1.65
1740040	Sec63	7.38E-04	0.09	9.55	10.27	0.72	1.65
20241	Itga5	9.44E-03	0.23	6.94	7.65	0.72	1.65
6350324	Gna14	1.55E-02	0.27	9.70	10.42	0.72	1.65
6330768	Dusp6	8.75E-03	0.22	8.68	9.40	0.72	1.64
4280187	Pira11	8.04E-03	0.22	7.12	7.84	0.72	1.64
6040364	Hbegf	9.76E-03	0.23	7.69	8.41	0.71	1.64
3130630	Cdkn1a	6.63E-03	0.20	10.47	11.18	0.71	1.64
1240095	Snx24	8.30E-04	0.10	11.17	11.89	0.71	1.64
5310672	Fxyd5	1.06E-02	0.23	8.66	9.37	0.71	1.64
580086	Asph	9.76E-03	0.23	6.31	7.02	0.71	1.64
7510414	Vwf	7.01E-03	0.20	8.90	9.61	0.71	1.64
6060520	Ccl11	1.32E-04	0.05	8.52	9.23	0.71	1.64
1980156	H2-BI	1.77E-04	0.05	6.26	6.97	0.71	1.64
5670465	Pvrl3	1.44E-02	0.26	8.39	9.10	0.71	1.64
4060327	Tgfbi	6.47E-03	0.20	8.53	9.23	0.71	1.63

1440192	Rab8b	1.43E-03	0.12	10.35	11.06	0.71	1.63
2030463	1700066B19Rik	4.08E-03	0.17	6.69	7.40	0.71	1.63
4260047	Tulp4	1.70E-04	0.05	11.42	12.13	0.71	1.63
460576	Fstl1	1.25E-02	0.25	10.18	10.88	0.71	1.63
6900180	Asph	3.58E-03	0.16	7.05	7.76	0.71	1.63
3190438	Mgst1	2.02E-02	0.30	11.19	11.89	0.70	1.63
5340615	Asph	5.44E-03	0.18	6.78	7.48	0.70	1.63
2100139	Bst2	1.74E-02	0.28	9.69	10.40	0.70	1.63
4040450	Ahnak2	3.14E-03	0.15	9.27	9.97	0.70	1.63
1400360	Pde4b	6.60E-03	0.20	6.30	7.00	0.70	1.63
1050672	Dab2	6.10E-03	0.19	7.90	8.60	0.70	1.63
1770634	Gpr176	1.52E-02	0.27	7.66	8.36	0.70	1.62
4780112	D16Ert472e	4.64E-03	0.17	8.63	9.33	0.70	1.62
2480725	Coro1a	1.47E-02	0.27	7.94	8.64	0.70	1.62
670133	Hmgn3	1.72E-02	0.28	10.63	11.33	0.69	1.62
5270100	1200002N14Rik	7.55E-03	0.21	10.35	11.04	0.69	1.62
70239	Elmo1	3.99E-03	0.16	6.35	7.04	0.69	1.62
5310601	C530008M17Rik	1.09E-02	0.24	6.94	7.63	0.69	1.62
3290239	Plvap	1.23E-03	0.11	9.21	9.90	0.69	1.62
7160059	Tnfrsf1a	4.84E-04	0.08	8.52	9.21	0.69	1.62
110647	LOC668387	8.50E-03	0.22	10.93	11.62	0.69	1.62
7560563	Wwtr1	7.42E-03	0.21	9.60	10.29	0.69	1.62
3420440	Megf11	5.65E-05	0.04	6.33	7.02	0.69	1.62
4050112	Glrx	1.65E-02	0.28	10.04	10.73	0.69	1.61
4880288	Sytl3	2.49E-03	0.14	7.81	8.50	0.69	1.61
450368	Rgs1	2.89E-03	0.15	7.12	7.81	0.69	1.61
2060291	Egfl7	1.32E-02	0.25	7.95	8.63	0.69	1.61
2360711	4930519N16Rik	1.89E-04	0.05	6.89	7.57	0.69	1.61
6280167	Plxnd1	3.83E-03	0.16	8.48	9.16	0.69	1.61
6060561	Adam9	7.03E-03	0.20	10.43	11.12	0.68	1.61
1820402	Akap2	8.79E-03	0.22	8.24	8.92	0.68	1.60
1450601	Ndr2	1.79E-03	0.12	7.50	8.18	0.68	1.60
6960333	Agr2	1.44E-02	0.26	7.34	8.02	0.68	1.60
3170719	Camk2n2	6.35E-03	0.20	8.66	9.34	0.68	1.60
1230102	Dock6	3.37E-03	0.16	8.84	9.52	0.68	1.60
4920138	Slc20a1	2.89E-03	0.15	6.81	7.48	0.68	1.60
6510687	Grasp	1.15E-02	0.24	6.91	7.58	0.68	1.60
7330114	Pira4	1.85E-02	0.29	7.78	8.46	0.68	1.60
3180156	Tnfrsf18	6.88E-03	0.20	7.07	7.75	0.68	1.60
1450368	Adamts1	9.10E-04	0.10	6.81	7.48	0.67	1.60
4290544	Nav1	1.43E-02	0.26	9.94	10.61	0.67	1.60
7040491	Cdkn1a	1.64E-02	0.28	8.61	9.28	0.67	1.59
2320176	Rnf125	1.74E-02	0.28	7.23	7.90	0.67	1.59
730706	Serpinh1	1.88E-02	0.29	11.58	12.25	0.67	1.59
510739	Pdia6	1.25E-04	0.05	8.90	9.57	0.67	1.59
1770468	Adssl1	4.06E-04	0.07	8.83	9.50	0.67	1.59
3360343	Pde1b	6.93E-03	0.20	7.44	8.11	0.67	1.59

1030739	Pecam1	1.64E-03	0.12	8.27	8.94	0.67	1.59
5290026	Fcer1a	1.41E-02	0.26	7.00	7.67	0.67	1.59
2370554	2210412E05Rik	8.24E-04	0.10	6.20	6.87	0.67	1.59
6480192	Ttc39b	2.01E-03	0.13	8.08	8.75	0.67	1.59
3850609	Insl3	1.80E-03	0.12	8.33	9.00	0.67	1.59
1240646	Ccr5	5.57E-03	0.19	7.76	8.43	0.66	1.59
4560626	Glo1	4.02E-04	0.07	11.26	11.92	0.66	1.58
5910220	Osmr	1.04E-02	0.23	9.77	10.43	0.66	1.58
4590241	Gpr35	9.14E-04	0.10	6.85	7.52	0.66	1.58
5960743	F730003B03Rik	9.78E-03	0.23	6.25	6.92	0.66	1.58
4040255	Thsd1	4.17E-03	0.17	6.46	7.12	0.66	1.58
610349	Ly6f	7.62E-04	0.09	6.50	7.16	0.66	1.58
1500463	Coro1a	1.38E-02	0.26	9.60	10.26	0.66	1.58
360086	Magi1	1.69E-02	0.28	8.79	9.45	0.66	1.58
5820767	4930477M19	2.32E-03	0.13	6.98	7.64	0.66	1.58
450528	Ifitm1	2.03E-02	0.30	6.65	7.30	0.66	1.58
1230564	Ugcg	8.48E-06	0.02	11.60	12.26	0.66	1.58
3420056	Pde1b	1.81E-02	0.29	7.54	8.19	0.66	1.58
7200767	Lrrk2	1.03E-02	0.23	6.77	7.42	0.66	1.58
4830551	Napsa	1.22E-02	0.25	7.11	7.77	0.66	1.58
5960754	P4ha2	1.05E-02	0.23	8.61	9.27	0.66	1.58
7150259	Naip1	8.69E-03	0.22	7.51	8.17	0.66	1.58
4060022	AI448196	2.26E-03	0.13	7.06	7.71	0.65	1.57
3190689	Adssl1	2.93E-03	0.15	7.71	8.37	0.65	1.57
1110440	Pdgfrl	8.48E-04	0.10	7.34	8.00	0.65	1.57
5900440	Fgd2	1.61E-04	0.05	8.43	9.09	0.65	1.57
4290403	Zeb1	3.47E-03	0.16	9.39	10.04	0.65	1.57
130093	Il4ra	3.98E-03	0.16	6.27	6.92	0.65	1.57
5130139	Tgfb1	2.80E-03	0.15	7.91	8.56	0.65	1.57
1030475	Ssbp4	1.51E-03	0.12	10.59	11.24	0.65	1.57
2750167	Npal1	1.46E-02	0.26	7.32	7.97	0.65	1.57
2320767	Aars	7.78E-04	0.09	10.92	11.57	0.65	1.57
780088	Elmo1	3.58E-03	0.16	6.40	7.04	0.64	1.56
5900274	Gyltl1b	1.12E-03	0.11	10.37	11.01	0.64	1.56
5560482	Gda	6.77E-03	0.20	6.98	7.62	0.64	1.56
4570066	Nos3	2.06E-02	0.30	7.04	7.68	0.64	1.56
1170278	Pcdh7	1.84E-02	0.29	7.22	7.86	0.64	1.56
1580309	Hap1	4.22E-03	0.17	10.04	10.67	0.64	1.56
3850722	Sec24d	1.12E-03	0.11	8.52	9.16	0.64	1.55
2340242	Fgl2	1.17E-02	0.24	8.61	9.25	0.64	1.55
7560685	Tnfrsf1a	1.11E-03	0.11	8.50	9.14	0.64	1.55
2970736	Sox7	1.39E-02	0.26	6.94	7.57	0.63	1.55
4490592	Pip5k1c	1.79E-03	0.12	8.60	9.23	0.63	1.55
2690070	Fbln1	1.38E-02	0.26	11.67	12.31	0.63	1.55
5890494	Hsd3b7	5.42E-04	0.08	10.35	10.98	0.63	1.55
5270021	Emcn	1.37E-03	0.11	9.06	9.69	0.63	1.55
6940315	AW548124	4.45E-03	0.17	7.04	7.67	0.63	1.55

1070593	Smo	8.51E-03	0.22	8.81	9.44	0.63	1.55
5130059	Ifitm6	6.42E-03	0.20	7.84	8.47	0.63	1.55
7050450	Gmfg	1.03E-03	0.10	8.85	9.48	0.63	1.55
6450600	Gramd1b	2.41E-03	0.14	8.73	9.35	0.63	1.55
1030497	Irak3	1.70E-02	0.28	8.73	9.36	0.63	1.54
5960020	Fmn12	4.59E-04	0.07	9.46	10.09	0.63	1.54
780315	LOC641240	2.65E-03	0.14	11.79	12.42	0.63	1.54
5900452	Cyr61	8.13E-03	0.22	8.00	8.62	0.63	1.54
5910164	Emilin2	1.06E-02	0.23	8.87	9.50	0.63	1.54
610600	Hmgn2	3.49E-03	0.16	12.75	13.37	0.62	1.54
2450577	Ttc39b	4.78E-03	0.18	7.16	7.78	0.62	1.54
360167	Jl-pending FRAGM	5.66E-03	0.19	6.64	7.26	0.62	1.54
4290368	Acsl4	1.54E-03	0.12	7.58	8.20	0.62	1.54
6020324	Fxr2	1.13E-02	0.24	7.75	8.37	0.62	1.54
430278	Plip	1.66E-02	0.28	8.45	9.07	0.62	1.54
4850731	Nav1	4.81E-03	0.18	10.05	10.67	0.62	1.53
1990176	Pilra	1.21E-03	0.11	7.24	7.86	0.62	1.53
7570315	Agpat4	7.46E-03	0.21	7.89	8.51	0.62	1.53
2650349	Gipc1	1.56E-02	0.27	8.17	8.79	0.62	1.53
650707	H2-Aa	5.61E-03	0.19	11.99	12.60	0.62	1.53
5130070	3830612M24	1.38E-03	0.11	7.53	8.15	0.61	1.53
520072	H2-Eb1	1.11E-02	0.24	12.03	12.65	0.61	1.53
4640220	Tnfrsf22	2.90E-03	0.15	7.48	8.10	0.61	1.53
7160022	Lmcd1	2.04E-03	0.13	8.24	8.86	0.61	1.53
4890139	Lrrc49	4.02E-03	0.17	8.42	9.03	0.61	1.53
3360189	Ern1	1.01E-04	0.04	9.82	10.44	0.61	1.53
830072	Lilrb4	1.45E-02	0.26	7.48	8.09	0.61	1.53
7320703	Kcnk6	9.31E-03	0.22	7.71	8.32	0.61	1.52
2120471	Atp6v0a1	1.26E-03	0.11	7.38	7.99	0.61	1.52
1570551	Mmp9	1.01E-02	0.23	8.19	8.79	0.61	1.52
6130041	Rap1gap	4.18E-03	0.17	6.67	7.27	0.60	1.52
4760521	2210409H10Rik	8.53E-03	0.22	6.13	6.73	0.60	1.52
5050653	Igf2	7.49E-03	0.21	8.69	9.29	0.60	1.52
730692	Eml1	7.11E-03	0.20	10.66	11.26	0.60	1.52
4900315	6230425C21Rik	3.30E-03	0.16	7.76	8.37	0.60	1.52
3850463	Traf1	3.25E-03	0.15	6.66	7.27	0.60	1.52
2490274	3010031K01Rik	1.83E-02	0.29	8.47	9.07	0.60	1.52
7200739	Sulf2	4.30E-03	0.17	10.36	10.96	0.60	1.52
6420044	Bace2	2.30E-05	0.03	6.86	7.46	0.60	1.52
3190379	Sytl3	3.93E-03	0.16	7.60	8.20	0.60	1.51
2750706	Fcer2a	4.13E-03	0.17	6.89	7.49	0.60	1.51
4920215	Myo1b	9.17E-03	0.22	7.56	8.16	0.60	1.51
2320445	Ankrd22	8.32E-03	0.22	8.50	9.10	0.60	1.51
1770376	Glis1	7.70E-03	0.21	6.19	6.78	0.60	1.51
10753	Ehd3	1.69E-02	0.28	6.82	7.41	0.59	1.51
4230348	Cebpb	2.06E-02	0.30	11.04	11.63	0.59	1.51
6560598	Guk1	6.31E-03	0.20	11.55	12.14	0.59	1.51

6980468	Grk5	6.68E-03	0.20	6.26	6.86	0.59	1.51
7550196	9930014A18Rik	1.04E-02	0.23	7.48	8.07	0.59	1.51
4210440	Ugcg	3.55E-04	0.07	11.67	12.26	0.59	1.51
380438	Tshz3	9.95E-03	0.23	8.15	8.74	0.59	1.51
3180215	Nr4a2	3.75E-03	0.16	6.63	7.22	0.59	1.50
3800070	Selpl	5.59E-03	0.19	7.17	7.76	0.59	1.50
270523	Sparcl1	9.72E-03	0.23	8.49	9.07	0.59	1.50
1300725	Ndufb10	5.83E-05	0.04	8.84	9.42	0.59	1.50
580438	Tmem87b	5.95E-03	0.19	8.88	9.46	0.59	1.50
4560044	LOC100040736	7.47E-03	0.21	6.32	6.91	0.59	1.50
4290630	Ank3	1.44E-04	0.05	9.82	9.23	-0.59	-1.50
2680372	Fhod1	1.34E-03	0.11	10.15	9.56	-0.59	-1.50
5570132	Ppm1l	1.20E-03	0.11	9.06	8.47	-0.59	-1.50
6650209	Fgf1	2.70E-04	0.06	10.14	9.55	-0.59	-1.50
5670326	Phc1	9.52E-05	0.04	9.48	8.89	-0.59	-1.51
3460670	Oxct1	2.93E-03	0.15	11.99	11.40	-0.59	-1.51
2320102	Rasgef1a	1.26E-03	0.11	7.37	6.77	-0.59	-1.51
7560327	Slc35a1	2.16E-03	0.13	8.20	7.61	-0.59	-1.51
4810259	ORF9	1.19E-02	0.24	10.47	9.88	-0.59	-1.51
2600424	Sqrdl	9.41E-03	0.23	10.80	10.21	-0.59	-1.51
2570131	Dlg3	5.17E-03	0.18	10.51	9.91	-0.60	-1.51
2810326	Fam116b	1.06E-02	0.23	8.43	7.83	-0.60	-1.51
1050670	Fkbp4	2.11E-03	0.13	12.34	11.74	-0.60	-1.51
110500	Ovol2	8.29E-03	0.22	7.95	7.36	-0.60	-1.51
3800767	Lhfp1l	1.27E-03	0.11	7.19	6.59	-0.60	-1.51
7200678	Gab1	1.27E-03	0.11	11.56	10.96	-0.60	-1.51
4070358	Ihpk2	9.85E-04	0.10	7.79	7.19	-0.60	-1.51
6420494	2210008F06Rik	1.13E-02	0.24	7.08	6.48	-0.60	-1.52
2000494	Dusp10	9.98E-03	0.23	8.03	7.43	-0.60	-1.52
5490719	Dcxr	5.14E-03	0.18	11.39	10.78	-0.61	-1.52
1010050	Lmo4	1.63E-03	0.12	13.10	12.49	-0.61	-1.52
1580008	Aim1	5.51E-04	0.08	10.66	10.05	-0.61	-1.52
6660452	Ssx2ip	7.67E-04	0.09	10.19	9.59	-0.61	-1.52
7040767	Rab12a	2.72E-03	0.14	9.55	8.94	-0.61	-1.52
830360	Sh3yl1	4.09E-03	0.17	11.69	11.08	-0.61	-1.53
3710735	Xkr9	3.53E-03	0.16	7.89	7.28	-0.61	-1.53
2810673	Mpp6	1.69E-03	0.12	8.49	7.88	-0.61	-1.53
4540612	Igsf4a	4.96E-06	0.02	10.77	10.16	-0.61	-1.53
5390411	Uhrf2	3.68E-03	0.16	9.65	9.04	-0.61	-1.53
7150671	Ddo	8.95E-04	0.10	7.59	6.98	-0.61	-1.53
6650376	Tcfap2a	8.06E-03	0.22	8.90	8.28	-0.61	-1.53
1450364	Six1	3.44E-03	0.16	11.08	10.47	-0.61	-1.53
6580044	Dcp1b	1.57E-05	0.02	9.74	9.13	-0.61	-1.53
4260653	Yeats2	1.13E-02	0.24	10.15	9.53	-0.61	-1.53
4540020	Dnajb1	4.42E-04	0.07	11.51	10.89	-0.62	-1.53
4480202	Agl	1.15E-02	0.24	9.46	8.84	-0.62	-1.53
3870736	BC023744	7.56E-03	0.21	10.56	9.95	-0.62	-1.53

4810546	Mcf2l	1.25E-02	0.25	9.99	9.37	-0.62	-1.54
2900021	Morn2	4.20E-04	0.07	8.67	8.05	-0.62	-1.54
3870768	Crebl2	1.40E-02	0.26	8.76	8.14	-0.62	-1.54
7400328	Acpl2	5.64E-04	0.08	11.97	11.35	-0.62	-1.54
7570390	9330175B01Rik	3.33E-03	0.16	8.91	8.29	-0.62	-1.54
4640731	5330432B20Rik	3.42E-04	0.07	6.87	6.25	-0.62	-1.54
1410348	F2rl1	6.45E-03	0.20	10.17	9.55	-0.62	-1.54
5870537	Uhrf2	4.97E-04	0.08	8.89	8.27	-0.62	-1.54
1070192	ORF9	1.01E-02	0.23	8.84	8.22	-0.62	-1.54
2750064	Abcd3	1.51E-05	0.02	10.60	9.98	-0.62	-1.54
3170110	Pygb	2.56E-03	0.14	12.95	12.33	-0.63	-1.54
1170706	Krt19	4.85E-03	0.18	13.31	12.68	-0.63	-1.54
6020176	Ank3	1.02E-03	0.10	9.67	9.04	-0.63	-1.54
4850097	Ppfibp2	6.16E-03	0.19	8.54	7.92	-0.63	-1.55
2690270	Tarsl2	5.62E-03	0.19	8.41	7.78	-0.63	-1.55
7560253	Abcd3	9.57E-04	0.10	12.30	11.67	-0.63	-1.55
1500653	Phkb	4.04E-03	0.17	10.12	9.49	-0.63	-1.55
5090079	Hdac11	8.48E-03	0.22	8.60	7.97	-0.63	-1.55
4830731	Nsbp1	3.45E-03	0.16	9.44	8.81	-0.63	-1.55
2570228	Ugt8a	1.74E-02	0.28	7.15	6.52	-0.63	-1.55
3710544	Mgst3	4.79E-03	0.18	10.92	10.29	-0.63	-1.55
2690132	Fpgs	5.41E-04	0.08	7.91	7.27	-0.64	-1.55
5700575	Bid	8.25E-03	0.22	9.18	8.54	-0.64	-1.56
3290703	Hist1h2bg	3.76E-04	0.07	7.90	7.26	-0.64	-1.56
4010020	Cyp27a1	1.65E-02	0.28	9.63	8.99	-0.64	-1.56
6760088	Ifngr2	1.59E-03	0.12	9.38	8.74	-0.64	-1.56
1450369	Osgepl1	6.59E-04	0.09	8.41	7.76	-0.64	-1.56
20615	Ppm1l	2.51E-03	0.14	7.67	7.02	-0.64	-1.56
4850017	Abcd3	2.53E-03	0.14	9.46	8.82	-0.64	-1.56
4280471	Tlcd1	4.00E-04	0.07	9.02	8.37	-0.65	-1.56
2100309	9630058J23Rik	5.25E-03	0.18	9.35	8.70	-0.65	-1.57
3370025	Pkia	1.69E-03	0.12	9.48	8.83	-0.65	-1.57
6580402	Evpl	2.36E-03	0.14	9.80	9.15	-0.65	-1.57
2940095	Man1c1	2.16E-03	0.13	8.14	7.49	-0.65	-1.57
5270594	Msl2l1	2.23E-03	0.13	9.60	8.95	-0.65	-1.57
1710349	Esrrg	1.89E-02	0.29	8.51	7.85	-0.65	-1.57
450603	Esrrg	1.95E-02	0.29	9.03	8.38	-0.65	-1.57
580717	Uhrf2	1.05E-03	0.10	12.10	11.45	-0.65	-1.57
5820204	Emp2	5.42E-04	0.08	10.94	10.29	-0.65	-1.57
4210669	1190002N15Rik	1.21E-03	0.11	8.91	8.25	-0.65	-1.57
1030167	Sec14l4	2.44E-03	0.14	8.73	8.08	-0.65	-1.57
5420482	Entpd8	5.04E-03	0.18	7.12	6.47	-0.65	-1.57
460167	Ptpn14	1.18E-02	0.24	7.59	6.93	-0.66	-1.58
1170121	Nme5	1.35E-04	0.05	7.83	7.17	-0.66	-1.58
5050066	Ppm1l	4.21E-04	0.07	8.53	7.87	-0.66	-1.58
580369	Cadps2	9.75E-04	0.10	12.01	11.35	-0.66	-1.58
6200367	Ncaph	7.36E-03	0.21	9.46	8.80	-0.66	-1.58

4670689	2410025L10Rik	1.11E-03	0.11	11.49	10.83	-0.67	-1.59
380332	Liph	2.94E-03	0.15	11.36	10.69	-0.67	-1.59
3190736	A430107N10Rik	5.21E-03	0.18	7.01	6.34	-0.67	-1.59
3890167	Rgs9bp	6.41E-05	0.04	7.48	6.81	-0.67	-1.59
1300008	2210021J22Rik	5.29E-04	0.08	7.82	7.15	-0.67	-1.60
770168	Gnmt	1.39E-02	0.26	7.00	6.32	-0.68	-1.60
4290114	Cib2	3.86E-03	0.16	8.45	7.77	-0.68	-1.60
5270270	Mapk9	2.06E-04	0.05	9.05	8.37	-0.68	-1.60
4900369	Fam84a	9.87E-03	0.23	9.51	8.84	-0.68	-1.60
5870601	Ptprd	1.06E-02	0.23	7.96	7.29	-0.68	-1.60
1070754	Tgm5	2.37E-03	0.14	8.02	7.34	-0.68	-1.60
4610338	Efs	6.75E-03	0.20	9.92	9.24	-0.68	-1.61
3850440	A930005I04Rik	4.84E-04	0.08	8.32	7.64	-0.68	-1.61
1710204	C130090K23Rik	2.50E-03	0.14	7.62	6.94	-0.68	-1.61
6770196	Agf	6.56E-03	0.20	9.87	9.19	-0.69	-1.61
6770037	Rab26	1.86E-02	0.29	6.87	6.18	-0.69	-1.61
2360743	AW544981	5.37E-05	0.04	8.92	8.23	-0.69	-1.61
1030209	AW061290	8.58E-03	0.22	8.44	7.75	-0.69	-1.61
3310025	D4Bwg0951e	2.63E-04	0.06	11.77	11.08	-0.69	-1.61
3940017	Bcl2l13	1.43E-04	0.05	9.21	8.52	-0.69	-1.61
5220689	Hist1h4a	2.26E-03	0.13	11.77	11.08	-0.69	-1.61
4180446	Elf3	2.03E-02	0.30	9.22	8.52	-0.69	-1.62
290209	Tgm5	2.66E-03	0.14	8.03	7.33	-0.69	-1.62
6220632	Mtap2	1.31E-03	0.11	9.88	9.19	-0.70	-1.62
5670750	C030014I23Rik	6.63E-03	0.20	7.98	7.29	-0.70	-1.62
1440575	Nudt19	4.49E-04	0.07	10.92	10.22	-0.70	-1.62
4610010	Slc5a9	3.73E-03	0.16	8.71	8.01	-0.70	-1.63
3420500	Oxct1	3.40E-03	0.16	12.46	11.75	-0.70	-1.63
60059	Zfp251	8.57E-04	0.10	9.56	8.85	-0.70	-1.63
5810021	Cdon	1.32E-03	0.11	9.09	8.39	-0.71	-1.63
6330605	Hr	1.75E-05	0.02	10.43	9.73	-0.71	-1.63
7040598	Slc5a9	1.31E-02	0.25	8.78	8.07	-0.71	-1.63
3710647	Pdzk1ip1	1.92E-03	0.13	9.96	9.25	-0.71	-1.63
3140519	LOC100046775	6.46E-06	0.02	10.83	10.12	-0.71	-1.63
4070398	EG667063	1.30E-02	0.25	7.21	6.50	-0.71	-1.63
1300543	4922501C03Rik	5.96E-04	0.09	7.77	7.05	-0.71	-1.64
1110301	St3gal5	1.03E-02	0.23	7.70	6.99	-0.71	-1.64
4590025	Habp2	6.82E-03	0.20	6.89	6.18	-0.72	-1.64
20181	6330408J11Rik	3.02E-04	0.06	8.72	8.01	-0.72	-1.64
2570139	Itgb6	1.13E-02	0.24	8.22	7.50	-0.72	-1.64
5910068	Lmo4	8.91E-04	0.10	9.35	8.63	-0.72	-1.64
870291	Fam132a	1.88E-02	0.29	8.82	8.09	-0.72	-1.65
2480202	Prkaa2	1.08E-03	0.10	7.65	6.92	-0.73	-1.65
5080746	Gstm6	2.00E-02	0.30	8.09	7.36	-0.73	-1.66
1110035	Rab3ip	1.86E-03	0.12	8.65	7.92	-0.73	-1.66
1110670	Hist2h2aa2	1.82E-03	0.12	13.41	12.67	-0.73	-1.66
7650537	Ecac2	4.40E-03	0.17	7.05	6.32	-0.73	-1.66

4640209	Igsf11	3.06E-03	0.15	7.70	6.96	-0.73	-1.66
4070279	Tmprss2	6.02E-03	0.19	13.30	12.57	-0.74	-1.67
6550427	Hpn	1.02E-02	0.23	6.90	6.17	-0.74	-1.67
6270327	Grhl1	2.02E-02	0.30	11.05	10.32	-0.74	-1.67
5050523	B230333C21Rik	2.88E-03	0.15	10.17	9.44	-0.74	-1.67
1440600	Copz2	4.27E-03	0.17	12.31	11.57	-0.74	-1.67
1230047	Gjb2	1.41E-02	0.26	8.29	7.55	-0.74	-1.67
150673	EG381438	4.05E-03	0.17	7.18	6.44	-0.74	-1.67
5960554	Prkaa2	1.45E-03	0.12	8.40	7.66	-0.74	-1.67
3190139	Yeats2	9.04E-03	0.22	8.32	7.57	-0.75	-1.68
3450370	Tuft1	5.76E-04	0.08	12.31	11.56	-0.75	-1.68
6200372	Anxa4	3.99E-03	0.16	12.17	11.42	-0.75	-1.68
6330053	Rab38	7.88E-04	0.09	9.17	8.43	-0.75	-1.68
5860100	6330534C20Rik	3.08E-04	0.06	8.08	7.33	-0.75	-1.68
7050546	Hist2h2aa1	1.66E-03	0.12	12.97	12.22	-0.75	-1.68
1230743	D630004K10Rik	1.05E-02	0.23	9.68	8.93	-0.75	-1.68
630195	Copz2	1.45E-02	0.26	10.02	9.27	-0.75	-1.69
5670564	Cryl1	3.61E-03	0.16	10.61	9.85	-0.75	-1.69
1300220	Tmprss13	1.02E-03	0.10	10.38	9.62	-0.76	-1.69
6420537	Aebp2	2.73E-04	0.06	7.93	7.17	-0.76	-1.69
5390019	Pla2g4b	1.51E-02	0.27	7.77	7.00	-0.77	-1.70
2940541	Gstm6	3.13E-04	0.06	8.21	7.45	-0.77	-1.70
830338	4833409J19Rik	7.90E-03	0.21	7.72	6.95	-0.77	-1.70
270709	Irf2	6.31E-03	0.20	12.46	11.69	-0.77	-1.70
2760066	Itgb6	1.14E-02	0.24	9.99	9.22	-0.77	-1.70
2450553	Rshl2a	4.76E-04	0.08	8.17	7.40	-0.77	-1.71
1710592	Rab38	9.68E-05	0.04	8.39	7.62	-0.77	-1.71
2690093	scl0001987.1_16	1.57E-02	0.27	7.68	6.90	-0.77	-1.71
1050020	Cuedc1	6.03E-03	0.19	7.84	7.07	-0.77	-1.71
4920056	Copz2	2.03E-02	0.30	10.71	9.93	-0.79	-1.72
20598	C030014I23Rik	7.32E-03	0.21	7.57	6.78	-0.79	-1.73
5130100	Tubgcp4	3.52E-03	0.16	7.96	7.17	-0.79	-1.73
7100255	Scnn1g	5.81E-03	0.19	7.15	6.36	-0.79	-1.73
2850142	Tia1	4.30E-03	0.17	7.25	6.46	-0.79	-1.73
7650020	3110021A11Rik	2.75E-05	0.03	7.66	6.87	-0.79	-1.73
10176	Dusp4	4.11E-03	0.17	7.66	6.87	-0.79	-1.73
4830674	Itgb6	9.10E-03	0.22	10.58	9.78	-0.79	-1.73
4780164	Krt23	3.59E-03	0.16	12.82	12.02	-0.80	-1.74
1660605	Sema5a	5.23E-03	0.18	8.51	7.71	-0.80	-1.74
50292	Cobl	2.34E-04	0.06	9.48	8.68	-0.80	-1.74
4920300	Msln	1.01E-02	0.23	8.08	7.27	-0.80	-1.74
4070500	Kel	5.71E-03	0.19	6.87	6.06	-0.80	-1.75
5890670	Sfrs17b	2.82E-03	0.15	10.45	9.64	-0.81	-1.75
1580187	Mat2a	4.59E-03	0.17	14.33	13.52	-0.81	-1.75
5270377	Gstk1	8.39E-03	0.22	11.65	10.84	-0.82	-1.76
3990484	3110004L20Rik	4.54E-04	0.07	9.16	8.34	-0.82	-1.76
1070575	Copz2	9.16E-03	0.22	12.50	11.68	-0.82	-1.77

2230730	Gjb2	7.46E-03	0.21	12.30	11.48	-0.82	-1.77
7160482	D030072B18Rik	1.42E-02	0.26	8.18	7.36	-0.82	-1.77
1580445	Mycl1	2.63E-03	0.14	9.68	8.86	-0.82	-1.77
1260543	Tmem146	7.74E-03	0.21	9.43	8.61	-0.83	-1.77
2340445	C130026I21Rik	1.21E-02	0.25	9.32	8.49	-0.83	-1.78
510523	Zfp612	6.18E-05	0.04	7.82	6.99	-0.83	-1.78
4150424	Pacrg	2.27E-04	0.06	7.17	6.34	-0.83	-1.78
6280672	Neu2	9.78E-04	0.10	8.04	7.20	-0.84	-1.79
3800671	Scin	7.43E-03	0.21	7.93	7.09	-0.84	-1.79
450021	2210420J11Rik	1.87E-02	0.29	7.52	6.68	-0.84	-1.79
6650039	Jak1	2.52E-03	0.14	8.04	7.20	-0.84	-1.79
1110288	Gnmt	8.13E-03	0.22	7.93	7.08	-0.85	-1.80
6550672	Ptprd	4.17E-03	0.17	8.65	7.80	-0.85	-1.80
6280382	Gjb2	9.45E-03	0.23	11.12	10.26	-0.85	-1.81
5910632	Ppm1k	1.07E-04	0.05	9.65	8.80	-0.86	-1.81
2060364	Tmprss13	5.54E-04	0.08	10.81	9.95	-0.86	-1.81
2480730	Snhg11	8.91E-03	0.22	9.94	9.08	-0.87	-1.82
3460064	Trim2	7.53E-05	0.04	12.44	11.57	-0.87	-1.83
3840672	2010001P08Rik	6.25E-03	0.20	7.17	6.30	-0.87	-1.83
150373	Tst	9.84E-04	0.10	11.03	10.16	-0.87	-1.83
6370164	Kcnk5	2.93E-04	0.06	8.22	7.32	-0.90	-1.87
6900070	Naip7	4.32E-03	0.17	8.80	7.90	-0.90	-1.87
7320437	Gucy2g	1.83E-03	0.12	7.14	6.23	-0.91	-1.88
7650685	Nfe2l3	1.06E-03	0.10	8.95	8.04	-0.91	-1.88
1440020	Irak4	9.02E-03	0.22	7.92	7.01	-0.92	-1.89
4200468	Nt5c3	1.94E-02	0.29	10.11	9.19	-0.92	-1.89
3180468	Slc27a2	2.01E-02	0.30	7.69	6.76	-0.93	-1.90
2940577	E430002G05Rik	2.43E-03	0.14	9.60	8.67	-0.93	-1.90
6220725	C130026I21Rik	8.14E-03	0.22	9.48	8.55	-0.93	-1.91
4220288	Snhg11	4.30E-03	0.17	10.19	9.26	-0.94	-1.92
5890487	Gstk1	3.26E-03	0.16	11.21	10.27	-0.94	-1.92
4590113	Chst8	1.87E-02	0.29	7.33	6.38	-0.95	-1.93
4010491	Proc	1.43E-03	0.12	7.60	6.65	-0.95	-1.93
6840538	P2rx6	3.09E-03	0.15	7.88	6.93	-0.95	-1.93
2350717	Yeats2	2.14E-03	0.13	10.29	9.34	-0.95	-1.93
4640605	E230002P03Rik	9.44E-05	0.04	8.51	7.56	-0.95	-1.94
1780524	Tfrc	1.56E-02	0.27	10.76	9.80	-0.96	-1.94
6520471	Gstm6	1.13E-03	0.11	7.53	6.57	-0.96	-1.94
1450523	LOC241084	7.51E-04	0.09	7.21	6.25	-0.96	-1.95
5960215	Fer1l4	1.72E-02	0.28	7.87	6.90	-0.97	-1.95
7610767	Tceal5	1.08E-02	0.24	8.07	7.10	-0.97	-1.96
6370451	TMUSG000000166	8.42E-03	0.22	10.18	9.20	-0.98	-1.97
1030438	9930023K05Rik	1.75E-02	0.28	12.30	11.32	-0.98	-1.97
150632	Havcr1	5.38E-03	0.18	7.31	6.32	-0.99	-1.99
3170603	E430002G05Rik	3.32E-03	0.16	9.14	8.15	-0.99	-1.99
2480204	Nfe2l3	1.29E-04	0.05	9.14	8.15	-1.00	-2.00
20092	Cgn	1.15E-06	0.01	11.30	10.30	-1.00	-2.00

3710170	C1qc	6.75E-03	0.20	11.28	10.28	-1.00	-2.00
2190131	Clca4	1.87E-03	0.12	7.24	6.24	-1.00	-2.00
4760040	Habp2	1.18E-05	0.02	7.14	6.14	-1.00	-2.00
6330279	Slc26a4	1.97E-02	0.30	12.46	11.44	-1.02	-2.02
5860348	Fah	4.76E-03	0.18	10.60	9.58	-1.02	-2.02
2140220	Sbp	6.63E-04	0.09	7.00	5.99	-1.02	-2.02
620110	Tfrc	2.26E-03	0.13	11.00	9.98	-1.02	-2.02
20440	2810423A18Rik	3.43E-03	0.16	13.40	12.38	-1.02	-2.03
290703	AB112350	7.08E-04	0.09	8.51	7.49	-1.03	-2.04
670201	Csta	7.57E-03	0.21	7.22	6.19	-1.03	-2.04
5290131	Rxrg	1.12E-04	0.05	8.07	7.04	-1.03	-2.04
2100768	Hs3st6	2.27E-03	0.13	7.23	6.20	-1.03	-2.05
5340138	Fgf13	9.58E-04	0.10	8.92	7.89	-1.03	-2.05
5810470	Aldh1a1	2.00E-02	0.30	10.43	9.39	-1.03	-2.05
5910603	LOC674427	2.16E-05	0.03	7.37	6.33	-1.04	-2.06
3140427	Ephb6	2.92E-03	0.15	7.68	6.62	-1.06	-2.08
1410224	Cyp2b23	2.21E-03	0.13	7.49	6.43	-1.06	-2.08
5290711	Car2	1.38E-02	0.26	10.72	9.66	-1.06	-2.09
2100286	Golm1	5.42E-03	0.18	11.01	9.95	-1.06	-2.09
6420671	Frag1	1.01E-02	0.23	13.12	12.06	-1.07	-2.09
5090440	Prdx6	5.05E-05	0.04	7.91	6.84	-1.07	-2.10
4250689	Ccrn4l	3.78E-05	0.03	9.52	8.44	-1.07	-2.10
1260047	Muc1	3.88E-04	0.07	7.75	6.68	-1.07	-2.11
780180	Aspa	2.67E-04	0.06	8.45	7.37	-1.08	-2.12
6270181	Dusp4	4.95E-03	0.18	9.30	8.21	-1.09	-2.13
6860273	Alg9	4.00E-05	0.03	8.22	7.13	-1.10	-2.14
5260482	Wnt4	3.24E-03	0.15	8.46	7.35	-1.11	-2.16
1580358	Larp2	1.36E-03	0.11	7.45	6.33	-1.11	-2.17
3610528	LOC331239	6.96E-04	0.09	8.96	7.85	-1.12	-2.17
3460333	Golm1	9.62E-04	0.10	11.74	10.62	-1.12	-2.18
3890608	LOC677375	6.41E-05	0.04	7.93	6.81	-1.12	-2.18
130519	LOC100047261	2.04E-05	0.02	13.75	12.62	-1.13	-2.19
5690358	Mapk11	8.69E-05	0.04	9.33	8.20	-1.13	-2.19
70035	D530004J12Rik	2.82E-04	0.06	7.91	6.77	-1.14	-2.20
3420079	Muc1	7.43E-04	0.09	8.43	7.29	-1.14	-2.20
2470438	Acrbp	2.07E-03	0.13	7.62	6.47	-1.14	-2.21
6290400	AU042651	5.88E-03	0.19	8.12	6.97	-1.15	-2.22
1190735	Napepld	1.26E-03	0.11	8.42	7.26	-1.15	-2.23
3140349	Zfp36l1	4.66E-05	0.03	12.85	11.70	-1.15	-2.23
6620519	Fzd5	3.18E-05	0.03	10.71	9.55	-1.15	-2.23
5260538	Lrrc52	2.06E-03	0.13	8.02	6.85	-1.17	-2.24
5690129	1700124P09Rik	3.93E-05	0.03	7.31	6.14	-1.17	-2.24
2260201	Ckmt1	1.96E-04	0.05	8.24	7.07	-1.17	-2.25
5290017	Casp4	4.58E-03	0.17	9.59	8.41	-1.18	-2.26
2490672	Cbr2	2.74E-04	0.06	14.41	13.23	-1.18	-2.27
430349	Ube2i	1.17E-04	0.05	7.22	6.01	-1.21	-2.31
6370709	Atp6v1c2	4.49E-03	0.17	7.84	6.63	-1.21	-2.32

150176	Tmem139	3.70E-04	0.07	9.23	8.02	-1.22	-2.33
4540717	Epb4.1l4b	1.04E-04	0.04	10.55	9.33	-1.22	-2.34
3130523	Rasgrf1	2.63E-05	0.03	7.34	6.11	-1.23	-2.35
4280110	Nudt6	1.99E-02	0.30	8.83	7.59	-1.23	-2.35
6380128	Hist1h2be	4.62E-03	0.17	9.38	8.14	-1.24	-2.36
770451	Rasgrf1	6.67E-05	0.04	7.52	6.28	-1.24	-2.36
6560093	Sprr1a	6.38E-04	0.09	9.81	8.57	-1.24	-2.37
4860482	LOC100046087	1.88E-02	0.29	8.40	7.15	-1.25	-2.38
2900431	Slc9a2	6.90E-03	0.20	11.19	9.91	-1.28	-2.43
2000706	B230213E18Rik	4.41E-05	0.03	7.38	6.10	-1.28	-2.43
4610674	Ckmt1	9.18E-04	0.10	11.59	10.30	-1.29	-2.44
6520392	Csprs	7.63E-03	0.21	10.13	8.84	-1.29	-2.44
620195	Rad51l1	9.17E-03	0.22	8.30	7.00	-1.30	-2.46
4230167	Asxl3	1.92E-05	0.02	7.73	6.41	-1.32	-2.49
4200546	Adcy8	1.32E-04	0.05	7.87	6.54	-1.32	-2.50
1770324	Wnt4	6.31E-04	0.09	9.40	8.08	-1.32	-2.50
3170270	Acsm3	1.30E-03	0.11	8.32	6.99	-1.32	-2.51
2340056	Cldn10	5.72E-03	0.19	12.87	11.53	-1.33	-2.52
1450195	Acsm3	1.48E-03	0.12	8.37	7.03	-1.33	-2.52
4560133	Prss32	1.86E-03	0.12	8.01	6.64	-1.36	-2.57
6760209	Rab26	2.37E-03	0.14	8.36	6.99	-1.37	-2.58
240438	Krt8	2.85E-05	0.03	14.21	12.83	-1.37	-2.59
4570463	Kcnk5	5.41E-05	0.04	10.51	9.12	-1.38	-2.61
6040717	Rnf186	5.27E-03	0.18	9.99	8.60	-1.39	-2.62
4730678	Gucy2g	3.11E-03	0.15	9.71	8.31	-1.40	-2.64
3370397	Barx2	2.74E-04	0.06	9.49	8.09	-1.40	-2.65
1570026	Epb4.1l4b	5.19E-05	0.04	10.89	9.48	-1.40	-2.65
3460102	Apol7a	2.63E-03	0.14	9.87	8.46	-1.41	-2.65
5360358	1110017F19Rik	1.11E-03	0.11	8.30	6.89	-1.41	-2.66
940370	Dnase1l2	6.82E-05	0.04	8.33	6.92	-1.41	-2.66
7100446	Tia1	1.12E-02	0.24	9.42	8.01	-1.42	-2.67
7570132	LOC100044314	1.52E-02	0.27	7.99	6.57	-1.42	-2.67
2480646	Arl14	1.63E-03	0.12	8.07	6.64	-1.43	-2.70
2480241	Muc1	1.32E-04	0.05	8.52	7.08	-1.44	-2.71
6040689	Cyp2f2	4.93E-03	0.18	13.12	11.68	-1.45	-2.72
4230358	Ugt2b34	3.59E-03	0.16	8.07	6.62	-1.45	-2.74
4730202	2310007B03Rik	1.32E-03	0.11	8.36	6.90	-1.46	-2.75
6220128	Igfals	1.94E-04	0.05	8.04	6.58	-1.46	-2.75
6660296	Sectm1b	1.58E-04	0.05	10.50	9.04	-1.46	-2.76
1440482	Uts2r	1.55E-04	0.05	7.42	5.95	-1.47	-2.77
5810608	Arl14	1.01E-03	0.10	8.11	6.60	-1.51	-2.85
6270553	Muc1	3.04E-04	0.06	9.03	7.47	-1.55	-2.93
7550433	Eme2	5.99E-06	0.02	7.60	6.03	-1.57	-2.96
7100367	1700124P09Rik	1.74E-04	0.05	7.75	6.14	-1.61	-3.05
3130288	Aldh1a7	6.50E-04	0.09	9.78	8.13	-1.66	-3.16
1340196	Psapl1	4.19E-03	0.17	9.09	7.36	-1.73	-3.31
580332	C1qb	4.06E-04	0.07	11.58	9.83	-1.75	-3.37

6940762	Atp6v1c2	3.65E-03	0.16	8.87	7.10	-1.77	-3.40
6560445	Hgfac	1.48E-03	0.12	9.21	7.43	-1.77	-3.42
2690026	Trpv6	1.54E-04	0.05	8.38	6.60	-1.78	-3.44
650228	Lrrc52	1.90E-03	0.13	9.08	7.21	-1.88	-3.67
150601	Slc9a2	1.02E-04	0.04	11.04	9.07	-1.97	-3.91
5080010	Trpv6	2.47E-04	0.06	9.11	7.13	-1.98	-3.95
2140221	Slc40a1	4.28E-04	0.07	12.31	10.32	-1.99	-3.97
1440040	Garnl4	3.04E-06	0.02	11.26	9.26	-2.00	-4.00
2100386	Ndufb10	5.44E-07	0.00	9.51	7.40	-2.11	-4.33
1660414	AI987692	1.30E-02	0.25	10.74	8.63	-2.12	-4.33
4210475	Gsdmc3	9.26E-03	0.22	10.30	8.19	-2.12	-4.34
3850639	Treh	2.51E-05	0.03	8.91	6.78	-2.13	-4.39
6980050	LOC100045250	1.75E-02	0.28	11.36	9.20	-2.16	-4.48
460682	2200001I15Rik	1.04E-04	0.04	11.22	9.05	-2.17	-4.49
3370373	AI987692	1.83E-02	0.29	11.76	9.58	-2.18	-4.52
1230044	LOC100047816	4.82E-05	0.03	8.28	6.08	-2.21	-4.62
2340167	Rdm1	7.41E-08	0.00	9.67	7.46	-2.21	-4.64
1500082	LOC100045250	2.00E-02	0.30	10.92	8.70	-2.23	-4.68
5870021	Xlr4a	9.39E-04	0.10	11.24	9.00	-2.24	-4.72
2100608	Cyp2b10	1.32E-03	0.11	9.57	7.31	-2.26	-4.80
6270465	Rasgrf1	1.63E-05	0.02	8.97	6.67	-2.30	-4.92
1300092	1600029D21Rik	3.77E-03	0.16	9.12	6.81	-2.30	-4.93
5870520	Gsdmc3	1.49E-02	0.27	11.72	9.41	-2.32	-4.98
2320017	Acrbp	2.54E-03	0.14	10.29	7.86	-2.43	-5.40
7040170	Ubd	9.19E-04	0.10	11.91	9.41	-2.49	-5.63
580746	Rasgrf1	1.14E-05	0.02	9.21	6.67	-2.54	-5.82
2470554	Clec2e	2.97E-04	0.06	9.72	6.96	-2.76	-6.77
2630689	Crabp1	3.59E-04	0.07	9.72	6.96	-2.76	-6.79
1010168	Dnase1l2	7.96E-06	0.02	9.32	6.53	-2.79	-6.93
3060468	A830030H10Rik	4.11E-03	0.17	10.09	7.29	-2.80	-6.98
1440382	LOC633661	4.21E-03	0.17	8.89	6.03	-2.85	-7.22
1580377	Sult1c2	1.70E-03	0.12	9.87	6.96	-2.91	-7.49
7550110	LOC100047816	5.48E-07	0.00	9.68	6.76	-2.92	-7.59
3520129	Mug1	1.15E-04	0.05	9.56	6.30	-3.26	-9.57
2510110	EG640530	1.71E-04	0.05	11.05	6.74	-4.31	-19.82
5870010	Mug4	5.13E-04	0.08	12.14	7.22	-4.92	-30.27

Supplementary Table 5: GSEA of *ERG* profile in *Pten* loss prostates

NAME	SIZE	ES	NES	NOM p-val	FDR q-val	RANK AT MAX
MEL18_DN.V1_UP	123	0.65	2.28	0.000	0.000	3693
ALK_DN.V1_UP	106	0.62	2.11	0.000	0.000	4161
RPS14_DN.V1_UP	159	0.58	2.09	0.000	0.000	4054
BMI1_DN.V1_UP	134	0.59	2.08	0.000	0.000	4634
E2F1_UP.V1_DN	169	0.56	2.07	0.000	0.000	2073
KRAS.600.LUNG.BREAST_UP.V1_UP	213	0.56	2.06	0.000	0.000	4020
ESC_V6.5_UP_EARLY.V1_DN	156	0.58	2.06	0.000	0.000	3215
MEK_UP.V1_UP	170	0.57	2.03	0.000	0.000	3115
IL15_UP.V1_UP	146	0.56	2.01	0.000	0.000	3679
BMI1_DN_MEL18_DN.V1_UP	122	0.57	2.01	0.000	0.000	3913
SNF5_DN.V1_UP	158	0.56	2.00	0.000	0.000	4747
KRAS.600_UP.V1_UP	225	0.54	1.98	0.000	0.000	4066
KRAS.KIDNEY_UP.V1_DN	110	0.57	1.97	0.000	0.000	3210
HINATA_NFKB_IMMUNO_INF	15	0.82	1.97	0.000	0.000	731
CAHOY_ASTROGLIAL	92	0.58	1.97	0.000	0.000	3952
CORDENONSI_YAP_CONSERVED_SIGNATURE	55	0.63	1.96	0.000	0.000	5285
EGFR_UP.V1_UP	164	0.54	1.95	0.000	0.000	2797
HOXA9_DN.V1_DN	156	0.54	1.94	0.000	0.000	3895
KRAS.LUNG.BREAST_UP.V1_UP	112	0.56	1.92	0.000	0.000	2464
KRAS.DF.V1_UP	166	0.53	1.92	0.000	0.000	4021
ERB2_UP.V1_UP	165	0.53	1.91	0.000	0.001	3124
ATF2_UP.V1_DN	156	0.53	1.91	0.000	0.001	4103
CSR_EARLY_UP.V1_UP	141	0.53	1.90	0.000	0.001	7063
CSR_LATE_UP.V1_DN	126	0.54	1.90	0.000	0.001	3511
TGFB_UP.V1_UP	160	0.52	1.87	0.000	0.001	4516
PKCA_DN.V1_DN	143	0.52	1.86	0.000	0.001	4391
IL15_UP.V1_DN	143	0.52	1.85	0.000	0.001	4191
KRAS.LUNG_UP.V1_UP	101	0.55	1.85	0.000	0.001	3691
HOXA9_DN.V1_UP	154	0.51	1.84	0.000	0.001	4103
VCAP-ANDROGEN-UP	396	0.47	1.84	0.000	0.001	2308
RELA_DN.V1_UP	125	0.53	1.84	0.000	0.001	5291
BMI1_DN_MEL18_DN.V1_DN	120	0.53	1.83	0.000	0.001	3204
ATF2_S_UP.V1_DN	154	0.52	1.83	0.000	0.001	5468
P53_DN.V1_DN	167	0.51	1.83	0.000	0.001	3082
STK33_NOMO_UP	238	0.49	1.83	0.000	0.001	3583
IL2_UP.V1_UP	149	0.51	1.82	0.000	0.001	4586
SNF5_DN.V1_DN	146	0.51	1.80	0.000	0.002	3169
PRC2_EZH2_UP.V1_DN	164	0.50	1.80	0.000	0.002	5052
GCNP_SHH_UP_EARLY.V1_DN	148	0.51	1.80	0.000	0.002	3821
WNT_UP.V1_DN	154	0.50	1.79	0.000	0.002	4394
LEF1_UP.V1_UP	166	0.49	1.78	0.000	0.002	4698
ESC_J1_UP_LATE.V1_UP	170	0.50	1.78	0.000	0.002	2025
ESC_V6.5_UP_LATE.V1_DN	155	0.50	1.78	0.001	0.002	5200
CAMP_UP.V1_DN	163	0.50	1.78	0.000	0.002	6311
STK33_UP	229	0.47	1.77	0.000	0.002	4935
RAPA_EARLY_UP.V1_UP	150	0.50	1.77	0.000	0.002	4379

KRAS.BREAST_UP.V1_UP	111	0.51	1.77	0.000	0.003	1170
KRAS.300_UP.V1_UP	114	0.51	1.76	0.000	0.003	5039
EIF4E_DN	79	0.53	1.76	0.000	0.003	2704
RB_DN.V1_DN	111	0.51	1.75	0.000	0.003	4532
CRX_DN.V1_DN	123	0.50	1.74	0.000	0.003	4244
AKT_UP_MTOR_DN.V1_DN	166	0.48	1.74	0.000	0.004	4733
HIMYC-P05-UP2-FOLD	409	0.44	1.72	0.000	0.004	4308
MYC_UP.V1_DN	117	0.50	1.71	0.002	0.004	3377
JNK_DN.V1_DN	157	0.48	1.71	0.001	0.005	5358
RB_P130_DN.V1_UP	109	0.50	1.71	0.004	0.004	7279
RAF_UP.V1_UP	175	0.47	1.70	0.000	0.005	4517
RELA_DN.V1_DN	123	0.49	1.70	0.000	0.005	2654
CYCLIN_D1_KE_.V1_DN	164	0.46	1.68	0.000	0.006	3159
STK33_SKM_UP	205	0.46	1.68	0.000	0.006	4804
TBK1.DF_UP	244	0.45	1.68	0.002	0.006	4325
YAP1_UP	29	0.61	1.65	0.013	0.007	5365
MEL18_DN.V1_DN	122	0.47	1.64	0.004	0.009	5171
IL21_UP.V1_UP	160	0.46	1.63	0.000	0.009	3574
PRC2_SUZ12_UP.V1_DN	144	0.46	1.63	0.001	0.009	4701
LTE2_UP.V1_UP	163	0.46	1.63	0.000	0.010	2065
CAHOY_OLIGODENDROCUTIC	81	0.49	1.63	0.004	0.010	2873
RB_P130_DN.V1_DN	112	0.46	1.62	0.002	0.011	2391
VCAP-ERGS1-DN-2FOLD-TOMLINS	119	0.47	1.61	0.001	0.011	5278
STK33_SKM_DN	201	0.44	1.60	0.000	0.012	5254
AKT_UP_MTOR_DN.V1_UP	160	0.45	1.60	0.001	0.012	2215
PTEN_DN.V1_DN	134	0.45	1.59	0.005	0.014	4659
P53_DN.V2_UP	117	0.46	1.58	0.004	0.015	4018
KRAS.50_UP.V1_UP	38	0.54	1.58	0.014	0.015	3977
AKT_UP.V1_DN	172	0.44	1.58	0.002	0.015	3834
PTEN_DN.V2_UP	105	0.46	1.58	0.008	0.015	4216
MTOR_UP.V1_UP	145	0.44	1.57	0.002	0.015	4064
BCAT.100_UP.V1_UP	43	0.52	1.56	0.021	0.016	3630
ESC_J1_UP_LATE.V1_DN	162	0.44	1.56	0.001	0.016	7829
PRC2_SUZ12_UP.V1_UP	142	0.44	1.56	0.005	0.016	4582
TBK1.DN.48HRS_UP	44	0.52	1.56	0.018	0.017	4989
NOTCH_DN.V1_DN	143	0.43	1.56	0.002	0.017	3085
E2F3_UP.V1_DN	97	0.46	1.55	0.009	0.018	5766
PIGF_UP.V1_UP	160	0.43	1.54	0.007	0.019	5354
CYCLIN_D1_UP.V1_UP	161	0.43	1.54	0.001	0.020	6437
ESC_J1_UP_EARLY.V1_DN	157	0.42	1.53	0.010	0.021	4477
ATM_DN.V1_UP	117	0.44	1.53	0.007	0.021	6326
VEGF_A_UP.V1_DN	167	0.42	1.52	0.005	0.023	5658
SRC_UP.V1_DN	122	0.43	1.51	0.011	0.025	4455
PRC2_EDD_UP.V1_UP	167	0.42	1.51	0.008	0.026	7529
CSR_LATE_UP.V1_UP	142	0.42	1.50	0.008	0.028	5657
BMI1_DN.V1_DN	120	0.43	1.50	0.011	0.028	3420
CYCLIN_D1_UP.V1_DN	166	0.41	1.50	0.006	0.028	5041
AKT_UP.V1_UP	148	0.41	1.49	0.007	0.030	1543

CARVER_CASTRATE_OWN	242	0.40	1.49	0.006	0.030	2848
NRL_DN.V1_DN	117	0.43	1.48	0.016	0.031	4380
KRAS.KIDNEY_UP.V1_UP	120	0.43	1.48	0.011	0.031	4192
PDGF_UP.V1_UP	115	0.43	1.47	0.020	0.033	4920
ESC_V6.5_UP_LATE.V1_UP	163	0.41	1.47	0.008	0.033	5018
IL2_UP.V1_DN	149	0.41	1.46	0.009	0.035	4200
STK33_DN	210	0.39	1.46	0.004	0.035	4983
P53_DN.V2_DN	130	0.41	1.44	0.011	0.041	4604
BRCA1_DN.V1_UP	102	0.42	1.43	0.033	0.045	7529
WNT_UP.V1_UP	160	0.40	1.43	0.012	0.045	2322
P53_DN.V1_UP	163	0.39	1.43	0.018	0.045	4479
PTEN_DN.V1_UP	146	0.40	1.43	0.020	0.046	3761
CAMP_UP.V1_UP	165	0.40	1.43	0.023	0.046	5873
STK33_NOMO_DN	203	0.39	1.42	0.010	0.047	4073
CYCLIN_D1_KE_.V1_UP	165	0.40	1.42	0.014	0.048	6389
SIRNA_EIF4GI_UP	81	0.43	1.41	0.043	0.052	4343
JNK_DN.V1_UP	149	0.40	1.41	0.018	0.054	7723
PRC1_BMI_UP.V1_DN	138	0.40	1.40	0.031	0.057	4204
CAHOY_ASTROCYTIC	94	0.41	1.40	0.046	0.057	5903
CRX_NRL_DN.V1_UP	122	0.41	1.40	0.034	0.058	2293
PRC2_EZH2_UP.V1_UP	153	0.39	1.40	0.035	0.058	6839
MTOR_UP.N4.V1_UP	175	0.38	1.39	0.030	0.062	5658
KRAS.PROSTATE_UP.V1_UP	114	0.40	1.38	0.044	0.068	3977
ESC_J1_UP_EARLY.V1_UP	152	0.38	1.37	0.040	0.068	4136
CRX_NRL_DN.V1_DN	109	0.40	1.36	0.049	0.073	4380
RB_DN.V1_UP	120	0.39	1.36	0.053	0.076	5825
PDGF_ERK_DN.V1_UP	119	0.39	1.36	0.044	0.076	4659
MTOR_UP.V1_DN	164	0.38	1.36	0.033	0.077	4993
PRC2_EDD_UP.V1_DN	158	0.37	1.35	0.050	0.082	4191
CAHOY_NEURONAL	88	0.41	1.34	0.082	0.088	3606
IL21_UP.V1_DN	136	0.38	1.34	0.063	0.089	3239
TBK1.DF_DN	246	0.35	1.32	0.027	0.097	5761

Supplementary Table 6: DAVID Gene Ontology Analysis

PTEN Loss Down, ERG Down					
Category	Term	Count	P-Value	Genes	
GOTERM_BP_FAT	GO:0006811~ion transport	6	0.0102	TST, SLC11A2, ATP6V1C2, BHLHA15, FKBP4, SLC01A5	
UP_SEQ_FEATURE	binding site:Substrate	4	0.0144	TST, GNMT, HPGD, NEU2	
GOTERM_CC_FAT	GO:0005764~lysosome	3	0.0324	SLC11A2, PRDX6, CTNS	
GOTERM_CC_FAT	GO:0000323~lytic vacuole	3	0.0327	SLC11A2, PRDX6, CTNS	
UP_SEQ_FEATURE	DNA-binding region:Basic motif	3	0.0335	MYCL1, BHLHA15, DBP	
SP_PIR_KEYWORDS	hydrolase	7	0.0360	PTPRD, PPM1K, PRDX6, EME2, MMP7, MME, NEU2	
GOTERM_CC_FAT	GO:0005773~vacuole	3	0.0415	SLC11A2, PRDX6, CTNS	
SP_PIR_KEYWORDS	transport	7	0.0437	COPZ2, SLC11A2, ATP6V1C2, NDUFB10, RAB26, CTNS, SLC01A5	
PTEN Loss Down, ERG Up					
Category	Term	Count	P-Value	Genes	
SP_PIR_KEYWORDS	endoplasmic reticulum	11	0.0002	HYOU1, P4HA2, ERN1, PDIA6, ASPH, ACSL4, TMED9, AGR2, SEC63, ITPR2, MEST	
INTERPRO	IPR012335:Thioredoxin fold	5	0.0006	NXNL2, GPX3, PDIA6, AGR2, GLRX	
GOTERM_CC_FAT	GO:0005783~endoplasmic reticulum	11	0.0009	HYOU1, P4HA2, UPK1A, ERN1, PDIA6, ASPH, ACSL4, TMED9, AGR2, SEC63, ITPR2	
SP_PIR_KEYWORDS	signal	22	0.0018	IL1R2, EMCN, MSMB, PDIA6, TINAGL1, TMED9, HYOU1, UNC5B, P4HA2, GPR110, H2-BL, GPX3, ERN1,	
GOTERM_BP_FAT	GO:0006094~gluconeogenesis	3	0.0023	ATF4, FBP1, FBP3	
GOTERM_BP_FAT	GO:0019319~hexose biosynthetic process	3	0.0036	ATF4, FBP1, FBP3	
GOTERM_BP_FAT	GO:0006090~pyruvate metabolic process	3	0.0036	ATF4, FBP1, FBP3	
GOTERM_MF_FAT	GO:0016891~endoribonuclease activity, producing 5'-phosphomonoesters	3	0.0044	MELA, ERN1, LOC280487	
UP_SEQ_FEATURE	signal peptide	22	0.0053	PBSN, TMEM87A, NEU1, BMP7, GDF15, SPON2, FKBP11, AGR2, ENHO	
GOTERM_BP_FAT	GO:0046364~monosaccharide biosynthetic process	3	0.0055	ATF4, FBP1, FBP3	
GOTERM_BP_FAT	GO:0048858~cell projection morphogenesis	5	0.0060	NR4A2, ALMS1, EVL, WWTR1, BMP7	
GOTERM_MF_FAT	GO:0016893~endonuclease activity, active with either ribo- or deoxyribonucleic acids and producing 5'-phosphomonoesters	3	0.0064	MELA, ERN1, LOC280487	
GOTERM_BP_FAT	GO:0032990~cell part morphogenesis	5	0.0071	NR4A2, ALMS1, EVL, WWTR1, BMP7	
GOTERM_BP_FAT	GO:0046165~alcohol biosynthetic process	3	0.0078	ATF4, FBP1, FBP3	
GOTERM_BP_FAT	GO:0032989~cellular component morphogenesis	6	0.0084	MELA, NR4A2, ALMS1, EVL, WWTR1, BMP7	
GOTERM_MF_FAT	GO:0042132~fructose 1,6-bisphosphate 1-phosphatase activity	2	0.0106	FBP1, FBP3	
GOTERM_CC_FAT	GO:0044432~endoplasmic reticulum part	5	0.0109	HYOU1, P4HA2, ERN1, PDIA6, ASPH	
INTERPRO	IPR000146:Fructose-1,6-bisphosphatase	2	0.0109	FBP1, FBP3	
GOTERM_BP_FAT	GO:0009891~positive regulation of biosynthetic process	7	0.0145	GATA2, TESC, ATF4, NR4A2, WWTR1, BMP7, SEC14L2	
GOTERM_MF_FAT	GO:0004521~endoribonuclease activity	3	0.0145	MELA, ERN1, LOC280487	
GOTERM_BP_FAT	GO:0045893~positive regulation of transcription, DNA-dependent	6	0.0166	GATA2, TESC, ATF4, NR4A2, WWTR1, BMP7	
GOTERM_BP_FAT	GO:0051254~positive regulation of RNA metabolic process	6	0.0171	GATA2, TESC, ATF4, NR4A2, WWTR1, BMP7	
GOTERM_BP_FAT	GO:0034637~cellular carbohydrate biosynthetic process	3	0.0173	ATF4, FBP1, FBP3	
UP_SEQ_FEATURE	short sequence motif:Prevents secretion from ER	3	0.0239	HYOU1, PDIA6, TMED9	
GOTERM_MF_FAT	GO:0004540~ribonuclease activity	3	0.0241	MELA, ERN1, LOC280487	
GOTERM_BP_FAT	GO:0000902~cell morphogenesis	5	0.0249	NR4A2, ALMS1, EVL, WWTR1, BMP7	
GOTERM_BP_FAT	GO:0045941~positive regulation of transcription	6	0.0276	GATA2, TESC, ATF4, NR4A2, WWTR1, BMP7	
GOTERM_BP_FAT	GO:0030030~cell projection organization	5	0.0276	NR4A2, ALMS1, EVL, WWTR1, BMP7	
INTERPRO	IPR002156:Ribonuclease H	2	0.0289	MELA, LOC280487	
GOTERM_CC_FAT	GO:0005788~endoplasmic reticulum lumen	3	0.0299	HYOU1, P4HA2, PDIA6	
GOTERM_BP_FAT	GO:0010628~positive regulation of gene expression	6	0.0305	GATA2, TESC, ATF4, NR4A2, WWTR1, BMP7	

GOTERM_MF_FAT	GO:0004523~ribonuclease H activity	2	0.0314	MELA, LOC280487
GOTERM_BP_FAT	GO:0045935~positive regulation of nucleobase, nucleoside, nucleotide and nucleic acid metabolic process	6	0.0359	GATA2, TESC, ATF4, NR4A2, WWTR1, BMP7
GOTERM_BP_FAT	GO:0016051~carbohydrate biosynthetic process	3	0.0360	ATF4, FBP1, FBP3
GOTERM_MF_FAT	GO:0019203~carbohydrate phosphatase activity	2	0.0382	FBP1, FBP3
INTERPRO	IPR001584:Integrase, catalytic core	2	0.0395	MELA, LOC280487
GOTERM_BP_FAT	GO:0045944~positive regulation of transcription from RNA polymerase II promoter	5	0.0397	GATA2, ATF4, NR4A2, WWTR1, BMP7
GOTERM_BP_FAT	GO:0051173~positive regulation of nitrogen compound metabolic process	6	0.0402	GATA2, TESC, ATF4, NR4A2, WWTR1, BMP7
GOTERM_BP_FAT	GO:0010557~positive regulation of macromolecule biosynthetic process	6	0.0413	GATA2, TESC, ATF4, NR4A2, WWTR1, BMP7
GOTERM_BP_FAT	GO:0031328~positive regulation of cellular biosynthetic process	6	0.0478	GATA2, TESC, ATF4, NR4A2, WWTR1, BMP7
GOTERM_BP_FAT	GO:0015074~DNA integration	2	0.0493	MELA, LOC280487

PTEN Loss Unchanged, ERG Down

Category	Term	Count	P-Value	Genes
UP_SEQ_FEATURE	domain:Peptidase S1	6	0.0008	TMPRSS2, HPN, ST14, TMPRSS13, PROC, HABP2
INTERPRO	IPR001314:Peptidase S1A, chymotrypsin	6	0.0015	TMPRSS2, HPN, ST14, TMPRSS13, PROC, HABP2
INTERPRO	IPR018114:Peptidase S1/S6, chymotrypsin/Hap, active site	6	0.0019	TMPRSS2, HPN, ST14, TMPRSS13, PROC, HABP2
SMART	SM00020:Tryp_Spc	6	0.0020	TMPRSS2, HPN, ST14, TMPRSS13, PROC, HABP2
INTERPRO	IPR001254:Peptidase S1 and S6, chymotrypsin/Hap	6	0.0023	TMPRSS2, HPN, ST14, TMPRSS13, PROC, HABP2
GOTERM_MF_FAT	GO:0004175~endopeptidase activity	9	0.0030	TMPRSS2, HPN, ADAMTS9, KEL, ST14, OSGEPL1, TMPRSS13, PROC, HABP2
SP_PIR_KEYWORDS	Serine protease	6	0.0031	TMPRSS2, HPN, ST14, TMPRSS13, PROC, HABP2
UP_SEQ_FEATURE	domain:SRCR	3	0.0036	TMPRSS2, HPN, TMPRSS13
GOTERM_MF_FAT	GO:0004252~serine-type endopeptidase activity	6	0.0048	TMPRSS2, HPN, ST14, TMPRSS13, PROC, HABP2
GOTERM_MF_FAT	GO:0008236~serine-type peptidase activity	6	0.0077	TMPRSS2, HPN, ST14, TMPRSS13, PROC, HABP2
GOTERM_MF_FAT	GO:0017171~serine hydrolase activity	6	0.0078	TMPRSS2, HPN, ST14, TMPRSS13, PROC, HABP2
UP_SEQ_FEATURE	active site:Charge relay system	6	0.0094	TMPRSS2, HPN, ST14, TMPRSS13, PROC, HABP2
GOTERM_BP_FAT	GO:0016331~morphogenesis of embryonic epithelium	4	0.0105	ALDH1A1, OVOL2, LMO4, TCFAP2A
SMART	SM00202:SR	3	0.0109	TMPRSS2, HPN, TMPRSS13
INTERPRO	IPR017448:Speract/scavenger receptor related	3	0.0114	TMPRSS2, HPN, TMPRSS13
INTERPRO	IPR001190:Speract/scavenger receptor	3	0.0122	TMPRSS2, HPN, TMPRSS13
KEGG_PATHWAY	mmu03320:PPAR signaling pathway	4	0.0139	CYP27A1, RXRG, SLC27A2, ACAA1B
GOTERM_MF_FAT	GO:0005044~scavenger receptor activity	3	0.0214	TMPRSS2, HPN, TMPRSS13
GOTERM_MF_FAT	GO:0070011~peptidase activity, acting on L-amino acid peptides	9	0.0231	TMPRSS2, HPN, ADAMTS9, KEL, ST14, OSGEPL1, TMPRSS13, PROC, HABP2
GOTERM_BP_FAT	GO:0014020~primary neural tube formation	3	0.0247	OVOL2, LMO4, TCFAP2A
GOTERM_BP_FAT	GO:0009064~glutamine family amino acid metabolic process	3	0.0258	GFPT1, ARG2, FAH
SMART	SM00192:LDLa	3	0.0281	TMPRSS2, ST14, TMPRSS13
GOTERM_MF_FAT	GO:0008233~peptidase activity	9	0.0288	TMPRSS2, HPN, ADAMTS9, KEL, ST14, OSGEPL1, TMPRSS13, PROC, HABP2
INTERPRO	IPR002172:Low density lipoprotein-receptor, class A, cysteine-rich	3	0.0292	TMPRSS2, ST14, TMPRSS13
SP_PIR_KEYWORDS	Protease	8	0.0334	TMPRSS2, HPN, KEL, ST14, OSGEPL1, TMPRSS13, PROC, HABP2
SP_PIR_KEYWORDS	hydrolase	16	0.0338	ST14, TMPRSS13, HABP2
GOTERM_CC_FAT	GO:0005576~extracellular region	17	0.0346	1190002N15RIK, ST14, GDF10, FGF1, ABO, HABP2
SP_PIR_KEYWORDS	Signal-anchor	7	0.0350	TMPRSS2, HPN, HS3ST6, KEL, ST14, TMPRSS13, ABO
GOTERM_BP_FAT	GO:0001841~neural tube formation	3	0.0354	OVOL2, LMO4, TCFAP2A
GOTERM_BP_FAT	GO:0001838~embryonic epithelial tube formation	3	0.0393	OVOL2, LMO4, TCFAP2A

GOTERM_BP_FAT	GO:0035148~tube lumen formation	3	0.0461	OVOL2, LMO4, TCFAP2A
UP_SEQ_FEATURE	region of interest:Substrate binding	4	0.0478	HS3ST6, ARG2, NT5C3, IP6K2
GOTERM_BP_FAT	GO:0048729~tissue morphogenesis	5	0.0498	ALDH1A1, OVOL2, LMO4, TCFAP2A, TCF7L1

PTEN Loss Unchanged, ERG Up

Category	Term	Count	P-Value	Genes
				MMP9, CXCR1, DLK1, MEGF11, TGFB1, ST3GAL1, WISP1, CD93, ST3GAL4, SEMA7A, ANGPT2, ADAM9, CYR61, EGFL7, SPARCL1, TCN2, SMO, THBD, BACE2, PDGFRL, VCAN, ADAMTS1, TREM1, CHL1, TNFRSF22, FCER2A, IL4RA, MIA1, TNFRSF1A, LY6F, PVRL3, FGL2, PTX3, ANGPTL4, FN1, FCER1A, MUC2, CCL19, IGF2, HGF, TECPR1, FRZB, CCL11, VWF, FBLN1, THSD1, CXCL14, ITGA5, FBLN2, PECAM1, HBEGF, CP, HTR2B, TPSAB1
SP_PIR_KEYWORDS	disulfide bond	54	0.0000	CP, HTR2B, TPSAB1
				SLCSA5, GLDN, MMP9, AQP5, CXCR1, DLK1, MEGF11, TGFB1, ST3GAL1, WISP1, CD93, ST3GAL4, SEMA7A, ASPH, ANO6, ANGPT2, ADAM9, GPR176, SPARCL1, SMO, THBD, BACE2, PDGFRL, VCAN, ADAMTS1, TREM1, TM4SF1, CHL1, FAIM2, TNFRSF22, FCER2A, IL4RA, UNC93B1, PLVAP, EPHB4, SERPINH1, SLC20A1, TNFRSF1A, CD177, LY6F, PVRL3, FGL2, FUT2, PTX3, FN1, ANGPTL4, FCER1A, MUC2, LMAN1L, 9930013L23RIK, SLC10A6, CCL19, DBC1, HGF, FRZB, LOC100047167, CCL11, CSGALNACT1, VWF, FBLN1, THSD1, ITGA5, FBLN2, PECAM1, HBEGF, CP, TPSAB1, HTR2B
SP_PIR_KEYWORDS	glycoprotein	68	0.0000	VWF, FBLN1, THSD1, ITGA5, FBLN2, PECAM1, HBEGF, CP, TPSAB1, HTR2B
				MMP9, CXCR1, DLK1, MEGF11, TGFB1, ST3GAL1, WISP1, CD93, ST3GAL4, SEMA7A, ANGPT2, ADAM9, CYR61, EGFL7, SPARCL1, TCN2, SMO, THBD, BACE2, PDGFRL, VCAN, ADAMTS1, TREM1, CHL1, TNFRSF22, FCER2A, IL4RA, MIA1, TNFRSF1A, LY6F, PVRL3, FGL2, PTX3, ANGPTL4, FN1, FCER1A, MUC2, CCL19, IGF2, HGF, TECPR1, FRZB, CCL11, VWF, FBLN1, THSD1, CXCL14, ITGA5, FBLN2, PECAM1, HBEGF, CP, HTR2B, TPSAB1
UP_SEQ_FEATURE	disulfide bond	54	0.0000	CP, HTR2B, TPSAB1
				MMP9, RETNLG, DLK1, MEGF11, TGFB1, WISP1, CD93, SEMA7A, HTRA3, ANGPT2, ADAM9, CYR61, EGFL7, SPARCL1, SAA4, TCN2, SMO, THBD, BACE2, PDGFRL, VCAN, ADAMTS1, TREM1, CHL1, CCK, IL4RA, SERPINH1, OTOS, EPHB4, MIA1, TNFRSF1A, LY6F, CD177, PVRL3, FGL2, PTX3, FN1, ANGPTL4, FCER1A, MUC2, LMAN1L, 9930013L23RIK, CCL19, DBC1, IGF2, HGF, FRZB, CCL11, GCG, VWF, FBLN1, CXCL14, THSD1, ITGA5, FBLN2, PECAM1, HBEGF, CP, TPSAB1
SP_PIR_KEYWORDS	signal	59	0.0000	CXCL14, THSD1, ITGA5, FBLN2, PECAM1, HBEGF, CP, TPSAB1
				TNFRSF22, CCK, MMP9, IL4RA, OTOS, TGFB1, MIA1, ST3GAL1, WISP1, FGL2, HTRA3, PTX3, ANGPT2, CYR61, ANGPTL4, FN1, OTOP1, MUC2, EGFL7, SPARCL1, CCL19, SAA4, IGF2, TCN2, FRZB, GCG, CCL11, VWF, FBLN1, THBD, CXCL14, FBLN2, PDGFRL, HBEGF, VCAN, ADAMTS1, CP, CHL1
SP_PIR_KEYWORDS	Secreted	37	0.0000	VWF, FBLN1, CXCL14, FBLN2, PDGFRL, HBEGF, VCAN, ADAMTS1, CP, CHL1
				TNFRSF22, CCK, MMP9, IL4RA, RETNLG, OTOS, TGFB1, MIA1, ST3GAL1, WISP1, FGL2, HTRA3, PTX3, ANGPT2, CYR61, ANGPTL4, FN1, ADAM9, OTOP1, MUC2, LOC100044256, EGFL7, SPARCL1, CCL19, SAA4, IGF2, TCN2, FRZB, GCG, CCL11, VWF, FBLN1, THBD, CXCL14, FBLN2, PDGFRL, HBEGF, VCAN, ADAMTS1, CP, CHL1
GOTERM_CC_FAT	GO:0005576~extracellular region	41	0.0000	ADAMTS1, CP, CHL1
				MMP9, RETNLG, DLK1, MEGF11, TGFB1, WISP1, CD93, SEMA7A, HTRA3, ANGPT2, ADAM9, CYR61, EGFL7, SPARCL1, SAA4, TCN2, SMO, THBD, BACE2, PDGFRL, VCAN, ADAMTS1, TREM1, CHL1, CCK, IL4RA, SERPINH1, OTOS, EPHB4, MIA1, TNFRSF1A, LY6F, CD177, PVRL3, FGL2, PTX3, FN1, ANGPTL4, FCER1A, MUC2, LMAN1L, 9930013L23RIK, CCL19, DBC1, IGF2, HGF, FRZB, CCL11, GCG, VWF, FBLN1, CXCL14, THSD1, ITGA5, FBLN2, PECAM1, HBEGF, CP, TPSAB1
UP_SEQ_FEATURE	signal peptide	59	0.0000	CXCL14, THSD1, ITGA5, FBLN2, PECAM1, HBEGF, CP, TPSAB1
				SLCSA5, GLDN, MMP9, AQP5, CXCR1, DLK1, MEGF11, TGFB1, ST3GAL1, WISP1, CD93, ST3GAL4, SEMA7A, ASPH, ANO6, ANGPT2, ADAM9, GPR176, SPARCL1, SMO, THBD, BACE2, PDGFRL, VCAN, ADAMTS1, TREM1, TM4SF1, CHL1, FAIM2, TNFRSF22, FCER2A, IL4RA, UNC93B1, PLVAP, EPHB4, SERPINH1, SLC20A1, TNFRSF1A, CD177, PVRL3, FGL2, FUT2, PTX3, FN1, ANGPTL4, FCER1A, MUC2, LMAN1L, 9930013L23RIK, SLC10A6, CCL19, DBC1, HGF, FRZB, LOC100047167, CSGALNACT1, VWF, MUC2, EGFL7, DLK1, MEGF11, EPHB4, MUC3, TNFRSF1A, FBLN1, THBD, CD93, FBLN2, HBEGF, VCAN, FN1, ADAM9
UP_SEQ_FEATURE	glycosylation site:N-linked (GlcNac...)	65	0.0000	FBLN1, THSD1, ITGA5, FBLN2, PECAM1, CP, HTR2B, TPSAB1
INTERPRO	IPR013032:EGF-like region, conserved site	15	0.0000	FN1, ADAM9
				MUC2, EGFL7, SPARCL1, MMP9, SAA4, CCL19, IGF2, TGFB1, CCL11, VWF, FBLN1, THBD, CXCL14, FBLN2, HBEGF, ADAMTS1, VCAN, CP, CHL1, ANGPTL4, ADAM9, OTOP1, FN1
GOTERM_CC_FAT	GO:0044421~extracellular region part	23	0.0000	HBEGF, ADAMTS1, VCAN, CP, CHL1, ANGPTL4, ADAM9, OTOP1, FN1
INTERPRO	IPR000742:EGF-like, type 3	10	0.0002	FBLN1, THBD, CD93, EGFL7, FBLN2, HBEGF, VCAN, DLK1, MEGF11, ADAM9
INTERPRO	IPR006210:EGF-like	10	0.0002	FBLN1, THBD, CD93, EGFL7, FBLN2, HBEGF, VCAN, DLK1, MEGF11, ADAM9
SP_PIR_KEYWORDS	extracellular matrix	10	0.0003	VWF, FBLN1, FBLN2, SPARCL1, MMP9, VCAN, ADAMTS1, CHL1, FN1, ANGPTL4
				RHOJ, SLCSA5, GLDN, SLC20A1, AQP5, PIP5K1C, CXCR1, DLK1, MEGF11, ST3GAL1, DAB2, DYSF, CD93, ST3GAL4, SEMA7A, KCNK6, NOS3, ASPH, AGPAT4, ANO6, ADAM9, SLC12A8, GPR176, UGCG, PCDH7, RFTN1, FLNC, ELMO1, SMO, THBD, BACE2, HAS2, PLLP, TREM1, TM4SF1, FAIM2, CHL1, GRASP, TNFRSF22, FCER2A, HSD3B7, 4930455C21RIK, IL4RA, UNC93B1, GIPC1, PLVAP, EPHB4, SLC20A1, TNFRSF1A, CD177, LY6F, TMEM125, PVRL3, PLCD3, FUT2, PLXND1, EHD3, OTOP1, SNX20, FCER1A, LMAN1L, ADSSL1, RAB8B, SLC10A6, LOC100047167, CSGALNACT1, THSD1, DIO2, PDE2A, ITGA5, DIO3, ATP2A3, PECAM1, HBEGF, ATP6V0A1, PARD6G, SYTL3, HTR2B
SP_PIR_KEYWORDS	membrane	78	0.0003	ATP2A3, PECAM1, HBEGF, ATP6V0A1, PARD6G, SYTL3, HTR2B
SP_PIR_KEYWORDS	egf-like domain	10	0.0004	FBLN1, THBD, CD93, EGFL7, FBLN2, HBEGF, VCAN, DLK1, MEGF11, ADAM9
				GO:0005578~proteinaceous
GOTERM_CC_FAT	extracellular matrix	12	0.0004	VWF, MUC2, FBLN1, FBLN2, SPARCL1, MMP9, VCAN, ADAMTS1, CHL1, TGFB1, FN1, ANGPTL4
GOTERM_CC_FAT	GO:0031012~extracellular matrix	12	0.0006	VWF, MUC2, FBLN1, FBLN2, SPARCL1, MMP9, VCAN, ADAMTS1, CHL1, TGFB1, FN1, ANGPTL4
UP_SEQ_FEATURE	domain:EGF-like 1	7	0.0010	FBLN1, THBD, CD93, EGFL7, VCAN, DLK1, MEGF11
GOTERM_BP_FAT	GO:0042060~wound healing	7	0.0011	VWF, THBD, DYSF, PECAM1, HBEGF, TGFB1, FN1
				EGFL7, SPARCL1, NCALD, MMP9, HPCAL4, DLK1, PCDH7, ANXA4, FBLN1, THBD, CD93, FBLN2, ATP2A3, ITGA5, PLCD3, NOS3, VCAN, ANO6, EHD3
GOTERM_MF_FAT	GO:0005509~calcium ion binding	19	0.0012	ITGA5, PLCD3, NOS3, VCAN, ANO6, EHD3

				RHOJ, SLC5A5, GLDN, AQP5, PIP5K1C, CXCR1, DLK1, MEGF11, DYSF, CD93, SEMA7A, NOS3, ADAM9, GPR176, PCDH7, RFTN1, ELMO1, THBD, LRRK2, CHL1, GRASP, FAIM2, TNFRSF22, FCER2A, IL4RA, PLVAP, EPHB4, SLCO2A1, TNFRSF1A, LY6F, CD177, PVRL3, PLXND1, EHD3, SNX20, FN1, FCER1A, RAB8B, ANXA4, HTR2B
GOTERM_CC_FAT	GO:0005886~plasma membrane	49	0.0013	MUC3, VWF, DIO3, ITGA5, PECAM1, HBEGF, CP, SYTL3, PARD6G, HTR2B
UP_SEQ_FEATURE	domain:CTCK	4	0.0015	VWF, MUC2, WISP1, CYR61
SMART	SM00181:EGF	10	0.0015	FBLN1, THBD, CD93, EGFL7, FBLN2, HBEGF, VCAN, DLK1, MEGF11, ADAM9
INTERPRO	IPR006207:Cystine knot, C-terminal	4	0.0017	VWF, MUC2, WISP1, CYR61
GOTERM_BP_FAT	GO:0031647~regulation of protein stability	4	0.0021	SMO, STXBP1, GIPC1, APBB2
INTERPRO	IPR001881:EGF-like calcium-binding	6	0.0022	FBLN1, THBD, CD93, FBLN2, VCAN, DLK1
SP_PIR_KEYWORDS	Signal-anchor	12	0.0025	LOC100047167
INTERPRO	IPR018097:EGF-like calcium-binding, conserved site	6	0.0026	FBLN1, THBD, CD93, EGFL7, FBLN2, VCAN
INTERPRO	IPR000152:EGF-type aspartate/asparagine hydroxylation conserved site	6	0.0026	FBLN1, THBD, CD93, FBLN2, VCAN, DLK1
GOTERM_BP_FAT	GO:0001525~angiogenesis	7	0.0026	EGFL7, PLCD3, HBEGF, NOS3, PLXND1, ANGPT2, CYR61
GOTERM_BP_FAT	GO:0009611~response to wounding	11	0.0033	CCL11, VWF, TNFRSF1A, THBD, DYSF, PECAM1, SAA4, CCL19, HBEGF, TGFB1, FN1
SMART	SM00041:CT	4	0.0037	VWF, MUC2, WISP1, CYR61
GOTERM_BP_FAT	GO:0030198~extracellular matrix organization	6	0.0040	MIA1, FBLN1, MMP9, APBB2, SERPINH1, CYR61
GOTERM_CC_FAT	GO:0005615~extracellular space	14	0.0043	EGFL7, MMP9, CCL19, SAA4, IGF2, TGFB1, CCL11, THBD, CXCL14, HBEGF, CP, OTOP1, ADAM9, ANGPTL4
INTERPRO	IPR006208:Cystine knot	3	0.0043	MUC2, WISP1, CYR61
GOTERM_BP_FAT	GO:0048514~blood vessel morphogenesis	8	0.0046	SMO, EGFL7, PLCD3, HBEGF, NOS3, PLXND1, ANGPT2, CYR61
GOTERM_MF_FAT	GO:0019865~immunoglobulin binding	3	0.0049	FCER1A, VWF, FCER2A
INTERPRO	IPR013091:EGF calcium-binding	5	0.0051	FBLN1, THBD, CD93, EGFL7, FBLN2
				RHOJ, ZBTB32, PIP5K1C, DLK1, MEGF11, DAB2, DYSF, HTRA3, ANO6, TTC39B, PID1, FMNL2, SLC12A8, EGFL7, STXBP1, FAM123A, FLNC, ELMO1, TTPAL, HNF4A, VCAN, BIN1, CHL1, FAIM2, TNFRSF22, FCER2A, CREM, IL4RA, GLIS1, UNC93B1, LOC100046025, SLCO2A1, RNF125, PVRL3, NDRG2, HAP1, FN1, OTOP1, MOCS1, FCER1A, NES, 9930013L23RIK, ADSSL1, MYO1B, CNKSR3, DBC1, RCAN1, TECPR1, HGF, DOCK6, HTR2B
SP_PIR_KEYWORDS	alternative splicing	61	0.0061	LRRRC49, VWF, FBLN1, RASL11A, ATP2A3, FBLN2, PECAM1, ATP6V0A1, SYTL3, APBB2, TPSAB1
UP_SEQ_FEATURE	domain:EGF-like 3; calcium-binding	4	0.0064	FBLN1, THBD, CD93, FBLN2
SP_PIR_KEYWORDS	calcium	16	0.0066	VCAN, ANO6, EHD3
GOTERM_BP_FAT	GO:0000904~cell morphogenesis involved in differentiation	8	0.0066	DAB2, CCK, KIF5C, STXBP1, PIP5K1C, APBB2, CHL1, TGFB1
GOTERM_MF_FAT	GO:0032403~protein complex binding	5	0.0070	FCER1A, VWF, DOK1, FCER2A, ITGA5
SMART	SM00179:EGF_CA	6	0.0071	FBLN1, THBD, CD93, FBLN2, VCAN, DLK1
GOTERM_MF_FAT	GO:0005525~GTP binding	10	0.0076	RHOJ, ADSSL1, RASL11A, RAB8B, TUBB6, TUBA1A, LRRK2, DOCK6, EHD3, MOCS1
GOTERM_MF_FAT	GO:0030247~polysaccharide binding	6	0.0082	HBEGF, VCAN, ADAMTS1, PTX3, FN1, CYR61
GOTERM_MF_FAT	GO:0001871~pattern binding	6	0.0082	HBEGF, VCAN, ADAMTS1, PTX3, FN1, CYR61
INTERPRO	IPR001007:von Willebrand factor, type C	4	0.0085	VWF, MUC2, WISP1, CYR61
GOTERM_BP_FAT	GO:0008285~negative regulation of cell proliferation	8	0.0088	MUC2, CDKN1A, HNF4A, NOS3, ASPH, ZEB1, TGFB1, H19
GOTERM_MF_FAT	GO:0032561~guanyl ribonucleotide binding	10	0.0089	RHOJ, ADSSL1, RASL11A, RAB8B, TUBB6, TUBA1A, LRRK2, DOCK6, EHD3, MOCS1
GOTERM_MF_FAT	GO:0019001~guanyl nucleotide binding	10	0.0089	RHOJ, ADSSL1, RASL11A, RAB8B, TUBB6, TUBA1A, LRRK2, DOCK6, EHD3, MOCS1
INTERPRO	IPR006209:EGF short sequence motif:Cell attachment site	6	0.0094	THBD, CD93, EGFL7, HBEGF, VCAN, DLK1
UP_SEQ_FEATURE	GO:0045786~negative regulation of cell cycle	5	0.0094	VWF, FBLN2, SEMA7A, TGFB1, FN1
GOTERM_BP_FAT	GO:0045786~negative regulation of cell cycle	4	0.0100	CDKN1A, HNF4A, DBC1, APBB2
UP_SEQ_FEATURE	domain:EGF-like 2	5	0.0107	THBD, CD93, FBLN2, DLK1, MEGF11
SP_PIR_KEYWORDS	cell membrane	28	0.0113	GRASP, CHL1
UP_SEQ_FEATURE	glycosylation site:O-linked (GalNAc...)	4	0.0113	CCL11, VWF, HBEGF, DLK1
GOTERM_BP_FAT	GO:0050821~protein stabilization	3	0.0117	SMO, STXBP1, APBB2
GOTERM_BP_FAT	GO:0044092~negative regulation of molecular function	6	0.0121	SMO, IRAK3, CDKN1A, HNF4A, NOS3, ANGPTL4
GOTERM_MF_FAT	GO:0030246~carbohydrate binding	9	0.0121	LMAN1L, FCER2A, CD93, HBEGF, VCAN, ADAMTS1, PTX3, FN1, CYR61

UP_SEQ_FEATURE	domain:TSP type-1 GO:0001568~blood vessel development	3	0.0127 WISP1, THSD1, CYR61
GOTERM_BP_FAT		8	0.0137 SMO, EGFL7, PLCD3, HBEGF, NOS3, PLXND1, ANGPT2, CYR61
INTERPRO	IPR003599:Immunoglobulin subtype	9	0.0138 FCER1A, PVRL3, SEMA7A, PECAM1, PDGFRL, VCAN, TREM1, TREM3, CHL1
SP_PIR_KEYWORDS	cell adhesion	10	0.0142 VWF, WISP1, CD93, ITGA5, PVRL3, PECAM1, PCDH7, CHL1, FN1, CYR61
GOTERM_CC_FAT	GO:0045121~membrane raft IPR000867:Insulin-like growth factor-binding protein, IGFBP	5	0.0144 FCER1A, TNFRSF1A, PECAM1, NOS3, LRRK2
INTERPRO		3	0.0153 WISP1, HTRA3, CYR61
GOTERM_BP_FAT	GO:0000902~cell morphogenesis	9	0.0153 DAB2, CCK, KIF5C, STXBP1, PIP5K1C, HGF, APBB2, CHL1, TGFB1
GOTERM_BP_FAT	GO:0001558~regulation of cell growth	5	0.0154 WISP1, HTRA3, APBB2, TGFB1, CYR61
GOTERM_BP_FAT	GO:0001944~vasculature development	8	0.0155 SMO, EGFL7, PLCD3, HBEGF, NOS3, PLXND1, ANGPT2, CYR61
SP_PIR_KEYWORDS	heparin-binding	4	0.0159 HBEGF, ADAMTS1, FN1, CYR61
UP_SEQ_FEATURE	domain:IGFBP N-terminal	3	0.0160 WISP1, HTRA3, CYR61
GOTERM_CC_FAT	GO:0045177~apical part of cell	6	0.0173 AQP5, NOS3, ANXA4, CHL1, MUC3, FN1
SMART	SM00214:VWC	4	0.0179 VWF, MUC2, WISP1, CYR61
KEGG_PATHWAY	mmu04060:Cytokine-cytokine receptor interaction	8	0.0182 CCL11, TNFRSF1A, CXCL14, IL4RA, CCL19, CXCR1, HGF, TGFB1
INTERPRO	IPR014716:Fibrinogen, alpha/beta/gamma chain, C-terminal globular, subdomain 1	3	0.0185 FGL2, ANGPT2, ANGPTL4
INTERPRO	IPR002073:3'-5'-cyclic nucleotide phosphodiesterase	3	0.0185 PDE1B, PDE2A, PDE4B
GOTERM_MF_FAT	GO:0005520~insulin-like growth factor binding	3	0.0190 WISP1, HTRA3, CYR61
GOTERM_BP_FAT	GO:0043062~extracellular structure organization	6	0.0195 MIA1, FBLN1, MMP9, APBB2, SERPINH1, CYR61
UP_SEQ_FEATURE	domain:PDZ	5	0.0199 CNKSR3, GIPC1, PARD6G, HTRA3, GRASP
INTERPRO	IPR016316:Complement component C1q/Thrombomodulin	2	0.0199 THBD, CD93
GOTERM_BP_FAT	GO:0002822~regulation of adaptive immune response based on somatic recombination of immune receptors built from immunoglobulin superfamily domains	4	0.0203 FCER1A, FCER2A, IL4RA, TGFB1
GOTERM_BP_FAT	GO:0002819~regulation of adaptive immune response	4	0.0203 FCER1A, FCER2A, IL4RA, TGFB1
GOTERM_BP_FAT	GO:0002684~positive regulation of immune system process	7	0.0205 FCER1A, FCER2A, IRAK3, CDKN1A, IL4RA, UNC93B1, TGFB1
GOTERM_BP_FAT	GO:0042404~thyroid hormone catabolic process	2	0.0206 DIO2, DIO3
INTERPRO	IPR000884:Thrombospondin, type 1 repeat	4	0.0213 WISP1, THSD1, ADAMTS1, CYR61
GOTERM_BP_FAT	GO:0042306~regulation of protein import into nucleus	3	0.0216 SMO, HNF4A, TGFB1
UP_SEQ_FEATURE	domain:Anaphylatoxin-like 1	2	0.0216 FBLN1, FBLN2
UP_SEQ_FEATURE	glycosylation site:N-linked (GlcNAc...); atypical	2	0.0216 VWF, DLK1
UP_SEQ_FEATURE	domain:Anaphylatoxin-like 2	2	0.0216 FBLN1, FBLN2
UP_SEQ_FEATURE	domain:Anaphylatoxin-like 3	2	0.0216 FBLN1, FBLN2
INTERPRO	IPR018029:C2 membrane targeting protein	5	0.0220 CPNE8, DYSF, PLCD3, SYTL3, CPNE2 TNFRSF22, FCER2A, SLC5A5, SLC20A1, GLDN, IL4RA, AQP5, CXCR1, PLVAP, DLK1, EPHB4, ST3GAL1, TNFRSF1A, DYSF, CD93, ST3GAL4, PVRL3, FUT2, ASPH, ANO6, ADAM9, FCER1A, GPR176, SLC10A6, LOC100047167, CSGALNACT1, SMO, THBD, THSD1, ITGA5, ATP2A3, DIO3, BACE2, PECAM1, ATP6V0A1,
UP_SEQ_FEATURE	topological domain:Cytoplasmic	42	0.0220 HBEGF, PLLP, HAS2, TREM1, TM4SF1, HTR2B, CHL1
PIR_SUPERFAMILY	PIRSF001775:thrombomodulin	2	0.0222 THBD, CD93
PIR_SUPERFAMILY	PIRSF001775:CD93/CD141	2	0.0222 THBD, CD93
GOTERM_MF_FAT	GO:0004114~3',5'-cyclic-nucleotide phosphodiesterase activity	3	0.0225 PDE1B, PDE2A, PDE4B
GOTERM_BP_FAT	GO:0007265~Ras protein signal transduction	4	0.0233 RHOJ, DOK1, PECAM1, ELMO1
SP_PIR_KEYWORDS	myristate	5	0.0237 RNF125, NCALD, HPCAL4, NOS3, RFTN1
INTERPRO	IPR003607:Metal-dependent phosphohydrolase, HD region	3	0.0239 PDE1B, PDE2A, PDE4B
SP_PIR_KEYWORDS	chemotaxis	4	0.0240 CCL11, CCL19, CXCR1, CYR61
UP_SEQ_FEATURE	domain:C2 1	4	0.0240 CPNE8, DYSF, SYTL3, CPNE2
UP_SEQ_FEATURE	domain:C2 2	4	0.0240 CPNE8, DYSF, SYTL3, CPNE2
GOTERM_MF_FAT	GO:0004112~cyclic-nucleotide phosphodiesterase activity	3	0.0242 PDE1B, PDE2A, PDE4B
GOTERM_MF_FAT	GO:0005539~glycosaminoglycan binding	5	0.0250 HBEGF, VCAN, ADAMTS1, FN1, CYR61

UP_SEQ_FEATURE	domain:EGF-like 6; calcium-binding	3	0.0256 FBLN1, THBD, FBLN2
SMART	SM00121:IB	3	0.0257 WISP1, HTRA3, CYR61
GOTERM_BP_FAT	GO:0007409~axonogenesis	6	0.0275 CCK, KIF5C, STXB1, PIP5K1C, APBB2, CHL1 TNFRSF22, FCER2A, SLC5A5, GLDN, SLC20A1, IL4RA, AQP5, CXCR1, PLVAP, DLK1, EPHB4, TNFRSF1A, DYSF, CD93, PVRL3, ANO6, ADAM9, FCER1A, GPR176, SLC10A6, SMO, THBD, THSD1, ITGA5, DIO3,
UP_SEQ_FEATURE	topological domain:Extracellular lipid moiety-binding region:N-myristoyl	34	0.0278 BACE2, PECAM1, HBEGF, PLLP, HAS2, TREM1, TM4SF1, HTR2B, CHL1
UP_SEQ_FEATURE	glycine	5	0.0284 RNF125, NCALD, HPCAL4, NOS3, RFTN1
GOTERM_MF_FAT	GO:0004800~thyroxine 5'-deiodinase activity	2	0.0288 DIO2, DIO3
INTERPRO	IPR008261:Iodothyronine deiodinase, active site	2	0.0298 DIO2, DIO3
INTERPRO	IPR006614:Dysferlin, C-terminal	2	0.0298 DYSF, TECPR1
INTERPRO	IPR006613:Dysferlin, N-terminal	2	0.0298 DYSF, TECPR1
INTERPRO	IPR000643:Iodothyronine deiodinase	2	0.0298 DIO2, DIO3
GOTERM_BP_FAT	GO:0009310~amine catabolic process	4	0.0299 BCAT1, DIO2, DIO3, HDC
GOTERM_BP_FAT	GO:0032989~cellular component morphogenesis	9	0.0300 DAB2, CCK, KIF5C, STXB1, PIP5K1C, HGF, APBB2, CHL1, TGFB1
GOTERM_BP_FAT	GO:0007155~cell adhesion	12	0.0318 MIA1, VWF, WISP1, CD93, ITGA5, PVRL3, PECAM1, VCAN, PCDH7, CHL1, FN1, CYR61
INTERPRO	IPR002181:Fibrinogen, alpha/beta/gamma chain, C-terminal globular	3	0.0318 FGL2, ANGPT2, ANGPTL4
GOTERM_BP_FAT	GO:0022610~biological adhesion	12	0.0321 MIA1, VWF, WISP1, CD93, ITGA5, PVRL3, PECAM1, VCAN, PCDH7, CHL1, FN1, CYR61
SP_PIR_KEYWORDS	cleavage on pair of basic residues	7	0.0323 GCG, VWF, CCK, ITGA5, IGF2, ADAMTS1, TGFB1
GOTERM_MF_FAT	GO:0008081~phosphoric diester hydrolase activity	4	0.0328 PDE1B, PDE2A, PDE4B, PLCD3
PIR_SUPERFAMILY	PIRSF001330:iodothyronine deiodinase	2	0.0332 DIO2, DIO3
GOTERM_BP_FAT	GO:0009101~glycoprotein biosynthetic process	5	0.0335 ST3GAL1, CSGALNACT1, ST3GAL4, FUT2, LOC100047167
SP_PIR_KEYWORDS	lipoprotein	12	0.0342 RNF125, RHOJ, RAB8B, CD177, NCALD, LY6F, SEMA7A, HPCAL4, NOS3, RFTN1, RGS16, HTR2B
UP_SEQ_FEATURE	domain:Fibrinogen C-terminal	3	0.0345 FGL2, ANGPT2, ANGPTL4
GOTERM_MF_FAT	GO:0008047~enzyme activator activity	7	0.0345 FBLN1, RAP1GAP, RANBP1, GIPC1, RGS16, LRRK2, FN1
GOTERM_BP_FAT	GO:0048812~neuron projection morphogenesis	6	0.0365 CCK, KIF5C, STXB1, PIP5K1C, APBB2, CHL1
GOTERM_BP_FAT	GO:0006928~cell motion	9	0.0375 SMO, CCK, KIF5C, HBEGF, GIPC1, APBB2, CHL1, TGFB1, ELMO1
SP_PIR_KEYWORDS	gtp-binding	8	0.0377 RHOJ, ADSSL1, RASL11A, RAB8B, TUBB6, TUBA1A, LRRK2, MOCS1
GOTERM_BP_FAT	GO:0044271~nitrogen compound biosynthetic process	8	0.0380 BCAT1, DCTD, ADSSL1, ATP2A3, HDC, ATP6V0A1, NOS3, MOCS1
GOTERM_MF_FAT	GO:0047238~glucuronosyl-N-acetylgalactosaminyl-proteoglycan 4-beta-N-acetylgalactosaminyltransferase activity	2	0.0383 CSGALNACT1, LOC100047167
SP_PIR_KEYWORDS	growth factor	5	0.0384 MIA1, HBEGF, IGF2, HGF, TGFB1
GOTERM_BP_FAT	GO:0017015~regulation of transforming growth factor beta receptor signaling pathway	3	0.0385 D0H4S114, GIPC1, ZEB1
GOTERM_BP_FAT	GO:0002712~regulation of B cell mediated immunity	3	0.0385 FCER1A, FCER2A, TGFB1
GOTERM_BP_FAT	GO:0002889~regulation of immunoglobulin mediated immune response	3	0.0385 FCER1A, FCER2A, TGFB1
GOTERM_BP_FAT	GO:0033157~regulation of intracellular protein transport	3	0.0385 SMO, HNF4A, TGFB1
GOTERM_BP_FAT	GO:0016477~cell migration	7	0.0391 SMO, CCK, HBEGF, GIPC1, APBB2, CHL1, TGFB1
SMART	SM00694:DysFC	2	0.0392 DYSF, TECPR1
SMART	SM00693:DysFN	2	0.0392 DYSF, TECPR1
INTERPRO	IPR012395:IGFBP-related, CNN	2	0.0395 WISP1, CYR61
SMART	SM00471:Hdc	3	0.0398 PDE1B, PDE2A, PDE4B
GOTERM_BP_FAT	GO:0048667~cell morphogenesis involved in neuron differentiation	6	0.0411 CCK, KIF5C, STXB1, PIP5K1C, APBB2, CHL1
GOTERM_BP_FAT	GO:0051101~regulation of DNA binding	4	0.0416 SMO, IRAK3, HNF4A, TGFB1
UP_SEQ_FEATURE	domain:EGF-like 5; calcium-binding	3	0.0418 FBLN1, CD93, FBLN2
INTERPRO	IPR000008:C2 calcium-dependent membrane targeting	5	0.0419 CPNE8, DYSF, PLCD3, SYTL3, CPNE2
UP_SEQ_FEATURE	domain:Fibronectin type-II 1	2	0.0427 MMP9, FN1
UP_SEQ_FEATURE	domain:Fibronectin type-II 2	2	0.0427 MMP9, FN1
INTERPRO	IPR011497:Protease inhibitor, Kazal-type	3	0.0430 SPARCL1, HTRA3, SLC02A1

SMART	SM00209:TSP1	4	0.0432	WISP1, THSD1, ADAMTS1, CYR61
GOTERM_BP_FAT	GO:0034330~cell junction organization GO:0042176~regulation of protein catabolic process	3	0.0433	HNF4A, ITGA5, FN1
GOTERM_BP_FAT	PIRSF036495:IGFBP-related protein, CNN type	3	0.0433	IRAK3, GIPC1, ADAM9
PIR_SUPERFAMILY	PIRSF036495:IGFBP_rP_CNN	2	0.0440	WISP1, CYR61
PIR_SUPERFAMILY	GO:0008201~heparin binding	2	0.0440	WISP1, CYR61
GOTERM_MF_FAT		4	0.0469	HBEGF, ADAMTS1, FN1, CYR61
UP_SEQ_FEATURE	domain:EGF-like 4; calcium-binding	3	0.0470	FBLN1, CD93, FBLN2
GOTERM_MF_FAT	GO:0019863~IgE binding	2	0.0476	FCER1A, FCER2A
GOTERM_MF_FAT	GO:0008083~growth factor activity	5	0.0485	MIA1, HBEGF, IGF2, HGF, TGFBI
SP_PIR_KEYWORDS	Thyroid hormones biosynthesis	2	0.0489	DIO2, DIO3
SP_PIR_KEYWORDS	ige-binding protein	2	0.0489	FCER1A, FCER2A
SP_PIR_KEYWORDS	phosphoprotein	75	0.0489	RHOJ, SLC5A5, SLC20A1, PIP5K1C, ZEB1, MAP3K6, DAB2, D0H4S114, DYSF, CD93, HDC, TUBB6, RANBP1, NOS3, ASPH, TUBA1A, TTC39B, ADAM9, PID1, FMNL2, SPARCL1, KIF5C, STXB1, RFTN1, FLNC, FAM123A, ELMO1, SMO, DOK1, THBD, HNF4A, PLLP, BIN1, FAIM2, GRASP, CHL1, TSHZ3, ALDOC, CREM, IL4RA, UNC93B1, EPHB4, LOC100046025, IRAK3, PDE1B, PVRL3, PLCD3, PLEKHO2, SNX24, NDRG2, EHD3, FN1, CPNE8, DCTD, MUC2, NES, 9930013L23RIK, ADSSL1, RAB8B, CNKSR3, FSCN1, TECPR1,
SP_PIR_KEYWORDS	glycosyltransferase	6	0.0498	RGS16, DOCK6, ANXA4, CDKN1A, PDE2A, PYGL, ATP2A3, PECAM1, ATP6V0A1, GRK5, SYTL3, CP, APBB2, ST3GAL1, ST3GAL4, PYGL, UGCG, HAS2, FUT2

PTEN Loss Up ERG Down

Category	Term	Count	P-Value	Genes
GOTERM_BP_FAT	GO:0060429~epithelium development	9	0.0025	COBL, WNT4, EVPL, ELF3, SPRR1A, LMO4, SIX1, KRT4, CAR2 MUG1, CADM1, ADCY8, FAM3B, F2RL1, CXADR, WNT4, ST3GAL5, LRRC52, TREH, TRPV6, CD200R3, GOLM1, UGT8A, CLCA3, SLC22A23, TIMD2, IGFALS, CERCAM, CWH43, CHST8, EMP2, PAMR1, PSAPL1, IGSF11, FNDC5, MSLN, ITGB6, ENTPD8, ABCD3, CLEC2E, SLC39A4, HGFAC, FAM55D, GABRP, MUC1, HAVCR1, MUC20, OPN1MW, FZD5, SECTM1B, TNFSF10, TMEM117, P2RX6, TFRC, CDON, SLC5A9, LIPH,
SP_PIR_KEYWORDS	glycoprotein mmu00980:Metabolism of xenobiotics	49	0.0026	GM7298, UTS2R
KEGG_PATHWAY	by cytochrome P450 GO:0030855~epithelial cell differentiation	5	0.0035	MGST3, CYP2F2, UGT2B34, CYP2B10, GSTM6
GOTERM_BP_FAT		6	0.0043	WNT4, EVPL, ELF3, SPRR1A, SIX1, KRT4 MUG1, CADM1, ADCY8, FAM3B, F2RL1, CXADR, WNT4, ST3GAL5, LRRC52, TREH, TRPV6, CD200R3, GOLM1, UGT8A, CLCA3, SLC22A23, TIMD2, IGFALS, CERCAM, CWH43, CHST8, EMP2, PAMR1, PSAPL1, IGSF11, FNDC5, MSLN, ITGB6, ENTPD8, ABCD3, CLEC2E, SLC39A4, HGFAC, FAM55D, GABRP, MUC1, HAVCR1, MUC20, OPN1MW, FZD5, SECTM1B, TNFSF10, TMEM117, P2RX6, TFRC, CDON, SLC5A9, LIPH,
UP_SEQ_FEATURE	glycosylation site:N-linked (GlcNAc...)	49	0.0048	GM7298, UTS2R CADM1, ADCY8, F2RL1, RNF186, CXADR, ANK, ST3GAL5, KCNK5, LRRC52, TRPV6, TREH, CD200R3, GOLM1, PGAP2, UGT8A, NOXA1, TIMD2, SLC22A23, MPP6, BCL2L13, CYP2B10, SLC26A4, CWH43, NAPEPLD, FER1L4, CHST8, PPM1L, SLC27A2, EMP2, STEAP1, BID, CYP2F2, IGSF11, FNDC5, CKMT1, ITGB6, MSLN, ENTPD8, ABCD3, CLEC2E, SLC39A4, GABRP, MUC1, HAVCR1, OPN1MW, MUC20, KKR9, RGNF, SECTM1B, CLDN10A, FZD5, RGS9BP, GJB2, MGST3, ADI1, TMEM117, TNFSF10, P2RX6, TFRC,
SP_PIR_KEYWORDS	membrane	66	0.0074	AU042651, CDON, LIPH, SLC5A9, UTS2R, PLA2G4B, PDZK1
SP_PIR_KEYWORDS	peroxisome	5	0.0114	FNDC5, NUDT19, ABCD3, SLC27A2, DDO
GOTERM_CC_FAT	GO:0005777~peroxisome	5	0.0159	FNDC5, NUDT19, ABCD3, SLC27A2, DDO
GOTERM_CC_FAT	GO:0042579~microbody	5	0.0159	FNDC5, NUDT19, ABCD3, SLC27A2, DDO
UP_SEQ_FEATURE	domain:Ig-like V-type	5	0.0192	IGSF11, HAVCR1, CADM1, TIMD2, CD200R3 CADM1, F2RL1, CXADR, ANK, IGSF11, FNDC5, ITGB6, ENTPD8, LRRC52, CLEC2E, TRPV6, SLC39A4, CD200R3, GABRP, MUC1, HAVCR1, TIMD2, OPN1MW, SECTM1B, FZD5, CLDN10A, RGS9BP, GJB2,
UP_SEQ_FEATURE	topological domain:Extracellular	32	0.0192	SLC26A4, TNFSF10, P2RX6, TFRC, CDON, FER1L4, SLC5A9, PPM1L, UTS2R
UP_SEQ_FEATURE	region of interest:Rod-like helical tail	2	0.0195	KRT19, KRT23
GOTERM_CC_FAT	GO:0005911~cell-cell junction	6	0.0224	EVPL, CADM1, CGN, CXADR, CLDN10A, GJB2
UP_SEQ_FEATURE	region of interest:Head	4	0.0280	KRT19, CGN, KRT4, KRT23
KEGG_PATHWAY	mmu00982:Drug metabolism	4	0.0346	MGST3, UGT2B34, CYP2B10, GSTM6
GOTERM_CC_FAT	GO:0005903~brush border	3	0.0416	SLC9A2, TREH, PDZK1 CADM1, ADCY8, F2RL1, CXADR, IGSF11, ANK, FNDC5, ST3GAL5, ITGB6, ENTPD8, LRRC52, CLEC2E, TRPV6, SLC39A4, CD200R3, GOLM1, GABRP, MUC1, HAVCR1, TIMD2, OPN1MW, SECTM1B, FZD5, CLDN10A, RGS9BP, GJB2, SLC26A4, TNFSF10, P2RX6, TFRC, FER1L4, CDON, CHST8, SLC5A9, PPM1L,
UP_SEQ_FEATURE	topological domain:Cytoplasmic	37	0.0437	UTS2R, SLC27A2
GOTERM_BP_FAT	GO:0006811~ion transport mmu00500:Starch and sucrose metabolism	12	0.0452	SLC26A4, ANK, P2RX6, CLCA3, SLC22A23, KCNK5, SLC9A2, SLC5A9, TRPV6, SLC39A4, STEAP1, GABRP
KEGG_PATHWAY		3	0.0462	UGT2B34, TREH, PYGB
KEGG_PATHWAY	mmu04210:Apoptosis	4	0.0502	BID, IRAK4, PRKAR2B, TNFSF10
GOTERM_BP_FAT	GO:0016202~regulation of striated muscle tissue development	3	0.0514	CDON, CXADR, HDAC9
INTERPRO	IPR007125:Histone core	3	0.0519	HIST1H4A, HIST1H2BE, HIST1H2BG, HIST1H4F, HIST1H4I, HIST1H3F
GOTERM_BP_FAT	GO:0048634~regulation of muscle development	3	0.0536	CDON, CXADR, HDAC9

