

Supplemental data

Table 1: List of qPCR primers used in molecular analysis.

Gene name	Oligo sequence Forward (5' to 3')	Oligo sequence Reverse (5' to 3')
Tnf α	AAGTTCCCAAATGGCCTCCC	CACTTGGTGGTTTGCTACGA
Il1b	TGCCACCTTTTGACAGTGATG	ATGTGCTGCTGCGAGATTTG
Act17b	AGCGTTTCCAGAGGGAGTTG	CCGGTCCACACTGATGTCTT
Bmp3	TATGACAGGTACAGCGGCAG	TTCGTTTGAGGAGTTCCTGCG
Nacc1	ACATCACAAGGGCACAGCTT	GGCCAGTGTATTCCGGTCAA
Spink3	GGTGACTGGAAAAGAGGCTAGT	TGAGGACAGGCTCTATGCGT
Spink1	ACGAGCAGTAAGCACAGAGATTT	AGGAAGAAGCACCAAAGTCAG
Sprr1a	GCTCTTCTCTGAGTATTAGGACCA	GTTTTGGGGGCACAAGGTTT
Gjb2	CATTTTCGGACCAACCCAGGA	CTGGATGGTTGGCACTGTGT
Foxa1	AGGGTTGGATGGTTGTGTCTG	GAGTAGGCCTCCTGCGTGT
Ccl2	CACTCACCTGCTGCTACTCA	GCTTGGTGACAAAACTACAGC
Ccl7	CCCTGGGAAGCTGTTATCTTCA	ATAGCCTCCTCGACCCACTT
Ccl9	GCCAGATCACACATGCAAC	AGGACAGGCAGCAATCTGAA
Ccl3	CAGCCAGGTGTCATTTTCTGA	AGGCATTGAGTTCAGGTCA
Ccl6	GCTGGCCTCATAAAGAAATGG	TGTGGCATAAGAGAAGCAGCA
Ccl5	TGCTGCTTTGCCTACCTCTC	TCCTTCGAGTGACAAACACGA
Cxcl1	TGGCTGGGATTCACCTCAAG	AGTGTGGCTATGACTTCGGTT
Cxcl2	TGAACAAAGGCAAGGCTAACTG	CAGGTACGATCCAGGCTTCC
NFk β	GAGCAACCAAAACAGAGGGG	GCAGGCCCCACATAGTTGC
Socs1	CCGCCAGATGAGCCCAC	CCAACAGACCCCAAGGAGC
Socs3	TAGACTTCACGGCTGCCAAC	CGGGGAGCTAGTCCCGAA
IFN γ	GAGGAACTGGCAAAAGGATGG	TGTTGCTGATGGCCTGATTG
CD40	CCTGGACAAGCTGTGAGGATA	CCCCGAAAATGGTGATGAGG
CCR2	AGGAGCCATACCTGTAAATGCC	TGTGGTGAATCCAATGCCCT
F4/80	CACTTCCAAGATGGGTAAACATCC	CTGCCATCAACTCATGATACCCT
CD206	TGGAGGCTGATTACGAGCAG	TCCAGGTGAACCCCTCTGAA
CD163	GTGCTGGATCTCTGGTTGTA	GGAGCGTTAGTGACAGCAGA
CD11c	TGCTGTTGGGGTTTGTCTTCTG	CGAACTCAGCACCGTCCAT
β -actin	TTCAACACCCCAGCCATGTA	TGTGGTACGACCAGAGGCATAC
Gapdh	TGTCAAGCTCATTTCTGGTATG	GGCCTCTCTTGCTCAGTGTC
Ppia	TTCAACACCCCAGCCATGTA	TGTGGTACGACCAGAGGCATAC

Table 2: Full list of upregulated transcripts

Fold change	Gene Symbol	Description
4.285	Sly	Sycp3 like Y-linked (Sly), mRNA [NM_201530]
2.938	Actl7b	Actin-like 7b (Actl7b), mRNA [NM_025271]
2.911	Hist1h2bp	Histone cluster 1, H2bp (Hist1h2bp), mRNA [NM_178202]
2.598		mAb B.A.N4:4.57 V kappa region [mice, B cell hybridoma, BALB/c, mRNA, 300 nt]. [S60946]
2.569	Krt75	Keratin 75 (Krt75), mRNA [NM_133357]
2.558	Bmp3	Bone morphogenetic protein 3 (Bmp3), mRNA [NM_173404]
2.510	Nacc1	Nucleus accumbens associated 1, BEN and BTB (POZ) domain containing (Nacc1), mRNA [NM_025788]
2.435	Ccl2	Chemokine (C-C motif) ligand 2 (Ccl2), mRNA [NM_011333]
2.289	Ccl7	Chemokine (C-C motif) ligand 7 (Ccl7), mRNA [NM_013654]
2.289	Ccdc177	Coiled-coil domain containing 177 (Ccdc177), mRNA [NM_001008423]
2.283	Gjb4	Gap junction protein, beta 4 (Gjb4), mRNA [NM_008127]
2.282	Ptges	Prostaglandin E synthase (Ptges), mRNA [NM_022415]
2.231	Lin7b	Lin-7 homolog B (C. elegans) (Lin7b), mRNA [NM_011698]
2.226	Mefv	Mediterranean fever (Mefv), transcript variant 1, mRNA [NM_001161790]
2.223	Neurod2	Neurogenic differentiation 2 (Neurod2), mRNA [NM_010895]
2.219	Wnt7a	Wingless-related MMTV integration site 7A (Wnt7a), mRNA [NM_009527]
2.205	Vmn2r35	Vomerolateral 2, receptor 35 (Vmn2r35), mRNA [NM_001105067]
2.179	Cd59b	CD59b antigen (Cd59b), mRNA [NM_181858]
2.172	Zfp114	Zinc finger protein 114 [Source:MGI Symbol;Acc:MGI:3037815] [ENSMUST00000086010]
2.171	Ras1	RAS, dexamethasone-induced 1 (Ras1), mRNA [NM_009026]
2.157	Gdf3	Growth differentiation factor 3 (Gdf3), mRNA [NM_008108]
2.073	Mppe1	Metallophosphoesterase 1 (Mppe1), mRNA [NM_172630]
2.024	Ptcd4	13 days embryo head cDNA, RIKEN full-length enriched library, clone:3110082D06product:hypothetical protein, full insert sequence. [AK014270]
1.964	Dact2	Dapper homolog 2, antagonist of beta-catenin (xenopus) (Dact2), mRNA [NM_172826]
1.943	Chi31l	Chitinase 3-like 1 (Chi31l), mRNA [NM_007695]
1.941	Tcp10b	mRNA for t-Complex Tcp-10a gene. [X58170]
1.940	Nuf2	NUF2, NDC80 kinetochore complex component, homolog (S. cerevisiae) (Nuf2), mRNA [NM_023284]
1.928	Ccnb1	Cyclin B1 (Ccnb1), mRNA [NM_172301]
1.922	Fkbp11	FK506 binding protein 11 (Fkbp11), mRNA [NM_024169]
1.903	Krtap5-5	Keratin associated protein 5-5 (Krtap5-5), mRNA [NM_001037822]
1.901	Aanat