GOTERM_BP_FAT	GO:0007155~cell adhesion	10	0.0553	IGSF11, BARX2, CADM1, CDON, MSLN, ITGB6, IGFALS, CXADR, CLDN10A, CERCAM
GOTERM_BP_FAT	GO:0022610~biological adhesion	10	0.0558	IGSF11, BARX2, CADM1, CDON, MSLN, ITGB6, IGFALS, CXADR, CLDN10A, CERCAM
SP_PIR_KEYWORDS	Secreted	20	0.0566	MUG1, ACRBP, CLCA3, TUFT1, FAM3B, PAMR1, MUC20, PGLYRP1, IGFALS, PSAPL1, SECTM1B, DNASE1L2, CXADR, LOC100047816, WNT4, MSLN, LIPH, TFF3, GM7298, PYY, HGFC, FAM55D
INTERPRO	IPR003599:Immunoglobulin subtype	7	0.0568	IGSF11, HAVCR1, CADM1, CDON, TIMD2, CXADR, SECTM1B
GOTERM_BP_FAT	GO:0006323~DNA packaging	4	0.0577	HIST1H4A, HIST1H2BE, HIST1H2BG, MUC20, HIST1H4F, HIST1H4I, HIST1H3F
SP_PIR_KEYWORDS	signal	36	0.0583	MUG1, CADM1, FAM3B, PAMR1, F2RL1, PGLYRP1, PSAPL1, CXADR, DNASE1L2, LOC100047816, IGSF11, FNDC5, WNT4, MSLN, ITGB6, LRRC52, TFF3, TREH, SLC39A4, HGFC, CD200R3, GABRP, FAM55D, MUC1, ACRBP, HAVCR1, CLCA3, UGT8A, TIMD2, MUC20, IGFALS, CERCAM, SECTM1B, FZD5, CDON, LIPH, GM7298, PYY
INTERPRO	IPR015394:Region of unknown function DUF1973	2	0.0595	CLCA4, CLCA3
INTERPRO	IPR004727:Calcium-activated chloride channel protein	2	0.0595	CLCA4, CLCA3
SP_PIR_KEYWORDS	ion transport	10	0.0596	P2RX6, CLCA3, SLC22A23, KCNK5, SLC9A2, SLC5A9, TRPV6, SLC39A4, STEAP1, GABRP
SP_PIR_KEYWORDS	cell membrane	23	0.0604	MUC1, CADM1, NOXA1, TIMD2, MUC20, F2RL1, RGNF, SECTM1B, FZD5, CLDN10A, CXADR, GJB2, ADI1, IGSF11, TFRC, ENTPD8, MSLN, UTS2R, CLEC2E, TREH, TRPV6, SLC39A4, GABRP
SP_PIR_KEYWORDS	nucleosome core	3	0.0604	HIST1H4A, HIST1H2BE, HIST1H2BG, HIST1H4F, HIST1H4I, HIST1H3F
GOTERM_BP_FAT	GO:0002009~morphogenesis of an epithelium	5	0.0639	COBL, WNT4, LMO4, SIX1, CAR2
GOTERM_CC_FAT	GO:0016324~apical plasma membrane	4	0.0643	SLC26A4, MUC1, MUC20, SLC39A4
GOTERM_CC_FAT	GO:0043296~apical junction complex	4	0.0675	EVPL, CGN, CXADR, CLDN10A
INTERPRO	IPR013642:Chloride channel calcium-activated	2	0.0677	CLCA4, CLCA3
UP_SEQ_FEATURE	transmembrane region	50	0.0683	CADM1, ADCY8, F2RL1, RNF186, CXADR, ANK, ST3GAL5, LRRC52, TRPV6, CD200R3, GOLM1, PGAP2, UGT8A, TIMD2, SLC22A23, BCL2L13, CWH43, SLC26A4, FER1L4, CHST8, PPM1L, EMP2, SLC27A2, STEAP1, IGSF11, FNDC5, ITGB6, ENTPD8, ABCD3, CLEC2E, SLC39A4, GABRP, MUC1, HAVCR1, OPN1MW, XKR9, CLDN10A, FZD5, SECTM1B, RGS9BP, GJB2, MGST3, TNFSF10, TMEM117, P2RX6, TFRC, AU042651, CDON, SLC5A9, UTS2R
UP_SEQ_FEATURE	short sequence motif:Microbody targeting signal	3	0.0691	FNDC5, NUDT19, DDO
GOTERM_CC_FAT	GO:0016327~apicolateral plasma membrane	4	0.0707	EVPL, CGN, CXADR, CLDN10A
SMART	SM00409:IG	7	0.0711	IGSF11, HAVCR1, CADM1, CDON, TIMD2, CXADR, SECTM1B
GOTERM_BP_FAT	GO:0060562~epithelial tube morphogenesis	4	0.0722	COBL, WNT4, LMO4, SIX1
INTERPRO	IPR004865:Sp100	2	0.0759	CSPRS, C130026121RIK
GOTERM_CC_FAT	GO:0005886~plasma membrane	35	0.0768	CADM1, F2RL1, CXADR, IGSF11, ANK, MSLN, ITGB6, ENTPD8, CLEC2E, TRPV6, TREH, SLC39A4, CD200R3, GABRP, MUC1, NOXA1, TIMD2, MUC20, MPP6, RGNF, SECTM1B, FZD5, CLDN10A, GJB2, ADI1, SLC26A4, KRT19, P2RX6, EVPL, TFRC, CGN, CDON, UTS2R, PDZK1, PLA2G4B
GOTERM_BP_FAT	GO:0006470~protein amino acid dephosphorylation	4	0.0769	DUSP4, DUSP10, PTPN14, PPM1L
GOTERM_MF_FAT	GO:0016765~transferase activity, transferring alkyl or aryl (other than methyl) groups	3	0.0769	MGST3, MAT2A, GSTM6
GOTERM_BP_FAT	GO:0001838~embryonic epithelial tube formation	3	0.0799	COBL, WNT4, LMO4
GOTERM_CC_FAT	GO:0005792~microsome	5	0.0811	MGST3, CYP2F2, IGFALS, CYP2B10, SLC27A2
GOTERM_BP_FAT	GO:0042692~muscle cell differentiation	4	0.0817	WNT4, BARX2, CDON, CXADR
INTERPRO	IPR008343:MAP kinase phosphatase	2	0.0839	DUSP4, DUSP10
GOTERM_BP_FAT	GO:0044242~cellular lipid catabolic process	3	0.0851	NAPEPLD, SLC27A2, PLA2G4B
GOTERM_CC_FAT	GO:0042598~vesicular fraction	5	0.0891	MGST3, CYP2F2, IGFALS, CYP2B10, SLC27A2
GOTERM_MF_FAT	GO:0016782~transferase activity, transferring sulfur-containing groups	3	0.0898	OXCT1, CHST8, SULT1C2
GOTERM_MF_FAT	GO:0016811~hydrolase activity, acting on carbon-nitrogen (but not peptide) bonds, in linear amides	3	0.0898	ASPA, PGLYRP1, HDAC9
INTERPRO	IPR007677:DFNA5 protein	2	0.0919	GSDMC2, GSDMC3
GOTERM_MF_FAT	GO:0019887~protein kinase regulator activity	3	0.0924	PRKAR2B, FGF13, PKIA
GOTERM_CC_FAT	GO:0005576~extracellular region	22	0.0929	MUG1, ACRBP, CLCA3, TUFT1, FAM3B, MUC20, PAMR1, PGLYRP1, IGFALS, PSAPL1, SECTM1B, DNASE1L2, CXADR, LOC100047816, WNT4, TNFSF10, MSLN, LIPH, TFF3, GM7298, PYY, APOL7A, HGFC, FAM55D
GOTERM_BP_FAT	GO:0035148~tube lumen formation	3	0.0930	COBL, WNT4, LMO4
PIR_SUPERFAMILY	PIRSF002282:cytoskeletal keratin	3	0.0934	KRT19, KRT4, KRT23
SP_PIR_KEYWORDS	protein phosphatase	4	0.0959	DUSP4, DUSP10, PTPN14, PPM1L
UP_SEQ_FEATURE	domain:Tyrosine-protein phosphatase	3	0.0982	DUSP4, DUSP10, PTPN14

GOTERM_MF_FAT	GO:0017017~MAP kinase tyrosine/serine/threonine phosphatase activity	2	0.0991	DUSP4, DUSP10
GOTERM_MF_FAT INTERPRO	GO:0033549~MAP kinase phosphatase activity IPR009072:Histone-fold	2 3	0.0991 0.0992	DUSP4, DUSP10 HIST1H4A, HIST1H2BE, HIST1H2BG, HIST1H4F, HIST1H4I, HIST1H3F
GOTERM_BP_FAT	GO:0014902~myotube differentiation	2	0.0994	BARX2, CDON

PTEN Loss Up ERG Up

Category	Term	Count	P-Value	Genes
SP_PIR_KEYWORDS	disulfide bond	62	0.0000	INSL3, OSMR, LOC100044702, CXCR2, FSTL1, REG3B, LOC100048770, CD47, CD44, CXCR4, SEMA3F, TGFB1, CSF3R, CLEC4D, REG3G, NAPSA, SIRPA, CLEC4N, OSM, IGHG, INHBA, CCR5, DARC, BACE2, LILRB4, H2-AA, SLPI, CAR9, ADAMTS4, TNFRSF22, CXCL1, ADORA2B, CSF2RB2, TNC, LRIG1, FPR2, CCL7, CCL6, GP49A, LOC641240, TNFRSF18, THBS2, SRGN, LY6C1, PLAT, SELP, LY2Z, BMP1, CFB, CHI3L1, H2-AB1, IGH-6, HGF, EMILIN2, FCGR3, TMRSS4, FBLN1, GPR35, FCGR2B, H2-EB1, CXCL15, CHRN1, CP, PRSS22
UP_SEQ_FEATURE	disulfide bond	62	0.0000	INSL3, OSMR, LOC100044702, CXCR2, FSTL1, REG3B, LOC100048770, CD47, CD44, CXCR4, SEMA3F, TGFB1, CSF3R, CLEC4D, REG3G, NAPSA, SIRPA, CLEC4N, OSM, IGHG, INHBA, CCR5, DARC, BACE2, LILRB4, H2-AA, SLPI, CAR9, ADAMTS4, TNFRSF22, CXCL1, ADORA2B, CSF2RB2, TNC, LRIG1, FPR2, CCL7, CCL6, GP49A, LOC641240, TNFRSF18, THBS2, SRGN, LY6C1, PLAT, SELP, LY2Z, BMP1, CFB, CHI3L1, H2-AB1, IGH-6, HGF, EMILIN2, FCGR3, TMRSS4, FBLN1, GPR35, FCGR2B, H2-EB1, CXCL15, CHRN1, CP, PRSS22
SP_PIR_KEYWORDS	glycoprotein	71	0.0000	IER3, OSMR, CXCR2, FSTL1, CD53, LOC100048770, CD47, CD44, CXCR4, CH25H, SEMA3F, CSF3R, NIPAL1, CLEC4D, PILRA, BST2, GPR171, NAPSA, SIRPA, CLEC4N, OSM, IGHG, INHBA, CCR5, DARC, BACE2, LILRB4, H2-AA, CAR9, ADAMTS4, TNFRSF22, ADORA2B, CSF2RB2, TNC, LRIG1, FPR2, FXYS, GPRC5A, CCL7, SLC11A1, GLYCAM1, GP49A, LOC641240, TNFRSF18, FUT4, THBS2, QSOX1, SRGN, SPP1, LY6C1, PLAT, LMAN1L, SELP, BMP1, CFB, CHI3L1, CCDC80, H2-AB1, IGH-6, HGF, EMILIN2, FCGR3, TMRSS4, FBLN1, GPR35, SULF2, FCGR2B, H2-EB1, GPR114, CHRN1, CP, PRSS22, SLC15A3
GOTERM_BP_FAT	GO:0006954~inflammatory response	19	0.0000	CD44, DARC, SAA1, CXCL15, IL1B, REG3G
GOTERM_BP_FAT	GO:0006955~immune response	25	0.0000	CXCL1, LOC100044702, CCL7, CCL6, LOC100048770, SLC11A1, CD47, TMEM173, GP49A, LOC641240, IL1B, H2-T10, CLEC4D, CIITA, CFB, H2-AB1, IGH-6, CLEC4N, FCGR3, OSM, IGHG, FCGR2B, CCR5, LILRB4, CXCL15, H2-EB1, H2-AA
SP_PIR_KEYWORDS	signal	60	0.0000	INSL3, OSMR, LOC100044702, FSTL1, LOC100048770, REG3B, CD47, CD44, SAA1, SEMA3F, TGFB1, CSF3R, REG3G, PILRA, SAA3, NAPSA, SIRPA, OSM, INHBA, BACE2, LILRB4, H2-AA, SLPI, CAR9, ADAMTS4, CXCL1, CSF2RB2, TNC, LRIG1, FXYS, CCL7, CCL6, GLYCAM1, GP49A, LOC641240, TNFRSF18, QSOX1, THBS2, SRGN, SPP1, LY6C1, PLAT, SELP, LMAN1L, LY2Z, BMP1, CFB, CHI3L1, CCDC80, H2-AB1, HGF, EMILIN2, FCGR3, FBLN1, FCGR2B, SULF2, H2-EB1, CXCL15, GPR114, CHRN1, CP, PRSS22
UP_SEQ_FEATURE	glycosylation site:N-linked (GlcNac...)	67	0.0000	IER3, OSMR, CXCR2, FSTL1, CD53, LOC100048770, CD47, CD44, CXCR4, CH25H, SEMA3F, CSF3R, NIPAL1, CLEC4D, PILRA, BST2, GPR171, NAPSA, SIRPA, CLEC4N, OSM, IGHG, INHBA, DARC, BACE2, LILRB4, H2-AA, CAR9, ADAMTS4, TNFRSF22, ADORA2B, CSF2RB2, TNC, LRIG1, FPR2, GPRC5A, CCL7, SLC11A1, GLYCAM1, GP49A, LOC641240, TNFRSF18, FUT4, THBS2, QSOX1, SPP1, PLAT, SELP, LMAN1L, BMP1, CFB, CHI3L1, CCDC80, H2-AB1, IGH-6, HGF, EMILIN2, FCGR3, TMRSS4, FBLN1, GPR35, SULF2, FCGR2B, H2-EB1, GPR114, CHRN1, CP, PRSS22, SLC15A3
UP_SEQ_FEATURE	signal peptide	60	0.0000	INSL3, OSMR, LOC100044702, FSTL1, LOC100048770, REG3B, CD47, CD44, SAA1, SEMA3F, TGFB1, CSF3R, REG3G, PILRA, SAA3, NAPSA, SIRPA, OSM, INHBA, BACE2, LILRB4, H2-AA, SLPI, CAR9, ADAMTS4, CXCL1, CSF2RB2, TNC, LRIG1, FXYS, CCL7, CCL6, GLYCAM1, GP49A, LOC641240, TNFRSF18, QSOX1, THBS2, SRGN, SPP1, LY6C1, PLAT, SELP, LMAN1L, LY2Z, BMP1, CFB, CHI3L1, CCDC80, H2-AB1, HGF, EMILIN2, FCGR3, FBLN1, FCGR2B, SULF2, H2-EB1, CXCL15, GPR114, CHRN1, CP, PRSS22
GOTERM_BP_FAT	GO:0006952~defense response	23	0.0000	CIITA, CXCL1, SELP, LY2Z, CFB, LOC100044702, SAA3, CCL7, FCGR3, REG3B, IGHG, SLC11A1, TMEM173, HIF1A, FCGR2B, CCR5, CD44, DARC, SAA1, CXCL15, IL1B, H2-AA, REG3G
GOTERM_BP_FAT	GO:0009611~response to wounding	20	0.0000	CCR5, CD44, DARC, SAA1, CXCL15, IL1B, REG3G
GOTERM_BP_FAT	GO:0006935~chemotaxis	13	0.0000	S100A8, S100A9, LOC100044702, CXCR2, FPR2, CCL7, CCL6, FCGR3, CORO1A, SEMA3F, CXCL15, CSF3R, IL1B
GOTERM_BP_FAT	GO:0042330~taxis	13	0.0000	S100A8, S100A9, LOC100044702, CXCR2, FPR2, CCL7, CCL6, FCGR3, CORO1A, SEMA3F, CXCL15, CSF3R, IL1B
SP_PIR_KEYWORDS	Secreted	36	0.0000	CXCL1, TNFRSF22, INSL3, S100A8, TNC, S100A9, LOC100044702, FSTL1, CCL7, CCL6, REG3B, SAA1, SEMA3F, TGFB1, TNFRSF18, IL1B, REG3G, QSOX1, SRGN, SPP1, PLAT, CFB, CHI3L1, CCDC80, SAA3, IGH-6, EMILIN2, OSM, INHBA, IGHG, FBLN1, FCGR2B, CXCL15, SLPI, CP, ADAMTS4
GOTERM_CC_FAT	GO:0044421~extracellular region part	26	0.0000	CXCL1, TNC, LOC100044702, CCL7, CCL6, LOC100048770, SAA1, TGFB1, IL1B, QSOX1, SRGN, SPP1, PLAT, BMP1, CCDC80, SAA3, CHI3L1, IGH-6, EMILIN2, OSM, IGHG, FBLN1, SULF2, CXCL15, CP, ADAMTS4
GOTERM_CC_FAT	GO:0005576~extracellular region	39	0.0000	TNFRSF22, CXCL1, INSL3, TNC, LOC100044702, FSTL1, CCL7, CCL6, LOC100048770, REG3B, SAA1, SEMA3F, TGFB1, TNFRSF18, IL1B, REG3G, CASP1, QSOX1, THBS2, SRGN, SPP1, PLAT, BMP1, CFB, CHI3L1, SAA3, CCDC80, IGH-6, EMILIN2, OSM, INHBA, IGHG, FBLN1, FCGR2B, SULF2, CXCL15, SLPI, CP, ADAMTS4
GOTERM_CC_FAT	GO:0005615~extracellular space	21	0.0000	CXCL1, PLAT, BMP1, LOC100044702, SAA3, CHI3L1, IGH-6, CCL7, CCL6, OSM, LOC100048770, IGHG, SULF2, SAA1, TGFB1, CXCL15, IL1B, CP, QSOX1, SRGN, SPP1

KEGG_PATHWAY	mmu04060:Cytokine-cytokine receptor interaction	16	0.0000 CXCL1, OSMR, CSF2RB2, LOC100044702, CXCR2, HGF, CCL7, CCL6, OSM, INHBA, CCR5, CXCR4, CXCL15, TNFRSF18, CSF3R, IL1B
UP_SEQ_FEATURE	topological domain:Extracellular GO:0045807~positive regulation of endocytosis	43	0.0000 TNFRSF22, IER3, ADORA2B, CSF2RB2, OSMR, LRIG1, CXCR2, FPR2, CD53, FXYD5, GPRC5A, CD47, SLC11A1, TMEM173, CD44, CXCR4, GP49A, LOC641240, TNFRSF18, CSF3R, NIPAL1, MS4A8A, CLEC4D, PILRA, SELP, BST2, MS4A6D, TMC5, GPR171, H2-AB1, SIRPA, CLEC4N, FCGR3, TMPRSS4, GPR35, CCR5, FCGR2B, DARC, BACE2, H2-EB1, LILRB4, GPR114, H2-AA, CAR9, CHRN1
GOTERM_BP_FAT	GO:0007626~locomotory behavior	13	0.0000 IL1B
GOTERM_BP_FAT	GO:0050766~positive regulation of phagocytosis	6	0.0000 IGHG, SLC11A1, CD47, FCGR2B, SIRPA, FCGR3
GOTERM_BP_FAT	GO:0050900~leukocyte migration	7	0.0000 S100A8, CXCL15, LOC100044702, S100A9, CXCR2, FPR2, CCL7, CCL6, S100A8, S100A9, LOC100044702, CXCR2, FPR2, CCL7, CCL6, FCGR3, CORO1A, SEMA3F, CXCL15, CSF3R, IL1B
GOTERM_BP_FAT	GO:0050764~regulation of phagocytosis	6	0.0000 IGHG, SLC11A1, CD47, FCGR2B, SIRPA, FCGR3
GOTERM_BP_FAT	GO:0030595~leukocyte chemotaxis	6	0.0000 CORO1A, CXCL15, S100A9, IL1B, CSF3R, FCGR3
GOTERM_BP_FAT	GO:0060326~cell chemotaxis	6	0.0000 CORO1A, CXCL15, S100A9, IL1B, CSF3R, FCGR3
GOTERM_BP_FAT	GO:0002449~lymphocyte mediated immunity	8	0.0000 LOC100048770, IGHG, SLC11A1, FCGR2B, CFB, H2-AA, IGH-6, FCGR3
UP_SEQ_FEATURE	topological domain:Cytoplasmic	46	0.0000 TNFRSF22, IER3, ADORA2B, CSF2RB2, OSMR, LRIG1, CXCR2, FPR2, CD53, FXYD5, GPRC5A, CD47, SLC11A1, TMEM173, CD44, CXCR4, GP49A, LOC641240, TNFRSF18, CSF3R, FUT4, NIPAL1, MS4A8A, CLEC4D, PILRA, SELP, BST2, MS4A6D, TMC5, GPR171, H2-AB1, SIRPA, CLEC4N, FCGR3, TMPRSS4, IGHG, GPR35, CCR5, FCGR2B, ATP2A3, DARC, BACE2, H2-EB1, LILRB4, GPR114, H2-AA, CAR9, CHRN1
INTERPRO	IPR003597:Immunoglobulin C1-set	8	0.0000 LOC100048770, IGHG, LOC641240, H2-EB1, H2-AA, H2-T10, H2-AB1, IGH-6, SIRPA
GOTERM_BP_FAT	GO:0030100~regulation of endocytosis	7	0.0000 IGHG, SLC11A1, CD47, FCGR2B, IGH-6, SIRPA, FCGR3
INTERPRO	IPR007110:Immunoglobulin-like	18	0.0000 PIRA11, FCGR4, LRIG1, IGH-6, H2-AB1, SIRPA, FCGR3, LOC100048770, IGHG, CD47, FCGR2B, GP49A, GO:0002526~acute inflammatory response
GOTERM_BP_FAT	GO:0016477~cell migration	12	0.0000 REG3B, IGHG, SAA1, CFB, SAA3, IL1B, REG3G, FCGR3
GOTERM_BP_FAT	GO:0060627~regulation of vesicle-mediated transport	8	0.0000 PLAT, SELP, CORO1A, HIF1A, NAV1, CXCR4, SEMA3F, CXCL15, S100A9, IL1B, CSF3R, FCGR3
GOTERM_BP_FAT	GO:0002460~adaptive immune response based on somatic recombination of immune receptors built from immunoglobulin superfamily domains	8	0.0000 LOC100048770, IGHG, SLC11A1, FCGR2B, CFB, H2-AA, IGH-6, FCGR3
GOTERM_BP_FAT	GO:0002250~adaptive immune response	8	0.0000 LOC100048770, IGHG, SLC11A1, FCGR2B, CFB, H2-AA, IGH-6, FCGR3
GOTERM_BP_FAT	GO:0019882~antigen processing and presentation	8	0.0000 SLC11A1, FCGR2B, LOC641240, H2-EB1, H2-AA, H2-T10, H2-AB1, IGH-6, FCGR3
SMART	SM00407:IgC1	8	0.0000 LOC100048770, IGHG, LOC641240, H2-EB1, H2-AA, H2-T10, H2-AB1, IGH-6, SIRPA
GOTERM_BP_FAT	GO:0002443~leukocyte mediated immunity	8	0.0000 LOC100048770, IGHG, SLC11A1, FCGR2B, CFB, H2-AA, IGH-6, FCGR3
GOTERM_BP_FAT	GO:0048002~antigen processing and presentation of peptide antigen	6	0.0000 SLC11A1, FCGR2B, LOC641240, H2-EB1, H2-AA, H2-AB1, FCGR3
GOTERM_BP_FAT	GO:0002252~immune effector process	9	0.0000 LOC100048770, IGHG, SLC11A1, CD47, FCGR2B, CFB, H2-AA, IGH-6, FCGR3
INTERPRO	IPR013783:Immunoglobulin-like fold	18	0.0000 SEMA3F, LOC641240, LILRB4, H2-EB1, LILRA6, H2-AA, H2-T10, LOC100047053, PILRA
SP_PIR_KEYWORDS	cytokine	10	0.0000 OSM, CXCL1, BMP1, S100A8, CXCL15, LOC100044702, IL1B, CCL7, CCL6, SPP1
INTERPRO	IPR003006:Immunoglobulin/major histocompatibility complex, conserved site	8	0.0000 LOC100048770, IGHG, LOC641240, H2-EB1, H2-AA, H2-T10, H2-AB1, IGH-6, SIRPA
GOTERM_BP_FAT	GO:0016064~immunoglobulin mediated immune response	7	0.0000 LOC100048770, IGHG, FCGR2B, CFB, H2-AA, IGH-6, FCGR3
GOTERM_BP_FAT	GO:0051050~positive regulation of transport	9	0.0000 IGHG, SLC11A1, CD47, ADORA2B, FCGR2B, IGH-6, CASP1, SIRPA, FCGR3
SP_PIR_KEYWORDS	heterodimer	6	0.0000 S100A8, LOC641240, S100A9, H2-EB1, H2-AA, H2-AB1, HGF
GOTERM_BP_FAT	GO:0019724~B cell mediated immunity	7	0.0000 LOC100048770, IGHG, FCGR2B, CFB, H2-AA, IGH-6, FCGR3
GOTERM_BP_FAT	GO:0048870~cell motility	12	0.0000 PLAT, SELP, CORO1A, HIF1A, NAV1, CXCR4, SEMA3F, CXCL15, S100A9, IL1B, CSF3R, FCGR3
GOTERM_BP_FAT	GO:0051674~localization of cell	12	0.0000 PLAT, SELP, CORO1A, HIF1A, NAV1, CXCR4, SEMA3F, CXCL15, S100A9, IL1B, CSF3R, FCGR3
GOTERM_BP_FAT	GO:0048584~positive regulation of response to stimulus	10	0.0000 IGHG, SLC11A1, CD47, CDKN2A, ADORA2B, CFB, H2-AA, IL1B, IGH-6, FCGR3
GOTERM_MF_FAT	GO:0030246~carbohydrate binding	12	0.0000 REG3B, SELP, LMAN1L, KLRA17, CD44, CCDC80, FSTL1, CLEC4D, REG3G, THBS2, CLEC4N, CCL7, S100A8, S100A9, LOC100044702, CXCR2, FPR2, CCL7, CCL6, FCGR3, OSM, CORO1A, SEMA3F, CXCL15, IL1B, CSF3R
GOTERM_BP_FAT	GO:0007610~behavior	14	0.0000 IL1B, CSF3R
SP_PIR_KEYWORDS	inflammatory response	7	0.0000 REG3B, CXCL1, CXCL15, LOC100044702, IL1B, REG3G, CCL7

GOTERM_BP_FAT	GO:0002478~antigen processing and presentation of exogenous peptide antigen	5	0.0000	FCGR2B, LOC641240, H2-EB1, H2-AA, H2-AB1, FCGR3
GOTERM_BP_FAT	GO:0050865~regulation of cell activation	9	0.0000	SELP, CDKN1A, CORO1A, CDKN2A, PLEK, ADORA2B, FCGR2B, H2-AA, IGH-6
GOTERM_BP_FAT	GO:0006928~cell motion	13	0.0000	PLAT, SELP, S100A9, SIRPA, FCGR3, CORO1A, HIF1A, NAV1, CXCR4, SEMA3F, CXCL15, CSF3R, IL1B
GOTERM_BP_FAT	GO:0006909~phagocytosis	6	0.0000	IGHG, SLC11A1, CD47, FCGR2B, SIRPA, FCGR3
GOTERM_BP_FAT	GO:0002684~positive regulation of immune system process	10	0.0001	IGHG, SELP, SLC11A1, CDKN1A, CORO1A, ADORA2B, CFB, H2-AA, IGH-6, FCGR3
GOTERM_CC_FAT	GO:0009986~cell surface	12	0.0001	AA
GOTERM_BP_FAT	GO:0051130~positive regulation of cellular component organization	8	0.0001	IGHG, SLC11A1, CD47, PLEK, FCGR2B, IGH-6, SIRPA, FCGR3
GOTERM_MF_FAT	GO:0005125~cytokine activity	9	0.0001	OSM, CXCL1, BMP1, CXCL15, LOC100044702, IL1B, CCL7, CCL6, SPP1
INTERPRO	IPR013151:Immunoglobulin	9	0.0001	LOC100048770, PIRA11, FCGR2B, GP49A, PIRA4, SEMA3F, LILRB4, FCGR4, LILRA6, LRIG1, FCGR3
GOTERM_BP_FAT	GO:0019884~antigen processing and presentation of exogenous antigen	5	0.0001	FCGR2B, LOC641240, H2-EB1, H2-AA, H2-AB1, FCGR3
GOTERM_BP_FAT	GO:0006953~acute-phase response	5	0.0001	REG3B, SAA1, SAA3, IL1B, REG3G
KEGG_PATHWAY	mmu05322:Systemic lupus erythematosus	8	0.0001	LOC100048770, IGHG, FCGR2B, LOC641240, H2-EB1, FCGR4, H2-AA, H2-AB1, FCGR3
SP_PIR_KEYWORDS	transmembrane protein	12	0.0002	CHRNB1
INTERPRO	IPR001811:Small chemokine, interleukin-8-like	5	0.0002	CXCL1, CXCL15, LOC100044702, CCL7, CCL6
GOTERM_BP_FAT	GO:0050867~positive regulation of cell activation	7	0.0002	SELP, CDKN1A, CORO1A, PLEK, ADORA2B, H2-AA, IGH-6
GOTERM_MF_FAT	GO:0008009~chemokine activity	5	0.0002	CXCL1, CXCL15, LOC100044702, CCL7, CCL6
GOTERM_BP_FAT	GO:0032101~regulation of response to external stimulus	7	0.0002	IGHG, SELP, CD47, PLEK, ADORA2B, FCGR2B, FCGR3
GOTERM_MF_FAT	GO:0042379~chemokine receptor binding	5	0.0002	CXCL1, CXCL15, LOC100044702, CCL7, CCL6
GOTERM_BP_FAT	GO:0006911~phagocytosis, engulfment	4	0.0002	IGHG, FCGR2B, SIRPA, FCGR3
GOTERM_BP_FAT	GO:0002495~antigen processing and presentation of peptide antigen via MHC class II	4	0.0003	FCGR2B, LOC641240, H2-EB1, H2-AA, H2-AB1
GOTERM_BP_FAT	GO:0019886~antigen processing and presentation of exogenous peptide antigen via MHC class II	4	0.0003	FCGR2B, LOC641240, H2-EB1, H2-AA, H2-AB1
SMART	SM00199:SCY	5	0.0003	CXCL1, CXCL15, LOC100044702, CCL7, CCL6
KEGG_PATHWAY	mmu04672:Intestinal immune network for IgA production	6	0.0003	LOC100048770, IGHG, CXCR4, LOC641240, H2-EB1, H2-AA, H2-AB1
KEGG_PATHWAY	mmu04640:Hematopoietic cell lineage	7	0.0003	LOC100048770, IGHG, CD44, H2-EB1, H2-AA, IL1B, CSF3R
GOTERM_BP_FAT	GO:0030593~neutrophil chemotaxis	4	0.0003	CXCL15, IL1B, CSF3R, FCGR3
SP_PIR_KEYWORDS	duplication	7	0.0004	LOC100048770, IGHG, FCGR2B, CFB, CSF2RB2, TNC, IGH-6
GOTERM_CC_FAT	GO:0009897~external side of plasma membrane	9	0.0004	LY6C1, SELP, CCR5, CD44, FCGR2B, LOC641240, TNFRSF18, H2-AA, H2-AB1, IGH-6
SP_PIR_KEYWORDS	membrane	63	0.0004	EB1, GPR114, CHRNB1, PTPN11, SLC15A3, DRAM1, MGST1
KEGG_PATHWAY	mmu05330:Allograft rejection	6	0.0004	LOC100048770, IGHG, LOC641240, H2-EB1, H2-AA, H2-T10, H2-AB1
UP_SEQ_FEATURE	transmembrane region	53	0.0004	FCGR2B, CYP4F18, ATP2A3, H2-EB1, GPR114, CHRNB1, SLC15A3, DRAM1
KEGG_PATHWAY	mmu05310:Asthma	5	0.0005	LOC100048770, IGHG, LOC641240, H2-EB1, H2-AA, H2-AB1
INTERPRO	IPR016186:C-type lectin-like	7	0.0005	REG3B, SELP, KLRA17, CD44, CLEC4D, REG3G, CLEC4N
GOTERM_BP_FAT	GO:0002504~antigen processing and presentation of peptide or polysaccharide antigen via MHC class II	4	0.0005	FCGR2B, LOC641240, H2-EB1, H2-AA, H2-AB1
SP_PIR_KEYWORDS	calcium binding	5	0.0005	FBLN1, S100A8, TNC, S100A9, THBS2
GOTERM_MF_FAT	GO:0019955~cytokine binding	6	0.0005	CCR5, OSMR, CXCR4, CSF2RB2, CSF3R, CXCR2
SP_PIR_KEYWORDS	immune response	8	0.0006	TMEM173, GP49A, CFB, LOC641240, LILRB4, H2-EB1, H2-AA, H2-AB1, CLEC4D, CLEC4N
PIR_SUPERFAMILY	PIRSF001980:Fc gamma receptor III	3	0.0008	FCGR2B, FCGR4, FCGR3

SP_PIR_KEYWORDS	acute phase	4	0.0008	REG3B, SAA1, SAA3, REG3G
UP_SEQ_FEATURE	sequence variant	11	0.0009	LOC100048770, IGHG, SLC11A1, CDKN2A, CCR5, CD44, FCGR2B, DARC, IGH-6, MS4A8A, SIRPA
GOTERM_BP_FAT	GO:0050729~positive regulation of inflammatory response	4	0.0010	IGHG, CD47, ADORA2B, FCGR3
GOTERM_BP_FAT	GO:0001817~regulation of cytokine production	7	0.0010	SLC11A1, CEBPB, ADORA2B, IL1B, CASP1, SRGN, FCGR3
KEGG_PATHWAY	mmu05320:Autoimmune thyroid disease	6	0.0012	LOC100048770, IGHG, LOC641240, H2-EB1, H2-AA, H2-T10, H2-AB1
GOTERM_BP_FAT	GO:0050727~regulation of inflammatory response	5	0.0012	IGHG, CD47, ADORA2B, FCGR2B, FCGR3
GOTERM_MF_FAT	GO:0042277~peptide binding	7	0.0014	CCR5, CXCR4, LOC641240, PPIC, H2-AA, CXCR2, H2-AB1, FPR2
GOTERM_CC_FAT	GO:0042571~immunoglobulin complex, circulating	3	0.0015	LOC100048770, IGHG, IGH-6
SP_PIR_KEYWORDS	cell membrane	26	0.0015	CAR9, GPR114, CHRN1
GOTERM_BP_FAT	GO:0002694~regulation of leukocyte activation	7	0.0017	CDKN1A, CORO1A, CDKN2A, ADORA2B, FCGR2B, H2-AA, IGH-6
GOTERM_BP_FAT	GO:0001810~regulation of type I hypersensitivity	3	0.0018	IGHG, FCGR2B, FCGR3
SP_PIR_KEYWORDS	Lectin	7	0.0020	REG3B, SELP, LMAN1L, KLRA17, CLEC4D, REG3G, CLEC4N
GOTERM_MF_FAT	GO:0030291~protein serine/threonine kinase inhibitor activity	3	0.0020	CDKN1A, CDKN2A, PKIG
INTERPRO	IPRO14745:MHC class II, alpha/beta chain, N-terminal	3	0.0021	LOC641240, H2-EB1, H2-AA, H2-AB1
SP_PIR_KEYWORDS	transmembrane	58	0.0021	IER3, KLRA17, OSMR, CXCR2, CD53, CD47, TMEM173, CD44, CXCR4, CH25H, CSF3R, NIPAL1, MS4A8A, CLEC4D, PILRA, BST2, MS4A6D, GPR171, SIRPA, CLEC4N, IGHG, CCR5, DARC, BACE2, LILRB4, H2-AA, CAR9, TNFRSF22, ADORA2B, CSF2RB2, IFITM2, LRIG1, LOC100044439, FPR2, FYD5, GPRC5A, SLC11A1, GP49A, LOC641240, IFITM6, TNFRSF18, FUT4, H2-T10, QSOX1, SOAT1, SELP, TMC5, FCGR4, H2-AB1, IGH-6, FCGR3, TMRSS4, GPR35, FCGR2B, CYP4F18, ATP2A3, H2-EB1, GPR114, CHRN1, SLC15A3, DRAM1
GOTERM_BP_FAT	GO:0060341~regulation of cellular localization	7	0.0021	OSM, CDKN2A, ADORA2B, PKIG, IL1B, CASP1, SRGN
INTERPRO	IPRO01304:C-type lectin	6	0.0022	REG3B, SELP, KLRA17, CLEC4D, REG3G, CLEC4N
GOTERM_BP_FAT	GO:0030888~regulation of B cell proliferation	4	0.0023	CDKN1A, CDKN2A, FCGR2B, IGH-6
SP_PIR_KEYWORDS	Immunoglobulin domain	11	0.0025	LOC100048770, IGHG, CD47, FCGR2B, GP49A, SEMA3F, LILRB4, LRIG1, CSF3R, IGH-6, SIRPA, FCGR3
GOTERM_MF_FAT	GO:0005529~sugar binding	7	0.0026	REG3B, SELP, LMAN1L, KLRA17, CLEC4D, REG3G, CLEC4N
GOTERM_BP_FAT	GO:0042325~regulation of phosphorylation	9	0.0027	OSM, SLC11A1, CDKN1A, CDKN2A, SOCS3, PKIG, IL1B, IGH-6, HGF
GOTERM_BP_FAT	GO:0002455~humoral immune response mediated by circulating immunoglobulin	4	0.0029	LOC100048770, IGHG, CFB, IGH-6
SP_PIR_KEYWORDS	cell adhesion	10	0.0029	SELP, CD47, GLYCAM1, CD44, TNC, TGFBI, CSF3R, EMILIN2, THBS2, SPP1
INTERPRO	IPRO01089:Small chemokine, C-X-C	3	0.0031	CXCL1, CXCL15, LOC100044702
SP_PIR_KEYWORDS	immunoglobulin c region	3	0.0032	LOC100048770, IGHG, IGH-6
SP_PIR_KEYWORDS	mhc ii	3	0.0032	LOC641240, H2-EB1, H2-AA, H2-AB1
GOTERM_CC_FAT	GO:0042613~MHC class II protein complex	3	0.0032	LOC641240, H2-EB1, H2-AA, H2-AB1
GOTERM_MF_FAT	GO:0003823~antigen binding	5	0.0032	LOC100048770, IGHG, LOC641240, H2-AA, H2-AB1, IGH-6
GOTERM_BP_FAT	GO:0019220~regulation of phosphate metabolic process	9	0.0034	OSM, SLC11A1, CDKN1A, CDKN2A, SOCS3, PKIG, IL1B, IGH-6, HGF
GOTERM_BP_FAT	GO:0051174~regulation of phosphorus metabolic process	9	0.0034	OSM, SLC11A1, CDKN1A, CDKN2A, SOCS3, PKIG, IL1B, IGH-6, HGF
KEGG_PATHWAY	mmu05416:Viral myocarditis	6	0.0038	LOC100048770, IGHG, LOC641240, H2-EB1, H2-AA, H2-T10, H2-AB1
KEGG_PATHWAY	mmu05332:Graft-versus-host disease	5	0.0038	LOC641240, H2-EB1, H2-AA, IL1B, H2-T10, H2-AB1
KEGG_PATHWAY	mmu04062:Chemokine signaling pathway	8	0.0039	CXCL1, CCR5, CXCR4, CXCL15, LOC100044702, CXCR2, CCL7, CCL6
SMART	SM00034:CLECT	6	0.0039	REG3B, SELP, KLRA17, CLEC4D, REG3G, CLEC4N
GOTERM_BP_FAT	GO:0032103~positive regulation of response to external stimulus	4	0.0040	IGHG, CD47, ADORA2B, FCGR3
SP_PIR_KEYWORDS	Pyrrolidone carboxylic acid	4	0.0042	CD47, CD44, HGF, CCL7
GOTERM_BP_FAT	GO:0050670~regulation of lymphocyte proliferation	5	0.0043	CDKN1A, CORO1A, CDKN2A, FCGR2B, IGH-6
GOTERM_BP_FAT	GO:0032944~regulation of mononuclear cell proliferation	5	0.0043	CDKN1A, CORO1A, CDKN2A, FCGR2B, IGH-6
GOTERM_BP_FAT	GO:0045859~regulation of protein kinase activity	7	0.0044	SLC11A1, CDKN1A, CDKN2A, PKIG, IL1B, IGH-6, HGF
GOTERM_BP_FAT	GO:0010324~membrane invagination	7	0.0046	IGHG, SLC11A1, CD47, DAB2, FCGR2B, SIRPA, FCGR3
GOTERM_BP_FAT	GO:0006897~endocytosis	7	0.0046	IGHG, SLC11A1, CD47, DAB2, FCGR2B, SIRPA, FCGR3
GOTERM_BP_FAT	GO:0070663~regulation of leukocyte proliferation	5	0.0047	CDKN1A, CORO1A, CDKN2A, FCGR2B, IGH-6

SP_PIR_KEYWORDS	zymogen	7	0.0047 PLAT, BMP1, CFB, BACE2, NAPSA, CASP1, ADAMTS4
GOTERM_MF_FAT	GO:0004175~endopeptidase activity mmu04621:NOD-like receptor signaling pathway	10	0.0047 PLAT, BMP1, CFB, BACE2, HGF, NAPSA, CASP1, PRSS22, ADAMTS4, TMPRSS4
KEGG_PATHWAY	GO:0002883~regulation of hypersensitivity	5	0.0048 CXCL1, IL1B, NAIP1, CASP1, CCL7
GOTERM_BP_FAT	GO:0006910~phagocytosis, recognition	3	0.0049 IGHG, FCGR2B, FCGR3
GOTERM_BP_FAT	GO:0002864~regulation of acute inflammatory response to antigenic stimulus	3	0.0049 IGHG, SIRPA, FCGR3
GOTERM_BP_FAT	IPRO18048:Small chemokine, C-X-C, conserved site	3	0.0051 CXCL1, CXCL15, LOC100044702
INTERPRO	GO:0043549~regulation of kinase activity	7	0.0051 SLC11A1, CDKN1A, CDKN2A, PKIG, IL1B, IGH-6, HGF
GOTERM_BP_FAT	KEGG_PATHWAY mmu04940:Type I diabetes mellitus	5	0.0051 LOC641240, H2-EB1, H2-AA, IL1B, H2-T10, H2-AB1
GOTERM_BP_FAT	GO:0050778~positive regulation of immune response	6	0.0053 IGHG, SLC11A1, CFB, H2-AA, IGH-6, FCGR3
GOTERM_CC_FAT	GO:0019814~immunoglobulin complex	3	0.0054 LOC100048770, IGHG, IGH-6
PIR_SUPERFAMILY	PIRSF001991:class II histocompatibility antigen	3	0.0055 LOC641240, H2-EB1, H2-AA, H2-AB1 TNFRSF22, IER3, GNA14, ADORA2B, OSMR, CXCR2, FPR2, GPRC5A, CD47, TMEM173, GLYCAM1, CD44, CXCR4, GP49A, LOC641240, TNFRSF18, H2-T10, MSN, LY6C1, SELP, BST2, GPR171, H2-AB1, IGH-6, SIRPA, FCGR3, IGHG, CORO1A, GPR35, RGS1, CCR5, FCGR2B, H2-EB1, LILRB4, GPR114, CAR9, H2-AA,
GOTERM_CC_FAT	GO:0005886~plasma membrane	38	0.0059 CHRN1B, PTPN11, CP
GOTERM_BP_FAT	GO:0051338~regulation of transferase activity	7	0.0061 SLC11A1, CDKN1A, CDKN2A, PKIG, IL1B, IGH-6, HGF
SP_PIR_KEYWORDS	extracellular matrix	7	0.0065 FBLN1, TNC, TGFBI, CCDC80, EMILIN2, ADAMTS4, SPP1
GOTERM_BP_FAT	GO:0007155~cell adhesion	12	0.0065 SELP, CD47, GLYCAM1, PLEK, CD44, TNC, TGFBI, CSF3R, EMILIN2, SIRPA, THBS2, SPP1
GOTERM_BP_FAT	GO:0002886~regulation of myeloid leukocyte mediated immunity	3	0.0066 IGHG, ADORA2B, FCGR3
GOTERM_BP_FAT	GO:0022610~biological adhesion	12	0.0066 SELP, CD47, GLYCAM1, PLEK, CD44, TNC, TGFBI, CSF3R, EMILIN2, SIRPA, THBS2, SPP1
UP_SEQ_FEATURE	domain:C-type lectin	5	0.0067 REG3B, SELP, CLEC4D, REG3G, CLEC4N
GOTERM_BP_FAT	GO:0051249~regulation of lymphocyte activation	6	0.0068 CDKN1A, CORO1A, CDKN2A, FCGR2B, H2-AA, IGH-6
SP_PIR_KEYWORDS	inflammation	3	0.0076 S100A8, S100A9, IL1B
GOTERM_MF_FAT	GO:0008233~peptidase activity	12	0.0082 PLAT, BMP1, CFB, BACE2, SLPI, HGF, NAPSA, CASP1, PRSS22, CTLA2B, ADAMTS4, TMPRSS4
GOTERM_MF_FAT	GO:0004896~cytokine receptor activity	4	0.0084 OSMR, CSF2RB2, CSF3R, CXCR2
GOTERM_BP_FAT	GO:0006469~negative regulation of protein kinase activity	4	0.0085 CDKN1A, CDKN2A, PKIG, IL1B
GOTERM_BP_FAT	GO:0033673~negative regulation of kinase activity	4	0.0085 CDKN1A, CDKN2A, PKIG, IL1B
INTERPRO	IPRO18378:C-type lectin, conserved site	5	0.0086 REG3B, SELP, CLEC4D, REG3G, CLEC4N
GOTERM_BP_FAT	GO:0002696~positive regulation of leukocyte activation	5	0.0090 CDKN1A, CORO1A, ADORA2B, H2-AA, IGH-6
GOTERM_BP_FAT	GO:0002673~regulation of acute inflammatory response	3	0.0095 IGHG, FCGR2B, FCGR3
GOTERM_BP_FAT	GO:0002861~regulation of inflammatory response to antigenic stimulus	3	0.0095 IGHG, FCGR2B, FCGR3
GOTERM_BP_FAT	GO:0051348~negative regulation of transferase activity	4	0.0095 CDKN1A, CDKN2A, PKIG, IL1B
GOTERM_BP_FAT	GO:0009617~response to bacterium	6	0.0096 SLC11A1, CD47, LY2Z, CCR5, IL1B, IRG1
GOTERM_MF_FAT	GO:0004860~protein kinase inhibitor activity	3	0.0099 CDKN1A, CDKN2A, PKIG
GOTERM_BP_FAT	GO:0006959~humoral immune response	4	0.0100 LOC100048770, IGHG, CFB, IGH-6
GOTERM_CC_FAT	GO:0042611~MHC protein complex	4	0.0102 LOC641240, H2-EB1, H2-AA, H2-T10, H2-AB1
GOTERM_BP_FAT	GO:0050864~regulation of B cell activation	4	0.0105 CDKN1A, CDKN2A, FCGR2B, IGH-6
GOTERM_MF_FAT	GO:0004857~enzyme inhibitor activity	7	0.0105 CDKN1A, CDKN2A, GM5483, PKIG, SLPI, SERPINB11, CTLA2B
GOTERM_BP_FAT	GO:0002822~regulation of adaptive immune response based on somatic recombination of immune receptors built from immunoglobulin superfamily domains	4	0.0110 IGHG, SLC11A1, FCGR2B, FCGR3
GOTERM_BP_FAT	GO:0002819~regulation of adaptive immune response	4	0.0110 IGHG, SLC11A1, FCGR2B, FCGR3

GOTERM_MF_FAT	GO:0005539~glycosaminoglycan binding	5	0.0111	CD44, CCDC80, FSTL1, THBS2, CCL7
GOTERM_BP_FAT	GO:0031349~positive regulation of defense response	4	0.0116	IGHG, CD47, ADORA2B, FCGR3
GOTERM_BP_FAT	GO:0051270~regulation of cell motion	5	0.0118	SELP, CORO1A, HIF1A, CXCR4, SEMA3F
GOTERM_MF_FAT	GO:0019210~kinase inhibitor activity	3	0.0120	CDKN1A, CDKN2A, PKIG
GOTERM_MF_FAT	GO:0004950~chemokine receptor activity	3	0.0120	CCR5, CXCR4, CXCR2
GOTERM_MF_FAT	GO:0019239~deaminase activity	3	0.0120	GDA, APOBEC1, AMPD3
GOTERM_MF_FAT	GO:0019956~chemokine binding	3	0.0130	CCR5, CXCR4, CXCR2
KEGG_PATHWAY	mmu04512:ECM-receptor interaction	5	0.0134	CD47, CD44, TNC, THBS2, SPP1
UP_SEQ_FEATURE	domain:Peptidase S1	5	0.0137	PLAT, CFB, HGF, PRSS22, TMPRSS4
GOTERM_BP_FAT	GO:0001819~positive regulation of cytokine production	4	0.0145	SLC11A1, ADORA2B, IL1B, CASP1
GOTERM_MF_FAT	GO:0070011~peptidase activity, acting on L-amino acid peptides	11	0.0162	PLAT, BMP1, CFB, BACE2, HGF, NAPSA, CASP1, PRSS22, CTLA2B, ADAMTS4, TMPRSS4
GOTERM_MF_FAT	GO:0030247~polysaccharide binding	5	0.0164	CD44, CCDC80, FSTL1, THBS2, CCL7
GOTERM_MF_FAT	GO:0001871~pattern binding	5	0.0164	CD44, CCDC80, FSTL1, THBS2, CCL7
GOTERM_BP_FAT	GO:0002246~healing during inflammatory response	2	0.0164	HIF1A, CD44
GOTERM_MF_FAT	GO:0016814~hydrolase activity, acting on carbon-nitrogen (but not peptide) bonds, in cyclic amidines	3	0.0165	GDA, APOBEC1, AMPD3
UP_SEQ_FEATURE	region of interest:CH4	2	0.0165	LOC100048770, IGH-6
UP_SEQ_FEATURE	domain:Ig-like C1-type	3	0.0181	LOC641240, H2-EB1, H2-AA, H2-AB1
UP_SEQ_FEATURE	short sequence motif:Box 1 motif	3	0.0181	OSMR, CSF2RB2, CSF3R
SP_PIR_KEYWORDS	Protease	10	0.0182	PLAT, BMP1, CFB, BACE2, SLPI, NAPSA, CASP1, PRSS22, ADAMTS4, TMPRSS4
KEGG_PATHWAY	mmu04612:Antigen processing and presentation	5	0.0182	CIITA, LOC641240, H2-EB1, H2-AA, H2-T10, H2-AB1
SP_PIR_KEYWORDS	polymorphism	6	0.0187	CDKN2A, CCR5, FCGR2B, DARC, MS4A8A, SIRPA
INTERPRO	IPR000742:EGF-like, type 3	6	0.0191	PLAT, SELP, FBLN1, BMP1, TNC, THBS2
GOTERM_BP_FAT	GO:0051046~regulation of secretion	5	0.0198	OSM, ADORA2B, IL1B, CASP1, SRGN
GOTERM_BP_FAT	GO:0002703~regulation of leukocyte mediated immunity	4	0.0200	IGHG, ADORA2B, FCGR2B, FCGR3
INTERPRO	IPR006210:EGF-like	6	0.0206	PLAT, SELP, FBLN1, TNC, TNFRSF18, THBS2
GOTERM_BP_FAT	GO:0051048~negative regulation of secretion	3	0.0207	OSM, IL1B, SRGN
GOTERM_BP_FAT	GO:0051051~negative regulation of transport	4	0.0215	OSM, PKIG, IL1B, SRGN
UP_SEQ_FEATURE	region of interest:Connecting peptide	3	0.0225	LOC641240, H2-EB1, H2-AA, H2-AB1
GOTERM_MF_FAT	GO:0008083~growth factor activity	5	0.0225	CXCL1, INHBA, BMP1, IL1B, HGF
GOTERM_BP_FAT	GO:0008219~cell death	10	0.0241	OSM, LY22, TMEM173, CDKN2A, TNFRSF18, CXCR2, NAIP1, CASP1, DRAM1, SRGN
SP_PIR_KEYWORDS	receptor	29	0.0242	TNFRSF22, KLRA17, ADORA2B, OSMR, CSF2RB2, CXCR2, FPR2, GPRC5A, CD44, GP49A, CXCR4, TNFRSF18, CSF3R, CLEC4D, MS4A8A, PILRA, PIRA11, SPSB1, MS4A6D, GPR171, FCGR4, FCGR3, GPR35,
GOTERM_BP_FAT	GO:0010543~regulation of platelet activation	2	0.0245	SELP, PLEK
GOTERM_BP_FAT	GO:0010572~positive regulation of platelet activation	2	0.0245	SELP, PLEK
GOTERM_BP_FAT	GO:0034341~response to interferon-gamma	2	0.0245	CIITA, SLC11A1
UP_SEQ_FEATURE	region of interest:Beta-1	2	0.0247	LOC641240, H2-EB1, H2-AB1
UP_SEQ_FEATURE	region of interest:Beta-2	2	0.0247	LOC641240, H2-EB1, H2-AB1
INTERPRO	IPR001314:Peptidase S1A, chymotrypsin	5	0.0249	PLAT, CFB, HGF, PRSS22, TMPRSS4
GOTERM_BP_FAT	GO:0016044~membrane organization	7	0.0250	IGHG, SLC11A1, CD47, DAB2, FCGR2B, SIRPA, FCGR3
GOTERM_BP_FAT	GO:0002712~regulation of B cell mediated immunity	3	0.0252	IGHG, FCGR2B, FCGR3
GOTERM_BP_FAT	GO:0002889~regulation of immunoglobulin mediated immune response	3	0.0252	IGHG, FCGR2B, FCGR3
GOTERM_MF_FAT	GO:0008201~heparin binding	4	0.0253	CCDC80, FSTL1, THBS2, CCL7
PIR_SUPERFAMILY	PIRSF038545:chemokine receptor	3	0.0257	CCR5, CXCR4, CXCR2
UP_SEQ_FEATURE	short sequence motif:WSXWS motif	3	0.0272	OSMR, CSF2RB2, CSF3R
GOTERM_BP_FAT	GO:0016265~death	10	0.0275	OSM, LY22, TMEM173, CDKN2A, TNFRSF18, CXCR2, NAIP1, CASP1, DRAM1, SRGN
KEGG_PATHWAY	mmu04514:Cell adhesion molecules (CAMs)	6	0.0279	SELP, GLYCAM1, LOC641240, H2-EB1, H2-AA, H2-T10, H2-AB1

GOTERM_BP_FAT	GO:0032675~regulation of interleukin-6 production	3	0.0284	CEBPB, ADORA2B, IL1B
GOTERM_BP_FAT	GO:0034097~response to cytokine stimulus	3	0.0284	CIITA, SLC11A1, CORO1A
SP_PIR_KEYWORDS	sulfation	3	0.0287	CCR5, CD44, CXCR4
SP_PIR_KEYWORDS	egf-like domain	6	0.0299	PLAT, SELP, FBLN1, BMP1, TNC, THBS2
SP_PIR_KEYWORDS	igg-binding protein	2	0.0308	FCGR2B, FCGR3
GOTERM_BP_FAT	GO:0002824~positive regulation of adaptive immune response based on somatic recombination of immune receptors built from immunoglobulin superfamily domains	3	0.0318	IGHG, SLC11A1, FCGR3
GOTERM_BP_FAT	GO:0002821~positive regulation of adaptive immune response	3	0.0318	IGHG, SLC11A1, FCGR3
GOTERM_BP_FAT	GO:0010575~positive regulation of vascular endothelial growth factor production	2	0.0326	ADORA2B, IL1B
GOTERM_BP_FAT	GO:0010574~regulation of vascular endothelial growth factor production	2	0.0326	ADORA2B, IL1B
UP_SEQ_FEATURE	region of interest:CH3	2	0.0328	LOC100048770, IGH-6
GOTERM_BP_FAT	GO:0002274~myeloid leukocyte activation	3	0.0336	SLC11A1, FCGR2B, FCGR3
SMART	SM00181:EGF	6	0.0340	PLAT, SELP, FBLN1, TNC, TNFRSF18, THBS2
INTERPRO	IPR003599:Immunoglobulin subtype	7	0.0345	LOC100048770, PIRA11, FCGR2B, PIRA4, FCGR4, LILRA6, SIRPA, FCGR3
INTERPRO	IPR001254:Peptidase S1 and S6, chymotrypsin/Hap	5	0.0348	PLAT, CFB, HGF, PRSS22, TMPRSS4
GOTERM_BP_FAT	GO:0002697~regulation of immune effector process	4	0.0361	IGHG, ADORA2B, FCGR2B, FCGR3
GOTERM_BP_FAT	GO:0030335~positive regulation of cell migration	3	0.0372	SELP, CORO1A, HIF1A
GOTERM_MF_FAT	GO:0019864~IgG binding	2	0.0374	FCGR2B, FCGR3
INTERPRO	IPR000096:Serum amyloid A protein	2	0.0380	SAA1, SAA3
GOTERM_BP_FAT	GO:0016485~protein processing	4	0.0382	IGHG, CFB, CASP1, SRGN
GOTERM_BP_FAT	GO:0006915~apoptosis	9	0.0383	OSM, TMEM173, CDKN2A, TNFRSF18, CXCR2, NAI1, CASP1, DRAM1, SRGN
GOTERM_BP_FAT	GO:0031328~positive regulation of cellular biosynthetic process	10	0.0385	OSM, CIITA, INHBA, SLC11A1, HIF1A, CEBPB, ADORA2B, IL1B, FCGR3, LOC100047419
SP_PIR_KEYWORDS	cleavage on pair of basic residues	6	0.0386	PLAT, INSL3, INHBA, BMP1, CFB, ADAMTS4
GOTERM_BP_FAT	GO:0016192~vesicle-mediated transport	9	0.0387	IGHG, SLC11A1, CD47, DAB2, PLEK, FCGR2B, IGH-6, SIRPA, FCGR3
GOTERM_BP_FAT	GO:0032496~response to lipopolysaccharide	3	0.0390	SLC11A1, IL1B, IRG1
GOTERM_CC_FAT	GO:0030659~cytoplasmic vesicle membrane	4	0.0394	SELP, SLC11A1, DAB2, CORO1A
GOTERM_BP_FAT	GO:0030334~regulation of cell migration	4	0.0404	SELP, CORO1A, HIF1A, CXCR4
GOTERM_BP_FAT	GO:0009891~positive regulation of biosynthetic process	10	0.0405	OSM, CIITA, INHBA, SLC11A1, HIF1A, CEBPB, ADORA2B, IL1B, FCGR3, LOC100047419
UP_SEQ_FEATURE	region of interest:CH2	2	0.0408	LOC100048770, IGH-6
UP_SEQ_FEATURE	domain:Kring1	2	0.0408	PLAT, HGF
UP_SEQ_FEATURE	domain:Kring2	2	0.0408	PLAT, HGF
GOTERM_BP_FAT	GO:0012501~programmed cell death	9	0.0416	OSM, TMEM173, CDKN2A, TNFRSF18, CXCR2, NAI1, CASP1, DRAM1, SRGN
GOTERM_BP_FAT	GO:0051251~positive regulation of lymphocyte activation	4	0.0426	CDKN1A, CORO1A, H2-AA, IGH-6
SMART	SM00197:SAA	2	0.0436	SAA1, SAA3
GOTERM_MF_FAT	GO:0001968~fibronectin binding	2	0.0448	TNC, CCDC80
GOTERM_MF_FAT	GO:0004861~cyclin-dependent protein kinase inhibitor activity	2	0.0448	CDKN1A, CDKN2A
GOTERM_BP_FAT	GO:0051272~positive regulation of cell motion	3	0.0448	SELP, CORO1A, HIF1A
GOTERM_BP_FAT	GO:0051604~protein maturation	4	0.0449	IGHG, CFB, CASP1, SRGN
PIR_SUPERFAMILY	PIRSF002472:amyloid protein, SAA type	2	0.0450	SAA1, SAA3
GOTERM_BP_FAT	GO:0051240~positive regulation of multicellular organismal process	5	0.0458	SLC11A1, CDKN2A, ADORA2B, IL1B, CASP1
SP_PIR_KEYWORDS	Apoptosis	7	0.0484	TMEM173, CDKN2A, TNFRSF18, NAI1, CASP1, DRAM1, SRGN
GOTERM_BP_FAT	GO:0048255~mRNA stabilization	2	0.0485	SLC11A1, APOBEC1
GOTERM_BP_FAT	GO:0043489~RNA stabilization	2	0.0485	SLC11A1, APOBEC1
GOTERM_BP_FAT	GO:0060638~mesenchymal-epithelial cell signaling	2	0.0485	TNC, HGF
UP_SEQ_FEATURE	short sequence motif:ITIM motif 2	2	0.0488	GP49A, LILRB4, PILRA
UP_SEQ_FEATURE	short sequence motif:ITIM motif 1	2	0.0488	GP49A, LILRB4, PILRA

GOTERM_CC_FAT	GO:0044433~cytoplasmic vesicle part	4	0.0490 SELP, SLC11A1, DAB2, CORO1A
UP_SEQ_FEATURE	glycosylation site:O-linked (GalNAc...)	3	0.0495 IGHG, CCR5, SPP1
GOTERM_BP_FAT	GO:0051241~negative regulation of multicellular organismal process	4	0.0496 INHBA, SLC11A1, ADORA2B, SRGN

Supplementary Table 7: IPA Functional Annotation

PTEN Loss Down, ERG Down

Category	Functions Annotation	p-Value	Molecules	# Molecules
Molecular Transport	transport of Cu ²⁺	1.04E-04	FKBP4,SLC11A2	2
Molecular Transport	transport of inorganic cation	2.12E-04	ADRA2A,ATP6V1C2,BHLHA15,FKBP4,SLC11A2	5
Molecular Transport	transport of metal ion	1.34E-03	ADRA2A,BHLHA15,FKBP4,SLC11A2	4
Molecular Transport	transport of divalent cations	1.55E-03	BHLHA15,FKBP4,SLC11A2	3
Molecular Transport	accumulation of phospholipid hydroperoxide	1.56E-03	PRDX6	1
Free Radical Scavenging	accumulation of phospholipid hydroperoxide	1.56E-03	PRDX6	1
Lipid Metabolism	accumulation of phospholipid hydroperoxide	1.56E-03	PRDX6	1
Small Molecule Biochemistry	accumulation of phospholipid hydroperoxide	1.56E-03	PRDX6	1
Developmental Disorder	benign adult cystinosis	1.56E-03	CTNS	1
Hereditary Disorder	benign adult cystinosis	1.56E-03	CTNS	1
Metabolic Disease	benign adult cystinosis	1.56E-03	CTNS	1
Connective Tissue Disorders	bleeding of granulation tissue	1.56E-03	PRDX6	1
Organismal Injury and Abnormalities	bleeding of granulation tissue	1.56E-03	PRDX6	1
Cellular Assembly and Organization	co-localization of microtubules	1.56E-03	FKBP4	1
Cellular Function and Maintenance	co-localization of microtubules	1.56E-03	FKBP4	1
Lipid Metabolism	conversion of 13,14-dihydro-15-oxo-lipoxin A4	1.56E-03	HPGD	1
Small Molecule Biochemistry	conversion of 13,14-dihydro-15-oxo-lipoxin A4	1.56E-03	HPGD	1
Carbohydrate Metabolism	degradation of colfosceril palmitate	1.56E-03	PRDX6	1
Lipid Metabolism	degradation of colfosceril palmitate	1.56E-03	PRDX6	1
Small Molecule Biochemistry	degradation of colfosceril palmitate	1.56E-03	PRDX6	1
Carbohydrate Metabolism	degradation of colfosceril palmitate	1.56E-03	PRDX6	1
Lipid Metabolism	degradation of lysophosphatidylcholine	1.56E-03	PRDX6	1
Small Molecule Biochemistry	degradation of lysophosphatidylcholine	1.56E-03	PRDX6	1
Cellular Assembly and Organization	disruption of small unilamellar vesicles	1.56E-03	TST	1
Cellular Compromise	disruption of small unilamellar vesicles	1.56E-03	TST	1
Cellular Growth and Proliferation	generation of dermal fibroblasts	1.56E-03	MYCL1	1
Tissue Development	generation of dermal fibroblasts	1.56E-03	MYCL1	1
Hereditary Disorder	glycine N-methyltransferase deficiency	1.56E-03	GNMT	1
Metabolic Disease	glycine N-methyltransferase deficiency	1.56E-03	GNMT	1
Cellular Assembly and Organization	growth of retinal axons	1.56E-03	SEMA5A	1

Nervous System Development and Function				
Function	growth of retinal axons	1.56E-03	SEMA5A	1
Cancer	growth of small-cell carcinoma	1.56E-03	MME	1
Cancer	head and neck nonmelanoma skin cancer	1.56E-03	MYCL1	1
Dermatological Diseases and Conditions				
Conditions	head and neck nonmelanoma skin cancer	1.56E-03	MYCL1	1
Molecular Transport	import of Fe2+	1.56E-03	SLC11A2	1
Developmental Disorder				
Disorder	juvenile nephropathic cystinosis	1.56E-03	CTNS	1
Hereditary Disorder	juvenile nephropathic cystinosis	1.56E-03	CTNS	1
Metabolic Disease	juvenile nephropathic cystinosis	1.56E-03	CTNS	1
Cancer	lower lip cancer	1.56E-03	MYCL1	1
Gastrointestinal Disease				
Disease	lower lip cancer	1.56E-03	MYCL1	1
Cancer	lysis of glioma cells	1.56E-03	MME	1
Cell Death and Survival				
Tumor Morphology	lysis of glioma cells	1.56E-03	MME	1
Organ Morphology				
Organ Morphology	organization of exocrine region of pancreas	1.56E-03	BHLHA15	1
Tissue Development	organization of exocrine region of pancreas	1.56E-03	BHLHA15	1
Cellular Compromise				
Cellular Compromise	oxidative stress response of carcinoma cell lines	1.56E-03	PRDX6	1
Cellular Compromise	oxidative stress response of lung cancer cell lines	1.56E-03	PRDX6	1
Cellular Movement	pathfinding of retinal axons	1.56E-03	SEMA5A	1
Nervous System Development and Function				
Function	pathfinding of retinal axons	1.56E-03	SEMA5A	1
Molecular Transport				
Molecular Transport	quantity of 1-palmitoyl-2-linoleoyl phosphatidylcholine hydroperoxide	1.56E-03	PRDX6	1
Carbohydrate Metabolism				
Metabolism	quantity of 1-palmitoyl-2-linoleoyl phosphatidylcholine hydroperoxide	1.56E-03	PRDX6	1
Free Radical Scavenging				
Scavenging	quantity of 1-palmitoyl-2-linoleoyl phosphatidylcholine hydroperoxide	1.56E-03	PRDX6	1
Lipid Metabolism				
Metabolism	quantity of 1-palmitoyl-2-linoleoyl phosphatidylcholine hydroperoxide	1.56E-03	PRDX6	1
Small Molecule Biochemistry				
Biochemistry	quantity of 1-palmitoyl-2-linoleoyl phosphatidylcholine hydroperoxide	1.56E-03	PRDX6	1
Cell Morphology				
Cell Morphology	reorganization of intercellular junctions	1.56E-03	MMP7	1
Cell-To-Cell Signaling and Interaction				
Signaling and Interaction	reorganization of intercellular junctions	1.56E-03	MMP7	1
Cellular Assembly and Organization				
Assembly and Organization	reorganization of intercellular junctions	1.56E-03	MMP7	1
Cellular Function and Maintenance				
Function and Maintenance	reorganization of intercellular junctions	1.56E-03	MMP7	1
Cell Morphology	volume of leukemia cell lines	1.56E-03	SCIN	1

Tissue Morphology	volume of leukemia cell lines	1.56E-03	SCIN	1
Ophthalmic Disease	choroidal neovascularization	2.12E-03	MME,MMP7	2
Neurological Disease	disorder of basal ganglia	2.62E-03	ADRA2A,DBP,FKBP4,PRDX6,SEMA5A,SH3GL2	6
Cancer	growth of carcinoma	2.95E-03	GNMT,MME	2
Cancer	Merkel-cell carcinoma	3.12E-03	MYCL1	1
Dermatological Diseases and Conditions	Merkel-cell carcinoma	3.12E-03	MYCL1	1
Cellular Assembly and Organization	bending of actin	3.12E-03	SCIN	1
Post-Translational Modification	bending of actin	3.12E-03	SCIN	1
Small Molecule Biochemistry	binding of androgen	3.12E-03	FKBP4	1
Endocrine System Development and Function	binding of androgen	3.12E-03	FKBP4	1
Small Molecule Biochemistry	catabolism of cyanate	3.12E-03	TST	1
Cellular Assembly and Organization	cleavage of actin	3.12E-03	SCIN	1
Post-Translational Modification	cleavage of actin	3.12E-03	SCIN	1
Protein Degradation	cleavage of actin	3.12E-03	SCIN	1
Protein Synthesis	cleavage of actin	3.12E-03	SCIN	1
Tissue Development Embryonic	development of genital tubercle	3.12E-03	FKBP4	1
Development Organismal	development of genital tubercle	3.12E-03	FKBP4	1
Development	development of genital tubercle	3.12E-03	FKBP4	1
Tissue Morphology	diameter of tumor tissue	3.12E-03	MMP7	1
Tumor Morphology	diameter of tumor tissue	3.12E-03	MMP7	1
Cancer	differentiation of glioma	3.12E-03	SEMA5A	1
Tumor Morphology	differentiation of glioma	3.12E-03	SEMA5A	1
Cellular Development	differentiation of glioma	3.12E-03	SEMA5A	1
Tissue Morphology	disruption of basement membrane	3.12E-03	MMP7	1
Cellular Compromise	dysfunction of retinal ganglion cells	3.12E-03	SEMA5A	1
Cell Cycle	entry into cell cycle progression of breast cancer cell lines	3.12E-03	HPGD	1
Developmental Disorder	infantile nephropathic cystinosis	3.12E-03	CTNS	1
Hereditary Disorder	infantile nephropathic cystinosis	3.12E-03	CTNS	1
Metabolic Disease	infantile nephropathic cystinosis	3.12E-03	CTNS	1
Inflammatory Disease	infantile nephropathic cystinosis	3.12E-03	CTNS	1
Inflammatory Response	infantile nephropathic cystinosis	3.12E-03	CTNS	1
Renal and Urological Disease	infantile nephropathic cystinosis	3.12E-03	CTNS	1
Developmental Disorder	metaplasia of ductal epithelium	3.12E-03	MMP7	1
Lipid Metabolism	oxidation of dinoprost	3.12E-03	HPGD	1

Small Molecule				
Biochemistry	oxidation of dinoprost	3.12E-03	HPGD	1
Energy Production	oxidation of dinoprost	3.12E-03	HPGD	1
Lipid Metabolism	oxidation of prostaglandin E2	3.12E-03	HPGD	1
Small Molecule				
Biochemistry	oxidation of prostaglandin E2	3.12E-03	HPGD	1
Drug Metabolism	oxidation of prostaglandin E2	3.12E-03	HPGD	1
Energy Production	oxidation of prostaglandin E2	3.12E-03	HPGD	1
	quantity of disaturated			
Molecular Transport	phosphatidylcholine	3.12E-03	PRDX6	1
Carbohydrate	quantity of disaturated			
Metabolism	phosphatidylcholine	3.12E-03	PRDX6	1
	quantity of disaturated			
Lipid Metabolism	phosphatidylcholine	3.12E-03	PRDX6	1
Small Molecule	quantity of disaturated			
Biochemistry	phosphatidylcholine	3.12E-03	PRDX6	1
	vacuolation of tubulovesicular			
Cell Morphology	structures	3.12E-03	SH3GL2	1
Cardiovascular System				
Development and				
Function	vasoconstriction of umbilical artery	3.12E-03	MME	1
Molecular Transport	transport of H+	3.41E-03	ATP6V1C2,SLC11A2	2
Organismal Injury and				
Abnormalities	acute lung injury	3.53E-03	ADRA2A,AZGP1	2
Respiratory Disease	acute lung injury	3.53E-03	ADRA2A,AZGP1	2
Gastrointestinal				
Disease	colitis	4.05E-03	HPGD,MME,MMP7	3
Inflammatory Disease	colitis	4.05E-03	HPGD,MME,MMP7	3
Inflammatory				
Response	colitis	4.05E-03	HPGD,MME,MMP7	3
	transport of monovalent inorganic			
Molecular Transport	cation	4.16E-03	ADRA2A,ATP6V1C2,SLC11A2	3
Neurological Disease	cognitive impairment	4.30E-03	ADRA2A,MME	2
Cancer	neuroendocrine tumor	4.49E-03	ADRA2A,AZGP1,MMP7,MYCL1	4
Cancer	small-cell carcinoma	4.57E-03	MME,MYCL1	2
Neurological Disease	neuromuscular disease	4.64E-03	ADRA2A,DBP,FKBP4,PRDX6,SEMA5A,SH3GL2	6
Skeletal and Muscular				
Disorders	neuromuscular disease	4.64E-03	ADRA2A,DBP,FKBP4,PRDX6,SEMA5A,SH3GL2	6
Cellular Assembly and				
Organization	disruption of phospholipid vesicles	4.67E-03	TST	1
Cellular Compromise	disruption of phospholipid vesicles	4.67E-03	TST	1
Cellular Assembly and				
Organization	formation of secretory vesicles	4.67E-03	BHLHA15	1
Cellular Function and				
Maintenance	formation of secretory vesicles	4.67E-03	BHLHA15	1
Lipid Metabolism	metabolism of stearic acid	4.67E-03	DBP	1
Small Molecule				
Biochemistry	metabolism of stearic acid	4.67E-03	DBP	1
Cellular Movement	migration of myofibroblasts	4.67E-03	MMP7	1
Skeletal and Muscular				
System Development				
and Function	migration of myofibroblasts	4.67E-03	MMP7	1

Organismal Injury and Abnormalities	neurodegeneration of frontal cortex	4.67E-03	MME	1
Neurological Disease	neurodegeneration of frontal cortex	4.67E-03	MME	1
Cellular Compromise	peroxidation of phospholipid	4.67E-03	PRDX6	1
Lipid Metabolism	peroxidation of phospholipid	4.67E-03	PRDX6	1
Small Molecule				
Biochemistry	peroxidation of phospholipid	4.67E-03	PRDX6	1
Cell Cycle	polyploidization of leukemia cell lines	4.67E-03	SCIN	1
Reproductive System				
Development and Function	gestation	5.13E-03	FKBP4,HPGD	2
Molecular Transport	transport of molecule	5.56E-03	ADRA2A,ATP6V1C2,BHLHA15,CTNS,FKBP4,PRDX6,SLC11A2	7
Neurological Disease	Parkinson's disease	5.69E-03	ADRA2A,SEMA5A,SH3GL2	3
Skeletal and Muscular Disorders	Parkinson's disease	5.69E-03	ADRA2A,SEMA5A,SH3GL2	3
Organ Morphology	abnormal morphology of penis	6.23E-03	FKBP4	1
Reproductive System				
Development and Function	abnormal morphology of penis	6.23E-03	FKBP4	1
Cell-To-Cell Signaling and Interaction	detachment of lymphoma cell lines	6.23E-03	MMP7	1
Tissue Development	detachment of lymphoma cell lines	6.23E-03	MMP7	1
Hematological Disease	hypochromic microcytic anemia	6.23E-03	SLC11A2	1
Metabolic Disease	iron deficiency	6.23E-03	SLC11A2	1
Hematological Disease	iron deficiency	6.23E-03	SLC11A2	1
Nutritional Disease	iron deficiency	6.23E-03	SLC11A2	1
Lipid Metabolism	metabolism of oleic acid	6.23E-03	DBP	1
Small Molecule				
Biochemistry	metabolism of oleic acid	6.23E-03	DBP	1
Neurological Disease	postoperative delirium	6.23E-03	ADRA2A	1
Psychological Disorders	postoperative delirium	6.23E-03	ADRA2A	1
Cellular Development	transdifferentiation of pancreatic cancer cell lines	6.23E-03	AZGP1	1
Molecular Transport	translocation of phosphatidylserine	6.23E-03	PRDX6	1
Carbohydrate Metabolism	translocation of phosphatidylserine	6.23E-03	PRDX6	1
Lipid Metabolism	translocation of phosphatidylserine	6.23E-03	PRDX6	1
Small Molecule				
Biochemistry	translocation of phosphatidylserine	6.23E-03	PRDX6	1
Molecular Transport	transport of Co2+	6.23E-03	SLC11A2	1
Cancer	tumorigenesis of intestinal adenoma	6.23E-03	MMP7	1

Post-Translational Modification	proteolysis	6.52E-03	MME,MMP7,SCIN	3
Protein Degradation	proteolysis	6.52E-03	MME,MMP7,SCIN	3
Protein Synthesis	proteolysis	6.52E-03	MME,MMP7,SCIN	3
Neurological Disease	neurological signs	6.84E-03	ADRA2A,DBP,FKBP4,MME,PRDX6	5
Cellular Assembly and Organization	formation of vesicles	7.01E-03	BHLHA15,SH3GL2	2
Cellular Function and Maintenance	formation of vesicles	7.01E-03	BHLHA15,SH3GL2	2
Protein Degradation	degradation of protein	7.23E-03	AZGP1,MME,MMP7,SCIN	4
Protein Synthesis	degradation of protein	7.23E-03	AZGP1,MME,MMP7,SCIN	4
Carbohydrate Metabolism	adhesion of hyaluronic acid	7.78E-03	MME	1
Small Molecule Biochemistry	adhesion of hyaluronic acid	7.78E-03	MME	1
Drug Metabolism	adhesion of hyaluronic acid	7.78E-03	MME	1
Carbohydrate Metabolism	cleavage of proteoglycan	7.78E-03	MMP7	1
Small Molecule Biochemistry	cleavage of proteoglycan	7.78E-03	MMP7	1
Cell-To-Cell Signaling and Interaction	detachment of colon cancer cell lines	7.78E-03	MMP7	1
Tissue Development	detachment of colon cancer cell lines	7.78E-03	MMP7	1
Cellular Assembly and Organization	formation of clathrin-coated vesicles	7.78E-03	SH3GL2	1
Cellular Function and Maintenance	formation of clathrin-coated vesicles	7.78E-03	SH3GL2	1
Cancer	hepatic hemangioma	7.78E-03	GNMT	1
Gastrointestinal Disease	hepatic hemangioma	7.78E-03	GNMT	1
Cardiovascular Disease	hepatic hemangioma	7.78E-03	GNMT	1
Hepatic System Disease	hepatic hemangioma	7.78E-03	GNMT	1
Lipid Metabolism	metabolism of palmitic acid	7.78E-03	DBP	1
Small Molecule Biochemistry	metabolism of palmitic acid	7.78E-03	DBP	1
Neurological Disease	muscle spasticity	7.78E-03	ADRA2A	1
Skeletal and Muscular Disorders	muscle spasticity	7.78E-03	ADRA2A	1
Developmental Disorder	patent ductus arteriosus	7.78E-03	ADRA2A	1
Cardiovascular Disease	patent ductus arteriosus	7.78E-03	ADRA2A	1
Tissue Morphology	quantity of tumor tissue	7.78E-03	MMP7	1
Neurological Disease	restlessness	7.78E-03	ADRA2A	1
Psychological Disorders	restlessness	7.78E-03	ADRA2A	1
Embryonic Development	secondary sex determination	7.78E-03	FKBP4	1

Organismal Development	secondary sex determination	7.78E-03	FKBP4	1
Small Molecule Biochemistry	synthesis of S-adenosylmethionine	7.78E-03	GNMT	1
Amino Acid Metabolism	synthesis of S-adenosylmethionine	7.78E-03	GNMT	1
Nucleic Acid Metabolism	synthesis of S-adenosylmethionine	7.78E-03	GNMT	1
Molecular Transport	transport of cystine	7.78E-03	CTNS	1
Small Molecule Biochemistry	transport of cystine	7.78E-03	CTNS	1
Amino Acid Metabolism	transport of cystine	7.78E-03	CTNS	1
Carbohydrate Metabolism	degradation of carbohydrate	7.87E-03	MMP7,PRDX6	2
Cell Morphology	abnormal morphology of amacrine cells	9.32E-03	SEMA5A	1
Nervous System Development and Function	abnormal morphology of amacrine cells	9.32E-03	SEMA5A	1
Organ Morphology	abnormal morphology of amacrine cells	9.32E-03	SEMA5A	1
Tissue Development	abnormal morphology of amacrine cells	9.32E-03	SEMA5A	1
Tissue Morphology	abnormal morphology of amacrine cells	9.32E-03	SEMA5A	1
Embryonic Development	abnormal morphology of amacrine cells	9.32E-03	SEMA5A	1
Organismal Development	abnormal morphology of amacrine cells	9.32E-03	SEMA5A	1
Organ Development	abnormal morphology of amacrine cells	9.32E-03	SEMA5A	1
Visual System Development and Function	abnormal morphology of amacrine cells	9.32E-03	SEMA5A	1
Lipid Metabolism	binding of glucocorticoid	9.32E-03	FKBP4	1
Small Molecule Biochemistry	binding of glucocorticoid	9.32E-03	FKBP4	1
Endocrine System Development and Function	binding of glucocorticoid	9.32E-03	FKBP4	1
Inflammatory Disease	croup	9.32E-03	ADRA2A	1
Respiratory Disease	croup	9.32E-03	ADRA2A	1
Embryonic Development	implantation of blastocyst	9.32E-03	FKBP4	1
Organismal Development	implantation of blastocyst	9.32E-03	FKBP4	1
Reproductive System Development and Function	implantation of blastocyst	9.32E-03	FKBP4	1
Neurological Disease	neuritic dystrophy	9.32E-03	MME	1
Inflammatory Disease	neuritic dystrophy	9.32E-03	MME	1
Gastrointestinal Disease	tonsillitis	9.32E-03	ADRA2A	1

Inflammatory Disease	tonsillitis	9.32E-03	ADRA2A	1
Infectious Disease	tonsillitis	9.32E-03	ADRA2A	1
Cancer	neuroendocrine carcinoma	9.55E-03	AZGP1,MMP7,MYCL1	3
Molecular Transport	concentration of lipid	9.93E-03	ADRA2A,FKBP4,GNMT,HPGD,PRDX6	5
Lipid Metabolism	concentration of lipid	9.93E-03	ADRA2A,FKBP4,GNMT,HPGD,PRDX6	5
Small Molecule				
Biochemistry	concentration of lipid	9.93E-03	ADRA2A,FKBP4,GNMT,HPGD,PRDX6	5
Protein Synthesis	metabolism of peptide	1.01E-02	CTNS,MME	2
Cardiovascular Disease	congestive heart failure	1.03E-02	ADRA2A,HPGD	2
Inflammatory Response	inflammation of organ	1.04E-02	CTNS,HPGD,MME,MMP7,PRDX6	5
Neurological Disease	movement disorder	1.07E-02	ADRA2A,DBP,FKBP4,PRDX6,SEMA5A,SH3GL2	6
Tissue Development	aggregation of colon cancer cell lines	1.09E-02	MMP7	1
Cell Death and Survival	apoptosis of acinar gland cells	1.09E-02	MMP7	1
Lipid Metabolism	binding of estrogen	1.09E-02	FKBP4	1
Small Molecule				
Biochemistry	binding of estrogen	1.09E-02	FKBP4	1
Endocrine System Development and Function	binding of estrogen	1.09E-02	FKBP4	1
Small Molecule				
Biochemistry	metabolism of folic acid	1.09E-02	GNMT	1
Drug Metabolism	metabolism of folic acid	1.09E-02	GNMT	1
Amino Acid Metabolism	metabolism of folic acid	1.09E-02	GNMT	1
Vitamin and Mineral Metabolism	metabolism of folic acid	1.09E-02	GNMT	1
	transmembrane receptor protein tyrosine phosphatase signaling pathway			
Cell Signaling		1.09E-02	PTPRD	1
Small Molecule				
Biochemistry	metabolism of ATP	1.15E-02	ATP6V1C2,CTNS	2
Energy Production	metabolism of ATP	1.15E-02	ATP6V1C2,CTNS	2
Nucleic Acid Metabolism	metabolism of ATP	1.15E-02	ATP6V1C2,CTNS	2
Organ Morphology	abnormal morphology of inner plexiform layer	1.24E-02	SEMA5A	1
	abnormal morphology of inner plexiform layer			
Tissue Development	plexiform layer	1.24E-02	SEMA5A	1
Embryonic Development	abnormal morphology of inner plexiform layer	1.24E-02	SEMA5A	1
Organismal Development	abnormal morphology of inner plexiform layer	1.24E-02	SEMA5A	1
	abnormal morphology of inner plexiform layer			
Organ Development	plexiform layer	1.24E-02	SEMA5A	1
Visual System Development and Function	abnormal morphology of inner plexiform layer	1.24E-02	SEMA5A	1
	cell viability of vascular endothelial cells			
Cell Death and Survival		1.24E-02	PRDX6	1

Cardiovascular System Development and Function	cell viability of vascular endothelial cells	1.24E-02	PRDX6	1
Cardiovascular System Development and Function	conduction of sinoatrial node	1.24E-02	MMP7	1
Organismal Development	length of anogenital area	1.24E-02	FKBP4	1
Small Molecule Biochemistry	metabolism of L-methionine	1.24E-02	GNMT	1
Amino Acid Metabolism	metabolism of L-methionine	1.24E-02	GNMT	1
Small Molecule Biochemistry	metabolism of S-adenosylmethionine	1.24E-02	GNMT	1
Amino Acid Metabolism	metabolism of S-adenosylmethionine	1.24E-02	GNMT	1
Nucleic Acid Metabolism	metabolism of S-adenosylmethionine	1.24E-02	GNMT	1
Lipid Metabolism Small Molecule	metabolism of linoleic acid	1.24E-02	DBP	1
Biochemistry	metabolism of linoleic acid	1.24E-02	DBP	1
Cell Morphology	morphology of pheochromocytoma cell lines	1.24E-02	ADRA2A	1
Cellular Compromise	severing of actin filaments	1.24E-02	SCIN	1
Reproductive System Development and Function	superovulation	1.24E-02	FKBP4	1
Cardiovascular System Development and Function	systolic pressure	1.33E-02	ADRA2A,DBP	2
Protein Synthesis	metabolism of protein	1.35E-02	AZGP1,MME,MMP7,SCIN,TST	5
Lipid Metabolism Small Molecule	binding of progesterone	1.40E-02	FKBP4	1
Biochemistry	binding of progesterone	1.40E-02	FKBP4	1
Drug Metabolism	binding of progesterone	1.40E-02	FKBP4	1
Endocrine System Development and Function	binding of progesterone	1.40E-02	FKBP4	1
Cellular Growth and Proliferation	generation of stem cells	1.40E-02	MYCL1	1
Tissue Development	generation of stem cells	1.40E-02	MYCL1	1
Cellular Movement Embryonic	migration of mesenchymal cells	1.40E-02	FKBP4	1
Development	migration of mesenchymal cells	1.40E-02	FKBP4	1
Nucleic Acid Metabolism	metabolism of nucleic acid component or derivative	1.54E-02	ADRA2A,ATP6V1C2,CTNS,GNMT	4
Gastrointestinal Disease	acute pancreatitis	1.55E-02	MME	1
Inflammatory Disease	acute pancreatitis	1.55E-02	MME	1
Endocrine System Disorders	acute pancreatitis	1.55E-02	MME	1

Cancer	cancer of mammary gland	1.55E-02	MMP7	1
Reproductive System				
Disease	cancer of mammary gland	1.55E-02	MMP7	1
Developmental				
Disorder	hypospadias	1.55E-02	FKBP4	1
Renal and Urological				
Disease	hypospadias	1.55E-02	FKBP4	1
Organismal Injury and				
Abnormalities	immobility of animal	1.55E-02	ADRA2A	1
Reproductive System				
Disease	priapism	1.55E-02	ADRA2A	1
Inflammatory Disease	vasomotor rhinitis	1.55E-02	ADRA2A	1
Respiratory Disease	vasomotor rhinitis	1.55E-02	ADRA2A	1
Developmental				
Disorder	atrial septal defect	1.70E-02	ADRA2A	1
Cardiovascular Disease	atrial septal defect	1.70E-02	ADRA2A	1
Respiratory Disease	bronchospasm	1.70E-02	ADRA2A	1
Tissue Development	development of sperm	1.70E-02	PACRG	1
Cellular Development	development of sperm	1.70E-02	PACRG	1
Embryonic				
Development	development of sperm	1.70E-02	PACRG	1
Organismal				
Development	development of sperm	1.70E-02	PACRG	1
Reproductive System				
Development and				
Function	development of sperm	1.70E-02	PACRG	1
Organ Development	development of sperm	1.70E-02	PACRG	1
Organismal Injury and				
Abnormalities	failure of heart	1.70E-02	ADRA2A	1
Cardiovascular Disease	failure of heart	1.70E-02	ADRA2A	1
Reproductive System				
Disease	hairpin sperm flagellum	1.70E-02	FKBP4	1
Gastrointestinal				
Disease	hepatorenal syndrome	1.70E-02	ADRA2A	1
Renal and Urological				
Disease	hepatorenal syndrome	1.70E-02	ADRA2A	1
Hepatic System				
Disease	hepatorenal syndrome	1.70E-02	ADRA2A	1
Renal and Urological				
Disease	diabetic nephropathy	1.73E-02	HPGD,MME	2
Developmental				
Disorder	biliary atresia	1.86E-02	MMP7	1
Gastrointestinal				
Disease	biliary atresia	1.86E-02	MMP7	1
Hepatic System				
Disease	biliary atresia	1.86E-02	MMP7	1
Small Molecule	metabolism of S-			
Biochemistry	adenosylhomocysteine	1.86E-02	GNMT	1
Amino Acid	metabolism of S-			
Metabolism	adenosylhomocysteine	1.86E-02	GNMT	1

Nucleic Acid Metabolism	metabolism of S-adenosylhomocysteine	1.86E-02	GNMT	1
Endocrine System Disorders	pseudohermaphroditism	1.86E-02	FKBP4	1
Immunological Disease	immediate hypersensitivity	1.87E-02	ADRA2A,FKBP4,MME	3
Cell Morphology	abnormal morphology of retinal ganglion cells	2.01E-02	SEMA5A	1
Nervous System Development and Function	abnormal morphology of retinal ganglion cells	2.01E-02	SEMA5A	1
Tissue Morphology	abnormal morphology of retinal ganglion cells	2.01E-02	SEMA5A	1
Cellular Movement	extravasation of plasma	2.01E-02	MME	1
Hematological System Development and Function	extravasation of plasma	2.01E-02	MME	1
Cellular Development	maturation of leukemia cell lines	2.01E-02	SCIN	1
Hematopoiesis	maturation of leukemia cell lines	2.01E-02	SCIN	1
Neurological Disease	memory deficits	2.01E-02	MME	1
Molecular Transport	release of neurotransmitter	2.04E-02	ADRA2A,SCIN	2
Cell-To-Cell Signaling and Interaction	release of neurotransmitter	2.04E-02	ADRA2A,SCIN	2
Small Molecule Biochemistry	release of neurotransmitter	2.04E-02	ADRA2A,SCIN	2
Lipid Metabolism	conversion of lipid	2.07E-02	HPGD,PRDX6	2
Small Molecule Biochemistry	conversion of lipid	2.07E-02	HPGD,PRDX6	2
Cancer	growth of tumor	2.09E-02	GNMT,MME,MMP7	3
Neurological Disease	Asperger syndrome	2.16E-02	ADRA2A	1
Psychological Disorders	Asperger syndrome	2.16E-02	ADRA2A	1
Neurological Disease	cannabis dependence	2.16E-02	ADRA2A	1
Psychological Disorders	cannabis dependence	2.16E-02	ADRA2A	1
Cellular Growth and Proliferation	proliferation of myofibroblasts	2.16E-02	MMP7	1
Cellular Development	proliferation of myofibroblasts	2.16E-02	MMP7	1
Skeletal and Muscular System Development and Function	proliferation of myofibroblasts	2.16E-02	MMP7	1
Molecular Transport	quantity of fat	2.16E-02	ADRA2A	1
Lipid Metabolism	quantity of fat	2.16E-02	ADRA2A	1
Small Molecule Biochemistry	quantity of fat	2.16E-02	ADRA2A	1
Cell Morphology	vacuolation of cytoplasm	2.16E-02	SH3GL2	1
Cellular Compromise	vacuolation of cytoplasm	2.16E-02	SH3GL2	1
Immunological Disease	allergy	2.18E-02	ADRA2A,PRDX6	2

Organ Morphology Digestive System	abnormal morphology of hepatic sinusoid	2.32E-02	GNMT	1
Development and Function Hepatic System	abnormal morphology of hepatic sinusoid	2.32E-02	GNMT	1
Development and Function	abnormal morphology of hepatic sinusoid	2.32E-02	GNMT	1
Organ Morphology	abnormal morphology of ventral prostatic lobe	2.32E-02	FKBP4	1
Reproductive System Development and Function	abnormal morphology of ventral prostatic lobe	2.32E-02	FKBP4	1
Cancer	follicular adenoma	2.32E-02	PRDX6	1
Cellular Function and Maintenance	hyperpolarization of neurons	2.32E-02	ADRA2A	1
Inflammatory Disease	sinusitis	2.32E-02	ADRA2A	1
Respiratory Disease	sinusitis	2.32E-02	ADRA2A	1
Behavior	cognition	2.45E-02	CTNS,MME,SLC11A2	3
Cardiovascular System Development and Function	branching morphogenesis of vasculature	2.47E-02	SEMA5A	1
Embryonic Development	branching morphogenesis of vasculature	2.47E-02	SEMA5A	1
Carbohydrate Metabolism	degradation of proteoglycan	2.47E-02	MMP7	1
Small Molecule Biochemistry	degradation of proteoglycan	2.47E-02	MMP7	1
Skeletal and Muscular Disorders	skelatal muscle spasticity	2.47E-02	ADRA2A	1
Cancer	tumor tissue	2.47E-02	MMP7	1
Organismal Injury and Abnormalities	tumor tissue	2.47E-02	MMP7	1
Post-Translational Modification	N-glycosylation of protein	2.62E-02	MAN1C1	1
Neurological Disease Psychological Disorders	bipolar II disorder	2.62E-02	ADRA2A	1
	bipolar II disorder	2.62E-02	ADRA2A	1
Cellular Compromise	damage of endothelial cells	2.62E-02	PRDX6	1
Tissue Development Embryonic Development	development of prostate gland	2.62E-02	FKBP4	1
Organismal Development	development of prostate gland	2.62E-02	FKBP4	1
	development of prostate gland	2.62E-02	FKBP4	1
Reproductive System Development and Function	development of prostate gland	2.62E-02	FKBP4	1
Organ Development Cellular Assembly and Organization	development of prostate gland	2.62E-02	FKBP4	1
	distribution of mitochondria	2.62E-02	BHLHA15	1

Cancer	growth of hepatocellular carcinoma paroxysmal supraventricular	2.62E-02	GNMT	1
Cardiovascular Disease	tachycardia	2.62E-02	ADRA2A	1
Lipid Metabolism Small Molecule	catabolism of phospholipid	2.77E-02	PRDX6	1
Biochemistry	catabolism of phospholipid	2.77E-02	PRDX6	1
Organismal Injury and Abnormalities	microgliosis	2.77E-02	MME	1
Neurological Disease	microgliosis	2.77E-02	MME	1
Molecular Transport Small Molecule	concentration of cyclic AMP	2.89E-02	ADRA2A,AZGP1	2
Biochemistry Nucleic Acid	concentration of cyclic AMP	2.89E-02	ADRA2A,AZGP1	2
Metabolism	concentration of cyclic AMP	2.89E-02	ADRA2A,AZGP1	2
Cell Signaling	concentration of cyclic AMP	2.89E-02	ADRA2A,AZGP1	2
Respiratory Disease	obstructive sleep apnea	2.92E-02	ADRA2A	1
Cell Morphology Nervous System Development and Function	abnormal morphology of bipolar cells abnormal morphology of bipolar cells	3.08E-02 3.08E-02	SEMA5A SEMA5A	1 1
Tissue Morphology	abnormal morphology of bipolar cells	3.08E-02	SEMA5A	1
Organ Morphology	abnormal morphology of prostate gland	3.08E-02 3.08E-02	FKBP4	1
Reproductive System Development and Function	abnormal morphology of prostate gland	3.08E-02 3.08E-02	FKBP4	1
Organismal Injury and Abnormalities	fibrosis of left ventricle	3.08E-02	ADRA2A	1
Cardiovascular Disease	fibrosis of left ventricle	3.08E-02	ADRA2A	1
Reproductive System Development and Function	function of uterus	3.08E-02	FKBP4	1
Organ Development	function of uterus	3.08E-02	FKBP4	1
Neurological Disease	dyskinesia	3.09E-02	ADRA2A,DBP,FKBP4,PRDX6	4
Carbohydrate Metabolism	homeostasis of D-glucose	3.14E-02	ADRA2A,BHLHA15	2
Cellular Function and Maintenance	homeostasis of D-glucose	3.14E-02	ADRA2A,BHLHA15	2
Small Molecule Biochemistry	homeostasis of D-glucose	3.14E-02	ADRA2A,BHLHA15	2
Hematological Disease	Budd-Chiari syndrome	3.23E-02	MMP7	1
Cardiovascular Disease	Budd-Chiari syndrome	3.23E-02	MMP7	1
Free Radical Scavenging Small Molecule	catabolism of hydrogen peroxide	3.23E-02	PRDX6	1
Biochemistry	catabolism of hydrogen peroxide	3.23E-02	PRDX6	1
Hereditary Disorder	hebephrenic schizizophrenia	3.23E-02	ADRA2A	1

Neurological Disease Psychological Disorders	hebephrenic schizophrenia	3.23E-02	ADRA2A	1
Reproductive System Disease	hebephrenic schizophrenia	3.23E-02	ADRA2A	1
Lipid Metabolism Small Molecule Biochemistry	impotence	3.23E-02	ADRA2A	1
	metabolism of arachidonic acid	3.23E-02	DBP	1
	metabolism of arachidonic acid	3.23E-02	DBP	1
Inflammatory Disease Auditory Disease Post-Translational Modification	otitis media	3.23E-02	ADRA2A	1
	otitis media	3.23E-02	ADRA2A	1
	oxidation of protein	3.23E-02	PRDX6	1
Protein Degradation Developmental Disorder	oxidation of protein	3.23E-02	PRDX6	1
	hypertrophy of heart	3.37E-02	ADRA2A,MMP7	2
Cardiovascular Disease	hypertrophy of heart	3.37E-02	ADRA2A,MMP7	2
Cell Signaling	androgen receptor signaling pathway	3.38E-02	FKBP4	1
Cell Death and Survival	cell viability of macrophages	3.38E-02	PRDX6	1
Hematological System Development and Function	cell viability of macrophages	3.38E-02	PRDX6	1
Cellular Assembly and Organization	endocytosis of synaptic vesicles	3.38E-02	SH3GL2	1
Cellular Function and Maintenance	endocytosis of synaptic vesicles	3.38E-02	SH3GL2	1
Cellular Movement	endocytosis of synaptic vesicles	3.38E-02	SH3GL2	1
Nervous System Development and Function	endocytosis of synaptic vesicles	3.38E-02	SH3GL2	1
Cellular Assembly and Organization	formation of amyloid fibrils	3.38E-02	MME	1
Tissue Development	formation of amyloid fibrils	3.38E-02	MME	1
Hereditary Disorder	paranoid schizophrenia	3.38E-02	ADRA2A	1
Neurological Disease Psychological Disorders	paranoid schizophrenia	3.38E-02	ADRA2A	1
	paranoid schizophrenia	3.38E-02	ADRA2A	1
Organismal Injury and Abnormalities	poikilocytosis	3.38E-02	SLC11A2	1
Hematological Disease	poikilocytosis	3.38E-02	SLC11A2	1
Cell Morphology	shape change of blood platelets	3.38E-02	ADRA2A	1
Inflammatory Response	shape change of blood platelets	3.38E-02	ADRA2A	1
Hematological System Development and Function	shape change of blood platelets	3.38E-02	ADRA2A	1
Small Molecule Biochemistry	synthesis of heme	3.38E-02	SLC11A2	1

Dermatological Diseases and Conditions	urticaria	3.38E-02	ADRA2A	1
Immunological Disease	urticaria	3.38E-02	ADRA2A	1
Developmental Disorder	cryptorchidism	3.53E-02	FKBP4	1
Endocrine System Disorders	cryptorchidism	3.53E-02	FKBP4	1
Reproductive System Disease	cryptorchidism	3.53E-02	FKBP4	1
Tissue Development Embryonic Development	development of yolk sac	3.53E-02	ADRA2A	1
Organismal Development	development of yolk sac	3.53E-02	ADRA2A	1
Dermatological Diseases and Conditions	formation of ulcer	3.53E-02	MMP7	1
Gastrointestinal Disease	formation of ulcer	3.53E-02	MMP7	1
Organismal Injury and Abnormalities	formation of ulcer	3.53E-02	MMP7	1
Cellular Assembly and Organization	quantity of amyloid fibrils	3.53E-02	MME	1
Cellular Assembly and Organization	remodeling of cytoskeleton	3.53E-02	PTPRD	1
Cancer	carcinoma in situ	3.54E-02	MMP7,MYCL1	2
Neurological Disease	major depression	3.57E-02	ADRA2A,FKBP4	2
Psychological Disorders	major depression	3.57E-02	ADRA2A,FKBP4	2
Molecular Transport	quantity of steroid	3.64E-02	FKBP4,GNMT,HPGD	3
Lipid Metabolism	quantity of steroid	3.64E-02	FKBP4,GNMT,HPGD	3
Small Molecule Biochemistry	quantity of steroid	3.64E-02	FKBP4,GNMT,HPGD	3
Dermatological Diseases and Conditions	angioedema	3.68E-02	ADRA2A	1
Organismal Injury and Abnormalities	angioedema	3.68E-02	ADRA2A	1
Immunological Disease	angioedema	3.68E-02	ADRA2A	1
Organismal Injury and Abnormalities	hot flashes	3.68E-02	ADRA2A	1
Reproductive System Development and Function	parturition	3.68E-02	HPGD	1
Post-Translational Modification	hydrolysis of protein	3.74E-02	MME,MMP7	2
Protein Degradation	hydrolysis of protein	3.74E-02	MME,MMP7	2
Protein Synthesis	hydrolysis of protein	3.74E-02	MME,MMP7	2
Organ Morphology	mass of seminal vesicle	3.83E-02	FKBP4	1
Organismal Development	mass of seminal vesicle	3.83E-02	FKBP4	1

Reproductive System Development and Function	mass of seminal vesicle	3.83E-02	FKBP4	1
Organismal Injury and Abnormalities	neurodegeneration of hippocampus	3.83E-02	MME	1
Neurological Disease Post-Translational Modification	neurodegeneration of hippocampus proteolysis of Gelatin	3.83E-02	MME	1
Protein Degradation	proteolysis of Gelatin	3.83E-02	MMP7	1
Protein Synthesis	proteolysis of Gelatin	3.83E-02	MMP7	1
Cancer Gastrointestinal Disease	acinar-cell carcinoma acinar-cell carcinoma	3.98E-02	AZGP1	1
Endocrine System Disorders	acinar-cell carcinoma	3.98E-02	AZGP1	1
Inflammatory Response	acute inflammatory response	3.98E-02	ADRA2A	1
Inflammatory Disease Inflammatory Response	allergic pulmonary eosinophilia allergic pulmonary eosinophilia	3.98E-02	PRDX6	1
Respiratory Disease	allergic pulmonary eosinophilia	3.98E-02	PRDX6	1
Hematological Disease Immunological Disease	allergic pulmonary eosinophilia allergic pulmonary eosinophilia	3.98E-02	PRDX6	1
Neurological Disease Psychological Disorders	vascular dementia vascular dementia	3.98E-02	ADRA2A	1
Cardiovascular Disease	vascular dementia	3.98E-02	ADRA2A	1
Cell Death and Survival	apoptosis of epithelial cells	4.02E-02	FKBP4,PRDX6	2
Hematological Disease Molecular Transport Free Radical Scavenging	anisocytosis quantity of hydrogen peroxide quantity of hydrogen peroxide	4.13E-02	SLC11A2 PRDX6 PRDX6	1 1 1
Reproductive System Development and Function	decidualization	4.28E-02	FKBP4	1
Gastrointestinal Disease	degeneration of liver	4.28E-02	GNMT	1
Organismal Injury and Abnormalities	degeneration of liver	4.28E-02	GNMT	1
Hepatic System Disease	degeneration of liver	4.28E-02	GNMT	1
Neurological Disease Carbohydrate Metabolism	sedation quantity of carbohydrate	4.28E-02	ADRA2A	1
Organ Morphology	abnormal morphology of seminal vesicle	4.42E-02 4.43E-02	ADRA2A,GNMT,PRDX6 FKBP4	3 1

Reproductive System Development and Function	abnormal morphology of seminal vesicle	4.43E-02	FKBP4	1
Renal and Urological Disease	acute kidney injury	4.43E-02	ADRA2A	1
Cardiovascular Disease	atrial flutter	4.43E-02	ADRA2A	1
Neurological Disease	essential tremor	4.43E-02	ADRA2A	1
Cardiovascular Disease	bradycardia	4.58E-02	ADRA2A	1
Ophthalmic Disease	hypertension of eye	4.58E-02	ADRA2A	1
Cardiovascular Disease	hypertension of eye	4.58E-02	ADRA2A	1
Inflammatory Response	inflammation of brain	4.58E-02	MME	1
Cellular Movement Small Molecule	invasion of pancreatic cancer cell lines	4.58E-02	AZGP1	1
Biochemistry Nucleic Acid	metabolism of nucleotide	4.59E-02	ADRA2A,ATP6V1C2,CTNS	3
Metabolism	metabolism of nucleotide	4.59E-02	ADRA2A,ATP6V1C2,CTNS	3
Cellular Assembly and Organization	branching morphogenesis of tubules	4.73E-02	SEMA5A	1
Tissue Development Embryonic	branching morphogenesis of tubules	4.73E-02	SEMA5A	1
Development	branching morphogenesis of tubules	4.73E-02	SEMA5A	1
Cardiovascular Disease Post-Translational Modification	chronic heart failure cleavage of protein fragment	4.73E-02	ADRA2A MMP7	1 1
Protein Degradation	cleavage of protein fragment	4.73E-02	MMP7	1
Protein Synthesis	cleavage of protein fragment	4.73E-02	MMP7	1
Neurological Disease	diabetic neuropathy	4.73E-02	ADRA2A	1
Cancer	pheochromocytoma	4.73E-02	ADRA2A	1
Molecular Transport	release of 5-hydroxytryptamine	4.73E-02	SCIN	1
Cell-To-Cell Signaling and Interaction Small Molecule	release of 5-hydroxytryptamine	4.73E-02	SCIN	1
Biochemistry	release of 5-hydroxytryptamine	4.73E-02	SCIN	1
Molecular Transport	release of norepinephrine	4.73E-02	ADRA2A	1
Cell-To-Cell Signaling and Interaction Small Molecule	release of norepinephrine	4.73E-02	ADRA2A	1
Biochemistry	release of norepinephrine	4.73E-02	ADRA2A	1
Drug Metabolism	release of norepinephrine	4.73E-02	ADRA2A	1
Molecular Transport	secretion of norepinephrine	4.73E-02	ADRA2A	1
Cell-To-Cell Signaling and Interaction Small Molecule	secretion of norepinephrine	4.73E-02	ADRA2A	1
Biochemistry	secretion of norepinephrine	4.73E-02	ADRA2A	1

Drug Metabolism	secretion of norepinephrine	4.73E-02	ADRA2A	1
Organ Morphology	abnormal morphology of inner nuclear layer	4.88E-02	SEMA5A	1
	abnormal morphology of inner nuclear layer	4.88E-02	SEMA5A	1
Tissue Development Embryonic	abnormal morphology of inner nuclear layer	4.88E-02	SEMA5A	1
	abnormal morphology of inner nuclear layer	4.88E-02	SEMA5A	1
Organismal Development	abnormal morphology of inner nuclear layer	4.88E-02	SEMA5A	1
	abnormal morphology of inner nuclear layer	4.88E-02	SEMA5A	1
Organ Development Visual System	abnormal morphology of inner nuclear layer	4.88E-02	SEMA5A	1
	abnormal morphology of inner nuclear layer	4.88E-02	SEMA5A	1
Development and Function Connective Tissue Disorders	adjuvant arthritis	4.88E-02	AZGP1	1
	adjuvant arthritis	4.88E-02	AZGP1	1
Inflammatory Disease Skeletal and Muscular Disorders	adjuvant arthritis	4.88E-02	AZGP1	1
	adjuvant arthritis	4.88E-02	AZGP1	1
Cell Death and Survival Nervous System Development and Function	cell viability of cortical neurons	4.88E-02	SLC11A2	1
	cell viability of cortical neurons	4.88E-02	SLC11A2	1
Neurological Disease Tissue Morphology	dystonia	4.88E-02	ADRA2A	1
	morphology of interstitial tissue	4.88E-02	MMP7	1
Lipid Metabolism Small Molecule Biochemistry	metabolism of eicosanoid	4.95E-02	DBP,HPGD	2
	metabolism of eicosanoid	4.95E-02	DBP,HPGD	2

PTEN Loss Down, ERG Up

Category	Term	Count	P-Value	Genes
Connective Tissue Development and Function	abnormal morphology of basisphenoid bone foramen	1.80E-04	BMP7,PKDCC	2
	abnormal morphology of basisphenoid bone foramen	1.80E-04	BMP7,PKDCC	2
Embryonic Development	abnormal morphology of basisphenoid bone foramen	1.80E-04	BMP7,PKDCC	2
	abnormal morphology of basisphenoid bone foramen	1.80E-04	BMP7,PKDCC	2
Organ Development	abnormal morphology of basisphenoid bone foramen	1.80E-04	BMP7,PKDCC	2
	abnormal morphology of basisphenoid bone foramen	1.80E-04	BMP7,PKDCC	2
Organ Morphology Organismal Development	abnormal morphology of basisphenoid bone foramen	1.80E-04	BMP7,PKDCC	2
	abnormal morphology of basisphenoid bone foramen	1.80E-04	BMP7,PKDCC	2
Skeletal and Muscular System Development and Function	abnormal morphology of basisphenoid bone foramen	1.80E-04	BMP7,PKDCC	2
	abnormal morphology of basisphenoid bone foramen	1.80E-04	BMP7,PKDCC	2
Tissue Development	abnormal morphology of basisphenoid bone foramen	1.80E-04	BMP7,PKDCC	2
Cell-To-Cell Signaling and Interaction Small Molecule Biochemistry	metabolism of neurotransmitter	4.89E-04	CCDC92,COMT,NR4A2	3
	metabolism of neurotransmitter	4.89E-04	CCDC92,COMT,NR4A2	3
Organ Morphology	abnormal morphology of acinar gland cells	6.52E-04	ATF4,ITPR2	2

Cell Morphology	abnormal morphology of acinar gland cells	6.52E-04	ATF4,ITPR2	2
Endocrine System				
Development and Function	abnormal morphology of acinar gland cells	6.52E-04	ATF4,ITPR2	2
Organ Morphology	abnormal morphology of substantia nigra	7.80E-04	HYOU1,NR4A2	2
Nervous System				
Development and Function	abnormal morphology of substantia nigra	7.80E-04	HYOU1,NR4A2	2
Ophthalmic Disease	aphakia	1.07E-03	ATF4,BMP7	2
Cell Morphology	morphology of prostate cancer cell lines	1.23E-03	BMP7,GDF15	2
Organ Morphology	morphology of exocrine cells	1.27E-03	AGR2,ATF4,ITPR2	3
Cell Morphology	morphology of exocrine cells	1.27E-03	AGR2,ATF4,ITPR2	3
Cell Signaling	activation of enzyme	1.89E-03	GMFG,NR4A2,SEC14L2	3
Cellular Development	proliferation of prostate cell lines	2.21E-03	BMP7,SEC14L2	2
Cellular Growth and Proliferation	proliferation of prostate cell lines	2.21E-03	BMP7,SEC14L2	2
Reproductive System				
Development and Function	proliferation of prostate cell lines	2.21E-03	BMP7,SEC14L2	2
Cellular Movement	cell movement of prostate cancer cell lines	2.31E-03	AGR2,BMP7,GDF15	3
Cardiovascular Disease	ischemia of brain	2.49E-03	GPX3,HYOU1,TINAGL1	3
Neurological Disease	ischemia of brain	2.49E-03	GPX3,HYOU1,TINAGL1	3
Tissue Morphology	abnormal morphology of xiphoid process	3.18E-03	BMP7,PKDCC	2
Ophthalmic Disease	Alstrom's syndrome	3.51E-03	ALMS1	1
Neurological Disease	Alstrom's syndrome	3.51E-03	ALMS1	1
Hereditary Disorder	Alstrom's syndrome	3.51E-03	ALMS1	1
Nervous System				
Development and Function	aplasia of optic nerve	3.51E-03	BMP7	1
Ophthalmic Disease	aplasia of optic nerve	3.51E-03	BMP7	1
Neurological Disease	aplasia of optic nerve	3.51E-03	BMP7	1
Developmental Disorder	aplasia of optic nerve	3.51E-03	BMP7	1
Cell Death and Survival	apoptosis of oviduct cells	3.51E-03	BMP7	1
Cancer	autosomal dominant polycystic liver disease	3.51E-03	SEC63 (includes EG:11231)	1
Developmental Disorder	autosomal dominant polycystic liver disease	3.51E-03	SEC63 (includes EG:11231)	1
Gastrointestinal Disease	autosomal dominant polycystic liver disease	3.51E-03	SEC63 (includes EG:11231)	1
Hepatic System	autosomal dominant polycystic liver disease	3.51E-03	SEC63 (includes EG:11231)	1
Disease	autosomal dominant polycystic liver disease	3.51E-03	SEC63 (includes EG:11231)	1
Hereditary Disorder	autosomal dominant polycystic liver disease	3.51E-03	SEC63 (includes EG:11231)	1
Cell Death and Survival	cell death of lymphoblastoid cells	3.51E-03	COMT	1

Embryonic Development	cell division of mesenchymal cells	3.51E-03	BMP7	1
Cell Cycle	cell division of mesenchymal cells	3.51E-03	BMP7	1
Small Molecule				
Biochemistry	degradation of epinephrine	3.51E-03	COMT	1
Embryonic Development	development of hyaloid artery	3.51E-03	BMP7	1
Organismal Development	development of hyaloid artery	3.51E-03	BMP7	1
Tissue Development	development of hyaloid artery	3.51E-03	BMP7	1
Embryonic Development	differentiation of metanephric mesenchyme	3.51E-03	BMP7	1
Tissue Development	differentiation of metanephric mesenchyme	3.51E-03	BMP7	1
Cellular Development	differentiation of metanephric mesenchyme	3.51E-03	BMP7	1
Cell-To-Cell Signaling and Interaction	elimination of dopamine	3.51E-03	COMT	1
Small Molecule				
Biochemistry	elimination of dopamine	3.51E-03	COMT	1
Drug Metabolism	elimination of dopamine	3.51E-03	COMT	1
Cell Cycle	entry into G2/M phase of prostate cancer cell lines	3.51E-03	BMP7	1
Nervous System Development and Function	entry into differentiation of neuronal progenitor cells	3.51E-03	GATA2	1
Cellular Development	entry into differentiation of neuronal progenitor cells	3.51E-03	GATA2	1
Cell-To-Cell Signaling and Interaction	excretion of dopamine	3.51E-03	COMT	1
Small Molecule				
Biochemistry	excretion of dopamine	3.51E-03	COMT	1
Drug Metabolism	excretion of dopamine	3.51E-03	COMT	1
Molecular Transport	excretion of dopamine	3.51E-03	COMT	1
Embryonic Development	expansion of embryonic stem cell lines	3.51E-03	GATA2	1
Cellular Development	expansion of embryonic stem cell lines	3.51E-03	GATA2	1
Cellular Growth and Proliferation	expansion of embryonic stem cell lines	3.51E-03	GATA2	1
Embryonic Development	formation of embryonic stem cell lines	3.51E-03	GATA2	1
Cellular Growth and Proliferation	formation of embryonic stem cell lines	3.51E-03	GATA2	1
Digestive System Development and Function	formation of hard palate	3.51E-03	ASPH	1
Cellular Growth and Proliferation	formation of mast cells	3.51E-03	GATA2	1
Hematological System Development and Function	formation of mast cells	3.51E-03	GATA2	1
Inflammatory Response	formation of mast cells	3.51E-03	GATA2	1

Developmental Disorder	fructose-1,6-diphosphatase deficiency	3.51E-03	FBP1	1
Hereditary Disorder	fructose-1,6-diphosphatase deficiency	3.51E-03	FBP1	1
Metabolic Disease	fructose-1,6-diphosphatase deficiency	3.51E-03	FBP1	1
Cell-To-Cell Signaling and Interaction	inactivation of dopamine	3.51E-03	COMT	1
Small Molecule Biochemistry	inactivation of dopamine	3.51E-03	COMT	1
Cell-To-Cell Signaling and Interaction	inactivation of norepinephrine	3.51E-03	COMT	1
Small Molecule Biochemistry	inactivation of norepinephrine	3.51E-03	COMT	1
Connective Tissue Development and Function	induction of long bones	3.51E-03	BMP7	1
Embryonic Development	induction of long bones	3.51E-03	BMP7	1
Organ Development	induction of long bones	3.51E-03	BMP7	1
Organ Morphology	induction of long bones	3.51E-03	BMP7	1
Organismal Development	induction of long bones	3.51E-03	BMP7	1
Skeletal and Muscular System Development and Function	induction of long bones	3.51E-03	BMP7	1
Embryonic Development	induction of metanephric mesenchyme	3.51E-03	BMP7	1
Organismal Development	induction of metanephric mesenchyme	3.51E-03	BMP7	1
Tissue Morphology	induction of metanephric mesenchyme	3.51E-03	BMP7	1
Embryonic Development	initiation of formation of optic fissure	3.51E-03	BMP7	1
Organismal Development	initiation of formation of optic fissure	3.51E-03	BMP7	1
Tissue Development	initiation of formation of optic fissure	3.51E-03	BMP7	1
Drug Metabolism	linkage of glutathione	3.51E-03	GLRX	1
Cell-To-Cell Signaling and Interaction	localization of dopamine	3.51E-03	COMT	1
Small Molecule Biochemistry	localization of dopamine	3.51E-03	COMT	1
Drug Metabolism	localization of dopamine	3.51E-03	COMT	1
Molecular Transport	localization of dopamine	3.51E-03	COMT	1
Nervous System Development and Function	loss of amacrine cells	3.51E-03	NR4A2	1
Cell Death and Survival	loss of amacrine cells	3.51E-03	NR4A2	1
Small Molecule Biochemistry	metabolism of L-dopa	3.51E-03	COMT	1

Amino Acid					
Metabolism	metabolism of L-dopa	3.51E-03	COMT		1
Drug Metabolism	metabolism of L-dopa	3.51E-03	COMT		1
Small Molecule					
Biochemistry	methylation of 2-hydroxyestradiol	3.51E-03	COMT		1
Lipid Metabolism	methylation of 2-hydroxyestradiol	3.51E-03	COMT		1
Small Molecule					
Biochemistry	methylation of catecholamine	3.51E-03	COMT		1
Hereditary Disorder	monocytopenia and mycobacterial				
Immunological	infection syndrome	3.51E-03	GATA2		1
Disease	monocytopenia and mycobacterial				
	infection syndrome	3.51E-03	GATA2		1
Skeletal and Muscular					
System Development					
and Function	onset of differentiation of osteoblasts	3.51E-03	ATF4		1
Cellular Development	onset of differentiation of osteoblasts	3.51E-03	ATF4		1
Reproductive System					
Development and					
Function	ovulation of oocytes	3.51E-03	BMP7		1
Tissue Morphology	quantity of spleen colony forming cells	3.51E-03	GATA2		1
Lymphoid Tissue					
Structure and					
Development	quantity of spleen colony forming cells	3.51E-03	GATA2		1
Small Molecule					
Biochemistry	release of homocysteine	3.51E-03	COMT		1
Amino Acid					
Metabolism	release of homocysteine	3.51E-03	COMT		1
Cell Morphology	repair of renal tubular epithelial cells	3.51E-03	BMP7		1
Cellular Function and					
Maintenance	repair of renal tubular epithelial cells	3.51E-03	BMP7		1
Nervous System					
Development and					
Function	rotation of neurons	3.51E-03	GDF15		1
Cellular Movement	rotation of neurons	3.51E-03	GDF15		1
Tissue Morphology	thickening of carotid artery	3.51E-03	ATF4		1
Organismal Injury and					
Abnormalities	thickening of carotid artery	3.51E-03	ATF4		1
Cancer	tumorigenesis of intestinal polyp	3.51E-03	ASPH		1
Gastrointestinal					
Disease	tumorigenesis of intestinal polyp	3.51E-03	ASPH		1
Small Molecule					
Biochemistry	utilization of 2-hydroxyestradiol	3.51E-03	COMT		1
Endocrine System					
Development and					
Function	utilization of 2-hydroxyestradiol	3.51E-03	COMT		1
Lipid Metabolism	utilization of 2-hydroxyestradiol	3.51E-03	COMT		1
Connective Tissue					
Development and					
Function	abnormal morphology of radius	3.72E-03	BMP7,PKDCC		2
Embryonic					
Development	abnormal morphology of radius	3.72E-03	BMP7,PKDCC		2
Organ Development	abnormal morphology of radius	3.72E-03	BMP7,PKDCC		2

Organ Morphology	abnormal morphology of radius	3.72E-03	BMP7,PKDCC	2
Organismal Development	abnormal morphology of radius	3.72E-03	BMP7,PKDCC	2
Skeletal and Muscular System Development and Function	abnormal morphology of radius	3.72E-03	BMP7,PKDCC	2
Tissue Development	abnormal morphology of radius	3.72E-03	BMP7,PKDCC	2
Cell-To-Cell Signaling and Interaction	metabolism of dopamine	4.01E-03	COMT,NR4A2	2
Small Molecule Biochemistry	metabolism of dopamine	4.01E-03	COMT,NR4A2	2
Drug Metabolism	metabolism of dopamine	4.01E-03	COMT,NR4A2	2
Connective Tissue Development and Function	differentiation of adipocytes	4.32E-03	ALMS1,BMP7,GATA2,WWTR1	4
Cellular Development	differentiation of adipocytes	4.32E-03	ALMS1,BMP7,GATA2,WWTR1	4
Connective Tissue Development and Function	abnormal morphology of ulna	4.62E-03	BMP7,PKDCC	2
Embryonic Development	abnormal morphology of ulna	4.62E-03	BMP7,PKDCC	2
Organ Development	abnormal morphology of ulna	4.62E-03	BMP7,PKDCC	2
Organ Morphology	abnormal morphology of ulna	4.62E-03	BMP7,PKDCC	2
Organismal Development	abnormal morphology of ulna	4.62E-03	BMP7,PKDCC	2
Skeletal and Muscular System Development and Function	abnormal morphology of ulna	4.62E-03	BMP7,PKDCC	2
Tissue Development	abnormal morphology of ulna	4.62E-03	BMP7,PKDCC	2
Cardiovascular Disease	ischemic injury of brain	4.62E-03	GPX3,HYOU1	2
Neurological Disease	ischemic injury of brain	4.62E-03	GPX3,HYOU1	2
Organismal Injury and Abnormalities	ischemic injury of brain	4.62E-03	GPX3,HYOU1	2
Protein Synthesis	polymerization of protein	4.79E-03	AKAP2/PALM2-AKAP2,CCDC92,EVL,FBP1,GPX3	5
Cellular Development	differentiation of stem cells	4.92E-03	BMP7,GATA2,NR4A2,WWTR1	4
Cellular Function and Maintenance	endoplasmic reticulum stress response	5.20E-03	ATF4,ERN1,HYOU1	3
Cellular Compromise	endoplasmic reticulum stress response	5.20E-03	ATF4,ERN1,HYOU1	3
Embryonic Development	development of lens	5.27E-03	ATF4,BMP7	2
Organ Development	development of lens	5.27E-03	ATF4,BMP7	2
Organismal Development	development of lens	5.27E-03	ATF4,BMP7	2
Tissue Development	development of lens	5.27E-03	ATF4,BMP7	2

Visual System Development and Function	development of lens	5.27E-03	ATF4,BMP7	2
Cell Death and Survival Small Molecule	apoptosis of endothelial cell lines	5.95E-03	ERN1,HYOU1	2
Biochemistry	activation of arachidonic acid	7.01E-03	ACSL4	1
Lipid Metabolism	activation of arachidonic acid	7.01E-03	ACSL4	1
Embryonic Development	aggregation of mesenchymal cells	7.01E-03	BMP7	1
Tissue Development	aggregation of mesenchymal cells	7.01E-03	BMP7	1
Cell-To-Cell Signaling and Interaction	aggregation of mesenchymal cells	7.01E-03	BMP7	1
Cell Death and Survival	anoikis of cancer cells	7.01E-03	NR4A2	1
Tumor Morphology	anoikis of cancer cells	7.01E-03	NR4A2	1
Gene Expression	binding of MEF2-binding element	7.01E-03	BMP7	1
Cell-To-Cell Signaling and Interaction	binding of fibrosarcoma cell lines	7.01E-03	IL1R2	1
Cardiovascular Disease	calcification of aorta	7.01E-03	BMP7	1
Cell Death and Survival	clearance of Haemophilus influenzae	7.01E-03	SPON2	1
Cellular Function and Maintenance	clearance of Haemophilus influenzae	7.01E-03	SPON2	1
Small Molecule Biochemistry	degradation of L-dopa	7.01E-03	COMT	1
Amino Acid Metabolism	degradation of L-dopa	7.01E-03	COMT	1
Drug Metabolism	degradation of L-dopa	7.01E-03	COMT	1
Cell-To-Cell Signaling and Interaction	degradation of norepinephrine	7.01E-03	COMT	1
Small Molecule Biochemistry	degradation of norepinephrine	7.01E-03	COMT	1
Cellular Development	epithelial-mesenchymal transition of fibroblasts	7.01E-03	BMP7	1
Organismal Injury and Abnormalities	fibrosis of renal glomerulus	7.01E-03	BMP7	1
Renal and Urological Disease	fibrosis of renal glomerulus	7.01E-03	BMP7	1
Cellular Growth and Proliferation	formation of cancer cells	7.01E-03	BMP7	1
Cancer	formation of cancer cells	7.01E-03	BMP7	1
Cellular Function and Maintenance	function of fibroblast cell lines	7.01E-03	GATA2	1
Organismal Injury and Abnormalities	leakage of blood	7.01E-03	IL1R2	1
Hematological Disease	leakage of blood	7.01E-03	IL1R2	1
Embryonic Development	maturation of embryonic stem cell lines	7.01E-03	NR4A2	1
Cellular Development	maturation of embryonic stem cell lines	7.01E-03	NR4A2	1

Embryonic Development	morphogenesis of nephrogenic mesenchyme	7.01E-03	BMP7	1
Organismal Development	morphogenesis of nephrogenic mesenchyme	7.01E-03	BMP7	1
Tissue Development	morphogenesis of nephrogenic mesenchyme	7.01E-03	BMP7	1
Cancer	regression of fibrosarcoma	7.01E-03	HYOU1	1
Tumor Morphology	regression of fibrosarcoma	7.01E-03	HYOU1	1
Organ Development	repair of kidney	7.01E-03	BMP7	1
Organ Morphology	repair of kidney	7.01E-03	BMP7	1
Renal and Urological System Development and Function	repair of kidney	7.01E-03	BMP7	1
Neurological Disease	sialidosis	7.01E-03	NEU1	1
Developmental Disorder	sialidosis	7.01E-03	NEU1	1
Hereditary Disorder	sialidosis	7.01E-03	NEU1	1
Metabolic Disease	sialidosis	7.01E-03	NEU1	1
Nervous System Development and Function	survival of facial motor neurons	7.01E-03	GDF15	1
Cell Death and Survival	survival of facial motor neurons	7.01E-03	GDF15	1
Cell Death and Survival	survival of paneth cells	7.01E-03	ERN1	1
Small Molecule				
Biochemistry	synthesis of glutamine	7.01E-03	CCDC92	1
Amino Acid				
Metabolism	synthesis of glutamine	7.01E-03	CCDC92	1
Protein Synthesis	translation of reporter protein	7.01E-03	ERN1	1
Small Molecule				
Biochemistry	uptake of vitamin E	7.01E-03	SEC14L2	1
Lipid Metabolism	uptake of vitamin E	7.01E-03	SEC14L2	1
Molecular Transport	uptake of vitamin E	7.01E-03	SEC14L2	1
Vitamin and Mineral				
Metabolism	uptake of vitamin E	7.01E-03	SEC14L2	1
Small Molecule				
Biochemistry	synthesis of proteoglycan	7.06E-03	BMP7,IL1R2	2
Carbohydrate				
Metabolism	synthesis of proteoglycan	7.06E-03	BMP7,IL1R2	2
Connective Tissue				
Development and Function	abnormal morphology of maxilla	7.44E-03	BMP7,PKDCC	2
Embryonic				
Development	abnormal morphology of maxilla	7.44E-03	BMP7,PKDCC	2
Organ Development	abnormal morphology of maxilla	7.44E-03	BMP7,PKDCC	2
Organ Morphology	abnormal morphology of maxilla	7.44E-03	BMP7,PKDCC	2
Organismal				
Development	abnormal morphology of maxilla	7.44E-03	BMP7,PKDCC	2
Skeletal and Muscular System Development and Function	abnormal morphology of maxilla	7.44E-03	BMP7,PKDCC	2

Tissue Development	abnormal morphology of maxilla	7.44E-03	BMP7,PKDCC	2
Cancer	chronic myeloproliferative disorder	8.21E-03	BMP7,GATA2,PDE4B	3
Hematological Disease	chronic myeloproliferative disorder	8.21E-03	BMP7,GATA2,PDE4B	3
Organ Development	function of genital organ	8.66E-03	ACSL4,BMP7	2
Reproductive System Development and Function	function of genital organ	8.66E-03	ACSL4,BMP7	2
Cancer	ovarian cancer	9.05E-03	AGR2,BMP7,EVL,GDF15,GPX3,KCNK6	6
Endocrine System Disorders	ovarian cancer	9.05E-03	AGR2,BMP7,EVL,GDF15,GPX3,KCNK6	6
Reproductive System Disease	ovarian cancer	9.05E-03	AGR2,BMP7,EVL,GDF15,GPX3,KCNK6	6
Cellular Function and Maintenance	endoplasmic reticulum stress response of cells	9.08E-03	ATF4,ERN1	2
Cellular Compromise	endoplasmic reticulum stress response of cells	9.08E-03	ATF4,ERN1	2
Developmental Disorder	hypoplasia of liver	9.08E-03	ATF4,ERN1	2
Gastrointestinal Disease	hypoplasia of liver	9.08E-03	ATF4,ERN1	2
Hepatic System Disease	hypoplasia of liver	9.08E-03	ATF4,ERN1	2
Inflammatory Response	inflammatory response of cells	9.08E-03	ERN1,NR4A2	2
Developmental Disorder	syndactyly	1.04E-02	ASPH,BMP7	2
Skeletal and Muscular Disorders	syndactyly	1.04E-02	ASPH,BMP7	2
Digestive System Development and Function	abnormal morphology of hard palate	1.05E-02	BMP7	1
Organ Morphology	abnormal morphology of zymogen granules	1.05E-02	ATF4	1
Cell Morphology	abnormal morphology of zymogen granules	1.05E-02	ATF4	1
Endocrine System Development and Function	abnormal morphology of zymogen granules	1.05E-02	ATF4	1
Digestive System Development and Function	abnormal morphology of zymogen granules	1.05E-02	ATF4	1
Cell Death and Survival	anoikis of cervical cancer cell lines	1.05E-02	NR4A2	1
Cell Death and Survival	apoptosis of lens epithelium	1.05E-02	ATF4	1
Cell Cycle	arrest in cell cycle progression of neuronal hybrid cells	1.05E-02	NR4A2	1
Cellular Development	arrest in growth of prostate cell lines	1.05E-02	BMP7	1
Cellular Growth and Proliferation	arrest in growth of prostate cell lines	1.05E-02	BMP7	1

Reproductive System Development and Function	arrest in growth of prostate cell lines	1.05E-02	BMP7	1
Organ Development	branching of lacrimal gland	1.05E-02	BMP7	1
Organ Morphology	branching of lacrimal gland	1.05E-02	BMP7	1
Tissue Development	branching of lacrimal gland	1.05E-02	BMP7	1
Cellular Development	branching of lacrimal gland	1.05E-02	BMP7	1
Visual System Development and Function	branching of lacrimal gland	1.05E-02	BMP7	1
Small Molecule Biochemistry	degradation of estrogen	1.05E-02	COMT	1
Lipid Metabolism	degradation of estrogen	1.05E-02	COMT	1
Vitamin and Mineral Metabolism	degradation of estrogen	1.05E-02	COMT	1
Embryonic Development	development of Paneth cells	1.05E-02	ERN1	1
Organ Development	development of Paneth cells	1.05E-02	ERN1	1
Organismal Development	development of Paneth cells	1.05E-02	ERN1	1
Tissue Development	development of Paneth cells	1.05E-02	ERN1	1
Cellular Development	development of Paneth cells	1.05E-02	ERN1	1
Digestive System Development and Function	development of Paneth cells	1.05E-02	ERN1	1
Embryonic Development	differentiation of ectodermal cells	1.05E-02	WWTR1	1
Cellular Development	differentiation of ectodermal cells	1.05E-02	WWTR1	1
Cellular Development	differentiation of neuronal hybrid cells	1.05E-02	NR4A2	1
Cellular Function and Maintenance	endocytosis by macrophages	1.05E-02	HYOU1	1
Hematological System Development and Function	endocytosis by macrophages	1.05E-02	HYOU1	1
Cellular Development	epithelial-mesenchymal transition of hepatocytes	1.05E-02	BMP7	1
Skeletal and Muscular System Development and Function	formation of joint	1.05E-02	BMP7	1
Cellular Growth and Proliferation	formation of myeloid progenitor cells	1.05E-02	GATA2	1
Hematological System Development and Function	formation of myeloid progenitor cells	1.05E-02	GATA2	1

Lymphoid Tissue Structure and Development	formation of myeloid progenitor cells	1.05E-02	GATA2	1
Hematopoiesis	formation of myeloid progenitor cells	1.05E-02	GATA2	1
Small Molecule Biochemistry	hydroxylation of L-proline	1.05E-02	P4HA2	1
Amino Acid Metabolism	hydroxylation of L-proline	1.05E-02	P4HA2	1
Post-Translational Modification	hydroxylation of L-proline	1.05E-02	P4HA2	1
Developmental Disorder	hypoplasia of exocrine region of pancreas	1.05E-02	ATF4	1
Nervous System Development and Function	maturation of dopaminergic neurons	1.05E-02	NR4A2	1
Cellular Development	maturation of dopaminergic neurons	1.05E-02	NR4A2	1
Embryonic Development	mineralization of mesenchymal cells	1.05E-02	BMP7	1
Cell Morphology	mineralization of mesenchymal cells	1.05E-02	BMP7	1
Neurological Disease	misrouting of axons	1.05E-02	BMP7	1
Embryonic Development	modification of embryonic cell lines	1.05E-02	NR4A2	1
Cell Morphology	modification of embryonic cell lines	1.05E-02	NR4A2	1
Embryonic Development	morphogenesis of metanephric mesenchyme	1.05E-02	BMP7	1
Organismal Development	morphogenesis of metanephric mesenchyme	1.05E-02	BMP7	1
Tissue Development	morphogenesis of metanephric mesenchyme	1.05E-02	BMP7	1
Cell Morphology	morphology of skin cell lines	1.05E-02	BMP7	1
Cell Death and Survival	necrosis of skin	1.05E-02	TRAF1	1
Dermatological Diseases and Conditions	necrosis of skin	1.05E-02	TRAF1	1
Embryonic Development	neurogenesis of olfactory epithelial cells	1.05E-02	BMP7	1
Organ Development	neurogenesis of olfactory epithelial cells	1.05E-02	BMP7	1
Organismal Development	neurogenesis of olfactory epithelial cells	1.05E-02	BMP7	1
Tissue Development	neurogenesis of olfactory epithelial cells	1.05E-02	BMP7	1
Nervous System Development and Function	neurogenesis of olfactory epithelial cells	1.05E-02	BMP7	1
Cellular Development	neurogenesis of olfactory epithelial cells	1.05E-02	BMP7	1
Respiratory System Development and Function	neurogenesis of olfactory epithelial cells	1.05E-02	BMP7	1

Cell-To-Cell Signaling and Interaction	proinflammatory response of smooth muscle cells	1.05E-02	NR4A2	1
Inflammatory Response	proinflammatory response of smooth muscle cells	1.05E-02	NR4A2	1
Organ Development	proliferation of alveolar epithelium	1.05E-02	ATF4	1
Tissue Development	proliferation of alveolar epithelium	1.05E-02	ATF4	1
Respiratory System Development and Function	proliferation of alveolar epithelium	1.05E-02	ATF4	1
Cellular Function and Maintenance	release of intracellular stores	1.05E-02	ITPR2	1
Cellular Assembly and Organization	release of intracellular stores	1.05E-02	ITPR2	1
Cancer	size of intestinal polyp	1.05E-02	ASPH	1
Gastrointestinal Disease	size of intestinal polyp	1.05E-02	ASPH	1
Organismal Injury and Abnormalities	size of intestinal polyp	1.05E-02	ASPH	1
Developmental Disorder	syndactyly of limb	1.05E-02	BMP7	1
Skeletal and Muscular Disorders	syndactyly of limb	1.05E-02	BMP7	1
Cellular Movement	invasion of tumor cell lines	1.12E-02	ACSL4,AGR2,BMP7,GDF15,UNC5B,WWTR1	6
Cellular Development	differentiation of megakaryocytes	1.13E-02	GATA2,TESC	2
Hematological System Development and Function	differentiation of megakaryocytes	1.13E-02	GATA2,TESC	2
Hematopoiesis	differentiation of megakaryocytes	1.13E-02	GATA2,TESC	2
Protein Synthesis	homotetramerization of protein	1.18E-02	FBP1,GPX3	2
Post-Translational Modification	homotetramerization of protein	1.18E-02	FBP1,GPX3	2
Connective Tissue Development and Function	mineralization of bone	1.18E-02	ATF4,BMP7,PKDCC	3
Embryonic Development	mineralization of bone	1.18E-02	ATF4,BMP7,PKDCC	3
Organ Development	mineralization of bone	1.18E-02	ATF4,BMP7,PKDCC	3
Organismal Development	mineralization of bone	1.18E-02	ATF4,BMP7,PKDCC	3
Skeletal and Muscular System Development and Function	mineralization of bone	1.18E-02	ATF4,BMP7,PKDCC	3
Tissue Development	mineralization of bone	1.18E-02	ATF4,BMP7,PKDCC	3
Cell Death and Survival	apoptosis of tumor cell lines	1.26E-02	ATF4,BMP7,ERN1,GDF15,GLRX,ITPR2,NR4A2,PDE4B,TRAF1,UNC5B	10
Cellular Development	differentiation of connective tissue cells	1.31E-02	ALMS1,ATF4,BMP7,GATA2,PKDCC,WWTR1	6
Organ Morphology	abnormal morphology of pancreatic acinus	1.40E-02	ATF4	1

Endocrine System Development and Function	abnormal morphology of pancreatic acinus	1.40E-02	ATF4	1
Digestive System Development and Function	abnormal morphology of pancreatic acinus	1.40E-02	ATF4	1
Carbohydrate Metabolism	accumulation of proteoglycan	1.40E-02	BMP7	1
Tissue Development	aggregation of neuroblastoma cell lines	1.40E-02	BMP7	1
Cell Death and Survival	apoptosis of PSMC cells	1.40E-02	BMP7	1
Organ Morphology	contraction of ventricular myocytes	1.40E-02	ASPH	1
Skeletal and Muscular System Development and Function	contraction of ventricular myocytes	1.40E-02	ASPH	1
Cell Morphology	contraction of ventricular myocytes	1.40E-02	ASPH	1
Cardiovascular System Development and Function	contraction of ventricular myocytes	1.40E-02	ASPH	1
Tissue Morphology	degeneration of epididymal epithelium	1.40E-02	BMP7	1
Organ Morphology	dilation of collecting tubule	1.40E-02	SEC63 (includes EG:11231)	1
Renal and Urological System Development and Function	dilation of collecting tubule	1.40E-02	SEC63 (includes EG:11231)	1
Connective Tissue Development and Function	double-stranded DNA break repair of fibroblasts	1.40E-02	NR4A2	1
Cell Morphology	double-stranded DNA break repair of fibroblasts	1.40E-02	NR4A2	1
Cellular Function and Maintenance	double-stranded DNA break repair of fibroblasts	1.40E-02	NR4A2	1
DNA Replication, Recombination, and Repair	double-stranded DNA break repair of fibroblasts	1.40E-02	NR4A2	1
Cell Cycle	entry into S phase of prostate cancer cell lines	1.40E-02	BMP7	1
Cellular Growth and Proliferation	formation of breast cancer cell lines	1.40E-02	BMP7	1
Inflammatory Response	inflammation of ileum	1.40E-02	AGR2	1
Organismal Development	lack of maxillary incisor	1.40E-02	BMP7	1
Digestive System Development and Function	lack of maxillary incisor	1.40E-02	BMP7	1
Nervous System Development and Function	loss of trigeminal motor neurons	1.40E-02	GDF15	1
Cell Death and Survival	loss of trigeminal motor neurons	1.40E-02	GDF15	1

Small Molecule Biochemistry Carbohydrate	metabolism of GDP-D-mannose	1.40E-02	GUK1	1
Metabolism Nucleic Acid	metabolism of GDP-D-mannose	1.40E-02	GUK1	1
Metabolism	metabolism of GDP-D-mannose	1.40E-02	GUK1	1
Connective Tissue Development and Function	metabolism of connective tissue	1.40E-02	BMP7	1
Tissue Development	metabolism of connective tissue	1.40E-02	BMP7	1
Cell Morphology	mineralization of stromal cell lines	1.40E-02	BMP7	1
Developmental Disorder	polydactyly of limb	1.40E-02	BMP7	1
Skeletal and Muscular Disorders	polydactyly of limb	1.40E-02	BMP7	1
Organ Morphology	quantity of primary ovarian follicle	1.40E-02	BMP7	1
Reproductive System Development and Function	quantity of primary ovarian follicle	1.40E-02	BMP7	1
Cell-To-Cell Signaling and Interaction	regulation of neurotransmitter	1.40E-02	COMT	1
Small Molecule Biochemistry	regulation of neurotransmitter	1.40E-02	COMT	1
Cell-To-Cell Signaling and Interaction	removal of dopamine	1.40E-02	COMT	1
Small Molecule Biochemistry	removal of dopamine	1.40E-02	COMT	1
Drug Metabolism	removal of dopamine	1.40E-02	COMT	1
Small Molecule Biochemistry	secretion of androstenedione	1.40E-02	BMP7	1
Endocrine System Development and Function	secretion of androstenedione	1.40E-02	BMP7	1
Lipid Metabolism	secretion of androstenedione	1.40E-02	BMP7	1
Molecular Transport	secretion of androstenedione	1.40E-02	BMP7	1
Small Molecule Biochemistry	synthesis of homocysteine	1.40E-02	COMT	1
Amino Acid Metabolism	synthesis of homocysteine	1.40E-02	COMT	1
Organismal Injury and Abnormalities	trauma hemorrhage	1.40E-02	ERN1 AGR2,ATF4,BMP7,ERN1,GDF15,GLRX,ITPR2,NR4A2,P	1
Cell Death and Survival	cell death of tumor cell lines	1.50E-02	DE4B,TRAF1,UNC5B	11
Cardiovascular Disease Organismal	vascular disease	1.60E-02	COMT,ERN1,GDF15,GPX3,HYOU1,PDE4B,TINAGL1	7
Development	morphology of face	1.65E-02	ASPH,BMP7,PKDCC	3
Cell Morphology	formation of cilia	1.71E-02	ALMS1,WWTR1	2
Cellular Function and Maintenance	formation of cilia	1.71E-02	ALMS1,WWTR1	2
Cellular Assembly and Organization	formation of cilia	1.71E-02	ALMS1,WWTR1	2
Tissue Morphology	abnormal morphology of maxillary shelf	1.74E-02	BMP7	1

Cell Cycle	cell division of stem cells	1.74E-02	WWTR1	1
Embryonic Development	cell viability of embryonic stem cell lines	1.74E-02	NR4A2	1
Cell Death and Survival	cell viability of embryonic stem cell lines	1.74E-02	NR4A2	1
Cell-To-Cell Signaling and Interaction	contact growth inhibition of myeloma cell lines	1.74E-02	BMP7	1
Cellular Growth and Proliferation	contact growth inhibition of myeloma cell lines	1.74E-02	BMP7	1
Cell Cycle	contact growth inhibition of myeloma cell lines	1.74E-02	BMP7	1
Skeletal and Muscular System Development and Function	depolarization of muscle cells	1.74E-02	ASPH	1
Cell Morphology	depolarization of muscle cells	1.74E-02	ASPH	1
Cellular Function and Maintenance	depolarization of muscle cells	1.74E-02	ASPH	1
Connective Tissue Development and Function	development of appendicular skeleton	1.74E-02	BMP7	1
Embryonic Development	development of appendicular skeleton	1.74E-02	BMP7	1
Organ Development	development of appendicular skeleton	1.74E-02	BMP7	1
Organismal Development	development of appendicular skeleton	1.74E-02	BMP7	1
Skeletal and Muscular System Development and Function	development of appendicular skeleton	1.74E-02	BMP7	1
Tissue Development	development of appendicular skeleton	1.74E-02	BMP7	1
Nervous System Development and Function	differentiation of radial glial cells	1.74E-02	BMP7	1
Cellular Development	differentiation of radial glial cells	1.74E-02	BMP7	1
Cell-To-Cell Signaling and Interaction	excretion of norepinephrine	1.74E-02	COMT	1
Small Molecule Biochemistry	excretion of norepinephrine	1.74E-02	COMT	1
Drug Metabolism	excretion of norepinephrine	1.74E-02	COMT	1
Molecular Transport	excretion of norepinephrine	1.74E-02	COMT	1
Nervous System Development and Function	exit from cell cycle progression of neuronal progenitor cells	1.74E-02	GATA2	1
Cell Cycle	exit from cell cycle progression of neuronal progenitor cells	1.74E-02	GATA2	1
Connective Tissue Development and Function	formation of fibroblasts	1.74E-02	BMP7	1
Cellular Growth and Proliferation	formation of fibroblasts	1.74E-02	BMP7	1
Developmental Disorder	polysyndactyly	1.74E-02	BMP7	1

Skeletal and Muscular				
Disorders	polysyndactyly	1.74E-02	BMP7	1
Tissue Morphology	quantity of podocytes	1.74E-02	BMP7	1
Organ Morphology	quantity of preantral follicle	1.74E-02	BMP7	1
Reproductive System				
Development and Function				
	quantity of preantral follicle	1.74E-02	BMP7	1
Infectious Disease	replication of Dengue virus 2	1.74E-02	ERN1	1
Organismal Survival	thermosensitivity	1.74E-02	GPX3	1
Cardiovascular System				
Development and Function				
	vascularization of wound	1.74E-02	HYOU1	1
Organ Morphology	abnormal morphology of renal glomerulus	1.76E-02	BMP7,COMT	2
Renal and Urological System				
Development and Function				
	abnormal morphology of renal glomerulus	1.76E-02	BMP7,COMT	2
Nervous System				
Development and Function				
	guidance of axons	1.77E-02	BMP7,SPON2,UNC5B	3
Cellular Movement	guidance of axons	1.77E-02	BMP7,SPON2,UNC5B	3
Cancer	prostatic carcinoma	1.83E-02	ASPH,GDF15,GPX3,MSMB	4
Reproductive System				
Disease	prostatic carcinoma	1.83E-02	ASPH,GDF15,GPX3,MSMB	4
Molecular Transport	localization of protein	1.83E-02	AKAP2/PALM2-AKAP2,DOC2B,HYOU1	3
Protein Synthesis	localization of protein	1.83E-02	AKAP2/PALM2-AKAP2,DOC2B,HYOU1	3
Protein Trafficking	localization of protein	1.83E-02	AKAP2/PALM2-AKAP2,DOC2B,HYOU1	3
Cell Death and Survival	apoptosis of myeloma cell lines	1.88E-02	ATF4,BMP7	2
Cell Death and Survival	apoptosis of lymphoma cell lines	1.92E-02	ERN1,ITPR2,PDE4B	3
Cellular Movement	cell movement	1.93E-02	ACSL4,AGR2,BMP7,EVL,GATA2,GDF15,GLRX,NEU1,NR4A2,PDE4B,SPON2,UNC5B,WARS,WWTR1	14
Cell Morphology	repair of cells	1.94E-02	BMP7,NR4A2	2
Cellular Function and Maintenance				
	repair of cells	1.94E-02	BMP7,NR4A2	2
Metabolic Disease	albuminuria	2.00E-02	BMP7,COMT	2
Renal and Urological Disease				
	albuminuria	2.00E-02	BMP7,COMT	2
Cellular Movement	invasion of prostate cancer cell lines	2.00E-02	AGR2,BMP7	2
Small Molecule				
Biochemistry				
	metabolism of amino acids	2.02E-02	ATF4,CCDC92,COMT	3
Amino Acid Metabolism	metabolism of amino acids	2.02E-02	ATF4,CCDC92,COMT	3
Developmental Disorder				
	congenital anomaly of digestive system	2.05E-02	ASPH,BMP7,SEC63 (includes EG:11231)	3
Gastrointestinal Disease				
	congenital anomaly of digestive system	2.05E-02	ASPH,BMP7,SEC63 (includes EG:11231)	3
Cell Morphology	abnormal morphology of pro-B lymphocytes	2.09E-02	ERN1	1
Hematopoiesis	abnormal morphology of pro-B lymphocytes	2.09E-02	ERN1	1

Humoral Immune Response	abnormal morphology of pro-B lymphocytes	2.09E-02	ERN1	1
Cell-To-Cell Signaling and Interaction	activation of bone marrow-derived macrophages	2.09E-02	SPON2	1
Hematological System Development and Function	activation of bone marrow-derived macrophages	2.09E-02	SPON2	1
Inflammatory Response	activation of bone marrow-derived macrophages	2.09E-02	SPON2	1
Immune Cell Trafficking	activation of bone marrow-derived macrophages	2.09E-02	SPON2	1
Ophthalmic Disease	atrophy of retinal pigment epithelium	2.09E-02	BMP7	1
Organismal Injury and Abnormalities	atrophy of retinal pigment epithelium	2.09E-02	BMP7	1
Cell-To-Cell Signaling and Interaction	catabolism of dopamine	2.09E-02	COMT	1
Small Molecule Biochemistry	catabolism of dopamine	2.09E-02	COMT	1
Drug Metabolism	catabolism of dopamine	2.09E-02	COMT	1
Cell Cycle	cell cycle progression of bone marrow cell lines	2.09E-02	GATA2	1
Embryonic Development	development of myeloid progenitor cells	2.09E-02	GATA2	1
Organ Development	development of myeloid progenitor cells	2.09E-02	GATA2	1
Organismal Development	development of myeloid progenitor cells	2.09E-02	GATA2	1
Tissue Development	development of myeloid progenitor cells	2.09E-02	GATA2	1
Cellular Development	development of myeloid progenitor cells	2.09E-02	GATA2	1
Hematological System Development and Function	development of myeloid progenitor cells	2.09E-02	GATA2	1
Lymphoid Tissue Structure and Development	development of myeloid progenitor cells	2.09E-02	GATA2	1
Hematopoiesis	development of myeloid progenitor cells	2.09E-02	GATA2	1
Nervous System Development and Function	differentiation of amacrine cells	2.09E-02	NR4A2	1
Cellular Development	differentiation of amacrine cells	2.09E-02	NR4A2	1
Visual System Development and Function	differentiation of amacrine cells	2.09E-02	NR4A2	1
Cell Morphology	extension of pseudopodia	2.09E-02	EVL	1
Cellular Function and Maintenance	extension of pseudopodia	2.09E-02	EVL	1
Cellular Assembly and Organization	extension of pseudopodia	2.09E-02	EVL	1
Cell Cycle	homologous pairing of DNA	2.09E-02	EVL	1

DNA Replication, Recombination, and Repair	homologous pairing of DNA	2.09E-02	EVL	1
Developmental Disorder	hypoplasia of palatal shelf	2.09E-02	BMP7	1
Cellular Movement	invasion of gastric cancer cells	2.09E-02	GDF15	1
Cancer	invasion of gastric cancer cells	2.09E-02	GDF15	1
Tumor Morphology	invasion of gastric cancer cells	2.09E-02	GDF15	1
Skeletal and Muscular System Development and Function	mitosis of PASMC cells	2.09E-02	BMP7	1
Cell Cycle	mitosis of PASMC cells	2.09E-02	BMP7	1
Organ Morphology	quantity of primordial ovarian follicle	2.09E-02	BMP7	1
Reproductive System Development and Function	quantity of primordial ovarian follicle	2.09E-02	BMP7	1
Organismal Functions Small Molecule	stress response of mice	2.09E-02	COMT	1
Biochemistry	transport of oleic acid	2.09E-02	ACSL4	1
Lipid Metabolism	transport of oleic acid	2.09E-02	ACSL4	1
Molecular Transport	transport of oleic acid	2.09E-02	ACSL4	1
Connective Tissue Development and Function	abnormal morphology of sternum	2.12E-02	BMP7,PKDCC	2
Embryonic Development	abnormal morphology of sternum	2.12E-02	BMP7,PKDCC	2
Organ Development	abnormal morphology of sternum	2.12E-02	BMP7,PKDCC	2
Organ Morphology	abnormal morphology of sternum	2.12E-02	BMP7,PKDCC	2
Organismal Development	abnormal morphology of sternum	2.12E-02	BMP7,PKDCC	2
Skeletal and Muscular System Development and Function	abnormal morphology of sternum	2.12E-02	BMP7,PKDCC	2
Tissue Development	abnormal morphology of sternum	2.12E-02	BMP7,PKDCC	2
Embryonic Development	development of retina	2.18E-02	ALMS1,WARS	2
Organ Development	development of retina	2.18E-02	ALMS1,WARS	2
Organismal Development	development of retina	2.18E-02	ALMS1,WARS	2
Tissue Development	development of retina	2.18E-02	ALMS1,WARS	2
Visual System Development and Function	development of retina	2.18E-02	ALMS1,WARS	2
Embryonic Development	differentiation of embryonic cells	2.25E-02	BMP7,NR4A2,WWTR1	3
Cellular Development	differentiation of embryonic cells	2.25E-02	BMP7,NR4A2,WWTR1	3
Small Molecule Biochemistry	concentration of prostaglandin	2.25E-02	ACSL4,IL1R2	2

Lipid Metabolism	concentration of prostaglandin	2.25E-02	ACSL4,IL1R2	2
Molecular Transport	concentration of prostaglandin	2.25E-02	ACSL4,IL1R2	2
Organismal Injury and Abnormalities	injury of kidney	2.25E-02	BMP7,UNC5B	2
Renal and Urological Disease	injury of kidney	2.25E-02	BMP7,UNC5B	2
Cellular Development	differentiation of bone marrow cells	2.28E-02	BMP7,GATA2,TESC	3
Hematopoiesis	differentiation of bone marrow cells	2.28E-02	BMP7,GATA2,TESC	3
Developmental Disorder	inborn error of carbohydrate metabolism	2.31E-02	FBP1,NEU1	2
Hereditary Disorder	inborn error of carbohydrate metabolism	2.31E-02	FBP1,NEU1	2
Metabolic Disease	inborn error of carbohydrate metabolism	2.31E-02	FBP1,NEU1	2
Reproductive System Development and Function	ovulation	2.31E-02	ALMS1,BMP7	2
Small Molecule Biochemistry	synthesis of amino acids	2.31E-02	CCDC92,COMT	2
Amino Acid Metabolism	synthesis of amino acids	2.31E-02	CCDC92,COMT	2
Organ Morphology	abnormal morphology of hair	2.38E-02	ATF4,BMP7	2
Hair and Skin Development and Function	abnormal morphology of hair	2.38E-02	ATF4,BMP7	2
Cancer	ovarian adenocarcinoma	2.42E-02	EVL,GPX3,KCNK6	3
Endocrine System Disorders	ovarian adenocarcinoma	2.42E-02	EVL,GPX3,KCNK6	3
Reproductive System Disease	ovarian adenocarcinoma	2.42E-02	EVL,GPX3,KCNK6	3
Cell Death and Survival	cell survival	2.43E-02	ATF4,BMP7,ERN1,GATA2,GDF15,GLRX,GMFG,HYOU1,NR4A2,UNC5B	10
Cell Morphology	abnormal morphology of Paneth cells	2.43E-02	AGR2	1
Digestive System Development and Function	abnormal morphology of Paneth cells	2.43E-02	AGR2	1
Embryonic Development	abnormal morphology of ciliary body	2.43E-02	ATF4	1
Organ Development	abnormal morphology of ciliary body	2.43E-02	ATF4	1
Organ Morphology	abnormal morphology of ciliary body	2.43E-02	ATF4	1
Organismal Development	abnormal morphology of ciliary body	2.43E-02	ATF4	1
Tissue Development	abnormal morphology of ciliary body	2.43E-02	ATF4	1
Visual System Development and Function	abnormal morphology of ciliary body	2.43E-02	ATF4	1
Cell Morphology	abnormal morphology of plasma membrane	2.43E-02	GLRX	1
Digestive System Development and Function	abnormal morphology of soft palate	2.43E-02	BMP7	1

Tissue Development	adhesion of neuroblastoma cell lines	2.43E-02	BMP7	1
Cell-To-Cell Signaling and Interaction	adhesion of neuroblastoma cell lines	2.43E-02	BMP7	1
Cellular Development	arrest in growth of prostate cancer cell lines	2.43E-02	GDF15	1
Cellular Growth and Proliferation	arrest in growth of prostate cancer cell lines	2.43E-02	GDF15	1
Cardiovascular System Development and Function	conduction of atrioventricular node	2.43E-02	ASPH	1
Tissue Development Nervous System Development and Function	development of dopaminergic neurons	2.43E-02	NR4A2	1
	development of dopaminergic neurons	2.43E-02	NR4A2	1
Cellular Development Embryonic Development Organismal Development	development of dopaminergic neurons	2.43E-02	NR4A2	1
	development of lenticular vesicle	2.43E-02	BMP7	1
	development of lenticular vesicle	2.43E-02	BMP7	1
Tissue Development Organ Morphology	development of lenticular vesicle	2.43E-02	BMP7	1
	dilation of kidney	2.43E-02	SEC63 (includes EG:11231)	1
Renal and Urological System Development and Function	dilation of kidney	2.43E-02	SEC63 (includes EG:11231)	1
Hereditary Disorder	dystroglycanopathy	2.43E-02	GYLTL1B	1
Skeletal and Muscular Disorders	dystroglycanopathy	2.43E-02	GYLTL1B	1
Tissue Development Small Molecule Biochemistry	function of extraembryonic tissue	2.43E-02	ERN1	1
	loading of GTP	2.43E-02	BMP7	1
Cell Signaling Nucleic Acid Metabolism	loading of GTP	2.43E-02	BMP7	1
Nervous System Development and Function	loading of GTP	2.43E-02	BMP7	1
	loss of facial motor neurons	2.43E-02	GDF15	1
Cell Death and Survival Cellular Growth and Proliferation	loss of facial motor neurons	2.43E-02	GDF15	1
	proliferation of neuroepithelial cells	2.43E-02	GATA2	1
Organ Morphology Hair and Skin Development and Function	quantity of hair	2.43E-02	BMP7	1
	quantity of hair	2.43E-02	BMP7	1
Digestive System Development and Function	quantity of hair	2.43E-02	BMP7	1
	development of palate	2.64E-02	ASPH,PKDCC	2
Carbohydrate Metabolism	development of palate	2.64E-02	ASPH,PKDCC	2
	gluconeogenesis	2.64E-02	ATF4,FBP1	2

Hematological System Development and Function	homeostasis of blood	2.64E-02	COMT,GPX3	2
Cell Death and Survival	cell death of prostate cancer cell lines	2.67E-02	AGR2,BMP7,GDF15	3
Organ Morphology	abnormal morphology of placenta	2.71E-02	COMT,ERN1	2
Reproductive System Development and Function	abnormal morphology of placenta	2.71E-02	COMT,ERN1	2
Connective Tissue Development and Function	morphology of skull	2.71E-02	ATF4,BMP7,PKDCC	3
Embryonic Development	morphology of skull	2.71E-02	ATF4,BMP7,PKDCC	3
Organ Development	morphology of skull	2.71E-02	ATF4,BMP7,PKDCC	3
Organ Morphology	morphology of skull	2.71E-02	ATF4,BMP7,PKDCC	3
Organismal Development	morphology of skull	2.71E-02	ATF4,BMP7,PKDCC	3
Skeletal and Muscular System Development and Function	morphology of skull	2.71E-02	ATF4,BMP7,PKDCC	3
Tissue Development	morphology of skull	2.71E-02	ATF4,BMP7,PKDCC	3
Connective Tissue Development and Function	abnormal morphology of palate bone	2.77E-02	PKDCC	1
Embryonic Development	abnormal morphology of palate bone	2.77E-02	PKDCC	1
Organ Development	abnormal morphology of palate bone	2.77E-02	PKDCC	1
Organ Morphology	abnormal morphology of palate bone	2.77E-02	PKDCC	1
Organismal Development	abnormal morphology of palate bone	2.77E-02	PKDCC	1
Skeletal and Muscular System Development and Function	abnormal morphology of palate bone	2.77E-02	PKDCC	1
Tissue Development	abnormal morphology of palate bone	2.77E-02	PKDCC	1
Organ Morphology	abnormal morphology of vas deferens	2.77E-02	ATF4	1
Reproductive System Development and Function	abnormal morphology of vas deferens	2.77E-02	ATF4	1
Cellular Assembly and Organization	accumulation of zymogen granules	2.77E-02	ITPR2	1
Embryonic Development	angiogenesis of retina	2.77E-02	WARS	1
Organ Development	angiogenesis of retina	2.77E-02	WARS	1
Organismal Development	angiogenesis of retina	2.77E-02	WARS	1

Tissue Development Visual System	angiogenesis of retina	2.77E-02	WARS	1
Development and Function	angiogenesis of retina	2.77E-02	WARS	1
Cardiovascular System Development and Function	angiogenesis of retina	2.77E-02	WARS	1
DNA Replication, Recombination, and Repair	annealing of DNA	2.77E-02	EVL	1
Cellular Development Cellular Growth and Proliferation	arrest in growth of epithelial cells	2.77E-02	GDF15	1
Cell Morphology	arrest in growth of epithelial cells	2.77E-02	GDF15	1
Cancer	autophagy of cancer cells	2.77E-02	ATF4	1
Cellular Function and Maintenance	autophagy of cancer cells	2.77E-02	ATF4	1
Ophthalmic Disease	eyelids fail to open	2.77E-02	ATF4	1
Skeletal and Muscular Disorders	eyelids fail to open	2.77E-02	ATF4	1
Small Molecule Biochemistry	metabolism of S-adenosylmethionine	2.77E-02	COMT	1
Amino Acid Metabolism	metabolism of S-adenosylmethionine	2.77E-02	COMT	1
Nucleic Acid Metabolism	metabolism of S-adenosylmethionine	2.77E-02	COMT	1
Small Molecule Biochemistry	metabolism of fructose-6-phosphate	2.77E-02	FBP1	1
Carbohydrate Metabolism	metabolism of fructose-6-phosphate	2.77E-02	FBP1	1
Cell-To-Cell Signaling and Interaction	metabolism of norepinephrine	2.77E-02	COMT	1
Small Molecule Biochemistry	metabolism of norepinephrine	2.77E-02	COMT	1
Drug Metabolism	metabolism of norepinephrine	2.77E-02	COMT	1
Gastrointestinal Disease	steatorrhea	2.77E-02	ITPR2	1
Cellular Development Cellular Growth and Proliferation	proliferation of cancer cells	2.84E-02	BMP7,GDF15,NR4A2,SEC14L2	4
Tumor Morphology	proliferation of cancer cells	2.84E-02	BMP7,GDF15,NR4A2,SEC14L2	4
Small Molecule Biochemistry	steroidogenesis	2.90E-02	BMP7,NR4A2,SEC14L2	3
Lipid Metabolism	steroidogenesis	2.90E-02	BMP7,NR4A2,SEC14L2	3
Ophthalmic Disease	microphthalmia	2.99E-02	ATF4,BMP7	2
Developmental Disorder	microphthalmia	2.99E-02	ATF4,BMP7	2
Organ Morphology	morphology of uterus	2.99E-02	ACSL4,COMT	2
Reproductive System Development and Function	morphology of uterus	2.99E-02	ACSL4,COMT	2

Organ Morphology	abnormal morphology of enterocytes	3.12E-02	AGR2	1
Cell Morphology	abnormal morphology of enterocytes	3.12E-02	AGR2	1
Digestive System Development and Function	abnormal morphology of enterocytes	3.12E-02	AGR2	1
Tissue Morphology	abnormal morphology of nasal capsule	3.12E-02	BMP7	1
Developmental Disorder	brachyphalangia	3.12E-02	BMP7	1
Hereditary Disorder	brachyphalangia	3.12E-02	BMP7	1
Skeletal and Muscular Disorders	brachyphalangia	3.12E-02	BMP7	1
Connective Tissue Disorders	brachyphalangia	3.12E-02	BMP7	1
Cancer	development of pathological cyst	3.12E-02	WWTR1	1
Embryonic Development	development of retinal rods	3.12E-02	ALMS1	1
Organ Development	development of retinal rods	3.12E-02	ALMS1	1
Organismal Development	development of retinal rods	3.12E-02	ALMS1	1
Tissue Development	development of retinal rods	3.12E-02	ALMS1	1
Cellular Development	development of retinal rods	3.12E-02	ALMS1	1
Visual System Development and Function	development of retinal rods	3.12E-02	ALMS1	1
Cellular Function and Maintenance	endoplasmic reticulum stress response of cervical cancer cell lines	3.12E-02	ATF4	1
Cellular Compromise	endoplasmic reticulum stress response of cervical cancer cell lines	3.12E-02	ATF4	1
Organ Development	function of ovary	3.12E-02	BMP7	1
Reproductive System Development and Function	function of ovary	3.12E-02	BMP7	1
Cardiovascular Disease	intimal hyperplasia	3.12E-02	ERN1	1
Cancer	intimal hyperplasia	3.12E-02	ERN1	1
Cellular Movement	invasion of stomach cancer cell lines	3.12E-02	GDF15	1
Cellular Development	metastasis of mammary tumor cells	3.12E-02	BMP7	1
Cellular Growth and Proliferation	metastasis of mammary tumor cells	3.12E-02	BMP7	1
Cancer	metastasis of mammary tumor cells	3.12E-02	BMP7	1
Tumor Morphology	metastasis of mammary tumor cells	3.12E-02	BMP7	1
Reproductive System Disease	metastasis of mammary tumor cells	3.12E-02	BMP7	1

Digestive System Development and Function	quantity of tooth	3.12E-02	BMP7	1
Cellular Function and Maintenance	organization of actin filaments	3.14E-02	AKAP2/PALM2-AKAP2,EVL	2
Cellular Assembly and Organization	organization of actin filaments	3.14E-02	AKAP2/PALM2-AKAP2,EVL	2
Cellular Growth and Proliferation	proliferation of cells	3.27E-02	ACSL4,ALMS1,ASPH,ATF4,BMP7,CCDC92,COMT,FBP1,GATA2,GDF15,GLRX,GPX3,MSMB,NEU1,NR4A2,SEC14L2,TESC,TRAF1,UNC5B,WARS,WWTR1	21
Cancer	Cancer	3.28E-02	AGR2,ASPH,BMP7,COMT,EMCN,EVL,GATA2,GDF15,GLRX,GPX3,GUK1,HYOU1,KCNK6,MSMB,NEU1,NR4A2,PDE4B,PDIA6,SEC63 (includes EG:11231),SPON2,SRMS,WARS,WWTR1	23
Cancer	genital tumor	3.44E-02	AGR2,ASPH,BMP7,EVL,GDF15,GPX3,KCNK6,MSMB	8
Reproductive System Disease	genital tumor	3.44E-02	AGR2,ASPH,BMP7,EVL,GDF15,GPX3,KCNK6,MSMB	8
Connective Tissue Development and Function	abnormal morphology of clavicle	3.46E-02	ATF4	1
Embryonic Development	abnormal morphology of clavicle	3.46E-02	ATF4	1
Organ Development	abnormal morphology of clavicle	3.46E-02	ATF4	1
Organ Morphology	abnormal morphology of clavicle	3.46E-02	ATF4	1
Organismal Development	abnormal morphology of clavicle	3.46E-02	ATF4	1
Skeletal and Muscular System Development and Function	abnormal morphology of clavicle	3.46E-02	ATF4	1
Tissue Development	abnormal morphology of clavicle	3.46E-02	ATF4	1
Organismal Development	abnormal morphology of molar tooth	3.46E-02	BMP7	1
Digestive System Development and Function	abnormal morphology of molar tooth	3.46E-02	BMP7	1
Cell Cycle	arrest in G1 phase of prostate cancer cell lines	3.46E-02	BMP7	1
Antimicrobial Response	clearance of Influenza virus	3.46E-02	SPON2	1
Digestive System Development and Function	defecation	3.46E-02	ITPR2	1
Gastrointestinal Disease	experimental intestinal endometriosis	3.46E-02	TRAF1	1
Reproductive System Disease	experimental intestinal endometriosis	3.46E-02	TRAF1	1
Cellular Growth and Proliferation	formation of megakaryocytes	3.46E-02	GATA2	1
Hematological System Development and Function	formation of megakaryocytes	3.46E-02	GATA2	1

Lymphoid Tissue Structure and Development	formation of megakaryocytes	3.46E-02	GATA2	1
Hematopoiesis Embryonic Development	formation of megakaryocytes	3.46E-02	GATA2	1
Organismal Development	formation of prostatic bud	3.46E-02	BMP7	1
Tissue Development	formation of prostatic bud	3.46E-02	BMP7	1
Organ Development Embryonic Development	function of salivary gland	3.46E-02	ITPR2	1
Organismal Development	fusion of allantois	3.46E-02	BMP7	1
Tissue Morphology Embryonic Development	fusion of allantois	3.46E-02	BMP7	1
Organismal Development	fusion of allantois	3.46E-02	BMP7	1
Tissue Morphology Embryonic Development	fusion of chorion	3.46E-02	BMP7	1
Organismal Development	fusion of chorion	3.46E-02	BMP7	1
Tissue Morphology	fusion of chorion	3.46E-02	BMP7	1
Cancer	juvenile myelomonocytic leukemia	3.46E-02	GATA2	1
Hematological Disease	juvenile myelomonocytic leukemia	3.46E-02	GATA2	1
Cell Death and Survival	killing of breast cancer cell lines	3.46E-02	GLRX	1
Cell Morphology	morphology of breast cell lines	3.46E-02	WWTR1	1
Reproductive System Development and Function	morphology of breast cell lines	3.46E-02	WWTR1	1
Cell Morphology	morphology of endothelial cell lines	3.46E-02	BMP7	1
Cardiovascular System Development and Function	morphology of endothelial cell lines	3.46E-02	BMP7	1
Cancer Organismal Injury and Abnormalities	myelofibrosis with myeloid metaplasia	3.46E-02	BMP7	1
Hematological Disease Cellular Assembly and Organization	myelofibrosis with myeloid metaplasia	3.46E-02	BMP7	1
Cell Death and Survival Small Molecule Biochemistry	remodeling of actin cytoskeleton	3.46E-02	EVL	1
Lipid Metabolism	apoptosis of epithelial cells	3.52E-02	BMP7,GDF15,UNC5B	3
Cellular Function and Maintenance	metabolism of triacylglycerol	3.66E-02	ACSL4,ALMS1	2
Cellular Assembly and Organization	metabolism of triacylglycerol	3.66E-02	ACSL4,ALMS1	2
	stabilization of microtubules	3.66E-02	BMP7,ERN1	2
	stabilization of microtubules	3.66E-02	BMP7,ERN1	2

Skeletal and Muscular System Development and Function	differentiation of osteoblasts	3.74E-02	ATF4,BMP7,WWTR1	3
Cellular Development	differentiation of osteoblasts	3.74E-02	ATF4,BMP7,WWTR1	3
Cell-To-Cell Signaling and Interaction	concentration of dopamine	3.74E-02	COMT,NR4A2	2
Small Molecule				
Biochemistry	concentration of dopamine	3.74E-02	COMT,NR4A2	2
Drug Metabolism	concentration of dopamine	3.74E-02	COMT,NR4A2	2
Molecular Transport	concentration of dopamine	3.74E-02	COMT,NR4A2	2
Embryonic Development	differentiation of embryonic stem cells	3.74E-02	NR4A2,WWTR1	2
Cellular Development	differentiation of embryonic stem cells	3.74E-02	NR4A2,WWTR1	2
Cellular Development	epithelial-mesenchymal transition of kidney cell lines	3.80E-02	BMP7	1
Cellular Growth and Proliferation	formation of epithelial cells	3.80E-02	BMP7	1
Small Molecule				
Biochemistry	homeostasis of Na+	3.80E-02	TESC	1
Cellular Function and Maintenance	homeostasis of Na+	3.80E-02	TESC	1
Infectious Disease	infection by human T-lymphotropic virus type 1	3.80E-02	PDE4B	1
Cellular Development	maturation of mast cells	3.80E-02	GATA2	1
Hematological System Development and Function	maturation of mast cells	3.80E-02	GATA2	1
Hematopoiesis	maturation of mast cells	3.80E-02	GATA2	1
Tissue Development	morphogenesis of endothelial tube	3.80E-02	BMP7	1
Cardiovascular System Development and Function	morphogenesis of endothelial tube	3.80E-02	BMP7	1
Embryonic Development	morphogenesis of salivary gland	3.80E-02	BMP7	1
Organ Development	morphogenesis of salivary gland	3.80E-02	BMP7	1
Organ Morphology	morphogenesis of salivary gland	3.80E-02	BMP7	1
Organismal Development	morphogenesis of salivary gland	3.80E-02	BMP7	1
Tissue Development	morphogenesis of salivary gland	3.80E-02	BMP7	1
Digestive System Development and Function	morphogenesis of salivary gland	3.80E-02	BMP7	1
Cell Morphology	morphology of neuroblastoma cell lines	3.80E-02	BMP7	1
Nervous System Development and Function	quantity of neuroepithelial cells	3.80E-02	BMP7	1
Tissue Morphology	quantity of neuroepithelial cells	3.80E-02	BMP7	1

Metabolic Disease	glucose metabolism disorder	3.90E-02	ACSL4,BMP7,ERN1,GDF15,HYOU1,ITPR2,NR4A2,PDE4B	8
Developmental Disorder	cleft palate syndrome	4.06E-02	ASPH,BMP7	2
Gastrointestinal Disease	cleft palate syndrome	4.06E-02	ASPH,BMP7	2
Cellular Movement	migration of cells	4.10E-02	ACSL4,BMP7,EVL,GATA2,GLRX,NEU1,NR4A2,PDE4B,SPON2,UNC5B,WARS,WWTR1	12
Connective Tissue Development and Function	abnormal morphology of cricoid cartilage	4.13E-02	BMP7	1
Skeletal and Muscular System Development and Function	abnormal morphology of cricoid cartilage	4.13E-02	BMP7	1
Tissue Morphology	abnormal morphology of cricoid cartilage	4.13E-02	BMP7	1
Connective Tissue Development and Function	abnormal morphology of fontanelle	4.13E-02	ATF4	1
Embryonic Development	abnormal morphology of fontanelle	4.13E-02	ATF4	1
Organ Development	abnormal morphology of fontanelle	4.13E-02	ATF4	1
Organ Morphology	abnormal morphology of fontanelle	4.13E-02	ATF4	1
Organismal Development	abnormal morphology of fontanelle	4.13E-02	ATF4	1
Skeletal and Muscular System Development and Function	abnormal morphology of fontanelle	4.13E-02	ATF4	1
Tissue Development	abnormal morphology of fontanelle	4.13E-02	ATF4	1
Organ Morphology	abnormal morphology of nasal septum	4.13E-02	BMP7	1
Cell-To-Cell Signaling and Interaction	activation of alveolar macrophages	4.13E-02	SPON2	1
Hematological System Development and Function	activation of alveolar macrophages	4.13E-02	SPON2	1
Inflammatory Response	activation of alveolar macrophages	4.13E-02	SPON2	1
Immune Cell Trafficking	activation of alveolar macrophages	4.13E-02	SPON2	1
Cancer	blast crisis	4.13E-02	GATA2	1
Hematological Disease	blast crisis	4.13E-02	GATA2	1
Carbohydrate Metabolism	glycogenolysis	4.13E-02	ERN1	1
Renal and Urological Disease	hydroureter	4.13E-02	BMP7	1
Cell Morphology	lack of myeloid progenitor cells	4.13E-02	ATF4	1
Tissue Morphology	lack of myeloid progenitor cells	4.13E-02	ATF4	1

Hematological System				
Development and Function	lack of myeloid progenitor cells	4.13E-02	ATF4	1
Lymphoid Tissue				
Structure and Development	lack of myeloid progenitor cells	4.13E-02	ATF4	1
Hematopoiesis	lack of myeloid progenitor cells	4.13E-02	ATF4	1
Small Molecule				
Biochemistry	metabolism of S-adenosylhomocysteine	4.13E-02	COMT	1
Amino Acid Metabolism	metabolism of S-adenosylhomocysteine	4.13E-02	COMT	1
Nucleic Acid Metabolism	metabolism of S-adenosylhomocysteine	4.13E-02	COMT	1
Cell Morphology	morphogenesis of cilia	4.13E-02	WWTR1	1
Cellular Function and Maintenance	morphogenesis of cilia	4.13E-02	WWTR1	1
Cellular Assembly and Organization	morphogenesis of cilia	4.13E-02	WWTR1	1
Embryonic Development	self-renewal of embryonic stem cells	4.13E-02	WWTR1	1
Cellular Development	self-renewal of embryonic stem cells	4.13E-02	WWTR1	1
Cellular Growth and Proliferation	self-renewal of embryonic stem cells	4.13E-02	WWTR1	1
Cell Death and Survival	self-renewal of embryonic stem cells	4.13E-02	WWTR1	1
Cellular Function and Maintenance	self-renewal of embryonic stem cells	4.13E-02	WWTR1	1
Embryonic Development	development of placenta	4.39E-02	COMT,GATA2	2
Organ Development	development of placenta	4.39E-02	COMT,GATA2	2
Organismal Development	development of placenta	4.39E-02	COMT,GATA2	2
Tissue Development	development of placenta	4.39E-02	COMT,GATA2	2
Reproductive System				
Development and Function	development of placenta	4.39E-02	COMT,GATA2	2
Tissue Morphology	abnormal morphology of apical ectodermal ridge	4.47E-02	BMP7	1
Connective Tissue				
Development and Function	abnormal morphology of caudal vertebra	4.47E-02	PKDCC	1
Embryonic Development	abnormal morphology of caudal vertebra	4.47E-02	PKDCC	1
Organ Development	abnormal morphology of caudal vertebra	4.47E-02	PKDCC	1
Organ Morphology	abnormal morphology of caudal vertebra	4.47E-02	PKDCC	1
Organismal Development	abnormal morphology of caudal vertebra	4.47E-02	PKDCC	1
Skeletal and Muscular System				
Development and Function	abnormal morphology of caudal vertebra	4.47E-02	PKDCC	1

Tissue Development Nervous System	abnormal morphology of caudal vertebra	4.47E-02	PKDCC	1
Development and Function	abnormal morphology of caudal vertebra	4.47E-02	PKDCC	1
Organ Morphology	abnormal morphology of endometrium	4.47E-02	ACSL4	1
Reproductive System Development and Function	abnormal morphology of endometrium	4.47E-02	ACSL4	1
Organ Morphology	abnormal morphology of glomerular capsule	4.47E-02	BMP7	1
Renal and Urological System Development and Function	abnormal morphology of glomerular capsule	4.47E-02	BMP7	1
Embryonic Development	abnormal morphology of iris	4.47E-02	ATF4	1
Organ Development	abnormal morphology of iris	4.47E-02	ATF4	1
Organ Morphology	abnormal morphology of iris	4.47E-02	ATF4	1
Organismal Development	abnormal morphology of iris	4.47E-02	ATF4	1
Tissue Development Visual System	abnormal morphology of iris	4.47E-02	ATF4	1
Development and Function	abnormal morphology of iris	4.47E-02	ATF4	1
Connective Tissue Development and Function	abnormal morphology of pterygoid bone	4.47E-02	BMP7	1
Embryonic Development	abnormal morphology of pterygoid bone	4.47E-02	BMP7	1
Organ Development	abnormal morphology of pterygoid bone	4.47E-02	BMP7	1
Organ Morphology	abnormal morphology of pterygoid bone	4.47E-02	BMP7	1
Organismal Development	abnormal morphology of pterygoid bone	4.47E-02	BMP7	1
Skeletal and Muscular System Development and Function	abnormal morphology of pterygoid bone	4.47E-02	BMP7	1
Tissue Development Connective Tissue	abnormal morphology of pterygoid bone	4.47E-02	BMP7	1
Development and Function	abnormal morphology of temporal bone	4.47E-02	BMP7	1
Embryonic Development	abnormal morphology of temporal bone	4.47E-02	BMP7	1
Organ Development	abnormal morphology of temporal bone	4.47E-02	BMP7	1
Organ Morphology	abnormal morphology of temporal bone	4.47E-02	BMP7	1
Organismal Development	abnormal morphology of temporal bone	4.47E-02	BMP7	1

Skeletal and Muscular System Development and Function	abnormal morphology of temporal bone	4.47E-02	BMP7	1
Tissue Development	abnormal morphology of temporal bone	4.47E-02	BMP7	1
Cell Morphology	autophagy of breast cancer cell lines	4.47E-02	ATF4	1
Cellular Function and Maintenance	autophagy of breast cancer cell lines	4.47E-02	ATF4	1
Cellular Function and Maintenance	formation of actin cytoskeleton	4.47E-02	AKAP2/PALM2-AKAP2	1
Cellular Assembly and Organization	formation of actin cytoskeleton	4.47E-02	AKAP2/PALM2-AKAP2	1
Cardiovascular Disease	intermittent claudication	4.47E-02	PDE4B	1
Small Molecule Biochemistry	metabolism of L-glutamic acid	4.47E-02	CCDC92	1
Amino Acid Metabolism	metabolism of L-glutamic acid	4.47E-02	CCDC92	1
Behavior	emotional behavior	4.49E-02	COMT,FXR2,NR4A2	3
Digestive System Development and Function	development of digestive system	4.51E-02	ASPH,BMP7,ERN1,PKDCC	4
Connective Tissue Development and Function	abnormal morphology of ala temporali	4.81E-02	BMP7	1
Embryonic Development	abnormal morphology of ala temporali	4.81E-02	BMP7	1
Organ Development	abnormal morphology of ala temporali	4.81E-02	BMP7	1
Organ Morphology	abnormal morphology of ala temporali	4.81E-02	BMP7	1
Organismal Development	abnormal morphology of ala temporali	4.81E-02	BMP7	1
Skeletal and Muscular System Development and Function	abnormal morphology of ala temporali	4.81E-02	BMP7	1
Tissue Development	abnormal morphology of ala temporali	4.81E-02	BMP7	1
Organ Morphology	abnormal morphology of decidua basalis	4.81E-02	COMT	1
Reproductive System Development and Function	abnormal morphology of decidua basalis	4.81E-02	COMT	1
Tissue Development	adhesion of carcinoma cell lines	4.81E-02	NEU1	1
Cell-To-Cell Signaling and Interaction	adhesion of carcinoma cell lines	4.81E-02	NEU1	1
Embryonic Development	apoptosis of mesenchymal cells	4.81E-02	BMP7	1
Cell Death and Survival	apoptosis of mesenchymal cells	4.81E-02	BMP7	1
Embryonic Development	development of allantois	4.81E-02	BMP7	1

Organismal Development	development of allantois	4.81E-02	BMP7	1
Tissue Development	development of allantois	4.81E-02	BMP7	1
Organismal Development	development of erythroid cells	4.81E-02	GATA2	1
Tissue Development	development of erythroid cells	4.81E-02	GATA2	1
Cellular Development	development of erythroid cells	4.81E-02	GATA2	1
Hematological System Development and Function	development of erythroid cells	4.81E-02	GATA2	1
Hematopoiesis	development of erythroid cells	4.81E-02	GATA2	1
Cardiovascular System Development and Function	development of erythroid cells	4.81E-02	GATA2	1
Neurological Disease	familial Parkinson disease	4.81E-02	NR4A2	1
Hereditary Disorder	familial Parkinson disease	4.81E-02	NR4A2	1
Skeletal and Muscular Disorders	familial Parkinson disease	4.81E-02	NR4A2	1
Cellular Movement	migration of lung cell lines	4.81E-02	NEU1	1
Respiratory System Development and Function	migration of lung cell lines	4.81E-02	NEU1	1
Small Molecule Biochemistry	oxidation of oleic acid	4.81E-02	ACSL4	1
Lipid Metabolism	oxidation of oleic acid	4.81E-02	ACSL4	1
Energy Production	oxidation of oleic acid	4.81E-02	ACSL4	1
Cell-To-Cell Signaling and Interaction	response of bone marrow-derived macrophages	4.81E-02	SPON2	1
Inflammatory Response	response of bone marrow-derived macrophages	4.81E-02	SPON2	1
Cell Signaling	transmembrane receptor protein serine/threonine kinase signaling pathway	4.81E-02	AKAP2/PALM2-AKAP2	1
Nervous System Development and Function	sensory system development	4.98E-02	BMP7,GDF15	2
Neurological Disease	Parkinson's disease	4.99E-02	COMT,NR4A2,PDE4B	3
Skeletal and Muscular Disorders	Parkinson's disease	4.99E-02	COMT,NR4A2,PDE4B	3

PTEN Loss Unchanged, ERG Down

Category	Term	Count	P-Value	Genes
Developmental Disorder	inborn error of carbohydrate metabolism	1.52E-04	AGL,ALG9,PHKB,SLC35A1	4
Hereditary Disorder	inborn error of carbohydrate metabolism	1.52E-04	AGL,ALG9,PHKB,SLC35A1	4
Metabolic Disease	inborn error of carbohydrate metabolism	1.52E-04	AGL,ALG9,PHKB,SLC35A1	4
Amino Acid Metabolism	quantity of amino acids	3.52E-04	ARG2 (includes EG:11847),FAH,FGF1,HPN,RXRG	5

Amino Acid Metabolism	catabolism of arginine	5.65E-04	ARG2 (includes EG:11847),FAH	2
Small Molecule Biochemistry	catabolism of arginine	5.65E-04	ARG2 (includes EG:11847),FAH	2
Cellular Development Embryonic	differentiation of epidermis	7.04E-04	MAPK9,TGM5	2
Development Hair and Skin	differentiation of epidermis	7.04E-04	MAPK9,TGM5	2
Development and Function	differentiation of epidermis	7.04E-04	MAPK9,TGM5	2
Organ Development Organismal	differentiation of epidermis	7.04E-04	MAPK9,TGM5	2
Development	differentiation of epidermis	7.04E-04	MAPK9,TGM5	2
Tissue Development Organismal	differentiation of epidermis	7.04E-04	MAPK9,TGM5	2
Development	production of urine	8.59E-04	EPHB6,SCNN1G	2
Renal and Urological System Development and Function	production of urine	8.59E-04	EPHB6,SCNN1G	2
Amino Acid Metabolism	concentration of levothyroxine	8.91E-04	FGF1,HPN,RXRG	3
Small Molecule Biochemistry	concentration of levothyroxine	8.91E-04	FGF1,HPN,RXRG	3
Drug Metabolism	concentration of levothyroxine	8.91E-04	FGF1,HPN,RXRG	3
Endocrine System Development and Function	concentration of levothyroxine	8.91E-04	FGF1,HPN,RXRG	3
Molecular Transport Post-Translational	concentration of levothyroxine	8.91E-04	FGF1,HPN,RXRG	3
Modification	homotetramerization of protein	8.91E-04	ALDH1A1,DCXR,GFPT1	3
Protein Synthesis	homotetramerization of protein	8.91E-04	ALDH1A1,DCXR,GFPT1	3
Cellular Development Nervous System	differentiation of neuroepithelial cells	1.41E-03	FGF1,MAPK9	2
Development and Function	differentiation of neuroepithelial cells	1.41E-03	FGF1,MAPK9	2
Hematological Disease Developmental	thrombophilia	1.41E-03	HABP2,PROC	2
Disorder	glycogen storage disease	1.62E-03	AGL,PHKB	2
Hereditary Disorder	glycogen storage disease	1.62E-03	AGL,PHKB	2
Metabolic Disease	glycogen storage disease	1.62E-03	AGL,PHKB	2
Small Molecule Biochemistry	concentration of hormone	1.72E-03	CADPS2,EPHB6,FGF1,GSTK1,HPN,RASGRF1,RXRG	7
Endocrine System Development and Function	concentration of hormone	1.72E-03	CADPS2,EPHB6,FGF1,GSTK1,HPN,RASGRF1,RXRG	7
Molecular Transport Hair and Skin	concentration of hormone	1.72E-03	CADPS2,EPHB6,FGF1,GSTK1,HPN,RASGRF1,RXRG	7
Development and Function	abnormal morphology of hair shaft	1.85E-03	DNASE1L2,ST14	2
Organ Morphology	abnormal morphology of hair shaft	1.85E-03	DNASE1L2,ST14	2

Post-Translational Modification	oxidation of protein	3.19E-03	ALDH1A1,DNAJB1	2
Protein Degradation	oxidation of protein	3.19E-03	ALDH1A1,DNAJB1	2
Developmental Disorder	congenital disorders of glycosylation	3.50E-03	ALG9,SLC35A1	2
Hereditary Disorder	congenital disorders of glycosylation	3.50E-03	ALG9,SLC35A1	2
Metabolic Disease	congenital disorders of glycosylation	3.50E-03	ALG9,SLC35A1	2
Organ Morphology	abnormal morphology of epidermis	3.96E-03	LMO4,MAPK9,ST14	3
Cardiovascular Disease	accumulation of thrombus	4.03E-03	PROC	1
Hereditary Disorder	acral peeling skin syndrome	4.03E-03	TGM5	1
Dermatological Diseases and Conditions	acral peeling skin syndrome	4.03E-03	TGM5	1
Cell-To-Cell Signaling and Interaction	activation of Purkinje cells	4.03E-03	ANK3	1
Cellular Growth and Proliferation	arrest in growth of chondrocyte cell lines	4.03E-03	FGF1	1
Cellular Development	arrest in growth of liver cancer cells	4.03E-03	HPN	1
Cellular Growth and Proliferation	arrest in growth of liver cancer cells	4.03E-03	HPN	1
Tumor Morphology	arrest in growth of liver cancer cells	4.03E-03	HPN	1
Cell Cycle	arrest in mitosis of ovarian cancer cell lines	4.03E-03	ACRBP	1
Developmental Disorder	autosomal recessive ichthyosis with hypotrichosis	4.03E-03	ST14	1
Hereditary Disorder	autosomal recessive ichthyosis with hypotrichosis	4.03E-03	ST14	1
Dermatological Diseases and Conditions	autosomal recessive ichthyosis with hypotrichosis	4.03E-03	ST14	1
Organismal Injury and Abnormalities	autosomal recessive ichthyosis with hypotrichosis	4.03E-03	ST14	1
Small Molecule Biochemistry	binding of ADP	4.03E-03	EPHB6	1
Nucleic Acid Metabolism	binding of ADP	4.03E-03	EPHB6	1
Gene Expression	binding of glucose response element	4.03E-03	GFPT1	1
Gene Expression	binding of origin of replication in the short region	4.03E-03	DNAJB1	1
Cellular Assembly and Organization	biogenesis of lateral plasma membrane	4.03E-03	ANK3	1
Small Molecule Biochemistry	biosynthesis of glucosamine	4.03E-03	GFPT1	1
Carbohydrate Metabolism	biosynthesis of glucosamine	4.03E-03	GFPT1	1
Cell Death and Survival	cell death of C-cells	4.03E-03	PROC	1
Developmental Disorder	congenital disorder of glycosylation type 1I	4.03E-03	ALG9	1

Hereditary Disorder	congenital disorder of glycosylation type 1l	4.03E-03	ALG9	1
Metabolic Disease	congenital disorder of glycosylation type 1l	4.03E-03	ALG9	1
Developmental Disorder	congenital disorder of glycosylation type 2f	4.03E-03	SLC35A1	1
Hereditary Disorder	congenital disorder of glycosylation type 2f	4.03E-03	SLC35A1	1
Metabolic Disease	congenital disorder of glycosylation type 2f	4.03E-03	SLC35A1	1
Amino Acid Metabolism	conversion of methotrexate	4.03E-03	FPGS	1
Small Molecule Biochemistry	conversion of methotrexate	4.03E-03	FPGS	1
Drug Metabolism	conversion of methotrexate	4.03E-03	FPGS	1
Post-Translational Modification	conversion of methotrexate	4.03E-03	FPGS	1
Embryonic Development	development of flexor muscle	4.03E-03	GAB1	1
Organ Development	development of flexor muscle	4.03E-03	GAB1	1
Organismal Development	development of flexor muscle	4.03E-03	GAB1	1
Tissue Development	development of flexor muscle	4.03E-03	GAB1	1
Skeletal and Muscular System Development and Function	development of flexor muscle	4.03E-03	GAB1	1
Cellular Movement	dispersion of bladder cancer cell lines	4.03E-03	FGF1	1
Cellular Development	epithelial-mesenchymal transition of bladder cancer cell lines	4.03E-03	FGF1	1
Nervous System Development and Function	fusion of glossopharyngeal cranial nerve ganglion	4.03E-03	LMO4	1
Tissue Morphology	fusion of glossopharyngeal cranial nerve ganglion	4.03E-03	LMO4	1
Nervous System Development and Function	fusion of vagus cranial nerve ganglion	4.03E-03	LMO4	1
Tissue Morphology	fusion of vagus cranial nerve ganglion	4.03E-03	LMO4	1
Developmental Disorder	glycogen storage disease IXB	4.03E-03	PHKB	1
Hereditary Disorder	glycogen storage disease IXB	4.03E-03	PHKB	1
Metabolic Disease	glycogen storage disease IXB	4.03E-03	PHKB	1
Developmental Disorder	glycogen storage disease type III	4.03E-03	AGL	1
Hereditary Disorder	glycogen storage disease type III	4.03E-03	AGL	1
Metabolic Disease	glycogen storage disease type III	4.03E-03	AGL	1
Gastrointestinal Disease	glycogen storage disease type III	4.03E-03	AGL	1
Hepatic System Disease	glycogen storage disease type III	4.03E-03	AGL	1
Cancer	growth of Wilms' tumor	4.03E-03	TIMP4	1
Inflammatory Response	inflammation of C-cells	4.03E-03	PROC	1

Cell-To-Cell Signaling and Interaction	inflammation of follicular cells	4.03E-03	PROC	1
Inflammatory Response	inflammation of follicular cells	4.03E-03	PROC	1
Inflammatory Response	inflammation of interalveolar septa	4.03E-03	PROC	1
Respiratory Disease Inflammatory Response	inflammation of interalveolar septa	4.03E-03	PROC	1
Cell Morphology	inflammation of islets of Langerhans	4.03E-03	PROC	1
Cell Morphology	length of apical membrane	4.03E-03	ANK3	1
Cell Morphology	length of basal membrane	4.03E-03	ANK3	1
Cellular Compromise Small Molecule Biochemistry	loss of lateral plasma membrane	4.03E-03	ANK3	1
Carbohydrate Metabolism	loss of phosphatidylinositol 4,5-diphosphate	4.03E-03	GFPT1	1
Lipid Metabolism Small Molecule Biochemistry	loss of phosphatidylinositol 4,5-diphosphate	4.03E-03	GFPT1	1
Carbohydrate Metabolism	loss of phosphatidylinositol 4,5-diphosphate	4.03E-03	GFPT1	1
Lipid Metabolism Small Molecule Biochemistry	metabolism of D-xylulose	4.03E-03	DCXR	1
Carbohydrate Metabolism	metabolism of D-xylulose	4.03E-03	DCXR	1
Small Molecule Biochemistry	metabolism of D-xylulose	4.03E-03	DCXR	1
Lipid Metabolism	molar ratio of cholesterol	4.03E-03	CYP27A1	1
Cancer	molar ratio of cholesterol	4.03E-03	CYP27A1	1
Cell Morphology	morphology of liver cancer cells	4.03E-03	HPN	1
Tumor Morphology	morphology of liver cancer cells	4.03E-03	HPN	1
Cell Death and Survival Organismal	necrosis of vascular endothelial cells	4.03E-03	FGF1	1
Development	neovascularization of myocardium	4.03E-03	FGF1	1
Tissue Development	neovascularization of myocardium	4.03E-03	FGF1	1
Cardiovascular System Development and Function	neovascularization of myocardium	4.03E-03	FGF1	1
Skeletal and Muscular System Development and Function	neovascularization of myocardium	4.03E-03	FGF1	1
Cell Morphology	polarization of cell surface	4.03E-03	RAB3IP	1
Cellular Assembly and Organization	polarization of cell surface	4.03E-03	RAB3IP	1
Cell-To-Cell Signaling and Interaction	priming of adipose cell lines	4.03E-03	FGF1	1
Hematological Disease	pulmonary embolism of blood vessel	4.03E-03	PROC	1
Cardiovascular Disease	pulmonary embolism of blood vessel	4.03E-03	PROC	1
Respiratory Disease	pulmonary embolism of blood vessel	4.03E-03	PROC	1

Developmental Disorder	pyrimidine 5'-nucleotidase deficiency	4.03E-03	NT5C3	1
Hereditary Disorder	pyrimidine 5'-nucleotidase deficiency	4.03E-03	NT5C3	1
Metabolic Disease	pyrimidine 5'-nucleotidase deficiency	4.03E-03	NT5C3	1
Hematological Disease	pyrimidine 5'-nucleotidase deficiency	4.03E-03	NT5C3	1
Infectious Disease	quantity of Zaire ebolavirus	4.03E-03	PROC	1
Small Molecule Biochemistry	reduction of acetoin	4.03E-03	DCXR	1
Cardiovascular System Development and Function	response of aorta	4.03E-03	ARG2 (includes EG:11847)	1
Organismal Survival	survival of Macaca mulatta	4.03E-03	PROC	1
Hematological Disease	type I protein C deficiency	4.03E-03	PROC	1
DNA Replication, Recombination, and Repair	unwinding of origin of replication in the short region	4.03E-03	DNAJB1	1
Cell Death and Survival	cell death of mammary tumor cells	4.52E-03	MAPK9,TIMP4	2
Tumor Morphology	cell death of mammary tumor cells	4.52E-03	MAPK9,TIMP4	2
Behavior	sleep pattern	4.52E-03	CADPS2,PER3	2
Cancer	epithelial tumor	4.66E-03	ADAMTS9,ALDH1A1,ANK3,ANXA4,ARG2 (includes EG:11847),CREBL2,CRYL1,EPHB6,ESRRG,FAH,FGF1,FGS,HABP2,HDAC11,HPN,JAK1,MAPK9,PDZK1IP1,RXRG,SLC27A2,ST14,TIMP4,UBE2I	23
Dermatological Diseases and Conditions	alopecia	5.03E-03	EPHB6,RXRG,ST14	3
Small Molecule Biochemistry	synthesis of nitric oxide	5.04E-03	ARG2 (includes EG:11847),DNAJB1,JAK1,MAPK9,ST14	5
Cell Signaling	synthesis of nitric oxide	5.04E-03	ARG2 (includes EG:11847),DNAJB1,JAK1,MAPK9,ST14	5
Cellular Movement	migration of breast cancer cell lines	5.08E-03	FGF1,FHOD1,GAB1,UBE2I	4
Carbohydrate Metabolism	metabolism of carbohydrate	5.21E-03	AGL,ALDH1A1,ALG9,DCXR,ESRRG,GFPT1,PHKB,SLC35A1	8
Small Molecule Biochemistry	synthesis of bile acid	5.26E-03	CYP27A1,SLC27A2	2
Lipid Metabolism	synthesis of bile acid	5.26E-03	CYP27A1,SLC27A2	2
Vitamin and Mineral Metabolism	synthesis of bile acid	5.26E-03	CYP27A1,SLC27A2	2
Embryonic Development	development of epidermis	5.51E-03	GAB1,MAPK9,ST14,TGM5	4
Hair and Skin Development and Function	development of epidermis	5.51E-03	GAB1,MAPK9,ST14,TGM5	4
Organ Development	development of epidermis	5.51E-03	GAB1,MAPK9,ST14,TGM5	4
Organismal Development	development of epidermis	5.51E-03	GAB1,MAPK9,ST14,TGM5	4
Tissue Development	development of epidermis	5.51E-03	GAB1,MAPK9,ST14,TGM5	4

Cellular Development	differentiation of epithelial cells	5.60E-03	ADAMTS9,FGF1,LMO4,MAPK9,ST14	5
Cellular Development	differentiation of epithelial tissue	5.65E-03	FGF1,MAPK9	2
Tissue Development Nervous System Development and Function	differentiation of epithelial tissue	5.65E-03	FGF1,MAPK9	2
Tissue Morphology	quantity of Purkinje cells	5.65E-03	ANK3,CADPS2	2
Hair and Skin Development and Function	quantity of Purkinje cells	5.65E-03	ANK3,CADPS2	2
Organ Morphology	abnormal morphology of stratum corneum	6.05E-03	LMO4,ST14	2
Organ Morphology	abnormal morphology of stratum corneum	6.05E-03	LMO4,ST14	2
Organ Morphology	mass of left ventricle	6.05E-03	ARG2 (includes EG:11847),TIMP4	2
Cardiovascular System Development and Function	mass of left ventricle	6.05E-03	ARG2 (includes EG:11847),TIMP4	2
Small Molecule Biochemistry	metabolism of tretinoin	6.46E-03	ALDH1A1,CYP2S1	2
Drug Metabolism	metabolism of tretinoin	6.46E-03	ALDH1A1,CYP2S1	2
Lipid Metabolism	metabolism of tretinoin	6.46E-03	ALDH1A1,CYP2S1	2
Vitamin and Mineral Metabolism	metabolism of tretinoin	6.46E-03	ALDH1A1,CYP2S1	2
Hair and Skin Development and Function	quantity of hair follicle	6.46E-03	MAPK9,ST14	2
Organ Morphology	quantity of hair follicle	6.46E-03	MAPK9,ST14	2
Post-Translational Modification	cleavage of protein fragment	6.89E-03	ST14,TMPRSS13	2
Protein Synthesis	cleavage of protein fragment	6.89E-03	ST14,TMPRSS13	2
Protein Degradation	cleavage of protein fragment	6.89E-03	ST14,TMPRSS13	2
Cellular Function and Maintenance	function of cardiomyocytes	7.33E-03	ESRRG,TIMP4	2
Embryonic Development	abnormal morphology of interalveolar septa	7.79E-03	MAPK9,PROC	2
Organ Development	abnormal morphology of interalveolar septa	7.79E-03	MAPK9,PROC	2
Organismal Development	abnormal morphology of interalveolar septa	7.79E-03	MAPK9,PROC	2
Tissue Development	abnormal morphology of interalveolar septa	7.79E-03	MAPK9,PROC	2
Organ Morphology	abnormal morphology of interalveolar septa	7.79E-03	MAPK9,PROC	2
Respiratory System Development and Function	abnormal morphology of interalveolar septa	7.79E-03	MAPK9,PROC	2
Cellular Development	development of oligodendrocytes	7.79E-03	FGF1,HDAC11	2
Nervous System Development and Function	development of oligodendrocytes	7.79E-03	FGF1,HDAC11	2

Gene Expression	expression of RNA	7.83E-03	AEBP2,CREBL2,CYP2S1,DNAJB1,ESRRG,FGF1,FHOD1,GRHL1,JAK1,LMO4,MAPK9,PER3,PROC,RASGRF1,RXRG,TIA1,UBE2I,YEATS2	18
Tissue Morphology	abnormal morphology of periocular mesenchyme	8.04E-03	ALDH1A1	1
Nervous System Development and Function	abnormal morphology of somatic motor system	8.04E-03	MAPK9	1
Tissue Development	adhesion of cerebral endothelial cells	8.04E-03	PROC	1
Cardiovascular System Development and Function	adhesion of cerebral endothelial cells	8.04E-03	PROC	1
Cell-To-Cell Signaling and Interaction	adhesion of cerebral endothelial cells	8.04E-03	PROC	1
Cell Death and Survival	apoptosis of HAEC cells	8.04E-03	PROC	1
Cell Death and Survival	apoptosis of forebrain	8.04E-03	MAPK9	1
Cell Death and Survival	apoptosis of rhombencephalon	8.04E-03	MAPK9	1
Cell Cycle	arrest in G1/S phase transition of prostate cancer cell lines	8.04E-03	ESRRG	1
Cell Cycle	arrest in mitosis of lung cancer cell lines	8.04E-03	ACRBP	1
Small Molecule Biochemistry	biogenesis of cholesterol	8.04E-03	FGF1	1
Lipid Metabolism	biogenesis of cholesterol	8.04E-03	FGF1	1
Amino Acid Metabolism	clearance of methotrexate	8.04E-03	FPGS	1
Small Molecule Biochemistry	clearance of methotrexate	8.04E-03	FPGS	1
Drug Metabolism	clearance of methotrexate	8.04E-03	FPGS	1
Molecular Transport	clearance of methotrexate	8.04E-03	FPGS	1
RNA Post-Transcriptional Modification	cleavage of hnRNA	8.04E-03	UBE2I	1
Cell Cycle	cytokinesis of cardiomyocytes	8.04E-03	FGF1	1
Cellular Movement	cytokinesis of cardiomyocytes	8.04E-03	FGF1	1
Cellular Growth and Proliferation	cytostasis of chondrocytes	8.04E-03	FGF1	1
Connective Tissue Development and Function	cytostasis of chondrocytes	8.04E-03	FGF1	1
Tissue Development	delay in development of epithelial tissue	8.04E-03	MAPK9	1
Cardiovascular System Development and Function	density of microvasculature	8.04E-03	HABP2	1
Embryonic Development	development of caudal vertebra	8.04E-03	ALDH1A1	1
Organ Development	development of caudal vertebra	8.04E-03	ALDH1A1	1
Organismal Development	development of caudal vertebra	8.04E-03	ALDH1A1	1

Tissue Development	development of caudal vertebra	8.04E-03	ALDH1A1	1
Skeletal and Muscular System Development and Function	development of caudal vertebra	8.04E-03	ALDH1A1	1
Connective Tissue Development and Function	development of caudal vertebra	8.04E-03	ALDH1A1	1
Embryonic Development	development of extensor muscle	8.04E-03	GAB1	1
Organ Development	development of extensor muscle	8.04E-03	GAB1	1
Organismal Development	development of extensor muscle	8.04E-03	GAB1	1
Tissue Development	development of extensor muscle	8.04E-03	GAB1	1
Skeletal and Muscular System Development and Function	development of extensor muscle	8.04E-03	GAB1	1
Cellular Development	differentiation of stratified subjunctional squamous epithelium	8.04E-03	MAPK9	1
Tissue Development	differentiation of stratified subjunctional squamous epithelium	8.04E-03	MAPK9	1
Cell Morphology	elongation of epithelial cells	8.04E-03	FGF1	1
Cardiovascular Disease	endocardial fibroelastosis	8.04E-03	GAB1	1
Connective Tissue Disorders	endocardial fibroelastosis	8.04E-03	GAB1	1
Small Molecule Biochemistry	exchange of AMP	8.04E-03	SLC35A1	1
Molecular Transport	exchange of AMP	8.04E-03	SLC35A1	1
Nucleic Acid Metabolism	exchange of AMP	8.04E-03	SLC35A1	1
Small Molecule Biochemistry	exchange of CMP-sialic acid	8.04E-03	SLC35A1	1
Molecular Transport	exchange of CMP-sialic acid	8.04E-03	SLC35A1	1
Carbohydrate Metabolism	exchange of CMP-sialic acid	8.04E-03	SLC35A1	1
Nucleic Acid Metabolism	exchange of CMP-sialic acid	8.04E-03	SLC35A1	1
Small Molecule Biochemistry	exchange of UDP-N-acetyl-D-galactosamine	8.04E-03	SLC35A1	1
Carbohydrate Metabolism	exchange of UDP-N-acetyl-D-galactosamine	8.04E-03	SLC35A1	1
Nucleic Acid Metabolism	exchange of UDP-N-acetyl-D-galactosamine	8.04E-03	SLC35A1	1
Small Molecule Biochemistry	exchange of UDP-galactose	8.04E-03	SLC35A1	1
Molecular Transport	exchange of UDP-galactose	8.04E-03	SLC35A1	1
Carbohydrate Metabolism	exchange of UDP-galactose	8.04E-03	SLC35A1	1
Nucleic Acid Metabolism	exchange of UDP-galactose	8.04E-03	SLC35A1	1
Small Molecule Biochemistry	exchange of UDP-galactose	8.04E-03	SLC35A1	1
Molecular Transport	exchange of UDP-galactose	8.04E-03	SLC35A1	1
Carbohydrate Metabolism	exchange of UDP-galactose	8.04E-03	SLC35A1	1
Nucleic Acid Metabolism	exchange of UDP-galactose	8.04E-03	SLC35A1	1

Small Molecule				
Biochemistry	exchange of UMP	8.04E-03	SLC35A1	1
Molecular Transport	exchange of UMP	8.04E-03	SLC35A1	1
Nucleic Acid				
Metabolism	exchange of UMP	8.04E-03	SLC35A1	1
Developmental				
Disorder	exencephaly of rhombencephalon	8.04E-03	MAPK9	1
Connective Tissue				
Disorders	exencephaly of rhombencephalon	8.04E-03	MAPK9	1
Neurological Disease	exencephaly of rhombencephalon	8.04E-03	MAPK9	1
Skeletal and Muscular				
Disorders	exencephaly of rhombencephalon	8.04E-03	MAPK9	1
Inflammatory	inflammation of exocrine region of			
Response	pancreas	8.04E-03	PROC	1
Embryonic				
Development	invasion of perioptic mesenchyme	8.04E-03	ALDH1A1	1
Cancer	invasion of perioptic mesenchyme	8.04E-03	ALDH1A1	1
Organismal Injury and				
Abnormalities	lesioning of para-aortic lymph nodes	8.04E-03	HPN	1
Immunological				
Disease	lesioning of para-aortic lymph nodes	8.04E-03	HPN	1
Cell Morphology	mineralization of muscle cell lines	8.04E-03	ESRRG	1
Cell Cycle	mitogenesis of bladder cancer cell lines	8.04E-03	FGF1	1
Cellular Development	morphogenesis of exocrine cells	8.04E-03	FGF1	1
Organismal				
Development	morphogenesis of exocrine cells	8.04E-03	FGF1	1
Tissue Development	morphogenesis of exocrine cells	8.04E-03	FGF1	1
Cell Morphology	morphogenesis of exocrine cells	8.04E-03	FGF1	1
Small Molecule				
Biochemistry	oxidation of acetaldehyde	8.04E-03	ALDH1A1	1
Energy Production	oxidation of acetaldehyde	8.04E-03	ALDH1A1	1
Embryonic				
Development	patterning of rhombencephalon	8.04E-03	ALDH1A1	1
Organ Development	patterning of rhombencephalon	8.04E-03	ALDH1A1	1
Nervous System				
Development and				
Function	patterning of rhombencephalon	8.04E-03	ALDH1A1	1
RNA Post-				
Transcriptional				
Modification	polyadenylation of hnRNA	8.04E-03	UBE2I	1
Cell-To-Cell Signaling				
and Interaction	priming of adipoblasts	8.04E-03	FGF1	1
Connective Tissue				
Development and				
Function	priming of adipoblasts	8.04E-03	FGF1	1
Small Molecule				
Biochemistry	quantity of UDP-N-acetylglucosamine	8.04E-03	GFPT1	1
Molecular Transport	quantity of UDP-N-acetylglucosamine	8.04E-03	GFPT1	1
Carbohydrate				
Metabolism	quantity of UDP-N-acetylglucosamine	8.04E-03	GFPT1	1

Nucleic Acid Metabolism	quantity of UDP-N-acetylglucosamine	8.04E-03	GFPT1	1
Organismal Development	quantity of lymphatic fluid	8.04E-03	PROC	1
Lymphoid Tissue Structure and Development	quantity of lymphatic fluid	8.04E-03	PROC	1
Cellular Assembly and Organization	release of dense-core vesicles	8.04E-03	CADPS2	1
Cellular Function and Maintenance	release of dense-core vesicles	8.04E-03	CADPS2	1
Cellular Assembly and Organization	remodeling of actin stress fibers	8.04E-03	RAB3IP	1
Cell-To-Cell Signaling and Interaction	response of fibrosarcoma cell lines	8.04E-03	JAK1	1
Cardiovascular System Development and Function	survival of lymphatic endothelial cells	8.04E-03	FGF1	1
Cell Death and Survival	survival of lymphatic endothelial cells	8.04E-03	FGF1	1
Small Molecule Biochemistry	toxicity of retinol	8.04E-03	ALDH1A1	1
Lipid Metabolism	toxicity of retinol	8.04E-03	ALDH1A1	1
Vitamin and Mineral Metabolism	toxicity of retinol	8.04E-03	ALDH1A1	1
Small Molecule Biochemistry	transport of CMP-sialic acid	8.04E-03	SLC35A1	1
Molecular Transport	transport of CMP-sialic acid	8.04E-03	SLC35A1	1
Carbohydrate Metabolism	transport of CMP-sialic acid	8.04E-03	SLC35A1	1
Nucleic Acid Metabolism	transport of CMP-sialic acid	8.04E-03	SLC35A1	1
Small Molecule Biochemistry	transport of UMP	8.04E-03	SLC35A1	1
Molecular Transport	transport of UMP	8.04E-03	SLC35A1	1
Nucleic Acid Metabolism	transport of UMP	8.04E-03	SLC35A1	1
Developmental Disorder	type I tyrosinemia	8.04E-03	FAH	1
Hereditary Disorder	type I tyrosinemia	8.04E-03	FAH	1
Metabolic Disease	type I tyrosinemia	8.04E-03	FAH	1
Gastrointestinal Disease	type I tyrosinemia	8.04E-03	FAH	1
Hepatic System Disease	type I tyrosinemia	8.04E-03	FAH	1
Cancer	vascularization of papilloma	8.04E-03	MAPK9	1
Cardiovascular System Development and Function	vascularization of papilloma	8.04E-03	MAPK9	1
Tumor Morphology	vascularization of papilloma	8.04E-03	MAPK9	1
Cell Death and Survival	cell death of pheochromocytoma cell lines	8.06E-03	DNAJB1,GAB1,MAPK9	3
Post-Translational Modification	hydrolysis of protein	8.16E-03	ADAMTS9,HPN,ST14,TMPRSS13	4

Protein Synthesis	hydrolysis of protein	8.16E-03	ADAMTS9,HPN,ST14,TMPRSS13	4
Protein Degradation	hydrolysis of protein	8.16E-03	ADAMTS9,HPN,ST14,TMPRSS13	4
Cell Death and Survival	apoptosis of glomerular cells	8.25E-03	GFPT1,PROC	2
Cellular Development	proliferation of tumor cell lines	8.88E-03	ACRBP,ALDH1A1,EPHB6,ESRRG,FGF1,GAB1,HPN,JAK1,MAPK9,NT5C3,PDZK1IP1,TIMP4,UBE2I	13
Cellular Growth and Proliferation	proliferation of tumor cell lines	8.88E-03	ACRBP,ALDH1A1,EPHB6,ESRRG,FGF1,GAB1,HPN,JAK1,MAPK9,NT5C3,PDZK1IP1,TIMP4,UBE2I	13
Embryonic Development	death of embryo	9.22E-03	DNAJB1,MAPK9	2
Organismal Survival	death of embryo	9.22E-03	DNAJB1,MAPK9	2
Carbohydrate Metabolism	metabolism of glycogen	9.22E-03	AGL,PHKB	2
Gene Expression	binding of DNA	9.82E-03	DNAJB1,FGF1,GFPT1,IP6K2,JAK1,MAPK9,PROC	7
Developmental Disorder	spina bifida	1.02E-02	ALDH1A1,LMO4	2
Connective Tissue Disorders	spina bifida	1.02E-02	ALDH1A1,LMO4	2
Neurological Disease	spina bifida	1.02E-02	ALDH1A1,LMO4	2
Skeletal and Muscular Disorders	spina bifida	1.02E-02	ALDH1A1,LMO4	2
Carbohydrate Metabolism	metabolism of polysaccharide	1.08E-02	AGL,ALG9,GFPT1,PHKB	4
Embryonic Development	development of vertebrae	1.18E-02	ALDH1A1,LMO4	2
Organ Development	development of vertebrae	1.18E-02	ALDH1A1,LMO4	2
Organismal Development	development of vertebrae	1.18E-02	ALDH1A1,LMO4	2
Tissue Development	development of vertebrae	1.18E-02	ALDH1A1,LMO4	2
Skeletal and Muscular System Development and Function	development of vertebrae	1.18E-02	ALDH1A1,LMO4	2
Connective Tissue Development and Function	development of vertebrae	1.18E-02	ALDH1A1,LMO4	2
Ophthalmic Disease	eyelids open at birth	1.18E-02	LMO4,MAPK9	2
Hereditary Disorder	Liddle syndrome	1.20E-02	SCNN1G	1
Metabolic Disease	Liddle syndrome	1.20E-02	SCNN1G	1
Cardiovascular Disease	Liddle syndrome	1.20E-02	SCNN1G	1
Renal and Urological Disease	Liddle syndrome	1.20E-02	SCNN1G	1
Nervous System Development and Function	afterhyperpolarization of pyramidal neurons	1.20E-02	LMO4	1
Cell-To-Cell Signaling and Interaction	afterhyperpolarization of pyramidal neurons	1.20E-02	LMO4	1
Cancer	aneuploidy of tumor cells	1.20E-02	MAPK9	1
Cell Cycle	aneuploidy of tumor cells	1.20E-02	MAPK9	1
Cell Cycle	arrest in mitosis of carcinoma cell lines	1.20E-02	ACRBP	1

Hereditary Disorder	autosomal recessive pseudohypoaldosteronism type I	1.20E-02	SCNN1G	1
Metabolic Disease	autosomal recessive pseudohypoaldosteronism type I	1.20E-02	SCNN1G	1
Renal and Urological Disease	autosomal recessive pseudohypoaldosteronism type I	1.20E-02	SCNN1G	1
Small Molecule Biochemistry	biosynthesis of putrescine	1.20E-02	ARG2 (includes EG:11847)	1
Reproductive System Development and Function	birth	1.20E-02	JAK1	1
Organismal Injury and Abnormalities	bleeding of spinal cord	1.20E-02	PROC	1
Neurological Disease	bleeding of spinal cord	1.20E-02	PROC	1
Amino Acid Metabolism	clearance of L-glutamic acid	1.20E-02	FPGS	1
Small Molecule Biochemistry	clearance of L-glutamic acid	1.20E-02	FPGS	1
Small Molecule Biochemistry	clearance of retinaldehyde	1.20E-02	ALDH1A1	1
Molecular Transport	clearance of retinaldehyde	1.20E-02	ALDH1A1	1
Lipid Metabolism	clearance of retinaldehyde	1.20E-02	ALDH1A1	1
Vitamin and Mineral Metabolism	clearance of retinaldehyde	1.20E-02	ALDH1A1	1
Small Molecule Biochemistry	clearance of retinol	1.20E-02	ALDH1A1	1
Molecular Transport	clearance of retinol	1.20E-02	ALDH1A1	1
Lipid Metabolism	clearance of retinol	1.20E-02	ALDH1A1	1
Vitamin and Mineral Metabolism	clearance of retinol	1.20E-02	ALDH1A1	1
Cancer	cortisol-producing adrenal cortical adenoma	1.20E-02	UBE2I	1
Cell-To-Cell Signaling and Interaction	degradation of synapse	1.20E-02	JAK1	1
Embryonic Development	development of corneal stroma	1.20E-02	ALDH1A1	1
Organ Development	development of corneal stroma	1.20E-02	ALDH1A1	1
Organismal Development	development of corneal stroma	1.20E-02	ALDH1A1	1
Tissue Development	development of corneal stroma	1.20E-02	ALDH1A1	1
Visual System Development and Function	development of corneal stroma	1.20E-02	ALDH1A1	1
Embryonic Development	development of presphenoid bone	1.20E-02	LMO4	1
Organismal Development	development of presphenoid bone	1.20E-02	LMO4	1
Tissue Development	development of presphenoid bone	1.20E-02	LMO4	1
Embryonic Development	development of sacral vertebra	1.20E-02	ALDH1A1	1

Organ Development	development of sacral vertebra	1.20E-02	ALDH1A1	1
Organismal Development	development of sacral vertebra	1.20E-02	ALDH1A1	1
Tissue Development	development of sacral vertebra	1.20E-02	ALDH1A1	1
Skeletal and Muscular System Development and Function	development of sacral vertebra	1.20E-02	ALDH1A1	1
Connective Tissue Development and Function	development of sacral vertebra	1.20E-02	ALDH1A1	1
Cellular Development	differentiation of ectodermal cells	1.20E-02	MAPK9	1
Embryonic Development	differentiation of ectodermal cells	1.20E-02	MAPK9	1
Tissue Development	dissociation of bladder cancer cell lines	1.20E-02	FGF1	1
Cell-To-Cell Signaling and Interaction	dissociation of bladder cancer cell lines	1.20E-02	FGF1	1
Cell Morphology	elongation of breast cancer cell lines	1.20E-02	FHOD1	1
Respiratory Disease	failure of respiratory system	1.20E-02	SCNN1G	1
Behavior	falling of mice	1.20E-02	RXRG	1
Post-Translational Modification	hydrolysis of protein fragment	1.20E-02	TMPRSS13	1
Protein Synthesis	hydrolysis of protein fragment	1.20E-02	TMPRSS13	1
Protein Degradation	hydrolysis of protein fragment	1.20E-02	TMPRSS13	1
Inflammatory Response	inflammation of urinary bladder	1.20E-02	GSTK1	1
Cell Cycle	initiation of S phase of fibroblasts	1.20E-02	GAB1	1
Connective Tissue Development and Function	initiation of S phase of fibroblasts	1.20E-02	GAB1	1
Organismal Development	mass of thyroid gland	1.20E-02	FGF1	1
Endocrine System Development and Function	mass of thyroid gland	1.20E-02	FGF1	1
Organ Morphology	mass of thyroid gland	1.20E-02	FGF1	1
Neurological Disease	optokinetic nystagmus	1.20E-02	CADPS2	1
Ophthalmic Disease	optokinetic nystagmus	1.20E-02	CADPS2	1
Cellular Development	proliferation of adipose cell lines	1.20E-02	FGF1	1
Cellular Growth and Proliferation	proliferation of adipose cell lines	1.20E-02	FGF1	1
Connective Tissue Development and Function	proliferation of adipose cell lines	1.20E-02	FGF1	1
Cardiovascular System Development and Function	quantity of blood vessel tissue	1.20E-02	PROC	1
Tissue Morphology	quantity of blood vessel tissue	1.20E-02	PROC	1

Cellular Assembly and Organization	quantity of dense-core vesicles	1.20E-02	CADPS2	1
Dermatological Diseases and Conditions	skin manifestation	1.20E-02	RXRG	1
Small Molecule Biochemistry	synthesis of spermine	1.20E-02	ARG2 (includes EG:11847)	1
Cancer	transformation of cervical vertebra	1.20E-02	ALDH1A1	1
Tissue Morphology	transformation of cervical vertebra	1.20E-02	ALDH1A1	1
Skeletal and Muscular Disorders	transformation of cervical vertebra	1.20E-02	ALDH1A1 ABO,ALDH1A1,ARG2 (includes EG:11847),CREBL2,DNAJB1,EPHB6,FAH,FGF1,GAB1,GFPT1,HDAC11,HEBP2,HPN,IP6K2,JAK1,MAPK9,PRO C,ST14,TIA1,TIMP4	1
Cell Death and Survival	apoptosis	1.23E-02		20
Hematological Disease	thrombosis of blood vessel	1.36E-02	ABO,PROC	2
Cardiovascular Disease	thrombosis of blood vessel	1.36E-02	ABO,PROC	2
Embryonic Development	abnormal morphology of lens	1.48E-02	ALDH1A1,MAPK9	2
Organ Development	abnormal morphology of lens	1.48E-02	ALDH1A1,MAPK9	2
Organismal Development	abnormal morphology of lens	1.48E-02	ALDH1A1,MAPK9	2
Tissue Development	abnormal morphology of lens	1.48E-02	ALDH1A1,MAPK9	2
Organ Morphology	abnormal morphology of lens	1.48E-02	ALDH1A1,MAPK9	2
Visual System Development and Function	abnormal morphology of lens	1.48E-02	ALDH1A1,MAPK9	2
Cell Morphology	formation of lamellipodia	1.49E-02	FGF1,GAB1,PROC	3
Cellular Assembly and Organization	formation of lamellipodia	1.49E-02	FGF1,GAB1,PROC	3
Cellular Function and Maintenance	formation of lamellipodia	1.49E-02	FGF1,GAB1,PROC	3
	abnormal morphology of embryonic neuroepithelium	1.54E-02	LMO4,MAPK9	2
Tissue Morphology	neuroepithelium	1.54E-02	LMO4,MAPK9	2
Cell Morphology	elongation of cells	1.54E-02	FGF1,FHOD1	2
Protein Synthesis	degradation of protein	1.58E-02	ADAMTS9,HPN,JAK1,ST14,TMPRSS13,UBE2I	6
Protein Degradation	degradation of protein	1.58E-02	ADAMTS9,HPN,JAK1,ST14,TMPRSS13,UBE2I	6
Post-Translational Modification	JUN phosphorylation	1.60E-02	MAPK9	1
Cell Signaling	JUN phosphorylation	1.60E-02	MAPK9	1
Organismal Development	abnormal morphology of fungiform papillae	1.60E-02	MAPK9	1
	abnormal morphology of fungiform papillae	1.60E-02	MAPK9	1
Organ Morphology	papillae	1.60E-02	MAPK9	1
Digestive System Development and Function	abnormal morphology of fungiform papillae	1.60E-02	MAPK9	1
Tissue Development	adhesion of beta islet cells	1.60E-02	FGF1	1
Endocrine System Development and Function	adhesion of beta islet cells	1.60E-02	FGF1	1

Cell-To-Cell Signaling and Interaction	adhesion of beta islet cells	1.60E-02	FGF1	1
Embryonic Development	angiogenesis of islets of Langerhans	1.60E-02	FGF1	1
Organ Development	angiogenesis of islets of Langerhans	1.60E-02	FGF1	1
Organismal Development	angiogenesis of islets of Langerhans	1.60E-02	FGF1	1
Tissue Development	angiogenesis of islets of Langerhans	1.60E-02	FGF1	1
Endocrine System Development and Function	angiogenesis of islets of Langerhans	1.60E-02	FGF1	1
Cardiovascular System Development and Function	angiogenesis of islets of Langerhans	1.60E-02	FGF1	1
Digestive System Development and Function	angiogenesis of islets of Langerhans	1.60E-02	FGF1	1
Cellular Development	branching of breast cell lines	1.60E-02	GAB1	1
Reproductive System Development and Function	branching of breast cell lines	1.60E-02	GAB1	1
Embryonic Development	closure of optic fissure	1.60E-02	MAPK9	1
Organismal Development	closure of optic fissure	1.60E-02	MAPK9	1
Tissue Development	closure of optic fissure	1.60E-02	MAPK9	1
Tissue Morphology	closure of optic fissure	1.60E-02	MAPK9	1
Small Molecule Biochemistry	concentration of retinaldehyde	1.60E-02	ALDH1A1	1
Molecular Transport	concentration of retinaldehyde	1.60E-02	ALDH1A1	1
Lipid Metabolism	concentration of retinaldehyde	1.60E-02	ALDH1A1	1
Vitamin and Mineral Metabolism	concentration of retinaldehyde	1.60E-02	ALDH1A1	1
Cell Cycle	conformational modification of chromatin	1.60E-02	HDAC11	1
DNA Replication, Recombination, and Repair	conformational modification of chromatin	1.60E-02	HDAC11	1
Cellular Growth and Proliferation	cytostasis of kidney cancer cell lines	1.60E-02	TIMP4	1
Embryonic Development	development of cervical vertebra	1.60E-02	LMO4	1
Organ Development	development of cervical vertebra	1.60E-02	LMO4	1
Organismal Development	development of cervical vertebra	1.60E-02	LMO4	1
Tissue Development	development of cervical vertebra	1.60E-02	LMO4	1

Skeletal and Muscular System Development and Function	development of cervical vertebra	1.60E-02	LMO4	1
Connective Tissue Development and Function	development of cervical vertebra	1.60E-02	LMO4	1
Cellular Development Endocrine System Development and Function	differentiation of lactotropes	1.60E-02	FGF1	1
	differentiation of lactotropes	1.60E-02	FGF1	1
Cellular Development	differentiation of mammary epithelial cells	1.60E-02	LMO4	1
Reproductive System Development and Function	differentiation of mammary epithelial cells	1.60E-02	LMO4	1
Cancer	growth of papilloma	1.60E-02	MAPK9	1
Cellular Compromise Organismal Injury and Abnormalities	injury of podocytes	1.60E-02	PROC	1
Renal and Urological Disease	injury of podocytes	1.60E-02	PROC	1
Cell Death and Survival Embryonic Development	necrosis of islets of Langerhans	1.60E-02	PROC	1
Cellular Growth and Proliferation	pluripotency of embryonic stem cells	1.60E-02	JAK1	1
Small Molecule Biochemistry	quantity of oleic acid	1.60E-02	CYP27A1	1
Molecular Transport	quantity of oleic acid	1.60E-02	CYP27A1	1
Lipid Metabolism	quantity of oleic acid	1.60E-02	CYP27A1	1
Tissue Development	regeneration of endothelial tissue	1.60E-02	FGF1	1
Cardiovascular System Development and Function	regeneration of endothelial tissue	1.60E-02	FGF1	1
Tissue Morphology	regeneration of endothelial tissue	1.60E-02	FGF1	1
Small Molecule Biochemistry	synthesis of spermidine	1.60E-02	ARG2 (includes EG:11847)	1
Cardiovascular System Development and Function	thickness of carotid artery	1.60E-02	FGF1	1
Tissue Morphology	thickness of carotid artery	1.60E-02	FGF1	1
Small Molecule Biochemistry	tolerance of D-glucose	1.60E-02	GAB1	1
Carbohydrate Metabolism	tolerance of D-glucose	1.60E-02	GAB1	1
Small Molecule Biochemistry	turnover of norepinephrine	1.60E-02	ARG2 (includes EG:11847)	1
Drug Metabolism	turnover of norepinephrine	1.60E-02	ARG2 (includes EG:11847)	1

Cell-To-Cell Signaling and Interaction	turnover of norepinephrine	1.60E-02	ARG2 (includes EG:11847)	1
Nervous System Development and Function	volume of brain tissue	1.60E-02	PROC	1
Tissue Morphology	volume of brain tissue	1.60E-02	PROC	1
Cell Morphology	whole-cell conductance of oocytes	1.60E-02	SCNN1G	1
Reproductive System Development and Function	whole-cell conductance of oocytes	1.60E-02	SCNN1G	1
Gene Expression	transcription	1.60E-02	AEBP2,CREBL2,CYP2S1,ESRRG,FGF1,FHOD1,FPGS,GRHL1,JAK1,LMO4,MAPK9,PER3,RASGRF1,RXRG,UBE2I,YEATS2	16
Cellular Development	proliferation of prostate cancer cell lines	1.61E-02	ALDH1A1,ESRRG,FGF1,HPN	4
Cellular Growth and Proliferation	proliferation of prostate cancer cell lines	1.61E-02	ALDH1A1,ESRRG,FGF1,HPN	4
Respiratory Disease	dyspnea	1.62E-02	ALDH1A1,MAPK9,PROC	3
Cellular Movement	migration of muscle cells	1.65E-02	GAB1,HABP2,PROC	3
Skeletal and Muscular System Development and Function	migration of muscle cells	1.65E-02	GAB1,HABP2,PROC	3
Cellular Development	proliferation of muscle cell lines	1.86E-02	FGF1,JAK1	2
Cellular Growth and Proliferation	proliferation of muscle cell lines	1.86E-02	FGF1,JAK1	2
Skeletal and Muscular System Development and Function	proliferation of muscle cell lines	1.86E-02	FGF1,JAK1	2
Cancer	transformation of fibroblast cell lines	1.87E-02	FGF1,GAB1,MAPK9,RASGRF1	4
Cell-To-Cell Signaling and Interaction	activation of central nervous system cells	1.93E-02	ANK3,FGF1	2
Organismal Injury and Abnormalities	injury of brain	1.93E-02	PROC,RASGRF1	2
Neurological Disease	injury of brain	1.93E-02	PROC,RASGRF1	2
Small Molecule Biochemistry	alpha-oxidation of fatty acid	2.00E-02	SLC27A2	1
Lipid Metabolism	alpha-oxidation of fatty acid	2.00E-02	SLC27A2	1
Energy Production	alpha-oxidation of fatty acid	2.00E-02	SLC27A2	1
Small Molecule Biochemistry	beta-oxidation of very long chain fatty acid	2.00E-02	SLC27A2	1
Lipid Metabolism	beta-oxidation of very long chain fatty acid	2.00E-02	SLC27A2	1
Energy Production	beta-oxidation of very long chain fatty acid	2.00E-02	SLC27A2	1
Cell Cycle	cell cycle progression of oocytes	2.00E-02	GAB1	1
Reproductive System Development and Function	cell cycle progression of oocytes	2.00E-02	GAB1	1

Cell Death and Survival Nervous System Development and Function	cell death of facial motor neurons	2.00E-02	MAPK9	1
Visual System Development and Function	closure of eyelid	2.00E-02	MAPK9	1
Cardiovascular System Development and Function	closure of eyelid	2.00E-02	MAPK9	1
Cardiovascular System Development and Function	contractility of artery	2.00E-02	EPHB6	1
Dermatological Diseases and Conditions	delayed hypersensitive reaction of skin	2.00E-02	EPHB6	1
Immunological Disease	delayed hypersensitive reaction of skin	2.00E-02	EPHB6	1
Cellular Compromise Small Molecule Biochemistry	fragmentation of spindle pole	2.00E-02	ACRBP	1
Lipid Metabolism	hydroxylation of cholesterol	2.00E-02	CYP27A1	1
	hydroxylation of cholesterol	2.00E-02	CYP27A1	1
Cell-To-Cell Signaling and Interaction Inflammatory Response	inflammatory response of bone marrow-derived macrophages	2.00E-02	PROC	1
Organ Morphology	inflammatory response of bone marrow-derived macrophages	2.00E-02	PROC	1
Small Molecule Biochemistry	lack of Harderian gland	2.00E-02	ALDH1A1	1
Carbohydrate Metabolism	metabolism of UDP-N- acetylglucosamine	2.00E-02	GFPT1	1
Nucleic Acid Metabolism	metabolism of UDP-N- acetylglucosamine	2.00E-02	GFPT1	1
Cellular Development Nervous System Development and Function	proliferation of RPE cells	2.00E-02	FGF1	1
Cellular Growth and Proliferation	proliferation of RPE cells	2.00E-02	FGF1	1
Visual System Development and Function	proliferation of RPE cells	2.00E-02	FGF1	1
Cellular Development Cellular Growth and Proliferation	proliferation of RPE cells	2.00E-02	FGF1	1
Connective Tissue Development and Function	proliferation of brown adipocytes	2.00E-02	FGF1	1
Amino Acid Metabolism	proliferation of brown adipocytes	2.00E-02	FGF1	1
Small Molecule Biochemistry	quantity of arginine	2.00E-02	ARG2 (includes EG:11847)	1
Molecular Transport	secretion of bile acid	2.00E-02	CYP27A1	1
Lipid Metabolism	secretion of bile acid	2.00E-02	CYP27A1	1
	secretion of bile acid	2.00E-02	CYP27A1	1

Cancer	tumorigenesis of hepatocellular carcinoma	2.00E-02	FAH,MAPK9	2
Gastrointestinal Disease	tumorigenesis of hepatocellular carcinoma	2.00E-02	FAH,MAPK9	2
Hepatic System Disease	tumorigenesis of hepatocellular carcinoma	2.00E-02	FAH,MAPK9	2
Renal and Urological System Development and Function	abnormal morphology of nephron	2.07E-02	FAH,MAPK9	2
Organ Morphology	abnormal morphology of nephron	2.07E-02	FAH,MAPK9	2
Small Molecule Biochemistry	synthesis of cholesterol	2.07E-02	CYP27A1,FGF1	2
Lipid Metabolism	synthesis of cholesterol	2.07E-02	CYP27A1,FGF1	2
Vitamin and Mineral Metabolism	synthesis of cholesterol	2.07E-02	CYP27A1,FGF1	2
Small Molecule Biochemistry	quantity of creatinine in blood	2.14E-02	FAH,PROC	2
Developmental Disorder	neural tube defect	2.18E-02	ALDH1A1,LMO4,MAPK9	3
Neurological Disease	neural tube defect	2.18E-02	ALDH1A1,LMO4,MAPK9	3
Small Molecule Biochemistry	synthesis of terpenoid	2.20E-02	ALDH1A1,CYP27A1,FGF1,SLC27A2	4
Lipid Metabolism	synthesis of terpenoid	2.20E-02	ALDH1A1,CYP27A1,FGF1,SLC27A2	4
Vitamin and Mineral Metabolism	synthesis of terpenoid	2.20E-02	ALDH1A1,CYP27A1,FGF1,SLC27A2	4
Cancer	carcinoma	2.21E-02	ADAMTS9,ALDH1A1,ANK3,ANXA4,ARG2 (includes EG:11847),CREBL2,CRYL1,EPHB6,ESRRG,FAH,FGF1,FGS,HABP2,HPN,JAK1,MAPK9,PDZK1IP1,RXRG,SLC27A2,TIMP4	20
Organ Morphology	morphology of skin	2.23E-02	DNASE1L2,LMO4,MAPK9,ST14	4
Hematological Disease	acute myeloid leukemia	2.26E-02	JAK1,RXRG,UBE2I	3
Cancer	acute myeloid leukemia	2.26E-02	JAK1,RXRG,UBE2I	3
Hereditary Disorder	progressive familial intrahepatic cholestasis type 1	2.36E-02	CYP27A1,SLC35A1	2
Gastrointestinal Disease	progressive familial intrahepatic cholestasis type 1	2.36E-02	CYP27A1,SLC35A1	2
Hepatic System Disease	progressive familial intrahepatic cholestasis type 1	2.36E-02	CYP27A1,SLC35A1	2
Cancer	arrest in mitosis of tumor cells	2.39E-02	ACRBP	1
Cell Cycle	arrest in mitosis of tumor cells	2.39E-02	ACRBP	1
Tumor Morphology	arrest in mitosis of tumor cells	2.39E-02	ACRBP	1
Small Molecule Biochemistry	beta-oxidation of lignoceric acid	2.39E-02	SLC27A2	1
Lipid Metabolism	beta-oxidation of lignoceric acid	2.39E-02	SLC27A2	1
Energy Production	beta-oxidation of lignoceric acid	2.39E-02	SLC27A2	1
Cellular Assembly and Organization	binding of polysomes	2.39E-02	TIA1	1
Cellular Compromise	breakage of Plasma Membrane	2.39E-02	FGF1	1
Cell Death and Survival	cell death of follicular cells	2.39E-02	PROC	1

Dermatological Diseases and Conditions	cutaneous lupus erythematosus	2.39E-02	PROC	1
Connective Tissue Disorders	cutaneous lupus erythematosus	2.39E-02	PROC	1
Immunological Disease	cutaneous lupus erythematosus	2.39E-02	PROC	1
Skeletal and Muscular Disorders	cutaneous lupus erythematosus	2.39E-02	PROC	1
Inflammatory Disease	cutaneous lupus erythematosus	2.39E-02	PROC	1
Small Molecule Biochemistry	depletion of proteoglycan	2.39E-02	MAPK9	1
Molecular Transport	depletion of proteoglycan	2.39E-02	MAPK9	1
Carbohydrate Metabolism	depletion of proteoglycan	2.39E-02	MAPK9	1
Tissue Development	development of trigeminal nerve	2.39E-02	LMO4	1
Nervous System Development and Function	development of trigeminal nerve	2.39E-02	LMO4	1
Nervous System Development and Function	docking of synaptic vesicles	2.39E-02	STX3	1
Cellular Assembly and Organization	docking of synaptic vesicles	2.39E-02	STX3	1
Molecular Transport	efflux of Na+	2.39E-02	SCNN1G	1
Cellular Function and Maintenance	efflux of Na+	2.39E-02	SCNN1G	1
Dermatological Diseases and Conditions	hand dermatosis	2.39E-02	RXRG	1
Tissue Morphology	lack of presphenoid bone	2.39E-02	LMO4	1
Cell Morphology	mineralization of fibroblast cell lines	2.39E-02	ESRRG	1
Connective Tissue Development and Function	mineralization of fibroblast cell lines	2.39E-02	ESRRG	1
Organ Development	repair of liver	2.39E-02	MAPK9	1
Organ Morphology	repair of liver	2.39E-02	MAPK9	1
Gastrointestinal Disease	repair of liver	2.39E-02	MAPK9	1
Hepatic System Disease	repair of liver	2.39E-02	MAPK9	1
Organismal Injury and Abnormalities	repair of liver	2.39E-02	MAPK9	1
Digestive System Development and Function	repair of liver	2.39E-02	MAPK9	1
Hepatic System Development and Function	repair of liver	2.39E-02	MAPK9	1
Organismal Functions	repair of liver	2.39E-02	MAPK9	1
Cancer	tumorigenesis of ovarian cancer cell lines	2.39E-02	ST14	1

Reproductive System Disease	tumorigenesis of ovarian cancer cell lines	2.39E-02	ST14	1
Small Molecule				
Biochemistry	utilization of fatty acid	2.39E-02	MAPK9	1
Lipid Metabolism	utilization of fatty acid	2.39E-02	MAPK9	1
Metabolic Disease	xanthomatosis	2.39E-02	CYP27A1	1
Dermatological Diseases and Conditions				
Small Molecule	xanthomatosis	2.39E-02	CYP27A1	1
Biochemistry	synthesis of D-glucose	2.43E-02	ALDH1A1,ESRRG	2
Carbohydrate Metabolism	synthesis of D-glucose	2.43E-02	ALDH1A1,ESRRG	2
Organ Morphology	abnormal morphology of nail	2.79E-02	DNASE1L2	1
Cell Morphology	abnormal morphology of neutrophils	2.79E-02	PROC	1
Inflammatory Response	abnormal morphology of neutrophils	2.79E-02	PROC	1
Hematological System				
Development and Function	abnormal morphology of neutrophils	2.79E-02	PROC	1
Tissue Morphology	abnormal morphology of optic cup	2.79E-02	ALDH1A1	1
Cell Death and Survival	apoptosis of dopaminergic neurons	2.79E-02	MAPK9	1
Developmental Disorder	cerebrotendinous xanthomatosis	2.79E-02	CYP27A1	1
Hereditary Disorder	cerebrotendinous xanthomatosis	2.79E-02	CYP27A1	1
Metabolic Disease	cerebrotendinous xanthomatosis	2.79E-02	CYP27A1	1
Neurological Disease	cerebrotendinous xanthomatosis	2.79E-02	CYP27A1	1
Behavior	discriminatory learning	2.79E-02	RASGRF1	1
Cancer	entry into S phase of Kaposi's sarcoma cells	2.79E-02	FGF1	1
Cell Cycle	entry into S phase of Kaposi's sarcoma cells	2.79E-02	FGF1	1
Hereditary Disorder	familial combined hyperlipidemia	2.79E-02	RXRG	1
Metabolic Disease	familial combined hyperlipidemia	2.79E-02	RXRG	1
Cardiovascular Disease	familial combined hyperlipidemia	2.79E-02	RXRG	1
Small Molecule				
Biochemistry	metabolism of NADPH	2.79E-02	DCXR	1
Nucleic Acid Metabolism	metabolism of NADPH	2.79E-02	DCXR	1
Cell Cycle	mitogenesis of B-lymphocyte derived cell lines	2.79E-02	FGF1	1
Hematological System				
Development and Function	mitogenesis of B-lymphocyte derived cell lines	2.79E-02	FGF1	1
Small Molecule				
Biochemistry	oxidation of cholesterol	2.79E-02	CYP27A1	1
Lipid Metabolism	oxidation of cholesterol	2.79E-02	CYP27A1	1
Energy Production	oxidation of cholesterol	2.79E-02	CYP27A1	1
Cellular Development	proliferation of Kaposi's sarcoma cells	2.79E-02	FGF1	1
Cellular Growth and Proliferation	proliferation of Kaposi's sarcoma cells	2.79E-02	FGF1	1

Tumor Morphology	proliferation of Kaposi's sarcoma cells	2.79E-02	FGF1	1
Tissue Morphology	quantity of prostate cancer cell lines	2.79E-02	HPN	1
Behavior	social transmission of food preference	2.79E-02	RASGRF1	1
Cell Death and Survival Visual System	survival of photoreceptors	2.79E-02	FGF1	1
Development and Function	survival of photoreceptors	2.79E-02	FGF1	1
Amino Acid Metabolism	synthesis of L-proline	2.79E-02	ARG2 (includes EG:11847)	1
Small Molecule Biochemistry	synthesis of L-proline	2.79E-02	ARG2 (includes EG:11847)	1
Cell Death and Survival Cancer	cell death of apud cells prostatic carcinoma	2.82E-02 2.87E-02	GFPT1,PROC ARG2 (includes EG:11847),ESRRG,HPN,JAK1	2 4
Reproductive System Disease	prostatic carcinoma	2.87E-02	ARG2 (includes EG:11847),ESRRG,HPN,JAK1	4
Cancer	genital tumor	2.90E-02	ADAMTS9,ALDH1A1,ARG2 (includes EG:11847),EPHB6,ESRRG,FGF1,HPN,JAK1,TMPRSS2	9
Reproductive System Disease	genital tumor	2.90E-02	ADAMTS9,ALDH1A1,ARG2 (includes EG:11847),EPHB6,ESRRG,FGF1,HPN,JAK1,TMPRSS2 AEBP2,CREBL2,CYP2S1,ESRRG,FGF1,FHOD1,GRHL1,AK1,LMO4,MAPK9,PER3,RASGRF1,RXRG,UBE2I,YEAT S2	9 15
Gene Expression	transcription of RNA	2.90E-02		
Cardiovascular Disease	hypotension	2.91E-02	PROC,SCNN1G	2
Organ Morphology Lymphoid Tissue	size of lymphoid organ	2.91E-02	JAK1,PROC	2
Structure and Development	size of lymphoid organ	2.91E-02	JAK1,PROC	2
Cancer	Cancer	2.98E-02	ADAMTS9,ALDH1A1,ANK3,ANXA4,ARG2 (includes EG:11847),CREBL2,CRYL1,EPHB6,ESRRG,FAH,FGF1,PGS,HABP2,HDAC11,HPN,JAK1,LMO4,MAPK9,PDZK1 IP1,RXRG,SLC27A2,STX3,TIMP4,TMPRSS2,UBE2I,YEAT TS2	26
Organismal Survival	organismal death	3.05E-02	ACRBP,ANK3,DNAJB1,FAH,GAB1,GSTK1,IP6K2,JAK1,LMO4,MAPK9,PROC,TIA1,TIMP4	13
Cardiovascular System Development and Function	QT interval of heart	3.18E-02	ESRRG	1
Embryonic Development	abnormal morphology of ocular posterior segment	3.18E-02	ALDH1A1	1
Organ Development	abnormal morphology of ocular posterior segment	3.18E-02	ALDH1A1	1
Organismal Development	abnormal morphology of ocular posterior segment	3.18E-02	ALDH1A1	1
Tissue Development	abnormal morphology of ocular posterior segment	3.18E-02	ALDH1A1	1
Organ Morphology	abnormal morphology of ocular posterior segment	3.18E-02	ALDH1A1	1

Visual System					
Development and Function	abnormal morphology of ocular posterior segment	3.18E-02	ALDH1A1		1
Embryonic Development	abnormal morphology of sphenoid bone	3.18E-02	LMO4		1
Organ Development	abnormal morphology of sphenoid bone	3.18E-02	LMO4		1
Organismal Development	abnormal morphology of sphenoid bone	3.18E-02	LMO4		1
Tissue Development	abnormal morphology of sphenoid bone	3.18E-02	LMO4		1
Organ Morphology	abnormal morphology of sphenoid bone	3.18E-02	LMO4		1
Skeletal and Muscular System Development and Function	abnormal morphology of sphenoid bone	3.18E-02	LMO4		1
Connective Tissue Development and Function	abnormal morphology of sphenoid bone	3.18E-02	LMO4		1
Organ Development	activation of thyroid gland	3.18E-02	HPN		1
Endocrine System Development and Function	activation of thyroid gland	3.18E-02	HPN		1
Dermatological Diseases and Conditions	alopecia areata	3.18E-02	RXRG		1
Cellular Development	arrest in growth of bone cancer cell lines	3.18E-02	FGF1		1
Cellular Growth and Proliferation	arrest in growth of bone cancer cell lines	3.18E-02	FGF1		1
Small Molecule Biochemistry	concentration of tretinoin	3.18E-02	ALDH1A1		1
Drug Metabolism	concentration of tretinoin	3.18E-02	ALDH1A1		1
Molecular Transport	concentration of tretinoin	3.18E-02	ALDH1A1		1
Lipid Metabolism	concentration of tretinoin	3.18E-02	ALDH1A1		1
Vitamin and Mineral Metabolism	concentration of tretinoin	3.18E-02	ALDH1A1		1
Cardiovascular System Development and Function	diastolic function	3.18E-02	ARG2 (includes EG:11847)		1
Cellular Development	differentiation of endodermal cells	3.18E-02	MAPK9		1
Embryonic Development	differentiation of endodermal cells	3.18E-02	MAPK9		1
Tissue Development	disruption of tight junctions	3.18E-02	PROC		1
Cell-To-Cell Signaling and Interaction	disruption of tight junctions	3.18E-02	PROC		1
Cellular Assembly and Organization	disruption of tight junctions	3.18E-02	PROC		1
Cellular Compromise	disruption of tight junctions	3.18E-02	PROC		1

Cellular Compromise Small Molecule	injury of endothelial cells	3.18E-02	PROC	1
Biochemistry Carbohydrate	metabolism of fructose-6-phosphate	3.18E-02	GFPT1	1
Metabolism	metabolism of fructose-6-phosphate	3.18E-02	GFPT1	1
Cellular Development Nervous System	myelination of oligodendrocytes	3.18E-02	FGF1	1
Development and Function	myelination of oligodendrocytes	3.18E-02	FGF1	1
Small Molecule Biochemistry	oxidation of retinaldehyde	3.18E-02	ALDH1A1	1
Lipid Metabolism	oxidation of retinaldehyde	3.18E-02	ALDH1A1	1
Vitamin and Mineral Metabolism	oxidation of retinaldehyde	3.18E-02	ALDH1A1	1
Energy Production	oxidation of retinaldehyde	3.18E-02	ALDH1A1	1
Cell Morphology	permeabilization of liposome	3.18E-02	FGF1	1
Cell Death and Survival Cellular Function and	reconstitution of cells	3.18E-02	JAK1	1
Maintenance	reconstitution of cells	3.18E-02	JAK1	1
Cancer	size of digestive organ tumor	3.18E-02	HABP2	1
Gastrointestinal Disease	size of digestive organ tumor	3.18E-02	HABP2	1
Tumor Morphology	size of digestive organ tumor	3.18E-02	HABP2	1
Connective Tissue Disorders	Dupuytren contracture arrest in cell cycle progression of brain	3.32E-02	ADAMTS9,TIMP4	2
Cell Cycle Small Molecule	cancer cell lines	3.57E-02	MAPK9	1
Biochemistry	binding of progesterone	3.57E-02	DNAJB1	1
Drug Metabolism	binding of progesterone	3.57E-02	DNAJB1	1
Endocrine System Development and				
Function	binding of progesterone	3.57E-02	DNAJB1	1
Lipid Metabolism	binding of progesterone	3.57E-02	DNAJB1	1
Protein Synthesis	catabolism of glycoprotein	3.57E-02	ADAMTS9	1
Protein Degradation Embryonic Development	catabolism of glycoprotein development of labyrinthine zone of placenta	3.57E-02 3.57E-02	ADAMTS9 GAB1	1 1
Organ Development	development of labyrinthine zone of placenta	3.57E-02	GAB1	1
Organismal Development	development of labyrinthine zone of placenta	3.57E-02	GAB1	1
Tissue Development	development of labyrinthine zone of placenta	3.57E-02	GAB1	1
Reproductive System Development and Function	development of labyrinthine zone of placenta	3.57E-02	GAB1	1
Nervous System Development and Function	function of inner hair cells	3.57E-02	HPN	1
Cellular Function and Maintenance	function of inner hair cells	3.57E-02	HPN	1

Nervous System				
Development and				
Function	function of outer hair cells	3.57E-02	HPN	1
Cellular Function and				
Maintenance	function of outer hair cells	3.57E-02	HPN	1
Cellular Development				
Cellular Growth and	proliferation of adipoblasts	3.57E-02	FGF1	1
Proliferation	proliferation of adipoblasts	3.57E-02	FGF1	1
Connective Tissue				
Development and	proliferation of adipoblasts	3.57E-02	FGF1	1
Function	proliferation of adipoblasts	3.57E-02	FGF1	1
Organismal				
Development	quantity of microvessel	3.57E-02	ADAMTS9	1
Cardiovascular System				
Development and				
Function	quantity of microvessel	3.57E-02	ADAMTS9	1
Tissue Morphology	quantity of microvessel	3.57E-02	ADAMTS9	1
Cardiovascular Disease				
Organismal Injury and	reperfusion injury of heart	3.57E-02	MAPK9	1
Abnormalities	reperfusion injury of heart	3.57E-02	MAPK9	1
Small Molecule				
Biochemistry	secretion of hyaluronic acid	3.57E-02	GAB1	1
Drug Metabolism	secretion of hyaluronic acid	3.57E-02	GAB1	1
Molecular Transport	secretion of hyaluronic acid	3.57E-02	GAB1	1
Carbohydrate				
Metabolism	secretion of hyaluronic acid	3.57E-02	GAB1	1
Cellular Movement	migration of brain cells	3.58E-02	CADPS2,LMO4	2
Cell Death and Survival				
Cellular Movement	cell death of endothelial cells	3.65E-02	FGF1,MAPK9,PROC	3
Small Molecule	invasion of breast cancer cell lines	3.65E-02	EPHB6,FHOD1,TIMP4	3
Biochemistry	metabolism of terpenoid	3.69E-02	ALDH1A1,CYP27A1,CYP2S1,FGF1	4
Lipid Metabolism	metabolism of terpenoid	3.69E-02	ALDH1A1,CYP27A1,CYP2S1,FGF1	4
Vitamin and Mineral				
Metabolism	metabolism of terpenoid	3.69E-02	ALDH1A1,CYP27A1,CYP2S1,FGF1	4
	apoptosis of pheochromocytoma cell			
Cell Death and Survival	lines	3.85E-02	GAB1,MAPK9	2
Organ Development				
Digestive System	function of liver	3.85E-02	FAH,MAPK9	2
Development and				
Function	function of liver	3.85E-02	FAH,MAPK9	2
Hepatic System				
Development and	function of liver	3.85E-02	FAH,MAPK9	2
Function	function of liver	3.85E-02	FAH,MAPK9	2
Metabolic Disease	aminoaciduria	3.96E-02	FAH	1
Renal and Urological				
Disease	aminoaciduria	3.96E-02	FAH	1
Nervous System				
Development and				
Function	circadian persistence	3.96E-02	PER3	1
Behavior	circadian persistence	3.96E-02	PER3	1
Small Molecule				
Biochemistry	metabolism of adenosine	3.96E-02	NT5C3	1

DNA Replication, Recombination, and Repair	metabolism of adenosine	3.96E-02	NT5C3	1
Nucleic Acid Metabolism	metabolism of adenosine	3.96E-02	NT5C3	1
Cardiovascular System Development and Function	migration of lymphatic endothelial cells	3.96E-02	FGF1	1
Cellular Movement Immune Cell Trafficking	migration of lymphatic endothelial cells	3.96E-02	FGF1	1
Cell Morphology Cancer	morphology of lymphoma cell lines multiplicity of tumor	3.96E-02	RASGRF1 MAPK9	1 1
Cell Morphology Cellular Assembly and Organization	permeability of plasma membrane permeability of plasma membrane	3.96E-02	FGF1 FGF1	1 1
Cellular Function and Maintenance	permeability of plasma membrane	3.96E-02	FGF1	1
Infectious Disease Behavior	production of Influenza A virus pup retrieval	3.96E-02	TMPRSS2 EPHB6	1 1
Reproductive System Development and Function	pup retrieval	3.96E-02	EPHB6	1
Small Molecule Biochemistry	release of cholesterol	3.96E-02	FGF1	1
Molecular Transport	release of cholesterol	3.96E-02	FGF1	1
Lipid Metabolism Small Molecule Biochemistry	release of cholesterol synthesis of 9-cis-retinoic acid	3.96E-02	FGF1 ALDH1A1	1 1
Drug Metabolism	synthesis of 9-cis-retinoic acid	3.96E-02	ALDH1A1	1
Lipid Metabolism	synthesis of 9-cis-retinoic acid	3.96E-02	ALDH1A1	1
Vitamin and Mineral Metabolism	synthesis of 9-cis-retinoic acid	3.96E-02	ALDH1A1	1
Nervous System Development and Function	spatial memory	4.04E-02	CADPS2,RASGRF1	2
Behavior	spatial memory	4.04E-02	CADPS2,RASGRF1	2
Cell Morphology Cellular Assembly and Organization	formation of cellular protrusions formation of cellular protrusions	4.05E-02	FGF1,GAB1,MAPK9,PROC,RAB3IP,RASGRF1,STX3 FGF1,GAB1,MAPK9,PROC,RAB3IP,RASGRF1,STX3	7 7
Cellular Function and Maintenance	formation of cellular protrusions	4.05E-02	FGF1,GAB1,MAPK9,PROC,RAB3IP,RASGRF1,STX3	7
Cell Death and Survival Connective Tissue Development and Function	cell viability of fibroblasts cell viability of fibroblasts	4.13E-02	GAB1,MAPK9 GAB1,MAPK9	2 2
Behavior Digestive System Development and Function	suckling suckling	4.13E-02	JAK1,PROC JAK1,PROC	2 2

Cellular Development	branching of epithelial tissue	4.35E-02	FGF1	1
Tissue Development	branching of epithelial tissue	4.35E-02	FGF1	1
Cell Morphology	cell spreading of breast cancer cell lines	4.35E-02	EPHB6	1
Cellular Movement	chemotaxis of fibroblast cell lines	4.35E-02	GAB1	1
Connective Tissue Development and Function	chemotaxis of fibroblast cell lines	4.35E-02	GAB1	1
Nervous System Development and Function	cytotoxicity of neurons	4.35E-02	PROC	1
Cell Death and Survival	cytotoxicity of neurons	4.35E-02	PROC	1
Embryonic Development	development of hindgut	4.35E-02	ALDH1A1	1
Organismal Development	development of hindgut	4.35E-02	ALDH1A1	1
Tissue Development	development of hindgut	4.35E-02	ALDH1A1	1
Cellular Development	differentiation of adipose cell lines	4.35E-02	FGF1	1
Connective Tissue Development and Function	differentiation of adipose cell lines	4.35E-02	FGF1	1
Small Molecule Biochemistry	exocytosis of norepinephrine	4.35E-02	STX3	1
Drug Metabolism	exocytosis of norepinephrine	4.35E-02	STX3	1
Molecular Transport	exocytosis of norepinephrine	4.35E-02	STX3	1
Cell-To-Cell Signaling and Interaction	exocytosis of norepinephrine	4.35E-02	STX3	1
Cellular Function and Maintenance	exocytosis of norepinephrine	4.35E-02	STX3	1
Cellular Movement	migration of muscle precursor cells	4.35E-02	GAB1	1
Skeletal and Muscular System Development and Function	migration of muscle precursor cells	4.35E-02	GAB1	1
Cancer	quantity of papilloma	4.35E-02	MAPK9	1
Small Molecule Biochemistry	synthesis of tretinoin	4.35E-02	ALDH1A1	1
Drug Metabolism	synthesis of tretinoin	4.35E-02	ALDH1A1	1
Lipid Metabolism	synthesis of tretinoin	4.35E-02	ALDH1A1	1
Vitamin and Mineral Metabolism	synthesis of tretinoin	4.35E-02	ALDH1A1	1
Small Molecule Biochemistry	oxidation of lipid	4.40E-02	ALDH1A1,CYP27A1,SLC27A2	3
Lipid Metabolism	oxidation of lipid	4.40E-02	ALDH1A1,CYP27A1,SLC27A2	3
Energy Production	oxidation of lipid	4.40E-02	ALDH1A1,CYP27A1,SLC27A2	3
Nervous System Development and Function	circadian rhythm	4.41E-02	CADPS2,PER3	2
Behavior	circadian rhythm	4.41E-02	CADPS2,PER3	2

Cell Death and Survival	necrosis of pancreas	4.41E-02	GFPT1,PROC	2
Tissue Development	development of epithelial tissue	4.42E-02	FGF1,GAB1,HABP2,MAPK9,PROC	5
Cell Death and Survival	cell death of kidney cells	4.56E-02	FGF1,GFPT1,IP6K2,PROC	4
Nervous System Development and Function	abnormal morphology of cerebellum	4.61E-02	ANK3,CADPS2	2
Organ Morphology Nervous System Development and Function	abnormal morphology of cerebellum	4.61E-02	ANK3,CADPS2	2
Cellular Function and Maintenance	function of neurons	4.61E-02	CADPS2,HPN	2
Gene Expression Lymphoid Tissue Structure and Development	transcription of DNA	4.61E-02	CADPS2,HPN AEBP2,CREBL2,ESRRG,FGF1,FHOD1,GRHL1,LMO4,M APK9,PER3,RXRG,UBE21,YEATS2	12
Tissue Development	abnormal morphology of lymph node cortex	4.73E-02	PROC	1
Tissue Development	adhesion of microvascular endothelial cells	4.73E-02	PROC	1
Cardiovascular System Development and Function	adhesion of microvascular endothelial cells	4.73E-02	PROC	1
Cell-To-Cell Signaling and Interaction Post-Translational Modification	adhesion of microvascular endothelial cells	4.73E-02	PROC	1
Small Molecule Biochemistry Drug Metabolism Carbohydrate Metabolism	aggregation of protein	4.73E-02	DNAJB1	1
	binding of heparin	4.73E-02	FGF1	1
	binding of heparin	4.73E-02	FGF1	1
	binding of heparin	4.73E-02	FGF1	1
Cellular Development Embryonic Development	branching of kidney cell lines	4.73E-02	GAB1	1
	branching of kidney cell lines	4.73E-02	GAB1	1
Organ Development Organismal Development	branching of kidney cell lines	4.73E-02	GAB1	1
	branching of kidney cell lines	4.73E-02	GAB1	1
Tissue Development	branching of kidney cell lines	4.73E-02	GAB1	1
Renal and Urological System Development and Function Cell Morphology	branching of kidney cell lines	4.73E-02	GAB1	1
	branching of kidney cell lines	4.73E-02	GAB1	1
Cell Death and Survival	cell death of RPE cells	4.73E-02	FGF1	1
Organismal Survival	delay in organismal death	4.73E-02	PROC	1
Infectious Disease	dengue shock syndrome	4.73E-02	PROC	1
Cellular Development	development of interneurons	4.73E-02	CADPS2	1

Tissue Development Nervous System Development and Function	development of interneurons	4.73E-02	CADPS2	1
	development of interneurons	4.73E-02	CADPS2	1
Cellular Development Hepatic System Development and Function	differentiation of hepatocytes	4.73E-02	FGF1	1
	differentiation of hepatocytes	4.73E-02	FGF1	1
Cellular Development Embryonic Development	differentiation of mesodermal cells	4.73E-02	MAPK9	1
	differentiation of mesodermal cells	4.73E-02	MAPK9	1
Organismal Functions Organismal Development Cellular Growth and Proliferation Cell Cycle	glycemic control	4.73E-02	GAB1	1
	growth of <i>Pseudomonas aeruginosa</i>	4.73E-02	FGF1	1
	growth of <i>Pseudomonas aeruginosa</i>	4.73E-02	FGF1	1
	mitosis of smooth muscle cells	4.73E-02	PROC	1
Skeletal and Muscular System Development and Function	mitosis of smooth muscle cells	4.73E-02	PROC	1
	proliferation of lymphatic endothelial cells	4.73E-02	FGF1	1
Cellular Development Organismal Development	proliferation of lymphatic endothelial cells	4.73E-02	FGF1	1
	proliferation of lymphatic endothelial cells	4.73E-02	FGF1	1
Tissue Development	cells	4.73E-02	FGF1	1
Cardiovascular System Development and Function	proliferation of lymphatic endothelial cells	4.73E-02	FGF1	1
Cellular Growth and Proliferation Lymphoid Tissue Structure and Development	proliferation of lymphatic endothelial cells	4.73E-02	FGF1	1
Organismal Injury and Abnormalities	quantity of nodule	4.73E-02	PROC	1
Cardiovascular System Development and Function	relaxation of aorta	4.73E-02	MAPK9	1
Tissue Morphology	relaxation of aorta	4.73E-02	MAPK9	1
Nervous System Development and Function	size of perikaryon	4.73E-02	RASGRF1	1
Cell Morphology	size of perikaryon	4.73E-02	RASGRF1	1
Cellular Assembly and Organization	size of perikaryon	4.73E-02	RASGRF1	1
Endocrine System Development and Function	morphology of islets of Langerhans	4.80E-02	CADPS2,RASGRF1	2
Organ Morphology	morphology of islets of Langerhans	4.80E-02	CADPS2,RASGRF1	2

Digestive System Development and Function	morphology of islets of Langerhans	4.80E-02	CADPS2,RASGRF1	2
Small Molecule Biochemistry	release of Ca2+	4.85E-02	LMO4,PROC,ST14	3
Molecular Transport	release of Ca2+	4.85E-02	LMO4,PROC,ST14	3
Cell Signaling	release of Ca2+	4.85E-02	LMO4,PROC,ST14	3
Vitamin and Mineral Metabolism	release of Ca2+	4.85E-02	LMO4,PROC,ST14	3
Small Molecule Biochemistry	synthesis of acylglycerol	4.90E-02	ALDH1A1,ESRRG	2
Lipid Metabolism	synthesis of acylglycerol	4.90E-02	ALDH1A1,ESRRG	2
Cell Death and Survival	necrosis	4.92E-02	ALDH1A1,CADPS2,CREBL2,DNAJB1,EPHB6,FAH,FGF1,GAB1,GFPT1,HDAC11,HPN,IP6K2,JAK1,MAPK9,PROC,ST14,TIMP4	17
Gene Expression	transactivation	4.98E-02	ESRRG,FGF1,JAK1,LMO4,RXRG,UBE2I	6

PTEN Loss Unchanged, ERG Up

Category	Term	Count	P-Value	Genes
Cellular Movement	cell movement	2.63E-10	ADAM9,ADAMTS1,ANGPT2,ANGPTL4,APBB2,CAMK2N2,CD93,CDKN1A,CHL1,CYR61,DAB2,DOK1,EGFL7,ELMO1,EPHB4,FLNC,FSCN1 (includes EG:14086),GIPC1,HBEGF,HDC,ITGA5,KANK1,KLF2,LRRK2,MMP9,NDRG2,NES,NOS3,PDE2A,PDE4B,PECAM1,PIP5K1C,PLXND1,RAP1GAP,RCAN1,SMO,ST3GAL4,TGFB1,THBD,TM4SF1,TNFRSF1A,TUBA1A,VWF,WISP1,ZEB1	45
Cellular Movement	migration of cells	1.40E-09	ADAM9,ADAMTS1,ANGPT2,ANGPTL4,APBB2,CD93,CDKN1A,CHL1,CYR61,DAB2,EGFL7,ELMO1,EPHB4,FLNC,FSCN1 (includes EG:14086),GIPC1,HBEGF,HDC,ITGA5,KANK1,KLF2,LRRK2,MMP9,NDRG2,NES,NOS3,PDE2A,PDE4B,PECAM1,PIP5K1C,PLXND1,RAP1GAP,RCAN1,SMO,ST3GAL4,TGFB1,TM4SF1,TNFRSF1A,TUBA1A,VWF,ZEB1	41
Cardiovascular System Development and Function	vasculogenesis	1.53E-08	ADAM9,ADAMTS1,ANGPT2,ANGPTL4,CDKN1A,CYR61,DAB2,EPHB4,ITGA5,KLF2,MMP9,NOS3,PDE2A,PLCD3,PLXND1,RCAN1,RHOJ,SMO,TGFB1,THBD,TM4SF1,TNFRSF1A,ZEB1	23
Organismal Development	vasculogenesis	1.53E-08	ADAM9,ADAMTS1,ANGPT2,ANGPTL4,CDKN1A,CYR61,DAB2,EPHB4,ITGA5,KLF2,MMP9,NOS3,PDE2A,PLCD3,PLXND1,RCAN1,RHOJ,SMO,TGFB1,THBD,TM4SF1,TNFRSF1A,ZEB1	23
Cardiovascular System Development and Function	angiogenesis	2.39E-08	ADAMTS1,ANGPT2,ANGPTL4,CYR61,EPHB4,FBLN2,ITGA5,KLF2,MAP3K6,MMP9,NOS3,PDE2A,PLCD3,PLXND1,RCAN1,RHOJ,TGFB1,THBD,TM4SF1,TNFRSF1A,WISP1,ZEB1	22
Cellular Movement	cell movement of endothelial cells	2.83E-08	ADAMTS1,ANGPT2,ANGPTL4,CYR61,EGFL7,EPHB4,GIPC1,KLF2,MMP9,NOS3,PDE2A,PECAM1,PLXND1,TGFB1,THBD	15
Cardiovascular System Development and Function	cell movement of endothelial cells	2.83E-08	ADAMTS1,ANGPT2,ANGPTL4,CYR61,EGFL7,EPHB4,GIPC1,KLF2,MMP9,NOS3,PDE2A,PECAM1,PLXND1,TGFB1,THBD	15
Cellular Movement	migration of endothelial cells	6.50E-08	ADAMTS1,ANGPT2,ANGPTL4,CYR61,EGFL7,EPHB4,GIPC1,KLF2,MMP9,NOS3,PDE2A,PECAM1,PLXND1,TGFB1	14

Cardiovascular System Development and Function	migration of endothelial cells	6.50E-08	ADAMTS1,ANGPT2,ANGPTL4,CYR61,EGFL7,EPHB4,GIPC1,KLF2,MMP9,NOS3,PDE2A,PECAM1,PLXND1,TGFB1	14
Tissue Development	aggregation of cells	1.46E-07	CDKN1A,CP,DAB2,EGFL7,HDC,ITGA5,MMP9,NOS3,PECAM1,STXBP1,TGFB1,THBD,TNFRSF1A,VWF	14
Cancer	metastasis	2.53E-07	ADAM9,ADAMTS1,ANGPT2,ANGPTL4,CDKN1A,CYR61,EGFL7,ITGA5,MMP9,NOS3,PECAM1,SLC12A8,SMO,TGFB1,THBD,TM4SF1,TUBA1A,WISP1,ZEB1	19
Cancer	follicular thyroid cancer	3.04E-07	ADAMTS1,ANGPT2,EPHB4,ITGA5,MMP9,TGFB1	6
Endocrine System Disorders	follicular thyroid cancer	3.04E-07	ADAMTS1,ANGPT2,EPHB4,ITGA5,MMP9,TGFB1	6
Cancer	adenocarcinoma	4.68E-07	ADAMTS1,CDKN1A,CP,DAB2,DOK1,FLNC,FRZB,H19,HNF4A,ITGA5,KCNK6,KLF2,MMP9,PDE2A,PLLP,RAP1GAP,SMO,SPARCL1,TGFB1,THBD,TM4SF1,TSHZ3,TUBA1A,VWF,ZEB1	25
Tissue Development	adhesion of tumor cell lines	5.31E-07	ADAM9,CYR61,DAB2,EGFL7,ITGA5,NOS3,PVRL3,RAP1GAP,RCAN1,TGFB1,THBD,ZEB1	12
Cell-To-Cell Signaling and Interaction	adhesion of tumor cell lines	5.31E-07	ADAM9,CYR61,DAB2,EGFL7,ITGA5,NOS3,PVRL3,RAP1GAP,RCAN1,TGFB1,THBD,ZEB1	12
Organismal Development	kidney development	1.20E-06	ADAMTS1,ANXA4,CDKN1A,EHD3,H19,HBEGF,LRRK2,MMP9,NOS3,SMO,TGFB1,TSHZ3	12
Tissue Development	kidney development	1.20E-06	ADAMTS1,ANXA4,CDKN1A,EHD3,H19,HBEGF,LRRK2,MMP9,NOS3,SMO,TGFB1,TSHZ3	12
Embryonic Development	kidney development	1.20E-06	ADAMTS1,ANXA4,CDKN1A,EHD3,H19,HBEGF,LRRK2,MMP9,NOS3,SMO,TGFB1,TSHZ3	12
Organ Development	kidney development	1.20E-06	ADAMTS1,ANXA4,CDKN1A,EHD3,H19,HBEGF,LRRK2,MMP9,NOS3,SMO,TGFB1,TSHZ3	12
Renal and Urological System Development and Function	kidney development	1.20E-06	ADAMTS1,ANXA4,CDKN1A,EHD3,H19,HBEGF,LRRK2,MMP9,NOS3,SMO,TGFB1,TSHZ3	12
Cancer	growth of tumor	1.48E-06	ADAM9,ADAMTS1,ANGPT2,ANGPTL4,CDKN1A,EGFL7,EPHB4,HBEGF,ITGA5,MAP3K6,MMP9,TGFB1,THBD,WISP1	14
Cancer	neoplasia of cells	1.74E-06	ADAMTS1,ANGPT2,ANGPTL4,CAMK2N2,CDKN1A,CYR61,MMP9,NOS3,SMO,TGFB1,THBD,WISP1,ZEB1	13
Cardiovascular System Development and Function	development of cardiovascular system	1.92E-06	ADAM9,ADAMTS1,ANGPT2,ANGPTL4,CDKN1A,CYR61,DAB2,EGFL7,EPHB4,ITGA5,KLF2,MMP9,NOS3,PDE2A,PIP5K1C,PLCD3,PLXND1,RCAN1,RHOJ,SMO,TGFB1,THBD,TM4SF1,TNFRSF1A,ZEB1	25
Cancer	differentiated thyroid cancer	2.15E-06	ADAMTS1,ANGPT2,CDKN1A,EPHB4,ITGA5,MMP9,RAP1GAP,TGFB1	8
Endocrine System Disorders	differentiated thyroid cancer	2.15E-06	ADAMTS1,ANGPT2,CDKN1A,EPHB4,ITGA5,MMP9,RAP1GAP,TGFB1	8
Cardiovascular System Development and Function	angiogenesis of tumor	2.33E-06	ADAMTS1,ANGPTL4,MAP3K6,MMP9,TGFB1,THBD,WISP1	7
Cancer	angiogenesis of tumor	2.33E-06	ADAMTS1,ANGPTL4,MAP3K6,MMP9,TGFB1,THBD,WISP1	7

Cellular Assembly and Organization	organization of cytoskeleton	2.57E-06	ANGPT2,ANGPTL4,AQP5,CDKN1A,CHL1,CYR61,DOK1,ELMO1,FLNC,FSCN1 (includes EG:14086),GRASP,GRK5,HAP1 (includes EG:15114),HNF4A,KLF2,PIP5K1C,PLXND1,PVRL3,RANBP1,RAP1GAP,RHOJ,SEMA7A,TGFB1,TM4SF1,TNFRSF1A,UGCG,VWF	27
Cellular Function and Maintenance	organization of cytoskeleton	2.57E-06	ANGPT2,ANGPTL4,AQP5,CDKN1A,CHL1,CYR61,DOK1,ELMO1,FLNC,FSCN1 (includes EG:14086),GRASP,GRK5,HAP1 (includes EG:15114),HNF4A,KLF2,PIP5K1C,PLXND1,PVRL3,RANBP1,RAP1GAP,RHOJ,SEMA7A,TGFB1,TM4SF1,TNFRSF1A,UGCG,VWF	27
Cardiovascular System Development and Function	adhesion of vascular endothelial cells	3.00E-06	ANGPT2,CYR61,EGFL7,PECAM1,PLXND1,RCAN1,TGFB1	7
Tissue Development	adhesion of vascular endothelial cells	3.00E-06	ANGPT2,CYR61,EGFL7,PECAM1,PLXND1,RCAN1,TGFB1	7
Cell-To-Cell Signaling and Interaction	adhesion of vascular endothelial cells	3.00E-06	ANGPT2,CYR61,EGFL7,PECAM1,PLXND1,RCAN1,TGFB1	7
Tissue Development	clustering of cells	3.11E-06	CDKN1A,PECAM1,TGFB1,THBD,TNFRSF1A	5
Cancer	neoplasia of tumor cell lines	4.09E-06	ADAMTS1,ANGPT2,ANGPTL4,CAMK2N2,CDKN1A,CYR61,NOS3,TGFB1,THBD,WISP1	10
Cancer	epithelial tumor	4.37E-06	ADAM9,ADAMTS1,ANGPT2,ANGPTL4,ANO6,ANXA4,ASPH,CAMK2N2,CDKN1A,CP,CYR61,DAB2,DOK1,EGFL7,ELMO1,EPHB4,FBLN2,FLNC,FRZB,FSCN1 (includes EG:14086),H19,HBEGF,HNF4A,IFITM1,ITGA5,KCNK6,KLF2,MMP9,NDRG2,NES,NOS3,PDE2A,PECAM1,PLLP,PVRL3,RAP1GAP,SLC12A8,SMO,SPARCL1,TGFB1,THBD,TM4SF1,TNFRSF1A,TSHZ3,TUBA1A,VWF,WISP1,ZEB1	48
Cancer	solid tumor	4.77E-06	ADAM9,ADAMTS1,ANGPT2,ANGPTL4,ANO6,ANXA4,ASPH,CAMK2N2,CDKN1A,CHL1,CP,CYR61,DAB2,DOK1,EGFL7,EPHB4,FBLN2,FLNC,FRZB,FSCN1 (includes EG:14086),H19,HBEGF,HNF4A,IFITM1,ITGA5,KCNK6,KLF2,MMP9,NES,NOS3,PDE2A,PECAM1,PLLP,PVRL3,RAP1GAP,SLC12A8,SMO,SPARCL1,TGFB1,THBD,TM4SF1,TNFRSF1A,TSHZ3,TUBA1A,VWF,WISP1,ZEB1	47
Cancer	carcinoma	5.23E-06	ADAM9,ADAMTS1,ANGPT2,ANGPTL4,ANO6,ANXA4,ASPH,CAMK2N2,CDKN1A,CP,CYR61,DAB2,DOK1,EGFL7,EPHB4,FBLN2,FLNC,FRZB,FSCN1 (includes EG:14086),H19,HBEGF,HNF4A,IFITM1,ITGA5,KCNK6,KLF2,MMP9,NES,NOS3,PDE2A,PECAM1,PLLP,PVRL3,RAP1GAP,SLC12A8,SMO,SPARCL1,TGFB1,THBD,TM4SF1,TNFRSF1A,TSHZ3,TUBA1A,VWF,WISP1,ZEB1	46
Cardiovascular System Development and Function	adhesion of endothelial cells	6.67E-06	ANGPT2,CYR61,EGFL7,PECAM1,PLXND1,RCAN1,TGFB1,THBD	8
Tissue Development	adhesion of endothelial cells	6.67E-06	ANGPT2,CYR61,EGFL7,PECAM1,PLXND1,RCAN1,TGFB1,THBD	8

Cell-To-Cell Signaling and Interaction	adhesion of endothelial cells	6.67E-06	ANGPT2,CYR61,EGFL7,PECAM1,PLXND1,RCAN1,TGFB1,THBD	8
Cardiovascular System Development and Function	development of cardiovascular tissue	8.05E-06	ADAMTS1,ANGPT2,ANGPTL4,CDKN1A,CYR61,DAB2,EPHB4,KLF2,MMP9,PDE2A,PIP5K1C,RCAN1,TGFB1	13
Tissue Development	development of cardiovascular tissue	8.05E-06	ADAMTS1,ANGPT2,ANGPTL4,CDKN1A,CYR61,DAB2,EPHB4,KLF2,MMP9,PDE2A,PIP5K1C,RCAN1,TGFB1	13
Cancer	metastasis of lung	9.10E-06	ADAMTS1,ANGPTL4,CYR61,EGFL7,THBD	5
Organ Development	metastasis of lung	9.10E-06	ADAMTS1,ANGPTL4,CYR61,EGFL7,THBD	5
Respiratory Disease	metastasis of lung	9.10E-06	ADAMTS1,ANGPTL4,CYR61,EGFL7,THBD	5
Cancer	thyroid carcinoma	9.88E-06	ADAMTS1,ANGPT2,CDKN1A,EPHB4,ITGA5,MMP9,RAP1GAP,TGFB1	8
Endocrine System Disorders	thyroid carcinoma	9.88E-06	ADAMTS1,ANGPT2,CDKN1A,EPHB4,ITGA5,MMP9,RAP1GAP,TGFB1	8
Cardiovascular System Development and Function	endothelial cell development	1.04E-05	ADAMTS1,ANGPT2,ANGPTL4,CDKN1A,CYR61,DAB2,EPHB4,KLF2,MMP9,PDE2A,RCAN1,TGFB1	12
Organismal Development	endothelial cell development	1.04E-05	ADAMTS1,ANGPT2,ANGPTL4,CDKN1A,CYR61,DAB2,EPHB4,KLF2,MMP9,PDE2A,RCAN1,TGFB1	12
Tissue Development	endothelial cell development	1.04E-05	ADAMTS1,ANGPT2,ANGPTL4,CDKN1A,CYR61,DAB2,EPHB4,KLF2,MMP9,PDE2A,RCAN1,TGFB1	12
Cellular Development	endothelial cell development	1.04E-05	ADAMTS1,ANGPT2,ANGPTL4,CDKN1A,CYR61,DAB2,EPHB4,KLF2,MMP9,PDE2A,RCAN1,TGFB1	12
Cell Death and Survival	cell death of endothelial cells	1.13E-05	ANGPT2,CDKN1A,KLF2,MMP9,NOS3,PECAM1,TGFB1,THBD,TNFRSF1A	9
Cellular Assembly and Organization	microtubule dynamics	1.63E-05	ANGPT2,ANGPTL4,AQP5,CDKN1A,CHL1,CYR61,DOK1,ELMO1,GRASP,GRK5,HAP1 (includes EG:15114),HNF4A,KLF2,PIP5K1C,PLXND1,PVRL3,RANBP1,RAP1GAP,SEMA7A,TGFB1,TM4SF1,TNFRSF1A,UGCG	23
Cellular Function and Maintenance	microtubule dynamics	1.63E-05	ANGPT2,ANGPTL4,AQP5,CDKN1A,CHL1,CYR61,DOK1,ELMO1,GRASP,GRK5,HAP1 (includes EG:15114),HNF4A,KLF2,PIP5K1C,PLXND1,PVRL3,RANBP1,RAP1GAP,SEMA7A,TGFB1,TM4SF1,TNFRSF1A,UGCG	23
Cellular Movement	cell movement of tumor cell lines	1.65E-05	ADAM9,ANGPT2,CYR61,DAB2,ELMO1,FLNC,FSCN1 (includes EG:14086),GIPC1,HBEGF,ITGA5,KANK1,MMP9,NES,PECAM1,RAP1GAP,TGFB1,THBD,WISP1	18
Cellular Movement	invasion of tumor cell lines	1.74E-05	ADAM9,ADAMTS1,DAB2,ELMO1,EPHB4,FSCN1 (includes EG:14086),GIPC1,HBEGF,ITGA5,MMP9,NES,RAP1GAP,TGFB1,WISP1,ZEB1	15
Cellular Development	proliferation of tumor cell lines	1.91E-05	ADAMTS1,ANGPTL4,BIN1,CAMK2N2,CDKN1A,CREM (includes EG:12916),CYR61,DAB2,DBC1,FBLN2,FSCN1 (includes EG:14086),HBEGF,HNF4A,ITGA5,KLF2,MMP9,NDRG2,PECAM1,RAP1GAP,RGS16,SMO,TCN2,TGFB1,THBD,TNFRSF1A,UGCG,WISP1,ZEB1	28

			ADAMTS1,ANGPTL4,BIN1,CAMK2N2,CDKN1A,CREM (includes EG:12916),CYR61,DAB2,DBC1,FBLN2,FSCN1 (includes EG:14086),HBEGF,HNF4A,ITGA5,KLF2,MMP9,NDRG2,PECAM1,RAP1GAP,RGS16,SMO,TCN2,TGFB1,THBD, TNFRSF1A,UGCG,WISP1,ZEB1	28
Cellular Growth and Proliferation	proliferation of tumor cell lines	1.91E-05		
Embryonic Development	tubulogenesis	1.94E-05	CYR61,DAB2,HBEGF,MMP9,TGFB1	5
Cellular Development	differentiation of epithelial cell lines	2.23E-05	DAB2,FSCN1 (includes EG:14086),TGFB1,ZEB1	4
Hair and Skin Development and Function	differentiation of epithelial cell lines	2.23E-05	DAB2,FSCN1 (includes EG:14086),TGFB1,ZEB1	4
Cellular Function and Maintenance	permeability of cells	2.28E-05	ANGPT2,NOS3,PECAM1,RAP1GAP,THBD,ZEB1	6
Cell Morphology	permeability of cells	2.28E-05	ANGPT2,NOS3,PECAM1,RAP1GAP,THBD,ZEB1	6
Cardiovascular Disease	aneurysm	2.43E-05	ANGPT2,KLF2,MMP9,NOS3,RCAN1	5
Cellular Movement	extravasation	2.46E-05	ANGPT2,HDC,NOS3,PECAM1,RAP1GAP,ST3GAL4 ADAM9,ADAMTS1,ANGPT2,CDKN1A,ELMO1,EPHB4, FBLN2,FRZB,ITGA5,MMP9,NES,RAP1GAP,SMO,SPAR CL1,TGFB1,TNFRSF1A,TUBA1A	6
Cancer	head and neck cancer	2.77E-05		17
Molecular Transport	transport of Na+	2.86E-05	CNKSR3,NDRG2,NOS3,SLC20A1,SLC5A5,TGFB1	6
Renal and Urological Disease	proteinuria	2.96E-05	CDKN1A,EHD3,GIPC1,HBEGF,NOS3,TGFB1,THBD,VWF	8
Cellular Movement	migration of tumor cell lines	3.62E-05	ANGPT2,CYR61,DAB2,ELMO1,FLNC,FSCN1 (includes EG:14086),GIPC1,HBEGF,ITGA5,KANK1,MMP9,NES,PECAM1,RAP1GAP,TGFB1	15
Cardiovascular Disease	heart disease	3.86E-05	ANGPT2,ASPH,BIN1,CDKN1A,CREM (includes EG:12916),DYSF,GRK5,HBEGF,ITGA5,KLF2,MMP9,NOS3,PDE4B,PECAM1,PLXND1,RCAN1,TGFB1,THBD,TNFRSF1A,TUBA1A,VWF	21
Cellular Growth and Proliferation	proliferation of cells	4.03E-05	ADAMTS1,ANGPT2,ANGPTL4,APBB2,ASPH,BIN1,CAMK2N2,CDKN1A,CREM (includes EG:12916),CYR61,DAB2,DBC1,DOK1,EPHB4,FBLN2,FRZB,FSCN1 (includes EG:14086),GIPC1,GRASP,GRK5,H19,HBEGF,HNF4A,HS3B7,IFITM1,ITGA5,KLF2,LRRK2,MMP9,NDRG2,NES,NOS3,PDE2A,PECAM1,PIP5K1C,PLCD3,RAP1GAP,RCAN1,RGS16,SERPINH1,SLC20A1,SMO,SOX7,TCN2,TGFB1,THBD,TNFRSF1A,UGCG,VWF,WISP1,ZBTB32,ZEB1	52
Cardiovascular System Development and Function	vascularization of eye	4.09E-05	ADAM9,ADAMTS1,CYR61,MMP9,NOS3,TNFRSF1A	6
Organismal Development	vascularization of eye	4.09E-05	ADAM9,ADAMTS1,CYR61,MMP9,NOS3,TNFRSF1A	6
Visual System Development and Function	vascularization of eye	4.09E-05	ADAM9,ADAMTS1,CYR61,MMP9,NOS3,TNFRSF1A	6
Cellular Movement	migration of vascular endothelial cells	4.46E-05	ADAMTS1,ANGPT2,KLF2,MMP9,PDE2A,PLXND1,TGFB1	7

Cardiovascular System Development and Function	migration of vascular endothelial cells	4.46E-05	ADAMTS1,ANGPT2,KLF2,MMP9,PDE2A,PLXND1,TGF B1	7
Cell Death and Survival	cell death of bladder cancer cell lines	4.46E-05	CDKN1A,DBC1,HBEGF,NOS3	4
Cell Death and Survival	apoptosis of breast cell lines	4.50E-05	CDKN1A,DAB2,ITGA5,TGFB1,ZEB1	5
Tissue Development	clustering of dendritic cells	5.20E-05	PECAM1,TGFB1,TNFRSF1A	3
Cell-To-Cell Signaling and Interaction	clustering of dendritic cells	5.20E-05	PECAM1,TGFB1,TNFRSF1A	3
Hematological System Development and Function	clustering of dendritic cells	5.20E-05	PECAM1,TGFB1,TNFRSF1A	3
Immune Cell Trafficking	clustering of dendritic cells	5.20E-05	PECAM1,TGFB1,TNFRSF1A	3
Inflammatory Response	clustering of dendritic cells	5.20E-05	PECAM1,TGFB1,TNFRSF1A	3
Gastrointestinal Disease	chronic viral hepatitis	5.93E-05	MMP9,TGFB1	2
Hepatic System Disease	chronic viral hepatitis	5.93E-05	MMP9,TGFB1	2
Infectious Disease	chronic viral hepatitis	5.93E-05	MMP9,TGFB1	2
Inflammatory Disease	chronic viral hepatitis	5.93E-05	MMP9,TGFB1	2
Renal and Urological Disease	dedifferentiation of kidney cell lines	5.93E-05	HBEGF,PECAM1	2
Developmental Disorder	dedifferentiation of kidney cell lines	5.93E-05	HBEGF,PECAM1 ANGPT2,CD93,CDKN1A,EGFL7,HDC,ITGA5,KLF2,LRRK 2,MMP9,NOS3,PDE4B,PECAM1,PIP5K1C,PLXND1,RA P1GAP,ST3GAL4,TGFB1,TNFRSF1A	2
Cellular Movement	cell movement of leukocytes	6.19E-05	P1GAP,ST3GAL4,TGFB1,TNFRSF1A	18
Hematological System Development and Function	cell movement of leukocytes	6.19E-05	ANGPT2,CD93,CDKN1A,EGFL7,HDC,ITGA5,KLF2,LRRK 2,MMP9,NOS3,PDE4B,PECAM1,PIP5K1C,PLXND1,RA P1GAP,ST3GAL4,TGFB1,TNFRSF1A	18
Immune Cell Trafficking	cell movement of leukocytes	6.19E-05	ANGPT2,CD93,CDKN1A,EGFL7,HDC,ITGA5,KLF2,LRRK 2,MMP9,NOS3,PDE4B,PECAM1,PIP5K1C,PLXND1,RA P1GAP,ST3GAL4,TGFB1,TNFRSF1A	18
Cellular Development Cellular Growth and Proliferation	proliferation of breast cancer cell lines	6.26E-05	ADAMTS1,BIN1,CDKN1A,CYR61,DAB2,HBEGF,ITGA5, PECAM1,RGS16,TGFB1,TNFRSF1A,ZEB1	12
Cellular Development	proliferation of breast cancer cell lines	6.26E-05	ADAMTS1,BIN1,CDKN1A,CYR61,DAB2,HBEGF,ITGA5, PECAM1,RGS16,TGFB1,TNFRSF1A,ZEB1	12
Cellular Development	proliferation of carcinoma cell lines	7.10E-05	CDKN1A,CYR61,DAB2,FBLN2,FSCN1 (includes EG:14086),KLF2,RAP1GAP,TGFB1,TNFRSF1A,ZEB1	10
Cellular Growth and Proliferation	proliferation of carcinoma cell lines	7.10E-05	CDKN1A,CYR61,DAB2,FBLN2,FSCN1 (includes EG:14086),KLF2,RAP1GAP,TGFB1,TNFRSF1A,ZEB1	10
Organismal Development	morphogenesis of kidney	7.12E-05	ADAMTS1,MMP9,TSHZ3	3
Tissue Development Embryonic Development	morphogenesis of kidney	7.12E-05	ADAMTS1,MMP9,TSHZ3	3
Development	morphogenesis of kidney	7.12E-05	ADAMTS1,MMP9,TSHZ3	3

Organ Development	morphogenesis of kidney	7.12E-05	ADAMTS1,MMP9,TSHZ3	3
Renal and Urological System Development and Function	morphogenesis of kidney	7.12E-05	ADAMTS1,MMP9,TSHZ3	3
Organ Morphology	morphogenesis of kidney	7.12E-05	ADAMTS1,MMP9,TSHZ3	3
Cellular Movement	invasion of cells	7.46E-05	ADAM9,ADAMTS1,ANGPT2,CYR61,DAB2,ELMO1,EPHB4,FSCN1 (includes EG:14086),GIPC1,HBEGF,ITGA5,MMP9,NES,RAP1GAP,TGFB1,WISP1,ZEB1	17
Cardiovascular System Development and Function	proliferation of endothelial cells	7.53E-05	ADAMTS1,ANGPT2,ANGPTL4,CDKN1A,DAB2,EPHB4,KLF2,PDE2A,RCAN1,TGFB1	10
Organismal Development	proliferation of endothelial cells	7.53E-05	ADAMTS1,ANGPT2,ANGPTL4,CDKN1A,DAB2,EPHB4,KLF2,PDE2A,RCAN1,TGFB1	10
Tissue Development	proliferation of endothelial cells	7.53E-05	ADAMTS1,ANGPT2,ANGPTL4,CDKN1A,DAB2,EPHB4,KLF2,PDE2A,RCAN1,TGFB1	10
Cellular Development	proliferation of endothelial cells	7.53E-05	ADAMTS1,ANGPT2,ANGPTL4,CDKN1A,DAB2,EPHB4,KLF2,PDE2A,RCAN1,TGFB1	10
Cellular Growth and Proliferation	proliferation of endothelial cells	7.53E-05	ADAMTS1,ANGPT2,ANGPTL4,CDKN1A,DAB2,EPHB4,KLF2,PDE2A,RCAN1,TGFB1	10
Cellular Development	proliferation of muscle cells	7.68E-05	ANGPT2,CDKN1A,H19,HBEGF,ITGA5,MMP9,NDRG2,NOS3,TGFB1,THBD,TNFRSF1A	11
Cellular Growth and Proliferation	proliferation of muscle cells	7.68E-05	ANGPT2,CDKN1A,H19,HBEGF,ITGA5,MMP9,NDRG2,NOS3,TGFB1,THBD,TNFRSF1A	11
Skeletal and Muscular System Development and Function	proliferation of muscle cells	7.68E-05	ANGPT2,CDKN1A,H19,HBEGF,ITGA5,MMP9,NDRG2,NOS3,TGFB1,THBD,TNFRSF1A	11
Cardiovascular System Development and Function	activation of endothelial cells	7.73E-05	ANGPT2,HBEGF,MMP9,PECAM1,TGFB1	5
Cell-To-Cell Signaling and Interaction	activation of endothelial cells	7.73E-05	ANGPT2,HBEGF,MMP9,PECAM1,TGFB1	5
Cardiovascular Disease Organismal Injury and Abnormalities	formation of aneurysm	7.98E-05	ANGPT2,KLF2,MMP9,NOS3	4
	formation of aneurysm	7.98E-05	ANGPT2,KLF2,MMP9,NOS3 ANGPT2,CAMK2N2,CDKN1A,CREM (includes EG:12916),CYR61,DAB2,DBC1,EPHB4,FAIM2,HAP1 (includes EG:15114),HBEGF,ITGA5,KLF2,MMP9,NOS3,PDE4B,PECAM1,RAP1GAP,RGS16,SLC5A5,ST3GAL1,TGFB1,TNFRSF1A,TUBA1A,UGCG,ZEB1	4
Cell Death and Survival Organismal Development	cell death of tumor cell lines	7.98E-05	FRSF1A,TUBA1A,UGCG,ZEB1	26
	formation of vessel	8.31E-05	ADAMTS1,ANGPT2,EPHB4,MMP9,NOS3,PDE2A	6
Tissue Development	development of epithelial tissue	8.85E-05	ADAMTS1,ANGPT2,ANGPTL4,CDKN1A,CYR61,DAB2,EPHB4,KLF2,MMP9,PDE2A,RCAN1,SERPINH1,TGFB1	13
Tissue Development	adhesion of mononuclear leukocytes	8.89E-05	ANGPT2,ITGA5,PECAM1,PIP5K1C,RAP1GAP,TGFB1,VWF	7
Cell-To-Cell Signaling and Interaction	adhesion of mononuclear leukocytes	8.89E-05	ANGPT2,ITGA5,PECAM1,PIP5K1C,RAP1GAP,TGFB1,VWF	7

Hematological System Development and Function	adhesion of mononuclear leukocytes	8.89E-05	ANGPT2,ITGA5,PECAM1,PIP5K1C,RAP1GAP,TGFB1,WF	7
Immune Cell Trafficking	adhesion of mononuclear leukocytes	8.89E-05	ANGPT2,ITGA5,PECAM1,PIP5K1C,RAP1GAP,TGFB1,WF	7
Cancer	metastasis of cells	9.74E-05	ADAMTS1,ANGPT2,ANGPTL4,MMP9,NOS3,WISP1,ZEB1	7
Cell Death and Survival	necrosis	9.94E-05	ANGPT2,CAMK2N2,CDKN1A,CHL1,CREM (includes EG:12916),CYR61,DAB2,DBC1,DYSF,EPHB4,FAIM2,FRZB,HAP1 (includes EG:15114),HBEGF,HNF4A,IRAK3,ITGA5,KLF2,LRRK2,MMP9,NOS3,PDE4B,PECAM1,RAP1GAP,RCAN1,RGS16,SEMA7A,SLC20A1,SLC5A5,ST3GAL1,STXBP1,TGFB1,THBD,TNFRSF1A,TSHZ3,TUBA1A,UGCG,WISP1,ZEB1	39
Developmental Disorder	dedifferentiation of cells	1.03E-04	HBEGF,MMP9,PECAM1,TGFB1	4
Cellular Development	proliferation of prostate cancer cell lines	1.06E-04	CDKN1A,CREM (includes EG:12916),DAB2,FSCN1 (includes EG:14086),HBEGF,MMP9,NDRG2,SMO,TGFB1	9
Cellular Growth and Proliferation	proliferation of prostate cancer cell lines	1.06E-04	CDKN1A,CREM (includes EG:12916),DAB2,FSCN1 (includes EG:14086),HBEGF,MMP9,NDRG2,SMO,TGFB1	9
Tissue Development	adhesion of immune cells	1.15E-04	ADAM9,ANGPT2,ITGA5,NOS3,PECAM1,PIP5K1C,RAP1GAP,TGFB1,THBD,TNFRSF1A,VWF	11
Cell-To-Cell Signaling and Interaction	adhesion of immune cells	1.15E-04	ADAM9,ANGPT2,ITGA5,NOS3,PECAM1,PIP5K1C,RAP1GAP,TGFB1,THBD,TNFRSF1A,VWF	11
Hematological System Development and Function	adhesion of immune cells	1.15E-04	ADAM9,ANGPT2,ITGA5,NOS3,PECAM1,PIP5K1C,RAP1GAP,TGFB1,THBD,TNFRSF1A,VWF	11
Immune Cell Trafficking	adhesion of immune cells	1.15E-04	ADAM9,ANGPT2,ITGA5,NOS3,PECAM1,PIP5K1C,RAP1GAP,TGFB1,THBD,TNFRSF1A,VWF	11
Renal and Urological Disease	albuminuria	1.16E-04	HBEGF,NOS3,TGFB1,THBD,VWF	5
Metabolic Disease	albuminuria	1.16E-04	HBEGF,NOS3,TGFB1,THBD,VWF	5
Organismal Development	mass of kidney	1.16E-04	CDKN1A,EHD3,H19,LRRK2,NOS3	5
Tissue Development Embryonic	mass of kidney	1.16E-04	CDKN1A,EHD3,H19,LRRK2,NOS3	5
Development	mass of kidney	1.16E-04	CDKN1A,EHD3,H19,LRRK2,NOS3	5
Organ Development	mass of kidney	1.16E-04	CDKN1A,EHD3,H19,LRRK2,NOS3	5
Renal and Urological System Development and Function	mass of kidney	1.16E-04	CDKN1A,EHD3,H19,LRRK2,NOS3	5
Organ Morphology	mass of kidney	1.16E-04	CDKN1A,EHD3,H19,LRRK2,NOS3	5
Cell Morphology	sprouting	1.21E-04	ADAMTS1,ANGPT2,CDKN1A,CYR61,ELMO1,EPHB4,GASP,NOS3,TGFB1,UGCG	10
Cell-To-Cell Signaling and Interaction	binding of bone marrow cells	1.22E-04	ITGA5,PECAM1,RAP1GAP	3

Cellular Movement	recruitment of leukocytes	1.28E-04	ANGPT2,CD93,HDC,MMP9,NOS3,PDE4B,PIP5K1C,TGFB1,TNFRSF1A,VWF	10
Cell-To-Cell Signaling and Interaction	recruitment of leukocytes	1.28E-04	ANGPT2,CD93,HDC,MMP9,NOS3,PDE4B,PIP5K1C,TGFB1,TNFRSF1A,VWF	10
Hematological System Development and Function	recruitment of leukocytes	1.28E-04	ANGPT2,CD93,HDC,MMP9,NOS3,PDE4B,PIP5K1C,TGFB1,TNFRSF1A,VWF	10
Immune Cell Trafficking	recruitment of leukocytes	1.28E-04	ANGPT2,CD93,HDC,MMP9,NOS3,PDE4B,PIP5K1C,TGFB1,TNFRSF1A,VWF	10
Cancer	Cancer	1.28E-04	ADAM9,ADAMTS1,ANGPT2,ANGPTL4,ANO6,ANXA4,ASPH,CAMK2N2,CDKN1A,CHL1,CP,CYR61,DAB2,DOK1,EGFL7,ELMO1,EPHB4,FBLN2,FLNC,FRZB,FSCN1 (includes EG:14086),GIPC1,H19,HBEGF,HNF4A,IFITM1,ITGA5,KCNK6,KLF2,MMP9,NES,NOS3,PDE2A,PDE4B,PECAM1,PLLP,PVRL3,RANBP1,RAP1GAP,RGS16,SLC12A8,SMO,SOX7,SPARCL1,TGFB1,THBD,TM4SF1,TNFRSF1A,TS	55
Cardiovascular Disease	hypertension	1.31E-04	HZ3,TUBA1A,TUBB6,UGCG,VWF,WISP1,ZEB1 ANGPT2,CSGALNACT1,MMP9,NOS3,PDE4B,PRELID2,RHOJ,TGFB1,THBD,VWF	10
Organismal Development	size of body	1.33E-04	ADAMTS1,ANGPTL4,APBB2,AQP5,BACE2,CDKN1A,CSGALNACT1,DOK1,EHD3,H19,HAP1 (includes EG:15114),HBEGF,IRAK3,MMP9,NES,NOS3,RANBP1,RCAN1,TGFB1,TNFRSF1A	20
Cellular Movement	leukocyte migration	1.36E-04	ANGPT2,CD93,CDKN1A,EGFL7,HDC,ITGA5,KLF2,LRRK2,MMP9,NOS3,PDE4B,PECAM1,PIP5K1C,PLXND1,RA	19
Immune Cell Trafficking	leukocyte migration	1.36E-04	P1GAP,ST3GAL4,TGFB1,TNFRSF1A,VWF ANGPT2,CD93,CDKN1A,EGFL7,HDC,ITGA5,KLF2,LRRK2,MMP9,NOS3,PDE4B,PECAM1,PIP5K1C,PLXND1,RA	19
Cellular Movement	migration of neutrophils	1.46E-04	MMP9,PDE4B,PECAM1,ST3GAL4,TGFB1,TNFRSF1A	6
Hematological System Development and Function	migration of neutrophils	1.46E-04	MMP9,PDE4B,PECAM1,ST3GAL4,TGFB1,TNFRSF1A	6
Immune Cell Trafficking	migration of neutrophils	1.46E-04	MMP9,PDE4B,PECAM1,ST3GAL4,TGFB1,TNFRSF1A	6
Inflammatory Response	migration of neutrophils	1.46E-04	MMP9,PDE4B,PECAM1,ST3GAL4,TGFB1,TNFRSF1A	6
Cellular Movement	homing of cells	1.49E-04	ANGPT2,CDKN1A,CYR61,HBEGF,ITGA5,LRRK2,MMP9,NOS3,PDE4B,PIP5K1C,RAP1GAP,TGFB1,THBD,TNFRSF1A	14
Cardiovascular System Development and Function	morphology of cardiovascular system	1.54E-04	ADAM9,BIN1,EHD3,H19,HBEGF,ITGA5,KLF2,MMP9,NOS3,PLXND1,SERPINH1,SLCO2A1,TGFB1,THBD,VWF,ZEB1	16
Cell Death and Survival	cell death of ovarian cancer cell lines	1.54E-04	CAMK2N2,CDKN1A,DAB2,KLF2,TNFRSF1A,UGCG	6
Cellular Development	proliferation of smooth muscle cells	1.62E-04	ANGPT2,CDKN1A,HBEGF,MMP9,NDRG2,NOS3,TGFB1,THBD,TNFRSF1A	9

Cellular Growth and Proliferation	proliferation of smooth muscle cells	1.62E-04	ANGPT2,CDKN1A,HBEGF,MMP9,NDRG2,NOS3,TGFB1,THBD,TNFRSF1A	9
Skeletal and Muscular System Development and Function	proliferation of smooth muscle cells	1.62E-04	ANGPT2,CDKN1A,HBEGF,MMP9,NDRG2,NOS3,TGFB1,THBD,TNFRSF1A	9
Cellular Movement	transmigration of monocytes	1.66E-04	MMP9,PECAM1,TGFB1,TNFRSF1A	4
Hematological System Development and Function	transmigration of monocytes	1.66E-04	MMP9,PECAM1,TGFB1,TNFRSF1A	4
Immune Cell Trafficking	transmigration of monocytes	1.66E-04	MMP9,PECAM1,TGFB1,TNFRSF1A	4
Inflammatory Response	transmigration of monocytes	1.66E-04	MMP9,PECAM1,TGFB1,TNFRSF1A	4
Cell-To-Cell Signaling and Interaction	activation of neural precursor cells	1.77E-04	ANGPT2,CDKN1A	2
Gastrointestinal Disease	alcoholic cirrhosis	1.77E-04	MMP9,TGFB1	2
Hepatic System Disease	alcoholic cirrhosis	1.77E-04	MMP9,TGFB1	2
Organismal Injury and Abnormalities	alcoholic cirrhosis	1.77E-04	MMP9,TGFB1	2
Cellular Movement	cell movement of keratinocyte cancer cell lines	1.77E-04	ADAM9,THBD	2
Cellular Growth and Proliferation	cytostasis of keratinocytes	1.77E-04	CDKN1A,TGFB1	2
Hair and Skin Development and Function	cytostasis of keratinocytes	1.77E-04	CDKN1A,TGFB1	2
Tissue Development Embryonic	differentiation of visceral endoderm	1.77E-04	DAB2,TGFB1	2
Development	differentiation of visceral endoderm	1.77E-04	DAB2,TGFB1	2
Cellular Development	differentiation of visceral endoderm	1.77E-04	DAB2,TGFB1	2
Cellular Function and Maintenance	permeability of podocytes	1.77E-04	ANGPT2,ZEB1	2
Cell Morphology	permeability of podocytes	1.77E-04	ANGPT2,ZEB1	2
Cardiovascular System Development and Function	vascularization	1.86E-04	ADAM9,ADAMTS1,CYR61,MMP9,NOS3,PLCD3,TGFB1,TNFRSF1A	8
Cell Death and Survival	cell death	1.88E-04	ANGPT2,ANGPTL4,APBB2,BIN1,CAMK2N2,CDKN1A,CHL1,CP,CREM (includes EG:12916),CYR61,DAB2,DBC1,DYSF,ELMO1,EPHB4,FAIM2,FRZB,HAP1 (includes EG:15114),HBEGF,HNF4A,IRAK3,ITGA5,KLF2,LRRK2,MMP9,NOS3,PDE4B,PECAM1,PLCD3,RANBP1,RAP1GAP,RCAN1,RGS16,SEMA7A,SLC20A1,SLC5A5,SMO,ST3GAL1,STXBP1,TGFB1,THBD,TNFRSF1A,TSHZ3,TUBA1A,UGCG,WISP1,ZEB1	47
Tissue Development	aggregation of blood cells	2.12E-04	DAB2,HDC,NOS3,PECAM1,STXBP1,TGFB1,TNFRSF1A,VWF	8

Hematological System				
Development and			DAB2,HDC,NOS3,PECAM1,STXBP1,TGFB1,TNFRSF1A,	
Function	aggregation of blood cells	2.12E-04	VWF	8
Cancer	hyperplasia of skin	2.20E-04	HBEGF,MMP9,SMO,TGFB1,TNFRSF1A	5
Dermatological				
Diseases and				
Conditions	hyperplasia of skin	2.20E-04	HBEGF,MMP9,SMO,TGFB1,TNFRSF1A	5
Gastrointestinal				
Disease	alcoholic liver disease	2.27E-04	MMP9,PDE4B,TGFB1,TNFRSF1A	4
Hepatic System				
Disease	alcoholic liver disease	2.27E-04	MMP9,PDE4B,TGFB1,TNFRSF1A	4
Renal and Urological				
Disease	membranous glomerulonephritis	2.35E-04	CDKN1A,HBEGF,TGFB1	3
Inflammatory				
Response	membranous glomerulonephritis	2.35E-04	CDKN1A,HBEGF,TGFB1	3
Inflammatory Disease	membranous glomerulonephritis	2.35E-04	CDKN1A,HBEGF,TGFB1	3
Immunological				
Disease	membranous glomerulonephritis	2.35E-04	CDKN1A,HBEGF,TGFB1	3
Cancer	colorectal cancer	2.49E-04	ADAMTS1,ANGPT2,ANGPTL4,ANXA4,CDKN1A,CYR61,EGFL7,EPHB4,FSCN1 (includes EG:14086),HNF4A,IFITM1,MMP9,PECAM1,PVRL3,RA P1GAP,SLC12A8,SMO,TGFB1,TM4SF1,WISP1	20
Gastrointestinal				
Disease	colorectal cancer	2.49E-04	ADAMTS1,ANGPT2,ANGPTL4,ANXA4,CDKN1A,CYR61,EGFL7,EPHB4,FSCN1 (includes EG:14086),HNF4A,IFITM1,MMP9,PECAM1,PVRL3,RA P1GAP,SLC12A8,SMO,TGFB1,TM4SF1,WISP1	20
Cancer	gastrointestinal tract cancer	2.51E-04	ADAM9,ADAMTS1,ANGPT2,ANGPTL4,ANXA4,CDKN1A,CYR61,EGFL7,EPHB4,FSCN1 (includes EG:14086),HNF4A,IFITM1,MMP9,PECAM1,PVRL3,RA P1GAP,SLC12A8,SMO,TGFB1,TM4SF1,TUBA1A,WISP1	22
Gastrointestinal				
Disease	gastrointestinal tract cancer invasion of squamous cell carcinoma cell lines	2.51E-04	ADAM9,ADAMTS1,ANGPT2,ANGPTL4,ANXA4,CDKN1A,CYR61,EGFL7,EPHB4,FSCN1 (includes EG:14086),HNF4A,IFITM1,MMP9,PECAM1,PVRL3,RA P1GAP,SLC12A8,SMO,TGFB1,TM4SF1,TUBA1A,WISP1	22
Cellular Movement				
Lymphoid Tissue				
Structure and				
Development	quantity of splenocytes	2.51E-04	FSCN1 (includes EG:14086),HBEGF,ITGA5,MMP9	4
Tissue Morphology	quantity of splenocytes	2.51E-04	CDKN1A,RFTN1,TNFRSF1A,ZEB1	4
Cellular Movement	recruitment of phagocytes	2.57E-04	ANGPT2,MMP9,NOS3,PDE4B,PIP5K1C,TGFB1,TNFRSF1A,VWF	8
Cell-To-Cell Signaling and Interaction	recruitment of phagocytes	2.57E-04	ANGPT2,MMP9,NOS3,PDE4B,PIP5K1C,TGFB1,TNFRSF1A,VWF	8
Hematological System				
Development and				
Function	recruitment of phagocytes	2.57E-04	ANGPT2,MMP9,NOS3,PDE4B,PIP5K1C,TGFB1,TNFRSF1A,VWF	8
Immune Cell				
Trafficking	recruitment of phagocytes	2.57E-04	ANGPT2,MMP9,NOS3,PDE4B,PIP5K1C,TGFB1,TNFRSF1A,VWF	8

Inflammatory Response	recruitment of phagocytes	2.57E-04	ANGPT2,MMP9,NOS3,PDE4B,PIP5K1C,TGFB1,TNFRSF1A,VWF	8
Renal and Urological Disease	urination disorder	2.70E-04	ADAMTS1,CDKN1A,EHD3,GIPC1,HBEGF,NOS3,TGFB1,THBD,VWF	9
Cellular Growth and Proliferation	proliferation of gastrointestinal cells	2.76E-04	CDKN1A,HBEGF,MMP9,TGFB1	4
Cardiovascular System Development and Function	vascularization of cornea	2.76E-04	ADAMTS1,CYR61,MMP9,TNFRSF1A	4
Organismal Development	vascularization of cornea	2.76E-04	ADAMTS1,CYR61,MMP9,TNFRSF1A	4
Visual System Development and Function	vascularization of cornea	2.76E-04	ADAMTS1,CYR61,MMP9,TNFRSF1A	4
Cellular Movement	migration of smooth muscle cells	2.93E-04	ANGPT2,EGFL7,HBEGF,MMP9,NOS3,RCAN1	6
Skeletal and Muscular System Development and Function	migration of smooth muscle cells	2.93E-04	ANGPT2,EGFL7,HBEGF,MMP9,NOS3,RCAN1	6
Cancer	papillary carcinoma	2.93E-04	ADAMTS1,CDKN1A,ITGA5,MMP9,RAP1GAP,TGFB1	6
Cellular Movement	chemotaxis of cells	2.97E-04	ANGPT2,CDKN1A,CYR61,HBEGF,LRRK2,MMP9,NOS3,PDE4B,PIP5K1C,RAP1GAP,TGFB1,THBD,TNFRSF1A	13
Cell Death and Survival	apoptosis of endothelial cells	3.05E-04	ANGPT2,CDKN1A,MMP9,NOS3,PECAM1,TGFB1,TNFRSF1A	7
Organismal Survival	organismal death	3.22E-04	ADAM9,ANGPT2,ANGPTL4,APBB2,ASPH,BACE2,CDKN1A,CREM (includes EG:12916),CYR61,EGFL7,EHD3,FLNC,FSCN1 (includes EG:14086),HAP1 (includes EG:15114),HBEGF,IRAK3,ITGA5,KLF2,MMP9,NOS3,PIP5K1C,PLCD3,TGFB1,THBD,TNFRSF1A,TSHZ3,UGCG,ZEB1	28
Tissue Morphology	quantity of connective tissue cells	3.29E-04	ANGPT2,CDKN1A,HDC,IRAK3,KLF2,NOS3,TGFB1,UGCG	8
Connective Tissue Development and Function	quantity of connective tissue cells	3.29E-04	ANGPT2,CDKN1A,HDC,IRAK3,KLF2,NOS3,TGFB1,UGCG	8
Organismal Injury and Abnormalities	microgliosis	3.38E-04	GRK5,LRRK2,TGFB1	3
Neurological Disease	microgliosis	3.38E-04	GRK5,LRRK2,TGFB1	3
Tissue Development	organization of epithelial tissue	3.38E-04	EGFL7,HNF4A,TGFB1	3
Cell Morphology	morphology of tumor cell lines	3.40E-04	CDKN1A,CREM (includes EG:12916),GIPC1,PECAM1,RAP1GAP,TGFB1,THBD	7
Cardiovascular System Development and Function	formation of blood vessel	3.42E-04	ADAMTS1,EPHB4,MMP9,NOS3,PDE2A	5
Organismal Development	formation of blood vessel	3.42E-04	ADAMTS1,EPHB4,MMP9,NOS3,PDE2A	5
Tissue Development	clustering of Langerhans cells	3.52E-04	PECAM1,TGFB1	2

Cell-To-Cell Signaling and Interaction	clustering of Langerhans cells	3.52E-04	PECAM1,TGFB1	2
Hematological System Development and Function	clustering of Langerhans cells	3.52E-04	PECAM1,TGFB1	2
Immune Cell Trafficking	clustering of Langerhans cells	3.52E-04	PECAM1,TGFB1	2
Inflammatory Response	clustering of Langerhans cells	3.52E-04	PECAM1,TGFB1	2
Developmental Disorder	distal myopathy	3.52E-04	DYSF,FLNC	2
Hereditary Disorder	distal myopathy	3.52E-04	DYSF,FLNC	2
Skeletal and Muscular Disorders	distal myopathy	3.52E-04	DYSF,FLNC	2
Cancer	epithelial-mesenchymal transition of tumor	3.52E-04	TGFB1,ZEB1	2
Cellular Development	epithelial-mesenchymal transition of tumor	3.52E-04	TGFB1,ZEB1	2
Cellular Movement	transmigration of phagocytes	3.85E-04	MMP9,PECAM1,ST3GAL4,TGFB1,TNFRSF1A	5
Hematological System Development and Function	transmigration of phagocytes	3.85E-04	MMP9,PECAM1,ST3GAL4,TGFB1,TNFRSF1A	5
Immune Cell Trafficking	transmigration of phagocytes	3.85E-04	MMP9,PECAM1,ST3GAL4,TGFB1,TNFRSF1A	5
Inflammatory Response	transmigration of phagocytes	3.85E-04	MMP9,PECAM1,ST3GAL4,TGFB1,TNFRSF1A	5
Cell Death and Survival	cell death of Schwann cells	3.99E-04	MMP9,TGFB1,TNFRSF1A	3
Neurological Disease	late-onset Alzheimer's disease	3.99E-04	APBB2,BIN1,NOS3	3
Psychological Disorders	late-onset Alzheimer's disease	3.99E-04	APBB2,BIN1,NOS3	3
Amino Acid Metabolism	metabolism of basic amino acid	3.99E-04	HDC,HNF4A,NOS3	3
Small Molecule Biochemistry	metabolism of basic amino acid	3.99E-04	HDC,HNF4A,NOS3	3
Cellular Development	proliferation of granulosa cells	3.99E-04	CDKN1A,TGFB1,TNFRSF1A	3
Cellular Growth and Proliferation	proliferation of granulosa cells	3.99E-04	CDKN1A,TGFB1,TNFRSF1A	3
Reproductive System Development and Function	proliferation of granulosa cells	3.99E-04	CDKN1A,TGFB1,TNFRSF1A	3
Organismal Survival	mortality	4.01E-04	BIN1,CDKN1A,IRAK3,MMP9,NOS3,TNFRSF1A	6
Tissue Development	aggregation of tumor cell lines	4.32E-04	CDKN1A,MMP9,TGFB1,THBD	4
Gene Expression	induction of RNA	4.32E-04	CREM (includes EG:12916),PDE2A,TGFB1,TNFRSF1A	4
Cellular Movement	migration of hematopoietic progenitor cells	4.32E-04	ITGA5,KLF2,MMP9,PECAM1	4
Hematological System Development and Function	migration of hematopoietic progenitor cells	4.32E-04	ITGA5,KLF2,MMP9,PECAM1	4

Tissue Morphology	quantity of cells	4.41E-04	ADAMTS1,ANGPT2,CDKN1A,CP,CREM (includes EG:12916),DBC1,DOK1,ELMO1,FLNC,HBEGF,HDC,IRAK3,KIF5C,KLF2,MMP9,NES,NOS3,PDE4B,PECAM1,RCAN1,RFTN1,SLC20A1,SMO,ST3GAL1,ST3GAL4,TGFB1,TNFRSF1A,UGCG,ZEB1	29
Cell Death and Survival	apoptosis	4.43E-04	ANGPT2,ANGPTL4,APBB2,BIN1,CAMK2N2,CDKN1A,CHL1,CREM (includes EG:12916),CYR61,DAB2,ELMO1,EPHB4,FAIM2,FRZB,HAP1 (includes EG:15114),HBEGF,HNF4A,IRAK3,ITGA5,KLF2,LRRK2,MMP9,NOS3,PDE4B,PECAM1,PLCD3,RANBP1,RCAN1,SEMA7A,SLC20A1,SMO,ST3GAL1,STXBP1,TGFB1,THBD,TNFRSF1A,UGCG,WISP1,ZEB1	39
Cellular Movement	adhesion of T lymphocytes	4.57E-04	ITGA5,PECAM1,PIP5K1C,RAP1GAP,TGFB1	5
Tissue Development	adhesion of T lymphocytes	4.57E-04	ITGA5,PECAM1,PIP5K1C,RAP1GAP,TGFB1	5
Cell-To-Cell Signaling and Interaction	adhesion of T lymphocytes	4.57E-04	ITGA5,PECAM1,PIP5K1C,RAP1GAP,TGFB1	5
Hematological System Development and Function	adhesion of T lymphocytes	4.57E-04	ITGA5,PECAM1,PIP5K1C,RAP1GAP,TGFB1	5
Immune Cell Trafficking	adhesion of T lymphocytes	4.57E-04	ITGA5,PECAM1,PIP5K1C,RAP1GAP,TGFB1	5
Cell-mediated Immune Response	adhesion of T lymphocytes	4.57E-04	ITGA5,PECAM1,PIP5K1C,RAP1GAP,TGFB1	5
Cellular Development	proliferation of prostate cell lines	4.67E-04	CYR61,DAB2,TGFB1	3
Cellular Growth and Proliferation	proliferation of prostate cell lines	4.67E-04	CYR61,DAB2,TGFB1	3
Reproductive System Development and Function	proliferation of prostate cell lines	4.67E-04	CYR61,DAB2,TGFB1	3
Cancer	lung cancer	4.71E-04	ADAM9,ADAMTS1,ANGPTL4,CDKN1A,CYR61,DOK1,EGFL7,EPHB4,HNF4A,ITGA5,MMP9,THBD,TUBA1A,VWF	14
Respiratory Disease	lung cancer	4.71E-04	ADAM9,ADAMTS1,ANGPTL4,CDKN1A,CYR61,DOK1,EGFL7,EPHB4,HNF4A,ITGA5,MMP9,THBD,TUBA1A,VWF	14
Cancer	metastasis of tumor cell lines	4.83E-04	ADAMTS1,ANGPT2,ANGPTL4,NOS3,WISP1	5
Cellular Movement	transmigration of cells	4.95E-04	MMP9,PECAM1,RAP1GAP,ST3GAL4,TGFB1,TNFRSF1A	6
Cancer	pancreatic adenocarcinoma	5.09E-04	CDKN1A,CYR61,HBEGF,IFITM1	4
Endocrine System Disorders	pancreatic adenocarcinoma	5.09E-04	CDKN1A,CYR61,HBEGF,IFITM1	4
Gastrointestinal Disease	pancreatic adenocarcinoma	5.09E-04	CDKN1A,CYR61,HBEGF,IFITM1	4
Cellular Movement	invasion of carcinoma cell lines	5.10E-04	ADAM9,FSCN1 (includes EG:14086),RAP1GAP,TGFB1,WISP1	5
Cellular Movement	invasion of breast cancer cell lines	5.14E-04	ADAMTS1,EPHB4,GIPC1,ITGA5,MMP9,TGFB1,ZEB1	7
Renal and Urological Disease	diabetic nephropathy	5.16E-04	CDKN1A,ELMO1,MYO1B,PDE2A,PECAM1,TGFB1	6
Cardiovascular Disease	dysfunction of left ventricle	5.42E-04	ANGPTL4,CREM (includes EG:12916),MMP9	3

Cardiovascular System Development and Function	function of blood-brain barrier	5.42E-04	MMP9,NOS3,VWF	3
Organ Development Nervous System Development and Function	function of blood-brain barrier	5.42E-04	MMP9,NOS3,VWF	3
Embryonic Development	function of blood-brain barrier	5.42E-04	MMP9,NOS3,VWF	3
	apoptosis of ectoderm	5.84E-04	HNF4A,UGCG	2
Cell Death and Survival	apoptosis of ectoderm	5.84E-04	HNF4A,UGCG	2
Cellular Development Cancer	differentiation of goblet cells	5.84E-04	CDKN1A,HNF4A	2
	hyperplasia of neointima	5.84E-04	MMP9,NOS3	2
Cardiovascular Disease	hyperplasia of neointima	5.84E-04	MMP9,NOS3	2
Cellular Development Cellular Growth and Proliferation	proliferation of preosteoblastic cells	5.84E-04	HBEGF,TGFB1	2
	proliferation of preosteoblastic cells	5.84E-04	HBEGF,TGFB1	2
Cardiovascular Disease Organismal Injury and Abnormalities	size of thrombus	5.84E-04	PECAM1,VWF	2
	size of thrombus	5.84E-04	PECAM1,VWF	2
Cellular Development Cellular Growth and Proliferation	proliferation of epithelial cell lines	5.86E-04	CDKN1A,CYR61,DAB2,FSCN1 (includes EG:14086),HNF4A,ITGA5,TGFB1	7
Hair and Skin Development and Function	proliferation of epithelial cell lines	5.86E-04	CDKN1A,CYR61,DAB2,FSCN1 (includes EG:14086),HNF4A,ITGA5,TGFB1	7
	proliferation of epithelial cell lines	5.86E-04	CDKN1A,CYR61,DAB2,FSCN1 (includes EG:14086),HNF4A,ITGA5,TGFB1	7
Tissue Morphology	morphology of embryonic tissue	6.18E-04	CDKN1A,CYR61,DAB2,FSCN1 (includes EG:14086),HNF4A,ITGA5,TGFB1 APBB2,CDKN1A,DAB2,HAP1 (includes EG:15114),HNF4A,ITGA5,KLF2,SERPINH1,SLC20A1,S MO,TGFB1,THBD,TNFRSF1A,UGCG	14
Tissue Development Organismal Injury and Abnormalities	formation of epithelial tissue	6.29E-04	KLF2,NOS3,PECAM1,SERPINH1,TGFB1	5
Organismal Development Embryonic Development	stenosis	6.29E-04	CDKN1A,HBEGF,MMP9,RCAN1,THBD	5
	implantation of embryo	6.42E-04	ADAMTS1,HBEGF,MMP9,NOS3	4
	implantation of embryo	6.42E-04	ADAMTS1,HBEGF,MMP9,NOS3	4
Reproductive System Development and Function	implantation of embryo	6.42E-04	ADAMTS1,HBEGF,MMP9,NOS3	4
Cardiovascular System Development and Function	morphology of heart	6.75E-04	ADAM9,BIN1,H19,HBEGF,MMP9,NOS3,PLXND1,SLC O2A1,TGFB1,THBD	10
Organ Morphology	morphology of heart	6.75E-04	ADAM9,BIN1,H19,HBEGF,MMP9,NOS3,PLXND1,SLC O2A1,TGFB1,THBD	10
Cellular Development Cellular Growth and Proliferation	proliferation of hepatocytes	6.80E-04	CDKN1A,H19,HNF4A,SLC20A1,TGFB1,TNFRSF1A	6
	proliferation of hepatocytes	6.80E-04	CDKN1A,H19,HNF4A,SLC20A1,TGFB1,TNFRSF1A	6

Hepatic System Development and Function	proliferation of hepatocytes	6.80E-04	CDKN1A,H19,HNF4A,SLC20A1,TGFB1,TNFRSF1A	6
Inflammatory Disease	Encephalitis	6.86E-04	HDC,MMP9,PECAM1,RFTN1,TGFB1,TNFRSF1A,UNC93B1,VWF	8
Neurological Disease	Encephalitis	6.86E-04	HDC,MMP9,PECAM1,RFTN1,TGFB1,TNFRSF1A,UNC93B1,VWF	8
Cell Death and Survival	cell death of liver cells	6.86E-04	CDKN1A,HNF4A,MMP9,SLC20A1,TGFB1,TNFRSF1A,UGCG	7
Cardiovascular Disease	fibrosis of heart	6.97E-04	ANGPT2,CREM (includes EG:12916),MMP9,NOS3,TGFB1	5
Organismal Injury and Abnormalities	fibrosis of heart	6.97E-04	ANGPT2,CREM (includes EG:12916),MMP9,NOS3,TGFB1	5
Cancer	endocrine gland tumor	7.14E-04	ADAM9,ADAMTS1,ANGPT2,CDKN1A,CYR61,EPHB4,FRZB,HBEGF,IFITM1,ITGA5,MMP9,RAP1GAP,TGFB1	13
Cell Death and Survival	cell death of breast cancer cell lines	7.27E-04	ANGPT2,CDKN1A,CYR61,DAB2,NOS3,RGS16,TGFB1,TNFRSF1A,UGCG	9
Cancer	papillary thyroid cancer	7.32E-04	ADAMTS1,CDKN1A,ITGA5,RAP1GAP,TGFB1	5
Endocrine System Disorders	papillary thyroid cancer	7.32E-04	ADAMTS1,CDKN1A,ITGA5,RAP1GAP,TGFB1	5
Cancer	T-cell non-Hodgkin's disease	7.34E-04	CYR61,MMP9,RGS16,TUBA1A,TUBB6,ZEB1	6
Hematological Disease	T-cell non-Hodgkin's disease	7.34E-04	CYR61,MMP9,RGS16,TUBA1A,TUBB6,ZEB1	6
Molecular Transport	transport of metal ion	7.78E-04	ATP2A3,CNKSR3,CP,KCNK6,NDRG2,NOS3,SLC20A1,SLC5A5,TGFB1	9
Cancer	skin cancer	7.78E-04	ADAM9,ANGPTL4,CDKN1A,PECAM1,RGS16,SMO,TGFB1,TUBA1A,WISP1,ZEB1	10
Dermatological Diseases and Conditions	skin cancer	7.78E-04	ADAM9,ANGPTL4,CDKN1A,PECAM1,RGS16,SMO,TGFB1,TUBA1A,WISP1,ZEB1	10
Cell Morphology	morphology of cells	7.83E-04	CDKN1A,CHL1,CP,CREM (includes EG:12916),DOK1,ELMO1,FAIM2,GIPC1,HBEGF,HDC,HNF4A,KLF2,MMP9,NOS3,OTOS,PECAM1,PVRL3,RAP1GAP,RCAN1,SPARCL1,TGFB1,THBD,TNFRSF1A,UGCG,VWF	25
Renal and Urological System Development and Function	proliferation of kidney cell lines	7.91E-04	CDKN1A,HNF4A,ITGA5,TGFB1,WISP1,ZEB1	6
Cellular Development	proliferation of kidney cell lines	7.91E-04	CDKN1A,HNF4A,ITGA5,TGFB1,WISP1,ZEB1	6
Cellular Growth and Proliferation	proliferation of kidney cell lines	7.91E-04	CDKN1A,HNF4A,ITGA5,TGFB1,WISP1,ZEB1	6
Cardiovascular Disease	thrombosis	7.91E-04	ANGPT2,HBEGF,TGFB1,THBD,TNFRSF1A,VWF	6
Hematological Disease	thrombosis	7.91E-04	ANGPT2,HBEGF,TGFB1,THBD,TNFRSF1A,VWF	6
Tissue Development	cell-cell adhesion of tumor cell lines	8.11E-04	DAB2,RAP1GAP,ZEB1	3
Cell-To-Cell Signaling and Interaction	cell-cell adhesion of tumor cell lines	8.11E-04	DAB2,RAP1GAP,ZEB1	3
Cellular Development	differentiation of breast cell lines	8.11E-04	DAB2,TGFB1,ZEB1	3

Reproductive System				
Development and Function	differentiation of breast cell lines	8.11E-04	DAB2,TGFB1,ZEB1	3
Cellular Movement	invasion of epithelial cell lines	8.11E-04	FSCN1 (includes EG:14086),MMP9,TGFB1	3
Cancer	metastasis of melanoma cell lines	8.11E-04	ANGPTL4,NOS3,WISP1	3
			CP,ELMO1,EPHB4,HAP1 (includes EG:15114),LMCD1,LRRK2,MYO1B,NDRG2,PCDH7,PD E4B,RANBP1,RAP1GAP,RCAN1,SPARCL1,TNFRSF1A,T	
Neurological Disease	disorder of basal ganglia	8.63E-04	UBA1A,UGCG	17
Cardiovascular System				
Development and Function	angiogenesis of ear	8.72E-04	KLF2,TM4SF1	2
Organismal Development	angiogenesis of ear	8.72E-04	KLF2,TM4SF1	2
Tissue Development	angiogenesis of ear	8.72E-04	KLF2,TM4SF1	2
Embryonic Development	angiogenesis of ear	8.72E-04	KLF2,TM4SF1	2
Organ Development	angiogenesis of ear	8.72E-04	KLF2,TM4SF1	2
Auditory and Vestibular System				
Development and Function	angiogenesis of ear	8.72E-04	KLF2,TM4SF1	2
Cellular Development	arrest in growth of lymphocytes	8.72E-04	CDKN1A,TGFB1	2
Cellular Growth and Proliferation	arrest in growth of lymphocytes	8.72E-04	CDKN1A,TGFB1	2
Hematological System				
Development and Function	arrest in growth of lymphocytes	8.72E-04	CDKN1A,TGFB1	2
Inflammatory Response	degranulation of blood platelets	8.72E-04	STXBP1,VWF	2
Cellular Compromise	degranulation of blood platelets	8.72E-04	STXBP1,VWF	2
Organ Morphology	enlargement of alveolar lumen	8.72E-04	MMP9,TGFB1	2
Cellular Development	senescence of keratinocytes	8.72E-04	CDKN1A,TGFB1	2
Hair and Skin				
Development and Function	senescence of keratinocytes	8.72E-04	CDKN1A,TGFB1	2
Cell Cycle	senescence of keratinocytes	8.72E-04	CDKN1A,TGFB1	2
Cell Death and Survival	cell death of hepatocytes	8.83E-04	CDKN1A,HNF4A,SLC20A1,TGFB1,TNFRSF1A,UGCG	6
Cell Morphology	cell spreading	8.86E-04	CYR61,DAB2,FLNC,ITGA5,MMP9,PECAM1,RAP1GAP, VWF	8
Cardiovascular System				
Development and Function	morphology of heart ventricle	9.01E-04	ADAM9,BIN1,H19,HBEGF,MMP9,NOS3,SLCO2A1	7
Organ Morphology	morphology of heart ventricle	9.01E-04	ADAM9,BIN1,H19,HBEGF,MMP9,NOS3,SLCO2A1	7
Cardiovascular Disease	vascular lesion	9.01E-04	ANGPT2,KLF2,MMP9,NOS3,RCAN1,THBD,TNFRSF1A	7

Cardiovascular Disease	carditis	9.16E-04	KLF2,MMP9,TGFB1,TUBA1A	4
Inflammatory Disease	carditis	9.16E-04	KLF2,MMP9,TGFB1,TUBA1A	4
Cardiovascular System Development and Function	formation of endothelial tube	9.16E-04	KLF2,NOS3,PECAM1,TGFB1	4
Tissue Development	formation of endothelial tube	9.16E-04	KLF2,NOS3,PECAM1,TGFB1	4
Cardiovascular System Development and Function	permeability of blood vessel	9.16E-04	ANGPT2,PECAM1,VWF	3
Tissue Morphology	permeability of blood vessel	9.16E-04	ANGPT2,PECAM1,VWF	3
Cellular Development Cellular Growth and Proliferation	proliferation of ovarian cancer cell lines	9.30E-04	CAMK2N2,DAB2,HBEGF,KLF2,TGFB1	5
Cellular Assembly and Organization	proliferation of ovarian cancer cell lines	9.30E-04	CAMK2N2,DAB2,HBEGF,KLF2,TGFB1	5
Cellular Function and Maintenance	organization of actin cytoskeleton	9.83E-04	ELMO1,FLNC,FSCN1 (includes EG:14086),PIP5K1C,RHOJ,TGFB1,VWF	7
	organization of actin cytoskeleton	9.83E-04	ELMO1,FLNC,FSCN1 (includes EG:14086),PIP5K1C,RHOJ,TGFB1,VWF	7
Cell Death and Survival	apoptosis of liver cells	9.83E-04	CDKN1A,HNF4A,MMP9,SLC20A1,TGFB1,TNFRSF1A	6
Molecular Transport Free Radical Scavenging	quantity of reactive oxygen species	9.83E-04	CDKN1A,CP,KLF2,NOS3,TGFB1,TNFRSF1A	6
	quantity of reactive oxygen species	9.83E-04	CDKN1A,CP,KLF2,NOS3,TGFB1,TNFRSF1A	6
Cancer	digestive organ tumor	9.88E-04	ADAM9,ADAMTS1,ANGPT2,ANGPTL4,ANXA4,CDKN1A,CP,CYR61,EGFL7,EPHB4,FSCN1 (includes EG:14086),HBEGF,HNF4A,IFITM1,ITGA5,MMP9,PDE2A,PECAM1,PVRL3,RAP1GAP,SLC12A8,SMO,SPARCL1,TGFB1,TM4SF1,TUBA1A,WISP1	27
Gastrointestinal Disease	digestive organ tumor	9.88E-04	ADAM9,ADAMTS1,ANGPT2,ANGPTL4,ANXA4,CDKN1A,CP,CYR61,EGFL7,EPHB4,FSCN1 (includes EG:14086),HBEGF,HNF4A,IFITM1,ITGA5,MMP9,PDE2A,PECAM1,PVRL3,RAP1GAP,SLC12A8,SMO,SPARCL1,TGFB1,TM4SF1,TUBA1A,WISP1	27
Cellular Development Hepatic System Development and Function	differentiation of liver cells	1.03E-03	FRZB,HNF4A,TGFB1	3
	differentiation of liver cells	1.03E-03	FRZB,HNF4A,TGFB1	3
Cell Death and Survival	apoptosis of breast cancer cell lines	1.08E-03	ANGPT2,CDKN1A,CYR61,DAB2,NOS3,TGFB1,TNFRSF1A,UGCG	8
Cardiovascular System Development and Function	abnormal morphology of heart septum	1.12E-03	BIN1,H19,MMP9,NOS3	4
Organ Morphology	abnormal morphology of heart septum	1.12E-03	BIN1,H19,MMP9,NOS3	4
Tissue Development	aggregation of blood platelets	1.13E-03	DAB2,NOS3,PECAM1,STXBP1,TGFB1,VWF	6

Hematological System Development and Function	aggregation of blood platelets	1.13E-03	DAB2,NOS3,PECAM1,STXBP1,TGFB1,VWF	6
Inflammatory Response	aggregation of blood platelets	1.13E-03	DAB2,NOS3,PECAM1,STXBP1,TGFB1,VWF	6
Developmental Disorder	growth failure	1.15E-03	AQP5,CDKN1A,CSGALNACT1,HAP1 (includes EG:15114),HNF4A,HSD3B7,ITGA5,KLF2,MMP9,NOS3, RANBP1,SLC20A1,SMO,TGFB1	14
Tissue Development	adhesion of eosinophils	1.15E-03	ITGA5,PECAM1,THBD	3
Cell-To-Cell Signaling and Interaction	adhesion of eosinophils	1.15E-03	ITGA5,PECAM1,THBD	3
Hematological System Development and Function	adhesion of eosinophils	1.15E-03	ITGA5,PECAM1,THBD	3
Immune Cell Trafficking	adhesion of eosinophils	1.15E-03	ITGA5,PECAM1,THBD	3
Hypersensitivity Response	adhesion of eosinophils	1.15E-03	ITGA5,PECAM1,THBD	3
Neurological Disease	neuromuscular disease	1.17E-03	CP,DBC1,ELMO1,EPHB4,HAP1 (includes EG:15114),LMCD1,LRRK2,MYO1B,NDRG2,PCDH7,PD E4B,RANBP1,RAP1GAP,RCAN1,SPARCL1,TNFRSF1A,T UBA1A,UGCG	18
Skeletal and Muscular Disorders	neuromuscular disease	1.17E-03	CP,DBC1,ELMO1,EPHB4,HAP1 (includes EG:15114),LMCD1,LRRK2,MYO1B,NDRG2,PCDH7,PD E4B,RANBP1,RAP1GAP,RCAN1,SPARCL1,TNFRSF1A,T UBA1A,UGCG	18
Molecular Transport	quantity of anion	1.19E-03	AQP5,HDC,NOS3,TNFRSF1A	4
Cardiovascular Disease	myocardial infarction	1.21E-03	MMP9,NOS3,PECAM1,THBD,TNFRSF1A,VWF	6
Tissue Development	adhesion of lung cancer cells	1.21E-03	ADAM9,ITGA5	2
Cell-To-Cell Signaling and Interaction	adhesion of lung cancer cells	1.21E-03	ADAM9,ITGA5	2
Cellular Compromise Tumor Morphology	adhesion of lung cancer cells	1.21E-03	ADAM9,ITGA5	2
Tissue Development	adhesion of lung cancer cells	1.21E-03	ADAM9,ITGA5	2
Tissue Development	adhesion of stomach cancer cell lines	1.21E-03	CYR61,PVRL3	2
Cell-To-Cell Signaling and Interaction	adhesion of stomach cancer cell lines	1.21E-03	CYR61,PVRL3	2
Cancer	arrest in G1 phase of cancer cells	1.21E-03	CDKN1A,TGFB1	2
Cell Cycle	arrest in G1 phase of cancer cells	1.21E-03	CDKN1A,TGFB1	2
Cell Cycle	arrest in late G1 phase	1.21E-03	CDKN1A,TGFB1	2
Cell-To-Cell Signaling and Interaction	binding of megakaryocytes	1.21E-03	PECAM1,RAP1GAP	2
Hematological System Development and Function	binding of megakaryocytes	1.21E-03	PECAM1,RAP1GAP	2
Hematopoiesis	binding of megakaryocytes	1.21E-03	PECAM1,RAP1GAP	2

Inflammatory Response	endotoxin tolerance of cells	1.21E-03	IRAK3,TGFB1	2
Amino Acid Metabolism	oxidation of essential amino acids	1.21E-03	CP,NOS3	2
Small Molecule Biochemistry	oxidation of essential amino acids	1.21E-03	CP,NOS3	2
Energy Production	oxidation of essential amino acids	1.21E-03	CP,NOS3	2
Post-Translational Modification	oxidation of essential amino acids	1.21E-03	CP,NOS3	2
Respiratory Disease	remodeling of pulmonary alveolus	1.21E-03	SEMA7A,TGFB1	2
Organ Morphology	remodeling of pulmonary alveolus	1.21E-03	SEMA7A,TGFB1	2
Organismal Injury and Abnormalities	remodeling of pulmonary alveolus	1.21E-03	SEMA7A,TGFB1	2
Dermatological Diseases and Conditions	rosacea	1.21E-03	MMP9,TGFB1	2
Skeletal and Muscular System Development and Function	quantity of muscle cells	1.22E-03	ANGPT2,CDKN1A,FLNC,KLF2,RCAN1	5
Tissue Morphology	quantity of muscle cells	1.22E-03	ANGPT2,CDKN1A,FLNC,KLF2,RCAN1	5
Cancer	tumorigenesis of cells	1.23E-03	ANGPTL4,CAMK2N2,CDKN1A,CYR61,SMO,TGFB1,THBD	7
Cellular Assembly and Organization	formation of cellular protrusions	1.23E-03	ANGPTL4,CDKN1A,CHL1,CYR61,ELMO1,GRASP,HNF4A,PIP5K1C,PVRL3,RANBP1,RAP1GAP,TGFB1,TM4SF1,TNFRSF1A,UGCG	15
Cellular Function and Maintenance	formation of cellular protrusions	1.23E-03	ANGPTL4,CDKN1A,CHL1,CYR61,ELMO1,GRASP,HNF4A,PIP5K1C,PVRL3,RANBP1,RAP1GAP,TGFB1,TM4SF1,TNFRSF1A,UGCG	15
Cell Morphology	formation of cellular protrusions	1.23E-03	ANGPTL4,CDKN1A,CHL1,CYR61,ELMO1,GRASP,HNF4A,PIP5K1C,PVRL3,RANBP1,RAP1GAP,TGFB1,TM4SF1,TNFRSF1A,UGCG	15
Cancer	endometrial carcinoma	1.26E-03	CP,FLNC,FRZB,KLF2,PLLP,SMO,SPARCL1,TGFB1,TSHZ3,TUBA1A,ZEB1	11
Reproductive System Disease	endometrial carcinoma	1.26E-03	CP,FLNC,FRZB,KLF2,PLLP,SMO,SPARCL1,TGFB1,TSHZ3,TUBA1A,ZEB1	11
Organismal Injury and Abnormalities	stenosis of blood vessel	1.26E-03	HBEGF,MMP9,RCAN1,THBD	4
Molecular Transport	transport of monovalent inorganic cation	1.27E-03	CNKS3,KCNK6,NDRG2,NOS3,SLC20A1,SLC5A5,TGFB1	7
Cancer	uterine cancer	1.27E-03	CP,CYR61,DOK1,FLNC,FRZB,H19,KLF2,MMP9,PLLP,SMO,SPARCL1,TGFB1,TSHZ3,TUBA1A,UGCG,ZEB1	16
Reproductive System Disease	uterine cancer	1.27E-03	CP,CYR61,DOK1,FLNC,FRZB,H19,KLF2,MMP9,PLLP,SMO,SPARCL1,TGFB1,TSHZ3,TUBA1A,UGCG,ZEB1	16
Cardiovascular System Development and Function	branching of blood vessel	1.28E-03	ADAMTS1,ANGPT2,NOS3	3
Organismal Development	branching of blood vessel	1.28E-03	ADAMTS1,ANGPT2,NOS3	3
Cellular Development	branching of blood vessel	1.28E-03	ADAMTS1,ANGPT2,NOS3	3
Cell Morphology	branching of blood vessel	1.28E-03	ADAMTS1,ANGPT2,NOS3	3
Cell Morphology	morphology of breast cancer cell lines	1.28E-03	GIPC1,PECAM1,TGFB1	3

Cellular Development	proliferation of keratinocyte cancer cell lines	1.28E-03	CDKN1A,TGFB1,UGCG	3
Cellular Growth and Proliferation	proliferation of keratinocyte cancer cell lines	1.28E-03	CDKN1A,TGFB1,UGCG	3
Renal and Urological Disease	Nephritis	1.33E-03	CDKN1A,HBEGF,LRRK2,MMP9,NOS3,PDE4B,TGFB1,TNFRSF1A	8
Inflammatory Response	Nephritis	1.33E-03	CDKN1A,HBEGF,LRRK2,MMP9,NOS3,PDE4B,TGFB1,TNFRSF1A	8
Inflammatory Disease	Nephritis	1.33E-03	CDKN1A,HBEGF,LRRK2,MMP9,NOS3,PDE4B,TGFB1,TNFRSF1A	8
Cellular Movement	migration of phagocytes	1.33E-03	ITGA5,MMP9,PDE4B,PECAM1,PLXND1,ST3GAL4,TGFB1,TNFRSF1A	8
Hematological System Development and Function	migration of phagocytes	1.33E-03	ITGA5,MMP9,PDE4B,PECAM1,PLXND1,ST3GAL4,TGFB1,TNFRSF1A	8
Immune Cell Trafficking	migration of phagocytes	1.33E-03	ITGA5,MMP9,PDE4B,PECAM1,PLXND1,ST3GAL4,TGFB1,TNFRSF1A	8
Inflammatory Response	migration of phagocytes	1.33E-03	ITGA5,MMP9,PDE4B,PECAM1,PLXND1,ST3GAL4,TGFB1,TNFRSF1A	8
Cellular Movement	invasion of prostate cancer cell lines	1.34E-03	FSCN1 (includes EG:14086),MMP9,NES,TGFB1	4
Organismal Injury and Abnormalities	fibrosis	1.36E-03	ANGPT2,CREM (includes EG:12916),DYSF,HBEGF,HNF4A,ITGA5,MMP9,NOS3,SEMA7A,TGFB1,TM4SF1,TNFRSF1A	12
Cancer	pancreatic cancer	1.37E-03	ADAM9,ADAMTS1,CDKN1A,CYR61,HBEGF,IFITM1,MMP9,TGFB1	8
Endocrine System Disorders	pancreatic cancer	1.37E-03	ADAM9,ADAMTS1,CDKN1A,CYR61,HBEGF,IFITM1,MMP9,TGFB1	8
Gastrointestinal Disease	pancreatic cancer	1.37E-03	ADAM9,ADAMTS1,CDKN1A,CYR61,HBEGF,IFITM1,MMP9,TGFB1	8
Molecular Transport	release of metal	1.37E-03	ASPH,CP,GRK5,HAP1 (includes EG:15114),PECAM1,RGS16,TGFB1	7
Neurological Disease	movement disorder	1.39E-03	CP,ELMO1,EPHB4,GRK5,HAP1 (includes EG:15114),HDC,LMCD1,LRRK2,MMP9,MYO1B,NDRG2,PCDH7,PDE4B,RANBP1,RAP1GAP,RCAN1,SPARCL1,TNFRSF1A,TUBA1A,UGCG	20
Cell Cycle	arrest in G0/G1 phase transition of tumor cell lines	1.42E-03	CDKN1A,MMP9,TGFB1	3
Developmental Disorder	centronuclear myopathy	1.42E-03	BIN1,DYSF,FLNC	3
Hereditary Disorder	centronuclear myopathy	1.42E-03	BIN1,DYSF,FLNC	3
Skeletal and Muscular Disorders	centronuclear myopathy	1.42E-03	BIN1,DYSF,FLNC	3
Tissue Morphology	closure of wound	1.42E-03	ITGA5,MMP9,TGFB1	3
Cellular Compromise	depletion of cells	1.43E-03	HBEGF,SMO,TGFB1,TNFRSF1A	4
Cellular Movement	migration of keratinocytes	1.43E-03	ADAM9,HBEGF,MMP9,TGFB1	4
Hair and Skin Development and Function	migration of keratinocytes	1.43E-03	ADAM9,HBEGF,MMP9,TGFB1	4
Inflammatory Response	ulcerative colitis	1.43E-03	MMP9,NOS3,PDE4B,TNFRSF1A	4
Gastrointestinal Disease	ulcerative colitis	1.43E-03	MMP9,NOS3,PDE4B,TNFRSF1A	4
Inflammatory Disease	ulcerative colitis	1.43E-03	MMP9,NOS3,PDE4B,TNFRSF1A	4

Renal and Urological Disease	chronic renal failure	1.44E-03	CDKN1A,NOS3,PDE4B,TGFB1,TNFRSF1A	5
Cell Morphology	size of muscle cells	1.44E-03	ANGPT2,CDKN1A,DYSF,FLNC,TGFB1	5
Skeletal and Muscular System Development and Function	size of muscle cells	1.44E-03	ANGPT2,CDKN1A,DYSF,FLNC,TGFB1	5
Cell Morphology	shape change of axons	1.51E-03	CHL1,GRASP,TGFB1,UGCG	4
Hematological System Development and Function	quantity of phagocytes	1.56E-03	CDKN1A,DOK1,ELMO1,HBEGF,HDC,IRAK3,MMP9,PD E4B,TGFB1,TNFRSF1A	10
Inflammatory Response	quantity of phagocytes	1.56E-03	CDKN1A,DOK1,ELMO1,HBEGF,HDC,IRAK3,MMP9,PD E4B,TGFB1,TNFRSF1A	10
Tissue Morphology	quantity of phagocytes	1.56E-03	CDKN1A,DOK1,ELMO1,HBEGF,HDC,IRAK3,MMP9,PD E4B,TGFB1,TNFRSF1A	10
Tissue Morphology	quantity of fibroblast cell lines	1.57E-03	CDKN1A,DBC1,TGFB1	3
Connective Tissue Development and Function	quantity of fibroblast cell lines	1.57E-03	CDKN1A,DBC1,TGFB1	3
Organismal Development	thickness of cortical bone	1.57E-03	FRZB,HDC,NOS3	3
Tissue Development	thickness of cortical bone	1.57E-03	FRZB,HDC,NOS3	3
Embryonic Development	thickness of cortical bone	1.57E-03	FRZB,HDC,NOS3	3
Organ Development	thickness of cortical bone	1.57E-03	FRZB,HDC,NOS3	3
Skeletal and Muscular System Development and Function	thickness of cortical bone	1.57E-03	FRZB,HDC,NOS3	3
Tissue Morphology	thickness of cortical bone	1.57E-03	FRZB,HDC,NOS3	3
Connective Tissue Development and Function	thickness of cortical bone	1.57E-03	FRZB,HDC,NOS3	3
Cell-To-Cell Signaling and Interaction	activation of embryonic cell lines	1.61E-03	ITGA5,TGFB1	2
Embryonic Development	activation of embryonic cell lines	1.61E-03	ITGA5,TGFB1	2
Organismal Injury and Abnormalities	bleeding of retina	1.61E-03	ANGPT2,TGFB1	2
Ophthalmic Disease	bleeding of retina	1.61E-03	ANGPT2,TGFB1	2
Tissue Development	clustering of tumor cell lines	1.61E-03	CDKN1A,THBD	2
Cellular Growth and Proliferation	cytostasis of prostate cancer cell lines	1.61E-03	CDKN1A,TGFB1	2
Organismal Functions	flow of plasma	1.61E-03	HBEGF,TNFRSF1A	2
Cellular Movement	migration of dermal fibroblasts	1.61E-03	HBEGF,TGFB1	2
Connective Tissue Development and Function	migration of dermal fibroblasts	1.61E-03	HBEGF,TGFB1	2
Tissue Development	organization of endothelial tissue	1.61E-03	EGFL7,HNF4A	2
Cellular Assembly and Organization	priming of vesicles	1.61E-03	LMAN1L,STXBP1	2

Cardiovascular System Development and Function	proliferation of cardiac fibroblasts	1.61E-03	TGFB1,WISP1	2
Cellular Development Cellular Growth and Proliferation	proliferation of cardiac fibroblasts	1.61E-03	TGFB1,WISP1	2
Connective Tissue Development and Function	proliferation of cardiac fibroblasts	1.61E-03	TGFB1,WISP1	2
Amino Acid Metabolism	synthesis of basic amino acid	1.61E-03	NOS3,TGFB1	2
Small Molecule Biochemistry	synthesis of basic amino acid	1.61E-03	NOS3,TGFB1	2
Cardiovascular Disease Organismal Injury and Abnormalities	systolic dysfunction of heart	1.61E-03	ITGA5,TGFB1	2
	systolic dysfunction of heart	1.61E-03	ITGA5,TGFB1	2
Cellular Movement	cell movement of phagocytes	1.63E-03	ANGPT2,CDKN1A,ITGA5,LRRK2,MMP9,PDE4B,PECA M1,PIP5K1C,PLXND1,ST3GAL4,TGFB1,TNFRSF1A	12
Hematological System Development and Function	cell movement of phagocytes	1.63E-03	ANGPT2,CDKN1A,ITGA5,LRRK2,MMP9,PDE4B,PECA M1,PIP5K1C,PLXND1,ST3GAL4,TGFB1,TNFRSF1A	12
Immune Cell Trafficking	cell movement of phagocytes	1.63E-03	ANGPT2,CDKN1A,ITGA5,LRRK2,MMP9,PDE4B,PECA M1,PIP5K1C,PLXND1,ST3GAL4,TGFB1,TNFRSF1A	12
Inflammatory Response	cell movement of phagocytes	1.63E-03	ANGPT2,CDKN1A,ITGA5,LRRK2,MMP9,PDE4B,PECA M1,PIP5K1C,PLXND1,ST3GAL4,TGFB1,TNFRSF1A	12
Cardiovascular System Development and Function	proliferation of vascular endothelial cells	1.63E-03	ANGPT2,CDKN1A,DAB2,KLF2,PDE2A	5
Organismal Development	proliferation of vascular endothelial cells	1.63E-03	ANGPT2,CDKN1A,DAB2,KLF2,PDE2A	5
Tissue Development	proliferation of vascular endothelial cells	1.63E-03	ANGPT2,CDKN1A,DAB2,KLF2,PDE2A	5
Cellular Development Cellular Growth and Proliferation	proliferation of vascular endothelial cells	1.63E-03	ANGPT2,CDKN1A,DAB2,KLF2,PDE2A	5
Cellular Development Cellular Growth and Proliferation	proliferation of vascular endothelial cells	1.63E-03	ANGPT2,CDKN1A,DAB2,KLF2,PDE2A	5
Cancer	genital tumor	1.67E-03	ADAM9,ANO6,ASPH,CAMK2N2,CDKN1A,CP,DAB2,EG FL7,FLNC,H19,KCNK6,MMP9,NES,NOS3,SMO,TGFB1, TUBA1A,TUBB6	18
Reproductive System Disease	genital tumor	1.67E-03	ADAM9,ANO6,ASPH,CAMK2N2,CDKN1A,CP,DAB2,EG FL7,FLNC,H19,KCNK6,MMP9,NES,NOS3,SMO,TGFB1, TUBA1A,TUBB6	18
Cell Death and Survival	fragmentation of nucleus	1.73E-03	PECAM1,TGFB1,TNFRSF1A	3
Cellular Compromise Cancer	fragmentation of nucleus	1.73E-03	PECAM1,TGFB1,TNFRSF1A	3
Skeletal and Muscular Disorders	hyperplasia of muscle	1.73E-03	CYR61,NOS3,TGFB1	3
	hyperplasia of muscle	1.73E-03	CYR61,NOS3,TGFB1	3

Cancer	pancreatic tumor	1.75E-03	ADAM9,ADAMTS1,CDKN1A,CYR61,HBEGF,IFITM1,MP9,TGFB1,TUBA1A	9
Endocrine System Disorders	pancreatic tumor	1.75E-03	ADAM9,ADAMTS1,CDKN1A,CYR61,HBEGF,IFITM1,MP9,TGFB1,TUBA1A	9
Gastrointestinal Disease	pancreatic tumor	1.75E-03	ADAM9,ADAMTS1,CDKN1A,CYR61,HBEGF,IFITM1,MP9,TGFB1,TUBA1A	9
Renal and Urological Disease	renal failure	1.78E-03	CDKN1A,CYR61,NOS3,PDE4B,TGFB1,TNFRSF1A	6
Organismal Development	morphology of bone	1.82E-03	CDKN1A,CSGALNACT1,FRZB,H19,IRAK3,KLF2,MMP9,NOS3,PLXND1,TGFB1,TNFRSF1A	11
Tissue Development Embryonic	morphology of bone	1.82E-03	CDKN1A,CSGALNACT1,FRZB,H19,IRAK3,KLF2,MMP9,NOS3,PLXND1,TGFB1,TNFRSF1A	11
Development	morphology of bone	1.82E-03	CDKN1A,CSGALNACT1,FRZB,H19,IRAK3,KLF2,MMP9,NOS3,PLXND1,TGFB1,TNFRSF1A	11
Organ Development	morphology of bone	1.82E-03	CDKN1A,CSGALNACT1,FRZB,H19,IRAK3,KLF2,MMP9,NOS3,PLXND1,TGFB1,TNFRSF1A	11
Organ Morphology	morphology of bone	1.82E-03	CDKN1A,CSGALNACT1,FRZB,H19,IRAK3,KLF2,MMP9,NOS3,PLXND1,TGFB1,TNFRSF1A	11
Skeletal and Muscular System Development and Function	morphology of bone	1.82E-03	CDKN1A,CSGALNACT1,FRZB,H19,IRAK3,KLF2,MMP9,NOS3,PLXND1,TGFB1,TNFRSF1A	11
Connective Tissue Development and Function	morphology of bone	1.82E-03	CDKN1A,CSGALNACT1,FRZB,H19,IRAK3,KLF2,MMP9,NOS3,PLXND1,TGFB1,TNFRSF1A	11
Cellular Movement	migration of mononuclear leukocytes	1.89E-03	HDC,ITGA5,KLF2,MMP9,PECAM1,PIP5K1C,RAP1GAP,TGFB1,TNFRSF1A	9
Hematological System Development and Function	migration of mononuclear leukocytes	1.89E-03	HDC,ITGA5,KLF2,MMP9,PECAM1,PIP5K1C,RAP1GAP,TGFB1,TNFRSF1A	9
Immune Cell Trafficking	migration of mononuclear leukocytes	1.89E-03	HDC,ITGA5,KLF2,MMP9,PECAM1,PIP5K1C,RAP1GAP,TGFB1,TNFRSF1A	9
Hematological System Development and Function	coagulation of blood	1.89E-03	HNF4A,NOS3,PECAM1,ST3GAL4,THBD,VWF	6
Organismal Functions	coagulation of blood	1.89E-03	HNF4A,NOS3,PECAM1,ST3GAL4,THBD,VWF	6
Organismal Development	abnormal morphology of femur	1.89E-03	CSGALNACT1,FRZB,MMP9,NOS3	4
Tissue Development Embryonic	abnormal morphology of femur	1.89E-03	CSGALNACT1,FRZB,MMP9,NOS3	4
Development	abnormal morphology of femur	1.89E-03	CSGALNACT1,FRZB,MMP9,NOS3	4
Organ Development	abnormal morphology of femur	1.89E-03	CSGALNACT1,FRZB,MMP9,NOS3	4
Organ Morphology	abnormal morphology of femur	1.89E-03	CSGALNACT1,FRZB,MMP9,NOS3	4
Skeletal and Muscular System Development and Function	abnormal morphology of femur	1.89E-03	CSGALNACT1,FRZB,MMP9,NOS3	4
Connective Tissue Development and Function	abnormal morphology of femur	1.89E-03	CSGALNACT1,FRZB,MMP9,NOS3	4

Cardiovascular System Development and Function	neovascularization of eye	1.89E-03	ADAM9,CYR61,MMP9,NOS3	4
Organismal Development	neovascularization of eye	1.89E-03	ADAM9,CYR61,MMP9,NOS3	4
Visual System Development and Function	neovascularization of eye	1.89E-03	ADAM9,CYR61,MMP9,NOS3	4
Cardiovascular System Development and Function	tubulation of endothelial cells	1.89E-03	ANGPTL4,CYR61,RCAN1,RHOJ	4
Organismal Development	tubulation of endothelial cells	1.89E-03	ANGPTL4,CYR61,RCAN1,RHOJ	4
Tissue Development	tubulation of endothelial cells	1.89E-03	ANGPTL4,CYR61,RCAN1,RHOJ	4
Cellular Development	tubulation of endothelial cells	1.89E-03	ANGPTL4,CYR61,RCAN1,RHOJ	4
Cell Morphology	tubulation of endothelial cells	1.89E-03	ANGPTL4,CYR61,RCAN1,RHOJ	4
Cellular Function and Maintenance	function of cardiomyocytes	1.90E-03	ASPH,MMP9,NOS3	3
Endocrine System Development and Function	insulin sensitivity index	1.90E-03	CDKN1A,HBEGF,TNFRSF1A	3
Cellular Development	proliferation of bladder cancer cell lines	1.90E-03	CDKN1A,DBC1,HBEGF	3
Cellular Growth and Proliferation	proliferation of bladder cancer cell lines	1.90E-03	CDKN1A,DBC1,HBEGF	3
Cellular Movement	cell movement of neutrophils	1.95E-03	ANGPT2,MMP9,PDE4B,PECAM1,PIP5K1C,ST3GAL4,T GFB1,TNFRSF1A	8
Hematological System Development and Function	cell movement of neutrophils	1.95E-03	ANGPT2,MMP9,PDE4B,PECAM1,PIP5K1C,ST3GAL4,T GFB1,TNFRSF1A	8
Immune Cell Trafficking	cell movement of neutrophils	1.95E-03	ANGPT2,MMP9,PDE4B,PECAM1,PIP5K1C,ST3GAL4,T GFB1,TNFRSF1A	8
Inflammatory Response	cell movement of neutrophils	1.95E-03	ANGPT2,MMP9,PDE4B,PECAM1,PIP5K1C,ST3GAL4,T GFB1,TNFRSF1A	8
Organismal Injury and Abnormalities	thrombus	2.00E-03	PECAM1,THBD,TNFRSF1A,VWF	4
Cell-To-Cell Signaling and Interaction	activation of kidney cell lines	2.06E-03	ITGA5,TGFB1	2
Renal and Urological System Development and Function	activation of kidney cell lines	2.06E-03	ITGA5,TGFB1	2
Cellular Movement	migration of megakaryocytes	2.06E-03	MMP9,PECAM1	2
Hematological System Development and Function	migration of megakaryocytes	2.06E-03	MMP9,PECAM1	2
Immune Cell Trafficking	migration of megakaryocytes	2.06E-03	MMP9,PECAM1	2
Inflammatory Response	migration of megakaryocytes	2.06E-03	MMP9,PECAM1	2
Hematopoiesis	migration of megakaryocytes	2.06E-03	MMP9,PECAM1	2

Amino Acid Metabolism	oxidation of L-amino acid	2.06E-03	CP,NOS3	2
Small Molecule Biochemistry	oxidation of L-amino acid	2.06E-03	CP,NOS3	2
Energy Production	oxidation of L-amino acid	2.06E-03	CP,NOS3	2
Post-Translational Modification	oxidation of L-amino acid	2.06E-03	CP,NOS3	2
Infectious Disease	reactivation of human herpesvirus 4	2.06E-03	TGFB1,ZEB1	2
Cardiovascular Disease	thrombosis of atrium	2.06E-03	HBEGF,TGFB1	2
Hematological Disease	thrombosis of atrium	2.06E-03	HBEGF,TGFB1	2
Cellular Growth and Proliferation	formation of connective tissue cells	2.06E-03	CDKN1A,FRZB,ITGA5,TGFB1,TNFRSF1A	5
Molecular Transport	excretion of Na+	2.08E-03	ANGPT2,NOS3,TGFB1	3
Cellular Growth and Proliferation	proliferation of lung cells	2.08E-03	ITGA5,TGFB1,TNFRSF1A	3
Respiratory System Development and Function	proliferation of lung cells	2.08E-03	ITGA5,TGFB1,TNFRSF1A ANGPT2,CDKN1A,HBEGF,KLF2,MMP9,NOS3,PDE4B,P LXND1,RCAN1,SLC16A6,TGFB1,THBD,TNFRSF1A,VW F	3 14
Cardiovascular Disease	vascular disease	2.10E-03	ANGPT2,CDKN1A,CREM (includes EG:12916),CYR61,HBEGF,ITGA5,KLF2,RAP1GAP,TGFB 1,TNFRSF1A	10
DNA Replication, Recombination, and Repair	synthesis of DNA experimental autoimmune	2.12E-03		10
Inflammatory Disease	encephalomyelitis	2.12E-03	HDC,MMP9,PECAM1,RFTN1,TGFB1,TNFRSF1A,VWF	7
Immunological Disease	experimental autoimmune encephalomyelitis	2.12E-03	HDC,MMP9,PECAM1,RFTN1,TGFB1,TNFRSF1A,VWF	7
Neurological Disease	experimental autoimmune encephalomyelitis	2.12E-03	HDC,MMP9,PECAM1,RFTN1,TGFB1,TNFRSF1A,VWF CDKN1A,CHL1,CREM (includes EG:12916),FAIM2,HAP1 (includes EG:15114),ITGA5,LRRK2,MMP9,RCAN1,STXBP1,TGFB 1,TNFRSF1A,TSHZ3	7 13
Cell Death and Survival	neuronal cell death	2.19E-03	ADAM9,ANO6,ASPH,CDKN1A,EGFL7,FLNC,MMP9,NE S,NOS3,TGFB1,TUBA1A,TUBB6	12
Cancer	prostatic tumor	2.19E-03	ADAM9,ANO6,ASPH,CDKN1A,EGFL7,FLNC,MMP9,NE S,NOS3,TGFB1,TUBA1A,TUBB6	12
Reproductive System Disease	prostatic tumor	2.19E-03	ANGPT2,CREM (includes EG:12916),HBEGF,LMCD1,MMP9	5
Cardiovascular Disease	hypertrophy of cardiomyocytes	2.22E-03	ANGPT2,CREM (includes EG:12916),HBEGF,LMCD1,MMP9	5
Developmental Disorder	hypertrophy of cardiomyocytes	2.22E-03	ANGPT2,CREM (includes EG:12916),HBEGF,LMCD1,MMP9	5
Skeletal and Muscular Disorders	hypertrophy of cardiomyocytes cell death of macrophage cancer cell	2.22E-03	ANGPT2,CREM (includes EG:12916),HBEGF,LMCD1,MMP9	5
Cell Death and Survival Organismal	lines	2.27E-03	ITGA5,TGFB1,TNFRSF1A CDKN1A,HBEGF,KLF2,NOS3,PECAM1,TGFB1,TNFRSF 1A,TSHZ3	3 8
Development	lung development	2.30E-03	CDKN1A,HBEGF,KLF2,NOS3,PECAM1,TGFB1,TNFRSF 1A,TSHZ3	8
Tissue Development Embryonic	lung development	2.30E-03	CDKN1A,HBEGF,KLF2,NOS3,PECAM1,TGFB1,TNFRSF 1A,TSHZ3	8
Development	lung development	2.30E-03	CDKN1A,HBEGF,KLF2,NOS3,PECAM1,TGFB1,TNFRSF 1A,TSHZ3	8
Organ Development	lung development	2.30E-03	CDKN1A,HBEGF,KLF2,NOS3,PECAM1,TGFB1,TNFRSF 1A,TSHZ3	8

Respiratory System Development and Function	lung development	2.30E-03	CDKN1A,HBEGF,KLF2,NOS3,PECAM1,TGFB1,TNFRSF1A,TSHZ3	8
Cell Death and Survival	apoptosis of hepatocytes	2.31E-03	CDKN1A,HNF4A,SLC20A1,TGFB1,TNFRSF1A	5
Tissue Development	cell-cell adhesion	2.31E-03	DAB2,ITGA5,RAP1GAP,TGFB1,ZEB1	5
Cell-To-Cell Signaling and Interaction	cell-cell adhesion	2.31E-03	DAB2,ITGA5,RAP1GAP,TGFB1,ZEB1	5
Cellular Growth and Proliferation	formation of cells	2.31E-03	ANGPTL4,CDKN1A,EGFL7,FRZB,ITGA5,NOS3,PECAM1,TGFB1,TNFRSF1A	9
Organ Morphology	mass of muscle	2.33E-03	CDKN1A,FLNC,HBEGF,MMP9	4
Skeletal and Muscular System Development and Function	mass of muscle	2.33E-03	CDKN1A,FLNC,HBEGF,MMP9	4
Cancer	development of tumor proliferation of vascular smooth muscle cells	2.35E-03	ADAMTS1,ANGPTL4,CDKN1A,MAP3K6,MMP9,TGFB1,THBD,WISP1	8
Cellular Development	muscle cells	2.39E-03	ANGPT2,CDKN1A,MMP9,TGFB1,TNFRSF1A	5
Cellular Growth and Proliferation	proliferation of vascular smooth muscle cells	2.39E-03	ANGPT2,CDKN1A,MMP9,TGFB1,TNFRSF1A	5
Skeletal and Muscular System Development and Function	proliferation of vascular smooth muscle cells	2.39E-03	ANGPT2,CDKN1A,MMP9,TGFB1,TNFRSF1A	5
Cellular Movement	chemotaxis of leukocytes	2.40E-03	ANGPT2,CDKN1A,LRRK2,MMP9,PDE4B,PIP5K1C,RAP1GAP,TGFB1,TNFRSF1A	9
Hematological System Development and Function	chemotaxis of leukocytes	2.40E-03	ANGPT2,CDKN1A,LRRK2,MMP9,PDE4B,PIP5K1C,RAP1GAP,TGFB1,TNFRSF1A	9
Immune Cell Trafficking	chemotaxis of leukocytes	2.40E-03	ANGPT2,CDKN1A,LRRK2,MMP9,PDE4B,PIP5K1C,RAP1GAP,TGFB1,TNFRSF1A	9
Inflammatory Response	chemotaxis of leukocytes	2.40E-03	ANGPT2,CDKN1A,LRRK2,MMP9,PDE4B,PIP5K1C,RAP1GAP,TGFB1,TNFRSF1A	9
Organismal Injury and Abnormalities	interstitial fibrosis	2.46E-03	ANGPT2,NOS3,TGFB1,TNFRSF1A	4
Behavior	behavior	2.46E-03	ADAM9,BIN1,CDKN1A,CHL1,CREM (includes EG:12916),CYR61,GRASP,HAP1 (includes EG:15114),HDC,IFITM1,ITGA5,LRRK2,MMP9,NOS3,NPW,RCAN1,TNFRSF1A	17
Cardiovascular System Development and Function	cardiac output	2.47E-03	ANGPT2,MMP9,NOS3	3
Tissue Morphology	quantity of oocytes	2.47E-03	ADAMTS1,NOS3,TGFB1	3
Reproductive System Development and Function	quantity of oocytes	2.47E-03	ADAMTS1,NOS3,TGFB1	3
Small Molecule Biochemistry	synthesis of nitrite	2.47E-03	NOS3,TGFB1,TNFRSF1A	3
Cardiovascular System Development and Function	abnormal morphology of pulmonary valve	2.56E-03	ADAM9,HBEGF	2

Organ Morphology	abnormal morphology of pulmonary valve	2.56E-03	ADAM9,HBEGF	2
Molecular Transport	accumulation of anion	2.56E-03	SLC5A5,TNFRSF1A	2
Cell Death and Survival	anoikis of breast cancer cell lines	2.56E-03	DAB2,TGFB1	2
Cell-To-Cell Signaling and Interaction	contact growth inhibition of connective tissue cells	2.56E-03	CDKN1A,TGFB1	2
Cellular Growth and Proliferation	contact growth inhibition of connective tissue cells	2.56E-03	CDKN1A,TGFB1	2
Cell Cycle	contact growth inhibition of connective tissue cells	2.56E-03	CDKN1A,TGFB1	2
Organismal Development	differentiation of epidermis	2.56E-03	CDKN1A,GLIS1	2
Tissue Development	differentiation of epidermis	2.56E-03	CDKN1A,GLIS1	2
Embryonic Development	differentiation of epidermis	2.56E-03	CDKN1A,GLIS1	2
Organ Development	differentiation of epidermis	2.56E-03	CDKN1A,GLIS1	2
Cellular Development	differentiation of epidermis	2.56E-03	CDKN1A,GLIS1	2
Hair and Skin Development and Function	differentiation of epidermis	2.56E-03	CDKN1A,GLIS1	2
Cell-To-Cell Signaling and Interaction	glutamate mediated receptor currents	2.56E-03	PIP5K1C,TNFRSF1A	2
Nervous System Development and Function	glutamate mediated receptor currents	2.56E-03	PIP5K1C,TNFRSF1A	2
Tissue Morphology	lack of chorion	2.56E-03	DAB2,HNF4A	2
Skeletal and Muscular System Development and Function	mitogenesis of smooth muscle cells	2.56E-03	HBEGF,TGFB1	2
Cell Cycle	mitogenesis of smooth muscle cells	2.56E-03	HBEGF,TGFB1	2
Cardiovascular System Development and Function	morphology of endothelial cell lines	2.56E-03	PECAM1,TGFB1	2
Cell Morphology	morphology of endothelial cell lines	2.56E-03	PECAM1,TGFB1	2
Tissue Development	cartilage development	2.57E-03	CSGALNACT1,CYR61,FRZB,HBEGF,ZEB1	5
Skeletal and Muscular System Development and Function	cartilage development	2.57E-03	CSGALNACT1,CYR61,FRZB,HBEGF,ZEB1	5
Tissue Development	cell-cell contact	2.57E-03	CD93,CYR61,PIP5K1C,PVRL3,TGFB1	5
Cell-To-Cell Signaling and Interaction	cell-cell contact	2.57E-03	CD93,CYR61,PIP5K1C,PVRL3,TGFB1	5
Developmental Disorder	muscular hypertrophy	2.60E-03	ANGPT2,CREM (includes EG:12916),HBEGF,LMCD1,MMP9,NOS3	6

Skeletal and Muscular Disorders	muscular hypertrophy	2.60E-03	ANGPT2,CREM (includes EG:12916),HBEGF,LMCD1,MMP9,NOS3	6
Cell Death and Survival	cell death of lung cells	2.67E-03	IRAK3,MMP9,TGFB1	3
Cardiovascular Disease	formation of thrombus	2.67E-03	PECAM1,THBD,TNFRSF1A	3
Organismal Injury and Abnormalities	formation of thrombus	2.67E-03	PECAM1,THBD,TNFRSF1A	3
Cellular Function and Maintenance	function of endothelial cells	2.67E-03	ATP2A3,ITGA5,NOS3	3
Cardiovascular Disease	myocarditis	2.67E-03	KLF2,MMP9,TGFB1	3
Inflammatory Disease	myocarditis	2.67E-03	KLF2,MMP9,TGFB1	3
Cellular Growth and Proliferation	proliferation of intestinal cells	2.67E-03	CDKN1A,HBEGF,MMP9	3
Cell Morphology	size of skeletal muscle cells	2.67E-03	CDKN1A,DYSF,FLNC	3
Skeletal and Muscular System Development and Function	size of skeletal muscle cells	2.67E-03	CDKN1A,DYSF,FLNC	3
Gastrointestinal Disease	Crohn's disease	2.68E-03	GRK5,MMP9,NOS3,PDE4B,SNX20,TNFRSF1A	6
Inflammatory Disease	Crohn's disease	2.68E-03	GRK5,MMP9,NOS3,PDE4B,SNX20,TNFRSF1A	6
Cardiovascular System Development and Function	contractility of heart	2.68E-03	ASPH,CREM (includes EG:12916),GRK5,HBEGF,MMP9,NOS3	6
Organ Morphology	contractility of heart	2.68E-03	ASPH,CREM (includes EG:12916),GRK5,HBEGF,MMP9,NOS3	6
Organismal Development	morphology of lung	2.75E-03	CDKN1A,HBEGF,KLF2,NOS3,PECAM1,TGFB1	6
Tissue Development	morphology of lung	2.75E-03	CDKN1A,HBEGF,KLF2,NOS3,PECAM1,TGFB1	6
Embryonic Development	morphology of lung	2.75E-03	CDKN1A,HBEGF,KLF2,NOS3,PECAM1,TGFB1	6
Organ Development	morphology of lung	2.75E-03	CDKN1A,HBEGF,KLF2,NOS3,PECAM1,TGFB1	6
Organ Morphology	morphology of lung	2.75E-03	CDKN1A,HBEGF,KLF2,NOS3,PECAM1,TGFB1	6
Respiratory System Development and Function	morphology of lung	2.75E-03	CDKN1A,HBEGF,KLF2,NOS3,PECAM1,TGFB1	6
Tissue Development	accumulation of leukocytes	2.75E-03	ANGPT2,HDC,ITGA5,KLF2,MMP9,TGFB1,TNFRSF1A	7
Hematological System Development and Function	accumulation of leukocytes	2.75E-03	ANGPT2,HDC,ITGA5,KLF2,MMP9,TGFB1,TNFRSF1A	7
Immune Cell Trafficking	accumulation of leukocytes	2.75E-03	ANGPT2,HDC,ITGA5,KLF2,MMP9,TGFB1,TNFRSF1A	7
Inflammatory Response	accumulation of leukocytes	2.75E-03	ANGPT2,HDC,ITGA5,KLF2,MMP9,TGFB1,TNFRSF1A	7
Cardiovascular Disease	cardiomyopathy	2.75E-03	ANGPT2,BIN1,DYSF,GRK5,PDE4B,RCAN1,TGFB1	7
Immunological Disease	delayed hypersensitive reaction	2.76E-03	ANGPT2,IFITM1,MMP9,TGFB1,THBD	5

Tissue Morphology	abnormal morphology of embryonic tissue	2.80E-03	APBB2,DAB2,HNF4A,ITGA5,KLF2,SERPINH1,SLC20A1,SMO,TGFB1,THBD,TNFRSF1A,UGCG	12
Cancer	hyperplasia of epidermis	2.89E-03	SMO,TGFB1,TNFRSF1A	3
Dermatological Diseases and Conditions	hyperplasia of epidermis	2.89E-03	SMO,TGFB1,TNFRSF1A	3
Inflammatory Response	inflammation of heart	2.89E-03	NOS3,TGFB1,TNFRSF1A	3
Digestive System Development and Function	development of digestive system	2.91E-03	ASPH,ITGA5,MMP9,PVRL3,SLC20A1,SMO,TGFB1,TNFRSF1A,VWF	9
Cellular Movement	cell movement of endothelial cell lines	2.98E-03	ANGPT2,ANGPTL4,CYR61,TGFB1	4
Cardiovascular System Development and Function	cell movement of endothelial cell lines	2.98E-03	ANGPT2,ANGPTL4,CYR61,TGFB1	4
Cellular Development	proliferation of endocrine cells	2.98E-03	ANGPT2,CREM (includes EG:12916),RAP1GAP,TGFB1	4
Cellular Growth and Proliferation	proliferation of endocrine cells	2.98E-03	ANGPT2,CREM (includes EG:12916),RAP1GAP,TGFB1	4
Molecular Transport	release of nitric oxide	2.98E-03	ANGPT2,NOS3,TGFB1,THBD	4
Small Molecule Biochemistry	release of nitric oxide	2.98E-03	ANGPT2,NOS3,TGFB1,THBD	4
Cell Signaling	release of nitric oxide	2.98E-03	ANGPT2,NOS3,TGFB1,THBD	4
Cancer	tumorigenesis of tumor cell lines	3.06E-03	CAMK2N2,CDKN1A,CYR61,TGFB1,THBD	5
Cell Death and Survival	apoptosis of neurons	3.07E-03	CDKN1A,CHL1,CREM (includes EG:12916),FAIM2,HAP1 (includes EG:15114),MMP9,STXBP1,TGFB1,TNFRSF1A	9
Cell-To-Cell Signaling and Interaction	activation of myofibroblasts	3.12E-03	HNF4A,TGFB1	2
Skeletal and Muscular System Development and Function	activation of myofibroblasts	3.12E-03	HNF4A,TGFB1	2
Cardiovascular System Development and Function	adhesion of blood vessel	3.12E-03	NOS3,VWF	2
Inflammatory Response	allergic inflammation	3.12E-03	MMP9,TGFB1	2
Inflammatory Disease	allergic inflammation	3.12E-03	MMP9,TGFB1	2
Immunological Disease	allergic inflammation	3.12E-03	MMP9,TGFB1	2
Cellular Growth and Proliferation	antiproliferative response of cells	3.12E-03	CDKN1A,HBEGF	2
Cell Cycle	antiproliferative response of cells	3.12E-03	CDKN1A,HBEGF	2
Cellular Development	epithelial-mesenchymal transition of kidney cell lines	3.12E-03	TGFB1,ZEB1	2
Gastrointestinal Disease	gastric ulcer	3.12E-03	MMP9,TGFB1	2
Organismal Injury and Abnormalities	gastric ulcer	3.12E-03	MMP9,TGFB1	2
Dermatological Diseases and Conditions	gastric ulcer	3.12E-03	MMP9,TGFB1	2

Tissue Development	adhesion of cancer cells	3.12E-03	ADAM9,ITGA5,VWF	3
Cell-To-Cell Signaling and Interaction	adhesion of cancer cells	3.12E-03	ADAM9,ITGA5,VWF	3
Cellular Compromise	adhesion of cancer cells	3.12E-03	ADAM9,ITGA5,VWF	3
Tumor Morphology	adhesion of cancer cells	3.12E-03	ADAM9,ITGA5,VWF	3
Tissue Development	adhesion of fibroblast cell lines	3.12E-03	ITGA5,PLXND1,TGFB1	3
Cell-To-Cell Signaling and Interaction	adhesion of fibroblast cell lines	3.12E-03	ITGA5,PLXND1,TGFB1	3
Connective Tissue Development and Function	adhesion of fibroblast cell lines	3.12E-03	ITGA5,PLXND1,TGFB1	3
Cellular Growth and Proliferation	colony formation of lung cancer cell lines	3.12E-03	CDKN1A,CYR61,ZEB1	3
Cellular Assembly and Organization	quantity of smooth muscle cells	3.12E-03	ANGPT2,CDKN1A,KLF2	3
Cellular Function and Maintenance	quantity of smooth muscle cells	3.12E-03	ANGPT2,CDKN1A,KLF2	3
Skeletal and Muscular System Development and Function	quantity of smooth muscle cells	3.12E-03	ANGPT2,CDKN1A,KLF2	3
Tissue Morphology	quantity of smooth muscle cells	3.12E-03	ANGPT2,CDKN1A,KLF2	3
Cancer	tumorigenesis of papilloma	3.12E-03	CDKN1A,TGFB1,TNFRSF1A	3
Dermatological Diseases and Conditions	tumorigenesis of papilloma	3.12E-03	CDKN1A,TGFB1,TNFRSF1A	3
Respiratory System Development and Function	morphology of respiratory system	3.22E-03	ASPH,CDKN1A,HBEGF,KLF2,NOS3,PECAM1,TGFB1	7
Cardiovascular Disease	hypertrophy of heart	3.23E-03	ANGPT2,CDKN1A,HBEGF,NOS3,RCAN1,TGFB1	6
Developmental Disorder	hypertrophy of heart	3.23E-03	ANGPT2,CDKN1A,HBEGF,NOS3,RCAN1,TGFB1	6
Cellular Movement	cell movement of lymphocytes	3.29E-03	HDC,ITGA5,KLF2,MMP9,PECAM1,PIP5K1C,RAP1GAP, TGFB1,TNFRSF1A	9
Hematological System Development and Function	cell movement of lymphocytes	3.29E-03	HDC,ITGA5,KLF2,MMP9,PECAM1,PIP5K1C,RAP1GAP, TGFB1,TNFRSF1A	9
Immune Cell Trafficking	cell movement of lymphocytes	3.29E-03	HDC,ITGA5,KLF2,MMP9,PECAM1,PIP5K1C,RAP1GAP, TGFB1,TNFRSF1A	9
Respiratory Disease	acute respiratory distress syndrome	3.37E-03	ANGPT2,TGFB1,VWF	3
Inflammatory Disease	acute respiratory distress syndrome	3.37E-03	ANGPT2,TGFB1,VWF	3
Organismal Injury and Abnormalities	acute respiratory distress syndrome	3.37E-03	ANGPT2,TGFB1,VWF	3
Cardiovascular Disease	dysfunction of heart	3.37E-03	ITGA5,NOS3,TGFB1	3
Organismal Injury and Abnormalities	dysfunction of heart	3.37E-03	ITGA5,NOS3,TGFB1	3
Cell Death and Survival	apoptosis of ovarian cancer cell lines	3.42E-03	CAMK2N2,CDKN1A,KLF2,UGCG	4

Small Molecule Biochemistry	incorporation of thymidine	3.42E-03	CDKN1A,CREM (includes EG:12916),HBEGF,TGFB1	4
DNA Replication, Recombination, and Repair	incorporation of thymidine	3.42E-03	CDKN1A,CREM (includes EG:12916),HBEGF,TGFB1	4
Nucleic Acid Metabolism	incorporation of thymidine	3.42E-03	CDKN1A,CREM (includes EG:12916),HBEGF,TGFB1 ADAM9,ANGPT2,BIN1,CDKN1A,CHL1,CYR61,DAB2,E PHB4,FLNC,FRZB,FSCN1 (includes EG:14086),GRASP,HBEGF,HNF4A,IRAK3,ITGA5,MMP 9,NES,NOS3,PECAM1,RFTN1,SMO,TGFB1,THBD,TNF RSF1A,TSHZ3,TUBA1A,ZBTB32,ZEB1	4
Cellular Development Cellular Assembly and Organization	differentiation of cells formation of filopodia	3.46E-03 3.49E-03	CYR61,PVRL3,TGFB1,TM4SF1,TNFRSF1A	29 5
Cellular Function and Maintenance	formation of filopodia	3.49E-03	CYR61,PVRL3,TGFB1,TM4SF1,TNFRSF1A	5
Cell Morphology	formation of filopodia	3.49E-03	CYR61,PVRL3,TGFB1,TM4SF1,TNFRSF1A	5
Inflammatory Response	inflammatory response	3.50E-03	ANGPT2,CDKN1A,HNF4A,IRAK3,LRRK2,MMP9,NOS3, NPW,PDE4B,PIP5K1C,RAP1GAP,SEMA7A,TGFB1,TNF RSF1A CDKN1A,CREM (includes EG:12916),DYSF,NOS3,TGFB1,THBD,TNFRSF1A,WISP 1	14 8
Cell Death and Survival Cellular Assembly and Organization	cell death of muscle cells outgrowth of neurites	3.55E-03 3.57E-03	APBB2,CDKN1A,CHL1,GRK5,HAP1 (includes EG:15114),LRRK2,RAP1GAP,SEMA7A,TUBA1A	9 9
Cell Morphology Nervous System Development and Function	outgrowth of neurites outgrowth of neurites	3.57E-03 3.57E-03	APBB2,CDKN1A,CHL1,GRK5,HAP1 (includes EG:15114),LRRK2,RAP1GAP,SEMA7A,TUBA1A	9 9
Cell Death and Survival	cell death of lymphoma cell lines	3.59E-03	CDKN1A,PDE4B,RAP1GAP,TGFB1,TNFRSF1A,UGCG ANGPTL4,CDKN1A,CHL1,DOK1,MMP9,SMO,TNFRSF1 A,TUBA1A	6 8
Cancer	sarcoma	3.68E-03	CDKN1A,ELMO1,HBEGF,MMP9,NES,TNFRSF1A	6
Cancer	neuroepithelial tumor	3.68E-03	CDKN1A,ELMO1,HBEGF,MMP9,NES,TNFRSF1A	6
Cardiovascular Disease	cardiomyopathy of heart	3.72E-03	GRK5,RCAN1	2
Cellular Movement Nervous System Development and Function	chemotaxis of nervous tissue cell lines chemotaxis of nervous tissue cell lines	3.72E-03 3.72E-03	ANGPT2,TGFB1	2 2
Cellular Development Hepatic System Development and Function	differentiation of hepatocytes differentiation of hepatocytes	3.72E-03 3.72E-03	FRZB,HNF4A	2 2
Cellular Development	epithelial-mesenchymal transition of epithelial cell lines	3.72E-03	TGFB1,ZEB1	2
Cellular Movement Embryonic Development	invasion of bladder cancer cell lines morphology of visceral endoderm	3.72E-03 3.72E-03	DAB2,TGFB1	2 2
Tissue Morphology	morphology of visceral endoderm	3.72E-03	DAB2,SERPINH1	2
Amino Acid Metabolism	synthesis of essential amino acids	3.72E-03	NOS3,TGFB1	2
Small Molecule Biochemistry	synthesis of essential amino acids	3.72E-03	NOS3,TGFB1	2

Embryonic Development	apoptosis of embryonic cells	3.74E-03	ITGA5,PLCD3,SMO,TGFB1	4
Cell Death and Survival	apoptosis of embryonic cells	3.74E-03	ITGA5,PLCD3,SMO,TGFB1	4
Cardiovascular Disease Developmental Disorder	hypertrophy of heart ventricle	3.74E-03	ANGPT2,CREM (includes EG:12916),NOS3,RCAN1	4
Cellular Movement	Lymphocyte migration	3.74E-03	ANGPT2,CREM (includes EG:12916),NOS3,RCAN1 HDC,ITGA5,KLF2,PECAM1,PIP5K1C,RAP1GAP,TGFB1, TNFRSF1A	8
Hematological System Development and Function	Lymphocyte migration	3.82E-03	HDC,ITGA5,KLF2,PECAM1,PIP5K1C,RAP1GAP,TGFB1, TNFRSF1A	8
Immune Cell Trafficking	Lymphocyte migration	3.82E-03	HDC,ITGA5,KLF2,PECAM1,PIP5K1C,RAP1GAP,TGFB1, TNFRSF1A	8
Cardiovascular System Development and Function	neovascularization	3.85E-03	ADAM9,CYR61,MMP9,NOS3,TGFB1	5
Renal and Urological Disease	interstitial fibrosis of kidney	3.88E-03	NOS3,TGFB1,TNFRSF1A	3
Organismal Injury and Abnormalities	interstitial fibrosis of kidney	3.88E-03	NOS3,TGFB1,TNFRSF1A	3
Cellular Function and Maintenance	engulfment of cells	3.89E-03	BIN1,CD93,DAB2,ELMO1,KLF2,PECAM1,PIP5K1C,TGF B1	8
Renal and Urological Disease	end stage renal disease	3.91E-03	NOS3,PDE4B,TGFB1,TNFRSF1A	4
Cardiovascular System Development and Function	proliferation of endothelial cell lines	4.08E-03	ADAMTS1,CDKN1A,TGFB1,TNFRSF1A	4
Cellular Development	proliferation of endothelial cell lines	4.08E-03	ADAMTS1,CDKN1A,TGFB1,TNFRSF1A	4
Cellular Growth and Proliferation	proliferation of endothelial cell lines	4.08E-03	ADAMTS1,CDKN1A,TGFB1,TNFRSF1A ANGPT2,CDKN1A,HDC,ITGA5,KLF2,MMP9,TGFB1,TN FRSF1A	4
Tissue Development	accumulation of cells	4.11E-03	FRSF1A	8
Cellular Function and Maintenance	clearance of cells	4.16E-03	ELMO1,HDC,PECAM1	3
Cell Death and Survival	clearance of cells	4.16E-03	ELMO1,HDC,PECAM1	3
Cancer	hyperplasia	4.22E-03	CDKN1A,CP,CYR61,DOK1,HBEGF,MMP9,NOS3,RANB P1,SMO,TGFB1,TNFRSF1A,ZBTB32	12
Cellular Movement	cell movement of connective tissue cells	4.28E-03	ANGPT2,CDKN1A,CYR61,HBEGF,NOS3,TGFB1	6
Cellular Movement	cell movement of myeloid cells	4.31E-03	ANGPT2,CDKN1A,LRRK2,MMP9,PDE4B,PECAM1,PIP 5K1C,PLXND1,ST3GAL4,TGFB1,TNFRSF1A	11
Hematological System Development and Function	cell movement of myeloid cells	4.31E-03	ANGPT2,CDKN1A,LRRK2,MMP9,PDE4B,PECAM1,PIP 5K1C,PLXND1,ST3GAL4,TGFB1,TNFRSF1A	11
Immune Cell Trafficking	cell movement of myeloid cells	4.31E-03	ANGPT2,CDKN1A,LRRK2,MMP9,PDE4B,PECAM1,PIP 5K1C,PLXND1,ST3GAL4,TGFB1,TNFRSF1A	11
Cell Death and Survival	apoptosis of tumor cell lines	4.35E-03	ANGPT2,CAMK2N2,CDKN1A,CREM (includes EG:12916),CYR61,DAB2,EPHB4,HAP1 (includes EG:15114),HBEGF,KLF2,MMP9,NOS3,PDE4B,PECAM 1,ST3GAL1,TGFB1,TNFRSF1A,UGCG,ZEB1	19

Cell Death and Survival	apoptosis of renal tubule	4.38E-03	LRRK2,NOS3	2
Renal and Urological				
Disease	damage of tubulointerstitium	4.38E-03	HBEGF,TGFB1	2
Organismal Injury and				
Abnormalities	damage of tubulointerstitium	4.38E-03	HBEGF,TGFB1	2
Organismal Functions	healing of bone	4.38E-03	CYR61,TNFRSF1A	2
Cellular Movement	invasion of melanoma cells	4.38E-03	MMP9,TGFB1	2
Cancer	invasion of melanoma cells	4.38E-03	MMP9,TGFB1	2
Tumor Morphology	invasion of melanoma cells	4.38E-03	MMP9,TGFB1	2
Tissue Morphology	lack of allantois	4.38E-03	DAB2,HNF4A	2
Tissue Morphology	lack of amnion	4.38E-03	DAB2,HNF4A	2
Renal and Urological				
Disease	microalbuminuria	4.38E-03	THBD,VWF	2
Metabolic Disease	microalbuminuria	4.38E-03	THBD,VWF	2
Renal and Urological				
Disease	minimal change nephrotic syndrome	4.38E-03	CDKN1A,TGFB1	2
Cardiovascular System				
Development and				
Function	neovascularization of choroid	4.38E-03	MMP9,NOS3	2
Organismal				
Development	neovascularization of choroid	4.38E-03	MMP9,NOS3	2
Visual System				
Development and				
Function	neovascularization of choroid	4.38E-03	MMP9,NOS3	2
Cellular Function and				
Maintenance	permeability of tumor cell lines	4.38E-03	NOS3,THBD	2
Cell Morphology	permeability of tumor cell lines	4.38E-03	NOS3,THBD	2
Cellular Development	proliferation of synovial fibroblasts	4.38E-03	CDKN1A,TGFB1	2
Cellular Growth and				
Proliferation	proliferation of synovial fibroblasts	4.38E-03	CDKN1A,TGFB1	2
Connective Tissue				
Development and				
Function	proliferation of synovial fibroblasts	4.38E-03	CDKN1A,TGFB1	2
Molecular Transport	quantity of nitrite	4.38E-03	NOS3,TNFRSF1A	2
Small Molecule				
Biochemistry	quantity of nitrite	4.38E-03	NOS3,TNFRSF1A	2
Respiratory System				
Development and				
Function	response of airway	4.38E-03	AQP5,GRK5	2
Cellular Movement	cell movement of mononuclear leukocytes	4.39E-03	ANGPT2,HDC,ITGA5,KLF2,MMP9,PECAM1,PIP5K1C,RAP1GAP,TGFB1,TNFRSF1A	10
Hematological System				
Development and				
Function	cell movement of mononuclear leukocytes	4.39E-03	ANGPT2,HDC,ITGA5,KLF2,MMP9,PECAM1,PIP5K1C,RAP1GAP,TGFB1,TNFRSF1A	10
Immune Cell				
Trafficking	cell movement of mononuclear leukocytes	4.39E-03	ANGPT2,HDC,ITGA5,KLF2,MMP9,PECAM1,PIP5K1C,RAP1GAP,TGFB1,TNFRSF1A	10
Organismal				
Development	abnormal morphology of trabecular bone	4.44E-03	IRAK3,MMP9,NOS3,TNFRSF1A	4
Tissue Development	abnormal morphology of trabecular bone	4.44E-03	IRAK3,MMP9,NOS3,TNFRSF1A	4
Embryonic				
Development	abnormal morphology of trabecular bone	4.44E-03	IRAK3,MMP9,NOS3,TNFRSF1A	4

Organ Development	abnormal morphology of trabecular bone	4.44E-03	IRAK3,MMP9,NOS3,TNFRSF1A	4
Organ Morphology	abnormal morphology of trabecular bone	4.44E-03	IRAK3,MMP9,NOS3,TNFRSF1A	4
Skeletal and Muscular System Development and Function	abnormal morphology of trabecular bone	4.44E-03	IRAK3,MMP9,NOS3,TNFRSF1A	4
Connective Tissue Development and Function	abnormal morphology of trabecular bone	4.44E-03	IRAK3,MMP9,NOS3,TNFRSF1A	4
Tissue Morphology	abnormal morphology of vitelline vessel	4.44E-03	ITGA5,SLC20A1,SMO,TGFB1	4
Cell-To-Cell Signaling and Interaction	immune response of tumor cell lines	4.62E-03	CDKN1A,HBEGF,KLF2,TGFB1	4
Inflammatory Response	immune response of tumor cell lines	4.62E-03	CDKN1A,HBEGF,KLF2,TGFB1	4
Cancer	central nervous system tumor	4.78E-03	ADAM9,ELMO1,FRZB,HBEGF,MMP9,NES,SMO,TGFB1,TNFRSF1A	9
Neurological Disease	central nervous system tumor	4.78E-03	ADAM9,ELMO1,FRZB,HBEGF,MMP9,NES,SMO,TGFB1,TNFRSF1A	9
Neurological Disease	Huntington's disease	4.78E-03	CP,ELMO1,EPHB4,HAP1 (includes EG:15114),LMCD1,MYO1B,PCDH7,RANBP1,RAP1GA P,RCAN1,TNFRSF1A,TUBA1A,UGCG	13
Hereditary Disorder	Huntington's disease	4.78E-03	CP,ELMO1,EPHB4,HAP1 (includes EG:15114),LMCD1,MYO1B,PCDH7,RANBP1,RAP1GA P,RCAN1,TNFRSF1A,TUBA1A,UGCG	13
Skeletal and Muscular Disorders	Huntington's disease	4.78E-03	CP,ELMO1,EPHB4,HAP1 (includes EG:15114),LMCD1,MYO1B,PCDH7,RANBP1,RAP1GA P,RCAN1,TNFRSF1A,TUBA1A,UGCG	13
Cellular Development	proliferation of hepatoma cell lines	4.92E-03	BIN1,CDKN1A,HNF4A,SMO,TGFB1	5
Cellular Growth and Proliferation	proliferation of hepatoma cell lines	4.92E-03	BIN1,CDKN1A,HNF4A,SMO,TGFB1	5
Molecular Transport	release of Ca ²⁺	4.95E-03	ASPH,GRK5,HAP1 (includes EG:15114),PECAM1,RGS16,TGFB1	6
Small Molecule Biochemistry	release of Ca ²⁺	4.95E-03	ASPH,GRK5,HAP1 (includes EG:15114),PECAM1,RGS16,TGFB1	6
Cell Signaling	release of Ca ²⁺	4.95E-03	ASPH,GRK5,HAP1 (includes EG:15114),PECAM1,RGS16,TGFB1	6
Vitamin and Mineral Metabolism	release of Ca ²⁺	4.95E-03	ASPH,GRK5,HAP1 (includes EG:15114),PECAM1,RGS16,TGFB1	6
Cardiovascular System Development and Function	development of vasculature	5.01E-03	CYR61,EGFL7,NOS3,TGFB1	4
Tissue Development	adhesion of monocytes	5.05E-03	ANGPT2,TGFB1,VWF	3
Cell-To-Cell Signaling and Interaction	adhesion of monocytes	5.05E-03	ANGPT2,TGFB1,VWF	3
Hematological System Development and Function	adhesion of monocytes	5.05E-03	ANGPT2,TGFB1,VWF	3

Immune Cell Trafficking	adhesion of monocytes	5.05E-03	ANGPT2,TGFB1,VWF	3
Inflammatory Response	adhesion of monocytes	5.05E-03	ANGPT2,TGFB1,VWF	3
Cell Cycle Embryonic Development	arrest in G1 phase of tumor cell lines	5.06E-03	CDKN1A,CREM (includes EG:12916),CYR61,ITGA5,TGFB1	5
Cell Death and Survival	apoptosis of mesenchymal cells	5.08E-03	SMO,TGFB1	2
Cell Cycle	arrest in interphase of epithelial cells	5.08E-03	CDKN1A,TGFB1	2
Cell Death and Survival	cell death of pneumocytes	5.08E-03	IRAK3,TGFB1	2
Infectious Disease	infection of endothelial cells	5.08E-03	CD93,IFITM1	2
Organismal Survival	morbidity	5.08E-03	MMP9,TNFRSF1A	2
Cellular Development	proliferation of gamma-delta T lymphocytes	5.08E-03	KLF2,TGFB1	2
Cellular Growth and Proliferation	proliferation of gamma-delta T lymphocytes	5.08E-03	KLF2,TGFB1	2
Hematological System Development and Function	proliferation of gamma-delta T lymphocytes	5.08E-03	KLF2,TGFB1	2
Protein Synthesis	quantity of enzyme	5.21E-03	DYSF,NOS3,TGFB1,TNFRSF1A	4
Cancer	colon cancer	5.24E-03	ADAMTS1,ANXA4,CDKN1A,EGFL7,FSCN1 (includes EG:14086),HNF4A,IFITM1,PVRL3,SMO,TGFB1,WISP1	11
Gastrointestinal Disease	colon cancer	5.24E-03	ADAMTS1,ANXA4,CDKN1A,EGFL7,FSCN1 (includes EG:14086),HNF4A,IFITM1,PVRL3,SMO,TGFB1,WISP1	11
Cancer	brain tumor	5.36E-03	ADAM9,ELMO1,FRZB,MMP9,NES,SMO,TGFB1,TNFRSF1A	8
Neurological Disease	brain tumor	5.36E-03	ADAM9,ELMO1,FRZB,MMP9,NES,SMO,TGFB1,TNFRSF1A	8
Renal and Urological System Development and Function	abnormal morphology of kidney	5.37E-03	ADAMTS1,EHD3,LRRK2,NOS3,TNFRSF1A	5
Organ Morphology	abnormal morphology of kidney	5.37E-03	ADAMTS1,EHD3,LRRK2,NOS3,TNFRSF1A	5
Organ Morphology	abnormal morphology of Peyer's patches	5.38E-03	IRAK3,TGFB1,TNFRSF1A	3
Lymphoid Tissue Structure and Development	abnormal morphology of Peyer's patches	5.38E-03	IRAK3,TGFB1,TNFRSF1A	3
Tissue Morphology	abnormal morphology of Peyer's patches	5.38E-03	IRAK3,TGFB1,TNFRSF1A	3
Digestive System Development and Function	abnormal morphology of Peyer's patches	5.38E-03	IRAK3,TGFB1,TNFRSF1A	3
Gene Expression	binding of synthetic promoter	5.38E-03	CDKN1A,CREM (includes EG:12916),TGFB1	3
Cellular Development	differentiation of megakaryocytes	5.38E-03	MMP9,PECAM1,TGFB1	3

Hematological System				
Development and				
Function	differentiation of megakaryocytes	5.38E-03	MMP9,PECAM1,TGFB1	3
Hematopoiesis	differentiation of megakaryocytes	5.38E-03	MMP9,PECAM1,TGFB1	3
Cardiovascular System				
Development and				
Function	quantity of blood vessel	5.38E-03	ADAMTS1,NOS3,TGFB1	3
Organismal				
Development	quantity of blood vessel	5.38E-03	ADAMTS1,NOS3,TGFB1	3
Tissue Morphology	quantity of blood vessel	5.38E-03	ADAMTS1,NOS3,TGFB1	3
Tissue Development	accumulation of granulocytes	5.42E-03	HDC,ITGA5,MMP9,TNFRSF1A	4
Hematological System				
Development and				
Function	accumulation of granulocytes	5.42E-03	HDC,ITGA5,MMP9,TNFRSF1A	4
Immune Cell				
Trafficking	accumulation of granulocytes	5.42E-03	HDC,ITGA5,MMP9,TNFRSF1A	4
Inflammatory				
Response	accumulation of granulocytes	5.42E-03	HDC,ITGA5,MMP9,TNFRSF1A	4
Cell-To-Cell Signaling				
and Interaction				
	activation of blood platelets	5.42E-03	NOS3,PECAM1,THBD,VWF	4
Hematological System				
Development and				
Function	activation of blood platelets	5.42E-03	NOS3,PECAM1,THBD,VWF	4
Inflammatory				
Response	activation of blood platelets	5.42E-03	NOS3,PECAM1,THBD,VWF	4
Organismal Functions	activation of blood platelets	5.42E-03	NOS3,PECAM1,THBD,VWF	4
Cellular Movement	cell movement of carcinoma cell lines	5.42E-03	CYR61,RAP1GAP,TGFB1,WISP1	4
Developmental				
Disorder	cleft palate syndrome	5.42E-03	ASPH,CDKN1A,H19,TGFB1	4
Gastrointestinal				
Disease	cleft palate syndrome	5.42E-03	ASPH,CDKN1A,H19,TGFB1	4
Organismal Injury and				
Abnormalities	cytosis	5.42E-03	GRK5,LRRK2,MMP9,PDE4B,SPARCL1,TGFB1,TUBA1A	7
Cell Morphology	shape change of neurites	5.44E-03	CDKN1A,CHL1,ELMO1,GRASP,TGFB1,UGCG	6
Cancer	prostate cancer	5.58E-03	ADAM9,ANO6,ASPH,CDKN1A,EGFL7,FLNC,MMP9,NE	11
Reproductive System			S,NOS3,TUBA1A,TUBB6	
Disease	prostate cancer	5.58E-03	ADAM9,ANO6,ASPH,CDKN1A,EGFL7,FLNC,MMP9,NE	11
			S,NOS3,TUBA1A,TUBB6	
Protein Synthesis	quantity of protein in blood	5.58E-03	ANGPTL4,DOK1,DYSF,HAP1 (includes EG:15114),HDC,MMP9,NOS3,RCAN1,TGFB1,THBD,TNFRSF1A	11
Cell Death and Survival	anoikis	5.64E-03	DAB2,ITGA5,TGFB1,ZEB1	4
Cellular Development	proliferation of brain cancer cell lines	5.68E-03	CDKN1A,CYR61,HNF4A,MMP9,TGFB1	5
Cellular Growth and				
Proliferation	proliferation of brain cancer cell lines	5.68E-03	CDKN1A,CYR61,HNF4A,MMP9,TGFB1	5

Hematological System Development and Function	quantity of neutrophils	5.70E-03	DOK1,HDC,IRAK3,MMP9,PDE4B,TNFRSF1A	6
Inflammatory Response	quantity of neutrophils	5.70E-03	DOK1,HDC,IRAK3,MMP9,PDE4B,TNFRSF1A	6
Tissue Morphology	quantity of neutrophils	5.70E-03	DOK1,HDC,IRAK3,MMP9,PDE4B,TNFRSF1A	6
Cell Morphology	morphology of Purkinje cells	5.71E-03	CP,FAIM2,SPARCL1	3
Organ Morphology	morphology of Purkinje cells	5.71E-03	CP,FAIM2,SPARCL1	3
Nervous System Development and Function	morphology of Purkinje cells	5.71E-03	CP,FAIM2,SPARCL1	3
Renal and Urological System Development and Function	proliferation of glomerular cells	5.71E-03	ANGPT2,CDKN1A,TGFB1	3
Cellular Development	proliferation of glomerular cells	5.71E-03	ANGPT2,CDKN1A,TGFB1	3
Cellular Growth and Proliferation	proliferation of glomerular cells	5.71E-03	ANGPT2,CDKN1A,TGFB1	3
Cellular Development	differentiation of osteoblasts	5.83E-03	CYR61,FRZB,ITGA5,NOS3,SMO,TGFB1	6
Skeletal and Muscular System Development and Function	differentiation of osteoblasts	5.83E-03	CYR61,FRZB,ITGA5,NOS3,SMO,TGFB1	6
Cell Death and Survival	apoptosis of hepatic stellate cells	5.83E-03	MMP9,TGFB1	2
Cell Death and Survival	apoptosis of macrophage cancer cell lines	5.83E-03	TGFB1,TNFRSF1A	2
Endocrine System Disorders	autoimmune thyroiditis	5.83E-03	TGFB1,TNFRSF1A	2
Immunological Disease	autoimmune thyroiditis	5.83E-03	TGFB1,TNFRSF1A	2
Amino Acid Metabolism	catabolism of basic amino acid	5.83E-03	HDC,NOS3	2
Small Molecule Biochemistry	catabolism of basic amino acid	5.83E-03	HDC,NOS3	2
Cellular Movement	chemotaxis of microglia	5.83E-03	LRRK2,TGFB1	2
Hematological System Development and Function	chemotaxis of microglia	5.83E-03	LRRK2,TGFB1	2
Immune Cell Trafficking	chemotaxis of microglia	5.83E-03	LRRK2,TGFB1	2
Inflammatory Response	chemotaxis of microglia	5.83E-03	LRRK2,TGFB1	2
Nervous System Development and Function	chemotaxis of microglia	5.83E-03	LRRK2,TGFB1	2
Organismal Development	development of cerebellar cortex	5.83E-03	FAIM2,SMO	2
Tissue Development	development of cerebellar cortex	5.83E-03	FAIM2,SMO	2
Embryonic Development	development of cerebellar cortex	5.83E-03	FAIM2,SMO	2
Organ Development	development of cerebellar cortex	5.83E-03	FAIM2,SMO	2

Nervous System					
Development and Function					
	development of cerebellar cortex	5.83E-03	FAIM2,SMO		2
Cardiovascular Disease					
Organismal Injury and Abnormalities					
	fibrosis of blood vessel	5.83E-03	NOS3,TNFRSF1A		2
	fibrosis of blood vessel	5.83E-03	NOS3,TNFRSF1A		2
Cell Death and Survival					
Small Molecule					
Biochemistry	homeostasis of acylglycerol	5.83E-03	ANGPTL4,HNF4A		2
Lipid Metabolism	homeostasis of acylglycerol	5.83E-03	ANGPTL4,HNF4A		2
Cellular Assembly and Organization					
	organization of cellular protrusions	5.83E-03	CHL1,FSCN1 (includes EG:14086)		2
Cellular Function and Maintenance					
	organization of cellular protrusions	5.83E-03	CHL1,FSCN1 (includes EG:14086)		2
Cellular Movement					
	recruitment of muscle cells	5.83E-03	NOS3,TGFB1		2
Cell-To-Cell Signaling and Interaction					
	recruitment of muscle cells	5.83E-03	NOS3,TGFB1		2
Cellular Function and Maintenance					
	regulation of connective tissue cells	5.83E-03	CYR61,TGFB1		2
Cardiovascular System					
Development and Function					
	tubulogenesis of endothelial cells	5.83E-03	CYR61,MMP9		2
Organismal Development					
	tubulogenesis of endothelial cells	5.83E-03	CYR61,MMP9		2
Tissue Development					
Embryonic					
	tubulogenesis of endothelial cells	5.83E-03	CYR61,MMP9		2
	tubulogenesis of endothelial cells	5.83E-03	CYR61,MMP9		2
Cellular Development					
	tubulogenesis of endothelial cells	5.83E-03	CYR61,MMP9		2
Tissue Development					
	adhesion of granulocytes	5.85E-03	ANGPT2,ITGA5,PECAM1,THBD		4
Cell-To-Cell Signaling and Interaction					
	adhesion of granulocytes	5.85E-03	ANGPT2,ITGA5,PECAM1,THBD		4
Hematological System					
Development and Function					
	adhesion of granulocytes	5.85E-03	ANGPT2,ITGA5,PECAM1,THBD		4
Immune Cell					
Trafficking					
	adhesion of granulocytes	5.85E-03	ANGPT2,ITGA5,PECAM1,THBD		4
			CDKN1A,KLF2,PECAM1,RCAN1,ST3GAL1,TGFB1,TNFRSF1A		7
Cell Death and Survival					
	apoptosis of T lymphocytes	5.97E-03			7
Tissue Development					
	accumulation of myeloid cells	6.01E-03	ANGPT2,HDC,ITGA5,MMP9,TNFRSF1A		5
Hematological System					
Development and Function					
	accumulation of myeloid cells	6.01E-03	ANGPT2,HDC,ITGA5,MMP9,TNFRSF1A		5
Immune Cell					
Trafficking					
	accumulation of myeloid cells	6.01E-03	ANGPT2,HDC,ITGA5,MMP9,TNFRSF1A		5
Inflammatory Response					
	accumulation of myeloid cells	6.01E-03	ANGPT2,HDC,ITGA5,MMP9,TNFRSF1A		5

Organismal Injury and Abnormalities	edema	6.03E-03	ANGPT2,CD93,H19,IRAK3,KLF2,NOS3,PECAM1,TGFB1	8
Cell Death and Survival	cell viability of lymphoma cell lines	6.06E-03	CDKN1A,HBEGF,TGFB1	3
Renal and Urological Disease	nephrosis	6.06E-03	CDKN1A,PDE4B,TGFB1	3
Molecular Transport	concentration of fatty acid	6.09E-03	ANGPTL4,HSD3B7,MMP9,NOS3,SLCO2A1,TGFB1,TNFRSF1A	7
Small Molecule Biochemistry	concentration of fatty acid	6.09E-03	ANGPTL4,HSD3B7,MMP9,NOS3,SLCO2A1,TGFB1,TNFRSF1A	7
Lipid Metabolism	concentration of fatty acid	6.09E-03	ANGPTL4,HSD3B7,MMP9,NOS3,SLCO2A1,TGFB1,TNFRSF1A	7
Gastrointestinal Disease	Inflammatory Bowel Disease	6.23E-03	GRK5,MMP9,NOS3,PDE4B,SNX20,TGFB1,THBD,TNFRSF1A	8
Inflammatory Disease	Inflammatory Bowel Disease	6.23E-03	GRK5,MMP9,NOS3,PDE4B,SNX20,TGFB1,THBD,TNFRSF1A	8
Cellular Movement	chemotaxis of connective tissue cells	6.42E-03	ANGPT2,NOS3,TGFB1	3
Organismal Injury and Abnormalities	development of lesion	6.42E-03	CDKN1A,MMP9,TNFRSF1A	3
Cancer	fibrosarcoma	6.42E-03	CDKN1A,CHL1,TNFRSF1A	3
Hematological System Development and Function	quantity of myeloid cells	6.44E-03	CDKN1A,DOK1,HDC,IRAK3,MMP9,PDE4B,SLC20A1,TNFRSF1A	8
Tissue Morphology	quantity of myeloid cells	6.44E-03	CDKN1A,DOK1,HDC,IRAK3,MMP9,PDE4B,SLC20A1,TNFRSF1A	8
Cellular Development	differentiation of epithelial cells	6.44E-03	CDKN1A,HNF4A,MMP9,SMO,TGFB1,TNFRSF1A,ZEB1	7
Renal and Urological Disease	glomerulonephritis	6.52E-03	CDKN1A,HBEGF,MMP9,PDE4B,TGFB1,TNFRSF1A	6
Inflammatory Response	glomerulonephritis	6.52E-03	CDKN1A,HBEGF,MMP9,PDE4B,TGFB1,TNFRSF1A	6
Inflammatory Disease	glomerulonephritis	6.52E-03	CDKN1A,HBEGF,MMP9,PDE4B,TGFB1,TNFRSF1A	6
Cardiovascular Disease	abdominal aortic aneurysm	6.63E-03	ANGPT2,MMP9	2
Cell Death and Survival	apoptosis of rhabdomyosarcoma cell lines	6.63E-03	CDKN1A,TNFRSF1A	2
Cell Morphology	area of muscle cells	6.63E-03	ANGPT2,TGFB1	2
Skeletal and Muscular System Development and Function	area of muscle cells	6.63E-03	ANGPT2,TGFB1	2
Cell Cycle	arrest in cell cycle progression of lung cell lines	6.63E-03	CDKN1A,TGFB1	2
Respiratory System Development and Function	arrest in cell cycle progression of lung cell lines	6.63E-03	CDKN1A,TGFB1	2
Cellular Development	arrest in growth of lymphoma cell lines	6.63E-03	CDKN1A,TGFB1	2
Cellular Growth and Proliferation	arrest in growth of lymphoma cell lines	6.63E-03	CDKN1A,TGFB1	2
Organismal Development	development of islets of Langerhans	6.63E-03	MMP9,TGFB1	2
Tissue Development	development of islets of Langerhans	6.63E-03	MMP9,TGFB1	2

Embryonic Development	development of islets of Langerhans	6.63E-03	MMP9,TGFB1	2
Organ Development	development of islets of Langerhans	6.63E-03	MMP9,TGFB1	2
Endocrine System Development and Function	development of islets of Langerhans	6.63E-03	MMP9,TGFB1	2
Digestive System Development and Function	development of islets of Langerhans	6.63E-03	MMP9,TGFB1	2
Cardiovascular Disease	development of vascular lesion	6.63E-03	MMP9,TNFRSF1A	2
Organismal Injury and Abnormalities	development of vascular lesion	6.63E-03	MMP9,TNFRSF1A	2
Organismal Development	formation of neural fold	6.63E-03	HAP1 (includes EG:15114),SMO	2
Tissue Development	formation of neural fold	6.63E-03	HAP1 (includes EG:15114),SMO	2
Embryonic Development	formation of neural fold	6.63E-03	HAP1 (includes EG:15114),SMO	2
Inflammatory Response	inflammation of body region	6.63E-03	KLF2,NOS3	2
Cellular Movement	migration of gonadal cells	6.63E-03	ELMO1,TGFB1	2
Reproductive System Development and Function	migration of gonadal cells	6.63E-03	ELMO1,TGFB1	2
Cellular Development	proliferation of intestinal cell lines	6.63E-03	ITGA5,TGFB1	2
Cellular Growth and Proliferation	proliferation of intestinal cell lines	6.63E-03	ITGA5,TGFB1	2
Digestive System Development and Function	proliferation of intestinal cell lines	6.63E-03	ITGA5,TGFB1	2
Skeletal and Muscular System Development and Function	quantity of myofiber	6.63E-03	FLNC,RCAN1	2
Tissue Morphology	quantity of myofiber	6.63E-03	FLNC,RCAN1	2
Cardiovascular System Development and Function	vasoconstriction of artery	6.63E-03	ANGPT2,TGFB1	2
Free Radical Scavenging	synthesis of reactive oxygen species	6.75E-03	ANGPT2,CDKN1A,CYR61,ITGA5,NOS3,PDE2A,PECAM1,TGFB1,TNFRSF1A	9
Cardiovascular System Development and Function	abnormal morphology of ventricular septum	6.79E-03	BIN1,MMP9,NOS3	3
Organ Morphology	abnormal morphology of ventricular septum	6.79E-03	BIN1,MMP9,NOS3	3
Cardiovascular System Development and Function	morphology of right ventricle	6.79E-03	ADAM9,HBEGF,SLCO2A1	3
Organ Morphology	morphology of right ventricle	6.79E-03	ADAM9,HBEGF,SLCO2A1	3

Lymphoid Tissue Structure and Development	quantity of lymphatic system cells	6.94E-03	CDKN1A,DOK1,PECAM1,RFTN1,SLC20A1,TNFRSF1A,ZEB1	7
Tissue Morphology Cellular Movement	quantity of lymphatic system cells	6.94E-03	CDKN1A,DOK1,PECAM1,RFTN1,SLC20A1,TNFRSF1A,ZEB1	7
Connective Tissue Development and Function	migration of fibroblast cell lines	7.03E-03	CDKN1A,HBEGF,ITGA5,KLF2	4
Cardiovascular System Development and Function	cell viability of endothelial cells	7.17E-03	ANGPT2,CYR61,DAB2	3
Cell Death and Survival	cell viability of endothelial cells	7.17E-03	ANGPT2,CYR61,DAB2	3
Cardiovascular System Development and Function	contractility of ventricular myocardium	7.17E-03	HBEGF,MMP9,NOS3	3
Organ Morphology	contractility of ventricular myocardium	7.17E-03	HBEGF,MMP9,NOS3	3
Skeletal and Muscular System Development and Function	contractility of ventricular myocardium	7.17E-03	HBEGF,MMP9,NOS3	3
Tissue Morphology Connective Tissue Development and Function	quantity of brown adipose tissue	7.17E-03	CDKN1A,DOK1,HDC	3
Function	quantity of brown adipose tissue	7.17E-03	CDKN1A,DOK1,HDC	3
Cancer Organismal Development	neuroendocrine tumor	7.25E-03	ADAM9,ADAMTS1,CDKN1A,CYR61,FRZB,HBEGF,IFITM1,MMP9,TGFB1	9
Development	abnormal morphology of lung	7.29E-03	KLF2,NOS3,PECAM1,TGFB1	4
Tissue Development Embryonic	abnormal morphology of lung	7.29E-03	KLF2,NOS3,PECAM1,TGFB1	4
Development	abnormal morphology of lung	7.29E-03	KLF2,NOS3,PECAM1,TGFB1	4
Organ Development	abnormal morphology of lung	7.29E-03	KLF2,NOS3,PECAM1,TGFB1	4
Organ Morphology	abnormal morphology of lung	7.29E-03	KLF2,NOS3,PECAM1,TGFB1	4
Respiratory System Development and Function	abnormal morphology of lung	7.29E-03	KLF2,NOS3,PECAM1,TGFB1	4
Function	abnormal morphology of lung	7.29E-03	KLF2,NOS3,PECAM1,TGFB1	4
Tissue Morphology	extraembryonic tissue	7.42E-03	DAB2,HNF4A,ITGA5,KLF2,TGFB1,UGCG	6
Cancer	lung adenocarcinoma	7.47E-03	DOK1,HNF4A,MMP9,THBD,VWF	5
Respiratory Disease	lung adenocarcinoma	7.47E-03	DOK1,HNF4A,MMP9,THBD,VWF	5
Cellular Movement	recruitment of neutrophils	7.47E-03	MMP9,PDE4B,PIP5K1C,TNFRSF1A,VWF	5
Cell-To-Cell Signaling and Interaction	recruitment of neutrophils	7.47E-03	MMP9,PDE4B,PIP5K1C,TNFRSF1A,VWF	5
Hematological System Development and Function	recruitment of neutrophils	7.47E-03	MMP9,PDE4B,PIP5K1C,TNFRSF1A,VWF	5
Immune Cell Trafficking	recruitment of neutrophils	7.47E-03	MMP9,PDE4B,PIP5K1C,TNFRSF1A,VWF	5

Inflammatory Response	recruitment of neutrophils abnormal morphology of lens epithelium	7.47E-03	MMP9,PDE4B,PIP5K1C,TNFRSF1A,VWF	5
Tissue Morphology	epithelium	7.48E-03	CDKN1A,H19	2
Renal and Urological System Development and Function	cell spreading of kidney cell lines	7.48E-03	DAB2,FLNC	2
Cell Morphology	cell spreading of kidney cell lines	7.48E-03	DAB2,FLNC	2
Tissue Development	disruption of intercellular junctions	7.48E-03	CYR61,THBD	2
Cell-To-Cell Signaling and Interaction	disruption of intercellular junctions	7.48E-03	CYR61,THBD	2
Cellular Assembly and Organization	disruption of intercellular junctions	7.48E-03	CYR61,THBD	2
Cellular Compromise	disruption of intercellular junctions	7.48E-03	CYR61,THBD	2
Cellular Compromise	injury of neurons	7.48E-03	ANGPT2,TGFB1	2
Cardiovascular Disease	pericarditis	7.48E-03	TGFB1,TUBA1A	2
Inflammatory Disease	pericarditis	7.48E-03	TGFB1,TUBA1A	2
Cellular Movement	transmigration of tumor cell lines	7.48E-03	PECAM1,RAP1GAP	2
Cell Death and Survival	cell death of motor neurons	7.57E-03	TGFB1,TNFRSF1A,TSHZ3	3
Developmental Disorder	Adams-Oliver syndrome type 2	7.73E-03	DOCK6	1
Organismal Injury and Abnormalities	Adams-Oliver syndrome type 2	7.73E-03	DOCK6	1
Dermatological Diseases and Conditions	Adams-Oliver syndrome type 2	7.73E-03	DOCK6	1
Hereditary Disorder	Camurati-Engelmann disease	7.73E-03	TGFB1	1
Skeletal and Muscular Disorders	Camurati-Engelmann disease Lethal congenital contractural syndrom	7.73E-03	TGFB1	1
Neurological Disease	israeli bedouin type b Lethal congenital contractural syndrom	7.73E-03	PIP5K1C	1
Hereditary Disorder	israeli bedouin type b	7.73E-03	PIP5K1C	1
Neurological Disease	Parkinson disease 8	7.73E-03	LRRK2	1
Hereditary Disorder	Parkinson disease 8	7.73E-03	LRRK2	1
Skeletal and Muscular Disorders	Parkinson disease 8	7.73E-03	LRRK2	1
Developmental Disorder	Russell-Silver syndrome	7.73E-03	H19	1
Hereditary Disorder	Russell-Silver syndrome	7.73E-03	H19	1
Hereditary Disorder	Scott syndrome	7.73E-03	ANO6	1
Hematological Disease	Scott syndrome	7.73E-03	ANO6	1
Cell Morphology	abnormal morphology of type IV fibrocyte	7.73E-03	OTOS	1
Tissue Morphology	abnormal morphology of type IV fibrocyte	7.73E-03	OTOS	1

Connective Tissue Development and Function	abnormal morphology of type IV fibrocyte	7.73E-03	OTOS	1
Tissue Development	accumulation of T lymphoblasts	7.73E-03	TGFB1	1
Hematological System Development and Function	accumulation of T lymphoblasts	7.73E-03	TGFB1	1
Immune Cell Trafficking	accumulation of T lymphoblasts	7.73E-03	TGFB1	1
Inflammatory Response	accumulation of T lymphoblasts	7.73E-03	TGFB1	1
Hematopoiesis	accumulation of T lymphoblasts	7.73E-03	TGFB1	1
Molecular Transport	accumulation of iodide	7.73E-03	SLC5A5	1
Metabolic Disease	aceruloplasminemia	7.73E-03	CP	1
Cell-To-Cell Signaling and Interaction	activation of Th3 cells	7.73E-03	TGFB1	1
Hematological System Development and Function	activation of Th3 cells	7.73E-03	TGFB1	1
Immune Cell Trafficking	activation of Th3 cells	7.73E-03	TGFB1	1
Inflammatory Response	activation of Th3 cells	7.73E-03	TGFB1	1
Small Molecule Biochemistry	activation of doxorubicin	7.73E-03	NOS3	1
Carbohydrate Metabolism	activation of doxorubicin	7.73E-03	NOS3	1
Drug Metabolism	activation of doxorubicin	7.73E-03	NOS3	1
Cell-To-Cell Signaling and Interaction	activation of liver cell lines	7.73E-03	TGFB1	1
Cell-To-Cell Signaling and Interaction	activation of mucosa cells	7.73E-03	CDKN1A	1
Tissue Development	adhesion of cord blood cells	7.73E-03	ITGA5	1
Cell-To-Cell Signaling and Interaction	adhesion of cord blood cells	7.73E-03	ITGA5	1
Tissue Development	aggregation of endothelial cells	7.73E-03	EGFL7	1
Cardiovascular System Development and Function	angiogenesis of papilloma	7.73E-03	TGFB1	1
Cancer	angiogenesis of papilloma	7.73E-03	TGFB1	1
Cell-To-Cell Signaling and Interaction	antibody-dependent cell-mediated cytotoxicity of ovarian cancer cell lines	7.73E-03	HBEGF	1
Inflammatory Response	antibody-dependent cell-mediated cytotoxicity of ovarian cancer cell lines	7.73E-03	HBEGF	1

Category	Term	Count	P-Value	Genes
Organ Morphology Embryonic Development	morphology of skin	4.21E-05	DNASE1L2,EVPL,F2RL1,HR,IRF2,ITGB6,KRT4,LIPH,LMO4	9
Organismal Development	development of presphenoid bone	1.15E-04	LMO4,PHC1	2
Organismal Development	development of presphenoid bone	1.15E-04	LMO4,PHC1	2
Tissue Development Gastrointestinal Disease	development of presphenoid bone	1.15E-04	LMO4,PHC1	2
Organismal Injury and Abnormalities	oral submucous fibrosis	1.46E-04	BARX2,ELF3,KRT19 (includes EG:16669),UBD	4
Organ Morphology	oral submucous fibrosis	1.46E-04	BARX2,ELF3,KRT19 (includes EG:16669),UBD	4
Organ Morphology	morphology of epidermis	2.06E-04	EVPL,F2RL1,HR,IRF2,ITGB6,LMO4	6
Cell Death and Survival Tumor Morphology	apoptosis of mesothelioma cells	2.29E-04	BID,TNFSF10	2
Cell Death and Survival Tumor Morphology	apoptosis of mesothelioma cells	2.29E-04	BID,TNFSF10	2
Cell Death and Survival Tumor Morphology	apoptosis of non-small-cell lung cancer cells	2.29E-04	BID,TNFSF10	2
Cell Death and Survival Tumor Morphology	apoptosis of non-small-cell lung cancer cells	2.29E-04	BID,TNFSF10	2
Energy Production	beta-oxidation of very long chain fatty acid	3.81E-04	ABCD3,SLC27A2	2
Lipid Metabolism Small Molecule Biochemistry	beta-oxidation of very long chain fatty acid	3.81E-04	ABCD3,SLC27A2	2
Cellular Function and Maintenance	cellular homeostasis	4.59E-04	ABCD3,SLC27A2,ABCD3,BID,ELF3,F2RL1,FAM3B,FZD5,IFNGR2,IRF2,KC NK5,MUC1,PRKAA2,RGS2 (includes EG:19735),SLC26A4,SLC39A4,SLC9A2,ST3GAL5,TFRC, TNFSF10,TREH,UBD,WNT4	21
Energy Production	beta-oxidation of lignoceric acid	5.69E-04	ABCD3,SLC27A2	2
Lipid Metabolism Small Molecule Biochemistry	beta-oxidation of lignoceric acid	5.69E-04	ABCD3,SLC27A2	2
Tissue Morphology Endocrine System Development and Function	lack of presphenoid bone	5.69E-04	LMO4,PHC1	2
Cellular Movement	glucose tolerance	6.51E-04	CCRN4L,F2RL1,FAM3B,PRKAA2,PRKAR2B,RASGRF1,ST3GAL5	7
Cellular Movement	migration of myoblasts	7.93E-04	BARX2,SIX1	2
Skeletal and Muscular System Development and Function	migration of myoblasts	7.93E-04	BARX2,SIX1	2
Cell-To-Cell Signaling and Interaction	activation of leukemia cell lines	1.02E-03	CADM1,PHC1,TNFSF10	3
Organ Morphology Embryonic Development	abnormal morphology of sphenoid bone	1.05E-03	LMO4,PHC1	2
Organismal Development	abnormal morphology of sphenoid bone	1.05E-03	LMO4,PHC1	2
Organismal Development	abnormal morphology of sphenoid bone	1.05E-03	LMO4,PHC1	2
Tissue Development	abnormal morphology of sphenoid bone	1.05E-03	LMO4,PHC1	2

Skeletal and Muscular System Development and Function	abnormal morphology of sphenoid bone	1.05E-03	LMO4,PHC1	2
Connective Tissue Development and Function	abnormal morphology of sphenoid bone	1.05E-03	LMO4,PHC1	2
Organ Development	abnormal morphology of sphenoid bone	1.05E-03	LMO4,PHC1	2
Organ Development	function of gall bladder	1.05E-03	F2RL1,MUC1	2
Cell Death and Survival	apoptosis of endothelial cell lines	1.12E-03	DUSP4,TFRC,TNFSF10	3
Cell Death and Survival	apoptosis of acute myeloblastic leukemia cells	1.35E-03	MUC1,TNFSF10	2
Tumor Morphology	apoptosis of acute myeloblastic leukemia cells	1.35E-03	MUC1,TNFSF10	2
Tissue Morphology	quantity of Langerhans cells	1.35E-03	IRF2,ITGB6	2
Hematological System Development and Function	quantity of Langerhans cells	1.35E-03	IRF2,ITGB6	2
Inflammatory Response	quantity of Langerhans cells	1.35E-03	IRF2,ITGB6	2
Cell Morphology	size of red blood cells	1.35E-03	PRKAA2,TNFSF10	2
Hematological System Development and Function	size of red blood cells	1.35E-03	PRKAA2,TNFSF10	2
Hematopoiesis	size of red blood cells	1.35E-03	PRKAA2,TNFSF10	2
Cellular Assembly and Organization	clustering of mitochondria	1.68E-03	BID,TNFSF10	2
Energy Production	hydrolysis of ATP	1.97E-03	ABCD3,PRKAA2,RAD51B	3
Small Molecule Biochemistry	hydrolysis of ATP	1.97E-03	ABCD3,PRKAA2,RAD51B	3
DNA Replication, Recombination, and Repair	hydrolysis of ATP	1.97E-03	ABCD3,PRKAA2,RAD51B	3
Nucleic Acid Metabolism	hydrolysis of ATP	1.97E-03	ABCD3,PRKAA2,RAD51B	3
Cell Death and Survival	apoptosis of mesothelioma cell lines	2.04E-03	BID,TNFSF10	2
Cellular Compromise	degeneration of germ cells	2.04E-03	CADM1,WNT4	2
Energy Production	beta-oxidation of palmitic acid	2.44E-03	ABCD3,BID	2
Lipid Metabolism	beta-oxidation of palmitic acid	2.44E-03	ABCD3,BID	2
Small Molecule Biochemistry	beta-oxidation of palmitic acid	2.44E-03	ABCD3,BID	2
Dermatological Diseases and Conditions	hypotrichosis	2.44E-03	HR,LIPH	2
Organismal Injury and Abnormalities	injury of mice	2.76E-03	BID,F2RL1,ITGB6	3
Lipid Metabolism	absorption of lipid	2.94E-03	CCRN4L,MUC1,TNFSF10	3
Small Molecule Biochemistry	absorption of lipid	2.94E-03	CCRN4L,MUC1,TNFSF10	3
Molecular Transport	absorption of lipid	2.94E-03	CCRN4L,MUC1,TNFSF10	3
Organ Morphology	abnormal morphology of nose	3.34E-03	CDON,SIX1	2

Cell Death and Survival	cell death of B cell lymphoma cells	3.34E-03	EMP2,TNFSF10	2
Tumor Morphology	cell death of B cell lymphoma cells	3.34E-03	EMP2,TNFSF10	2
Cell Death and Survival	cell death of pneumocytes	3.34E-03	BID,TNFSF10	2
Inflammatory Response	inflammation of synovial joint	3.34E-03	BID,F2RL1	2
Renal and Urological System Development and Function	pH of urine	3.34E-03	KCNK5,SLC26A4	2
Cell-To-Cell Signaling and Interaction	response of fibroblast cell lines	3.34E-03	IRAK4,TNFSF10	2
Connective Tissue Development and Function	response of fibroblast cell lines	3.34E-03	IRAK4,TNFSF10	2
Cell-To-Cell Signaling and Interaction	induction of lymphocytes	3.73E-03	MUC1,STEAP1,TNFSF10	3
Hematological System Development and Function	induction of lymphocytes	3.73E-03	MUC1,STEAP1,TNFSF10	3
Cellular Growth and Proliferation	induction of lymphocytes	3.73E-03	MUC1,STEAP1,TNFSF10	3
Organismal Injury and Abnormalities	cardiac fibrosis of heart	3.84E-03	IRAK4,MAPK11	2
Cardiovascular Disease	cardiac fibrosis of heart	3.84E-03	IRAK4,MAPK11	2
Small Molecule Biochemistry	phosphorylation of nucleotide	3.84E-03	MPP6 (includes EG:35343),NME5	2
Nucleic Acid Metabolism	phosphorylation of nucleotide	3.84E-03	MPP6 (includes EG:35343),NME5	2
Cell Morphology	morphology of tumor cell lines	4.12E-03	PRKAR2B,RASGRF1,SIX1,TNFSF10,TRPV6	5
Organ Morphology	abnormal morphology of endolymphatic duct	4.37E-03	SIX1,SLC26A4	2
Auditory and Vestibular System Development and Function	abnormal morphology of endolymphatic duct	4.37E-03	SIX1,SLC26A4	2
Dermatological Diseases and Conditions	disorder of hair	4.50E-03	HR,ITGB6,LIPH,TRPV6	4
Carbohydrate Metabolism	catabolism of carbohydrate	4.64E-03	PLA2G4B,PYGB,TREH	3
Tumor Morphology	arrest in growth of cancer cells	4.93E-03	MUC1,TNFSF10	2
Cellular Growth and Proliferation	arrest in growth of cancer cells	4.93E-03	MUC1,TNFSF10	2
Cellular Development	arrest in growth of cancer cells	4.93E-03	MUC1,TNFSF10	2
Cell Morphology	permeabilization of mitochondrial membrane	4.93E-03	BID,TNFSF10	2
Small Molecule Biochemistry	homeostasis of D-glucose	5.25E-03	F2RL1,FAM3B,PRKAA2,ST3GAL5,TREH	5
Cellular Function and Maintenance	homeostasis of D-glucose	5.25E-03	F2RL1,FAM3B,PRKAA2,ST3GAL5,TREH	5

Carbohydrate Metabolism	homeostasis of D-glucose	5.25E-03	F2RL1,FAM3B,PRKAA2,ST3GAL5,TREH	5
			ASPA,BARX2,CDON,CSTA,ELF3,EVPL,FZD5,HDAC9,HI ST1H4A (includes others),IFNGR2,IRF2,KRT4,LMO4,MUC1,PHC1,PPM1 L,PRKAR2B,RGS2 (includes EG:19735),SIX1,TFRC,TNFSF10,UBD,UHRF2,WNT4	24
Cellular Development	differentiation of cells	5.26E-03	EG:19735),SIX1,TFRC,TNFSF10,UBD,UHRF2,WNT4	2
Respiratory Disease	constriction of bronchus	5.52E-03	F2RL1,RGS2 (includes EG:19735)	2
Cellular Growth and Proliferation	proliferation of leukemia cell lines	5.63E-03	DUSP4,MUC1,PHC1,PRKAR2B,TNFSF10	5
Cellular Development	proliferation of leukemia cell lines	5.63E-03	DUSP4,MUC1,PHC1,PRKAR2B,TNFSF10	5
Hematopoiesis	maturation of dendritic cells	5.81E-03	ELF3,F2RL1,IRAK4,TNFSF10	4
Cellular Development	maturation of dendritic cells	5.81E-03	ELF3,F2RL1,IRAK4,TNFSF10	4
Organ Morphology	abnormal morphology of inner ear	6.15E-03	SIX1,SLC26A4	2
Auditory and Vestibular System Development and Function	abnormal morphology of inner ear	6.15E-03	SIX1,SLC26A4	2
Developmental Disorder	Canavan disease	6.24E-03	ASPA	1
Hereditary Disorder	Canavan disease	6.24E-03	ASPA	1
Metabolic Disease	Canavan disease	6.24E-03	ASPA	1
Neurological Disease	Canavan disease	6.24E-03	ASPA	1
Hereditary Disorder	IRAK4 deficiency	6.24E-03	IRAK4	1
Immunological Disease	IRAK4 deficiency	6.24E-03	IRAK4	1
Organismal Injury and Abnormalities	Palmoplantar keratoderma with deafness	6.24E-03	GJB2	1
Dermatological Diseases and Conditions	Palmoplantar keratoderma with deafness	6.24E-03	GJB2	1
Auditory Disease	Palmoplantar keratoderma with deafness	6.24E-03	GJB2	1
Hereditary Disorder	Palmoplantar keratoderma with deafness	6.24E-03	GJB2	1
Neurological Disease	Palmoplantar keratoderma with deafness	6.24E-03	GJB2	1
Auditory Disease	Pendred's syndrome	6.24E-03	SLC26A4	1
Developmental Disorder	Pendred's syndrome	6.24E-03	SLC26A4	1
Endocrine System Disorders	Pendred's syndrome	6.24E-03	SLC26A4	1
Hereditary Disorder	Pendred's syndrome	6.24E-03	SLC26A4	1
Metabolic Disease	Pendred's syndrome	6.24E-03	SLC26A4	1
Neurological Disease	Pendred's syndrome	6.24E-03	SLC26A4	1
Developmental Disorder	SERKAL syndrome, sex reversal, dysgenesis of kidneys, adrenals and lungs	6.24E-03	WNT4	1
Hereditary Disorder	SERKAL syndrome, sex reversal, dysgenesis of kidneys, adrenals and lungs	6.24E-03	WNT4	1
Cell Death and Survival	ablation of brain cancer cell lines	6.24E-03	TNFSF10	1

Cancer	ablation of brain cancer cell lines	6.24E-03	TNFSF10	1
Lipid Metabolism Small Molecule	accumulation of palmitoyl-coenzyme A	6.24E-03	BID	1
Biochemistry Nucleic Acid	accumulation of palmitoyl-coenzyme A	6.24E-03	BID	1
Metabolism	accumulation of palmitoyl-coenzyme A	6.24E-03	BID	1
Molecular Transport	accumulation of palmitoyl-coenzyme A	6.24E-03	BID	1
Dermatological Diseases and Conditions	acrodermatitis enteropathica	6.24E-03	SLC39A4	1
Hereditary Disorder	acrodermatitis enteropathica	6.24E-03	SLC39A4	1
Metabolic Disease	acrodermatitis enteropathica	6.24E-03	SLC39A4	1
Lipid Metabolism Small Molecule	aggregation of cholesterol	6.24E-03	MUC1	1
Biochemistry Dermatological Diseases and Conditions	aggregation of cholesterol	6.24E-03	MUC1	1
Hereditary Disorder	alopecia universalis congenita	6.24E-03	HR	1
Neurological Disease	amish infantile epilepsy syndrome	6.24E-03	ST3GAL5	1
Tumor Morphology	arrest in growth of acute myeloid leukemia blast cells	6.24E-03	MUC1	1
Cellular Growth and Proliferation	arrest in growth of acute myeloid leukemia blast cells	6.24E-03	MUC1	1
Cellular Development	arrest in growth of acute myeloid leukemia blast cells	6.24E-03	MUC1	1
Hematological System Development and Function	arrest in maturation of pro-B lymphocytes	6.24E-03	PHC1	1
Hematopoiesis	arrest in maturation of pro-B lymphocytes	6.24E-03	PHC1	1
Cellular Development	arrest in maturation of pro-B lymphocytes	6.24E-03	PHC1	1
Cell Cycle Dermatological Diseases and Conditions	arrest in mitosis of ovarian cancer cell lines	6.24E-03	ACRBP	1
Developmental Disorder	atrachia with papular lesions	6.24E-03	HR	1
Tissue Development	atrachia with papular lesions	6.24E-03	HR	1
Tissue Development	attachment of spermatids	6.24E-03	CADM1	1
Cell-To-Cell Signaling and Interaction	attachment of spermatids	6.24E-03	CADM1	1
Tissue Development	attachment of spermatocytes	6.24E-03	CADM1	1
Cell-To-Cell Signaling and Interaction	attachment of spermatocytes	6.24E-03	CADM1	1
Auditory Disease	autosomal dominant deafness type 3A	6.24E-03	GJB2	1
Hereditary Disorder	autosomal dominant deafness type 3A	6.24E-03	GJB2	1

Neurological Disease	autosomal dominant deafness type 3A	6.24E-03	GJB2	1
Connective Tissue Disorders	branchiootic syndrome 3	6.24E-03	SIX1	1
Hereditary Disorder	branchiootic syndrome 3	6.24E-03	SIX1	1
Cellular Compromise	breakdown of mitochondria	6.24E-03	TNFSF10	1
Cellular Function and Maintenance	budding of clathrin-coated pits	6.24E-03	ANK1	1
Cell Morphology	budding of clathrin-coated pits	6.24E-03	ANK1	1
Cellular Assembly and Organization	budding of clathrin-coated pits	6.24E-03	ANK1	1
Small Molecule Biochemistry	catabolism of trehalose	6.24E-03	TREH	1
Carbohydrate Metabolism	catabolism of trehalose	6.24E-03	TREH	1
Cell Death and Survival	cell death of articular chondrocytes	6.24E-03	TNFSF10	1
Cell Death and Survival	cell death of otic epithelial cells	6.24E-03	SIX1	1
Cell Death and Survival	cell death of outer hair cells	6.24E-03	GJB2	1
Tissue Development	cell-cell contact of astrocytes	6.24E-03	CADM1	1
Cell-To-Cell Signaling and Interaction	cell-cell contact of astrocytes	6.24E-03	CADM1	1
Tissue Development	cell-cell contact of keratinocyte cancer cell lines	6.24E-03	TRPV6	1
Cell-To-Cell Signaling and Interaction	cell-cell contact of keratinocyte cancer cell lines	6.24E-03	TRPV6	1
Tissue Morphology	circumference of periosteum	6.24E-03	IGFALS	1
Skeletal and Muscular System Development and Function	circumference of periosteum	6.24E-03	IGFALS	1
Molecular Transport	concentration of lactic acid	6.24E-03	PRKAA2	1
Lipid Metabolism	conversion of diacylglycerol	6.24E-03	LIPH	1
Small Molecule Biochemistry	conversion of diacylglycerol	6.24E-03	LIPH	1
Cell-To-Cell Signaling and Interaction	cytotoxic T lymphocyte response by monocyte-derived dendritic cells	6.24E-03	MUC1	1
Inflammatory Response	cytotoxic T lymphocyte response by monocyte-derived dendritic cells	6.24E-03	MUC1	1
Gastrointestinal Disease	cytotoxic reaction of liver	6.24E-03	TNFSF10	1
Inflammatory Response	cytotoxic reaction of liver	6.24E-03	TNFSF10	1
Cellular Compromise	destabilization of lipid bilayer	6.24E-03	BID	1
Embryonic Development	development of infundibulum of hair follicle	6.24E-03	HR	1
Organismal Development	development of infundibulum of hair follicle	6.24E-03	HR	1

Tissue Development	development of infundibulum of hair follicle	6.24E-03	HR	1
Organ Development	development of infundibulum of hair follicle	6.24E-03	HR	1
Hair and Skin				
Development and Function	development of infundibulum of hair follicle	6.24E-03	HR	1
Embryonic				
Development	development of primary palate	6.24E-03	CDON	1
Organismal				
Development	development of primary palate	6.24E-03	CDON	1
Tissue Development	development of primary palate	6.24E-03	CDON	1
Digestive System				
Development and Function	development of primary palate	6.24E-03	CDON	1
DNA Replication, Recombination, and Repair	disintegration of genomes	6.24E-03	IRF2	1
Cellular Compromise	disintegration of genomes	6.24E-03	IRF2	1
Cellular Function and Maintenance	endocytosis by keratinocytes	6.24E-03	F2RL1	1
Renal and Urological				
System Development and Function	entry into cell cycle progression of kidney cell lines	6.24E-03	WNT4	1
Cell Cycle	entry into cell cycle progression of kidney cell lines	6.24E-03	WNT4	1
Cancer	exchange of tumor cell lines	6.24E-03	SLC26A4	1
Tissue Morphology	fusion of glossopharyngeal cranial nerve ganglion	6.24E-03	LMO4	1
Nervous System				
Development and Function	fusion of glossopharyngeal cranial nerve ganglion	6.24E-03	LMO4	1
Tissue Morphology	fusion of vagus cranial nerve ganglion	6.24E-03	LMO4	1
Nervous System				
Development and Function	fusion of vagus cranial nerve ganglion	6.24E-03	LMO4	1
Lipid Metabolism	generation of oleoylethanolamide	6.24E-03	NAPEPLD	1
Small Molecule				
Biochemistry	generation of oleoylethanolamide	6.24E-03	NAPEPLD	1
Lipid Metabolism	generation of palmitoylethanolamide	6.24E-03	NAPEPLD	1
Small Molecule				
Biochemistry	generation of palmitoylethanolamide	6.24E-03	NAPEPLD	1
Vitamin and Mineral				
Metabolism	generation of palmitoylethanolamide	6.24E-03	NAPEPLD	1
Tumor Morphology	growth of cholangiocarcinoma cell	6.24E-03	TNFSF10	1
Cellular Growth and Proliferation	growth of cholangiocarcinoma cell	6.24E-03	TNFSF10	1
Cellular Development	growth of cholangiocarcinoma cell	6.24E-03	TNFSF10	1

Skeletal and Muscular System Development and Function	height of zone of hypertrophy	6.24E-03	IGFALS	1
Skeletal and Muscular System Development and Function	height of zone of proliferation	6.24E-03	IGFALS	1
Hereditary Disorder	histidinemia	6.24E-03	HAL	1
Metabolic Disease	histidinemia	6.24E-03	HAL	1
Connective Tissue Disorders	holoprosencephaly type 11	6.24E-03	CDON	1
Developmental Disorder	holoprosencephaly type 11	6.24E-03	CDON	1
Neurological Disease	holoprosencephaly type 11	6.24E-03	CDON	1
Skeletal and Muscular Disorders	holoprosencephaly type 11	6.24E-03	CDON	1
Small Molecule Biochemistry	hydrolysis of trehalose	6.24E-03	TREH	1
Carbohydrate Metabolism	hydrolysis of trehalose	6.24E-03	TREH	1
Cancer	hyperplasia of CD4+ T-lymphocytes	6.24E-03	DUSP4	1
Hematological Disease	hyperplasia of CD4+ T-lymphocytes	6.24E-03	DUSP4	1
Immunological Disease	hyperplasia of CD4+ T-lymphocytes	6.24E-03	DUSP4	1
Dermatological Diseases and Conditions	hypotrichosis type 4	6.24E-03	HR	1
Organismal Injury and Abnormalities	hystrix ichthyosis with deafness	6.24E-03	GJB2	1
Dermatological Diseases and Conditions	hystrix ichthyosis with deafness	6.24E-03	GJB2	1
Developmental Disorder	hystrix ichthyosis with deafness	6.24E-03	GJB2	1
Hereditary Disorder	hystrix ichthyosis with deafness	6.24E-03	GJB2	1
Embryonic Development	induction of renal vesicle	6.24E-03	WNT4	1
Organismal Development	induction of renal vesicle	6.24E-03	WNT4	1
Tissue Morphology	induction of renal vesicle	6.24E-03	WNT4	1
Immunological Disease	infection of lymphoid cells	6.24E-03	CXADR	1
Infectious Disease	infection of lymphoid cells	6.24E-03	CXADR	1
Hematological System Development and Function	inhibition of erythroblasts	6.24E-03	TNFSF10	1
Cellular Growth and Proliferation	inhibition of erythroblasts	6.24E-03	TNFSF10	1
Cellular Growth and Proliferation	inhibition of hepatocytes	6.24E-03	TNFSF10	1
Organismal Injury and Abnormalities	keratitis ichthyosis and deafness syndrome	6.24E-03	GJB2	1

Dermatological Diseases and Conditions	keratitis ichthyosis and deafness syndrome	6.24E-03	GJB2	1
Developmental Disorder	keratitis ichthyosis and deafness syndrome	6.24E-03	GJB2	1
Hereditary Disorder	keratitis ichthyosis and deafness syndrome	6.24E-03	GJB2	1
Dermatological Diseases and Conditions	knuckle pads, deafness and leukonychia syndrome	6.24E-03	GJB2	1
Developmental Disorder	knuckle pads, deafness and leukonychia syndrome	6.24E-03	GJB2	1
Hereditary Disorder	knuckle pads, deafness and leukonychia syndrome	6.24E-03	GJB2	1
Skeletal and Muscular Disorders	knuckle pads, deafness and leukonychia syndrome	6.24E-03	GJB2	1
Cardiovascular Disease	large vessel stroke	6.24E-03	HDAC9	1
Neurological Disease	large vessel stroke	6.24E-03	HDAC9	1
Developmental Disorder	mullerian aplasia	6.24E-03	WNT4	1
Reproductive System Disease	mullerian aplasia	6.24E-03	WNT4	1
Embryonic Development	myogenesis of embryo	6.24E-03	SIX1	1
Organismal Development	myogenesis of embryo	6.24E-03	SIX1	1
Tissue Development	myogenesis of embryo	6.24E-03	SIX1	1
Skeletal and Muscular System Development and Function	myogenesis of embryo	6.24E-03	SIX1	1
Organ Development	myogenesis of embryo	6.24E-03	SIX1	1
Auditory Disease	nonsyndromic recessive deafness DFNB1A	6.24E-03	GJB2	1
Hereditary Disorder	nonsyndromic recessive deafness DFNB1A	6.24E-03	GJB2	1
Neurological Disease	nonsyndromic recessive deafness DFNB1A	6.24E-03	GJB2	1
Inflammatory Disease	paralytic autoimmune myositis	6.24E-03	IFNGR2	1
Skeletal and Muscular Disorders	paralytic autoimmune myositis	6.24E-03	IFNGR2	1
Cellular Growth and Proliferation	proliferation of otic epithelial cells	6.24E-03	SIX1	1
Lipid Metabolism	quantity of L-alpha-palmitoylcholine	6.24E-03	TNFSF10	1
Small Molecule Biochemistry	quantity of L-alpha-palmitoylcholine	6.24E-03	TNFSF10	1
Molecular Transport	quantity of L-alpha-palmitoylcholine	6.24E-03	TNFSF10	1

Carbohydrate Metabolism Organismal Development	quantity of L-alpha-palmitoylcholine phosphatidylcholine	6.24E-03	TNFSF10	1
	re-endothelialization of carotid artery	6.24E-03	PDZK1	1
Cardiovascular System Development and Function				
	re-endothelialization of carotid artery	6.24E-03	PDZK1	1
Small Molecule Biochemistry				
	regulation of nitric oxide	6.24E-03	IRF2	1
Cell Signaling	regulation of nitric oxide	6.24E-03	IRF2	1
Tissue Morphology	relaxation of bronchial tissue	6.24E-03	F2RL1	1
Respiratory System Development and Function				
	relaxation of bronchial tissue	6.24E-03	F2RL1	1
Organ Morphology	relaxation of bronchus	6.24E-03	F2RL1	1
Respiratory System Development and Function				
	relaxation of bronchus	6.24E-03	F2RL1	1
	relaxation of mesenteric resistance artery	6.24E-03	RGS2 (includes EG:19735)	1
Cardiovascular System Development and Function				
	relaxation of mesenteric resistance artery	6.24E-03	RGS2 (includes EG:19735)	1
Organ Morphology	relaxation of trachea	6.24E-03	F2RL1	1
Respiratory System Development and Function				
	relaxation of trachea	6.24E-03	F2RL1	1
Cell-To-Cell Signaling and Interaction				
	response of myeloid leukocytes	6.24E-03	IRAK4	1
Cellular Compromise	rupture of lipid bilayer	6.24E-03	BID	1
Cell Death and Survival Cellular Function and Maintenance				
	self-renewal of leukemia cell lines	6.24E-03	MUC1	1
	self-renewal of leukemia cell lines	6.24E-03	MUC1	1
Cellular Development	self-renewal of leukemia cell lines	6.24E-03	MUC1	1
Cellular Response to Therapeutics				
	sensitivity of astrocytes	6.24E-03	TNFSF10	1
Lipid Metabolism	sialylation of lactosylceramide	6.24E-03	ST3GAL5	1
Small Molecule Biochemistry				
	sialylation of lactosylceramide	6.24E-03	ST3GAL5	1
Post-Translational Modification	sialylation of lactosylceramide	6.24E-03	ST3GAL5	1
Cell Morphology	size of colony-forming erythroid cells	6.24E-03	TNFSF10	1
Hematological System Development and Function				
	size of colony-forming erythroid cells	6.24E-03	TNFSF10	1
Hematopoiesis	size of colony-forming erythroid cells	6.24E-03	TNFSF10	1
Organ Morphology	size of endolymphatic sac	6.24E-03	SIX1	1

Auditory and Vestibular System Development and Function	size of endolymphatic sac	6.24E-03	SIX1	1
Cancer	soft tissue neoplasm	6.24E-03	P2RX6	1
Skeletal and Muscular System Development and Function	stabilization of sarcoplasmic reticulum	6.24E-03	ANK1	1
Cellular Assembly and Organization	stabilization of sarcoplasmic reticulum	6.24E-03	ANK1	1
Embryonic Development	stratification of keratinocyte cancer cell lines	6.24E-03	TRPV6	1
Tissue Development	stratification of keratinocyte cancer cell lines	6.24E-03	TRPV6	1
Cell Morphology	stratification of keratinocyte cancer cell lines	6.24E-03	TRPV6	1
Cellular Development	stratification of keratinocyte cancer cell lines	6.24E-03	TRPV6	1
Cell-To-Cell Signaling and Interaction	structural integrity of tight junctions	6.24E-03	CXADR	1
Cell Morphology	structural integrity of tight junctions	6.24E-03	CXADR	1
Cellular Assembly and Organization	structural integrity of tight junctions	6.24E-03	CXADR	1
Developmental Disorder	succinyl-coa acetoacetate transferase deficiency	6.24E-03	OXCT1	1
Hereditary Disorder	succinyl-coa acetoacetate transferase deficiency	6.24E-03	OXCT1	1
Metabolic Disease	succinyl-coa acetoacetate transferase deficiency	6.24E-03	OXCT1	1
Cell Death and Survival	survival of non-small-cell lung cancer cells	6.24E-03	TNFSF10	1
Tumor Morphology	survival of non-small-cell lung cancer cells	6.24E-03	TNFSF10	1
Cancer	survival of non-small-cell lung cancer cells	6.24E-03	TNFSF10	1
Lipid Metabolism Small Molecule	synthesis of ganglioside GM2	6.24E-03	ST3GAL5	1
Biochemistry	synthesis of ganglioside GM2	6.24E-03	ST3GAL5	1
Organ Morphology	thickness of colon	6.24E-03	F2RL1	1
Digestive System Development and Function	thickness of colon	6.24E-03	F2RL1	1
Tissue Morphology	thickness of vascular smooth muscle cells	6.24E-03	RGS2 (includes EG:19735)	1
Skeletal and Muscular System Development and Function	thickness of vascular smooth muscle cells	6.24E-03	RGS2 (includes EG:19735)	1
Cell Morphology	thickness of vascular smooth muscle cells	6.24E-03	RGS2 (includes EG:19735)	1
Tumor Morphology	transdifferentiation of malignant tumor	6.24E-03	MUC1	1
Cellular Development	transdifferentiation of malignant tumor	6.24E-03	MUC1	1

Cancer	transdifferentiation of malignant tumor	6.24E-03	MUC1	1
Cellular Development	transition of breast cell lines	6.24E-03	ELF3	1
Reproductive System Development and Function	transition of breast cell lines	6.24E-03	ELF3	1
Lipid Metabolism Small Molecule	translocation of BODIPY FL C5-HPC	6.24E-03	BID	1
Biochemistry	translocation of BODIPY FL C5-HPC	6.24E-03	BID	1
Molecular Transport	translocation of BODIPY FL C5-HPC	6.24E-03	BID	1
Cellular Movement	translocation of spermatids	6.24E-03	CADM1	1
Infectious Disease	viral entry by Machupo virus	6.24E-03	TFRC	1
Infectious Disease	viral entry by mouse mammary tumor virus	6.24E-03	TFRC	1
Developmental Disorder	x-linked mental retardation type 90	6.24E-03	DLG3	1
Hereditary Disorder	x-linked mental retardation type 90	6.24E-03	DLG3	1
Neurological Disease	x-linked mental retardation type 90	6.24E-03	DLG3	1
Cell Death and Survival	apoptosis of breast cancer cell lines	6.40E-03	BCL2L13,BID,DUSP4,MUC1,TFRC,TNFSF10	6
Organismal Survival	pain threshold	6.80E-03	ASPA,F2RL1	2
Digestive System Development and Function	salivation	6.80E-03	F2RL1,SLC9A2	2
Cellular Movement	translocation of cells	6.80E-03	CADM1,F2RL1	2
Tissue Development	cell-cell contact	7.14E-03	CADM1,CDON,CXADR,TRPV6	4
Cell-To-Cell Signaling and Interaction	cell-cell contact	7.14E-03	CADM1,CDON,CXADR,TRPV6	4
Energy Production	beta-oxidation of fatty acid	7.45E-03	ABCD3,BID,SLC27A2	3
Lipid Metabolism Small Molecule	beta-oxidation of fatty acid	7.45E-03	ABCD3,BID,SLC27A2	3
Biochemistry	beta-oxidation of fatty acid	7.45E-03	ABCD3,BID,SLC27A2	3
Auditory Disease	nonsyndromic hearing impairment	7.49E-03	GJB2,SLC26A4	2
Hereditary Disorder	nonsyndromic hearing impairment	7.49E-03	GJB2,SLC26A4	2
Neurological Disease	nonsyndromic hearing impairment	7.49E-03	GJB2,SLC26A4	2
Immunological Disease	delayed hypersensitive reaction	7.55E-03	F2RL1,HAL,IFNGR2,TNFSF10	4
Carbohydrate Metabolism	hydrolysis of carbohydrate	7.55E-03	F2RL1,RGS2 (includes EG:19735),TNFSF10,TREH	4
Embryonic Development	development of striated muscle	7.76E-03	CDON,F2RL1,RGS2 (includes EG:19735),SIX1	4
Organismal Development	development of striated muscle	7.76E-03	CDON,F2RL1,RGS2 (includes EG:19735),SIX1	4
Tissue Development	development of striated muscle	7.76E-03	CDON,F2RL1,RGS2 (includes EG:19735),SIX1	4
Skeletal and Muscular System Development and Function	development of striated muscle	7.76E-03	CDON,F2RL1,RGS2 (includes EG:19735),SIX1	4
Organ Development	development of striated muscle	7.76E-03	CDON,F2RL1,RGS2 (includes EG:19735),SIX1	4

Organismal Injury and Abnormalities	fibrosis	8.41E-03	BARX2,BID,ELF3,IFNGR2,IRAK4,IRF2,KRT19 (includes EG:16669),MAPK11,UBD	9
Cellular Development	differentiation of epithelial cells	8.56E-03	CSTA,EVPL,KRT4,LMO4,SIX1,TNFSF10	6
Inflammatory Response	inflammation of organ	8.57E-03	BID,ELF3,F2RL1,IFNGR2,IRAK4,IRF2,ITGB6,MAPK11,MUC1,PGLYRP1,SLC9A2,TNFSF10	12
Embryonic Development	development of muscle	8.64E-03	CDON,CXADR,F2RL1,KRT19 (includes EG:16669),POU6F1,RGS2 (includes EG:19735),SIX1	7
Organismal Development	development of muscle	8.64E-03	CDON,CXADR,F2RL1,KRT19 (includes EG:16669),POU6F1,RGS2 (includes EG:19735),SIX1	7
Tissue Development	development of muscle	8.64E-03	CDON,CXADR,F2RL1,KRT19 (includes EG:16669),POU6F1,RGS2 (includes EG:19735),SIX1	7
Skeletal and Muscular System Development and Function	development of muscle	8.64E-03	CDON,CXADR,F2RL1,KRT19 (includes EG:16669),POU6F1,RGS2 (includes EG:19735),SIX1	7
Organ Development	development of muscle	8.64E-03	CDON,CXADR,F2RL1,KRT19 (includes EG:16669),POU6F1,RGS2 (includes EG:19735),SIX1	7
Molecular Transport	transport of ion	8.69E-03	ANK1,CLCA4,KCNK5,P2RX6,PDZK1,SLC26A4,SLC39A4,SLC9A2,TRPV6	9
Free Radical Scavenging	formation of reactive oxygen species	8.80E-03	BID,NOXA1,TFRC	3
Organ Morphology	abnormal morphology of vibrissae	8.95E-03	F2RL1,LIPH	2
Hair and Skin Development and Function	abnormal morphology of vibrissae	8.95E-03	F2RL1,LIPH	2
Organismal Survival	survival of organism	9.92E-03	BID,DUSP4,F2RL1,FZD5,IRAK4,IRF2,ITGB6,KRT19 (includes EG:16669),PHC1,TNFSF10	10
Protein Synthesis	oligomerization of protein	9.94E-03	BID,HR,MUC20,P2RX6,PRKAA2	5
Gastrointestinal Disease	colon cancer	1.01E-02	ABCD3,HIST1H4A (includes others),LIPH,MUC1,PPM1L,SLC27A2,SULT1C2,TFRC,TNFSF10	9
Cancer	colon cancer	1.01E-02	ABCD3,HIST1H4A (includes others),LIPH,MUC1,PPM1L,SLC27A2,SULT1C2,TFRC,TNFSF10	9
Cell Death and Survival	apoptosis of liver cell lines	1.05E-02	DUSP4,TNFSF10	2
Cellular Movement	release of cells	1.05E-02	CADM1,TFRC	2
Cancer	bladder cancer	1.12E-02	AIM1 (includes EG:11630),GJB2,KRT19 (includes EG:16669),PGLYRP1	4
Renal and Urological Disease	bladder cancer	1.12E-02	AIM1 (includes EG:11630),GJB2,KRT19 (includes EG:16669),PGLYRP1	4
Organ Morphology	abnormal morphology of hair follicle	1.14E-02	HR,ITGB6	2
Organ Morphology	abnormal morphology of semicircular canal	1.14E-02	SIX1,SLC26A4	2
Auditory and Vestibular System Development and Function	abnormal morphology of semicircular canal	1.14E-02	SIX1,SLC26A4	2
Auditory Disease	autosomal dominant deafness	1.22E-02	GJB2,SIX1	2
Hereditary Disorder	autosomal dominant deafness	1.22E-02	GJB2,SIX1	2
Neurological Disease	autosomal dominant deafness	1.22E-02	GJB2,SIX1	2

Organismal Injury and Abnormalities	Vohwinkel syndrome	1.24E-02	GJB2	1
Dermatological Diseases and Conditions	Vohwinkel syndrome	1.24E-02	GJB2	1
Hereditary Disorder	Vohwinkel syndrome	1.24E-02	GJB2	1
Organ Morphology	abnormal morphology of nares	1.24E-02	SIX1	1
Tissue Morphology	abnormal morphology of strial basal cells	1.24E-02	SLC26A4	1
Cell Morphology	abnormal morphology of strial basal cells	1.24E-02	SLC26A4	1
Cellular Function and Maintenance	absorption of chloride	1.24E-02	SLC26A4	1
Molecular Transport	absorption of chloride	1.24E-02	SLC26A4	1
Tissue Development	accumulation of fibroblast cell lines	1.24E-02	BID	1
Connective Tissue Development and Function	accumulation of fibroblast cell lines	1.24E-02	BID	1
Tissue Development	adherence of astrocytes	1.24E-02	CADM1	1
Embryonic Development	angiogenesis of adductor muscle	1.24E-02	F2RL1	1
Organismal Development	angiogenesis of adductor muscle	1.24E-02	F2RL1	1
Tissue Development	angiogenesis of adductor muscle	1.24E-02	F2RL1	1
Skeletal and Muscular System Development and Function	angiogenesis of adductor muscle	1.24E-02	F2RL1	1
Organ Development	angiogenesis of adductor muscle	1.24E-02	F2RL1	1
Cardiovascular System Development and Function	angiogenesis of adductor muscle	1.24E-02	F2RL1	1
	anti-pneumococcal polysaccharide	1.24E-02	F2RL1	1
Hematological Disease	antibody deficiency	1.24E-02	IRAK4	1
Immunological Disease	anti-pneumococcal polysaccharide antibody deficiency	1.24E-02	IRAK4	1
Cell Death and Survival	apoptosis of Kupffer cells	1.24E-02	IRF2	1
Cell Death and Survival	apoptosis of cholangiocarcinoma cell	1.24E-02	TNFSF10	1
Tumor Morphology	apoptosis of cholangiocarcinoma cell	1.24E-02	TNFSF10	1
Cell Death and Survival	apoptosis of leukemic blasts	1.24E-02	TNFSF10	1
Tumor Morphology	apoptosis of leukemic blasts	1.24E-02	TNFSF10	1
Cell Death and Survival	apoptosis of squamous-cell carcinoma	1.24E-02	TNFSF10	1
Cancer	apoptosis of squamous-cell carcinoma	1.24E-02	TNFSF10	1
Cell Cycle	arrest in cell cycle progression of splenocytes	1.24E-02	PHC1	1
Embryonic Development	arrest in growth of trophoblast	1.24E-02	F2RL1	1

Tissue Development	arrest in growth of trophoblast	1.24E-02	F2RL1	1
	arrest in mitosis of lung cancer cell			
Cell Cycle	lines	1.24E-02	ACRBP	1
Embryonic	arrest in spermatogenesis of			
Development	spermatids	1.24E-02	CADM1	1
Organismal	arrest in spermatogenesis of			
Development	spermatids	1.24E-02	CADM1	1
	arrest in spermatogenesis of			
Tissue Development	spermatids	1.24E-02	CADM1	1
	arrest in spermatogenesis of			
Organ Development	spermatids	1.24E-02	CADM1	1
	arrest in spermatogenesis of			
Cellular Development	spermatids	1.24E-02	CADM1	1
Reproductive System				
Development and	arrest in spermatogenesis of			
Function	spermatids	1.24E-02	CADM1	1
Skeletal and Muscular				
System Development				
and Function	association of rib	1.24E-02	PHC1	1
Connective Tissue				
Development and				
Function	association of rib	1.24E-02	PHC1	1
Infectious Disease	binding of adenoviridae	1.24E-02	CXADR	1
Cell-To-Cell Signaling				
and Interaction	binding of bladder cancer cell lines	1.24E-02	CXADR	1
Neurological Disease	bradyopsia	1.24E-02	RGS9BP	1
Cell Death and Survival	cell death of duct cancer cell lines	1.24E-02	TNFSF10	1
Cell Death and Survival	cytolysis of breast cancer cell lines	1.24E-02	TNFSF10	1
Embryonic				
Development	cytolysis of trophoblast giant cells	1.24E-02	KRT19 (includes EG:16669)	1
Cell Death and Survival	cytolysis of trophoblast giant cells	1.24E-02	KRT19 (includes EG:16669)	1
Cell Death and Survival	cytotoxicity of T cell blasts	1.24E-02	TNFSF10	1
Cell Death and Survival	cytotoxicity of carcinoma cell lines	1.24E-02	TNFSF10	1
Cell Death and Survival	cytotoxicity of lung cancer cell lines	1.24E-02	TNFSF10	1
Gastrointestinal				
Disease	damage of small intestine	1.24E-02	MUC1	1
Organismal Injury and				
Abnormalities	damage of small intestine	1.24E-02	MUC1	1
Cellular Compromise	degeneration of spermatids	1.24E-02	CADM1	1
Cellular Compromise	degeneration of type I fibrocytes	1.24E-02	SLC26A4	1
	delay in cell death of cervical cancer			
Cell Death and Survival	cell lines	1.24E-02	TNFSF10	1
Cellular Compromise	depletion of oocytes	1.24E-02	WNT4	1

Tissue Development Embryonic	development of epithelial barrier	1.24E-02	GJB2	1
Development Organismal	development of occipital bone	1.24E-02	PHC1	1
Development	development of occipital bone	1.24E-02	PHC1	1
Tissue Development	development of occipital bone	1.24E-02	PHC1	1
Skeletal and Muscular System Development and Function	development of occipital bone	1.24E-02	PHC1	1
Connective Tissue Development and Function	development of occipital bone	1.24E-02	PHC1	1
Organ Development	development of occipital bone	1.24E-02	PHC1	1
Tumor Morphology	differentiation of chronic myelogenous leukemia cells	1.24E-02	MUC1	1
Cellular Development	differentiation of chronic myelogenous leukemia cells	1.24E-02	MUC1	1
Cancer	differentiation of chronic myelogenous leukemia cells	1.24E-02	MUC1	1
Hematological System Development and Function	differentiation of reticulocytes	1.24E-02	TFRC	1
Hematopoiesis	differentiation of reticulocytes	1.24E-02	TFRC	1
Cellular Development Cellular Function and Maintenance	differentiation of reticulocytes	1.24E-02	TFRC	1
Molecular Transport	efflux of iodide	1.24E-02	SLC26A4	1
Gastrointestinal Disease	efflux of iodide	1.24E-02	SLC26A4	1
Hepatic System Disease	ethynylestradiol hepatocellular cholestasis	1.24E-02	GJB2	1
Organismal Injury and Abnormalities	ethynylestradiol hepatocellular cholestasis	1.24E-02	GJB2	1
Reproductive System Disease	formation of mammary lesion	1.24E-02	MUC1	1
Embryonic Development	formation of mammary lesion	1.24E-02	MUC1	1
Organismal Development	formation of renal vesicle	1.24E-02	WNT4	1
Development	formation of renal vesicle	1.24E-02	WNT4	1
Tissue Development Embryonic	formation of renal vesicle	1.24E-02	WNT4	1
Development Organismal	formation of rib	1.24E-02	SIX1	1
Development	formation of rib	1.24E-02	SIX1	1
Tissue Development	formation of rib	1.24E-02	SIX1	1
Skeletal and Muscular System Development and Function	formation of rib	1.24E-02	SIX1	1

Connective Tissue Development and Function	formation of rib	1.24E-02	SIX1	1
Organ Development	formation of rib	1.24E-02	SIX1	1
Hematological System Development and Function	hematopoiesis of leukemia cell lines	1.24E-02	HIST1H4A (includes others)	1
Hematopoiesis	hematopoiesis of leukemia cell lines	1.24E-02	HIST1H4A (includes others)	1
Cellular Development	hematopoiesis of leukemia cell lines	1.24E-02	HIST1H4A (includes others)	1
Dermatological Diseases and Conditions	hereditary mucosal leukokeratosis	1.24E-02	KRT4	1
Hereditary Disorder	hereditary mucosal leukokeratosis	1.24E-02	KRT4	1
Carbohydrate Metabolism	hydrolysis of D-glucose	1.24E-02	TREH	1
Lipid Metabolism	import of long chain fatty acid	1.24E-02	ABCD3	1
Small Molecule Biochemistry	import of long chain fatty acid	1.24E-02	ABCD3	1
Molecular Transport	import of long chain fatty acid	1.24E-02	ABCD3	1
Cell-To-Cell Signaling and Interaction	induction of plasma cells	1.24E-02	TNFSF10	1
Hematological System Development and Function	induction of plasma cells	1.24E-02	TNFSF10	1
Cellular Growth and Proliferation	induction of plasma cells	1.24E-02	TNFSF10	1
Humoral Immune Response	induction of plasma cells	1.24E-02	TNFSF10	1
Respiratory Disease	infection of lung tissue	1.24E-02	CXADR	1
Infectious Disease	infection of lung tissue	1.24E-02	CXADR	1
Inflammatory Response	inflammation of knee joint	1.24E-02	F2RL1	1
Cell Death and Survival	initiation of cell death of synovial cells	1.24E-02	TNFSF10	1
Endocrine System Development and Function	intracellular pH of acinar gland cells	1.24E-02	SLC9A2	1
Cell Morphology	intracellular pH of acinar gland cells	1.24E-02	SLC9A2	1
Cell Death and Survival	killing of prostate cancer cell lines	1.24E-02	TNFSF10	1
Infectious Disease	measles	1.24E-02	TNFSF10	1
Nervous System Development and Function	memory extinction	1.24E-02	ADCY8	1
Nervous System Development and Function	memory suppression	1.24E-02	ADCY8	1
Small Molecule Biochemistry	metabolism of acetate	1.24E-02	ASPA	1
Cancer	metastasis of pancreatic cancer cell lines	1.24E-02	MUC1	1

Cell Morphology	multinucleation of colon cancer cell lines	1.24E-02	UBD	1
Cellular Compromise	multinucleation of colon cancer cell lines	1.24E-02	UBD	1
Cell Morphology	permeabilization of phospholipid vesicles	1.24E-02	BID	1
Molecular Transport	quantity of acetate	1.24E-02	ASPA	1
Cell Death and Survival	recovery of retinal rods	1.24E-02	RGS9BP	1
Visual System				
Development and Function	recovery of retinal rods	1.24E-02	RGS9BP	1
Tissue Morphology	relaxation of femoral artery	1.24E-02	F2RL1	1
Cardiovascular System				
Development and Function	relaxation of femoral artery	1.24E-02	F2RL1	1
Cellular Function and Maintenance	release of spermatids	1.24E-02	CADM1	1
Cellular Movement	release of spermatids	1.24E-02	CADM1	1
Reproductive System				
Development and Function	release of spermatids	1.24E-02	CADM1	1
Small Molecule				
Biochemistry	salvage of L-methionine	1.24E-02	ADI1 (includes EG:104923)	1
Amino Acid				
Metabolism	salvage of L-methionine	1.24E-02	ADI1 (includes EG:104923)	1
Embryonic				
Development	shrinkage of tail bud	1.24E-02	PHC1	1
Embryonic				
Development	size of maxillary shelf	1.24E-02	CDON	1
Tissue Morphology	size of maxillary shelf	1.24E-02	CDON	1
Lipid Metabolism	synthesis of ganglioside GD1a	1.24E-02	ST3GAL5	1
Small Molecule				
Biochemistry	synthesis of ganglioside GD1a	1.24E-02	ST3GAL5	1
Lipid Metabolism	synthesis of ganglioside GD1b	1.24E-02	ST3GAL5	1
Small Molecule				
Biochemistry	synthesis of ganglioside GD1b	1.24E-02	ST3GAL5	1
Lipid Metabolism	synthesis of ganglioside GM1	1.24E-02	ST3GAL5	1
Small Molecule				
Biochemistry	synthesis of ganglioside GM1	1.24E-02	ST3GAL5	1
Lipid Metabolism	synthesis of ganglioside GT1	1.24E-02	ST3GAL5	1
Small Molecule				
Biochemistry	synthesis of ganglioside GT1	1.24E-02	ST3GAL5	1
Cell Death and Survival	toxicity of leukemia cell lines	1.24E-02	TNFSF10	1
Cellular Compromise	toxicity of leukemia cell lines	1.24E-02	TNFSF10	1
Protein Synthesis	hetero-oligomerization of protein	1.32E-02	HR,P2RX6,PRKAA2	3
Embryonic				
Development	development of skeletal muscle	1.37E-02	F2RL1,RGS2 (includes EG:19735),SIX1	3
Organismal				
Development	development of skeletal muscle	1.37E-02	F2RL1,RGS2 (includes EG:19735),SIX1	3
Tissue Development	development of skeletal muscle	1.37E-02	F2RL1,RGS2 (includes EG:19735),SIX1	3

Skeletal and Muscular System Development and Function	development of skeletal muscle	1.37E-02	F2RL1,RGS2 (includes EG:19735),SIX1	3
Organ Development	development of skeletal muscle	1.37E-02	F2RL1,RGS2 (includes EG:19735),SIX1	3
Protein Synthesis	polymerization of protein	1.38E-02	BID,HR,MAPK11,MUC20,P2RX6,PRKAA2	6
Organ Morphology	abnormal morphology of stratum corneum	1.40E-02	F2RL1,LMO4	2
Hair and Skin Development and Function	abnormal morphology of stratum corneum	1.40E-02	F2RL1,LMO4	2
Lipid Metabolism	uptake of lipid	1.41E-02	CCRN4L,MUC1,SLC27A2,TNFSF10	4
Small Molecule Biochemistry	uptake of lipid	1.41E-02	CCRN4L,MUC1,SLC27A2,TNFSF10	4
Molecular Transport	uptake of lipid	1.41E-02	CCRN4L,MUC1,SLC27A2,TNFSF10	4
Energy Production	oxidation of fatty acid	1.48E-02	ABCD3,BID,PRKAA2,SLC27A2	4
Lipid Metabolism	oxidation of fatty acid	1.48E-02	ABCD3,BID,PRKAA2,SLC27A2	4
Small Molecule Biochemistry	oxidation of fatty acid	1.48E-02	ABCD3,BID,PRKAA2,SLC27A2	4
Cellular Compromise	degradation of mitochondria	1.50E-02	BID,TNFSF10	2
Cardiovascular System Development and Function	abnormal morphology of vasculature	1.51E-02	CXADR,FZD5,GJB2,RGS2 (includes EG:19735)	4
Organismal Injury and Abnormalities	endotoxin shock response	1.51E-02	BID,F2RL1,IRAK4	3
Hematological Disease	endotoxin shock response	1.51E-02	BID,F2RL1,IRAK4	3
Infectious Disease	endotoxin shock response	1.51E-02	BID,F2RL1,IRAK4	3
Hematopoiesis	maturation of leukocytes	1.53E-02	ELF3,F2RL1,IRAK4,PHC1,TNFSF10	5
Cellular Development	maturation of leukocytes	1.53E-02	ELF3,F2RL1,IRAK4,PHC1,TNFSF10	5
Organ Morphology	morphology of hair	1.56E-02	DNASE1L2,F2RL1,LIPH	3
Hair and Skin Development and Function	morphology of hair	1.56E-02	DNASE1L2,F2RL1,LIPH	3
Lipid Metabolism	absorption of cholesterol	1.59E-02	MUC1,TNFSF10	2
Small Molecule Biochemistry	absorption of cholesterol	1.59E-02	MUC1,TNFSF10	2
Molecular Transport	absorption of cholesterol	1.59E-02	MUC1,TNFSF10	2
Cell Death and Survival	apoptosis of lung cells	1.59E-02	BID,TNFSF10	2
Molecular Transport	transport of cation	1.64E-02	ANK1,KCNK5,P2RX6,PDZK1,SLC39A4,SLC9A2,TRPV6	7
Dermatological Diseases and Conditions	alopecia	1.66E-02	HR,ITGB6,TRPV6	3
Embryonic Development	spermiogenesis	1.66E-02	ACRBP,CADM1,NME5	3
Organismal Development	spermiogenesis	1.66E-02	ACRBP,CADM1,NME5	3
Tissue Development	spermiogenesis	1.66E-02	ACRBP,CADM1,NME5	3
Organ Development	spermiogenesis	1.66E-02	ACRBP,CADM1,NME5	3

Cellular Development	spermiogenesis	1.66E-02	ACRBP,CADM1,NME5	3
Reproductive System Development and Function	spermiogenesis	1.66E-02	ACRBP,CADM1,NME5	3
Cell Signaling	MAPKKK cascade	1.72E-02	CDON,DUSP4,MAPK11,PPM1L	4
Gene Expression	expression of RNA	1.72E-02	BARX2,BID,CCRN4L,CDON,DUSP4,ELF3,F2RL1,FZD5, HDAC9,HR,IRAK4,IRF2,LMO4,MAPK11,NFE2L3,POU6 F1,PPM1L,PRKAR2B,RASGRF1,RGNEF,RGS2 (includes EG:19735),SIX1,TNFSF10,WNT4	24
Cellular Development	maturation of cells	1.78E-02	CADM1,ELF3,F2RL1,FZD5,IRAK4,PHC1,TNFSF10	7
Inflammatory Response	cytotoxic T lymphocyte response	1.79E-02	IRAK4,MUC1	2
Skeletal and Muscular System Development and Function	fusion of vertebrae	1.79E-02	LMO4,PHC1	2
Hematological System Development and Function	differentiation of blood cells	1.83E-02	ELF3,FZD5,HDAC9,HIST1H4A (includes others),IFNGR2,IRF2,PHC1,TFRC,TNFSF10,UBD,WNT 4	11
Cellular Development	differentiation of blood cells	1.83E-02	ELF3,FZD5,HDAC9,HIST1H4A (includes others),IFNGR2,IRF2,PHC1,TFRC,TNFSF10,UBD,WNT 4	11
Gastrointestinal Disease	colon carcinoma	1.83E-02	ABCD3,MUC1,PPM1L,TFRC,TNFSF10	5
Cancer	colon carcinoma	1.83E-02	ABCD3,MUC1,PPM1L,TFRC,TNFSF10	5
Organ Morphology	abnormal morphology of Reissner's membrane	1.86E-02	SLC26A4	1
Auditory and Vestibular System Development and Function	abnormal morphology of Reissner's membrane	1.86E-02	SLC26A4	1
Organ Morphology	abnormal morphology of spiral limbus	1.86E-02	SLC26A4	1
Auditory and Vestibular System Development and Function	abnormal morphology of spiral limbus	1.86E-02	SLC26A4	1
Embryonic Development	abnormal morphology of strial intermediate cells	1.86E-02	SLC26A4	1
Cell Morphology	abnormal morphology of strial intermediate cells	1.86E-02	SLC26A4	1
Cell-To-Cell Signaling and Interaction	afterhyperpolarization of pyramidal neurons	1.86E-02	LMO4	1
Nervous System Development and Function	afterhyperpolarization of pyramidal neurons	1.86E-02	LMO4	1
Cell Death and Survival	apoptosis of adipoblasts	1.86E-02	TNFSF10	1
Cell Cycle	arrest in mitosis of carcinoma cell lines	1.86E-02	ACRBP	1
Cellular Function and Maintenance	autophagy of epithelial cells	1.86E-02	TNFSF10	1
Cell Morphology	autophagy of epithelial cells	1.86E-02	TNFSF10	1

Dermatological Diseases and Conditions	autosomal recessive hypotrichosis	1.86E-02	LIPH	1
Hereditary Disorder	autosomal recessive hypotrichosis	1.86E-02	LIPH	1
Behavior	barbering behavior	1.86E-02	CHST8	1
Gastrointestinal Disease	bile duct obstruction	1.86E-02	GJB2	1
Hepatic System Disease	bile duct obstruction	1.86E-02	GJB2	1
Tissue Development	cell-cell contact of nervous tissue cell lines	1.86E-02	CADM1	1
Cell-To-Cell Signaling and Interaction	cell-cell contact of nervous tissue cell lines	1.86E-02	CADM1	1
Nervous System Development and Function	cell-cell contact of nervous tissue cell lines	1.86E-02	CADM1	1
Molecular Transport Small Molecule	concentration of bicarbonate	1.86E-02	KCNK5	1
Biochemistry	concentration of hormone	1.86E-02	CHST8,FAM3B,NAPEPLD,PRKAA2,PRKAR2B,RASGRF1,WNT4	7
Endocrine System Development and Function	concentration of hormone	1.86E-02	CHST8,FAM3B,NAPEPLD,PRKAA2,PRKAR2B,RASGRF1,WNT4	7
Molecular Transport	concentration of hormone	1.86E-02	CHST8,FAM3B,NAPEPLD,PRKAA2,PRKAR2B,RASGRF1,WNT4	7
Cellular Compromise	degeneration of type II fibrocyte	1.86E-02	SLC26A4	1
Cell-To-Cell Signaling and Interaction	depotentialization of synapse	1.86E-02	ADCY8	1
Nervous System Development and Function	depotentialization of synapse	1.86E-02	ADCY8	1
Organismal Development	development of capillary plexus	1.86E-02	FZD5	1
Cardiovascular System Development and Function	development of capillary plexus	1.86E-02	FZD5	1
Embryonic Development	development of tympanic ring	1.86E-02	PHC1	1
Organismal Development	development of tympanic ring	1.86E-02	PHC1	1
Tissue Development Embryonic	development of tympanic ring	1.86E-02	PHC1	1
Development	development of vestibule	1.86E-02	SIX1	1
Organismal Development	development of vestibule	1.86E-02	SIX1	1
Tissue Development	development of vestibule	1.86E-02	SIX1	1
Organ Development Auditory and Vestibular System	development of vestibule	1.86E-02	SIX1	1
Development and Function	development of vestibule	1.86E-02	SIX1	1

Auditory Disease	dilatation of the vestibular aqueduct	1.86E-02	SLC26A4	1
Hereditary Disorder	dilatation of the vestibular aqueduct	1.86E-02	SLC26A4	1
Neurological Disease	dilatation of the vestibular aqueduct	1.86E-02	SLC26A4	1
Cellular Compromise	disorganization of myofiber	1.86E-02	SIX1	1
Cellular Assembly and Organization	dissociation of mitochondria	1.86E-02	BID	1
Cell Signaling	hepatocyte growth factor receptor signaling	1.86E-02	MUC20	1
Cellular Function and Maintenance	hyperpolarization of POMC neurons	1.86E-02	PRKAA2	1
Developmental Disorder	hypoplasia of parathyroid gland	1.86E-02	PHC1	1
Endocrine System Disorders	hypoplasia of parathyroid gland	1.86E-02	PHC1	1
Developmental Disorder	hypoplasia of thyroid gland	1.86E-02	PHC1	1
Endocrine System Disorders	hypoplasia of thyroid gland	1.86E-02	PHC1	1
Neurological Disease	injury of axons	1.86E-02	F2RL1	1
Cell Death and Survival	killing of epithelial cells	1.86E-02	TNFSF10	1
Cell Death and Survival	killing of hepatoma cell lines	1.86E-02	TNFSF10	1
Organ Morphology	lack of Langerhans cells	1.86E-02	ITGB6	1
Cell Morphology	lack of Langerhans cells	1.86E-02	ITGB6	1
Inflammatory Response	lack of Langerhans cells	1.86E-02	ITGB6	1
Cell Death and Survival	lysis of dendritic cells	1.86E-02	TNFSF10	1
Lipid Metabolism	metabolism of ketone body	1.86E-02	OXCT1	1
Small Molecule				
Biochemistry	metabolism of ketone body	1.86E-02	OXCT1	1
Cellular Movement	mobility of lung cancer cell lines	1.86E-02	CADM1	1
	morphology of keratinocyte cancer cell lines	1.86E-02	TRPV6	1
Cell Morphology				
Cellular Assembly and Organization	opening of cellular membrane	1.86E-02	BID	1
Embryonic Development	quantity of labyrinthine trophoblast cells	1.86E-02	KRT19 (includes EG:16669)	1
	quantity of labyrinthine trophoblast cells	1.86E-02	KRT19 (includes EG:16669)	1
Tissue Morphology	quantity of labyrinthine trophoblast cells	1.86E-02	KRT19 (includes EG:16669)	1
Cellular Growth and Proliferation	quantity of labyrinthine trophoblast cells	1.86E-02	KRT19 (includes EG:16669)	1
	quantity of labyrinthine trophoblast cells	1.86E-02	KRT19 (includes EG:16669)	1
Cellular Development	regulation of vascular smooth muscle cells	1.86E-02	RGNEF	1
Cellular Function and Maintenance				
Cellular Response to Therapeutics	sensitivity of tumor cells	1.86E-02	TNFSF10	1
Small Molecule				
Biochemistry	sulfation of dopamine	1.86E-02	SULT1C2	1

Cell-To-Cell Signaling and Interaction	sulfation of dopamine	1.86E-02	SULT1C2	1
Drug Metabolism	sulfation of dopamine	1.86E-02	SULT1C2	1
Lipid Metabolism	synthesis of anandamide	1.86E-02	NAPEPLD	1
Small Molecule				
Biochemistry	synthesis of anandamide	1.86E-02	NAPEPLD	1
Endocrine System				
Development and Function	synthesis of anandamide	1.86E-02	NAPEPLD	1
Molecular Transport	transport of iodine	1.86E-02	SLC26A4	1
Small Molecule				
Biochemistry	transport of uric acid	1.86E-02	PDZK1	1
Nucleic Acid				
Metabolism	transport of uric acid	1.86E-02	PDZK1	1
Molecular Transport	transport of uric acid	1.86E-02	PDZK1	1
Cancer	tumorigenesis of B cell lymphoma cells	1.86E-02	EMP2	1
Hematological Disease	tumorigenesis of B cell lymphoma cells	1.86E-02	EMP2	1
Immunological				
Disease	tumorigenesis of B cell lymphoma cells	1.86E-02	EMP2	1
Gastrointestinal				
Disease	tumorigenesis of colon carcinoma	1.86E-02	MUC1	1
Cancer	tumorigenesis of colon carcinoma	1.86E-02	MUC1	1
Embryonic				
Development	vasculogenesis of placenta	1.86E-02	FZD5	1
Organismal				
Development	vasculogenesis of placenta	1.86E-02	FZD5	1
Tissue Development	vasculogenesis of placenta	1.86E-02	FZD5	1
Organ Development	vasculogenesis of placenta	1.86E-02	FZD5	1
Cardiovascular System				
Development and Function	vasculogenesis of placenta	1.86E-02	FZD5	1
Reproductive System				
Development and Function	vasculogenesis of placenta	1.86E-02	FZD5	1
Small Molecule				
Biochemistry	catabolism of L-amino acid	1.90E-02	ASPA,HAL	2
Amino Acid				
Metabolism	catabolism of L-amino acid	1.90E-02	ASPA,HAL	2
Hematological System				
Development and Function	differentiation of lymphocytes	1.91E-02	ELF3,FZD5,HDAC9,IFNGR2,IRF2,PHC1,TNFSF10,WNT4	8
Hematopoiesis	differentiation of lymphocytes	1.91E-02	ELF3,FZD5,HDAC9,IFNGR2,IRF2,PHC1,TNFSF10,WNT4	8
Cellular Development	differentiation of lymphocytes	1.91E-02	ELF3,FZD5,HDAC9,IFNGR2,IRF2,PHC1,TNFSF10,WNT4	8
Free Radical				
Scavenging	synthesis of reactive oxygen species	1.92E-02	BID,F2RL1,MUC1,NFE2L3,NOXA1,PRKAA2,TFRC	7
Inflammatory Disease	Encephalitis	1.95E-02	DUSP10,F2RL1,IRAK4,MAPK11,TNFSF10	5

Neurological Disease	Encephalitis	1.95E-02	DUSP10,F2RL1,IRAK4,MAPK11,TNFSF10	5
Organ Morphology	lack of kidney	2.01E-02	SIX1,WNT4	2
Renal and Urological System Development and Function	lack of kidney	2.01E-02	SIX1,WNT4	2
Lipid Metabolism Small Molecule	release of prostaglandin E2	2.01E-02	F2RL1,IRF2	2
Biochemistry	release of prostaglandin E2	2.01E-02	F2RL1,IRF2	2
Molecular Transport	release of prostaglandin E2	2.01E-02	F2RL1,IRF2	2
Drug Metabolism	release of prostaglandin E2	2.01E-02	F2RL1,IRF2	2
Cell Death and Survival	cell death of connective tissue cells	2.06E-02	BID,DUSP4,EMP2,MAPK11,MUC1,PGLYRP1,PRKAR2B, TNFSF10,UBD	9
Immunological Disease	systemic autoimmune syndrome	2.08E-02	ADCY8,CHST8,F2RL1,FZD5,GABRP,HIST1H3A (includes others),HIST1H4A (includes others),HIST2H2BE (includes others),IFNGR2,PGLYRP1,RASGRF1,TFRC,TNFSF10	13
Cell Death and Survival	cell death of vascular endothelial cells	2.10E-02	F2RL1,MAPK11,TNFSF10	3
Cell Death and Survival Cellular Function and Maintenance	cytolysis of tumor cell lines	2.12E-02	MUC1,TNFSF10	2
Cell Morphology	pH of cells	2.12E-02	SLC26A4,SLC9A2	2
Gastrointestinal Disease	pH of cells	2.12E-02	SLC26A4,SLC9A2	2
Hepatic System Disease	cholestasis	2.16E-02	GJB2,MGST3,TNFSF10	3
Hepatic System Disease	cholestasis	2.16E-02	GJB2,MGST3,TNFSF10	3
Cell Death and Survival	cell death of fibroblasts	2.27E-02	BID,MAPK11,PRKAR2B,TNFSF10,UBD	5
Infectious Disease	Bacterial Infection	2.29E-02	BID,F2RL1,GABRP,IFNGR2,IRAK4,TNFSF10,UBD	7
Hereditary Disorder	recessive disease	2.45E-02	ABCD3,GJB2,HAL,LIPH,SLC26A4,ST3GAL5	6
Tissue Morphology	quantity of dendritic cells	2.46E-02	F2RL1,IRF2,ITGB6	3
Hematological System Development and Function	quantity of dendritic cells	2.46E-02	F2RL1,IRF2,ITGB6	3
Inflammatory Response	quantity of dendritic cells	2.46E-02	F2RL1,IRF2,ITGB6	3
Organ Morphology Auditory and Vestibular System Development and Function	abnormal morphology of endolymphatic sac	2.47E-02	SLC26A4	1
Organ Morphology Auditory and Vestibular System Development and Function	abnormal morphology of endolymphatic sac	2.47E-02	SLC26A4	1
Organ Morphology Hair and Skin Development and Function	abnormal morphology of hair cuticle	2.47E-02	LIPH	1
Organ Morphology Hair and Skin Development and Function	abnormal morphology of hair cuticle	2.47E-02	LIPH	1
Organ Morphology	abnormal morphology of inguinal lymph node	2.47E-02	IRF2	1
Tissue Morphology	abnormal morphology of inguinal lymph node	2.47E-02	IRF2	1

Lymphoid Tissue Structure and Development	abnormal morphology of inguinal lymph node	2.47E-02	IRF2	1
Organ Morphology	abnormal morphology of myocardial cuff	2.47E-02	CXADR	1
Cardiovascular System Development and Function	abnormal morphology of myocardial cuff	2.47E-02	CXADR	1
Organ Morphology Auditory and Vestibular System	abnormal morphology of otolithic membrane	2.47E-02	SLC26A4	1
Development and Function	abnormal morphology of otolithic membrane	2.47E-02	SLC26A4	1
Organ Morphology	abnormal morphology of sperm	2.47E-02	CADM1	1
Cell Morphology	abnormal morphology of sperm	2.47E-02	CADM1	1
Reproductive System Development and Function	abnormal morphology of sperm	2.47E-02	CADM1	1
Cell-To-Cell Signaling and Interaction Respiratory System	activation of airway epithelial cells	2.47E-02	F2RL1	1
Development and Function	activation of airway epithelial cells	2.47E-02	F2RL1	1
Cell-To-Cell Signaling and Interaction	activation of carcinoma cell lines	2.47E-02	CADM1	1
Cell-To-Cell Signaling and Interaction	activation of lung cancer cell lines	2.47E-02	CADM1	1
Cellular Assembly and Organization	aggregation of pigment granules	2.47E-02	RGS2 (includes EG:19735)	1
Cell Death and Survival	apoptosis of PrEC cells	2.47E-02	TNFSF10	1
Cell Death and Survival	apoptosis of acute myeloid leukemia blast cells	2.47E-02	MUC1	1
Tumor Morphology	apoptosis of acute myeloid leukemia blast cells	2.47E-02	MUC1	1
Cell Death and Survival	apoptosis of adenocarcinoma cell lines	2.47E-02	TNFSF10	1
Cell Death and Survival	apoptosis of follicular B-cell lymphoma cells	2.47E-02	TNFSF10	1
Tumor Morphology	apoptosis of follicular B-cell lymphoma cells	2.47E-02	TNFSF10	1
Cell Death and Survival	apoptosis of multiple myeloma cells	2.47E-02	TNFSF10	1
Tumor Morphology	apoptosis of multiple myeloma cells	2.47E-02	TNFSF10	1
Cell Death and Survival Small Molecule	apoptosis of spermatids	2.47E-02	CADM1	1
Biochemistry Amino Acid	catabolism of L-aspartic acid	2.47E-02	ASPA	1
Metabolism	catabolism of L-aspartic acid	2.47E-02	ASPA	1
Lipid Metabolism	catabolism of glycerophospholipid	2.47E-02	PLA2G4B	1

Small Molecule				
Biochemistry	catabolism of glycerophospholipid	2.47E-02	PLA2G4B	1
Carbohydrate				
Metabolism	catabolism of glycerophospholipid	2.47E-02	PLA2G4B	1
Cell Death and Survival	cell viability of mesothelioma cell lines	2.47E-02	TNFSF10	1
Cell Death and Survival	cell viability of sperm	2.47E-02	CADM1	1
Reproductive System				
Development and				
Function	cell viability of sperm	2.47E-02	CADM1	1
Respiratory Disease	constriction of airway	2.47E-02	F2RL1	1
Lipid Metabolism	conversion of lysophosphatidic acid	2.47E-02	LIPH	1
Small Molecule				
Biochemistry	conversion of lysophosphatidic acid	2.47E-02	LIPH	1
Carbohydrate				
Metabolism	conversion of lysophosphatidic acid	2.47E-02	LIPH	1
Cell Death and Survival	cytolysis of prostate cancer cell lines	2.47E-02	MUC1	1
Cell Death and Survival	cytotoxicity of monocytes	2.47E-02	TNFSF10	1
Auditory Disease	degeneration of stria vascularis of cochlea	2.47E-02	SLC26A4	1
Cancer	delay in formation of mammary tumor	2.47E-02	MUC1	1
Reproductive System				
Disease	delay in formation of mammary tumor	2.47E-02	MUC1	1
Embryonic				
Development	development of cervical vertebra	2.47E-02	LMO4	1
Organismal				
Development	development of cervical vertebra	2.47E-02	LMO4	1
Tissue Development	development of cervical vertebra	2.47E-02	LMO4	1
Skeletal and Muscular				
System Development				
and Function	development of cervical vertebra	2.47E-02	LMO4	1
Connective Tissue				
Development and				
Function	development of cervical vertebra	2.47E-02	LMO4	1
Organ Development	development of cervical vertebra	2.47E-02	LMO4	1
Cellular Development	differentiation of mammary epithelial cells	2.47E-02	LMO4	1
Reproductive System				
Development and				
Function	differentiation of mammary epithelial cells	2.47E-02	LMO4	1
Embryonic				
Development	formation of skeletal muscle	2.47E-02	RGS2 (includes EG:19735)	1
Organismal				
Development	formation of skeletal muscle	2.47E-02	RGS2 (includes EG:19735)	1
Tissue Development	formation of skeletal muscle	2.47E-02	RGS2 (includes EG:19735)	1

Skeletal and Muscular System Development and Function	formation of skeletal muscle	2.47E-02	RGS2 (includes EG:19735)	1
Organ Development	formation of skeletal muscle	2.47E-02	RGS2 (includes EG:19735)	1
Organismal Injury and Abnormalities	hereditary spherocytosis	2.47E-02	ANK1	1
Developmental Disorder	hereditary spherocytosis	2.47E-02	ANK1	1
Hematological Disease	hereditary spherocytosis	2.47E-02	ANK1	1
Hereditary Disorder	hereditary spherocytosis	2.47E-02	ANK1	1
Small Molecule Biochemistry	hydrolysis of ADP	2.47E-02	ABCD3	1
DNA Replication, Recombination, and Repair	hydrolysis of ADP	2.47E-02	ABCD3	1
Nucleic Acid Metabolism	hydrolysis of ADP	2.47E-02	ABCD3	1
Cardiovascular Disease	hypertrophy of aorta	2.47E-02	RGS2 (includes EG:19735)	1
Developmental Disorder	hypertrophy of aorta	2.47E-02	RGS2 (includes EG:19735)	1
Gastrointestinal Disease	hypochlorhydria	2.47E-02	SLC9A2	1
Molecular Transport	import of heavy metal	2.47E-02	TFRC	1
Organismal Development	lack of maxillary incisor	2.47E-02	CDON	1
Digestive System Development and Function	lack of maxillary incisor	2.47E-02	CDON	1
Embryonic Development	lack of mullerian duct	2.47E-02	WNT4	1
Tissue Morphology	lack of mullerian duct	2.47E-02	WNT4	1
Gastrointestinal Disease	lipopolysaccharide hepatocellular cholestasis	2.47E-02	GJB2	1
Hepatic System Disease	lipopolysaccharide hepatocellular cholestasis	2.47E-02	GJB2	1
Cell-To-Cell Signaling and Interaction	long term depression of hippocampal CA1 region	2.47E-02	ADCY8	1
Nervous System Development and Function	long term depression of hippocampal CA1 region	2.47E-02	ADCY8	1
Cellular Development	maturation of sperm	2.47E-02	CADM1	1
Reproductive System Development and Function	maturation of sperm	2.47E-02	CADM1	1
Hematological System Development and Function	pH of blood	2.47E-02	KCNK5	1
Organ Morphology	permeability of colon	2.47E-02	F2RL1	1

Digestive System Development and Function	permeability of colon	2.47E-02	F2RL1	1
Organismal Injury and Abnormalities	reticulocytosis	2.47E-02	PRKAA2	1
Hematological Disease	reticulocytosis	2.47E-02	PRKAA2	1
Cellular Response to Therapeutics	sensitivity of colon cancer cell lines	2.47E-02	TNFSF10	1
Organ Morphology	size of submandibular gland	2.47E-02	SIX1	1
Digestive System Development and Function	size of submandibular gland	2.47E-02	SIX1	1
Lipid Metabolism	synthesis of lactosylceramide	2.47E-02	ST3GAL5	1
Small Molecule Biochemistry	synthesis of lactosylceramide	2.47E-02	ST3GAL5	1
Cellular Development	transdifferentiation of pancreatic cancer cell lines	2.47E-02	MUC1	1
Molecular Transport	transport of iodide	2.47E-02	SLC26A4	1
Organismal Development	vasodilation of mesenteric resistance artery	2.47E-02	RGS2 (includes EG:19735)	1
Tissue Morphology	vasodilation of mesenteric resistance artery	2.47E-02	RGS2 (includes EG:19735)	1
Cardiovascular System Development and Function	vasodilation of mesenteric resistance artery	2.47E-02	RGS2 (includes EG:19735)	1
Protein Synthesis	homo-oligomerization of protein	2.53E-02	BID,MUC20,P2RX6	3
Organismal Injury and Abnormalities	edema of lung	2.58E-02	F2RL1,ITGB6	2
Respiratory Disease	edema of lung	2.58E-02	F2RL1,ITGB6	2
Cardiovascular Disease	cerebrovascular dysfunction	2.62E-02	ADCY8,GABRP,HDAC9,RASGRF1	4
Neurological Disease	cerebrovascular dysfunction	2.62E-02	ADCY8,GABRP,HDAC9,RASGRF1	4
Protein Synthesis	quantity of IgG2a	2.66E-02	DUSP4,IRF2,TNFSF10	3
Humoral Immune Response	quantity of IgG2a	2.66E-02	DUSP4,IRF2,TNFSF10	3
Cellular Assembly and Organization	binding of chromosome components	2.70E-02	BID,HIST2H2BE (includes others)	2
Skeletal and Muscular System Development and Function	differentiation of myotube	2.70E-02	BARX2,CDON	2
Cellular Development	differentiation of myotube	2.70E-02	BARX2,CDON	2
Ophthalmic Disease	eyelids open at birth	2.70E-02	LMO4,SIX1	2
Inflammatory Response	cell-mediated response	2.71E-02	CADM1,ELF3,IRAK4,MUC1	4
Embryonic Development	development of skull	2.82E-02	CDON,PHC1	2
Organismal Development	development of skull	2.82E-02	CDON,PHC1	2
Tissue Development	development of skull	2.82E-02	CDON,PHC1	2

Skeletal and Muscular System Development and Function	development of skull	2.82E-02	CDON,PHC1	2
Connective Tissue Development and Function	development of skull	2.82E-02	CDON,PHC1	2
Organ Development	development of skull	2.82E-02	CDON,PHC1	2
Lipid Metabolism Small Molecule Biochemistry Carbohydrate Metabolism	hydrolysis of phosphatidic acid	2.86E-02	F2RL1,RGS2 (includes EG:19735),TNFSF10	3
Lipid Metabolism Small Molecule Biochemistry	hydrolysis of phosphatidic acid	2.86E-02	F2RL1,RGS2 (includes EG:19735),TNFSF10	3
Lipid Metabolism Small Molecule Biochemistry	hydrolysis of phosphatidic acid	2.86E-02	F2RL1,RGS2 (includes EG:19735),TNFSF10	3
Lipid Metabolism Small Molecule Biochemistry	quantity of steroid	2.87E-02	F2RL1,RGS2 (includes EG:19735),TNFSF10 ADCY8,CHST8,PDZK1,PRKAA2,PRKAR2B,ST3GAL5,WNT4	7
Molecular Transport Free Radical Scavenging	quantity of steroid	2.87E-02	ADCY8,CHST8,PDZK1,PRKAA2,PRKAR2B,ST3GAL5,WNT4	7
Auditory Disease Hereditary Disorder	quantity of steroid	2.87E-02	ADCY8,CHST8,PDZK1,PRKAA2,PRKAR2B,ST3GAL5,WNT4	7
Neurological Disease Embryonic Development Cell Signaling Auditory Disease	production of superoxide	2.93E-02	F2RL1,NOXA1,PRKAA2	3
Neurological Disease Embryonic Development Cell Signaling Auditory Disease	autosomal recessive deafness	2.95E-02	GJB2,SLC26A4	2
Neurological Disease Embryonic Development Cell Signaling Auditory Disease	autosomal recessive deafness	2.95E-02	GJB2,SLC26A4	2
Neurological Disease Embryonic Development Cell Signaling Auditory Disease	autosomal recessive deafness	2.95E-02	GJB2,SLC26A4	2
Neurological Disease Embryonic Development Cell Signaling Auditory Disease	tubulogenesis	2.95E-02	CADM1,WNT4	2
Neurological Disease Embryonic Development Cell Signaling Auditory Disease	protein kinase cascade	2.99E-02	CDON,DUSP4,F2RL1,MAPK11,PPM1L,UBD	6
Neurological Disease Embryonic Development Cell Signaling Auditory Disease	deafness	3.07E-02	GJB2,SIX1,SLC26A4	3
Neurological Disease Embryonic Development Cell Signaling Auditory Disease	deafness	3.07E-02	GJB2,SIX1,SLC26A4	3
Neurological Disease Embryonic Development Cell Signaling Auditory Disease	cell death of squamous cell carcinoma cell lines	3.07E-02	GJB2,SIX1,SLC26A4	3
Cell Death and Survival Small Molecule Biochemistry Cellular Function and Maintenance Small Molecule Biochemistry Cell Signaling	cell lines	3.08E-02	BID,TNFSF10	2
Cell Death and Survival Small Molecule Biochemistry Cellular Function and Maintenance Small Molecule Biochemistry Cell Signaling	homeostasis of transition metal ion	3.08E-02	SLC39A4,TFRC	2
Cell Death and Survival Small Molecule Biochemistry Cellular Function and Maintenance Small Molecule Biochemistry Cell Signaling	homeostasis of transition metal ion	3.08E-02	SLC39A4,TFRC	2
Cell Death and Survival Small Molecule Biochemistry Cellular Function and Maintenance Small Molecule Biochemistry Cell Signaling	homeostasis of transition metal ion	3.08E-02	SLC39A4,TFRC	2
Cell Death and Survival Small Molecule Biochemistry Cellular Function and Maintenance Small Molecule Biochemistry Cell Signaling	oscillation of Ca ²⁺	3.08E-02	MUC1,RGS2 (includes EG:19735)	2
Cell Death and Survival Small Molecule Biochemistry Cellular Function and Maintenance Small Molecule Biochemistry Cell Signaling	oscillation of Ca ²⁺	3.08E-02	MUC1,RGS2 (includes EG:19735)	2
Vitamin and Mineral Metabolism	oscillation of Ca ²⁺	3.08E-02	MUC1,RGS2 (includes EG:19735)	2
Organ Morphology Hair and Skin Development and Function	abnormal morphology of hair medulla	3.08E-02	LIPH	1
Organ Morphology Hair and Skin Development and Function	abnormal morphology of hair medulla	3.08E-02	LIPH	1
Organ Morphology Hair and Skin Development and Function	abnormal morphology of maxillary shelf	3.08E-02	CDON	1
Organ Morphology Hair and Skin Development and Function	abnormal morphology of nerve fiber layer of retina	3.08E-02	ASPA	1
Organ Morphology Hair and Skin Development and Function	abnormal morphology of nerve fiber layer of retina	3.08E-02	ASPA	1
Organ Morphology Hair and Skin Development and Function	abnormal morphology of nerve fiber layer of retina	3.08E-02	ASPA	1
Organ Morphology Hair and Skin Development and Function	abnormal morphology of nerve fiber layer of retina	3.08E-02	ASPA	1

Tissue Development	abnormal morphology of nerve fiber layer of retina	3.08E-02	ASPA	1
Tissue Morphology	abnormal morphology of nerve fiber layer of retina	3.08E-02	ASPA	1
Organ Development Nervous System	abnormal morphology of nerve fiber layer of retina	3.08E-02	ASPA	1
Development and Function Visual System	abnormal morphology of nerve fiber layer of retina	3.08E-02	ASPA	1
Development and Function	abnormal morphology of nerve fiber layer of retina	3.08E-02	ASPA	1
Organ Morphology Embryonic	abnormal morphology of premaxilla	3.08E-02	CDON	1
Development Organismal	abnormal morphology of premaxilla	3.08E-02	CDON	1
Development	abnormal morphology of premaxilla	3.08E-02	CDON	1
Tissue Development	abnormal morphology of premaxilla	3.08E-02	CDON	1
Skeletal and Muscular System Development and Function	abnormal morphology of premaxilla	3.08E-02	CDON	1
Connective Tissue Development and Function	abnormal morphology of premaxilla	3.08E-02	CDON	1
Organ Development	abnormal morphology of premaxilla	3.08E-02	CDON	1
Energy Production	alpha-oxidation of fatty acid	3.08E-02	SLC27A2	1
Lipid Metabolism Small Molecule	alpha-oxidation of fatty acid	3.08E-02	SLC27A2	1
Biochemistry	alpha-oxidation of fatty acid	3.08E-02	SLC27A2	1
Cell Death and Survival	apoptosis of Hodgkin and Reed-Sternberg cells	3.08E-02	TNFSF10	1
Tumor Morphology	apoptosis of Hodgkin and Reed-Sternberg cells	3.08E-02	TNFSF10	1
Cell Death and Survival Cellular Function and Maintenance	apoptosis of follicular cells	3.08E-02	TNFSF10	1
Cell Morphology	autophagy of breast cell lines	3.08E-02	TNFSF10	1
Cell Morphology	autophagy of breast cell lines	3.08E-02	TNFSF10	1
Reproductive System Development and Function	autophagy of breast cell lines	3.08E-02	TNFSF10	1
Cardiovascular Disease Cancer	cardiac hyperplasia	3.08E-02	CXADR	1
Cardiovascular Disease Cancer	cardiac hyperplasia	3.08E-02	CXADR	1
Small Molecule Biochemistry	catabolism of L-histidine	3.08E-02	HAL	1
Amino Acid Metabolism	catabolism of L-histidine	3.08E-02	HAL	1
Hematological System Development and Function	colony formation of B lymphocytes	3.08E-02	PHC1	1
Hematopoiesis	colony formation of B lymphocytes	3.08E-02	PHC1	1

Cellular Growth and Proliferation	colony formation of B lymphocytes	3.08E-02	PHC1	1
Humoral Immune Response	colony formation of B lymphocytes	3.08E-02	PHC1	1
Cell Death and Survival	cytolysis of melanoma cell lines	3.08E-02	TNFSF10	1
Tumor Morphology	cytotoxic reaction of cancer cells	3.08E-02	TNFSF10	1
Cell-To-Cell Signaling and Interaction	cytotoxic reaction of cancer cells	3.08E-02	TNFSF10	1
Inflammatory Response	cytotoxic reaction of cancer cells	3.08E-02	TNFSF10	1
Cancer	cytotoxic reaction of cancer cells	3.08E-02	TNFSF10	1
Embryonic Development	development of mullerian duct	3.08E-02	WNT4	1
Organismal Development	development of mullerian duct	3.08E-02	WNT4	1
Tissue Development	development of mullerian duct	3.08E-02	WNT4	1
Tumor Morphology	differentiation of carcinoma	3.08E-02	MUC1	1
Cellular Development	differentiation of carcinoma	3.08E-02	MUC1	1
Cancer	differentiation of carcinoma	3.08E-02	MUC1	1
Cellular Assembly and Organization	disruption of lipid bilayer	3.08E-02	BID	1
Cellular Compromise	disruption of lipid bilayer	3.08E-02	BID	1
Tissue Development	formation of epithelial tubule	3.08E-02	WNT4	1
Cellular Compromise	fragmentation of spindle pole	3.08E-02	ACRBP	1
Embryonic Development	height of growth plate	3.08E-02	IGFALS	1
Organismal Development	height of growth plate	3.08E-02	IGFALS	1
Tissue Development	height of growth plate	3.08E-02	IGFALS	1
Skeletal and Muscular System Development and Function	height of growth plate	3.08E-02	IGFALS	1
Connective Tissue Development and Function	height of growth plate	3.08E-02	IGFALS	1
Organ Development	height of growth plate	3.08E-02	IGFALS	1
Infectious Disease	herpes simplex encephalitis	3.08E-02	IRAK4	1
Inflammatory Disease	herpes simplex encephalitis	3.08E-02	IRAK4	1
Neurological Disease	herpes simplex encephalitis	3.08E-02	IRAK4	1
Tissue Development	inflammation of myocardium	3.08E-02	IRAK4	1
Inflammatory Response	inflammation of myocardium	3.08E-02	IRAK4	1
Cellular Compromise	injury of mitochondria	3.08E-02	TNFSF10	1

Embryonic Development	invasion of extravillous trophoblast cells	3.08E-02	MUC1	1
Cellular Movement	invasion of extravillous trophoblast cells	3.08E-02	MUC1	1
Cell Death and Survival	killing of cancer cells	3.08E-02	TNFSF10	1
Tumor Morphology	killing of cancer cells	3.08E-02	TNFSF10	1
Cancer	killing of cancer cells	3.08E-02	TNFSF10	1
Cell Death and Survival	killing of colon cancer cell lines	3.08E-02	TNFSF10	1
Cell Death and Survival	killing of endothelial cells	3.08E-02	PHC1	1
Cell Death and Survival	killing of lung cancer cell lines	3.08E-02	TNFSF10	1
Organ Morphology	lack of vestibule	3.08E-02	SIX1	1
Auditory and Vestibular System Development and Function	lack of vestibule	3.08E-02	SIX1	1
Lipid Metabolism	lipolysis of white adipose tissue	3.08E-02	PRKAR2B	1
Small Molecule Biochemistry	lipolysis of white adipose tissue	3.08E-02	PRKAR2B	1
Tissue Morphology	lipolysis of white adipose tissue	3.08E-02	PRKAR2B	1
Connective Tissue Development and Function	lipolysis of white adipose tissue	3.08E-02	PRKAR2B	1
Molecular Transport	localization of green fluorescent protein	3.08E-02	TFRC	1
Protein Synthesis	localization of green fluorescent protein	3.08E-02	TFRC	1
Protein Trafficking	localization of green fluorescent protein	3.08E-02	TFRC	1
Cell-To-Cell Signaling and Interaction	long-term potentiation of collateral synapses	3.08E-02	ADCY8	1
Nervous System Development and Function	long-term potentiation of collateral synapses	3.08E-02	ADCY8	1
Cellular Development	maturation of spermatids	3.08E-02	CADM1	1
Reproductive System Development and Function	maturation of spermatids	3.08E-02	CADM1	1
Cellular Movement	mobility of carcinoma cell lines	3.08E-02	CADM1	1
Organismal Development	osteoclastogenesis of peripheral blood monocytes	3.08E-02	TNFSF10	1
Tissue Development	osteoclastogenesis of peripheral blood monocytes	3.08E-02	TNFSF10	1
Skeletal and Muscular System Development and Function	osteoclastogenesis of peripheral blood monocytes	3.08E-02	TNFSF10	1
Hematological System Development and Function	osteoclastogenesis of peripheral blood monocytes	3.08E-02	TNFSF10	1

Hematopoiesis	osteoclastogenesis of peripheral blood monocytes	3.08E-02	TNFSF10	1
Cellular Development	osteoclastogenesis of peripheral blood monocytes	3.08E-02	TNFSF10	1
Cardiovascular System				
Development and Function	osteoclastogenesis of peripheral blood monocytes	3.08E-02	TNFSF10	1
Lymphoid Tissue Structure and Development	osteoclastogenesis of peripheral blood monocytes	3.08E-02	TNFSF10	1
Small Molecule Biochemistry	phosphorylation of nucleoside diphosphates	3.08E-02	NME5	1
Nucleic Acid Metabolism	phosphorylation of nucleoside diphosphates	3.08E-02	NME5	1
Cell Morphology	polarity of epithelial cells	3.08E-02	ANK1	1
Embryonic Development	quantity of spongiotrophoblasts	3.08E-02	KRT19 (includes EG:16669)	1
Organismal Development	quantity of spongiotrophoblasts	3.08E-02	KRT19 (includes EG:16669)	1
Tissue Morphology	quantity of spongiotrophoblasts	3.08E-02	KRT19 (includes EG:16669)	1
Reproductive System				
Development and Function	quantity of spongiotrophoblasts	3.08E-02	KRT19 (includes EG:16669)	1
Cellular Movement	release of blood platelets	3.08E-02	TFRC	1
Lipid Metabolism	release of dinoprost	3.08E-02	F2RL1	1
Small Molecule Biochemistry	release of dinoprost	3.08E-02	F2RL1	1
Molecular Transport	release of dinoprost	3.08E-02	F2RL1	1
Cellular Function and Maintenance	respiratory burst of peritoneal macrophages	3.08E-02	IRF2	1
Cell-To-Cell Signaling and Interaction	respiratory burst of peritoneal macrophages	3.08E-02	IRF2	1
Inflammatory Response	respiratory burst of peritoneal macrophages	3.08E-02	IRF2	1
Cellular Compromise	respiratory burst of peritoneal macrophages	3.08E-02	IRF2	1
Small Molecule Biochemistry	response of cyclic AMP	3.08E-02	RGS2 (includes EG:19735)	1
Nucleic Acid Metabolism	response of cyclic AMP	3.08E-02	RGS2 (includes EG:19735)	1
Cell Signaling	response of cyclic AMP	3.08E-02	RGS2 (includes EG:19735)	1
Embryonic Development	secondary sex determination	3.08E-02	WNT4	1
Organismal Development	secondary sex determination	3.08E-02	WNT4	1
Small Molecule Biochemistry	synthesis of S-adenosylmethionine	3.08E-02	MAT2A	1
Nucleic Acid Metabolism	synthesis of S-adenosylmethionine	3.08E-02	MAT2A	1
Amino Acid Metabolism	synthesis of S-adenosylmethionine	3.08E-02	MAT2A	1
Lipid Metabolism	synthesis of ganglioside GM3	3.08E-02	ST3GAL5	1
Small Molecule Biochemistry	synthesis of ganglioside GM3	3.08E-02	ST3GAL5	1

Embryonic Development	tubulogenesis of metanephric mesenchyme	3.08E-02	WNT4	1
Organismal Development	tubulogenesis of metanephric mesenchyme	3.08E-02	WNT4	1
Tissue Development	tubulogenesis of metanephric mesenchyme	3.08E-02	WNT4	1
Cancer	tumor sphere	3.08E-02	SIX1	1
Embryonic Development	vasculogenesis of yolk sac	3.08E-02	FZD5	1
Organismal Development	vasculogenesis of yolk sac	3.08E-02	FZD5	1
Tissue Development	vasculogenesis of yolk sac	3.08E-02	FZD5	1
Cardiovascular System				
Development and Function	vasculogenesis of yolk sac	3.08E-02	FZD5	1
Cell Death and Survival	cell death of liver cells	3.11E-02	BID,DUSP4,IRF2,TNFSF10	4
Infectious Disease	infection of mammalia	3.16E-02	DUSP4,F2RL1,IFNGR2,IRAK4,TNFSF10,UBD	6
Cancer	carcinoma in situ	3.16E-02	CHST8,FAM3B,MUC1,SEC14L4	4
Small Molecule				
Biochemistry	quantity of insulin in blood	3.16E-02	FAM3B,PRKAA2,PRKAR2B,RASGRF1	4
Endocrine System				
Development and Function	quantity of insulin in blood	3.16E-02	FAM3B,PRKAA2,PRKAR2B,RASGRF1	4
Molecular Transport	quantity of insulin in blood	3.16E-02	FAM3B,PRKAA2,PRKAR2B,RASGRF1	4
Protein Synthesis	quantity of insulin in blood	3.16E-02	FAM3B,PRKAA2,PRKAR2B,RASGRF1	4
Gene Expression	transcription of RNA	3.28E-02	BARX2,BID,CCRN4L,CDON,DUSP4,ELF3,F2RL1,FZD5,HDAC9,HR,IRAK4,IRF2,LMO4,MAPK11,NFE2L3,POU6F1,PRKAR2B,RASGRF1,SIX1,TNFSF10,WNT4	21
Cell Death and Survival	cell death of kidney cell lines	3.34E-02	BID,DUSP4,EMP2,TFRC,TNFSF10	5
Cell Death and Survival	apoptosis of fibrosarcoma cell lines	3.34E-02	CSTA,TNFSF10	2
Molecular Transport	transport of heavy metal	3.34E-02	SLC39A4,TFRC	2
Cell Death and Survival	apoptosis of fibroblasts	3.43E-02	BID,PRKAR2B,TNFSF10,UBD	4
Cellular Function and Maintenance				
	transmembrane potential of mitochondria	3.43E-02	ABCD3,BID,MUC1,TNFSF10	4
	transmembrane potential of mitochondria	3.43E-02	ABCD3,BID,MUC1,TNFSF10	4
Cell Morphology	mitochondria	3.43E-02	ABCD3,BID,MUC1,TNFSF10	4
Cellular Function and Maintenance				
	ion homeostasis of cells	3.58E-02	F2RL1,KCNK5,RGS2 (includes EG:19735),SLC26A4,SLC39A4,TFRC,WNT4	7
Hematological System				
Development and Function	differentiation of leukocytes	3.59E-02	ELF3,FZD5,HDAC9,IFNGR2,IRF2,PHC1,TNFSF10,UBD,WNT4	9
Hematopoiesis	differentiation of leukocytes	3.59E-02	ELF3,FZD5,HDAC9,IFNGR2,IRF2,PHC1,TNFSF10,UBD,WNT4	9
Cellular Development	differentiation of leukocytes	3.59E-02	ELF3,FZD5,HDAC9,IFNGR2,IRF2,PHC1,TNFSF10,UBD,WNT4	9
Nervous System				
Development and Function	long-term memory	3.61E-02	ADCY8,RASGRF1	2
Behavior	long-term memory	3.61E-02	ADCY8,RASGRF1	2

Gastrointestinal				
Disease	pancreatic adenocarcinoma	3.61E-02	GABRP,KRT19 (includes EG:16669)	2
Cancer	pancreatic adenocarcinoma	3.61E-02	GABRP,KRT19 (includes EG:16669)	2
Endocrine System				
Disorders	pancreatic adenocarcinoma	3.61E-02	GABRP,KRT19 (includes EG:16669)	2
Tissue Morphology	relaxation of artery	3.61E-02	F2RL1,RGS2 (includes EG:19735)	2
Cardiovascular System				
Development and				
Function	relaxation of artery	3.61E-02	F2RL1,RGS2 (includes EG:19735)	2
Auditory Disease	sensorineural hearing loss	3.61E-02	GJB2,SLC26A4	2
Neurological Disease	sensorineural hearing loss	3.61E-02	GJB2,SLC26A4	2
			ADI1 (includes EG:104923),BCL2L13,BID,CSTA,CXADR,DUSP4,EMP2,F2RL1,GABRP,GJB2,HDAC9,IRAK4,IRF2,MAPK11,MUC1,PDZK1,PGLYRP1,PRKAA2,PRKAR2B,SIX1,TFRC,TNFSF10,UBD,UHRF2,WNT4	25
Cell Death and Survival	necrosis	3.66E-02		
	abnormal morphology of basisphenoid			
Organ Morphology	bone foramen	3.69E-02	CDON	1
Embryonic	abnormal morphology of basisphenoid			
Development	bone foramen	3.69E-02	CDON	1
Organismal	abnormal morphology of basisphenoid			
Development	bone foramen	3.69E-02	CDON	1
	abnormal morphology of basisphenoid			
Tissue Development	bone foramen	3.69E-02	CDON	1
Skeletal and Muscular				
System Development and Function				
	abnormal morphology of basisphenoid			
	bone foramen	3.69E-02	CDON	1
Connective Tissue				
Development and Function				
	abnormal morphology of basisphenoid			
	bone foramen	3.69E-02	CDON	1
	abnormal morphology of basisphenoid			
Organ Development	bone foramen	3.69E-02	CDON	1
Organismal				
Development	abnormal morphology of lip	3.69E-02	CDON	1
	abnormal morphology of marginal stria			
Cell Morphology	vascularis cells	3.69E-02	SLC26A4	1
Tissue Development	aggregation of kidney cell lines	3.69E-02	CADM1	1
Cell-To-Cell Signaling and Interaction				
	aggregation of kidney cell lines	3.69E-02	CADM1	1
Renal and Urological				
System Development and Function				
	aggregation of kidney cell lines	3.69E-02	CADM1	1
Embryonic				
Development	angiogenesis of yolk sac	3.69E-02	FZD5	1
Organismal				
Development	angiogenesis of yolk sac	3.69E-02	FZD5	1
Tissue Development	angiogenesis of yolk sac	3.69E-02	FZD5	1
Cardiovascular System				
Development and Function				
	angiogenesis of yolk sac	3.69E-02	FZD5	1

Cell Death and Survival	apoptosis of liver cancer cells	3.69E-02	TNFSF10	1
Tumor Morphology	apoptosis of liver cancer cells	3.69E-02	TNFSF10	1
Cell Death and Survival	apoptosis of mammary epithelial cells	3.69E-02	TNFSF10	1
Cell Death and Survival	apoptosis of myeloid dendritic cells	3.69E-02	TNFSF10	1
Tumor Morphology	arrest in mitosis of tumor cells	3.69E-02	ACRBP	1
Cancer	arrest in mitosis of tumor cells	3.69E-02	ACRBP	1
Cell Cycle	arrest in mitosis of tumor cells	3.69E-02	ACRBP	1
Cellular Assembly and Organization	binding of actin filaments	3.69E-02	CGN	1
Cell Death and Survival	cell death of plasma cells	3.69E-02	TNFSF10	1
Dermatological Diseases and Conditions	clear cell acanthoma	3.69E-02	MUC1	1
Cancer	clear cell acanthoma	3.69E-02	MUC1	1
Antimicrobial Response	clearance of Influenza A virus	3.69E-02	F2RL1	1
Connective Tissue Disorders	collagen-induced arthritis of paw	3.69E-02	PHC1	1
Inflammatory Disease	collagen-induced arthritis of paw	3.69E-02	PHC1	1
Skeletal and Muscular Disorders	collagen-induced arthritis of paw	3.69E-02	PHC1	1
Auditory Disease	degeneration of macula of sacculle	3.69E-02	SLC26A4	1
Tissue Development	development of trigeminal nerve	3.69E-02	LMO4	1
Nervous System Development and Function	development of trigeminal nerve	3.69E-02	LMO4	1
Skeletal and Muscular System Development and Function	differentiation of skeletal muscle satellite cells	3.69E-02	CDON	1
Cellular Development	differentiation of skeletal muscle satellite cells	3.69E-02	CDON	1
Cellular Function and Maintenance	extension of pseudopodia	3.69E-02	F2RL1	1
Cell Morphology	extension of pseudopodia	3.69E-02	F2RL1	1
Cellular Assembly and Organization	extension of pseudopodia	3.69E-02	F2RL1	1
Tissue Development	formation of pannus tissue	3.69E-02	BID	1
Respiratory Disease	hemothorax	3.69E-02	CXADR	1
Inflammatory Response	inflammation of ankle joint	3.69E-02	BID	1
Organ Morphology	lack of cochlea	3.69E-02	SIX1	1
Auditory and Vestibular System Development and Function	lack of cochlea	3.69E-02	SIX1	1
Organ Morphology	lack of thymus gland	3.69E-02	SIX1	1
Lymphoid Tissue Structure and Development	lack of thymus gland	3.69E-02	SIX1	1
Cellular Movement	mobilization of dendritic cells	3.69E-02	IRAK4	1

Hematological System Development and Function	mobilization of dendritic cells	3.69E-02	IRAK4	1
Inflammatory Response	mobilization of dendritic cells	3.69E-02	IRAK4	1
Immune Cell Trafficking	mobilization of dendritic cells	3.69E-02	IRAK4	1
Gastrointestinal Disease	obstructive cholestasis	3.69E-02	GJB2	1
Hepatic System Disease	obstructive cholestasis permeabilization of mitochondrial	3.69E-02	GJB2	1
Cell Morphology	outer membrane	3.69E-02	TNFSF10	1
Lipid Metabolism	quantity of cardiolipin	3.69E-02	TNFSF10	1
Small Molecule Biochemistry	quantity of cardiolipin	3.69E-02	TNFSF10	1
Molecular Transport	quantity of cardiolipin	3.69E-02	TNFSF10	1
Molecular Transport	release of glutathione	3.69E-02	F2RL1	1
Drug Metabolism	release of glutathione	3.69E-02	F2RL1	1
Cell-To-Cell Signaling and Interaction	response of peripheral blood leukocytes	3.69E-02	IRAK4	1
Hematological System Development and Function	response of peripheral blood leukocytes	3.69E-02	IRAK4	1
Organismal Injury and Abnormalities	stenosis of pulmonary valve	3.69E-02	PHC1	1
Cardiovascular Disease	stenosis of pulmonary valve	3.69E-02	PHC1	1
Molecular Transport	transport of DNA	3.69E-02	TFRC	1
Small Molecule Biochemistry	transport of carnitine	3.69E-02	PDZK1	1
Molecular Transport	transport of carnitine	3.69E-02	PDZK1	1
Tissue Development	cell-cell adhesion	3.84E-02	CADM1,CERCAM,CXADR	3
Cell-To-Cell Signaling and Interaction	cell-cell adhesion	3.84E-02	CADM1,CERCAM,CXADR	3
Cellular Compromise	damage of neurons	3.89E-02	RASGRF1,TNFSF10	2
Connective Tissue Disorders	adiposity	3.92E-02	PRKAA2,PRKAR2B,RASGRF1	3
Metabolic Disease	adiposity	3.92E-02	PRKAA2,PRKAR2B,RASGRF1	3
Cellular Movement	cell movement of kidney cell lines	3.92E-02	ADI1 (includes EG:104923),CADM1,PTPN14	3
Renal and Urological System Development and Function	cell movement of kidney cell lines	3.92E-02	ADI1 (includes EG:104923),CADM1,PTPN14	3
Cellular Development	differentiation of keratinocytes	4.00E-02	CSTA,EVPL,TNFSF10	3
Hair and Skin Development and Function	differentiation of keratinocytes	4.00E-02	CSTA,EVPL,TNFSF10	3
Gastrointestinal Disease	insulin-dependent diabetes mellitus	4.02E-02	HIST1H3A (includes others),HIST1H4A (includes others),HIST2H2BE (includes others),IFNGR2,TNFSF10	5

Endocrine System Disorders	insulin-dependent diabetes mellitus	4.02E-02	HIST1H3A (includes others),HIST1H4A (includes others),HIST2H2BE (includes others),IFNGR2,TNFSF10	5
Immunological Disease	insulin-dependent diabetes mellitus	4.02E-02	HIST1H3A (includes others),HIST1H4A (includes others),HIST2H2BE (includes others),IFNGR2,TNFSF10	5
Metabolic Disease	insulin-dependent diabetes mellitus	4.02E-02	HIST1H3A (includes others),HIST1H4A (includes others),HIST2H2BE (includes others),IFNGR2,TNFSF10	5
Cell Death and Survival	apoptosis of breast cell lines	4.03E-02	BID,TNFSF10	2
Organ Morphology	abnormal morphology of cardiac valve	4.18E-02	CXADR,PHC1	2
Cardiovascular System Development and Function	abnormal morphology of cardiac valve	4.18E-02	CXADR,PHC1	2
Neurological Disease	bipolar I disorder	4.18E-02	DLG3,GABRP	2
Psychological Disorders	bipolar I disorder	4.18E-02	DLG3,GABRP	2
Cancer	solid tumor	4.28E-02	ABCD3,AIM1 (includes EG:11630),CHST8,DUSP4,F2RL1,FAM3B,GABRP,GOLM1,HIST1H3A (includes others),HIST1H4A (includes others),IFNGR2,IRF2,KRT19 (includes EG:16669),KRT23,LIPH,MAT2A,MUC1,NFE2L3,P2RX6,PDZK1,PPM1L,RGS2 (includes EG:19735),SEC14L4,SLC27A2,SLC39A4,SULT1C2,TFR	28
Organ Morphology	abnormal morphology of fur	4.29E-02	LIPH	1
Hair and Skin Development and Function	abnormal morphology of fur	4.29E-02	LIPH	1
Organ Morphology	abnormal morphology of nail	4.29E-02	DNASE1L2	1
Tissue Morphology	abnormal morphology of optic cup	4.29E-02	PHC1	1
Cell-To-Cell Signaling and Interaction	activation of splenocytes	4.29E-02	PHC1	1
Cell Death and Survival	anoikis of colon cancer cell lines	4.29E-02	TNFSF10	1
Cell Death and Survival	apoptosis of adipose cell lines	4.29E-02	TNFSF10	1
Cell Death and Survival	apoptosis of bone marrow-derived neutrophils	4.29E-02	BID	1

PTEN Loss Up ERG Up

Category	Term	Count	P-Value	Genes
Cellular Movement	cell movement of myeloid cells	2.96E-17	CASP1,CCL7,CCR5,CD44,CD47,CDKN1A,CFB,CORO1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),FUT4,HIF1A,INHBA,OSM,PLAT,S100A8,SAA1,SELP,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743),THBS2,TNFRSF18	25
Hematological System Development and Function	cell movement of myeloid cells	2.96E-17	CASP1,CCL7,CCR5,CD44,CD47,CDKN1A,CFB,CORO1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),FUT4,HIF1A,INHBA,OSM,PLAT,S100A8,SAA1,SELP,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743),THBS2,TNFRSF18	25

Immune Cell Trafficking	cell movement of myeloid cells	2.96E-17	CASP1,CCL7,CCR5,CD44,CD47,CDKN1A,CFB,CORO1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),FUT4,HIF1A,INHBA,OSM,PLAT,S100A8,SAA1,SELP,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743),THBS2,TNFRSF18	25
Cellular Movement	cell movement of leukocytes	2.34E-16	CASP1,CCL7,CCR5,CD44,CD47,CDKN1A,CFB,CIITA,CORO1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),FUT4,HIF1A,INHBA,OSM,PLAT,RAP1GAP,RGS1,S100A8,SAA1,SELP,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743),THBS2,TNFRSF18	28
Hematological System Development and Function	cell movement of leukocytes	2.34E-16	CASP1,CCL7,CCR5,CD44,CD47,CDKN1A,CFB,CIITA,CORO1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),FUT4,HIF1A,INHBA,OSM,PLAT,RAP1GAP,RGS1,S100A8,SAA1,SELP,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743),THBS2,TNFRSF18	28
Immune Cell Trafficking	cell movement of leukocytes	2.34E-16	CASP1,CCL7,CCR5,CD44,CD47,CDKN1A,CFB,CIITA,CORO1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),FUT4,HIF1A,INHBA,OSM,PLAT,RAP1GAP,RGS1,S100A8,SAA1,SELP,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743),THBS2,TNFRSF18	28
Cellular Movement	cell movement of phagocytes	5.49E-16	CASP1,CCL7,CCR5,CD44,CD47,CDKN1A,CFB,CORO1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),FUT4,HIF1A,INHBA,PLAT,S100A8,SAA1,SELP,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743),THBS2,TNFRSF18	24
Hematological System Development and Function	cell movement of phagocytes	5.49E-16	CASP1,CCL7,CCR5,CD44,CD47,CDKN1A,CFB,CORO1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),FUT4,HIF1A,INHBA,PLAT,S100A8,SAA1,SELP,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743),THBS2,TNFRSF18	24
Immune Cell Trafficking	cell movement of phagocytes	5.49E-16	CASP1,CCL7,CCR5,CD44,CD47,CDKN1A,CFB,CORO1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),FUT4,HIF1A,INHBA,PLAT,S100A8,SAA1,SELP,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743),THBS2,TNFRSF18	24
Inflammatory Response	cell movement of phagocytes	5.49E-16	CASP1,CCL7,CCR5,CD44,CD47,CDKN1A,CORO1A,CXCL1,CXCR4,DUSP6,FPR2 (includes EG:100426968),INHBA,PTPN1,RAP1GAP,RGS1,S100A8,SAA1,SELP,SEMA3F,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743),THBS2	24
Cellular Movement	homing of cells	6.41E-16	CASP1,CCL7,CCR5,CD44,CD47,CDKN1A,CFB,CHI3L1,CIITA,CORO1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),FUT4,HIF1A,INHBA,OSM,PLAT,RAP1GAP,RGS1,S100A8,SAA1,SELP,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743),THBS2,TNFRSF18	29

Immune Cell Trafficking	leukocyte migration	1.22E-15	CASP1,CCL7,CCR5,CD44,CD47,CDKN1A,CFB,CHI3L1,C IITA,CORO1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),FUT4,HIF1A,INHBA,OSM,PLAT,RAP1 GAP,RGS1,S100A8,SAA1,SELP,SIRPA,SLPI,SOCS3,SPP 1 (includes EG:100359743),THBS2,TNFRSF18	29
Cellular Movement	chemotaxis of cells	2.00E-15	CASP1,CCL7,CCR5,CD44,CD47,CDKN1A,CORO1A,CXC L1,CXCR4,DUSP6,FPR2 (includes EG:100426968),INHBA,RAP1GAP,RGS1,S100A8,SAA1 ,SELP,SEMA3F,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743),THBS2	23
Cellular Movement	homing of leukocytes	6.36E-15	CASP1,CCL7,CCR5,CD44,CD47,CDKN1A,CORO1A,CXC L1,CXCR4,FPR2 (includes EG:100426968),INHBA,RAP1GAP,RGS1,S100A8,SAA1 ,SELP,SLPI,SOCS3,SPP1 (includes EG:100359743),THBS2	20
Hematological System Development and Function	homing of leukocytes	6.36E-15	CASP1,CCL7,CCR5,CD44,CD47,CDKN1A,CORO1A,CXC L1,CXCR4,FPR2 (includes EG:100426968),INHBA,RAP1GAP,RGS1,S100A8,SAA1 ,SELP,SLPI,SOCS3,SPP1 (includes EG:100359743),THBS2	20
Immune Cell Trafficking	homing of leukocytes	6.36E-15	CASP1,CCL7,CCR5,CD44,CD47,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CIITA,CORO1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),IER3,INHBA,OSM,RAP1GAP,RGS1,S1 00A8,SAA1,SELP,SLC11A1,SLPI,SOCS3,SPP1 (includes EG:100359743),THBS2	26
Inflammatory Response	inflammatory response	1.04E-14	CASP1,CCL7,CCR5,CD47,CDKN1A,CORO1A,CXCL1,CX CR4,FPR2 (includes EG:100426968),INHBA,RAP1GAP,RGS1,S100A8,SAA1 ,SELP,SLPI,SOCS3,SPP1 (includes EG:100359743),THBS2	19
Cellular Movement	chemotaxis of leukocytes	2.87E-14	CASP1,CCL7,CCR5,CD47,CDKN1A,CORO1A,CXCL1,CX CR4,FPR2 (includes EG:100426968),INHBA,RAP1GAP,RGS1,S100A8,SAA1 ,SELP,SLPI,SOCS3,SPP1 (includes EG:100359743),THBS2	19
Hematological System Development and Function	chemotaxis of leukocytes	2.87E-14	CASP1,CCL7,CCR5,CD47,CDKN1A,CORO1A,CXCL1,CX CR4,FPR2 (includes EG:100426968),INHBA,RAP1GAP,RGS1,S100A8,SAA1 ,SELP,SLPI,SOCS3,SPP1 (includes EG:100359743),THBS2	19
Immune Cell Trafficking	chemotaxis of leukocytes	2.87E-14	CASP1,CCL7,CCR5,CD47,CDKN1A,CORO1A,CXCL1,CX CR4,FPR2 (includes EG:100426968),INHBA,RAP1GAP,RGS1,S100A8,SAA1 ,SELP,SLPI,SOCS3,SPP1 (includes EG:100359743),THBS2	19
Inflammatory Response	chemotaxis of leukocytes	2.87E-14	CASP1,CCL7,CCR5,CD47,CDKN1A,CORO1A,CXCL1,CX CR4,FPR2 (includes EG:100426968),INHBA,RAP1GAP,RGS1,S100A8,SAA1 ,SELP,SLPI,SOCS3,SPP1 (includes EG:100359743),THBS2	19

Cellular Movement	cell movement of granulocytes	4.22E-14	CASP1,CCL7,CD44,CD47,CFB,CORO1A,CXCL1,FPR2 (includes EG:100426968),FUT4,OSM,PLAT,S100A8,SAA1,SELP,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743),TNFRSF18	19
Hematological System Development and Function	cell movement of granulocytes	4.22E-14	CASP1,CCL7,CD44,CD47,CFB,CORO1A,CXCL1,FPR2 (includes EG:100426968),FUT4,OSM,PLAT,S100A8,SAA1,SELP,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743),TNFRSF18	19
Immune Cell Trafficking	cell movement of granulocytes	4.22E-14	CASP1,CCL7,CD44,CD47,CFB,CORO1A,CXCL1,FPR2 (includes EG:100426968),FUT4,OSM,PLAT,S100A8,SAA1,SELP,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743),TNFRSF18	19
Cellular Movement	cell movement of neutrophils	9.38E-14	CASP1,CCL7,CD44,CD47,CFB,CORO1A,CXCL1,FPR2 (includes EG:100426968),FUT4,PLAT,S100A8,SAA1,SELP,SLPI,SOCS3,SPP1 (includes EG:100359743),TNFRSF18	17
Hematological System Development and Function	cell movement of neutrophils	9.38E-14	CASP1,CCL7,CD44,CD47,CFB,CORO1A,CXCL1,FPR2 (includes EG:100426968),FUT4,PLAT,S100A8,SAA1,SELP,SLPI,SOCS3,SPP1 (includes EG:100359743),TNFRSF18	17
Immune Cell Trafficking	cell movement of neutrophils	9.38E-14	CASP1,CCL7,CD44,CD47,CFB,CORO1A,CXCL1,FPR2 (includes EG:100426968),FUT4,PLAT,S100A8,SAA1,SELP,SLPI,SOCS3,SPP1 (includes EG:100359743),TNFRSF18	17
Inflammatory Response	cell movement of neutrophils	9.38E-14	CASP1,CCL7,CD44,CD47,CFB,CORO1A,CXCL1,FPR2 (includes EG:100426968),FUT4,PLAT,S100A8,SAA1,SELP,SLPI,SOCS3,SPP1 (includes EG:100359743),TNFRSF18	17
Cell-To-Cell Signaling and Interaction	adhesion of blood cells	9.70E-14	CASP1,CCL7,CD44,CD47,CFB,CORO1A,CXCL1,FPR2 (includes EG:100426968),FUT4,HIF1A,MSN,OSM,RAP1GAP,RS1,S100A8,SAA1,SELP,SIRPA,SPP1 (includes EG:100359743),THBS2	19
Tissue Development	adhesion of blood cells	9.70E-14	CASP1,CCL7,CD44,CD47,CFB,CORO1A,CXCL1,FPR2 (includes EG:100426968),FUT4,HIF1A,MSN,OSM,RAP1GAP,RS1,S100A8,SAA1,SELP,SIRPA,SPP1 (includes EG:100359743),THBS2	19
Cellular Movement	cell movement	1.96E-13	CASP1,CCL7,CCR5,CD44,CD47,CDKN1A,CFB,CHI3L1,CIITA,CORO1A,CXCL1,CXCR4,DAB2,DUSP6,FPR2 (includes EG:100426968),FUT4,HIF1A,INHBA,LRIG1,MSN,NAV1,OSM,OSMR,PLAT,PTPN1,RAP1GAP,RGS1,S100A8,SAA1,SELP,SEMA3F,SIRPA,SLC11A1,SLPI,SOCS3,SPP1 (includes EG:100359743),TGFB1,THBS2,TNFRSF18	39
Hematological System Development and Function	adhesion of immune cells	2.39E-13	CASP1,CCL7,CCR5,CD44,CD47,CDKN1A,CFB,CHI3L1,CIITA,CORO1A,CXCL1,CXCR4,DAB2,DUSP6,FPR2 (includes EG:100426968),FUT4,HIF1A,MSN,OSM,RAP1GAP,RS1,S100A8,SELP,SIRPA,SPP1 (includes EG:100359743),THBS2	18

Immune Cell Trafficking	adhesion of immune cells	2.39E-13	CCL7,CCR5,CD44,CD47,CORO1A,CXCR4,FPR2 (includes EG:100426968),FUT4,HIF1A,MSN,OSM,RAP1GAP,RS1,S100A8,SELP,SIRPA,SPP1 (includes EG:100359743),THBS2	18
Cell-To-Cell Signaling and Interaction	adhesion of immune cells	2.39E-13	CCL7,CCR5,CD44,CD47,CORO1A,CXCR4,FPR2 (includes EG:100426968),FUT4,HIF1A,MSN,OSM,RAP1GAP,RS1,S100A8,SELP,SIRPA,SPP1 (includes EG:100359743),THBS2	18
Tissue Development	adhesion of immune cells	2.39E-13	CCL7,CCR5,CD44,CD47,CORO1A,CXCR4,FPR2 (includes EG:100426968),FUT4,HIF1A,MSN,OSM,RAP1GAP,RS1,S100A8,SELP,SIRPA,SPP1 (includes EG:100359743),THBS2	18
Hematological System Development and Function	quantity of blood cells	3.93E-13	BST2,CCL7,CCR5,CD44,CD47,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CIITA,CORO1A,CXCR4,FPR2 (includes EG:100426968),FUT4,HIF1A,INHBA,OSM,PLAT,PLEK, RGS1,S100A8,SAMSN1,SELP,SIRPA,SOAT1,SOCS3,SP P1 (includes EG:100359743),SRGN,TGFBI,THBS2	29
Tissue Morphology	quantity of blood cells	3.93E-13	BST2,CCL7,CCR5,CD44,CD47,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CIITA,CORO1A,CXCR4,FPR2 (includes EG:100426968),FUT4,HIF1A,INHBA,OSM,PLAT,PLEK, RGS1,S100A8,SAMSN1,SELP,SIRPA,SOAT1,SOCS3,SP P1 (includes EG:100359743),SRGN,TGFBI,THBS2	29
Hematological System Development and Function	activation of blood cells	1.00E-12	CASP1,CCL7,CCR5,CD44,CD47,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CORO1A,CXCL1,FPR2 (includes EG:100426968),HIF1A,MGST1,OSM,PLAT,PLEK,S100 A8,SAMSN1,SELP,SIRPA,SLC11A1,SLPI,SPP1 (includes EG:100359743),TNFRSF18	24
Cell-To-Cell Signaling and Interaction	activation of blood cells	1.00E-12	CASP1,CCL7,CCR5,CD44,CD47,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CORO1A,CXCL1,FPR2 (includes EG:100426968),HIF1A,MGST1,OSM,PLAT,PLEK,S100 A8,SAMSN1,SELP,SIRPA,SLC11A1,SLPI,SPP1 (includes EG:100359743),TNFRSF18	24
Cell Death and Survival	apoptosis of blood cells	1.14E-12	CASP1,CCR5,CD44,CD47,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CIITA,CORO1A,CXCL1,CXCR4,HIF1A ,IER3,LRIG1,OSM,SLPI,SOAT1,SPP1 (includes EG:100359743),THBS2,TNFRSF18	20
Cellular Movement	migration of cells	1.17E-12	CASP1,CCL7,CCR5,CD44,CD47,CDKN1A,CFB,CHI3L1,CIITA,CORO1A,CXCL1,CXCR4,DAB2,FPR2 (includes EG:100426968),FUT4,HIF1A,INHBA,MSN,NAV1,OSM, OSMR,PLAT,PTPN1,RAP1GAP,RGS1,S100A8,SA1,SE LP,SEMA3F,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743),TGFBI,THBS2,TNFRSF18	36

Cellular Movement	chemotaxis of myeloid cells	1.80E-12	CASP1,CCL7,CCR5,CD47,CDKN1A,CORO1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),INHBA,S100A8,SAA1,SELP,SLPI,SPP1 (includes EG:100359743),THBS2	16
Hematological System Development and Function	chemotaxis of myeloid cells	1.80E-12	CASP1,CCL7,CCR5,CD47,CDKN1A,CORO1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),INHBA,S100A8,SAA1,SELP,SLPI,SPP1 (includes EG:100359743),THBS2	16
Immune Cell Trafficking	chemotaxis of myeloid cells	1.80E-12	CASP1,CCL7,CCR5,CD47,CDKN1A,CORO1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),INHBA,S100A8,SAA1,SELP,SLPI,SPP1 (includes EG:100359743),THBS2	16
Inflammatory Response	chemotaxis of myeloid cells	1.80E-12	CASP1,CCL7,CCR5,CD47,CDKN1A,CORO1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),INHBA,S100A8,SAA1,SELP,SLPI,SPP1 (includes EG:100359743),THBS2	16
Cellular Movement	chemotaxis of phagocytes	2.83E-12	CASP1,CCL7,CCR5,CD47,CDKN1A,CORO1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),INHBA,S100A8,SAA1,SELP,SLPI,SPP1 (includes EG:100359743),THBS2	16
Hematological System Development and Function	chemotaxis of phagocytes	2.83E-12	CASP1,CCL7,CCR5,CD47,CDKN1A,CORO1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),INHBA,S100A8,SAA1,SELP,SLPI,SPP1 (includes EG:100359743),THBS2	16
Immune Cell Trafficking	chemotaxis of phagocytes	2.83E-12	CASP1,CCL7,CCR5,CD47,CDKN1A,CORO1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),INHBA,S100A8,SAA1,SELP,SLPI,SPP1 (includes EG:100359743),THBS2	16
Inflammatory Response	chemotaxis of phagocytes	2.83E-12	CASP1,CCL7,CCR5,CD47,CDKN1A,CORO1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),INHBA,S100A8,SAA1,SELP,SLPI,SPP1 (includes EG:100359743),THBS2	16
Cell Death and Survival	apoptosis of leukocytes	3.11E-12	CASP1,CCR5,CD44,CD47,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CIITA,CORO1A,CXCL1,CXCR4,HIF1A,IER3,LRIG1,SLPI,SOAT1,SPP1 (includes EG:100359743),THBS2,TNFRSF18	19
Hematological System Development and Function	quantity of leukocytes	5.62E-12	BST2,CCL7,CCR5,CD47,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CIITA,CORO1A,CXCR4,FPR2 (includes EG:100426968),FUT4,HIF1A,INHBA,OSM,PLAT,RGS1,S100A8,SAMSN1,SELP,SIRPA,SOAT1,SOCS3,SPP1 (includes EG:100359743),SRGN,TGFB1	26
Tissue Morphology	quantity of leukocytes	5.62E-12	BST2,CCL7,CCR5,CD47,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CIITA,CORO1A,CXCR4,FPR2 (includes EG:100426968),FUT4,HIF1A,INHBA,OSM,PLAT,RGS1,S100A8,SAMSN1,SELP,SIRPA,SOAT1,SOCS3,SPP1 (includes EG:100359743),SRGN,TGFB1	26
Cell-To-Cell Signaling and Interaction	activation of cells	8.07E-12	CASP1,CCL7,CCR5,CD44,CD47,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CORO1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),HIF1A,MGST1,OSM,PLAT,PLEK,S100A8,SAA1,SAMSN1,SELP,SIRPA,SLC11A1,SLPI,SPP1 (includes EG:100359743),TNFRSF18	26

Cellular Movement	cell movement of mononuclear leukocytes	3.22E-11	CCL7,CCR5,CD44,CD47,CIITA,CXCR4,FPR2 (includes EG:100426968),FUT4,INHBA,OSM,RAP1GAP,RGS1,SAA1,SELP,SIRPA,SOCS3,SPP1 (includes EG:100359743),THBS2	18
Hematological System Development and Function	cell movement of mononuclear leukocytes	3.22E-11	CCL7,CCR5,CD44,CD47,CIITA,CXCR4,FPR2 (includes EG:100426968),FUT4,INHBA,OSM,RAP1GAP,RGS1,SAA1,SELP,SIRPA,SOCS3,SPP1 (includes EG:100359743),THBS2	18
Immune Cell Trafficking	cell movement of mononuclear leukocytes	3.22E-11	CCL7,CCR5,CD44,CD47,CIITA,CXCR4,FPR2 (includes EG:100426968),FUT4,INHBA,OSM,RAP1GAP,RGS1,SAA1,SELP,SIRPA,SOCS3,SPP1 (includes EG:100359743),THBS2	18
Cellular Movement	cell movement of tumor cell lines	9.85E-11	CCL7,CCR5,CD44,CD47,CXCR4,DAB2,FPR2 (includes EG:100426968),LRIG1,MSN,OSM,PTPN1,RAP1GAP,RGS1,S100A8,SELP,SEMA3F,SIRPA,SOCS3,SPP1 (includes EG:100359743),TGFB1,THBS2	21
Cell Death and Survival	cell death of blood cells	1.01E-10	CASP1,CCR5,CD44,CD47,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CIITA,CORO1A,CXCL1,CXCR4,HIF1A,IER3,INHBA,LRIG1,OSM,SLPI,SOAT1,SPP1 (includes EG:100359743),THBS2,TNFRSF18	21
Cellular Function and Maintenance	function of phagocytes	1.02E-10	CASP1,CD47,CEBPB (includes EG:1051),CHI3L1,CIITA,FPR2 (includes EG:100426968),FUT4,PADI4,PLAT,RGS1,SAMSN1,SELP,SIRPA,SLPI,SPP1 (includes EG:100359743)	15
Cellular Movement	migration of phagocytes	1.08E-10	CCL7,CCR5,CD44,CD47,CXCL1,CXCR4,HIF1A,S100A8,SAA1,SELP,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743)	14
Hematological System Development and Function	migration of phagocytes	1.08E-10	CCL7,CCR5,CD44,CD47,CXCL1,CXCR4,HIF1A,S100A8,SAA1,SELP,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743)	14
Immune Cell Trafficking	migration of phagocytes	1.08E-10	CCL7,CCR5,CD44,CD47,CXCL1,CXCR4,HIF1A,S100A8,SAA1,SELP,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743)	14
Inflammatory Response	migration of phagocytes	1.08E-10	CCL7,CCR5,CD44,CD47,CXCL1,CXCR4,HIF1A,S100A8,SAA1,SELP,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743)	14
Tissue Morphology	quantity of cells	1.49E-10	BST2,CCL7,CCR5,CD44,CD47,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CIITA,CORO1A,CP,CXCL1,CXCR4,FPR2 (includes EG:100426968),FUT4,GDA,HIF1A,INHBA,INSL3,OSM,PLAT,PLEK,RGS1,S100A8,SAMSN1,SELP,SIRPA,SOAT1,SOCS3,SPP1 (includes EG:100359743),SRGN,TGFB1,THBS2	33
Cellular Function and Maintenance	function of leukocytes	1.73E-10	CASP1,CCR5,CD44,CD47,CEBPB (includes EG:1051),CHI3L1,CIITA,CXCR4,FPR2 (includes EG:100426968),FUT4,PADI4,PLAT,RGS1,SAMSN1,SELP,SIRPA,SLPI,SPP1 (includes EG:100359743),TNFRSF18	19

Tissue Development	proliferation of vascular endothelial cells	2.20E-10	CDKN1A,CXCL1,DAB2,FPR2 (includes EG:100426968),HIF1A,OSM,PTPN1,S100A8,SAA1,SEMA3F	10
Cardiovascular System Development and Function	proliferation of vascular endothelial cells	2.20E-10	CDKN1A,CXCL1,DAB2,FPR2 (includes EG:100426968),HIF1A,OSM,PTPN1,S100A8,SAA1,SEMA3F	10
Cellular Development	proliferation of vascular endothelial cells	2.20E-10	CDKN1A,CXCL1,DAB2,FPR2 (includes EG:100426968),HIF1A,OSM,PTPN1,S100A8,SAA1,SEMA3F	10
Cellular Growth and Proliferation	proliferation of vascular endothelial cells	2.20E-10	CDKN1A,CXCL1,DAB2,FPR2 (includes EG:100426968),HIF1A,OSM,PTPN1,S100A8,SAA1,SEMA3F	10
Organismal Development	proliferation of vascular endothelial cells	2.20E-10	CDKN1A,CXCL1,DAB2,FPR2 (includes EG:100426968),HIF1A,OSM,PTPN1,S100A8,SAA1,SEMA3F	10
Cell Death and Survival	cell death of immune cells	3.39E-10	CASP1,CCR5,CD44,CD47,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CIITA,CORO1A,CXCL1,CXCR4,HIF1A,IER3,INHBA,LRIG1,SLPI,SOAT1,SPP1 (includes EG:100359743),THBS2,TNFRSF18	20
Cellular Growth and Proliferation	formation of cells	5.23E-10	CCR5,CD44,CD47,CDKN1A,CEBPB (includes EG:1051),CIITA,CXCR4,HIF1A,INHBA,INSL3,S100A8,SEMA3F,SIRPA,SOAT1,SOCS3	15
Cellular Movement	homing of mononuclear leukocytes	6.64E-10	CCL7,CCR5,CD44,CXCR4,FPR2 (includes EG:100426968),INHBA,RAP1GAP,RGS1,SAA1,SOCS3,SPP1 (includes EG:100359743),THBS2	12
Hematological System Development and Function	homing of mononuclear leukocytes	6.64E-10	CCL7,CCR5,CD44,CXCR4,FPR2 (includes EG:100426968),INHBA,RAP1GAP,RGS1,SAA1,SOCS3,SPP1 (includes EG:100359743),THBS2	12
Immune Cell Trafficking	homing of mononuclear leukocytes	6.64E-10	CCL7,CCR5,CD44,CXCR4,FPR2 (includes EG:100426968),INHBA,RAP1GAP,RGS1,SAA1,SOCS3,SPP1 (includes EG:100359743),THBS2	12
Connective Tissue Disorders	Rheumatic Disease	7.33E-10	ADAMTS4,CASP1,CCL7,CCR5,CD44,CDKN1A,CEBPB (includes EG:1051),CFB,CHI3L1,CIITA,CXCL1,CXCR4,FPR2 (includes EG:100426968),FSTL1,OSM,PADI4,PLAT,RGS1,S100A8,SAA1,SELP,SIRPA,SOCS3,SPP1 (includes EG:100359743),THBS2,TNFRSF18	26
Inflammatory Disease	Rheumatic Disease	7.33E-10	ADAMTS4,CASP1,CCL7,CCR5,CD44,CDKN1A,CEBPB (includes EG:1051),CFB,CHI3L1,CIITA,CXCL1,CXCR4,FPR2 (includes EG:100426968),FSTL1,OSM,PADI4,PLAT,RGS1,S100A8,SAA1,SELP,SIRPA,SOCS3,SPP1 (includes EG:100359743),THBS2,TNFRSF18	26
Skeletal and Muscular Disorders	Rheumatic Disease	7.33E-10	ADAMTS4,CASP1,CCL7,CCR5,CD44,CDKN1A,CEBPB (includes EG:1051),CFB,CHI3L1,CIITA,CXCL1,CXCR4,FPR2 (includes EG:100426968),FSTL1,OSM,PADI4,PLAT,RGS1,S100A8,SAA1,SELP,SIRPA,SOCS3,SPP1 (includes EG:100359743),THBS2,TNFRSF18	26

Hematological System Development and Function	quantity of mononuclear leukocytes	7.92E-10	BST2,CCL7,CCR5,CD47,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CIITA,CORO1A,CXCR4,FUT4,HIF1A,INHBA,OSM,RGS1,SAMSN1,SELP,SIRPA,SOCS3,SPP1 (includes EG:100359743),TGFB1	21
Tissue Morphology	quantity of mononuclear leukocytes	7.92E-10	BST2,CCL7,CCR5,CD47,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CIITA,CORO1A,CXCR4,FUT4,HIF1A,INHBA,OSM,RGS1,SAMSN1,SELP,SIRPA,SOCS3,SPP1 (includes EG:100359743),TGFB1	21
Cardiovascular System Development and Function	vasculogenesis	9.61E-10	CCL7,CCR5,CD44,CDKN1A,CXCL1,CXCR4,DAB2,FPR2 (includes EG:100426968),HIF1A,INHBA,OSM,PLAT,PTPN1,S100A8,SAA1,SELP,SEMA3F,SPP1 (includes EG:100359743),TGFB1,THBS2	20
Organismal Development	vasculogenesis	9.61E-10	CCL7,CCR5,CD44,CDKN1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),HIF1A,INHBA,OSM,PLAT,PTPN1,S100A8,SAA1,SELP,SEMA3F,SPP1 (includes EG:100359743),TGFB1,THBS2	20
Cellular Movement	cell movement of antigen presenting cells	1.22E-09	CASP1,CCL7,CCR5,CD44,CDKN1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),HIF1A,SAA1,SELP,SIRPA,SPP1 (includes EG:100359743),THBS2	14
Hematological System Development and Function	cell movement of antigen presenting cells	1.22E-09	CASP1,CCL7,CCR5,CD44,CDKN1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),HIF1A,SAA1,SELP,SIRPA,SPP1 (includes EG:100359743),THBS2	14
Immune Cell Trafficking	cell movement of antigen presenting cells	1.22E-09	CASP1,CD44,CFB,FPR2 (includes EG:100426968),FUT4,PLAT,SELP,SOCS3,SPP1 (includes EG:100359743),TNFRSF18	14
Cellular Movement	infiltration by neutrophils	1.24E-09	CASP1,CD44,CFB,FPR2 (includes EG:100426968),FUT4,PLAT,SELP,SOCS3,SPP1 (includes EG:100359743),TNFRSF18	10
Hematological System Development and Function	infiltration by neutrophils	1.24E-09	CASP1,CD44,CFB,FPR2 (includes EG:100426968),FUT4,PLAT,SELP,SOCS3,SPP1 (includes EG:100359743),TNFRSF18	10
Immune Cell Trafficking	infiltration by neutrophils	1.24E-09	CASP1,CD44,CFB,FPR2 (includes EG:100426968),FUT4,PLAT,SELP,SOCS3,SPP1 (includes EG:100359743),TNFRSF18	10
Inflammatory Response	infiltration by neutrophils	1.24E-09	CASP1,CD44,CFB,FPR2 (includes EG:100426968),FUT4,PLAT,SELP,SOCS3,SPP1 (includes EG:100359743),TNFRSF18	10
Cardiovascular System Development and Function	development of blood vessel	1.43E-09	CCL7,CCR5,CD44,CDKN1A,CXCL1,CXCR4,DAB2,FPR2 (includes EG:100426968),HIF1A,INHBA,OSM,PLAT,PTPN1,S100A8,SAA1,SELP,SEMA3F,SOCS3,SPP1 (includes EG:100359743),TGFB1,THBS2	21
Organismal Development	development of blood vessel	1.43E-09	CASP1,CCR5,CD44,CD47,CDKN1A,CHI3L1,CIITA,CORO1A,CXCR4,IER3,SPP1 (includes EG:100359743),TGFB1,THBS2	21
Cell Death and Survival	apoptosis of T lymphocytes	1.57E-09	EG:100359743),THBS2,TNFRSF18	13

Cellular Movement	infiltration	1.69E-09	CASP1,CCR5,CD44,CFB,CIITA,FPR2 (includes EG:100426968),FUT4,HIF1A,OSM,PLAT,SELP,SOCS3,SPP1 (includes EG:100359743),THBS2,TNFRSF18	15
Cellular Movement	recruitment of cells	1.86E-09	CASP1,CCL7,CCR5,CD44,CD47,CHI3L1,CXCL1,CXCR4,HIF1A,SELP,SLC11A1,SLPI,SPP1 (includes EG:100359743),THBS2	14
Cell-To-Cell Signaling and Interaction	recruitment of cells	1.86E-09	CASP1,CCL7,CCR5,CD44,CD47,CHI3L1,CXCL1,CXCR4,HIF1A,SELP,SLC11A1,SLPI,SPP1 (includes EG:100359743),THBS2	14
Cellular Movement	chemotaxis of mononuclear leukocytes	1.88E-09	CASP1,CCL7,CCR5,CD44,CD47,CHI3L1,CXCL1,CXCR4,HIF1A,SELP,SLC11A1,SLPI,SPP1 (includes EG:100359743),THBS2	11
Hematological System Development and Function	chemotaxis of mononuclear leukocytes	1.88E-09	CASP1,CCL7,CCR5,CD44,CD47,CHI3L1,CXCL1,CXCR4,HIF1A,SELP,SLC11A1,SLPI,SPP1 (includes EG:100359743),THBS2	11
Immune Cell Trafficking	chemotaxis of mononuclear leukocytes	1.88E-09	CASP1,CCL7,CCR5,CD44,CD47,CHI3L1,CXCL1,CXCR4,HIF1A,SELP,SLC11A1,SLPI,SPP1 (includes EG:100359743),THBS2	11
Inflammatory Response	chemotaxis of mononuclear leukocytes	1.88E-09	CASP1,CCL7,CCR5,CD44,CD47,CHI3L1,CXCL1,CXCR4,HIF1A,SELP,SLC11A1,SLPI,SPP1 (includes EG:100359743),THBS2	11
Connective Tissue Disorders	arthritis	1.95E-09	ADAMTS4,CASP1,CCL7,CCR5,CD44,CDKN1A,CEBPB (includes EG:1051),CFB,CHI3L1,CIITA,CXCL1,CXCR4,FPR2 (includes EG:100426968),FSTL1,OSM,PADI4,PLAT,S100A8,SA1,SELP,SOCS3,SPP1 (includes EG:100359743),THBS2,TNFRSF18	24
Inflammatory Disease	arthritis	1.95E-09	ADAMTS4,CASP1,CCL7,CCR5,CD44,CDKN1A,CEBPB (includes EG:1051),CFB,CHI3L1,CIITA,CXCL1,CXCR4,FPR2 (includes EG:100426968),FSTL1,OSM,PADI4,PLAT,S100A8,SA1,SELP,SOCS3,SPP1 (includes EG:100359743),THBS2,TNFRSF18	24
Skeletal and Muscular Disorders	arthritis	1.95E-09	ADAMTS4,CASP1,CCL7,CCR5,CD44,CDKN1A,CEBPB (includes EG:1051),CFB,CHI3L1,CIITA,CXCL1,CXCR4,FPR2 (includes EG:100426968),FSTL1,OSM,PADI4,PLAT,S100A8,SA1,SELP,SOCS3,SPP1 (includes EG:100359743),THBS2,TNFRSF18	24
Cellular Movement	infiltration of granulocytes	2.23E-09	CASP1,CD44,CFB,FPR2 (includes EG:100426968),FUT4,OSM,PLAT,SELP,SOCS3,SPP1 (includes EG:100359743),TNFRSF18	11
Hematological System Development and Function	infiltration of granulocytes	2.23E-09	CASP1,CD44,CFB,FPR2 (includes EG:100426968),FUT4,OSM,PLAT,SELP,SOCS3,SPP1 (includes EG:100359743),TNFRSF18	11
Immune Cell Trafficking	infiltration of granulocytes	2.23E-09	CASP1,CD44,CFB,FPR2 (includes EG:100426968),FUT4,OSM,PLAT,SELP,SOCS3,SPP1 (includes EG:100359743),TNFRSF18	11
Tissue Development	development of endothelial tissue	2.42E-09	CD44,CDKN1A,CXCL1,DAB2,FPR2 (includes EG:100426968),HIF1A,INHBA,OSM,PLAT,PTPN1,S100A8,SA1,SEMA3F,SPP1 (includes EG:100359743)	14

Cardiovascular System Development and Function	development of endothelial tissue	2.42E-09	CD44,CDKN1A,CXCL1,DAB2,FPR2 (includes EG:100426968),HIF1A,INHBA,OSM,PLAT,PTPN1,S100A8,SAA1,SEMA3F,SPP1 (includes EG:100359743) CCL7,CCR5,CD44,CD47,CDKN1A,CHI3L1,CORO1A,CXCL1,FPR2 (includes EG:100426968),HIF1A,MGST1,OSM,S100A8,SAMSN1,SIRPA,SLC11A1,SLPI,SPP1 (includes EG:100359743),TNFRSF18	14
Hematological System Development and Function	activation of leukocytes	2.51E-09	EG:100426968),HIF1A,MGST1,OSM,S100A8,SAMSN1,SIRPA,SLC11A1,SLPI,SPP1 (includes EG:100359743),TNFRSF18	19
Immune Cell Trafficking	activation of leukocytes	2.51E-09	EG:100426968),HIF1A,MGST1,OSM,S100A8,SAMSN1,SIRPA,SLC11A1,SLPI,SPP1 (includes EG:100359743),TNFRSF18	19
Inflammatory Response	activation of leukocytes	2.51E-09	EG:100426968),HIF1A,MGST1,OSM,S100A8,SAMSN1,SIRPA,SLC11A1,SLPI,SPP1 (includes EG:100359743),TNFRSF18	19
Cell-To-Cell Signaling and Interaction	activation of leukocytes	2.51E-09	EG:100426968),HIF1A,MGST1,OSM,S100A8,SAMSN1,SIRPA,SLC11A1,SLPI,SPP1 (includes EG:100359743),TNFRSF18	19
Cellular Movement	migration of granulocytes	2.55E-09	CD44,CD47,CXCL1,S100A8,SAA1,SELP,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743)	10
Hematological System Development and Function	migration of granulocytes	2.55E-09	CD44,CD47,CXCL1,S100A8,SAA1,SELP,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743)	10
Immune Cell Trafficking	migration of granulocytes	2.55E-09	CD44,CD47,CXCL1,S100A8,SAA1,SELP,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743)	10
Cellular Movement	migration of neutrophils	2.64E-09	CD44,CD47,CXCL1,S100A8,SAA1,SELP,SLPI,SOCS3,SP P1 (includes EG:100359743)	9
Hematological System Development and Function	migration of neutrophils	2.64E-09	CD44,CD47,CXCL1,S100A8,SAA1,SELP,SLPI,SOCS3,SP P1 (includes EG:100359743)	9
Immune Cell Trafficking	migration of neutrophils	2.64E-09	CD44,CD47,CXCL1,S100A8,SAA1,SELP,SLPI,SOCS3,SP P1 (includes EG:100359743)	9
Inflammatory Response	migration of neutrophils	2.64E-09	CD44,CD47,CXCL1,S100A8,SAA1,SELP,SLPI,SOCS3,SP P1 (includes EG:100359743)	9
Cellular Movement	cell movement of macrophages	2.78E-09	CASP1,CCR5,CD44,CDKN1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),HIF1A,SAA1,SELP,SPP1 (includes EG:100359743),THBS2	12
Hematological System Development and Function	cell movement of macrophages	2.78E-09	CASP1,CCR5,CD44,CDKN1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),HIF1A,SAA1,SELP,SPP1 (includes EG:100359743),THBS2	12
Immune Cell Trafficking	cell movement of macrophages	2.78E-09	CASP1,CCR5,CD44,CDKN1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),HIF1A,SAA1,SELP,SPP1 (includes EG:100359743),THBS2	12
Inflammatory Response	cell movement of macrophages	2.78E-09	CASP1,CCR5,CD44,CDKN1A,CXCL1,CXCR4,FPR2 (includes EG:100426968),HIF1A,SAA1,SELP,SPP1 (includes EG:100359743),THBS2	12

Cell Death and Survival	apoptosis of lymphocytes	2.80E-09	CASP1,CCR5,CD44,CD47,CDKN1A,CHI3L1,CIITA,CORO1A,CXCR4,IER3,LRIG1,SPP1 (includes EG:100359743),THBS2,TNFRSF18	14
Hematological System Development and Function	adhesion of lymphocytes	3.14E-09	CD44,CD47,FUT4,OSM,RAP1GAP,RGS1,SELP,SPP1 (includes EG:100359743),THBS2	9
Immune Cell Trafficking	adhesion of lymphocytes	3.14E-09	CD44,CD47,FUT4,OSM,RAP1GAP,RGS1,SELP,SPP1 (includes EG:100359743),THBS2	9
Cell-To-Cell Signaling and Interaction	adhesion of lymphocytes	3.14E-09	CD44,CD47,FUT4,OSM,RAP1GAP,RGS1,SELP,SPP1 (includes EG:100359743),THBS2	9
Tissue Development	adhesion of lymphocytes	3.14E-09	CD44,CD47,FUT4,OSM,RAP1GAP,RGS1,SELP,SPP1 (includes EG:100359743),THBS2	9
Cellular Movement	homing of lymphocytes	3.82E-09	CCL7,CCR5,CD44,CXCR4,RAP1GAP,RGS1,SAA1,SOCS3,SPP1 (includes EG:100359743),THBS2	10
Hematological System Development and Function	homing of lymphocytes	3.82E-09	CCL7,CCR5,CD44,CXCR4,RAP1GAP,RGS1,SAA1,SOCS3,SPP1 (includes EG:100359743),THBS2	10
Immune Cell Trafficking	homing of lymphocytes	3.82E-09	CCL7,CCR5,CD44,CXCR4,RAP1GAP,RGS1,SAA1,SOCS3,SPP1 (includes EG:100359743),THBS2	10
Cellular Movement	recruitment of leukocytes	4.63E-09	CASP1,CCL7,CCR5,CD44,CD47,CHI3L1,CXCL1,CXCR4,HIF1A,SELP,SLPI,SPP1 (includes EG:100359743),THBS2	13
Hematological System Development and Function	recruitment of leukocytes	4.63E-09	CASP1,CCL7,CCR5,CD44,CD47,CHI3L1,CXCL1,CXCR4,HIF1A,SELP,SLPI,SPP1 (includes EG:100359743),THBS2	13
Immune Cell Trafficking	recruitment of leukocytes	4.63E-09	CASP1,CCL7,CCR5,CD44,CD47,CHI3L1,CXCL1,CXCR4,HIF1A,SELP,SLPI,SPP1 (includes EG:100359743),THBS2	13
Cell-To-Cell Signaling and Interaction	recruitment of leukocytes	4.63E-09	CASP1,CCL7,CCR5,CD44,CD47,CHI3L1,CXCL1,CXCR4,HIF1A,SELP,SLPI,SPP1 (includes EG:100359743),THBS2	13
Cellular Movement	infiltration of leukocytes	5.67E-09	CASP1,CCR5,CD44,CFB,CIITA,FPR2 (includes EG:100426968),FUT4,HIF1A,OSM,PLAT,SELP,SOCS3,SPP1 (includes EG:100359743),TNFRSF18	14
Hematological System Development and Function	infiltration of leukocytes	5.67E-09	CASP1,CCR5,CD44,CFB,CIITA,FPR2 (includes EG:100426968),FUT4,HIF1A,OSM,PLAT,SELP,SOCS3,SPP1 (includes EG:100359743),TNFRSF18	14
Immune Cell Trafficking	infiltration of leukocytes	5.67E-09	CASP1,CCR5,CD44,CFB,CIITA,FPR2 (includes EG:100426968),FUT4,HIF1A,OSM,PLAT,SELP,SOCS3,SPP1 (includes EG:100359743),TNFRSF18	14
Cellular Movement	invasion of cells	6.51E-09	CD44,CD53,CHI3L1,CXCL1,CXCR4,DAB2,FSTL1,FXYS5,HIF1A,IER3,INHBA,LRIG1,OSM,PLAT,RAP1GAP,SEMA3F,SPP1 (includes EG:100359743),TGFB1,THBS2	19
Tissue Development	aggregation of cells	6.81E-09	CD44,CD47,CDKN1A,CP,DAB2,HIF1A,PLAT,PLEK,PTPN1,SELP,SIRPA,THBS2,TNFRSF18	13
Infectious Disease	infection of mammalia	7.18E-09	BST2,CASP1,CCR5,CD44,CD47,CEBPB (includes EG:1051),CIITA,CXCR4,FUT4,PADI4,SELP,SLC11A1,SLPI,SPP1 (includes EG:100359743)	14
Cellular Movement	chemotaxis of neutrophils	8.17E-09	CASP1,CCL7,CD47,CORO1A,CXCL1,FPR2 (includes EG:100426968),S100A8,SELP,SLPI,SPP1 (includes EG:100359743)	10

Hematological System Development and Function	chemotaxis of neutrophils	8.17E-09	CASP1,CCL7,CD47,CORO1A,CXCL1,FPR2 (includes EG:100426968),S100A8,SELP,SLPI,SPP1 (includes EG:100359743)	10
Immune Cell Trafficking	chemotaxis of neutrophils	8.17E-09	CASP1,CCL7,CD47,CORO1A,CXCL1,FPR2 (includes EG:100426968),S100A8,SELP,SLPI,SPP1 (includes EG:100359743)	10
Inflammatory Response	chemotaxis of neutrophils	8.17E-09	CASP1,CCL7,CD47,CORO1A,CXCL1,FPR2 (includes EG:100426968),S100A8,SELP,SLPI,SPP1 (includes EG:100359743)	10
Cellular Movement	chemotaxis of lymphocytes	8.21E-09	CCL7,CCR5,CXCR4,RAP1GAP,RGS1,SAA1,SOCS3,SPP1 (includes EG:100359743),THBS2	9
Hematological System Development and Function	chemotaxis of lymphocytes	8.21E-09	CCL7,CCR5,CXCR4,RAP1GAP,RGS1,SAA1,SOCS3,SPP1 (includes EG:100359743),THBS2	9
Immune Cell Trafficking	chemotaxis of lymphocytes	8.21E-09	CCL7,CCR5,CXCR4,RAP1GAP,RGS1,SAA1,SOCS3,SPP1 (includes EG:100359743),THBS2	9
Inflammatory Response	chemotaxis of lymphocytes	8.21E-09	CCL7,CCR5,CXCR4,RAP1GAP,RGS1,SAA1,SOCS3,SPP1 (includes EG:100359743),THBS2	9
Cell Death and Survival	cell death	9.80E-09	CASP1,CCL7,CCR5,CD44,CD47,CD53,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CIITA,CORO1A,CP,CXCL1,CXCR4,DA B2,DUSP6,FSTL1,FUT4,GDA,HIF1A,IER3,INHBA,INSL3,LRIG1,MSN,OSM,PADI4,PLAT,PTPN1,RAP1GAP,S100 A8,SAA1,SELP,SEMA3F,SIRPA,SLPI,SOAT1,SOCS3,SPP 1 (includes EG:100359743),SRGN,TGFBI,THBS2,TNFRSF18	43
Cell Death and Survival	apoptosis	9.93E-09	CASP1,CCR5,CD44,CD47,CD53,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CIITA,CORO1A,CXCL1,CXCR4,DAB2,DUSP6,FSTL1,FUT4,HIF1A,IER3,INHBA,INSL3,LRIG1,MSN,OSM,PADI4,PLAT,PTPN1,S100A8,SAA1,SEMA3F,SIRPA,SLPI,SOAT1,SOCS3,SPP1 (includes EG:100359743),SRGN,TGFBI,THBS2,TNFRSF18	38
Cellular Movement	recruitment of phagocytes	1.15E-08	CASP1,CCL7,CCR5,CD44,CD47,CHI3L1,CXCL1,SELP,SLPI,SPP1 (includes EG:100359743),THBS2	11
Hematological System Development and Function	recruitment of phagocytes	1.15E-08	CASP1,CCL7,CCR5,CD44,CD47,CHI3L1,CXCL1,SELP,SLPI,SPP1 (includes EG:100359743),THBS2	11
Immune Cell Trafficking	recruitment of phagocytes	1.15E-08	CASP1,CCL7,CCR5,CD44,CD47,CHI3L1,CXCL1,SELP,SLPI,SPP1 (includes EG:100359743),THBS2	11
Inflammatory Response	recruitment of phagocytes	1.15E-08	CASP1,CCL7,CCR5,CD44,CD47,CHI3L1,CXCL1,SELP,SLPI,SPP1 (includes EG:100359743),THBS2	11
Cell-To-Cell Signaling and Interaction	recruitment of phagocytes	1.15E-08	CASP1,CCL7,CCR5,CD44,CD47,CHI3L1,CXCL1,SELP,SLPI,SPP1 (includes EG:100359743),THBS2	11
Hematological System Development and Function	quantity of lymphocytes	1.69E-08	BST2,CCR5,CD47,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CIITA,CORO1A,CXCR4,HIF1A,INHBA,OSM,RGS1,SAMSN1,SELP,SIRPA,SOCS3,SPP1 (includes EG:100359743),TGFBI	19

Tissue Morphology	quantity of lymphocytes	1.69E-08	BST2,CCR5,CD47,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CIITA,CORO1A,CXCR4,HIF1A,INHBA,OSM,RGS1,SAMSN1,SELP,SIRPA,SOCS3,SPP1 (includes EG:100359743),TGFB1	19
Tissue Development	development of epithelial tissue	1.84E-08	CD44,CDKN1A,CXCL1,CXCR4,DAB2,FPR2 (includes EG:100426968),HIF1A,INHBA,OSM,PLAT,PTPN1,S100A8,SAA1,SEMA3F,SPP1 (includes EG:100359743)	15
Cancer	epithelial tumor	1.86E-08	ADAMTS4,APOBEC1,BST2,CASP1,CCL7,CCR5,CD44,CDKN1A,CEBPB (includes EG:1051),CFB,CHI3L1,CHRN1,CP,CXCL1,CXCR4,DAB2,DUSP6,FUT4,GPRC5A,HIF1A,IER3,IFITM2,INHBA,LRIG1,OSM,OSMR,PLAT,PTPN1,RAP1GAP,S100A8,SAA1,SELP,SEMA3F,SLPI,SOCS3,SPP1 (includes EG:100359743),TGFB1,THBS2,TMC5,TNFAIP2	40
Cell Death and Survival	necrosis	2.17E-08	CASP1,CCR5,CD44,CD47,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CIITA,CORO1A,CXCL1,CXCR4,DAB2,DUSP6,FSTL1,GDA,HIF1A,IER3,INHBA,LRIG1,MSN,OSM,PADI4,PLAT,PTPN1,RAP1GAP,S100A8,SAA1,SELP,SEMA3F,SIRPA,SLPI,SOAT1,SOCS3,SPP1 (includes EG:100359743),THBS2,TNFRSF18	36
Tissue Development	proliferation of endothelial cells	2.28E-08	CD44,CDKN1A,CXCL1,DAB2,FPR2 (includes EG:100426968),HIF1A,INHBA,OSM,PTPN1,S100A8,SAA1,SEMA3F	12
Cardiovascular System Development and Function	proliferation of endothelial cells	2.28E-08	CD44,CDKN1A,CXCL1,DAB2,FPR2 (includes EG:100426968),HIF1A,INHBA,OSM,PTPN1,S100A8,SAA1,SEMA3F	12
Cellular Development	proliferation of endothelial cells	2.28E-08	CD44,CDKN1A,CXCL1,DAB2,FPR2 (includes EG:100426968),HIF1A,INHBA,OSM,PTPN1,S100A8,SAA1,SEMA3F	12
Cellular Growth and Proliferation	proliferation of endothelial cells	2.28E-08	CD44,CDKN1A,CXCL1,DAB2,FPR2 (includes EG:100426968),HIF1A,INHBA,OSM,PTPN1,S100A8,SAA1,SEMA3F	12
Organismal Development	proliferation of endothelial cells	2.28E-08	CD44,CDKN1A,CXCL1,DAB2,FPR2 (includes EG:100426968),HIF1A,INHBA,OSM,PTPN1,S100A8,SAA1,SEMA3F	12
Immunological Disease	systemic autoimmune syndrome	2.43E-08	ADAMTS4,CASP1,CCL7,CCR5,CD44,CD47,CEBPB (includes EG:1051),CFB,CHI3L1,CIITA,CXCL1,CXCR4,FPR2 (includes EG:100426968),OSM,PADI4,S100A8,SAA1,SELP,SIRPA,SOCS3,SPP1 (includes EG:100359743),TNFRSF18	22
Hematological System Development and Function	quantity of phagocytes	2.54E-08	CCL7,CD47,CDKN1A,CIITA,FPR2 (includes EG:100426968),FUT4,PLAT,S100A8,SELP,SIRPA,SOAT1,SOCS3,SPP1 (includes EG:100359743),SRGN	14
Inflammatory Response	quantity of phagocytes	2.54E-08	CCL7,CD47,CDKN1A,CIITA,FPR2 (includes EG:100426968),FUT4,PLAT,S100A8,SELP,SIRPA,SOAT1,SOCS3,SPP1 (includes EG:100359743),SRGN	14

Tissue Morphology	quantity of phagocytes	2.54E-08	CCL7,CD47,CDKN1A,CIITA,FPR2 (includes EG:100426968),FUT4,PLAT,S100A8,SELP,SIRPA,SOAT1,SOCS3,SPP1 (includes EG:100359743),SRGN	14
Cellular Growth and Proliferation	proliferation of synovial cells	2.60E-08	CD44,CDKN1A,CIITA,OSM,SAA1,SOCS3	6
Connective Tissue Development and Function	proliferation of synovial cells	2.60E-08	CD44,CDKN1A,CIITA,OSM,SAA1,SOCS3	6
Cellular Movement	migration of tumor cell lines	2.79E-08	CCL7,CD44,CD47,CXCR4,DAB2,MSN,OSM,RAP1GAP,RGS1,S100A8,SEMA3F,SIRPA,SOCS3,SPP1 (includes EG:100359743),TGFB1,THBS2	16
Cellular Movement	migration of mononuclear leukocytes	3.22E-08	CCL7,CCR5,CD44,CD47,CXCR4,FUT4,RAP1GAP,RGS1,SELP,SIRPA,SOCS3,SPP1 (includes EG:100359743),THBS2	13
Hematological System Development and Function	migration of mononuclear leukocytes	3.22E-08	CCL7,CCR5,CD44,CD47,CXCR4,FUT4,RAP1GAP,RGS1,SELP,SIRPA,SOCS3,SPP1 (includes EG:100359743),THBS2	13
Immune Cell Trafficking	migration of mononuclear leukocytes	3.22E-08	CCL7,CCR5,CD44,CD47,CXCR4,FUT4,RAP1GAP,RGS1,SELP,SIRPA,SOCS3,SPP1 (includes EG:100359743),THBS2	13
Cardiovascular Disease	vascular disease	3.72E-08	CASP1,CCR5,CD44,CD47,CDKN1A,CFB,CHI3L1,CHRN B1,CXCR4,HIF1A,LRIG1,PLAT,S100A8,SELP,SLC16A6,SOAT1,SOCS3,SPP1 (includes EG:100359743)	18
Cellular Growth and Proliferation	proliferation of cells	4.12E-08	APOBEC1,BST2,CASP1,CCR5,CD44,CD47,CDKN1A,CEBPB (includes EG:1051),CFB,CHI3L1,CIITA,CORO1A,CXCL1,CXCR4,DAB2,DUSP6,FPR2 (includes EG:100426968),FUT4,HIF1A,IER3,INHBA,INSL3,LRIG1,OSM,OSMR,PADI4,PLAT,PTPN1,QSOX1,RAP1GAP,S100A8,SAA1,SAMSN1,SELP,SEMA3F,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743),SRGN,SULF2,TGFB1,THBS2,TNFRSF18	44
Cardiovascular System Development and Function	development of cardiovascular system	4.30E-08	CCL7,CCR5,CD44,CDKN1A,CXCL1,CXCR4,DAB2,DUSP6,FPR2 (includes EG:100426968),HIF1A,INHBA,OSM,PLAT,PTPN1,S100A8,SAA1,SELP,SEMA3F,SOCS3,SPP1 (includes EG:100359743),TGFB1,THBS2	22
Cellular Movement	chemotaxis of antigen presenting cells	4.48E-08	CCL7,CCR5,CDKN1A,CXCR4,FPR2 (includes EG:100426968),SAA1,SELP,SPP1 (includes EG:100359743),THBS2	9
Hematological System Development and Function	chemotaxis of antigen presenting cells	4.48E-08	CCL7,CCR5,CDKN1A,CXCR4,FPR2 (includes EG:100426968),SAA1,SELP,SPP1 (includes EG:100359743),THBS2	9
Immune Cell Trafficking	chemotaxis of antigen presenting cells	4.48E-08	CCL7,CCR5,CDKN1A,CXCR4,FPR2 (includes EG:100426968),SAA1,SELP,SPP1 (includes EG:100359743),THBS2	9
Inflammatory Response	chemotaxis of antigen presenting cells	4.48E-08	CCL7,CCR5,CDKN1A,CXCR4,FPR2 (includes EG:100426968),SAA1,SELP,SPP1 (includes EG:100359743),THBS2	9

			ADAMTS4,BST2,CASP1,CCL7,CCR5,CD44,CDKN1A,CEBPB (includes EG:1051),CFB,CHI3L1,CHRN1,CP,CXCL1,CXCR4,DAB2,DUSP6,FUT4,GPRC5A,HIF1A,IER3,IFITM2,INHBA,LRIG1,OSM,OSMR,PLAT,PTPN1,RAP1GAP,S100A8,SAAL1,SELP,SEMA3F,SLPI,SOCS3,SPP1 (includes EG:100359743),TGFB1,TMC5,TNFAIP2	38
Cancer	carcinoma	4.83E-08	CASP1,CCR5,CD44,CDKN1A,CEBPB (includes EG:1051),CXCL1,CXCR4,HIF1A,SLPI,SOAT1	10
Cell Death and Survival	cell death of myeloid cells	5.73E-08		
Hematological System Development and Function	accumulation of blood cells	6.71E-08	CCL7,CCR5,CD44,IER3,OSM,PLAT,PTPN1,S100A8,SELP,SLPI,SPP1 (includes EG:100359743)	11
Tissue Development	accumulation of blood cells	6.71E-08	CCL7,CCR5,CD44,IER3,OSM,PLAT,PTPN1,S100A8,SELP,SLPI,SPP1 (includes EG:100359743)	11
Cell Death and Survival	cell death of phagocytes	7.27E-08	CASP1,CCR5,CD44,CDKN1A,CEBPB (includes EG:1051),CXCL1,CXCR4,HIF1A,SLPI,SOAT1	10
Cellular Function and Maintenance	function of antigen presenting cells	7.57E-08	CASP1,CEBPB (includes EG:1051),CHI3L1,CIITA,FPR2 (includes EG:100426968),PLAT,RGS1,SAMSN1,SIRPA,SLPI,SPP1 (includes EG:100359743)	11
Cell Morphology	cell spreading	7.87E-08	CCR5,CD44,CD47,CORO1A,DAB2,RAP1GAP,SAMSN1,SIRPA,SPP1 (includes EG:100359743),TGFB1,THBS2	11
Cellular Movement	cell movement of lymphocytes	8.48E-08	CCL7,CCR5,CD44,CD47,CXCR4,FUT4,RAP1GAP,RGS1,SAAL1,SELP,SOCS3,SPP1 (includes EG:100359743),THBS2	13
Hematological System Development and Function	cell movement of lymphocytes	8.48E-08	CCL7,CCR5,CD44,CD47,CXCR4,FUT4,RAP1GAP,RGS1,SAAL1,SELP,SOCS3,SPP1 (includes EG:100359743),THBS2	13
Immune Cell Trafficking	cell movement of lymphocytes	8.48E-08	CCL7,CCR5,CD44,CD47,CXCR4,FUT4,RAP1GAP,RGS1,SAAL1,SELP,SOCS3,SPP1 (includes EG:100359743),THBS2	13
Cellular Movement	Lymphocyte migration	9.62E-08	CCL7,CCR5,CD44,CD47,CXCR4,FUT4,RAP1GAP,RGS1,SELP,SOCS3,SPP1 (includes EG:100359743),THBS2	12
Hematological System Development and Function	Lymphocyte migration	9.62E-08	CCL7,CCR5,CD44,CD47,CXCR4,FUT4,RAP1GAP,RGS1,SELP,SOCS3,SPP1 (includes EG:100359743),THBS2	12
Immune Cell Trafficking	Lymphocyte migration	9.62E-08	CCL7,CCR5,CD44,CD47,CXCR4,FUT4,RAP1GAP,RGS1,SELP,SOCS3,SPP1 (includes EG:100359743),THBS2	12
Cell-To-Cell Signaling and Interaction	binding of cells	9.75E-08	CCL7,CCR5,CD44,CD47,CXCL1,CXCR4,FUT4,INHBA,MSN,OSM,PTPN1,RAP1GAP,SELP,SPP1 (includes EG:100359743),THBS2	15
Tissue Development Cellular Growth and Proliferation	accumulation of cells	1.10E-07	CCL7,CCR5,CD44,CDKN1A,IER3,OSM,PLAT,PTPN1,S100A8,SELP,SLPI,SPP1 (includes EG:100359743)	12
	formation of connective tissue cells	1.37E-07	CD44,CD47,CDKN1A,CIITA,INHBA,S100A8,SIRPA,SOC3	8
Cell Death and Survival	apoptosis of endothelial cells	1.72E-07	CASP1,CCR5,CDKN1A,CXCR4,DUSP6,PLAT,S100A8,SEMA3F,SPP1 (includes EG:100359743)	9

Immunological Disease	hypersensitive reaction	1.99E-07	CCR5,CD44,CD47,CEBPB (includes EG:1051),CORO1A,CXCR4,FSTL1,FUT4,MSN,OSM,OSMR,S100A8,SELP,SPP1 (includes EG:100359743) CD44,CD47,FUT4,RAP1GAP,SELP,SPP1 (includes EG:100359743),THBS2	14
Cellular Movement	adhesion of T lymphocytes	2.18E-07	EG:100359743),THBS2	7
Hematological System Development and Function	adhesion of T lymphocytes	2.18E-07	CD44,CD47,FUT4,RAP1GAP,SELP,SPP1 (includes EG:100359743),THBS2	7
Immune Cell Trafficking	adhesion of T lymphocytes	2.18E-07	CD44,CD47,FUT4,RAP1GAP,SELP,SPP1 (includes EG:100359743),THBS2	7
Cell-To-Cell Signaling and Interaction	adhesion of T lymphocytes	2.18E-07	CD44,CD47,FUT4,RAP1GAP,SELP,SPP1 (includes EG:100359743),THBS2	7
Tissue Development	adhesion of T lymphocytes	2.18E-07	CD44,CD47,FUT4,RAP1GAP,SELP,SPP1 (includes EG:100359743),THBS2	7
Cell-mediated Immune Response	adhesion of T lymphocytes	2.18E-07	CD44,CD47,FUT4,RAP1GAP,SELP,SPP1 (includes EG:100359743),THBS2	7
Cell Death and Survival	apoptosis of myeloid cells	2.21E-07	CASP1,CD44,CDKN1A,CEBPB (includes EG:1051),CXCL1,CXCR4,HIF1A,SLPI,SOAT1	9
Cellular Growth and Proliferation	formation of osteoclasts	2.37E-07	CD44,CD47,CIITA,INHBA,S100A8,SIRPA,SOCS3	7
Connective Tissue Development and Function	formation of osteoclasts	2.37E-07	CD44,CD47,CIITA,INHBA,S100A8,SIRPA,SOCS3	7
Skeletal and Muscular System Development and Function	formation of osteoclasts	2.37E-07	CD44,CD47,CIITA,INHBA,S100A8,SIRPA,SOCS3 CD44,CD47,CDKN1A,CEBPB (includes EG:1051),CXCR4,SELP,SIRPA,SPP1 (includes EG:100359743),THBS2	7
Tissue Morphology	quantity of bone marrow cells	2.45E-07	EG:100359743),THBS2	9
Lymphoid Tissue Structure and Development	quantity of bone marrow cells	2.45E-07	CD44,CD47,CDKN1A,CEBPB (includes EG:1051),CXCR4,SELP,SIRPA,SPP1 (includes EG:100359743),THBS2	9
Cellular Movement	cell movement of peripheral blood leukocytes	2.45E-07	CCL7,CCR5,CXCR4,FPR2 (includes EG:100426968),RGS1,SELP	6
Hematological System Development and Function	cell movement of peripheral blood leukocytes	2.55E-07	CCL7,CCR5,CXCR4,FPR2 (includes EG:100426968),RGS1,SELP	6
Immune Cell Trafficking	cell movement of peripheral blood leukocytes	2.55E-07	CCL7,CCR5,CXCR4,FPR2 (includes EG:100426968),RGS1,SELP	6
Cellular Movement	extravasation of cells	2.86E-07	CCR5,CD44,CXCL1,CXCR4,RAP1GAP,SELP	6
Cellular Movement	transmigration of cells	3.11E-07	CCL7,CD44,CD47,CXCR4,RAP1GAP,SIRPA,SLPI,SOCS3 CASP1,CD44,CDKN1A,CEBPB (includes EG:1051),CXCL1,CXCR4,HIF1A,SLPI,SOAT1	8
Cell Death and Survival	apoptosis of phagocytes	3.42E-07	CASP1,CD44,CDKN1A,CEBPB (includes EG:1051),CXCR4,HIF1A,IER3,INHBA,OSM,SPP1 (includes EG:100359743),THBS2	9
Cancer	development of tumor	3.71E-07	CCL7,CCR5,CEBPB (includes EG:1051),CHI3L1,CP,SOAT1,SPP1 (includes EG:100359743),SRGN	11
Inflammatory Response	morphology of phagocytes	3.93E-07	CCL7,CCR5,CEBPB (includes EG:1051),CHI3L1,CP,SOAT1,SPP1 (includes EG:100359743),SRGN	8
Cell Morphology	morphology of phagocytes	3.93E-07	EG:100359743),SRGN	8

Hematological System Development and Function	accumulation of leukocytes	4.29E-07	CCL7,CCR5,CD44,IER3,OSM,PTPN1,S100A8,SELP,SLPI ,SPP1 (includes EG:100359743)	10
Immune Cell Trafficking	accumulation of leukocytes	4.29E-07	CCL7,CCR5,CD44,IER3,OSM,PTPN1,S100A8,SELP,SLPI ,SPP1 (includes EG:100359743)	10
Inflammatory Response	accumulation of leukocytes	4.29E-07	CCL7,CCR5,CD44,IER3,OSM,PTPN1,S100A8,SELP,SLPI ,SPP1 (includes EG:100359743)	10
Tissue Development	accumulation of leukocytes	4.29E-07	CCL7,CCR5,CD44,IER3,OSM,PTPN1,S100A8,SELP,SLPI ,SPP1 (includes EG:100359743)	10
Infectious Disease	Bacterial Infection	4.62E-07	CASP1,CCR5,CD44,CD47,CEBPB (includes EG:1051),FUT4,PADI4,SELP,SIRPA,SLC11A1,SLPI,SPP1 (includes EG:100359743),TNFRSF18	13
Cellular Movement	chemotaxis of macrophages	4.77E-07	CCR5,CDKN1A,FPR2 (includes EG:100426968),SAA1,SELP,SPP1 (includes EG:100359743),THBS2	7
Hematological System Development and Function	chemotaxis of macrophages	4.77E-07	CCR5,CDKN1A,FPR2 (includes EG:100426968),SAA1,SELP,SPP1 (includes EG:100359743),THBS2	7
Immune Cell Trafficking	chemotaxis of macrophages	4.77E-07	CCR5,CDKN1A,FPR2 (includes EG:100426968),SAA1,SELP,SPP1 (includes EG:100359743),THBS2	7
Inflammatory Response	chemotaxis of macrophages	4.77E-07	CCR5,CDKN1A,FPR2 (includes EG:100426968),SAA1,SELP,SPP1 (includes EG:100359743),THBS2	7
Hematological System Development and Function	quantity of antigen presenting cells	4.98E-07	CCL7,CD47,CIITA,FPR2 (includes EG:100426968),PLAT,SELP,SIRPA,SOAT1,SOCS3,SPP1 (includes EG:100359743)	10
Tissue Morphology	quantity of antigen presenting cells	4.98E-07	CCL7,CD47,CIITA,FPR2 (includes EG:100426968),PLAT,SELP,SIRPA,SOAT1,SOCS3,SPP1 (includes EG:100359743)	10
Hematological System Development and Function	function of myeloid cells	5.17E-07	CASP1,CD47,CEBPB (includes EG:1051),FUT4,PADI4,PLAT,SELP,SIRPA,SLPI,SPP1 (includes EG:100359743)	10
Cellular Function and Maintenance	function of myeloid cells	5.17E-07	CASP1,CD47,CEBPB (includes EG:1051),FUT4,PADI4,PLAT,SELP,SIRPA,SLPI,SPP1 (includes EG:100359743)	10
Cancer	Cancer	5.27E-07	ADAMTS4,APOBEC1,BST2,CASP1,CCL7,CCR5,CD44,CD47,CDKN1A,CEBPB (includes EG:1051),CFB,CHI3L1,CHRN1,CIITA,CP,CXCL1,CXCR4,DAB2,DUSP6,FUT4,GPRC5A,HIF1A,IER3,IFITM2,INHBA,LRIG1,MGST1,OSM,OSMR,PLAT,PTPN1,RAP1GAP,RGS1,S100A8,SAA1,SELP,SEMA3F,SLPI,SOCS3,SPP1 (includes EG:100359743),SPSB1,TGFBI,TMC5,TMPRSS4,TNFAIP2	45
Cell-To-Cell Signaling and Interaction	adhesion of tumor cell lines	5.78E-07	CD44,CD47,CXCR4,DAB2,FXYD5,RAP1GAP,SELP,SEMA3F,SPP1 (includes EG:100359743),TNFRSF18	10
Tissue Development	adhesion of tumor cell lines	5.78E-07	CD44,CD47,CXCR4,DAB2,FXYD5,RAP1GAP,SELP,SEMA3F,SPP1 (includes EG:100359743),TNFRSF18	10

Hematological System Development and Function	proliferation of lymphocytes	6.43E-07	CCR5,CD44,CD47,CDKN1A,CEBPB (includes EG:1051),CIITA,CORO1A,CXCR4,HIF1A,INHBA,SAMS N1,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743),SRGN,TNFRSF18	17
Cellular Development	proliferation of lymphocytes	6.43E-07	CCR5,CD44,CD47,CDKN1A,CEBPB (includes EG:1051),CIITA,CORO1A,CXCR4,HIF1A,INHBA,SAMS N1,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743),SRGN,TNFRSF18	17
Cellular Growth and Proliferation	proliferation of lymphocytes	6.43E-07	CCR5,CD44,CXCR4,FUT4,RGS1,SELP,SOCS3,SPP1 (includes EG:100359743),SRGN,TNFRSF18	17
Cellular Movement	cell movement of T lymphocytes	6.44E-07	(includes EG:100359743),THBS2	9
Hematological System Development and Function	cell movement of T lymphocytes	6.44E-07	CCR5,CD44,CXCR4,FUT4,RGS1,SELP,SOCS3,SPP1 (includes EG:100359743),THBS2	9
Immune Cell Trafficking	cell movement of T lymphocytes	6.44E-07	(includes EG:100359743),THBS2	9
Cell-mediated Immune Response	cell movement of T lymphocytes	6.44E-07	CCR5,CD44,CXCR4,FUT4,RGS1,SELP,SOCS3,SPP1 (includes EG:100359743),THBS2	9
Cardiovascular Disease Organismal Injury and Abnormalities	atherogenesis	8.14E-07	APOBEC1,CCR5,CD44,FUT4,SOAT1,SPP1 (includes EG:100359743)	6
Cellular Development	proliferation of tumor cells	8.68E-07	APOBEC1,CCR5,CD44,FUT4,SOAT1,SPP1 (includes EG:100359743)	6
Cellular Growth and Proliferation	proliferation of tumor cells	8.68E-07	CASP1,CD44,CD47,CDKN1A,CXCL1,CXCR4,HIF1A,INHBA,OSM,PLAT,SLPI,SOCS3,SPP1 (includes EG:100359743)	13
Tumor Morphology	proliferation of tumor cells	8.68E-07	CASP1,CD44,CD47,CDKN1A,CXCL1,CXCR4,HIF1A,INHBA,OSM,PLAT,SLPI,SOCS3,SPP1 (includes EG:100359743)	13
Cell-To-Cell Signaling and Interaction	adhesion of leukemia cell lines	8.94E-07	CD47,DAB2,RAP1GAP,SELP,SPP1 (includes EG:100359743),TNFRSF18	6
Tissue Development	adhesion of leukemia cell lines	8.94E-07	CD47,DAB2,RAP1GAP,SELP,SPP1 (includes EG:100359743),TNFRSF18	6
Reproductive System Disease	endometriosis	9.31E-07	CASP1,CEBPB (includes EG:1051),CXCR4,FPR2 (includes EG:100426968),HIF1A,INHBA,MGST1,QSOX1,S100A8 ,SLPI,SPP1 (includes EG:100359743),TGFB1,THBS2	13
Cellular Movement	migration of dendritic cells	9.58E-07	CCL7,CCR5,CD44,CXCR4,HIF1A,SIRPA,SPP1 (includes EG:100359743)	7
Hematological System Development and Function	migration of dendritic cells	9.58E-07	CCL7,CCR5,CD44,CXCR4,HIF1A,SIRPA,SPP1 (includes EG:100359743)	7
Immune Cell Trafficking	migration of dendritic cells	9.58E-07	CCL7,CCR5,CD44,CXCR4,HIF1A,SIRPA,SPP1 (includes EG:100359743)	7
Inflammatory Response	migration of dendritic cells	9.58E-07	CCL7,CCR5,CD44,CXCR4,HIF1A,SIRPA,SPP1 (includes EG:100359743)	7

Connective Tissue Disorders	rheumatoid arthritis	9.61E-07	ADAMTS4,CCL7,CCR5,CEBPB (includes EG:1051),CFB,CHI3L1,CIITA,CXCL1,CXCR4,FPR2 (includes EG:100426968),OSM,PADI4,S100A8,SAA1,SOCS3,SP P1 (includes EG:100359743),TNFRSF18 ADAMTS4,CCL7,CCR5,CEBPB (includes EG:1051),CFB,CHI3L1,CIITA,CXCL1,CXCR4,FPR2 (includes EG:100426968),OSM,PADI4,S100A8,SAA1,SOCS3,SP P1 (includes EG:100359743),TNFRSF18	17
Inflammatory Disease	rheumatoid arthritis	9.61E-07	ADAMTS4,CCL7,CCR5,CEBPB (includes EG:1051),CFB,CHI3L1,CIITA,CXCL1,CXCR4,FPR2 (includes EG:100426968),OSM,PADI4,S100A8,SAA1,SOCS3,SP P1 (includes EG:100359743),TNFRSF18	17
Skeletal and Muscular Disorders	rheumatoid arthritis	9.61E-07	ADAMTS4,CCL7,CCR5,CEBPB (includes EG:1051),CFB,CHI3L1,CIITA,CXCL1,CXCR4,FPR2 (includes EG:100426968),OSM,PADI4,S100A8,SAA1,SOCS3,SP P1 (includes EG:100359743),TNFRSF18	17
Immunological Disease	rheumatoid arthritis	9.61E-07	ADAMTS4,CCL7,CCR5,CEBPB (includes EG:1051),CFB,CHI3L1,CIITA,CXCL1,CXCR4,FPR2 (includes EG:100426968),OSM,PADI4,S100A8,SAA1,SOCS3,SP P1 (includes EG:100359743),TNFRSF18	17
Cardiovascular Disease	atherosclerotic lesion	9.84E-07	APOBEC1,CCR5,CD44,FUT4,SELP,SOAT1,SOCS3,SPP1 (includes EG:100359743)	8
Immunological Disease	Sjogren's syndrome	1.02E-06	CCL7,CCR5,CXCR4,IFITM2,OSM,SOCS3,SPP1 (includes EG:100359743)	7
Gastrointestinal Disease	Sjogren's syndrome	1.02E-06	CCL7,CCR5,CXCR4,IFITM2,OSM,SOCS3,SPP1 (includes EG:100359743)	7
Ophthalmic Disease	Sjogren's syndrome	1.02E-06	CCL7,CCR5,CXCR4,IFITM2,OSM,SOCS3,SPP1 (includes EG:100359743)	7
Hematological System Development and Function	aggregation of blood cells	1.15E-06	CD44,CD47,DAB2,HIF1A,PLAT,PLEK,PTPN1,SELP,THB S2	9
Tissue Development	aggregation of blood cells	1.15E-06	CD44,CD47,DAB2,HIF1A,PLAT,PLEK,PTPN1,SELP,THB S2	9
Hematological System Development and Function	activation of lymphocytes	1.20E-06	CCL7,CD44,CD47,CDKN1A,CORO1A,HIF1A,MGST1,OS M,SAMSN1,SIRPA,SLC11A1,SPP1 (includes EG:100359743),TNFRSF18	13
Immune Cell Trafficking	activation of lymphocytes	1.20E-06	CCL7,CD44,CD47,CDKN1A,CORO1A,HIF1A,MGST1,OS M,SAMSN1,SIRPA,SLC11A1,SPP1 (includes EG:100359743),TNFRSF18	13
Inflammatory Response	activation of lymphocytes	1.20E-06	CCL7,CD44,CD47,CDKN1A,CORO1A,HIF1A,MGST1,OS M,SAMSN1,SIRPA,SLC11A1,SPP1 (includes EG:100359743),TNFRSF18	13
Cell-To-Cell Signaling and Interaction	activation of lymphocytes	1.20E-06	CCL7,CD44,CD47,CDKN1A,CORO1A,HIF1A,MGST1,OS M,SAMSN1,SIRPA,SLC11A1,SPP1 (includes EG:100359743),TNFRSF18	13
Cellular Movement	migration of antigen presenting cells	1.39E-06	CCL7,CCR5,CD44,CXCL1,CXCR4,HIF1A,SIRPA,SPP1 (includes EG:100359743)	8
Hematological System Development and Function	migration of antigen presenting cells	1.39E-06	CCL7,CCR5,CD44,CXCL1,CXCR4,HIF1A,SIRPA,SPP1 (includes EG:100359743)	8
Immune Cell Trafficking	migration of antigen presenting cells	1.39E-06	CCL7,CCR5,CD44,CXCL1,CXCR4,HIF1A,SIRPA,SPP1 (includes EG:100359743)	8
Cellular Movement	recruitment of neutrophils	1.39E-06	CASP1,CCL7,CD44,CD47,CHI3L1,CXCL1,SELP,SLPI	8

Hematological System Development and Function	recruitment of neutrophils	1.39E-06	CASP1,CCL7,CD44,CD47,CHI3L1,CXCL1,SELP,SLPI	8
Immune Cell Trafficking	recruitment of neutrophils	1.39E-06	CASP1,CCL7,CD44,CD47,CHI3L1,CXCL1,SELP,SLPI	8
Inflammatory Response	recruitment of neutrophils	1.39E-06	CASP1,CCL7,CD44,CD47,CHI3L1,CXCL1,SELP,SLPI	8
Cell-To-Cell Signaling and Interaction	recruitment of neutrophils	1.39E-06	CASP1,CCL7,CD44,CD47,CHI3L1,CXCL1,SELP,SLPI	8
Hematological System Development and Function	quantity of T lymphocytes	1.44E-06	BST2,CCR5,CD47,CDKN1A,CHI3L1,CIITA,CORO1A,CXCR4,HIF1A,OSM,SELP,SIRPA,SOCS3,SPP1 (includes EG:100359743)	14
Tissue Morphology	quantity of T lymphocytes	1.44E-06	BST2,CCR5,CD47,CDKN1A,CHI3L1,CIITA,CORO1A,CXCR4,HIF1A,OSM,SELP,SIRPA,SOCS3,SPP1 (includes EG:100359743)	14
Cellular Growth and Proliferation	proliferation of connective tissue cells	1.53E-06	CD44,CDKN1A,CEBPB (includes EG:1051),CIITA,HIF1A,INHBA,LRIG1,OSM,PLAT,PTPN1,SAA1,SIRPA,SOCS3,SPP1 (includes EG:100359743)	14
Cellular Movement	cell movement of leukemia cell lines	1.69E-06	CCL7,CD44,CD47,CXCR4,FPR2 (includes EG:100426968),RGS1,SELP	7
Cellular Movement	transmigration of leukocytes	1.69E-06	CCL7,CD44,CD47,CXCR4,SIRPA,SLPI,SOCS3	7
Hematological System Development and Function	transmigration of leukocytes	1.69E-06	CCL7,CD44,CD47,CXCR4,SIRPA,SLPI,SOCS3	7
Immune Cell Trafficking	transmigration of leukocytes	1.69E-06	CCL7,CD44,CD47,CXCR4,SIRPA,SLPI,SOCS3	7
Carbohydrate Metabolism	binding of carbohydrate	1.80E-06	CD44,OSM,SELP,SLPI,SPP1 (includes EG:100359743),SULF2	6
Inflammatory Response	inflammation of organ	1.82E-06	CASP1,CCR5,CD44,CD47,CDKN1A,CEBPB (includes EG:1051),CFB,CIITA,HIF1A,PLAT,S100A8,SELP,SLPI,S OAT1,SOCS3,SPP1 (includes EG:100359743),THBS2	17
Tissue Morphology	quantity of lymphatic system cells	2.02E-06	CD44,CD47,CDKN1A,CEBPB (includes EG:1051),CXCR4,RGS1,SELP,SIRPA,SPP1 (includes EG:100359743),THBS2	10
Lymphoid Tissue Structure and Development	quantity of lymphatic system cells	2.02E-06	CD44,CD47,CDKN1A,CEBPB (includes EG:1051),CXCR4,RGS1,SELP,SIRPA,SPP1 (includes EG:100359743),THBS2	10
Hematological System Development and Function	function of lymphocytes	2.66E-06	CCR5,CD44,CEBPB (includes EG:1051),CHI3L1,CIITA,CXCR4,RGS1,SAMSN1,SELP,S LPI,TNFRSF18	11
Cellular Function and Maintenance	function of lymphocytes	2.66E-06	CCR5,CD44,CEBPB (includes EG:1051),CHI3L1,CIITA,CXCR4,RGS1,SAMSN1,SELP,S LPI,TNFRSF18	11
Cell-To-Cell Signaling and Interaction	binding of tumor cell lines	2.75E-06	CCR5,CD44,CD47,CXCR4,OSM,RAP1GAP,SELP,SPP1 (includes EG:100359743)	8
Cellular Movement	chemotaxis of embryonic cell lines	2.93E-06	CCR5,CXCL1,CXCR4,FPR2 (includes EG:100426968)	4
Embryonic Development	chemotaxis of embryonic cell lines	2.93E-06	CCR5,CXCL1,CXCR4,FPR2 (includes EG:100426968)	4

Cellular Movement Hair and Skin Development and Function	chemotaxis of epithelial cell lines	2.93E-06	CCR5,CXCL1,CXCR4,FPR2 (includes EG:100426968)	4
Cellular Development	chemotaxis of epithelial cell lines	2.93E-06	CCR5,CXCL1,CXCR4,FPR2 (includes EG:100426968) CDKN1A,CEBPB (includes EG:1051),CXCR4,INHBA,OSM,OSMR,SOCS3,SPP1 (includes EG:100359743)	4 8
Cellular Growth and Proliferation Hepatic System Development and Function	proliferation of liver cells	3.00E-06	CDKN1A,CEBPB (includes EG:1051),CXCR4,INHBA,OSM,OSMR,SOCS3,SPP1 (includes EG:100359743)	8
Organismal Injury and Abnormalities Respiratory Disease	proliferation of liver cells	3.00E-06	CDKN1A,CEBPB (includes EG:1051),CXCR4,INHBA,OSM,OSMR,SOCS3,SPP1 (includes EG:100359743)	8
	damage of lung	3.16E-06	CASP1,CCR5,CD44,CFB,HIF1A,SELP,SLPI	7
	damage of lung	3.16E-06	CASP1,CCR5,CD44,CFB,HIF1A,SELP,SLPI BST2,CCR5,CIITA,CXCR4,S100A8,SOCS3,SPP1 (includes EG:100359743)	7 7
Infectious Disease	replication of HIV	3.16E-06	(includes EG:100359743)	7
Immunological Disease	delayed hypersensitive reaction	3.34E-06	CCR5,CD44,CD47,CEBPB (includes EG:1051),FUT4,SELP,SPP1 (includes EG:100359743) CASP1,CCR5,DUSP6,S100A8,SEMA3F,SPP1 (includes EG:100359743)	7 6
Cell Death and Survival	apoptosis of vascular endothelial cells	4.17E-06	CCR5,CXCL1,CXCR4,FPR2 (includes EG:100426968),OSM,SAA1	6
Cellular Movement Hair and Skin Development and Function	cell movement of epithelial cell lines	4.17E-06	CCR5,CXCL1,CXCR4,FPR2 (includes EG:100426968),OSM,SAA1	6
Hematological System Development and Function	fusion of leukocytes	4.39E-06	CCR5,CD44,CXCR4,SIRPA	4
Immune Cell Trafficking	fusion of leukocytes	4.39E-06	CCR5,CD44,CXCR4,SIRPA	4
Cell-To-Cell Signaling and Interaction	fusion of leukocytes	4.39E-06	CCR5,CD44,CXCR4,SIRPA	4
Tissue Development	fusion of leukocytes	4.39E-06	CCR5,CD44,CXCR4,SIRPA	4
Infectious Disease	fusion of leukocytes	4.39E-06	CCR5,CD44,CXCR4,SIRPA	4
Cell Death and Survival	apoptosis of tumor cell lines	4.99E-06	CASP1,CCR5,CD44,CD47,CDKN1A,CEBPB (includes EG:1051),DAB2,HIF1A,IER3,INHBA,MSN,OSM,PADI4, S100A8,SEMA3F,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743),TNFRSF18	20
Cellular Movement	chemotaxis of T lymphocytes	5.13E-06	CCR5,CXCR4,RGS1,SOCS3,SPP1 (includes EG:100359743),THBS2	6
Hematological System Development and Function	chemotaxis of T lymphocytes	5.13E-06	CCR5,CXCR4,RGS1,SOCS3,SPP1 (includes EG:100359743),THBS2	6
Immune Cell Trafficking	chemotaxis of T lymphocytes	5.13E-06	CCR5,CXCR4,RGS1,SOCS3,SPP1 (includes EG:100359743),THBS2	6
Inflammatory Response	chemotaxis of T lymphocytes	5.13E-06	CCR5,CXCR4,RGS1,SOCS3,SPP1 (includes EG:100359743),THBS2	6
Cell-mediated Immune Response	chemotaxis of T lymphocytes	5.13E-06	CCR5,CXCR4,RGS1,SOCS3,SPP1 (includes EG:100359743),THBS2	6

Hematological System Development and Function	morphology of macrophages	5.13E-06	CCR5,CEBPB (includes EG:1051),CHI3L1,CP,SOAT1,SPP1 (includes EG:100359743)	6
Inflammatory Response	morphology of macrophages	5.13E-06	CCR5,CEBPB (includes EG:1051),CHI3L1,CP,SOAT1,SPP1 (includes EG:100359743)	6
Cell Morphology	morphology of macrophages	5.13E-06	CCR5,CEBPB (includes EG:1051),CHI3L1,CP,SOAT1,SPP1 (includes EG:100359743)	6
Hematological System Development and Function	binding of leukocytes	5.33E-06	CCL7,CCR5,CD44,CD47,FUT4,MSN,RAP1GAP,SELP	8
Cell-To-Cell Signaling and Interaction	binding of leukocytes	5.33E-06	CCL7,CCR5,CD44,CD47,FUT4,MSN,RAP1GAP,SELP	8
Cancer	head and neck tumor	6.02E-06	APOBEC1,CCR5,CD44,CDKN1A,CHI3L1,CHRN1, CXCR4,PLAT,RAP1GAP,S100A8,SEMA3F,SLPI,SOCS3,SPP1 (includes EG:100359743),TMPRSS4	15
Carbohydrate Metabolism	binding of polysaccharide	6.13E-06	CD44,OSM,SELP,SPP1 (includes EG:100359743),SULF2	5
Cellular Movement	extravasation of myeloid cells	6.33E-06	CCR5,CD44,CXCL1,SELP	4
Hematological System Development and Function	extravasation of myeloid cells	6.33E-06	CCR5,CD44,CXCL1,SELP	4
Tissue Morphology	abnormal morphology of lymph node	6.47E-06	BST2,CDKN1A,CEBPB (includes EG:1051),CIITA,FPR2 (includes EG:100426968),FUT4,SELP	7
Lymphoid Tissue Structure and Development	abnormal morphology of lymph node	6.47E-06	BST2,CDKN1A,CEBPB (includes EG:1051),CIITA,FPR2 (includes EG:100426968),FUT4,SELP	7
Organ Morphology	abnormal morphology of lymph node	6.47E-06	BST2,CDKN1A,CEBPB (includes EG:1051),CIITA,FPR2 (includes EG:100426968),FUT4,SELP	7
Cellular Development	proliferation of hepatocytes	6.47E-06	CDKN1A,CEBPB (includes EG:1051),CXCR4,INHBA,OSM,OSMR,SOCS3	7
Cellular Growth and Proliferation	proliferation of hepatocytes	6.47E-06	CDKN1A,CEBPB (includes EG:1051),CXCR4,INHBA,OSM,OSMR,SOCS3	7
Hepatic System Development and Function	proliferation of hepatocytes	6.47E-06	CDKN1A,CEBPB (includes EG:1051),CXCR4,INHBA,OSM,OSMR,SOCS3	7
Cellular Function and Maintenance	cellular homeostasis	6.55E-06	CASP1,CCL7,CCR5,CD47,CDKN1A,CEBPB (includes EG:1051),CHRN1,CIITA,CORO1A,CP,CXCL1,CXCR4,FPR2 (includes EG:100426968),HIF1A,INHBA,OSM,RAP1GAP,SIRPA,SLC11A1,SOCS3,SPP1 (includes EG:100359743),THBS2	22
Hematological System Development and Function	proliferation of T lymphocytes	6.71E-06	CCR5,CD44,CD47,CDKN1A,CIITA,CORO1A,CXCR4,INHBA,SAMSN1,SIRPA,SOCS3,SPP1 (includes EG:100359743),SRGN,TNFRSF18	14
Cellular Development	proliferation of T lymphocytes	6.71E-06	CCR5,CD44,CD47,CDKN1A,CIITA,CORO1A,CXCR4,INHBA,SAMSN1,SIRPA,SOCS3,SPP1 (includes EG:100359743),SRGN,TNFRSF18	14

Cellular Growth and Proliferation	proliferation of T lymphocytes	6.71E-06	CCR5,CD44,CD47,CDKN1A,CIITA,CORO1A,CXCR4,INHBA,SAMSN1,SIRPA,SOCS3,SPP1 (includes EG:100359743),SRGN,TNFRSF18	14
Cell Death and Survival	cell viability	6.83E-06	CASP1,CD44,CD47,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CXCR4,DAB2,DUSP6,HIF1A,LRIG1,MGST1,OSM,PTPN1,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743),THBS2,TNFRSF18	20
Hematological System Development and Function	quantity of hematopoietic progenitor cells	7.46E-06	CD44,CD47,CDKN1A,CIITA,CORO1A,CXCR4,INHBA,OSM,SELP,SIRPA,SPP1 (includes EG:100359743),THBS2	12
Tissue Morphology	quantity of hematopoietic progenitor cells	7.46E-06	CD44,CD47,CDKN1A,CIITA,CORO1A,CXCR4,INHBA,OSM,SELP,SIRPA,SPP1 (includes EG:100359743),THBS2	12
Hematopoiesis	quantity of hematopoietic progenitor cells	7.46E-06	CD44,CDKN1A,IFITM2,INHBA,OSM,SPP1 (includes EG:100359743),THBS2	12
Connective Tissue Disorders	bone cancer	7.59E-06	CD44,CDKN1A,IFITM2,INHBA,OSM,SPP1 (includes EG:100359743)	6
Skeletal and Muscular Disorders	bone cancer	7.59E-06	CD44,CDKN1A,IFITM2,INHBA,OSM,SPP1 (includes EG:100359743)	6
Cancer	bone cancer	7.59E-06	CD44,CDKN1A,IFITM2,INHBA,OSM,SPP1 (includes EG:100359743)	6
Inflammatory Response	response of phagocytes	8.09E-06	CCR5,CD44,CD47,CEBPB (includes EG:1051),CORO1A,CXCL1,OSM,PADI4	8
Cell-To-Cell Signaling and Interaction	response of phagocytes	8.09E-06	CCR5,CD44,CD47,CEBPB (includes EG:1051),CORO1A,CXCL1,OSM,PADI4	8
Hematological System Development and Function	morphology of myeloid cells	8.19E-06	CCL7,CCR5,CHI3L1,CP,SELP,SOAT1,SPP1 (includes EG:100359743)	7
Cell Morphology	morphology of myeloid cells	8.19E-06	CCL7,CCR5,CHI3L1,CP,SELP,SOAT1,SPP1 (includes EG:100359743)	7
Organismal Survival	survival of organism	8.36E-06	APOBEC1,CASP1,CCR5,CD44,CD47,CDKN1A,CEBPB (includes EG:1051),INHBA,PLAT,PTPN1,SOCS3,SPP1 (includes EG:100359743),THBS2,TNFRSF18	14
Cellular Development	proliferation of tumor cell lines	8.75E-06	CASP1,CD44,CDKN1A,CEBPB (includes EG:1051),CXCL1,CXCR4,DAB2,FUT4,HIF1A,IER3,INHBA,LRIG1,OSM,PADI4,PLAT,PTPN1,RAP1GAP,SELP,SLPI,SOCS3,SPP1 (includes EG:100359743),THBS2	22
Cellular Growth and Proliferation	proliferation of tumor cell lines	8.75E-06	CASP1,CD44,CDKN1A,CEBPB (includes EG:1051),CXCL1,CXCR4,DAB2,FUT4,HIF1A,IER3,INHBA,LRIG1,OSM,PADI4,PLAT,PTPN1,RAP1GAP,SELP,SLPI,SOCS3,SPP1 (includes EG:100359743),THBS2	22
Cellular Movement	chemotaxis of kidney cell lines	8.83E-06	CCR5,CXCL1,CXCR4,FPR2 (includes EG:100426968)	4
Renal and Urological System Development and Function	chemotaxis of kidney cell lines	8.83E-06	CCR5,CXCL1,CXCR4,FPR2 (includes EG:100426968)	4
Cardiovascular System Development and Function	vascularization	9.70E-06	CCR5,CD44,CD47,CXCR4,HIF1A,INHBA,SPP1 (includes EG:100359743),THBS2	8

Cell Death and Survival	apoptosis of neutrophils	9.77E-06	CASP1,CD44,CXCL1,CXCR4,SLPI	5
			APOBEC1,CASP1,CDKN1A,CHRN1A,CXCR4,HIF1A,PLA	
			T,RAP1GAP,S100A8,SLPI,SOCS3,SPP1 (includes	
Cancer	endocrine gland tumor	9.94E-06	EG:100359743),TMPRSS4	13
Cellular Development	proliferation of ovarian cancer cell lines	1.03E-05	CD44,CXCR4,DAB2,INHBA,LRIG1,SLPI	6
Cellular Growth and Proliferation	proliferation of ovarian cancer cell lines	1.03E-05	CD44,CXCR4,DAB2,INHBA,LRIG1,SLPI	6
Cellular Movement	emigration of dendritic cells	1.07E-05	CD44,SIRPA,SPP1 (includes EG:100359743)	3
Hematological System				
Development and				
Function	emigration of dendritic cells	1.07E-05	CD44,SIRPA,SPP1 (includes EG:100359743)	3
Immune Cell				
Trafficking	emigration of dendritic cells	1.07E-05	CD44,SIRPA,SPP1 (includes EG:100359743)	3
Inflammatory				
Response	emigration of dendritic cells	1.07E-05	CD44,SIRPA,SPP1 (includes EG:100359743)	3
Cellular Function and				
Maintenance	function of dendritic cells	1.09E-05	CHI3L1,CIITA,FPR2 (includes	
			EG:100426968),RGS1,SAMSN1,SIRPA	6
Hematological System				
Development and				
Function	accumulation of myeloid cells	1.12E-05	CCL7,CD44,OSM,S100A8,SELP,SLPI,SPP1 (includes	7
			EG:100359743)	
Immune Cell				
Trafficking	accumulation of myeloid cells	1.12E-05	CCL7,CD44,OSM,S100A8,SELP,SLPI,SPP1 (includes	7
			EG:100359743)	
Inflammatory				
Response	accumulation of myeloid cells	1.12E-05	CCL7,CD44,OSM,S100A8,SELP,SLPI,SPP1 (includes	7
			EG:100359743)	
Tissue Development				
	accumulation of myeloid cells	1.12E-05	CCL7,CD44,OSM,S100A8,SELP,SLPI,SPP1 (includes	7
			EG:100359743)	
Hematological System				
Development and				
Function	aggregation of blood platelets	1.23E-05	CD47,DAB2,PLAT,PLEK,PTPN1,SELP,THBS2	7
Inflammatory				
Response	aggregation of blood platelets	1.23E-05	CD47,DAB2,PLAT,PLEK,PTPN1,SELP,THBS2	7
Tissue Development				
	aggregation of blood platelets	1.23E-05	CD47,DAB2,PLAT,PLEK,PTPN1,SELP,THBS2	7
Cardiovascular Disease	myocardial infarction	1.33E-05	CD44,CD47,CXCR4,DUSP6,FSTL1,PLAT,SELP	7
			CD44,CDKN1A,CEBPB (includes	
Cellular Development	differentiation of tumor cells	1.38E-05	EG:1051),INHBA,OSM	5
			CD44,CDKN1A,CEBPB (includes	
Cancer	differentiation of tumor cells	1.38E-05	EG:1051),INHBA,OSM	5
			CD44,CDKN1A,CEBPB (includes	
Tumor Morphology	differentiation of tumor cells	1.38E-05	EG:1051),INHBA,OSM	5
	transmigration of mononuclear			
Cellular Movement	leukocytes	1.38E-05	CCL7,CD44,CD47,CXCR4,SIRPA	5
Hematological System				
Development and				
Function	transmigration of mononuclear	1.38E-05	CCL7,CD44,CD47,CXCR4,SIRPA	5
	leukocytes			
Immune Cell				
Trafficking	transmigration of mononuclear	1.38E-05	CCL7,CD44,CD47,CXCR4,SIRPA	5
	leukocytes			
Organismal Injury and				
Abnormalities	damage of liver	1.39E-05	CCR5,CD44,CDKN1A,CXCL1,OSM,PLAT,PTPN1	7
Gastrointestinal				
Disease	damage of liver	1.39E-05	CCR5,CD44,CDKN1A,CXCL1,OSM,PLAT,PTPN1	7

Hepatic System Disease	damage of liver	1.39E-05	CCR5,CD44,CDKN1A,CXCL1,OSM,PLAT,PTPN1	7
Cardiovascular System Development and Function	angiogenesis	1.41E-05	CCL7,CD44,CXCL1,CXCR4,HIF1A,INHBA,OSM,PLAT,SA A1,SELP,SEMA3F,SPP1 (includes EG:100359743),TGFB1,THBS2	14
Cell Signaling	mobilization of Ca2+	1.68E-05	CCL7,CCR5,CD44,CXCL1,CXCR4,FPR2 (includes EG:100426968),GPR35,PILRA,SAA1,SIRPA	10
Molecular Transport	mobilization of Ca2+	1.68E-05	CCL7,CCR5,CD44,CXCL1,CXCR4,FPR2 (includes EG:100426968),GPR35,PILRA,SAA1,SIRPA	10
Vitamin and Mineral Metabolism	mobilization of Ca2+	1.68E-05	CCL7,CCR5,CD44,CXCL1,CXCR4,FPR2 (includes EG:100426968),GPR35,PILRA,SAA1,SIRPA	10
Lymphoid Tissue Structure and Development	morphology of lymphatic system component	1.69E-05	BST2,CD47,CDKN1A,CEBPB (includes EG:1051),CIITA,CXCR4,FPR2 (includes EG:100426968),FUT4,RGS1,SELP,TGFB1,THBS2	12
Infectious Disease	replication of HIV-1	1.72E-05	BST2,CCR5,CIITA,CXCR4,S100A8,SOCS3	6
Cell Death and Survival	cell death of tumor cell lines	1.80E-05	CASP1,CCR5,CD44,CD47,CDKN1A,CEBPB (includes EG:1051),DAB2,HIF1A,IER3,INHBA,MSN,OSM,PADI4,RAP1GAP,S100A8,SEMA3F,SIRPA,SLPI,SOCS3,SPP1 (includes EG:100359743),TNFRSF18	21
Carbohydrate Metabolism	binding of glycosaminoglycan	1.82E-05	CD44,OSM,SPP1 (includes EG:100359743),SULF2	4
Small Molecule Biochemistry	binding of glycosaminoglycan	1.82E-05	CD44,OSM,SPP1 (includes EG:100359743),SULF2	4
Organismal Injury and Abnormalities	formation of lesion	1.85E-05	APOBEC1,CCR5,CD44,CEBPB (includes EG:1051),FUT4,SLPI,SOAT1,SPP1 (includes EG:100359743)	8
Cellular Movement	cell movement of monocytes	2.01E-05	CCL7,CD47,CXCR4,FPR2 (includes EG:100426968),INHBA,SIRPA,SPP1 (includes EG:100359743)	7
Hematological System Development and Function	cell movement of monocytes	2.01E-05	CCL7,CD47,CXCR4,FPR2 (includes EG:100426968),INHBA,SIRPA,SPP1 (includes EG:100359743)	7
Immune Cell Trafficking	cell movement of monocytes	2.01E-05	CCL7,CD47,CXCR4,FPR2 (includes EG:100426968),INHBA,SIRPA,SPP1 (includes EG:100359743)	7
Inflammatory Response	cell movement of monocytes	2.01E-05	CCL7,CD47,CXCR4,FPR2 (includes EG:100426968),INHBA,SIRPA,SPP1 (includes EG:100359743)	7
Cell Cycle	cell cycle progression of tumor cell lines	2.04E-05	CD44,CDKN1A,CEBPB (includes EG:1051),HIF1A,IER3,INHBA,LRIG1,PADI4	8
Cell Morphology	morphology of cells	2.04E-05	ADAMTS4,CCL7,CCR5,CD44,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CP,CXCR4,FSTL1,INHBA,OSM,OSM R,PTPN1,RAP1GAP,SELP,SEMA3F,SIRPA,SOAT1,SPP1 (includes EG:100359743),SRGN,SULF2	22
Cellular Movement	invasion of endocrine cell lines	2.09E-05	CD44,CXCR4,SPP1 (includes EG:100359743)	3
Hematological System Development and Function	T cell homeostasis	2.15E-05	CASP1,CDKN1A,CEBPB (includes EG:1051),CIITA,CORO1A,CXCR4,HIF1A,INHBA,OSM,SIRPA,SOCS3,SPP1 (includes EG:100359743)	12

Cellular Function and Maintenance	T cell homeostasis	2.15E-05	CASP1,CDKN1A,CEBPB (includes EG:1051),CIITA,CORO1A,CXCR4,HIF1A,INHBA,OSM,SIRPA,SOCS3,SPP1 (includes EG:100359743)	12
Cell-mediated Immune Response	T cell homeostasis	2.15E-05	CASP1,CDKN1A,CEBPB (includes EG:1051),CIITA,CORO1A,CXCR4,HIF1A,INHBA,OSM,SIRPA,SOCS3,SPP1 (includes EG:100359743)	12
Hematological System Development and Function	activation of T lymphocytes	2.17E-05	CCL7,CD44,CD47,CDKN1A,CORO1A,MGST1,OSM,SLC11A1,SPP1 (includes EG:100359743),TNFRSF18	10
Immune Cell Trafficking	activation of T lymphocytes	2.17E-05	CCL7,CD44,CD47,CDKN1A,CORO1A,MGST1,OSM,SLC11A1,SPP1 (includes EG:100359743),TNFRSF18	10
Inflammatory Response	activation of T lymphocytes	2.17E-05	CCL7,CD44,CD47,CDKN1A,CORO1A,MGST1,OSM,SLC11A1,SPP1 (includes EG:100359743),TNFRSF18	10
Cell-To-Cell Signaling and Interaction	activation of T lymphocytes	2.17E-05	CCL7,CD44,CD47,CDKN1A,CORO1A,MGST1,OSM,SLC11A1,SPP1 (includes EG:100359743),TNFRSF18	10
Cell Morphology	morphology of leukocytes	2.37E-05	CCL7,CCR5,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CP,SELP,SOAT1,SPP1 (includes EG:100359743),SRGN	10
Cancer	growth of tumor	2.48E-05	BST2,CASP1,CD44,CDKN1A,HIF1A,INHBA,OSM,SELP,SPP1 (includes EG:100359743),TNFRSF18	10
Hematological System Development and Function	engulfment of myeloid cells	2.60E-05	CD44,CD47,CEBPB (includes EG:1051),CORO1A,PADI4,SIRPA	6
Cellular Function and Maintenance	engulfment of myeloid cells	2.60E-05	CD44,CD47,CEBPB (includes EG:1051),CORO1A,PADI4,SIRPA	6
Infectious Disease	Chagas disease	2.60E-05	CCR5,CXCR4	2
Cardiovascular Disease	Chagas disease	2.60E-05	CCR5,CXCR4	2
Hematological Disease	Chagas disease	2.60E-05	CCR5,CXCR4	2
Neurological Disease	Chagas disease	2.60E-05	CCR5,CXCR4	2
Cellular Movement	dissemination of lymphoma cell lines	2.60E-05	CD47,SIRPA	2
Tissue Morphology	morphology of oval cells	2.60E-05	OSM,OSMR	2
Cell Morphology	morphology of oval cells	2.60E-05	OSM,OSMR	2
Hepatic System Development and Function	morphology of oval cells	2.60E-05	OSM,OSMR	2
Organ Morphology	morphology of oval cells	2.60E-05	OSM,OSMR	2
Digestive System Development and Function	morphology of oval cells	2.60E-05	OSM,OSMR	2
Cell Morphology	multinucleation of alveolar macrophages	2.60E-05	CD44,SPP1 (includes EG:100359743)	2
Cellular Compromise	multinucleation of alveolar macrophages	2.60E-05	CD44,SPP1 (includes EG:100359743)	2
Protein Synthesis	production of green fluorescent protein	2.60E-05	CCR5,CEBPB (includes EG:1051)	2

Organismal Injury and Abnormalities	fibrosis	2.75E-05	CASP1,CCR5,CEBPB (includes EG:1051),HIF1A,INHBA,OSM,PLAT,SELP,SOAT1,SOCS3,SPP1 (includes EG:100359743),THBS2	12
Cancer	genital tumor	2.86E-05	CD44,CDKN1A,CFB,CHI3L1,CP,CXCR4,DAB2,GPRC5A,IER3,IFITM2,INHBA,LRIG1,PTPN1,S100A8,SLPI,SOCS3,SPP1 (includes EG:100359743)	17
Reproductive System Disease	genital tumor	2.86E-05	CD44,CDKN1A,CFB,CHI3L1,CP,CXCR4,DAB2,GPRC5A,IER3,IFITM2,INHBA,LRIG1,PTPN1,S100A8,SLPI,SOCS3,SPP1 (includes EG:100359743)	17
Hematological System Development and Function	immune response of neutrophils	2.93E-05	CD44,CD47,CORO1A,CXCL1,PADI4	5
Inflammatory Response	immune response of neutrophils	2.93E-05	CD44,CD47,CORO1A,CXCL1,PADI4	5
Cell-To-Cell Signaling and Interaction	immune response of neutrophils	2.93E-05	CD44,CD47,CORO1A,CXCL1,PADI4	5
Molecular Transport	quantity of metal	3.00E-05	CCL7,CCR5,CP,CXCR4,FPR2 (includes EG:100426968),GNA14,OSM,RGS1,S100A8,SAA1,SELP,SPP1 (includes EG:100359743)	12
Cell Death and Survival	necrosis of liver	3.14E-05	CDKN1A,CEBPB (includes EG:1051),IER3,INHBA,OSM,PTPN1,SELP,SOCS3	8
Inflammatory Response	immune response of phagocytes	3.18E-05	CD44,CD47,CEBPB (includes EG:1051),CORO1A,CXCL1,OSM,PADI4	7
Cell-To-Cell Signaling and Interaction	immune response of phagocytes	3.18E-05	CD44,CD47,CEBPB (includes EG:1051),CORO1A,CXCL1,OSM,PADI4	7
Cellular Function and Maintenance	organization of cytoskeleton	3.23E-05	BST2,CCL7,CCR5,CD44,CD47,CDKN1A,CORO1A,CXCL1,CXCR4,GDA,INHBA,MSN,PLAT,PLEK,PTPN1,RAP1G AP,SIRPA,SPP1 (includes EG:100359743),SULF2	19
Cellular Assembly and Organization	organization of cytoskeleton	3.23E-05	BST2,CCL7,CCR5,CD44,CD47,CDKN1A,CORO1A,CXCL1,CXCR4,GDA,INHBA,MSN,PLAT,PLEK,PTPN1,RAP1G AP,SIRPA,SPP1 (includes EG:100359743),SULF2	19
Cancer	polycystic kidney disease	3.31E-05	CDKN1A,FSTL1,FXYD5,HIF1A,SAMSN1,SPP1 (includes EG:100359743)	6
Developmental Disorder	polycystic kidney disease	3.31E-05	CDKN1A,FSTL1,FXYD5,HIF1A,SAMSN1,SPP1 (includes EG:100359743)	6
Hereditary Disorder	polycystic kidney disease	3.31E-05	CDKN1A,FSTL1,FXYD5,HIF1A,SAMSN1,SPP1 (includes EG:100359743)	6
Renal and Urological Disease	polycystic kidney disease	3.31E-05	CDKN1A,FSTL1,FXYD5,HIF1A,SAMSN1,SPP1 (includes EG:100359743)	6
Cancer	ovarian adenocarcinoma	3.42E-05	CP,DAB2,IFITM2,INHBA,LRIG1,SLPI,SPP1 (includes EG:100359743)	7
Reproductive System Disease	ovarian adenocarcinoma	3.42E-05	CP,DAB2,IFITM2,INHBA,LRIG1,SLPI,SPP1 (includes EG:100359743)	7
Endocrine System Disorders	ovarian adenocarcinoma	3.42E-05	CP,DAB2,IFITM2,INHBA,LRIG1,SLPI,SPP1 (includes EG:100359743)	7
Cellular Function and Maintenance	engulfment of phagocytes	3.47E-05	CD44,CD47,CEBPB (includes EG:1051),CORO1A,PADI4,SIRPA	6
Cancer	metastasis of tumor	3.47E-05	CD44,CD47,CXCL1,CXCR4,HIF1A,SPP1 (includes EG:100359743)	6
Cancer	hematological neoplasia	3.58E-05	BST2,CASP1,CCL7,CD44,CDKN1A,CEBPB (includes EG:1051),CHRN1,CIITA,CXCL1,CXCR4,HIF1A,IER3,INHBA,OSMR,PTPN1,TGFB1	16

Hematological Disease	hematological neoplasia	3.58E-05	BST2,CASP1,CCL7,CD44,CDKN1A,CEBPB (includes EG:1051),CHRNA1,CIITA,CXCL1,CXCR4,HIF1A,IER3,INHBA,OSMR,PTPN1,TGFBI	16
Cell Morphology	shape change of leukocytes	3.59E-05	CCL7,CD44,CD47,CORO1A,SAMSN1	5
Cell-To-Cell Signaling and Interaction	attachment of connective tissue cells	3.59E-05	SPP1 (includes EG:100359743),TGFBI,THBS2	3
Tissue Development Hepatic System	attachment of connective tissue cells	3.59E-05	SPP1 (includes EG:100359743),TGFBI,THBS2	3
Development and Function	morphology of liver	3.85E-05	CCR5,CDKN1A,CP,OSM,OSMR,SOAT1,SOCS3,SPP1 (includes EG:100359743)	8
Organ Morphology Digestive System	morphology of liver	3.85E-05	CCR5,CDKN1A,CP,OSM,OSMR,SOAT1,SOCS3,SPP1 (includes EG:100359743)	8
Development and Function	morphology of liver	3.85E-05	CCR5,CDKN1A,CP,OSM,OSMR,SOAT1,SOCS3,SPP1 (includes EG:100359743)	8
Cell Death and Survival	cell death of cardiomyocytes	3.94E-05	CASP1,CDKN1A,FSTL1,HIF1A,INHBA,SOCS3,THBS2	7
Hematological System Development and Function	abnormal morphology of macrophages	4.09E-05	CCR5,CHI3L1,CP,SOAT1,SPP1 (includes EG:100359743)	5
Inflammatory Response	abnormal morphology of macrophages	4.09E-05	CCR5,CHI3L1,CP,SOAT1,SPP1 (includes EG:100359743)	5
Cell Morphology	abnormal morphology of macrophages	4.09E-05	CCR5,CHI3L1,CP,SOAT1,SPP1 (includes EG:100359743)	5
Protein Synthesis	quantity of immunoglobulin	4.11E-05	CCR5,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CIITA,FPR2 (includes EG:100426968),RGS1,SAMSN1,SELP	9
Humoral Immune Response	quantity of immunoglobulin	4.11E-05	CCR5,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CIITA,FPR2 (includes EG:100426968),RGS1,SAMSN1,SELP	9
Organismal Survival	mortality	4.17E-05	CASP1,CCR5,CDKN1A,HIF1A,SLPI,SOCS3	6
Cellular Development Cellular Growth and Proliferation	proliferation of oval cells	4.55E-05	CXCR4,OSM,OSMR	3
Hepatic System Development and Function	proliferation of oval cells	4.55E-05	CXCR4,OSM,OSMR	3
Inflammatory Response	proliferation of oval cells	4.55E-05	CXCR4,OSM,OSMR	3
Cellular Development Cellular Growth and Proliferation	proliferation of oval cells	4.55E-05	CXCR4,OSM,OSMR	3
Inflammatory Response	phagocytosis of blood cells	4.57E-05	CD44,CD47,CEBPB (includes EG:1051),CORO1A,PADI4,SIRPA	6
Cell-To-Cell Signaling and Interaction	phagocytosis of blood cells	4.57E-05	CD44,CD47,CEBPB (includes EG:1051),CORO1A,PADI4,SIRPA	6
Cellular Function and Maintenance	phagocytosis of blood cells	4.57E-05	CD44,CD47,CEBPB (includes EG:1051),CORO1A,PADI4,SIRPA	6
Hematological System Development and Function	phagocytosis of neutrophils	4.62E-05	CD44,CD47,CORO1A,PADI4	4
Inflammatory Response	phagocytosis of neutrophils	4.62E-05	CD44,CD47,CORO1A,PADI4	4
Cell-To-Cell Signaling and Interaction	phagocytosis of neutrophils	4.62E-05	CD44,CD47,CORO1A,PADI4	4

Cellular Function and Maintenance	phagocytosis of neutrophils	4.62E-05	CD44,CD47,CORO1A,PADI4	4
Inflammatory Response	phagocytosis	4.69E-05	CD44,CD47,CEBPB (includes EG:1051),CORO1A,MSN,PADI4,SIRPA,SLC11A1	8
Cellular Function and Maintenance	phagocytosis	4.69E-05	CD44,CD47,CEBPB (includes EG:1051),CORO1A,MSN,PADI4,SIRPA,SLC11A1	8
Developmental Disorder	congenital urogenital anomaly	4.69E-05	CDKN1A,FSTL1,FXD5,HIF1A,INSL3,SAMSN1,SPP1 (includes EG:100359743)	7
Cellular Development	proliferation of cancer cells	4.74E-05	CASP1,CD44,CXCL1,HIF1A,INHBA,OSM,PLAT,SOCS3,PP1 (includes EG:100359743)	9
Cellular Growth and Proliferation	proliferation of cancer cells	4.74E-05	CASP1,CD44,CXCL1,HIF1A,INHBA,OSM,PLAT,SOCS3,PP1 (includes EG:100359743)	9
Tumor Morphology	proliferation of cancer cells	4.74E-05	CASP1,CD44,CXCL1,HIF1A,INHBA,OSM,PLAT,SOCS3,PP1 (includes EG:100359743)	9
Cardiovascular Disease	atherosclerosis	4.81E-05	CD44,CD47,CDKN1A,CHI3L1,LRIG1,S100A8,SELP,SOAT1,SOCS3,SPP1 (includes EG:100359743)	10
Hematological System Development and Function	activation of myeloid cells	4.96E-05	CCL7,CHI3L1,CXCL1,FPR2 (includes EG:100426968),S100A8,SLC11A1,SLPI,SPP1 (includes EG:100359743)	8
Immune Cell Trafficking	activation of myeloid cells	4.96E-05	CCL7,CHI3L1,CXCL1,FPR2 (includes EG:100426968),S100A8,SLC11A1,SLPI,SPP1 (includes EG:100359743)	8
Inflammatory Response	activation of myeloid cells	4.96E-05	CCL7,CHI3L1,CXCL1,FPR2 (includes EG:100426968),S100A8,SLC11A1,SLPI,SPP1 (includes EG:100359743)	8
Cell-To-Cell Signaling and Interaction	activation of myeloid cells	4.96E-05	CCL7,CHI3L1,CXCL1,FPR2 (includes EG:100426968),S100A8,SLC11A1,SLPI,SPP1 (includes EG:100359743)	8
Cellular Movement	emigration of leukocytes	5.11E-05	CD44,CXCR4,SIRPA,SPP1 (includes EG:100359743)	4
Immune Cell Trafficking	emigration of leukocytes	5.11E-05	CD44,CXCR4,SIRPA,SPP1 (includes EG:100359743)	4
Cancer	thyroid cancer	5.19E-05	CDKN1A,CXCR4,RAP1GAP,SLPI,SOCS3,SPP1 (includes EG:100359743),TMPRSS4	7
Endocrine System Disorders	thyroid cancer	5.19E-05	CDKN1A,CXCR4,RAP1GAP,SLPI,SOCS3,SPP1 (includes EG:100359743),TMPRSS4	7
Protein Synthesis	quantity of cytokine	5.24E-05	CASP1,CD44,CEBPB (includes EG:1051),PTPN1,SAMSN1,SELP,SOCS3,SPP1 (includes EG:100359743)	8
Hematological System Development and Function	function of helper T lymphocytes	5.26E-05	CD44,CEBPB (includes EG:1051),CHI3L1,CIITA,SAMSN1	5
Cellular Function and Maintenance	function of helper T lymphocytes	5.26E-05	CD44,CEBPB (includes EG:1051),CHI3L1,CIITA,SAMSN1	5
Cell Death and Survival	cell death of liver cells	5.37E-05	CDKN1A,CEBPB (includes EG:1051),IER3,INHBA,OSM,PTPN1,SOCS3	7
Immunological Disease	leukocytosis	5.59E-05	CASP1,CXCR4,SELP,SOCS3,SPP1 (includes EG:100359743)	5
Organismal Injury and Abnormalities	leukocytosis	5.59E-05	CASP1,CXCR4,SELP,SOCS3,SPP1 (includes EG:100359743)	5
Hematological Disease	leukocytosis	5.59E-05	CASP1,CXCR4,SELP,SOCS3,SPP1 (includes EG:100359743)	5
Cellular Movement	transmigration of phagocytes	5.59E-05	CASP1,CXCR4,SELP,SOCS3,SPP1 (includes EG:100359743)	5
			CCL7,CD47,SIRPA,SLPI,SOCS3	5

Hematological System Development and Function	transmigration of phagocytes	5.59E-05	CCL7,CD47,SIRPA,SLPI,SOCS3	5
Immune Cell Trafficking	transmigration of phagocytes	5.59E-05	CCL7,CD47,SIRPA,SLPI,SOCS3	5
Inflammatory Response	transmigration of phagocytes	5.59E-05	CCL7,CD47,SIRPA,SLPI,SOCS3	5
Cellular Development	differentiation of cancer cells	5.64E-05	CD44,CDKN1A,CEBPB (includes EG:1051),INHBA	4
Cancer	differentiation of cancer cells	5.64E-05	CD44,CDKN1A,CEBPB (includes EG:1051),INHBA	4
Tumor Morphology	differentiation of cancer cells	5.64E-05	CD44,CDKN1A,CEBPB (includes EG:1051),INHBA	4
Cell-To-Cell Signaling and Interaction	binding of hepatoma cell lines	5.67E-05	CD44,CXCR4,SPP1 (includes EG:100359743)	3
Cellular Movement	extravasation of granulocytes	5.67E-05	CD44,CXCL1,SELP	3
Hematological System Development and Function	extravasation of granulocytes	5.67E-05	CD44,CXCL1,SELP	3
Neurological Disease	peroxisomal acyl CoA oxidase deficiency	5.67E-05	CCL7,CEBPB (includes EG:1051),SPP1 (includes EG:100359743)	3
Hereditary Disorder	peroxisomal acyl CoA oxidase deficiency	5.67E-05	CCL7,CEBPB (includes EG:1051),SPP1 (includes EG:100359743)	3
Cardiovascular Disease	heart disease	5.76E-05	CASP1,CCR5,CD44,CD47,CDKN1A,CHI3L1,CHRN1,CXCR4,DUSP6,FSTL1,HIF1A,LRIG1,PLAT,SELP,SPP1 (includes EG:100359743),THBS2	16
Cancer	serous ovarian carcinoma process	5.92E-05	CP,DAB2,IFITM2,LRIG1,SLPI,SPP1 (includes EG:100359743)	6
Reproductive System Disease	serous ovarian carcinoma process	5.92E-05	CP,DAB2,IFITM2,LRIG1,SLPI,SPP1 (includes EG:100359743)	6
Endocrine System Disorders	serous ovarian carcinoma process	5.92E-05	CP,DAB2,IFITM2,LRIG1,SLPI,SPP1 (includes EG:100359743)	6
Cell-To-Cell Signaling and Interaction	adhesion of vascular endothelial cells	5.93E-05	CD44,CXCR4,SELP,SPP1 (includes EG:100359743),TGFB1	5
Tissue Development	adhesion of vascular endothelial cells	5.93E-05	CD44,CXCR4,SELP,SPP1 (includes EG:100359743),TGFB1	5
Cardiovascular System Development and Function	adhesion of vascular endothelial cells	5.93E-05	CD44,CXCR4,SELP,SPP1 (includes EG:100359743),TGFB1	5
Hematological System Development and Function	function of neutrophils	5.93E-05	CASP1,CD47,FUT4,PADI4,SELP	5
Cellular Function and Maintenance	function of neutrophils	5.93E-05	CASP1,CD47,FUT4,PADI4,SELP	5
Cancer	ovarian cancer	6.13E-05	CD44,CDKN1A,CHI3L1,CP,DAB2,IFITM2,INHBA,LRIG1,PTPN1,SLPI,SPP1 (includes EG:100359743)	11
Reproductive System Disease	ovarian cancer	6.13E-05	CD44,CDKN1A,CHI3L1,CP,DAB2,IFITM2,INHBA,LRIG1,PTPN1,SLPI,SPP1 (includes EG:100359743)	11

Endocrine System Disorders	ovarian cancer	6.13E-05	CD44,CDKN1A,CHI3L1,CP,DAB2,IFITM2,INHBA,LRIG1,PTPN1,SLPI,SPP1 (includes EG:100359743)	11
Connective Tissue Development and Function	resorption of bone	6.18E-05	CD44,CD47,CEBPB (includes EG:1051),CXCR4,OSM,SPP1 (includes EG:100359743)	6
Skeletal and Muscular System Development and Function	resorption of bone	6.18E-05	CD44,CD47,CEBPB (includes EG:1051),CXCR4,OSM,SPP1 (includes EG:100359743)	6
Organ Development	resorption of bone	6.18E-05	CD44,CD47,CEBPB (includes EG:1051),CXCR4,OSM,SPP1 (includes EG:100359743)	6
Hematological System Development and Function	activation of neutrophils	6.29E-05	CCL7,CXCL1,FPR2 (includes EG:100426968),SLPI,SPP1 (includes EG:100359743)	5
Immune Cell Trafficking	activation of neutrophils	6.29E-05	CCL7,CXCL1,FPR2 (includes EG:100426968),SLPI,SPP1 (includes EG:100359743)	5
Inflammatory Response	activation of neutrophils	6.29E-05	CCL7,CXCL1,FPR2 (includes EG:100426968),SLPI,SPP1 (includes EG:100359743)	5
Cell-To-Cell Signaling and Interaction	activation of neutrophils	6.29E-05	CCL7,CXCL1,FPR2 (includes EG:100426968),SLPI,SPP1 (includes EG:100359743)	5
Cellular Movement	recruitment of macrophages	6.29E-05	CCL7,CCR5,CD44,SPP1 (includes EG:100359743),THBS2	5
Hematological System Development and Function	recruitment of macrophages	6.29E-05	CCL7,CCR5,CD44,SPP1 (includes EG:100359743),THBS2	5
Immune Cell Trafficking	recruitment of macrophages	6.29E-05	CCL7,CCR5,CD44,SPP1 (includes EG:100359743),THBS2	5
Inflammatory Response	recruitment of macrophages	6.29E-05	CCL7,CCR5,CD44,SPP1 (includes EG:100359743),THBS2	5
Cell-To-Cell Signaling and Interaction	recruitment of macrophages	6.29E-05	CCL7,CCR5,CD44,SPP1 (includes EG:100359743),THBS2	5
Cancer	renal cancer	6.53E-05	CCL7,CD44,CHRN1,CP,DUSP6,HIF1A,RAP1GAP,SAAL,SELP	9
Renal and Urological Disease	renal cancer	6.53E-05	CCL7,CD44,CHRN1,CP,DUSP6,HIF1A,RAP1GAP,SAAL,SELP	9
Carbohydrate Metabolism	binding of hyaluronic acid	6.95E-05	CD44,OSM,SPP1 (includes EG:100359743)	3
Small Molecule Biochemistry	binding of hyaluronic acid	6.95E-05	CD44,OSM,SPP1 (includes EG:100359743)	3
Drug Metabolism	binding of hyaluronic acid	6.95E-05	CD44,OSM,SPP1 (includes EG:100359743)	3
Cellular Movement	migration of melanoma cells	6.95E-05	CD47,CXCR4,SIRPA	3
Cellular Movement	cell movement of tumor cells	7.00E-05	CD44,CD47,CXCR4,SIRPA,SLPI,SPP1 (includes EG:100359743)	6
Lymphoid Tissue Structure and Development	morphology of lymphoid organ	7.42E-05	BST2,CD47,CDKN1A,CEBPB (includes EG:1051),CIITA,FPR2 (includes EG:100426968),FUT4,RGS1,SELP,TGFBI	10
Organ Morphology	morphology of lymphoid organ	7.42E-05	BST2,CD47,CDKN1A,CEBPB (includes EG:1051),CIITA,FPR2 (includes EG:100426968),FUT4,RGS1,SELP,TGFBI	10

	antiapoptosis of stomach cancer cell lines	7.78E-05	CD44,SPP1 (includes EG:100359743)	2
Cell Death and Survival				
Skeletal and Muscular Disorders	infection of smooth muscle cells	7.78E-05	CCR5,CXCR4	2
Infectious Disease	infection of smooth muscle cells	7.78E-05	CCR5,CXCR4	2
Cancer	laryngeal squamous cell carcinoma	7.78E-05	CD44,SPP1 (includes EG:100359743)	2
Tissue Morphology	mass of lymph node	7.78E-05	BST2,CDKN1A	2
Organ Morphology	mass of lymph node	7.78E-05	BST2,CDKN1A	2
Cellular Function and Maintenance	transcytosis of HIV-1	7.78E-05	CCR5,CXCR4	2
Infectious Disease	transcytosis of HIV-1	7.78E-05	CCR5,CXCR4	2
Molecular Transport	transcytosis of HIV-1	7.78E-05	CCR5,CXCR4	2
Hematological System				
Development and Function	function of Th1 cells	8.18E-05	CD44,CEBPB (includes EG:1051),CIITA,SAMSN1	4
Cellular Function and Maintenance	function of Th1 cells	8.18E-05	CD44,CEBPB (includes EG:1051),CIITA,SAMSN1	4
Hematological System				
Development and Function	function of Th2 cells	8.18E-05	CD44,CEBPB (includes EG:1051),CHI3L1,SAMSN1	4
Cellular Function and Maintenance	function of Th2 cells	8.18E-05	CD44,CEBPB (includes EG:1051),CHI3L1,SAMSN1	4
Cellular Movement	transmigration of granulocytes	8.18E-05	CD47,SIRPA,SLPI,SOCS3	4
Hematological System				
Development and Function	transmigration of granulocytes	8.18E-05	CD47,SIRPA,SLPI,SOCS3	4
Immune Cell Trafficking	transmigration of granulocytes	8.18E-05	CD47,SIRPA,SLPI,SOCS3	4
Cell Death and Survival	apoptosis of macrophages	8.35E-05	CASP1,CDKN1A,CEBPB (includes EG:1051),HIF1A,SOAT1	5
Cellular Movement	cell movement of embryonic cell lines	8.35E-05	CCR5,CXCL1,CXCR4,FPR2 (includes EG:100426968),SAA1	5
Embryonic Development	cell movement of embryonic cell lines	8.35E-05	CCR5,CXCL1,CXCR4,FPR2 (includes EG:100426968),SAA1	5
Cancer	pancreatic cancer	8.40E-05	CASP1,CDKN1A,CHRN1A,CXCR4,HIF1A,PLAT,S100A8, SPP1 (includes EG:100359743)	8
Gastrointestinal Disease	pancreatic cancer	8.40E-05	CASP1,CDKN1A,CHRN1A,CXCR4,HIF1A,PLAT,S100A8, SPP1 (includes EG:100359743)	8
Endocrine System Disorders	pancreatic cancer	8.40E-05	CASP1,CDKN1A,CHRN1A,CXCR4,HIF1A,PLAT,S100A8, SPP1 (includes EG:100359743)	8
Cellular Movement	transmigration of tumor cell lines	8.41E-05	CD44,CXCR4,RAP1GAP	3
Cancer	adenocarcinoma	8.47E-05	CDKN1A,CFB,CP,CXCR4,DAB2,GPRC5A,HIF1A,IFITM2, INHBA,LRIG1,RAP1GAP,SAA1,SLPI,SPP1 (includes EG:100359743),TGFB1,TNFAIP2	16
Hematological System				
Development and Function	T cell development	8.61E-05	CASP1,CDKN1A,CEBPB (includes EG:1051),CIITA,CXCR4,HIF1A,INHBA,OSM,SIRPA,SOC S3,SPP1 (includes EG:100359743)	11
Cellular Function and Maintenance	T cell development	8.61E-05	CASP1,CDKN1A,CEBPB (includes EG:1051),CIITA,CXCR4,HIF1A,INHBA,OSM,SIRPA,SOC S3,SPP1 (includes EG:100359743)	11
Cellular Development	T cell development	8.61E-05	CASP1,CDKN1A,CEBPB (includes EG:1051),CIITA,CXCR4,HIF1A,INHBA,OSM,SIRPA,SOC S3,SPP1 (includes EG:100359743)	11

Cell-mediated Immune Response	T cell development	8.61E-05	CASP1,CDKN1A,CEBPB (includes EG:1051),CIITA,CXCR4,HIF1A,INHBA,OSM,SIRPA,SOC S3,SPP1 (includes EG:100359743)	11
Lymphoid Tissue Structure and Development	T cell development	8.61E-05	CASP1,CDKN1A,CEBPB (includes EG:1051),CIITA,CXCR4,HIF1A,INHBA,OSM,SIRPA,SOC S3,SPP1 (includes EG:100359743)	11
Hematopoiesis	T cell development	8.61E-05	CASP1,CDKN1A,CEBPB (includes EG:1051),CIITA,CXCR4,HIF1A,INHBA,OSM,SIRPA,SOC S3,SPP1 (includes EG:100359743)	11
Cell Morphology	polarization of cells	8.89E-05	CCR5,CD47,RAP1GAP,SAMSN1,SIRPA,SOCS3	6
Cellular Movement	localization of cells	8.92E-05	CD44,CXCR4,SELP,SOCS3	4
Cellular Function and Maintenance	localization of cells	8.92E-05	CD44,CXCR4,SELP,SOCS3	4
Cellular Movement	invasion of tumor cell lines	9.20E-05	CD44,CXCR4,DAB2,FXYD5,HIF1A,LRIG1,PLAT,RAP1G AP,SEMA3F,SPP1 (includes EG:100359743),TGFB1	11
Hematological System Development and Function	function of T lymphocytes	9.52E-05	CCR5,CD44,CEBPB (includes EG:1051),CHI3L1,CIITA,SAMSN1,SELP,TNFRSF18	8
Cellular Function and Maintenance	function of T lymphocytes	9.52E-05	CCR5,CD44,CEBPB (includes EG:1051),CHI3L1,CIITA,SAMSN1,SELP,TNFRSF18	8
Cellular Development	differentiation of leukemia cell lines	9.60E-05	EG:1051),HIF1A,INHBA,OSM,PTPN1,SOCS3	6
Cell Morphology	cell spreading of leukocytes	9.71E-05	CD44,CD47,CORO1A,SAMSN1	4
Lymphoid Tissue Structure and Development	morphology of B-cell follicle	9.71E-05	CEBPB (includes EG:1051),CXCR4,FUT4,SELP	4
Cellular Movement	cell movement of peripheral blood lymphocytes	1.01E-04	CCR5,CXCR4,RGS1	3
Hematological System Development and Function	cell movement of peripheral blood lymphocytes	1.01E-04	CCR5,CXCR4,RGS1	3
Immune Cell Trafficking	cell movement of peripheral blood lymphocytes	1.01E-04	CCR5,CXCR4,RGS1	3
Cellular Movement	migration of Langerhans cells	1.01E-04	CD44,SIRPA,SPP1 (includes EG:100359743)	3
Hematological System Development and Function	migration of Langerhans cells	1.01E-04	CD44,SIRPA,SPP1 (includes EG:100359743)	3
Immune Cell Trafficking	migration of Langerhans cells	1.01E-04	CD44,SIRPA,SPP1 (includes EG:100359743)	3
Inflammatory Response	migration of Langerhans cells	1.01E-04	CD44,SIRPA,SPP1 (includes EG:100359743)	3
Cellular Development	proliferation of carcinoma cell lines	1.02E-04	CDKN1A,CXCR4,DAB2,INHBA,PADI4,RAP1GAP,SPP1 (includes EG:100359743),THBS2	8
Cellular Growth and Proliferation	proliferation of carcinoma cell lines	1.02E-04	CDKN1A,CXCR4,DAB2,INHBA,PADI4,RAP1GAP,SPP1 (includes EG:100359743),THBS2	8
Hematological System Development and Function	accumulation of granulocytes	1.03E-04	CCL7,OSM,S100A8,SELP,SLPI	5
Immune Cell Trafficking	accumulation of granulocytes	1.03E-04	CCL7,OSM,S100A8,SELP,SLPI	5
Inflammatory Response	accumulation of granulocytes	1.03E-04	CCL7,OSM,S100A8,SELP,SLPI	5

Tissue Development	accumulation of granulocytes	1.03E-04	CCL7,OSM,S100A8,SELP,SLPI	5
Cancer	hyperplasia	1.04E-04	CDKN1A,CEBPB (includes EG:1051),CP,DUSP6,FSTL1,LRIG1,OSM,PTPN1,SELP,S LPI,SPP1 (includes EG:100359743),TNFRSF18	12
Cancer	pancreatic adenocarcinoma	1.06E-04	CDKN1A,HIF1A,PLAT,SPP1 (includes EG:100359743)	4
Gastrointestinal Disease	pancreatic adenocarcinoma	1.06E-04	CDKN1A,HIF1A,PLAT,SPP1 (includes EG:100359743)	4
Endocrine System Disorders	pancreatic adenocarcinoma	1.06E-04	CDKN1A,HIF1A,PLAT,SPP1 (includes EG:100359743)	4
Cell Death and Survival	apoptosis of liver cells	1.08E-04	CDKN1A,CEBPB (includes EG:1051),INHBA,OSM,PTPN1,SOCS3	6
Connective Tissue Disorders	experimentally-induced arthritis	1.08E-04	CCR5,CD44,CFB,PLAT,SELP,SPP1 (includes EG:100359743)	6
Inflammatory Disease	experimentally-induced arthritis	1.08E-04	CCR5,CD44,CFB,PLAT,SELP,SPP1 (includes EG:100359743)	6
Skeletal and Muscular Disorders	experimentally-induced arthritis	1.08E-04	CCR5,CD44,CFB,PLAT,SELP,SPP1 (includes EG:100359743)	6
Hematological System Development and Function	quantity of B lymphocytes	1.09E-04	CDKN1A,CEBPB (includes EG:1051),CXCR4,HIF1A,INHBA,RGS1,SAMSN1,SPP1 (includes EG:100359743),TGFB1	9
Tissue Morphology	quantity of B lymphocytes	1.09E-04	CDKN1A,CEBPB (includes EG:1051),CXCR4,HIF1A,INHBA,RGS1,SAMSN1,SPP1 (includes EG:100359743),TGFB1	9
Humoral Immune Response	quantity of B lymphocytes	1.09E-04	CDKN1A,CEBPB (includes EG:1051),CXCR4,HIF1A,INHBA,RGS1,SAMSN1,SPP1 (includes EG:100359743),TGFB1	9
Cell Signaling	quantity of Ca ²⁺	1.12E-04	CCL7,CCR5,CXCR4,FPR2 (includes EG:100426968),GNA14,RGS1,S100A8,SAA1,SELP,SPP 1 (includes EG:100359743)	10
Molecular Transport	quantity of Ca ²⁺	1.12E-04	CCL7,CCR5,CXCR4,FPR2 (includes EG:100426968),GNA14,RGS1,S100A8,SAA1,SELP,SPP 1 (includes EG:100359743)	10
Vitamin and Mineral Metabolism	quantity of Ca ²⁺	1.12E-04	CCL7,CCR5,CXCR4,FPR2 (includes EG:100426968),GNA14,RGS1,S100A8,SAA1,SELP,SPP 1 (includes EG:100359743)	10
Carbohydrate Metabolism	metabolism of polysaccharide	1.13E-04	CD44,CEBPB (includes EG:1051),PTPN1,SOCS3,SPP1 (includes EG:100359743),SRGN,SULF2	7
Hematological System Development and Function	adhesion of granulocytes	1.15E-04	CD44,CORO1A,FPR2 (includes EG:100426968),S100A8,SELP	5
Immune Cell Trafficking	adhesion of granulocytes	1.15E-04	CD44,CORO1A,FPR2 (includes EG:100426968),S100A8,SELP	5
Cell-To-Cell Signaling and Interaction	adhesion of granulocytes	1.15E-04	CD44,CORO1A,FPR2 (includes EG:100426968),S100A8,SELP	5
Tissue Development	adhesion of granulocytes	1.15E-04	CD44,CORO1A,FPR2 (includes EG:100426968),S100A8,SELP	5
Cellular Movement	recruitment of mononuclear leukocytes	1.15E-04	CASP1,CCL7,CD44,CXCR4,SELP	5

Hematological System Development and Function	recruitment of mononuclear leukocytes	1.15E-04	CASP1,CCL7,CD44,CXCR4,SELP	5
Immune Cell Trafficking	recruitment of mononuclear leukocytes	1.15E-04	CASP1,CCL7,CD44,CXCR4,SELP	5
Cell-To-Cell Signaling and Interaction	recruitment of mononuclear leukocytes	1.15E-04	CASP1,CCL7,CD44,CXCR4,SELP	5
Cell Morphology	cell spreading of lymphocytes	1.19E-04	CD44,CD47,SAMSN1	3
Cellular Movement	migration of hepatic stellate cells	1.19E-04	CCR5,CD44,SPP1 (includes EG:100359743)	3
Connective Tissue Development and Function	migration of hepatic stellate cells	1.19E-04	CCR5,CD44,SPP1 (includes EG:100359743)	3
Hepatic System Development and Function	migration of hepatic stellate cells	1.19E-04	CCR5,CD44,SPP1 (includes EG:100359743) CDKN1A,CEBPB (includes EG:1051),DAB2,HIF1A,INHBA,OSM,PLAT,PTPN1,SOC	3
Cellular Development	differentiation of tumor cell lines	1.24E-04	S3	9
Organismal Injury and Abnormalities	damage of kidney	1.27E-04	CD44,CFB,FUT4,PLAT,SELP	5
Renal and Urological Disease	damage of kidney	1.27E-04	CD44,CFB,FUT4,PLAT,SELP	5
Cancer	digestive organ tumor	1.39E-04	BST2,CASP1,CD44,CDKN1A,CEBPB (includes EG:1051),CHRN1,CP,CXCL1,CXCR4,DUSP6,FUT4,GP RC5A,HIF1A,INHBA,OSM,OSMR,PLAT,RAP1GAP,S100 A8,SEMA3F,SOCS3,SPP1 (includes EG:100359743)	22
Gastrointestinal Disease	digestive organ tumor	1.39E-04	BST2,CASP1,CD44,CDKN1A,CEBPB (includes EG:1051),CHRN1,CP,CXCL1,CXCR4,DUSP6,FUT4,GP RC5A,HIF1A,INHBA,OSM,OSMR,PLAT,RAP1GAP,S100 A8,SEMA3F,SOCS3,SPP1 (includes EG:100359743)	22
Lymphoid Tissue Structure and Development	abnormal morphology of lymphoid organ	1.39E-04	BST2,CD47,CDKN1A,CEBPB (includes EG:1051),CIITA,FPR2 (includes EG:100426968),FUT4,SELP,TGFBI	9
Organ Morphology	abnormal morphology of lymphoid organ	1.39E-04	BST2,CD47,CDKN1A,CEBPB (includes EG:1051),CIITA,FPR2 (includes EG:100426968),FUT4,SELP,TGFBI	9
Infectious Disease	replication of RNA virus	1.39E-04	BST2,CCR5,CIITA,CXCR4,IFITM2,S100A8,SLPI,SOCS3, SPP1 (includes EG:100359743),SULF2,TNFRSF18	11
Cell Death and Survival	cell death of peritoneal macrophages	1.39E-04	CASP1,CEBPB (includes EG:1051),SOAT1	3
Inflammatory Disease	airway hyperresponsiveness	1.40E-04	CD44,CXCR4,PLAT,SLPI,SOCS3	5
Respiratory Disease	airway hyperresponsiveness	1.40E-04	CD44,CXCR4,PLAT,SLPI,SOCS3	5
Hematological System Development and Function	interaction of leukocytes	1.40E-04	CCR5,CD47,MSN,SAA1,SELP	5
Cell-To-Cell Signaling and Interaction	interaction of leukocytes	1.40E-04	CCR5,CD47,MSN,SAA1,SELP	5
Tissue Development	interaction of leukocytes	1.40E-04	CCR5,CD47,MSN,SAA1,SELP	5

Lymphoid Tissue Structure and Development	morphology of lymph follicle	1.40E-04	CEBPB (includes EG:1051),CXCR4,FUT4,RGS1,SELP	5
Connective Tissue Disorders	collagen-induced arthritis	1.47E-04	CCR5,CD44,PLAT,SELP,SPP1 (includes EG:100359743)	5
Inflammatory Disease	collagen-induced arthritis	1.47E-04	CCR5,CD44,PLAT,SELP,SPP1 (includes EG:100359743)	5
Skeletal and Muscular Disorders	collagen-induced arthritis	1.47E-04	CCR5,CD44,PLAT,SELP,SPP1 (includes EG:100359743)	5
Cell-To-Cell Signaling and Interaction	fusion of cells	1.47E-04	CASP1,CCR5,CD44,CXCR4,SIRPA	5
Infectious Disease	Shigella infection	1.55E-04	CASP1,CD44	2
Gastrointestinal Disease	Shigella infection	1.55E-04	CASP1,CD44	2
Cellular Movement	dispersion of endocrine cell lines	1.55E-04	CD44,SPP1 (includes EG:100359743)	2
Endocrine System Development and Function	dispersion of endocrine cell lines	1.55E-04	CD44,SPP1 (includes EG:100359743)	2
Hematological System Development and Function	formation of colony-forming erythroid cells	1.55E-04	HIF1A,INHBA	2
Cellular Growth and Proliferation	formation of colony-forming erythroid cells	1.55E-04	HIF1A,INHBA	2
Hematopoiesis	formation of colony-forming erythroid cells	1.55E-04	HIF1A,INHBA	2
Cellular Movement	invasion of hybrid cells	1.55E-04	CXCR4,SPP1 (includes EG:100359743)	2
Hematological System Development and Function	polarization of B-lymphocyte derived cell lines	1.55E-04	CD47,SIRPA	2
Cell Morphology	polarization of B-lymphocyte derived cell lines	1.55E-04	CD47,SIRPA	2
Hematological System Development and Function	quantity of dendritic cells	1.62E-04	CD47,CIITA,FPR2 (includes EG:100426968),SIRPA,SPP1 (includes EG:100359743)	5
Inflammatory Response	quantity of dendritic cells	1.62E-04	CD47,CIITA,FPR2 (includes EG:100426968),SIRPA,SPP1 (includes EG:100359743)	5
Tissue Morphology	quantity of dendritic cells	1.62E-04	CD47,CIITA,FPR2 (includes EG:100426968),SIRPA,SPP1 (includes EG:100359743)	5
Cell-To-Cell Signaling and Interaction	binding of tumor cells	1.62E-04	CD44,CD47,SELP	3
Cancer	binding of tumor cells	1.62E-04	CD44,CD47,SELP	3
Cellular Movement	cell movement of Th1 cells	1.62E-04	CD44,FUT4,SELP	3
Hematological System Development and Function	cell movement of Th1 cells	1.62E-04	CD44,FUT4,SELP	3
Immune Cell Trafficking	cell movement of Th1 cells	1.62E-04	CD44,FUT4,SELP	3
Cell-mediated Immune Response	cell movement of Th1 cells	1.62E-04	CD44,FUT4,SELP	3
Cellular Movement	cell rolling of neutrophils	1.62E-04	CD44,CXCL1,SELP	3

Hematological System				
Development and Function	cell rolling of neutrophils	1.62E-04	CD44,CXCL1,SELP	3
Immune Cell				
Trafficking	cell rolling of neutrophils	1.62E-04	CD44,CXCL1,SELP	3
Inflammatory				
Response	cell rolling of neutrophils	1.62E-04	CD44,CXCL1,SELP	3
Infectious Disease	infection of myeloid cells	1.62E-04	CASP1,CCR5,CXCR4	3
Immunological				
Disease	infection of myeloid cells	1.62E-04	CASP1,CCR5,CXCR4	3
Hematological Disease	infection of myeloid cells	1.62E-04	CASP1,CCR5,CXCR4	3
Cellular Movement	mobilization of phagocytes	1.62E-04	CCL7,CCR5,CXCR4	3
Hematological System				
Development and Function	mobilization of phagocytes	1.62E-04	CCL7,CCR5,CXCR4	3
Immune Cell				
Trafficking	mobilization of phagocytes	1.62E-04	CCL7,CCR5,CXCR4	3
Inflammatory				
Response	mobilization of phagocytes	1.62E-04	CCL7,CCR5,CXCR4	3
Cellular Function and Maintenance	reorganization of cytoskeleton	1.65E-04	BST2,CD44,CD47,MSN,PLEK,SPP1 (includes EG:100359743)	6
Cell Morphology	reorganization of cytoskeleton	1.65E-04	BST2,CD44,CD47,MSN,PLEK,SPP1 (includes EG:100359743)	6
Cellular Assembly and Organization	reorganization of cytoskeleton	1.65E-04	BST2,CD44,CD47,MSN,PLEK,SPP1 (includes EG:100359743)	6
Cell-To-Cell Signaling and Interaction	binding of leukemia cell lines	1.68E-04	CCR5,CD44,CD47,CXCR4	4
Cellular Movement	cell movement of melanoma cell lines	1.68E-04	CXCR4,MSN,RAP1GAP,SPP1 (includes EG:100359743)	4
Cellular Development	proliferation of breast cell lines	1.69E-04	CEBPB (includes EG:1051),HIF1A,IER3,OSM,SPP1 (includes EG:100359743)	5
Cellular Growth and Proliferation	proliferation of breast cell lines	1.69E-04	CEBPB (includes EG:1051),HIF1A,IER3,OSM,SPP1 (includes EG:100359743)	5
Reproductive System				
Development and Function	proliferation of breast cell lines	1.69E-04	CEBPB (includes EG:1051),HIF1A,IER3,OSM,SPP1 (includes EG:100359743)	5
Cancer	lymphomagenesis	1.69E-04	BST2,CD44,CDKN1A,CEBPB (includes EG:1051),CIITA,CXCR4,HIF1A,IER3,PTPN1,TGFBI	10
Hematological Disease	lymphomagenesis	1.69E-04	BST2,CD44,CDKN1A,CEBPB (includes EG:1051),CIITA,CXCR4,HIF1A,IER3,PTPN1,TGFBI	10
Inflammatory				
Response	phagocytosis of cells	1.72E-04	CD44,CD47,CEBPB (includes EG:1051),CORO1A,PADI4,SIRPA,SLC11A1	7
Cell-To-Cell Signaling and Interaction	phagocytosis of cells	1.72E-04	CD44,CD47,CEBPB (includes EG:1051),CORO1A,PADI4,SIRPA,SLC11A1	7
Cellular Function and Maintenance	phagocytosis of cells	1.72E-04	CD44,CD47,CEBPB (includes EG:1051),CORO1A,PADI4,SIRPA,SLC11A1	7
Organismal Injury and Abnormalities	fibrosis of liver	1.86E-04	CCR5,CEBPB (includes EG:1051),OSM,SOCS3,SPP1 (includes EG:100359743)	5

Gastrointestinal Disease	fibrosis of liver	1.86E-04	CCR5,CEBPB (includes EG:1051),OSM,SOCS3,SPP1 (includes EG:100359743)	5
Hepatic System Disease	fibrosis of liver	1.86E-04	CCR5,CEBPB (includes EG:1051),OSM,SOCS3,SPP1 (includes EG:100359743)	5
Protein Synthesis	quantity of protein in blood	1.86E-04	APOBEC1,CASP1,CD44,CEBPB (includes EG:1051),CFB,PTPN1,SAMSN1,SELP,SOAT1,SOCS3,SP P1 (includes EG:100359743)	11
Tissue Development	fibrogenesis	1.86E-04	CD44,CDKN1A,CORO1A,DAB2,GDA,HIF1A,SA A1,SIRP A,TGFBI	9
Cellular Assembly and Organization	fibrogenesis	1.86E-04	CD44,CDKN1A,CORO1A,DAB2,GDA,HIF1A,SA A1,SIRP A,TGFBI	9
Cellular Movement	extravasation of phagocytes	1.87E-04	CCR5,CXCL1,SELP	3
Hematological System Development and Function	extravasation of phagocytes	1.87E-04	CCR5,CXCL1,SELP	3
Cell Death and Survival	cell death of ovarian cancer cell lines	1.94E-04	CASP1,CDKN1A,DAB2,SEMA3F,SLPI	5
Cellular Development	proliferation of breast cancer cell lines	2.05E-04	CD44,CDKN1A,CXCR4,DAB2,IER3,INHBA,LRIG1,OSM, SPP1 (includes EG:100359743)	9
Cellular Growth and Proliferation	proliferation of breast cancer cell lines	2.05E-04	CD44,CDKN1A,CXCR4,DAB2,IER3,INHBA,LRIG1,OSM, SPP1 (includes EG:100359743)	9
Cancer	benign neoplasia	2.09E-04	APOBEC1,CCR5,CD44,CDKN1A,CHRN B1,HIF1A,MGST 1,S100A8,SLPI,SOCS3,SPP1 (includes EG:100359743),SPSB1,THBS2	13
Cellular Movement	chemotaxis of peripheral blood leukocytes	2.14E-04	CCR5,CXCR4,FPR2 (includes EG:100426968)	3
Hematological System Development and Function	chemotaxis of peripheral blood leukocytes	2.14E-04	CCR5,CXCR4,FPR2 (includes EG:100426968)	3
Immune Cell Trafficking	chemotaxis of peripheral blood leukocytes	2.14E-04	CCR5,CXCR4,FPR2 (includes EG:100426968)	3
Inflammatory Response	chemotaxis of peripheral blood leukocytes	2.14E-04	CCR5,CXCR4,FPR2 (includes EG:100426968)	3
Cellular Movement	migration of peripheral blood leukocytes	2.14E-04	CCL7,CCR5,RGS1	3
Hematological System Development and Function	migration of peripheral blood leukocytes	2.14E-04	CCL7,CCR5,RGS1	3
Immune Cell Trafficking	migration of peripheral blood leukocytes	2.14E-04	CCL7,CCR5,RGS1	3
Inflammatory Disease	Hepatitis	2.16E-04	CASP1,CCL7,CCR5,CD44,CXCL1,SPP1 (includes EG:100359743)	6
Gastrointestinal Disease	Hepatitis	2.16E-04	CASP1,CCL7,CCR5,CD44,CXCL1,SPP1 (includes EG:100359743)	6
Hepatic System Disease	Hepatitis	2.16E-04	CASP1,CCL7,CCR5,CD44,CXCL1,SPP1 (includes EG:100359743)	6
Hematological System Development and Function	phagocytosis of myeloid cells	2.22E-04	CD44,CD47,CEBPB (includes EG:1051),CORO1A,PADI4	5
Inflammatory Response	phagocytosis of myeloid cells	2.22E-04	CD44,CD47,CEBPB (includes EG:1051),CORO1A,PADI4	5

Cell-To-Cell Signaling and Interaction	phagocytosis of myeloid cells	2.22E-04	CD44,CD47,CEBPB (includes EG:1051),CORO1A,PADI4	5
Cellular Function and Maintenance	phagocytosis of myeloid cells	2.22E-04	CD44,CD47,CEBPB (includes EG:1051),CORO1A,PADI4	5
Inflammatory Response	phagocytosis of phagocytes	2.22E-04	CD44,CD47,CEBPB (includes EG:1051),CORO1A,PADI4	5
Cell-To-Cell Signaling and Interaction	phagocytosis of phagocytes	2.22E-04	CD44,CD47,CEBPB (includes EG:1051),CORO1A,PADI4	5
Cellular Function and Maintenance	phagocytosis of phagocytes	2.22E-04	CD44,CD47,CEBPB (includes EG:1051),CORO1A,PADI4	5
Tissue Morphology	healing of wound	2.23E-04	CD44,PLAT,SLC11A1,SLPI,SPP1 (includes EG:100359743),THBS2	6
Organismal Functions	healing of wound	2.23E-04	CD44,PLAT,SLC11A1,SLPI,SPP1 (includes EG:100359743),THBS2	6
Cancer	head and neck cancer	2.29E-04	APOBEC1,CCR5,CD44,CDKN1A,CHI3L1,CHRN1,CXCR4,PLAT,RAP1GAP,S100A8,SEMA3F,SPP1 (includes EG:100359743)	12
Cell-To-Cell Signaling and Interaction	attachment of cells	2.32E-04	CD44,DAB2,SPP1 (includes EG:100359743),TGFB1,THBS2	5
Tissue Development	attachment of cells	2.32E-04	CD44,DAB2,SPP1 (includes EG:100359743),TGFB1,THBS2	5
Cellular Movement	cell movement of cancer cells	2.32E-04	CD44,CD47,CXCR4,SIRPA,SPP1 (includes EG:100359743)	5
Cellular Development	proliferation of prostate cancer cell lines	2.36E-04	CASP1,CD44,CDKN1A,DAB2,HIF1A,INHBA,SOCS3	7
Cellular Growth and Proliferation	proliferation of prostate cancer cell lines	2.36E-04	CASP1,CD44,CDKN1A,DAB2,HIF1A,INHBA,SOCS3	7
Cellular Movement	cell movement of natural killer cells	2.37E-04	CCL7,CD44,SELP,SPP1 (includes EG:100359743)	4
Hematological System Development and Function	cell movement of natural killer cells	2.37E-04	CCL7,CD44,SELP,SPP1 (includes EG:100359743)	4
Immune Cell Trafficking	cell movement of natural killer cells	2.37E-04	CCL7,CD44,SELP,SPP1 (includes EG:100359743)	4
Hematological Disease	blood protein disorder	2.42E-04	CCL7,CDKN1A,CHRN1,CXCL1,CXCR4,OSMR,PTPN1,IRPA	8
Cell Death and Survival	cell death of muscle cells	2.42E-04	CASP1,CDKN1A,DUSP6,FSTL1,HIF1A,INHBA,SOCS3,THBS2	8
Cellular Movement	migration of mammary tumor cells	2.44E-04	CD44,CXCR4,SPP1 (includes EG:100359743)	3
Cancer	mucinous ovarian cancer	2.44E-04	CP,SLPI,SPP1 (includes EG:100359743)	3
Reproductive System Disease	mucinous ovarian cancer	2.44E-04	CP,SLPI,SPP1 (includes EG:100359743)	3
Endocrine System Disorders	mucinous ovarian cancer	2.44E-04	CP,SLPI,SPP1 (includes EG:100359743)	3
Cellular Movement	cell movement of endothelial cells	2.47E-04	CXCL1,CXCR4,FPR2 (includes EG:100426968),HIF1A,SAA1,SEMA3F,SPP1 (includes EG:100359743),TGFB1	8
Cardiovascular System Development and Function	cell movement of endothelial cells	2.47E-04	CXCL1,CXCR4,FPR2 (includes EG:100426968),HIF1A,SAA1,SEMA3F,SPP1 (includes EG:100359743),TGFB1	8
Protein Synthesis	quantity of IgG	2.48E-04	CCR5,CDKN1A,CEBPB (includes EG:1051),CIITA,FPR2 (includes EG:100426968),SAMS1,SELP	7

Humoral Immune Response	quantity of IgG	2.48E-04	CCR5,CDKN1A,CEBPB (includes EG:1051),CIITA,FPR2 (includes EG:100426968),SAMS1N1,SELP	7
Hematological System Development and Function	binding of mononuclear leukocytes	2.52E-04	CCR5,CD44,CD47,MSN,RAP1GAP	5
Cell-To-Cell Signaling and Interaction	binding of mononuclear leukocytes	2.52E-04	CCR5,CD44,CD47,MSN,RAP1GAP	5
Cellular Movement	migration of epithelial cell lines	2.52E-04	CCR5,FPR2 (includes EG:100426968),OSM,SAA1	4
Hair and Skin Development and Function	migration of epithelial cell lines	2.52E-04	CCR5,FPR2 (includes EG:100426968),OSM,SAA1	4
Cell Death and Survival	apoptosis of muscle cells	2.54E-04	CASP1,CDKN1A,DUSP6,FSTL1,HIF1A,INHBA,SOCS3	7
Cellular Movement	emigration of Langerhans cells	2.58E-04	CD44,SPP1 (includes EG:100359743)	2
Hematological System Development and Function	emigration of Langerhans cells	2.58E-04	CD44,SPP1 (includes EG:100359743)	2
Immune Cell Trafficking	emigration of Langerhans cells	2.58E-04	CD44,SPP1 (includes EG:100359743)	2
Inflammatory Response	emigration of Langerhans cells	2.58E-04	CD44,SPP1 (includes EG:100359743)	2
Cellular Movement	homing of stem cells	2.58E-04	CXCR4,SELP	2
Cellular Growth and Proliferation	proliferation of interstitial cells	2.58E-04	PLAT,SPP1 (includes EG:100359743)	2
Tissue Morphology	quantity of podocytes	2.58E-04	CDKN1A,SPP1 (includes EG:100359743)	2
Cellular Movement	release of hematopoietic cells	2.58E-04	CXCR4,INHBA	2
Cellular Function and Maintenance	engulfment of cells	2.69E-04	CD44,CD47,CEBPB (includes EG:1051),CORO1A,DAB2,PADI4,SIRPA,SLC11A1	8
Cellular Function and Maintenance	homeostasis of iron ion	2.76E-04	CP,HIF1A,SLC11A1	3
Small Molecule Biochemistry	homeostasis of iron ion	2.76E-04	CP,HIF1A,SLC11A1	3
Inflammatory Disease	Dermatitis	2.83E-04	CASP1,CD44,CXCR4,MSN,OSM,OSMR,S100A8,SELP,S	9
Dermatological Diseases and Conditions	Dermatitis	2.83E-04	OCS3	9
Metabolic Disease	amyloidosis	2.87E-04	CD47,OSMR,SAA1,TGFBI	4
Hematological System Development and Function	quantity of macrophages	2.87E-04	CCL7,PLAT,SELP,SOAT1,SOCS3,SPP1 (includes EG:100359743)	6
Inflammatory Response	quantity of macrophages	2.87E-04	CCL7,PLAT,SELP,SOAT1,SOCS3,SPP1 (includes EG:100359743)	6
Tissue Morphology	quantity of macrophages	2.87E-04	CCL7,PLAT,SELP,SOAT1,SOCS3,SPP1 (includes EG:100359743)	6
Cell-To-Cell Signaling and Interaction	response of myeloid cells	2.87E-04	CD44,CD47,CEBPB (includes EG:1051),CORO1A,CXCL1,PADI4	6
Cancer	prostatic intraepithelial neoplasia	2.98E-04	CFB,GPRC5A,IER3,S100A8,SOCS3	5
Reproductive System Disease	prostatic intraepithelial neoplasia	2.98E-04	CFB,GPRC5A,IER3,S100A8,SOCS3	5
Inflammatory Response	ulcerative colitis	3.05E-04	CASP1,S100A8,SOCS3,SPP1 (includes EG:100359743)	4

Inflammatory Disease	ulcerative colitis	3.05E-04	CASP1,S100A8,SOCS3,SPP1 (includes EG:100359743)	4
Gastrointestinal Disease	ulcerative colitis	3.05E-04	CASP1,S100A8,SOCS3,SPP1 (includes EG:100359743) BACE2,CASP1,CCR5,CD44,CD47,CDKN1A,CEBPB (includes EG:1051),CFB,CXCR4,HIF1A,MSN,OSM,PLAT,PTPN1,SELPI,SLPI,SOCS3,SPP1 (includes EG:100359743),SULF2,TGFBI,THBS2	4
Organismal Survival	organismal death	3.07E-04	EG:100359743),SULF2,TGFBI,THBS2	21
Cancer	interphase of cancer cells	3.11E-04	CDKN1A,INHBA,OSM	3
Cell Cycle	interphase of cancer cells	3.11E-04	CDKN1A,INHBA,OSM	3
Hematological System Development and Function	function of macrophages	3.14E-04	CASP1,CEBPB (includes EG:1051),PLAT,SIRPA,SLPI,SPP1 (includes EG:100359743)	6
Cellular Function and Maintenance	function of macrophages	3.14E-04	CASP1,CEBPB (includes EG:1051),PLAT,SIRPA,SLPI,SPP1 (includes EG:100359743)	6
Cellular Movement	invasion of breast cancer cell lines	3.33E-04	CD44,CXCR4,FXYD5,HIF1A,SEMA3F,SPP1 (includes EG:100359743)	6
Cancer	papillary carcinoma	3.36E-04	CD44,CDKN1A,CXCR4,RAP1GAP,SPP1 (includes EG:100359743)	5
Cellular Development	maturation of cells	3.43E-04	CD44,CD47,CDKN1A,CXCR4,HIF1A,INHBA,INSL3,PTP N1,SIRPA	9
Inflammatory Response	cell-mediated response	3.43E-04	CASP1,CCR5,CEBPB (includes EG:1051),FSTL1,SLC11A1,SRGN	6
Hematological System Development and Function	adhesion of neutrophils	3.44E-04	CD44,CORO1A,S100A8,SELP	4
Immune Cell Trafficking	adhesion of neutrophils	3.44E-04	CD44,CORO1A,S100A8,SELP	4
Inflammatory Response	adhesion of neutrophils	3.44E-04	CD44,CORO1A,S100A8,SELP	4
Cell-To-Cell Signaling and Interaction	adhesion of neutrophils	3.44E-04	CD44,CORO1A,S100A8,SELP	4
Tissue Development	adhesion of neutrophils	3.44E-04	CD44,CORO1A,S100A8,SELP	4
Cellular Development	differentiation of leukemia cells	3.49E-04	CD44,CEBPB (includes EG:1051),INHBA	3
Cancer	differentiation of leukemia cells	3.49E-04	CD44,CEBPB (includes EG:1051),INHBA	3
Tumor Morphology	differentiation of leukemia cells	3.49E-04	CD44,CEBPB (includes EG:1051),INHBA	3
Cellular Movement	localization of blood cells	3.49E-04	CD44,CXCR4,SELP	3
Cellular Function and Maintenance	localization of blood cells	3.49E-04	CD44,CXCR4,SELP	3
Cell Morphology	polarization of tumor cell lines	3.49E-04	CD47,RAP1GAP,SAMSN1	3
Cellular Movement	infiltration by macrophages	3.49E-04	CASP1,CCR5,CD44,HIF1A,SPP1 (includes EG:100359743)	5
Hematological System Development and Function	infiltration by macrophages	3.49E-04	CASP1,CCR5,CD44,HIF1A,SPP1 (includes EG:100359743)	5
Immune Cell Trafficking	infiltration by macrophages	3.49E-04	CASP1,CCR5,CD44,HIF1A,SPP1 (includes EG:100359743)	5
Inflammatory Response	infiltration by macrophages	3.49E-04	CASP1,CCR5,CD44,HIF1A,SPP1 (includes EG:100359743)	5

Organismal Injury and Abnormalities	injury of kidney	3.64E-04	CD44,CFB,FUT4,PLAT	4
Renal and Urological Disease	injury of kidney	3.64E-04	CD44,CFB,FUT4,PLAT	4
Cellular Movement	cell movement of kidney cell lines	3.78E-04	CCR5,CXCL1,CXCR4,FPR2 (includes EG:100426968),SAA1	5
Renal and Urological System Development and Function	cell movement of kidney cell lines	3.78E-04	CCR5,CXCL1,CXCR4,FPR2 (includes EG:100426968),SAA1	5
Cellular Movement	adhesion of Th1 cells	3.85E-04	FUT4,SELP	2
Hematological System Development and Function	adhesion of Th1 cells	3.85E-04	FUT4,SELP	2
Immune Cell Trafficking	adhesion of Th1 cells	3.85E-04	FUT4,SELP	2
Cell-To-Cell Signaling and Interaction	adhesion of Th1 cells	3.85E-04	FUT4,SELP	2
Tissue Development	adhesion of Th1 cells	3.85E-04	FUT4,SELP	2
Cell-mediated Immune Response	adhesion of Th1 cells	3.85E-04	FUT4,SELP	2
Cell-To-Cell Signaling and Interaction	adhesion of melanoma cells	3.85E-04	CD47,TGFBI	2
Tissue Development	adhesion of melanoma cells	3.85E-04	CD47,TGFBI	2
Tumor Morphology	adhesion of melanoma cells	3.85E-04	CD47,TGFBI	2
Cellular Compromise	adhesion of melanoma cells	3.85E-04	CD47,TGFBI	2
Hematological System Development and Function	aggregation of B-lymphocyte derived cell lines	3.85E-04	CD47,SIRPA	2
Immune Cell Trafficking	aggregation of B-lymphocyte derived cell lines	3.85E-04	CD47,SIRPA	2
Cell-To-Cell Signaling and Interaction	aggregation of B-lymphocyte derived cell lines	3.85E-04	CD47,SIRPA	2
Tissue Development	aggregation of B-lymphocyte derived cell lines	3.85E-04	CD47,SIRPA	2
Hematological System Development and Function	arrest in growth of lymphocytes	3.85E-04	CDKN1A,HIF1A	2
Cellular Development	arrest in growth of lymphocytes	3.85E-04	CDKN1A,HIF1A	2
Cellular Growth and Proliferation	arrest in growth of lymphocytes	3.85E-04	CDKN1A,HIF1A	2
Cellular Movement	extravasation of tumor cell lines	3.85E-04	CXCR4,RAP1GAP	2
Cellular Function and Maintenance	presence of neurons	3.85E-04	CXCR4,PLAT	2
Carbohydrate Metabolism	quantity of hyaluronic acid	3.85E-04	CD44,OSM	2
Molecular Transport	quantity of hyaluronic acid	3.85E-04	CD44,OSM	2

Small Molecule				
Biochemistry	quantity of hyaluronic acid	3.85E-04	CD44,OSM	2
Drug Metabolism	quantity of hyaluronic acid	3.85E-04	CD44,OSM	2
Cellular Movement	dissemination of cells	3.89E-04	CD47,SIRPA,SLPI	3
Connective Tissue				
Development and Function	focus formation of fibroblast cell lines	3.89E-04	CD44,CEBPB (includes EG:1051),SPP1 (includes EG:100359743)	3
Infectious Disease	infection of antigen presenting cells	3.89E-04	CASP1,CCR5,CXCR4	3
Immunological Disease	infection of antigen presenting cells	3.89E-04	CASP1,CCR5,CXCR4	3
Hematological Disease	infection of antigen presenting cells	3.89E-04	CASP1,CCR5,CXCR4	3
Hematological Disease	hemorrhagic disease	3.92E-04	CD47,CFB,CXCL1,SIRPA,THBS2	5
Hematological System				
Development and Function	quantity of helper T lymphocytes	3.96E-04	CHI3L1,CIITA,CORO1A,HIF1A,SELP,SOCS3	6
Tissue Morphology	quantity of helper T lymphocytes	3.96E-04	CHI3L1,CIITA,CORO1A,HIF1A,SELP,SOCS3	6
Cell Death and Survival	cell death of tumor cells	4.16E-04	CASP1,CD47,CDKN1A,CXCR4,HIF1A,INHBA,SOCS3,THBS2	8
Tumor Morphology	cell death of tumor cells	4.16E-04	CASP1,CD47,CDKN1A,CXCR4,HIF1A,INHBA,SOCS3,THBS2	8
Tissue Morphology	quantity of neurons	4.19E-04	CDKN1A,CP,CXCR4,GDA,HIF1A,INHBA,SPP1 (includes EG:100359743)	7
Nervous System				
Development and Function	quantity of neurons	4.19E-04	CDKN1A,CP,CXCR4,GDA,HIF1A,INHBA,SPP1 (includes EG:100359743)	7
Cancer	neuroendocrine tumor	4.19E-04	APOBEC1,CASP1,CDKN1A,CHRN1,CXCR4,HIF1A,PLAT,S100A8,SPP1 (includes EG:100359743)	9
Hematological System				
Development and Function	accumulation of phagocytes	4.39E-04	CD44,S100A8,SELP,SLPI,SPP1 (includes EG:100359743)	5
Immune Cell				
Trafficking	accumulation of phagocytes	4.39E-04	CD44,S100A8,SELP,SLPI,SPP1 (includes EG:100359743)	5
Inflammatory				
Response	accumulation of phagocytes	4.39E-04	CD44,S100A8,SELP,SLPI,SPP1 (includes EG:100359743)	5
Tissue Development	accumulation of phagocytes	4.39E-04	CD44,S100A8,SELP,SLPI,SPP1 (includes EG:100359743)	5
Digestive System				
Development and Function	morphology of digestive system	4.47E-04	CCR5,CDKN1A,CP,INHBA,OSM,OSMR,PTPN1,RGS1,SOCS3,SPP1 (includes EG:100359743)	11
Cell Cycle	arrest in cell cycle progression of tumor cell lines	4.56E-04	CDKN1A,CEBPB (includes EG:1051),HIF1A,INHBA,PADI4	5
Cancer	papilloma	4.56E-04	CDKN1A,S100A8,SLPI,SPP1 (includes EG:100359743),THBS2	5
Dermatological				
Diseases and Conditions	papilloma	4.56E-04	CDKN1A,S100A8,SLPI,SPP1 (includes EG:100359743),THBS2	5
Protein Synthesis	quantity of interleukin	4.56E-04	CASP1,CD44,CEBPB (includes EG:1051),SELP,SPP1 (includes EG:100359743)	5
Cell Death and Survival	apoptosis of keratinocytes	4.57E-04	CASP1,CDKN1A,CEBPB (includes EG:1051),PLAT	4
Cellular Movement	cell movement of lymphatic system cells	4.57E-04	CCR5,CD44,CXCR4,HIF1A	4

Immune Cell Trafficking	cell movement of lymphatic system cells	4.57E-04	CCR5,CD44,CXCR4,HIF1A	4
Cellular Movement	cell rolling of leukocytes	4.57E-04	CD44,CXCL1,FUT4,SELP	4
Hematological System Development and Function				
Immune Cell Trafficking	cell rolling of leukocytes	4.57E-04	CD44,CXCL1,FUT4,SELP	4
Inflammatory Disease Gastrointestinal Disease	Inflammatory Bowel Disease	4.57E-04	CASP1,CCR5,CD44,RGS1,S100A8,SLPI,SOCS3,SPP1 (includes EG:100359743)	8
	Inflammatory Bowel Disease	4.57E-04	(includes EG:100359743)	8
Hematological System Development and Function				
Immune Cell Trafficking	adhesion of phagocytes	4.72E-04	CD44,CORO1A,S100A8,SELP,SIRPA	5
Inflammatory Response	adhesion of phagocytes	4.72E-04	CD44,CORO1A,S100A8,SELP,SIRPA	5
Cell-To-Cell Signaling and Interaction	adhesion of phagocytes	4.72E-04	CD44,CORO1A,S100A8,SELP,SIRPA	5
Tissue Development	adhesion of phagocytes	4.72E-04	CD44,CORO1A,S100A8,SELP,SIRPA	5
Cellular Development	arrest in development of cells	4.79E-04	CDKN1A,CXCR4,HIF1A	3
Cell Death and Survival	activation-induced cell death	4.82E-04	CCR5,CDKN1A,CIITA,TNFRSF18	4
Tissue Development Organismal Development	lactation	4.82E-04	CD44,CEBPB (includes EG:1051),HIF1A,SPP1 (includes EG:100359743)	4
	lactation	4.82E-04	(includes EG:100359743)	4
Reproductive System Development and Function				
Cellular Assembly and Organization	lactation	4.82E-04	CD44,CEBPB (includes EG:1051),HIF1A,SPP1 (includes EG:100359743)	4
	organization of plasma membrane	4.82E-04	CD44,CHRN1,CORO1A,PLEK	4
Cell Death and Survival	cell death of cancer cells	4.89E-04	CASP1,CD47,CDKN1A,CXCR4,HIF1A,INHBA,SOCS3	7
Tumor Morphology	cell death of cancer cells	4.89E-04	CASP1,CD47,CDKN1A,CXCR4,HIF1A,INHBA,SOCS3	7
Cellular Movement	migration of macrophages	5.08E-04	CCR5,CXCL1,CXCR4,SPP1 (includes EG:100359743)	4
Hematological System Development and Function				
Immune Cell Trafficking	migration of macrophages	5.08E-04	CCR5,CXCL1,CXCR4,SPP1 (includes EG:100359743)	4
Inflammatory Response	migration of macrophages	5.08E-04	CCR5,CXCL1,CXCR4,SPP1 (includes EG:100359743)	4
Hematological System Development and Function				
	proliferation of leukocyte cell lines	5.09E-04	CD44,INHBA,OSM,OSMR,SOCS3,SPP1 (includes EG:100359743)	6

Cellular Development	proliferation of leukocyte cell lines	5.09E-04	CD44,INHBA,OSM,OSMR,SOCS3,SPP1 (includes EG:100359743)	6
Cellular Growth and Proliferation	proliferation of leukocyte cell lines	5.09E-04	CD44,INHBA,OSM,OSMR,SOCS3,SPP1 (includes EG:100359743)	6
Cancer	mammary tumor	5.09E-04	ADAMTS4,CCR5,CD44,CDKN1A,CEBPB (includes EG:1051),CHI3L1,CXCL1,HIF1A,IER3,PTPN1,RGS1,S100A8,SLPI,SPP1 (includes EG:100359743),TGFB1,TMC5	16
Organismal Injury and Abnormalities	cytosis	5.11E-04	ADAMTS4,CASP1,CXCR4,HIF1A,SELP,SOCS3,SPP1 (includes EG:100359743)	7
Tissue Morphology	degradation of connective tissue	5.36E-04	CFB,OSM,SLPI,SULF2	4
Hematological System Development and Function	accumulation of blood platelets	5.38E-04	PLAT,SELP	2
Inflammatory Response	accumulation of blood platelets	5.38E-04	PLAT,SELP	2
Tissue Development	accumulation of blood platelets	5.38E-04	PLAT,SELP	2
Tissue Development	aggregation of colon cancer cell lines	5.38E-04	CD44,CDKN1A	2
Cancer	arrest in G1 phase of cancer cells	5.38E-04	CDKN1A,INHBA	2
Cell Cycle	arrest in G1 phase of cancer cells	5.38E-04	CDKN1A,INHBA	2
Cellular Movement	cell rolling of Th1 cells	5.38E-04	FUT4,SELP	2
Hematological System Development and Function	cell rolling of Th1 cells	5.38E-04	FUT4,SELP	2
Immune Cell Trafficking	cell rolling of Th1 cells	5.38E-04	FUT4,SELP	2
Cell-mediated Immune Response	cell rolling of Th1 cells	5.38E-04	FUT4,SELP	2
Cellular Movement	mobilization of progenitor cells	5.38E-04	CXCR4,SOCS3	2
Immunological Disease	immediate hypersensitivity	5.69E-04	CD44,CORO1A,CXCR4,MSN,OSM,OSMR,S100A8,SELP	8
Endocrine System Development and Function	insulin sensitivity index	5.81E-04	CDKN1A,PTPN1,SOCS3	3
Nutritional Disease	morbid obesity	5.81E-04	CCR5,CD44,SPP1 (includes EG:100359743)	3
Carbohydrate Metabolism	metabolism of carbohydrate	5.92E-04	CD44,CEBPB (includes EG:1051),DUSP6,FUT4,GPR35,PLEK,PTPN1,SOCS3,SP P1 (includes EG:100359743),SRGN,SULF2	11
Tissue Morphology	damage of bone	5.94E-04	CFB,OSM,SPP1 (includes EG:100359743),TNFRSF18	4
Skeletal and Muscular Disorders	damage of bone	5.94E-04	CFB,OSM,SPP1 (includes EG:100359743),TNFRSF18	4
Organismal Injury and Abnormalities	damage of bone	5.94E-04	CFB,OSM,SPP1 (includes EG:100359743),TNFRSF18	4
Cellular Movement	recruitment of lymphocytes	5.94E-04	CCL7,CD44,CXCR4,SELP	4
Hematological System Development and Function	recruitment of lymphocytes	5.94E-04	CCL7,CD44,CXCR4,SELP	4
Immune Cell Trafficking	recruitment of lymphocytes	5.94E-04	CCL7,CD44,CXCR4,SELP	4

Cell-To-Cell Signaling and Interaction	recruitment of lymphocytes	5.94E-04	CCL7,CD44,CXCR4,SELP	4
Tissue Morphology	size of atherosclerotic lesion	5.94E-04	SELP,SOAT1,SOCS3,SPP1 (includes EG:100359743)	4
Cardiovascular Disease	size of atherosclerotic lesion	5.94E-04	SELP,SOAT1,SOCS3,SPP1 (includes EG:100359743)	4
Cancer	gastrointestinal tract cancer	6.01E-04	BST2,CASP1,CD44,CDKN1A,CHRN1A,CXCL1,CXCR4,DUSP6,FUT4,GPRC5A,HIF1A,INHBA,OSMR,PLAT,RAP1GAP,SPP1 (includes EG:100359743)	16
Gastrointestinal Disease	gastrointestinal tract cancer	6.01E-04	BST2,CASP1,CD44,CDKN1A,CHRN1A,CXCL1,CXCR4,DUSP6,FUT4,GPRC5A,HIF1A,INHBA,OSMR,PLAT,RAP1GAP,SPP1 (includes EG:100359743)	16
Cellular Movement	homing of tumor cell lines	6.05E-04	CCL7,CCR5,CXCR4,FPR2 (includes EG:100426968),PTPN1	5
Cellular Movement	mobilization of cells	6.24E-04	CCL7,CCR5,CXCR4,SOCS3	4
Cardiovascular System Development and Function	neovascularization	6.26E-04	CD44,CD47,INHBA,SPP1 (includes EG:100359743),THBS2	5
Cell Death and Survival	apoptosis of splenocytes	6.36E-04	CASP1,CDKN1A,SPP1 (includes EG:100359743)	3
Infectious Disease	infection of phagocytes	6.36E-04	CASP1,CCR5,CXCR4	3
Immunological Disease	infection of phagocytes	6.36E-04	CASP1,CCR5,CXCR4	3
Hematological Disease	infection of phagocytes	6.36E-04	CASP1,CCR5,CXCR4	3
Cancer	metastasis of malignant tumor	6.36E-04	CD44,CXCL1,SPP1 (includes EG:100359743)	3
Small Molecule Biochemistry	regulation of lipid	6.36E-04	APOBEC1,PLAT,SOCS3	3
Lipid Metabolism	regulation of lipid	6.36E-04	APOBEC1,PLAT,SOCS3	3
Hematological System Development and Function	activation of microglia	6.56E-04	CASP1,CD47,CEBPB (includes EG:1051),PLAT	4
Cell-To-Cell Signaling and Interaction	activation of microglia	6.56E-04	CASP1,CD47,CEBPB (includes EG:1051),PLAT	4
Nervous System Development and Function	activation of microglia	6.56E-04	CASP1,CD47,CEBPB (includes EG:1051),PLAT	4
Cell Cycle	cell cycle progression of blood cells	6.56E-04	CD44,CDKN1A,HIF1A,OSM	4
Inflammatory Response	inflammation of skin	6.56E-04	CD47,SLPI,SOAT1,THBS2	4
Cardiovascular Disease	ischemia of brain	6.56E-04	CASP1,HIF1A,PLAT,SLC16A6	4
Neurological Disease	ischemia of brain	6.56E-04	CASP1,HIF1A,PLAT,SLC16A6	4
Tissue Development	mineralization of connective tissue	6.69E-04	CEBPB (includes EG:1051),CIITA,HIF1A,SPP1 (includes EG:100359743),SRGN	5
Organismal Development	mineralization of connective tissue	6.69E-04	CEBPB (includes EG:1051),CIITA,HIF1A,SPP1 (includes EG:100359743),SRGN	5
Connective Tissue Development and Function	mineralization of connective tissue	6.69E-04	CEBPB (includes EG:1051),CIITA,HIF1A,SPP1 (includes EG:100359743),SRGN	5

Skeletal and Muscular System Development and Function	mineralization of connective tissue	6.69E-04	CEBPB (includes EG:1051),CIITA,HIF1A,SPP1 (includes EG:100359743),SRGN	5
Embryonic Development	mineralization of connective tissue	6.69E-04	CEBPB (includes EG:1051),CIITA,HIF1A,SPP1 (includes EG:100359743),SRGN	5
Organ Development	mineralization of connective tissue	6.69E-04	CEBPB (includes EG:1051),CIITA,HIF1A,SPP1 (includes EG:100359743),SRGN	5
Cellular Movement	cell movement of PBMCs	6.95E-04	CCL7,CCR5,FPR2 (includes EG:100426968)	3
Hematological System Development and Function	cell movement of PBMCs	6.95E-04	CCL7,CCR5,FPR2 (includes EG:100426968)	3
Immune Cell Trafficking	cell movement of PBMCs	6.95E-04	CCL7,CCR5,FPR2 (includes EG:100426968)	3
Cancer	lymphohematopoietic cancer	7.10E-04	SMR,PTPN1,TGFBI	14
Inflammatory Response	colitis	7.13E-04	CASP1,CCR5,CD44,S100A8,SOCS3,SPP1 (includes EG:100359743)	6
Inflammatory Disease	colitis	7.13E-04	CASP1,CCR5,CD44,S100A8,SOCS3,SPP1 (includes EG:100359743)	6
Gastrointestinal Disease	colitis	7.13E-04	CASP1,CCR5,CD44,S100A8,SOCS3,SPP1 (includes EG:100359743)	6
Hematological System Development and Function	arrest in development of pro-T lymphocytes	7.15E-04	CDKN1A,CXCR4	2
Tissue Development	arrest in development of pro-T lymphocytes	7.15E-04	CDKN1A,CXCR4	2
Cellular Function and Maintenance	arrest in development of pro-T lymphocytes	7.15E-04	CDKN1A,CXCR4	2
Cellular Development	arrest in development of pro-T lymphocytes	7.15E-04	CDKN1A,CXCR4	2
Organismal Development	arrest in development of pro-T lymphocytes	7.15E-04	CDKN1A,CXCR4	2
Cell-mediated Immune Response	arrest in development of pro-T lymphocytes	7.15E-04	CDKN1A,CXCR4	2
Lymphoid Tissue Structure and Development	arrest in development of pro-T lymphocytes	7.15E-04	CDKN1A,CXCR4	2
Embryonic Development	arrest in development of pro-T lymphocytes	7.15E-04	CDKN1A,CXCR4	2
Hematopoiesis	arrest in development of pro-T lymphocytes	7.15E-04	CDKN1A,CXCR4	2
Organ Development	lymphocytes	7.15E-04	CDKN1A,CXCR4	2
Molecular Transport	export of heavy metal	7.15E-04	CP,SLC11A1	2
Cancer	growth of blood tumor	7.15E-04	BST2,INHBA	2
Hematological System Development and Function	phagocytosis of blood platelets	7.15E-04	CD47,SIRPA	2
Inflammatory Response	phagocytosis of blood platelets	7.15E-04	CD47,SIRPA	2
Cell-To-Cell Signaling and Interaction	phagocytosis of blood platelets	7.15E-04	CD47,SIRPA	2

Cellular Function and Maintenance	phagocytosis of blood platelets	7.15E-04	CD47,SIRPA	2
Organismal Injury and Abnormalities	damage of brain	7.23E-04	CASP1,CD47,HIF1A,PLAT	4
Neurological Disease	damage of brain	7.23E-04	CASP1,CD47,HIF1A,PLAT	4
Cancer	incidence of tumor	7.30E-04	CD44,CD47,CDKN1A,CEBPB (includes EG:1051),SPP1 (includes EG:100359743),TGFB1,THBS2	7
Cell Death and Survival	apoptosis of ovarian cancer cell lines	7.58E-04	CASP1,CDKN1A,SEMA3F,SLPI	4
Small Molecule Biochemistry	incorporation of thymidine	7.58E-04	CDKN1A,INHBA,SIRPA,THBS2	4
DNA Replication, Recombination, and Repair	incorporation of thymidine	7.58E-04	CDKN1A,INHBA,SIRPA,THBS2	4
Nucleic Acid Metabolism	incorporation of thymidine	7.58E-04	CDKN1A,INHBA,SIRPA,THBS2	4
Tissue Morphology	morphology of hepatocytes	7.58E-04	CDKN1A,CP,OSM,OSMR	4
Cell Morphology	morphology of hepatocytes	7.58E-04	CDKN1A,CP,OSM,OSMR	4
Hepatic System Development and Function	morphology of hepatocytes	7.58E-04	CDKN1A,CP,OSM,OSMR	4
Organ Morphology	morphology of hepatocytes	7.58E-04	CDKN1A,CP,OSM,OSMR	4
Digestive System Development and Function	morphology of hepatocytes	7.58E-04	CDKN1A,CP,OSM,OSMR	4
Cellular Development	proliferation of thyroid tumor cell lines	7.58E-04	CXCR4,INHBA,RAP1GAP	3
Cellular Growth and Proliferation	proliferation of thyroid tumor cell lines	7.58E-04	CXCR4,INHBA,RAP1GAP	3
Inflammatory Disease	atopic dermatitis	7.60E-04	CD44,CXCR4,MSN,OSM,OSMR,S100A8,SELP	7
Immunological Disease	atopic dermatitis	7.60E-04	CD44,CXCR4,MSN,OSM,OSMR,S100A8,SELP	7
Dermatological Diseases and Conditions	atopic dermatitis	7.60E-04	CD44,CXCR4,MSN,OSM,OSMR,S100A8,SELP	7
Dermatological Diseases and Conditions	psoriasis	7.64E-04	CD44,CDKN1A,CORO1A,DAB2,GDA,SAA1,SIRPA,TGFB	11
Tissue Development	formation of filaments	7.79E-04	I	8
Cellular Assembly and Organization	formation of filaments	7.79E-04	CD44,CDKN1A,CORO1A,DAB2,GDA,SAA1,SIRPA,TGFB	8
Cancer	prostate cancer	7.84E-04	CD44,CDKN1A,CFB,CHI3L1,CXCR4,GPRC5A,IER3,S100A8,SOCS3,SPP1 (includes EG:100359743)	10
Reproductive System Disease	prostate cancer	7.84E-04	CD44,CDKN1A,CFB,CHI3L1,CXCR4,GPRC5A,IER3,S100A8,SOCS3,SPP1 (includes EG:100359743)	10
Cellular Movement	cell movement of neuroglia	7.94E-04	CHI3L1,CXCL1,FPR2 (includes EG:100426968),SEMA3F	4
Hematological Disease	cytopenia	7.94E-04	CD47,CFB,CXCR4,SIRPA	4
Molecular Transport	release of metal	8.07E-04	CCR5,CP,OSM,RGS1,SLC11A1,SPP1 (includes EG:100359743)	6
Cellular Development	proliferation of hepatoma cell lines	8.13E-04	CDKN1A,INHBA,OSM,SOCS3,SPP1 (includes EG:100359743)	5

Cellular Growth and Proliferation	proliferation of hepatoma cell lines	8.13E-04	CDKN1A,INHBA,OSM,SOCS3,SPP1 (includes EG:100359743)	5
Cellular Movement	transmigration of monocytes	8.24E-04	CCL7,CD47,SIRPA	3
Hematological System				
Development and Function	transmigration of monocytes	8.24E-04	CCL7,CD47,SIRPA	3
Immune Cell Trafficking	transmigration of monocytes	8.24E-04	CCL7,CD47,SIRPA	3
Inflammatory Response	transmigration of monocytes	8.24E-04	CCL7,CD47,SIRPA	3
Cellular Movement	transmigration of neutrophils	8.24E-04	CD47,SLPI,SOCS3	3
Hematological System				
Development and Function	transmigration of neutrophils	8.24E-04	CD47,SLPI,SOCS3	3
Immune Cell Trafficking	transmigration of neutrophils	8.24E-04	CD47,SLPI,SOCS3	3
Inflammatory Response	transmigration of neutrophils	8.24E-04	CD47,SLPI,SOCS3	3
Cell-To-Cell Signaling and Interaction				
	response of mononuclear leukocytes	8.26E-04	CASP1,CCR5,FSTL1,OSM,SOCS3,TNFRSF18	6
Cellular Movement	migration of monocytes	8.31E-04	CCL7,CD47,SIRPA,SPP1 (includes EG:100359743)	4
Hematological System				
Development and Function	migration of monocytes	8.31E-04	CCL7,CD47,SIRPA,SPP1 (includes EG:100359743)	4
Immune Cell Trafficking	migration of monocytes	8.31E-04	CCL7,CD47,SIRPA,SPP1 (includes EG:100359743)	4
Inflammatory Response	migration of monocytes	8.31E-04	CCL7,CD47,SIRPA,SPP1 (includes EG:100359743)	4
Inflammatory Response	inflammation of lung	8.33E-04	CASP1,CCR5,CD44,CIITA,PLAT,SELP,SPP1 (includes EG:100359743),THBS2	8
Respiratory Disease	inflammation of lung	8.33E-04	CASP1,CCR5,CD44,CIITA,PLAT,SELP,SPP1 (includes EG:100359743),THBS2	8
Cancer	melanoma	8.56E-04	CASP1,CD44,CXCL1,CXCR4,HIF1A,SAA1,SPP1 (includes EG:100359743)	7
Neurological Disease	Alzheimer's disease	8.59E-04	APOBEC1,CASP1,CFB,CHI3L1,CXCR4,HIF1A,NAV1,PLAT,SELP,SOAT1	10
Psychological Disorders	Alzheimer's disease	8.59E-04	APOBEC1,CASP1,CFB,CHI3L1,CXCR4,HIF1A,NAV1,PLAT,SELP,SOAT1	10
Cellular Movement	infiltration by mononuclear leukocytes	8.66E-04	CCR5,CD44,CIITA,OSM,SELP	5
Hematological System				
Development and Function	infiltration by mononuclear leukocytes	8.66E-04	CCR5,CD44,CIITA,OSM,SELP	5
Immune Cell Trafficking	infiltration by mononuclear leukocytes	8.66E-04	CCR5,CD44,CIITA,OSM,SELP	5
Cell-To-Cell Signaling and Interaction				
	signaling of cells	8.73E-04	BST2,CCL7,CD44,INHBA,INSL3,OSM,SIRPA	7
Nutritional Disease	weight loss	8.88E-04	CASP1,CD44,CDKN1A,SELP,SOCS3,SPP1 (includes EG:100359743)	6
Tissue Development	accumulation of tumor cell lines	8.93E-04	CDKN1A,OSM,SELP	3

Cellular Movement Immune Cell Trafficking Inflammatory Response	cell movement of bone marrow cells	8.93E-04	CD44,CXCR4,HIF1A	3
	cell movement of bone marrow cells	8.93E-04	CD44,CXCR4,HIF1A	3
	cell movement of bone marrow cells	8.93E-04	CD44,CXCR4,HIF1A	3
Hematopoiesis Cellular Movement Tissue Morphology Connective Tissue Development and Function Connective Tissue Disorders	cell movement of bone marrow cells	8.93E-04	CD44,CXCR4,HIF1A	3
	cell movement of stem cells	8.93E-04	CXCR4,HIF1A,SELP	3
	mass of epididymal fat	8.93E-04	CDKN1A,CEBPB (includes EG:1051),PTPN1	3
	mass of epididymal fat	8.93E-04	CDKN1A,CEBPB (includes EG:1051),PTPN1	3
	systemic lupus erythematosus	8.94E-04	CD44,CFB,SELP,SIRPA,SPP1 (includes EG:100359743)	5
Inflammatory Disease Skeletal and Muscular Disorders Immunological Disease Molecular Transport	systemic lupus erythematosus	8.94E-04	CD44,CFB,SELP,SIRPA,SPP1 (includes EG:100359743)	5
	systemic lupus erythematosus	8.94E-04	CD44,CFB,SELP,SIRPA,SPP1 (includes EG:100359743)	5
	systemic lupus erythematosus	8.94E-04	CD44,CFB,SELP,SIRPA,SPP1 (includes EG:100359743)	5
	accumulation of DNA	9.16E-04	HIF1A,OSM	2
	arrest in cell cycle progression of colon cancer cell lines	9.16E-04	CDKN1A,PADI4	2
Cell Cycle Cellular Movement	dissemination of tumor cells	9.16E-04	CD47,SLPI	2
Hematological System Development and Function Inflammatory Response Tissue Morphology	quantity of Langerhans cells	9.16E-04	CD47,SIRPA	2
	quantity of Langerhans cells	9.16E-04	CD47,SIRPA	2
	quantity of Langerhans cells	9.16E-04	CD47,SIRPA	2
Cellular Movement	trafficking of antigen presenting cells	9.16E-04	CCR5,CXCR4	2
Hematological System Development and Function Immune Cell Trafficking Cellular Movement	trafficking of antigen presenting cells	9.16E-04	CCR5,CXCR4	2
	trafficking of antigen presenting cells	9.16E-04	CCR5,CXCR4	2
	trafficking of phagocytes	9.16E-04	CCR5,CXCR4	2
Hematological System Development and Function Immune Cell Trafficking Inflammatory Response Connective Tissue Disorders Cancer Infectious Disease	trafficking of phagocytes	9.16E-04	CCR5,CXCR4	2
	trafficking of phagocytes	9.16E-04	CCR5,CXCR4	2
	trafficking of phagocytes	9.16E-04	CCR5,CXCR4	2
	tumorigenesis of fibroblasts	9.16E-04	CD44,CDKN1A	2
	tumorigenesis of fibroblasts	9.16E-04	CD44,CDKN1A	2
	viral entry by HIV-1	9.16E-04	CCR5,CXCR4	2
Gene Expression	binding of DNA	9.16E-04	CDKN1A,CEBPB (includes EG:1051),HIF1A,IER3,OSM,PTPN1,SLPI,SOAT1,SOCS3 ,SPP1 (includes EG:100359743)	10

Cell-To-Cell Signaling and Interaction	adhesion of cancer cells	9.66E-04	CD44,CD47,TGFBI	3
Tissue Development	adhesion of cancer cells	9.66E-04	CD44,CD47,TGFBI	3
Tumor Morphology	adhesion of cancer cells	9.66E-04	CD44,CD47,TGFBI	3
Cellular Compromise	adhesion of cancer cells	9.66E-04	CD44,CD47,TGFBI	3
Cellular Function and Maintenance	extension of plasma membrane projections	9.80E-04	CCR5,CD44,CDKN1A,INHBA,PLAT	5
Cell Morphology	extension of plasma membrane projections	9.80E-04	CCR5,CD44,CDKN1A,INHBA,PLAT	5
Cellular Assembly and Organization	extension of plasma membrane projections	9.80E-04	CCR5,CD44,CDKN1A,INHBA,PLAT	5
Cardiovascular Disease	hypertension	9.80E-04	CHRN1B,CXCR4,HIF1A,LRIG1,PLAT,PRELID2,SELP	7
Cellular Function and Maintenance	ion homeostasis of cells	9.85E-04	CASP1,CCL7,CCR5,CP,CXCL1,CXCR4,FPR2 (includes EG:100426968),HIF1A,SLC11A1	9
Cardiovascular System Development and Function	blood pressure	9.99E-04	CD44,CD47,HIF1A,IER3,PLAT,PTPN1,SPP1 (includes EG:100359743)	7
Molecular Transport	transport of divalent cations	1.01E-03	ATP2A3,CCR5,CORO1A,CP,NIPAL1	5
Cellular Development	proliferation of fibroblasts	1.02E-03	CD44,CDKN1A,CEBPB (includes EG:1051),HIF1A,OSM,PLAT,SOCS3	7
Cellular Growth and Proliferation	proliferation of fibroblasts	1.02E-03	CD44,CDKN1A,CEBPB (includes EG:1051),HIF1A,OSM,PLAT,SOCS3	7
Connective Tissue Development and Function	proliferation of fibroblasts	1.02E-03	CD44,CDKN1A,CEBPB (includes EG:1051),HIF1A,OSM,PLAT,SOCS3	7
Connective Tissue Disorders	polyarticular juvenile rheumatoid arthritis	1.04E-03	CEBPB (includes EG:1051),FPR2 (includes EG:100426968),OSM,S100A8	4
Inflammatory Disease	polyarticular juvenile rheumatoid arthritis	1.04E-03	CEBPB (includes EG:1051),FPR2 (includes EG:100426968),OSM,S100A8	4
Skeletal and Muscular Disorders	polyarticular juvenile rheumatoid arthritis	1.04E-03	CEBPB (includes EG:1051),FPR2 (includes EG:100426968),OSM,S100A8	4
Immunological Disease	polyarticular juvenile rheumatoid arthritis	1.04E-03	CEBPB (includes EG:1051),FPR2 (includes EG:100426968),OSM,S100A8	4
Cellular Movement	NK cell migration	1.04E-03	CCL7,CD44,SELP	3
Hematological System Development and Function	NK cell migration	1.04E-03	CCL7,CD44,SELP	3
Immune Cell Trafficking	NK cell migration	1.04E-03	CCL7,CD44,SELP	3
Cell-mediated Immune Response	NK cell migration	1.04E-03	CCL7,CD44,SELP	3
Tissue Development	acute inflammation of tissue	1.04E-03	CD44,SELP,SPP1 (includes EG:100359743)	3
Hematological System Development and Function	activation of phagocytes	1.06E-03	CCL7,CHI3L1,CXCL1,FPR2 (includes EG:100426968),SLC11A1,SLPI,SPP1 (includes EG:100359743)	7
Immune Cell Trafficking	activation of phagocytes	1.06E-03	CCL7,CHI3L1,CXCL1,FPR2 (includes EG:100426968),SLC11A1,SLPI,SPP1 (includes EG:100359743)	7

Inflammatory Response	activation of phagocytes	1.06E-03	CCL7,CHI3L1,CXCL1,FPR2 (includes EG:100426968),SLC11A1,SLPI,SPP1 (includes EG:100359743)	7
Cell-To-Cell Signaling and Interaction	activation of phagocytes	1.06E-03	CCL7,CHI3L1,CXCL1,FPR2 (includes EG:100426968),SLC11A1,SLPI,SPP1 (includes EG:100359743)	7
Cell Death and Survival	cell death of leukemia cell lines	1.06E-03	CCR5,CD47,CDKN1A,INHBA,MSN,S100A8,TNFRSF18	7
Cell Death and Survival	cell death of breast cancer cell lines	1.12E-03	CASP1,CD44,CD47,CDKN1A,DAB2,HIF1A,IER3	7
Cellular Movement	migration of melanoma cell lines	1.12E-03	MSN,RAP1GAP,SPP1 (includes EG:100359743)	3
Cellular Development	proliferation of embryonic stem cells	1.12E-03	CDKN1A,HIF1A,OSM	3
Cellular Growth and Proliferation	proliferation of embryonic stem cells	1.12E-03	CDKN1A,HIF1A,OSM	3
Embryonic Development	proliferation of embryonic stem cells	1.12E-03	CDKN1A,HIF1A,OSM	3
Tissue Morphology	abnormal morphology of cervical lymph node	1.14E-03	CDKN1A,SELP	2
Lymphoid Tissue Structure and Development	abnormal morphology of cervical lymph node	1.14E-03	CDKN1A,SELP	2
Organ Morphology	abnormal morphology of cervical lymph node	1.14E-03	CDKN1A,SELP	2
Hematological System Development and Function	activation of effector lymphocytes	1.14E-03	OSM,SLC11A1	2
Immune Cell Trafficking	activation of effector lymphocytes	1.14E-03	OSM,SLC11A1	2
Inflammatory Response	activation of effector lymphocytes	1.14E-03	OSM,SLC11A1	2
Cell-To-Cell Signaling and Interaction	activation of effector lymphocytes	1.14E-03	OSM,SLC11A1	2
Cell-To-Cell Signaling and Interaction	binding of extracellular matrix	1.14E-03	CD44,THBS2	2
Tissue Development	binding of extracellular matrix	1.14E-03	CD44,THBS2	2
Hematological System Development and Function	cell spreading of B lymphocytes	1.14E-03	CD47,SAMSN1	2
Cell Morphology	cell spreading of B lymphocytes	1.14E-03	CD47,SAMSN1	2
Humoral Immune Response	cell spreading of B lymphocytes	1.14E-03	CD47,SAMSN1	2
Cellular Development	differentiation of granulosa cells	1.14E-03	CEBPB (includes EG:1051),INHBA	2
Reproductive System Development and Function	differentiation of granulosa cells	1.14E-03	CEBPB (includes EG:1051),INHBA	2
Cellular Development	differentiation of pancreatic cancer cell lines	1.14E-03	CEBPB (includes EG:1051),INHBA	2
Infectious Disease	entrance of HIV-1	1.14E-03	CCR5,CXCR4	2
Cellular Growth and Proliferation	formation of syncytia	1.14E-03	CCR5,CXCR4	2

Cellular Function and Maintenance	function of astrocytes	1.14E-03	CCR5,CP	2
Immunological Disease	hypergammaglobulinemia	1.14E-03	CDKN1A,SIRPA	2
Hematological Disease	hypergammaglobulinemia	1.14E-03	CDKN1A,SIRPA	2
Cell Death and Survival	killing of breast cancer cell lines	1.14E-03	CD47,SIRPA	2
Cellular Movement	migration of oligodendrocyte precursor cells	1.14E-03	CXCL1,SEMA3F	2
Nervous System Development and Function	migration of oligodendrocyte precursor cells	1.14E-03	CXCL1,SEMA3F	2
Infectious Disease	salmonellosis	1.14E-03	CASP1,SLC11A1	2
Cellular Movement	transmigration of eosinophils	1.14E-03	CD47,SIRPA	2
Hematological System Development and Function	transmigration of eosinophils	1.14E-03	CD47,SIRPA	2
Immune Cell Trafficking	transmigration of eosinophils	1.14E-03	CD47,SIRPA	2
Hypersensitivity Response	transmigration of eosinophils	1.14E-03	CD47,SIRPA	2
Hematological System Development and Function	proliferation of hematopoietic progenitor cells	1.15E-03	CDKN1A,CEBPB (includes EG:1051),INHBA,SIRPA,SOCS3,SPP1 (includes EG:100359743)	6
Cellular Development	proliferation of hematopoietic progenitor cells	1.15E-03	CDKN1A,CEBPB (includes EG:1051),INHBA,SIRPA,SOCS3,SPP1 (includes EG:100359743)	6
Cellular Growth and Proliferation	proliferation of hematopoietic progenitor cells	1.15E-03	CDKN1A,CEBPB (includes EG:1051),INHBA,SIRPA,SOCS3,SPP1 (includes EG:100359743)	6
Hematopoiesis	proliferation of hematopoietic progenitor cells	1.15E-03	CDKN1A,CEBPB (includes EG:1051),INHBA,SIRPA,SOCS3,SPP1 (includes EG:100359743)	6
Cell Death and Survival	apoptosis of cardiomyocytes	1.17E-03	CASP1,FSTL1,HIF1A,INHBA,SOCS3	5
Hematological System Development and Function	binding of lymphocytes	1.18E-03	CD44,CD47,MSN,RAP1GAP	4
Cell-To-Cell Signaling and Interaction	binding of lymphocytes	1.18E-03	CD44,CD47,MSN,RAP1GAP	4
Hematological System Development and Function	quantity of granulocytes	1.18E-03	CD47,CDKN1A,FPR2 (includes EG:100426968),FUT4,S100A8,SELP,SOCS3	7
Tissue Morphology	quantity of granulocytes	1.18E-03	CD47,CDKN1A,FPR2 (includes EG:100426968),FUT4,S100A8,SELP,SOCS3	7
Cancer	metastasis	1.19E-03	CASP1,CD44,CD47,CDKN1A,CXCL1,CXCR4,DUSP6,HIF1A,PLAT,SPP1 (includes EG:100359743)	10

Supplementary Table 8: GSEA of *ETV1* Knockdown Profile in LNCaP Cells

NAME	SIZE	ES	NES	NOM p-val	FDR q-val	RANK AT MAX
FINETTI_BREAST_CANCER_KINOME_RED	16	-0.85	-2.54	0.00	0	0
EGUCHI_CELL_CYCLE_RB1_TARGETS	23	-0.84	-2.76	0.00	0	0
REACTOME_ACTIVATION_OF_THE_PRE_REPLICATIVE_COMPLEX	25	-0.83	-2.77	0.00	0	0
<i>HIERONYMUS AR SIGNATURE</i>	21	-0.80	-2.49	0.00	0	0
FARMER_BREAST_CANCER_CLUSTER_2	33	-0.79	-2.76	0.00	0	0
REACTOME_ACTIVATION_OF_ATR_IN_RESPONSE_TO_REPLICAT						
ION_STRESS	31	-0.79	-2.72	0.00	0	0
SMID_BREAST_CANCER_LUMINAL_A_DN	18	-0.78	-2.39	0.00	0	0
WHITFIELD_CELL_CYCLE_LITERATURE	44	-0.77	-2.98	0.00	0	0
KAMMINGA_EZH2_TARGETS	41	-0.77	-2.86	0.00	0	0
BURTON_ADIPOGENESIS_PEAK_AT_16HR	38	-0.77	-2.83	0.00	0	0
REACTOME_G1_S_SPECIFIC_TRANSCRIPTION	17	-0.76	-2.33	0.00	2.67E-05	0.003
KANG_DOXORUBICIN_RESISTANCE_UP	54	-0.76	-3.01	0.00	0	0
ISHIDA_E2F_TARGETS	53	-0.76	-3.00	0.00	0	0
GRAHAM_NORMAL_QUIESCENT_VS_NORMAL_DIVIDING_DN	87	-0.76	-3.33	0.00	0	0
YU_MYC_TARGETS_UP	42	-0.75	-2.87	0.00	0	0
REACTOME_G2_M_CHECKPOINTS	38	-0.75	-2.71	0.00	0	0
ZHAN_MULTIPLE_MYELOMA_PR_UP	45	-0.75	-2.84	0.00	0	0
FRASOR_RESPONSE_TO_SERM_OR_FULVESTRANT_DN	50	-0.75	-2.92	0.00	0	0
REACTOME_CYCLIN_A_B1_ASSOCIATED_EVENTS_DURING_G2_						
M_TRANSITION	15	-0.74	-2.14	0.00	6.14E-04	0.088
LY_AGING_MIDDLE_DN	16	-0.74	-2.18	0.00	3.65E-04	0.05
ZHANG_TLX_TARGETS_UP	85	-0.74	-3.22	0.00	0	0
REN_BOUND_BY_E2F	60	-0.73	-3.00	0.00	0	0
SCHLOSSER_MYC_TARGETS_AND_SERUM_RESPONSE_DN	45	-0.72	-2.71	0.00	0	0
CROONQUIST_IL6_DEPRIVATION_DN	95	-0.72	-3.16	0.00	0	0
REACTOME_DNA_STRAND_ELONGATION	29	-0.71	-2.50	0.00	0	0
SOTIRIOU_BREAST_CANCER_GRADE_1_VS_3_UP	144	-0.71	-3.41	0.00	0	0
CROONQUIST_NRAS_SIGNALING_DN	71	-0.71	-3.01	0.00	0	0
PUJANA_BREAST_CANCER_WITH_BRCA1_MUTATED_UP	53	-0.71	-2.81	0.00	0	0
SCIAN_CELL_CYCLE_TARGETS_OF_TP53_AND_TP73_DN	21	-0.71	-2.21	0.00	2.33E-04	0.03
SIMBULAN_PARP1_TARGETS_DN	17	-0.71	-2.14	0.00	6.26E-04	0.092
KONG_E2F3_TARGETS	94	-0.71	-3.13	0.00	0	0
CHANG_CYCLING_GENES	141	-0.70	-3.31	0.00	0	0
ROSTY_CERVICAL_CANCER_PROLIFERATION_CLUSTER	139	-0.69	-3.21	0.00	0	0
REACTOME_E2F_MEDIATED_REGULATION_OF_DNA_REPLICATI						
ON	28	-0.69	-2.34	0.00	1.79E-05	0.002
GREENBAUM_E2A_TARGETS_UP	33	-0.69	-2.42	0.00	0	0
ABRAMSON_INTERACT_WITH_AIRE	42	-0.68	-2.51	0.00	0	0
WANG_METASTASIS_OF_BREAST_CANCER_ESR1_UP	21	-0.68	-2.14	0.00	5.92E-04	0.085
BURTON_ADIPOGENESIS_3	100	-0.68	-3.08	0.00	0	0
KAUFFMANN_MELANOMA_RELAPSE_UP	58	-0.67	-2.70	0.00	0	0
BURTON_ADIPOGENESIS_PEAK_AT_24HR	40	-0.67	-2.50	0.00	0	0
ZHOU_CELL_CYCLE_GENES_IN_IR_RESPONSE_6HR	82	-0.66	-2.90	0.00	0	0
KOBAYASHI_EGFR_SIGNALING_24HR_DN	242	-0.66	-3.34	0.00	0	0
KEGG_DNA_REPLICATION	35	-0.66	-2.39	0.00	0	0
VERNELL_RETINOBLASTOMA_PATHWAY_UP	69	-0.66	-2.74	0.00	0	0
TANG_SENESCENCE_TP53_TARGETS_DN	56	-0.65	-2.63	0.00	0	0
SCHUHMACHER_MYC_TARGETS_UP	77	-0.65	-2.74	0.00	0	0
MOLENAAR_TARGETS_OF_CCND1_AND_CDK4_DN	54	-0.64	-2.54	0.00	0	0
OXFORD_RALA_OR_RALB_TARGETS_UP	48	-0.64	-2.47	0.00	0	0

ZHANG_TLX_TARGETS_60HR_DN	255	-0.64	-3.32	0.00	0	0
SONG_TARGETS_OF_IE86_CMV_PROTEIN	60	-0.64	-2.68	0.00	0	0
REICHERT_MITOSIS_LIN9_TARGETS	28	-0.64	-2.15	0.00	5.83E-04	0.083
LY_AGING_PREMATURE_DN	29	-0.64	-2.23	0.00	1.76E-04	0.022
MORI_LARGE_PRE_BII_LYMPHOCYTE_UP	83	-0.63	-2.74	0.00	0	0
WHITEFORD_PEDIATRIC_CANCER_MARKERS	116	-0.63	-2.89	0.00	0	0
ZHOU_CELL_CYCLE_GENES_IN_IR_RESPONSE_24HR	121	-0.63	-2.88	0.00	0	0
MISSIAGLIA_REGULATED_BY_METHYLATION_DN	112	-0.63	-2.84	0.00	0	0
MORI_IMMATURE_B_LYMPHOCYTE_DN	89	-0.62	-2.74	0.00	0	0
WU_APOPTOSIS_BY_CDKN1A_VIA_TP53	52	-0.62	-2.45	0.00	0	0
ZHANG_TLX_TARGETS_36HR_DN	176	-0.62	-2.99	0.00	0	0
PUJANA_BRCA_CENTERED_NETWORK	115	-0.62	-2.82	0.00	0	0
RHODES_UNDIFFERENTIATED_CANCER	68	-0.61	-2.55	0.00	0	0
GRAHAM_CML_DIVIDING_VS_NORMAL QUIESCENT_UP	177	-0.61	-2.94	0.00	0	0
FURUKAWA_DUSP6_TARGETS_PCI35_DN	68	-0.61	-2.52	0.00	0	0
MANALO_HYPOXIA_DN	270	-0.61	-3.06	0.00	0	0
GARGALOVIC_RESPONSE_TO_OXIDIZED_PHOSPHOLIPIDS_TURQ UOISE_DN	51	-0.61	-2.39	0.00	0	0
BENPORATH_PROLIFERATION	140	-0.60	-2.83	0.00	0	0
NAKAMURA_CANCER_MICROENVIRONMENT_DN	45	-0.59	-2.26	0.00	1.48E-04	0.018
DUTERTRE ESTRADIOL_RESPONSE_24HR_UP	309	-0.59	-3.06	0.00	0	0
WINNEPENNINGCKX_MELANOMA_METASTASIS_UP	150	-0.58	-2.83	0.00	0	0
WONG_EMBRYONIC_STEM_CELL_CORE	325	-0.58	-3.03	0.00	0	0
LEE_EARLY_T_LYMPHOCYTE_UP	98	-0.58	-2.58	0.00	0	0
YAMASHITA_LIVER_CANCER_WITH_EPCAM_UP	50	-0.56	-2.19	0.00	3.10E-04	0.042
PRAMOONJAGO_SOX4_TARGETS_DN	51	-0.56	-2.25	0.00	1.55E-04	0.018
ODONNELL_TARGETS_OF_MYC_AND_TFRC_DN	44	-0.56	-2.14	0.00	6.23E-04	0.09
MORI_PRE_BI_LYMPHOCYTE_UP	77	-0.56	-2.36	0.00	9.19E-06	0.001
REACTOME_DEPOSITION_OF_NEW_CENPA_CONTAINING_NUCL EOSOMES_AT_THE_CENTROMERE	59	-0.56	-2.25	0.00	1.75E-04	0.021
FUJII_YBX1_TARGETS_DN	197	-0.56	-2.78	0.00	0	0
SCHLOSSER_MYC_TARGETS_REPRESSED_BY_SERUM	152	-0.55	-2.63	0.00	0	0
RUIZ_TNC_TARGETS_DN	138	-0.55	-2.60	0.00	0	0
MARKEY_RB1_ACUTE_LOF_DN	216	-0.54	-2.73	0.00	0	0
DANG_REGULATED_BY_MYC_UP	67	-0.54	-2.24	0.00	1.73E-04	0.021
HESS_TARGETS_OF_HOXA9_AND_MEIS1_UP	62	-0.54	-2.20	0.00	2.68E-04	0.036
SARRIO_EPITHELIAL_MESENCHYMAL_TRANSITION_UP	166	-0.54	-2.58	0.00	0	0
HOFFMANN_LARGE_TO_SMALL_PRE_BII_LYMPHOCYTE_UP	156	-0.54	-2.57	0.00	0	0
SHEDDEN_LUNG_CANCER_POOR_SURVIVAL_A6	437	-0.54	-2.87	0.00	0	0
PUJANA_XPRSS_INT_NETWORK	161	-0.54	-2.63	0.00	0	0
REACTOME_G1_S_TRANSITION	103	-0.54	-2.39	0.00	0	0
FERREIRA_EWINGS_SARCOMA_UNSTABLE_VS_STABLE_UP	158	-0.53	-2.55	0.00	0	0
FERRANDO_T_ALL_WITH_MLL_ENL_FUSION_DN	84	-0.53	-2.29	0.00	9.42E-05	0.011
BIDUS_METASTASIS_UP	202	-0.52	-2.58	0.00	0	0
VEGF_A_UP.V1_DN	185	-0.52	-2.54	0.00	0	0
LE_EGR2_TARGETS_UP	105	-0.52	-2.36	0.00	0	0
MORI_MATURE_B_LYMPHOCYTE_DN	75	-0.52	-2.22	0.00	1.82E-04	0.023
REACTOME_MITOTIC_G1_G1_S_PHASES	127	-0.52	-2.40	0.00	0	0
GAVIN_FOXP3_TARGETS_CLUSTER_P6	88	-0.51	-2.21	0.00	2.43E-04	0.032
REACTOME_MITOTIC_PROMETAPHASE	85	-0.50	-2.17	0.00	4.25E-04	0.059
CHEMNITZ_RESPONSE_TO_PROSTAGLANDIN_E2_UP	134	-0.50	-2.37	0.00	0	0
REACTOME_MITOTIC_M_M_G1_PHASES	163	-0.50	-2.40	0.00	0	0
REACTOME_DNA_REPLICATION	182	-0.50	-2.38	0.00	0	0

LI_WILMS_TUMOR_VS_FETAL_KIDNEY_1_DN	160	-0.49	-2.34	0.00	2.70E-05	0.003
KEGG_CELL_CYCLE	118	-0.49	-2.24	0.00	1.72E-04	0.021
MUELLER_PLURINET	283	-0.49	-2.51	0.00	0	0
HORIUCHI_WTAP_TARGETS_DN	289	-0.49	-2.53	0.00	0	0
ODONNELL_TFRC_TARGETS_DN	130	-0.48	-2.25	0.00	1.69E-04	0.02
REACTOME_S_PHASE	100	-0.48	-2.17	0.00	4.35E-04	0.06
KARLSSON_TGFB1_TARGETS_UP	117	-0.48	-2.19	0.00	3.42E-04	0.046
GARCIA_TARGETS_OF_FLI1_AND_DAX1_DN	161	-0.48	-2.33	0.00	3.49E-05	0.004
REACTOME_CHROMOSOME_MAINTENANCE	115	-0.48	-2.18	0.00	3.61E-04	0.049
FOURNIER_ACINAR_DEVELOPMENT_LATE_2	265	-0.48	-2.42	0.00	0	0
LINDGREN_BLADDER_CANCER_CLUSTER_3_UP	312	-0.47	-2.46	0.00	0	0
REACTOME_CELL_CYCLE_CHECKPOINTS	112	-0.46	-2.14	0.00	6.31E-04	0.092
PUJANA_BRCA2_PCC_NETWORK	402	-0.46	-2.47	0.00	0	0
CHIANG_LIVER_CANCER_SUBCLASS_PROLIFERATION_UP	169	-0.46	-2.24	0.00	1.70E-04	0.021
REACTOME_CELL_CYCLE_MITOTIC	303	-0.46	-2.35	0.00	1.81E-05	0.002
VECCHI_GASTRIC_CANCER_EARLY_UP	406	-0.45	-2.40	0.00	0	0
WHITFIELD_CELL_CYCLE_G2	164	-0.45	-2.15	0.00	5.61E-04	0.079
BOYALT_LIVER_CANCER_SUBCLASS_G3_UP	186	-0.45	-2.21	0.00	2.31E-04	0.03
REACTOME_CELL_CYCLE	393	-0.44	-2.37	0.00	0	0
BLUM_RESPONSE_TO_SALIRASIB_DN	324	-0.44	-2.28	0.00	1.18E-04	0.014
MITSIADES_RESPONSE_TO_APLIDIN_DN	240	-0.43	-2.21	0.00	2.49E-04	0.033
WANG_RESPONSE_TO_GSK3_INHIBITOR_SB216763_DN	343	-0.43	-2.27	0.00	1.17E-04	0.014
RHEIN_ALL_GLUCOCORTICOID_THERAPY_DN	351	-0.43	-2.29	0.00	1.11E-04	0.013

Supplementary Table 8: GSEA of *ETV1* Knockdown Profile in LNCaP Cells

NAME	SIZE	ES	NES	NOM p-val	FDR q-val	RANK AT MAX
FINETTI_BREAST_CANCER_KINOME_RED	16	-0.85	-2.54	0.00	0	0
EGUCHI_CELL_CYCLE_RB1_TARGETS	23	-0.84	-2.76	0.00	0	0
REACTOME_ACTIVATION_OF_THE_PRE_REPLICATIVE_COMPLEX	25	-0.83	-2.77	0.00	0	0
<i>HIERONYMUS AR SIGNATURE</i>	21	-0.80	-2.49	0.00	0	0
FARMER_BREAST_CANCER_CLUSTER_2	33	-0.79	-2.76	0.00	0	0
REACTOME_ACTIVATION_OF_ATR_IN_RESPONSE_TO_REPLICAT						
ION_STRESS	31	-0.79	-2.72	0.00	0	0
SMID_BREAST_CANCER_LUMINAL_A_DN	18	-0.78	-2.39	0.00	0	0
WHITFIELD_CELL_CYCLE_LITERATURE	44	-0.77	-2.98	0.00	0	0
KAMMINGA_EZH2_TARGETS	41	-0.77	-2.86	0.00	0	0
BURTON_ADIPOGENESIS_PEAK_AT_16HR	38	-0.77	-2.83	0.00	0	0
REACTOME_G1_S_SPECIFIC_TRANSCRIPTION	17	-0.76	-2.33	0.00	2.67E-05	0.003
KANG_DOXORUBICIN_RESISTANCE_UP	54	-0.76	-3.01	0.00	0	0
ISHIDA_E2F_TARGETS	53	-0.76	-3.00	0.00	0	0
GRAHAM_NORMAL_QUIESCENT_VS_NORMAL_DIVIDING_DN	87	-0.76	-3.33	0.00	0	0
YU_MYC_TARGETS_UP	42	-0.75	-2.87	0.00	0	0
REACTOME_G2_M_CHECKPOINTS	38	-0.75	-2.71	0.00	0	0
ZHAN_MULTIPLE_MYELOMA_PR_UP	45	-0.75	-2.84	0.00	0	0
FRASOR_RESPONSE_TO_SERM_OR_FULVESTRANT_DN	50	-0.75	-2.92	0.00	0	0
REACTOME_CYCLIN_A_B1_ASSOCIATED_EVENTS_DURING_G2_						
M_TRANSITION	15	-0.74	-2.14	0.00	6.14E-04	0.088
LY_AGING_MIDDLE_DN	16	-0.74	-2.18	0.00	3.65E-04	0.05
ZHANG_TLX_TARGETS_UP	85	-0.74	-3.22	0.00	0	0
REN_BOUND_BY_E2F	60	-0.73	-3.00	0.00	0	0
SCHLOSSER_MYC_TARGETS_AND_SERUM_RESPONSE_DN	45	-0.72	-2.71	0.00	0	0
CROONQUIST_IL6_DEPRIVATION_DN	95	-0.72	-3.16	0.00	0	0
REACTOME_DNA_STRAND_ELONGATION	29	-0.71	-2.50	0.00	0	0
SOTIRIOU_BREAST_CANCER_GRADE_1_VS_3_UP	144	-0.71	-3.41	0.00	0	0
CROONQUIST_NRAS_SIGNALING_DN	71	-0.71	-3.01	0.00	0	0
PUJANA_BREAST_CANCER_WITH_BRCA1_MUTATED_UP	53	-0.71	-2.81	0.00	0	0
SCIAN_CELL_CYCLE_TARGETS_OF_TP53_AND_TP73_DN	21	-0.71	-2.21	0.00	2.33E-04	0.03
SIMBULAN_PARP1_TARGETS_DN	17	-0.71	-2.14	0.00	6.26E-04	0.092
KONG_E2F3_TARGETS	94	-0.71	-3.13	0.00	0	0
CHANG_CYCLING_GENES	141	-0.70	-3.31	0.00	0	0
ROSTY_CERVICAL_CANCER_PROLIFERATION_CLUSTER	139	-0.69	-3.21	0.00	0	0
REACTOME_E2F_MEDIATED_REGULATION_OF_DNA_REPLICATI						
ON	28	-0.69	-2.34	0.00	1.79E-05	0.002
GREENBAUM_E2A_TARGETS_UP	33	-0.69	-2.42	0.00	0	0
ABRAMSON_INTERACT_WITH_AIRE	42	-0.68	-2.51	0.00	0	0
WANG_METASTASIS_OF_BREAST_CANCER_ESR1_UP	21	-0.68	-2.14	0.00	5.92E-04	0.085
BURTON_ADIPOGENESIS_3	100	-0.68	-3.08	0.00	0	0
KAUFFMANN_MELANOMA_RELAPSE_UP	58	-0.67	-2.70	0.00	0	0
BURTON_ADIPOGENESIS_PEAK_AT_24HR	40	-0.67	-2.50	0.00	0	0
ZHOU_CELL_CYCLE_GENES_IN_IR_RESPONSE_6HR	82	-0.66	-2.90	0.00	0	0
KOBAYASHI_EGFR_SIGNALING_24HR_DN	242	-0.66	-3.34	0.00	0	0
KEGG_DNA_REPLICATION	35	-0.66	-2.39	0.00	0	0
VERNELL_RETINOBLASTOMA_PATHWAY_UP	69	-0.66	-2.74	0.00	0	0
TANG_SENESCENCE_TP53_TARGETS_DN	56	-0.65	-2.63	0.00	0	0
SCHUHMACHER_MYC_TARGETS_UP	77	-0.65	-2.74	0.00	0	0
MOLENAAR_TARGETS_OF_CCND1_AND_CDK4_DN	54	-0.64	-2.54	0.00	0	0
OXFORD_RALA_OR_RALB_TARGETS_UP	48	-0.64	-2.47	0.00	0	0

ZHANG_TLX_TARGETS_60HR_DN	255	-0.64	-3.32	0.00	0	0
SONG_TARGETS_OF_IE86_CMV_PROTEIN	60	-0.64	-2.68	0.00	0	0
REICHERT_MITOSIS_LIN9_TARGETS	28	-0.64	-2.15	0.00	5.83E-04	0.083
LY_AGING_PREMATURE_DN	29	-0.64	-2.23	0.00	1.76E-04	0.022
MORI_LARGE_PRE_BII_LYMPHOCYTE_UP	83	-0.63	-2.74	0.00	0	0
WHITEFORD_PEDIATRIC_CANCER_MARKERS	116	-0.63	-2.89	0.00	0	0
ZHOU_CELL_CYCLE_GENES_IN_IR_RESPONSE_24HR	121	-0.63	-2.88	0.00	0	0
MISSIAGLIA_REGULATED_BY_METHYLATION_DN	112	-0.63	-2.84	0.00	0	0
MORI_IMMATURE_B_LYMPHOCYTE_DN	89	-0.62	-2.74	0.00	0	0
WU_APOPTOSIS_BY_CDKN1A_VIA_TP53	52	-0.62	-2.45	0.00	0	0
ZHANG_TLX_TARGETS_36HR_DN	176	-0.62	-2.99	0.00	0	0
PUJANA_BRCA_CENTERED_NETWORK	115	-0.62	-2.82	0.00	0	0
RHODES_UNDIFFERENTIATED_CANCER	68	-0.61	-2.55	0.00	0	0
GRAHAM_CML_DIVIDING_VS_NORMAL QUIESCENT_UP	177	-0.61	-2.94	0.00	0	0
FURUKAWA_DUSP6_TARGETS_PCI35_DN	68	-0.61	-2.52	0.00	0	0
MANALO_HYPOXIA_DN	270	-0.61	-3.06	0.00	0	0
GARGALOVIC_RESPONSE_TO_OXIDIZED_PHOSPHOLIPIDS_TURQUOISE_DN	51	-0.61	-2.39	0.00	0	0
BENPORATH_PROLIFERATION	140	-0.60	-2.83	0.00	0	0
NAKAMURA_CANCER_MICROENVIRONMENT_DN	45	-0.59	-2.26	0.00	1.48E-04	0.018
DUTERTRE ESTRADIOL_RESPONSE_24HR_UP	309	-0.59	-3.06	0.00	0	0
WINNEPENNINGX_MELANOMA_METASTASIS_UP	150	-0.58	-2.83	0.00	0	0
WONG_EMBRYONIC_STEM_CELL_CORE	325	-0.58	-3.03	0.00	0	0
LEE_EARLY_T_LYMPHOCYTE_UP	98	-0.58	-2.58	0.00	0	0
YAMASHITA_LIVER_CANCER_WITH_EPCAM_UP	50	-0.56	-2.19	0.00	3.10E-04	0.042
PRAMOONJAGO_SOX4_TARGETS_DN	51	-0.56	-2.25	0.00	1.55E-04	0.018
ODONNELL_TARGETS_OF_MYC_AND_TFRC_DN	44	-0.56	-2.14	0.00	6.23E-04	0.09
MORI_PRE_BI_LYMPHOCYTE_UP	77	-0.56	-2.36	0.00	9.19E-06	0.001
REACTOME_DEPOSITION_OF_NEW_CENPA_CONTAINING_NUCLEOSOMES_AT_THE_CENTROMERE	59	-0.56	-2.25	0.00	1.75E-04	0.021
FUJII_YBX1_TARGETS_DN	197	-0.56	-2.78	0.00	0	0
SCHLOSSER_MYC_TARGETS_REPRESSED_BY_SERUM	152	-0.55	-2.63	0.00	0	0
RUIZ_TNC_TARGETS_DN	138	-0.55	-2.60	0.00	0	0
MARKEY_RB1_ACUTE_LOF_DN	216	-0.54	-2.73	0.00	0	0
DANG_REGULATED_BY_MYC_UP	67	-0.54	-2.24	0.00	1.73E-04	0.021
HESS_TARGETS_OF_HOXA9_AND_MEIS1_UP	62	-0.54	-2.20	0.00	2.68E-04	0.036
SARRIO_EPITHELIAL_MESENCHYMAL_TRANSITION_UP	166	-0.54	-2.58	0.00	0	0
HOFFMANN_LARGE_TO_SMALL_PRE_BII_LYMPHOCYTE_UP	156	-0.54	-2.57	0.00	0	0
SHEDDEN_LUNG_CANCER_POOR_SURVIVAL_A6	437	-0.54	-2.87	0.00	0	0
PUJANA_XPRSS_INT_NETWORK	161	-0.54	-2.63	0.00	0	0
REACTOME_G1_S_TRANSITION	103	-0.54	-2.39	0.00	0	0
FERREIRA_EWINGS_SARCOMA_UNSTABLE_VS_STABLE_UP	158	-0.53	-2.55	0.00	0	0
FERRANDO_T_ALL_WITH_MLL_ENL_FUSION_DN	84	-0.53	-2.29	0.00	9.42E-05	0.011
BIDUS_METASTASIS_UP	202	-0.52	-2.58	0.00	0	0
VEGF_A_UP.V1_DN	185	-0.52	-2.54	0.00	0	0
LE_EGR2_TARGETS_UP	105	-0.52	-2.36	0.00	0	0
MORI_MATURE_B_LYMPHOCYTE_DN	75	-0.52	-2.22	0.00	1.82E-04	0.023
REACTOME_MITOTIC_G1_G1_S_PHASES	127	-0.52	-2.40	0.00	0	0
GAVIN_FOXP3_TARGETS_CLUSTER_P6	88	-0.51	-2.21	0.00	2.43E-04	0.032
REACTOME_MITOTIC_PROMETAPHASE	85	-0.50	-2.17	0.00	4.25E-04	0.059
CHEMNITZ_RESPONSE_TO_PROSTAGLANDIN_E2_UP	134	-0.50	-2.37	0.00	0	0
REACTOME_MITOTIC_M_M_G1_PHASES	163	-0.50	-2.40	0.00	0	0
REACTOME_DNA_REPLICATION	182	-0.50	-2.38	0.00	0	0

LI_WILMS_TUMOR_VS_FETAL_KIDNEY_1_DN	160	-0.49	-2.34	0.00	2.70E-05	0.003
KEGG_CELL_CYCLE	118	-0.49	-2.24	0.00	1.72E-04	0.021
MUELLER_PLURINET	283	-0.49	-2.51	0.00	0	0
HORIUCHI_WTAP_TARGETS_DN	289	-0.49	-2.53	0.00	0	0
ODONNELL_TFRC_TARGETS_DN	130	-0.48	-2.25	0.00	1.69E-04	0.02
REACTOME_S_PHASE	100	-0.48	-2.17	0.00	4.35E-04	0.06
KARLSSON_TGFB1_TARGETS_UP	117	-0.48	-2.19	0.00	3.42E-04	0.046
GARCIA_TARGETS_OF_FLI1_AND_DAX1_DN	161	-0.48	-2.33	0.00	3.49E-05	0.004
REACTOME_CHROMOSOME_MAINTENANCE	115	-0.48	-2.18	0.00	3.61E-04	0.049
FOURNIER_ACINAR_DEVELOPMENT_LATE_2	265	-0.48	-2.42	0.00	0	0
LINDGREN_BLADDER_CANCER_CLUSTER_3_UP	312	-0.47	-2.46	0.00	0	0
REACTOME_CELL_CYCLE_CHECKPOINTS	112	-0.46	-2.14	0.00	6.31E-04	0.092
PUJANA_BRCA2_PCC_NETWORK	402	-0.46	-2.47	0.00	0	0
CHIANG_LIVER_CANCER_SUBCLASS_PROLIFERATION_UP	169	-0.46	-2.24	0.00	1.70E-04	0.021
REACTOME_CELL_CYCLE_MITOTIC	303	-0.46	-2.35	0.00	1.81E-05	0.002
VECCHI_GASTRIC_CANCER_EARLY_UP	406	-0.45	-2.40	0.00	0	0
WHITFIELD_CELL_CYCLE_G2	164	-0.45	-2.15	0.00	5.61E-04	0.079
BOYALT_LIVER_CANCER_SUBCLASS_G3_UP	186	-0.45	-2.21	0.00	2.31E-04	0.03
REACTOME_CELL_CYCLE	393	-0.44	-2.37	0.00	0	0
BLUM_RESPONSE_TO_SALIRASIB_DN	324	-0.44	-2.28	0.00	1.18E-04	0.014
MITSIADES_RESPONSE_TO_APLIDIN_DN	240	-0.43	-2.21	0.00	2.49E-04	0.033
WANG_RESPONSE_TO_GSK3_INHIBITOR_SB216763_DN	343	-0.43	-2.27	0.00	1.17E-04	0.014
RHEIN_ALL_GLUCOCORTICOID_THERAPY_DN	351	-0.43	-2.29	0.00	1.11E-04	0.013

Supplementary Table 8: GSEA of *ETV1* Knockdown Profile in LNCaP Cells

NAME	SIZE	ES	NES	NOM p-val	FDR q-val	RANK AT MAX
FINETTI_BREAST_CANCER_KINOME_RED	16	-0.85	-2.54	0.00	0	0
EGUCHI_CELL_CYCLE_RB1_TARGETS	23	-0.84	-2.76	0.00	0	0
REACTOME_ACTIVATION_OF_THE_PRE_REPLICATIVE_COMPLEX	25	-0.83	-2.77	0.00	0	0
<i>HIERONYMUS AR SIGNATURE</i>	21	-0.80	-2.49	0.00	0	0
FARMER_BREAST_CANCER_CLUSTER_2	33	-0.79	-2.76	0.00	0	0
REACTOME_ACTIVATION_OF_ATR_IN_RESPONSE_TO_REPLICAT						
ION_STRESS	31	-0.79	-2.72	0.00	0	0
SMID_BREAST_CANCER_LUMINAL_A_DN	18	-0.78	-2.39	0.00	0	0
WHITFIELD_CELL_CYCLE_LITERATURE	44	-0.77	-2.98	0.00	0	0
KAMMINGA_EZH2_TARGETS	41	-0.77	-2.86	0.00	0	0
BURTON_ADIPOGENESIS_PEAK_AT_16HR	38	-0.77	-2.83	0.00	0	0
REACTOME_G1_S_SPECIFIC_TRANSCRIPTION	17	-0.76	-2.33	0.00	2.67E-05	0.003
KANG_DOXORUBICIN_RESISTANCE_UP	54	-0.76	-3.01	0.00	0	0
ISHIDA_E2F_TARGETS	53	-0.76	-3.00	0.00	0	0
GRAHAM_NORMAL QUIESCENT_VS_NORMAL_DIVIDING_DN	87	-0.76	-3.33	0.00	0	0
YU_MYC_TARGETS_UP	42	-0.75	-2.87	0.00	0	0
REACTOME_G2_M_CHECKPOINTS	38	-0.75	-2.71	0.00	0	0
ZHAN_MULTIPLE_MYELOMA_PR_UP	45	-0.75	-2.84	0.00	0	0
FRASOR_RESPONSE_TO_SERM_OR_FULVESTRANT_DN	50	-0.75	-2.92	0.00	0	0
REACTOME_CYCLIN_A_B1_ASSOCIATED_EVENTS_DURING_G2_						
M_TRANSITION	15	-0.74	-2.14	0.00	6.14E-04	0.088
LY_AGING_MIDDLE_DN	16	-0.74	-2.18	0.00	3.65E-04	0.05
ZHANG_TLX_TARGETS_UP	85	-0.74	-3.22	0.00	0	0
REN_BOUND_BY_E2F	60	-0.73	-3.00	0.00	0	0
SCHLOSSER_MYC_TARGETS_AND_SERUM_RESPONSE_DN	45	-0.72	-2.71	0.00	0	0
CROONQUIST_IL6_DEPRIVATION_DN	95	-0.72	-3.16	0.00	0	0
REACTOME_DNA_STRAND_ELONGATION	29	-0.71	-2.50	0.00	0	0
SOTIRIOU_BREAST_CANCER_GRADE_1_VS_3_UP	144	-0.71	-3.41	0.00	0	0
CROONQUIST_NRAS_SIGNALING_DN	71	-0.71	-3.01	0.00	0	0
PUJANA_BREAST_CANCER_WITH_BRCA1_MUTATED_UP	53	-0.71	-2.81	0.00	0	0
SCIAN_CELL_CYCLE_TARGETS_OF_TP53_AND_TP73_DN	21	-0.71	-2.21	0.00	2.33E-04	0.03
SIMBULAN_PARP1_TARGETS_DN	17	-0.71	-2.14	0.00	6.26E-04	0.092
KONG_E2F3_TARGETS	94	-0.71	-3.13	0.00	0	0
CHANG_CYCLING_GENES	141	-0.70	-3.31	0.00	0	0
ROSTY_CERVICAL_CANCER_PROLIFERATION_CLUSTER	139	-0.69	-3.21	0.00	0	0
REACTOME_E2F_MEDIATED_REGULATION_OF_DNA_REPLICATI						
ON	28	-0.69	-2.34	0.00	1.79E-05	0.002
GREENBAUM_E2A_TARGETS_UP	33	-0.69	-2.42	0.00	0	0
ABRAMSON_INTERACT_WITH_AIRE	42	-0.68	-2.51	0.00	0	0
WANG_METASTASIS_OF_BREAST_CANCER_ESR1_UP	21	-0.68	-2.14	0.00	5.92E-04	0.085
BURTON_ADIPOGENESIS_3	100	-0.68	-3.08	0.00	0	0
KAUFFMANN_MELANOMA_RELAPSE_UP	58	-0.67	-2.70	0.00	0	0
BURTON_ADIPOGENESIS_PEAK_AT_24HR	40	-0.67	-2.50	0.00	0	0
ZHOU_CELL_CYCLE_GENES_IN_IR_RESPONSE_6HR	82	-0.66	-2.90	0.00	0	0
KOBAYASHI_EGFR_SIGNALING_24HR_DN	242	-0.66	-3.34	0.00	0	0
KEGG_DNA_REPLICATION	35	-0.66	-2.39	0.00	0	0
VERNELL_RETINOBLASTOMA_PATHWAY_UP	69	-0.66	-2.74	0.00	0	0
TANG_SENESCENCE_TP53_TARGETS_DN	56	-0.65	-2.63	0.00	0	0
SCHUHMACHER_MYC_TARGETS_UP	77	-0.65	-2.74	0.00	0	0
MOLENAAR_TARGETS_OF_CCND1_AND_CDK4_DN	54	-0.64	-2.54	0.00	0	0
OXFORD_RALA_OR_RALB_TARGETS_UP	48	-0.64	-2.47	0.00	0	0

ZHANG_TLX_TARGETS_60HR_DN	255	-0.64	-3.32	0.00	0	0
SONG_TARGETS_OF_IE86_CMV_PROTEIN	60	-0.64	-2.68	0.00	0	0
REICHERT_MITOSIS_LIN9_TARGETS	28	-0.64	-2.15	0.00	5.83E-04	0.083
LY_AGING_PREMATURE_DN	29	-0.64	-2.23	0.00	1.76E-04	0.022
MORI_LARGE_PRE_BII_LYMPHOCYTE_UP	83	-0.63	-2.74	0.00	0	0
WHITEFORD_PEDIATRIC_CANCER_MARKERS	116	-0.63	-2.89	0.00	0	0
ZHOU_CELL_CYCLE_GENES_IN_IR_RESPONSE_24HR	121	-0.63	-2.88	0.00	0	0
MISSIAGLIA_REGULATED_BY_METHYLATION_DN	112	-0.63	-2.84	0.00	0	0
MORI_IMMATURE_B_LYMPHOCYTE_DN	89	-0.62	-2.74	0.00	0	0
WU_APOPTOSIS_BY_CDKN1A_VIA_TP53	52	-0.62	-2.45	0.00	0	0
ZHANG_TLX_TARGETS_36HR_DN	176	-0.62	-2.99	0.00	0	0
PUJANA_BRCA_CENTERED_NETWORK	115	-0.62	-2.82	0.00	0	0
RHODES_UNDIFFERENTIATED_CANCER	68	-0.61	-2.55	0.00	0	0
GRAHAM_CML_DIVIDING_VS_NORMAL QUIESCENT_UP	177	-0.61	-2.94	0.00	0	0
FURUKAWA_DUSP6_TARGETS_PCI35_DN	68	-0.61	-2.52	0.00	0	0
MANALO_HYPOXIA_DN	270	-0.61	-3.06	0.00	0	0
GARGALOVIC_RESPONSE_TO_OXIDIZED_PHOSPHOLIPIDS_TURQ UOISE_DN	51	-0.61	-2.39	0.00	0	0
BENPORATH_PROLIFERATION	140	-0.60	-2.83	0.00	0	0
NAKAMURA_CANCER_MICROENVIRONMENT_DN	45	-0.59	-2.26	0.00	1.48E-04	0.018
DUTERTRE ESTRADIOL_RESPONSE_24HR_UP	309	-0.59	-3.06	0.00	0	0
WINNEPENNINGCKX_MELANOMA_METASTASIS_UP	150	-0.58	-2.83	0.00	0	0
WONG_EMBRYONIC_STEM_CELL_CORE	325	-0.58	-3.03	0.00	0	0
LEE_EARLY_T_LYMPHOCYTE_UP	98	-0.58	-2.58	0.00	0	0
YAMASHITA_LIVER_CANCER_WITH_EPCAM_UP	50	-0.56	-2.19	0.00	3.10E-04	0.042
PRAMOONJAGO_SOX4_TARGETS_DN	51	-0.56	-2.25	0.00	1.55E-04	0.018
ODONNELL_TARGETS_OF_MYC_AND_TFRC_DN	44	-0.56	-2.14	0.00	6.23E-04	0.09
MORI_PRE_BI_LYMPHOCYTE_UP	77	-0.56	-2.36	0.00	9.19E-06	0.001
REACTOME_DEPOSITION_OF_NEW_CENPA_CONTAINING_NUCL EOSOMES_AT_THE_CENTROMERE	59	-0.56	-2.25	0.00	1.75E-04	0.021
FUJII_YBX1_TARGETS_DN	197	-0.56	-2.78	0.00	0	0
SCHLOSSER_MYC_TARGETS_REPRESSED_BY_SERUM	152	-0.55	-2.63	0.00	0	0
RUIZ_TNC_TARGETS_DN	138	-0.55	-2.60	0.00	0	0
MARKEY_RB1_ACUTE_LOF_DN	216	-0.54	-2.73	0.00	0	0
DANG_REGULATED_BY_MYC_UP	67	-0.54	-2.24	0.00	1.73E-04	0.021
HESS_TARGETS_OF_HOXA9_AND_MEIS1_UP	62	-0.54	-2.20	0.00	2.68E-04	0.036
SARRIO_EPITHELIAL_MESENCHYMAL_TRANSITION_UP	166	-0.54	-2.58	0.00	0	0
HOFFMANN_LARGE_TO_SMALL_PRE_BII_LYMPHOCYTE_UP	156	-0.54	-2.57	0.00	0	0
SHEDDEN_LUNG_CANCER_POOR_SURVIVAL_A6	437	-0.54	-2.87	0.00	0	0
PUJANA_XPRSS_INT_NETWORK	161	-0.54	-2.63	0.00	0	0
REACTOME_G1_S_TRANSITION	103	-0.54	-2.39	0.00	0	0
FERREIRA_EWINGS_SARCOMA_UNSTABLE_VS_STABLE_UP	158	-0.53	-2.55	0.00	0	0
FERRANDO_T_ALL_WITH_MLL_ENL_FUSION_DN	84	-0.53	-2.29	0.00	9.42E-05	0.011
BIDUS_METASTASIS_UP	202	-0.52	-2.58	0.00	0	0
VEGF_A_UP.V1_DN	185	-0.52	-2.54	0.00	0	0
LE_EGR2_TARGETS_UP	105	-0.52	-2.36	0.00	0	0
MORI_MATURE_B_LYMPHOCYTE_DN	75	-0.52	-2.22	0.00	1.82E-04	0.023
REACTOME_MITOTIC_G1_G1_S_PHASES	127	-0.52	-2.40	0.00	0	0
GAVIN_FOXP3_TARGETS_CLUSTER_P6	88	-0.51	-2.21	0.00	2.43E-04	0.032
REACTOME_MITOTIC_PROMETAPHASE	85	-0.50	-2.17	0.00	4.25E-04	0.059
CHEMNITZ_RESPONSE_TO_PROSTAGLANDIN_E2_UP	134	-0.50	-2.37	0.00	0	0
REACTOME_MITOTIC_M_M_G1_PHASES	163	-0.50	-2.40	0.00	0	0
REACTOME_DNA_REPLICATION	182	-0.50	-2.38	0.00	0	0

LI_WILMS_TUMOR_VS_FETAL_KIDNEY_1_DN	160	-0.49	-2.34	0.00	2.70E-05	0.003
KEGG_CELL_CYCLE	118	-0.49	-2.24	0.00	1.72E-04	0.021
MUELLER_PLURINET	283	-0.49	-2.51	0.00	0	0
HORIUCHI_WTAP_TARGETS_DN	289	-0.49	-2.53	0.00	0	0
ODONNELL_TFRC_TARGETS_DN	130	-0.48	-2.25	0.00	1.69E-04	0.02
REACTOME_S_PHASE	100	-0.48	-2.17	0.00	4.35E-04	0.06
KARLSSON_TGFB1_TARGETS_UP	117	-0.48	-2.19	0.00	3.42E-04	0.046
GARCIA_TARGETS_OF_FLI1_AND_DAX1_DN	161	-0.48	-2.33	0.00	3.49E-05	0.004
REACTOME_CHROMOSOME_MAINTENANCE	115	-0.48	-2.18	0.00	3.61E-04	0.049
FOURNIER_ACINAR_DEVELOPMENT_LATE_2	265	-0.48	-2.42	0.00	0	0
LINDGREN_BLADDER_CANCER_CLUSTER_3_UP	312	-0.47	-2.46	0.00	0	0
REACTOME_CELL_CYCLE_CHECKPOINTS	112	-0.46	-2.14	0.00	6.31E-04	0.092
PUJANA_BRCA2_PCC_NETWORK	402	-0.46	-2.47	0.00	0	0
CHIANG_LIVER_CANCER_SUBCLASS_PROLIFERATION_UP	169	-0.46	-2.24	0.00	1.70E-04	0.021
REACTOME_CELL_CYCLE_MITOTIC	303	-0.46	-2.35	0.00	1.81E-05	0.002
VECCHI_GASTRIC_CANCER_EARLY_UP	406	-0.45	-2.40	0.00	0	0
WHITFIELD_CELL_CYCLE_G2	164	-0.45	-2.15	0.00	5.61E-04	0.079
BOYALT_LIVER_CANCER_SUBCLASS_G3_UP	186	-0.45	-2.21	0.00	2.31E-04	0.03
REACTOME_CELL_CYCLE	393	-0.44	-2.37	0.00	0	0
BLUM_RESPONSE_TO_SALIRASIB_DN	324	-0.44	-2.28	0.00	1.18E-04	0.014
MITSIADES_RESPONSE_TO_APLIDIN_DN	240	-0.43	-2.21	0.00	2.49E-04	0.033
WANG_RESPONSE_TO_GSK3_INHIBITOR_SB216763_DN	343	-0.43	-2.27	0.00	1.17E-04	0.014
RHEIN_ALL_GLUCOCORTICOID_THERAPY_DN	351	-0.43	-2.29	0.00	1.11E-04	0.013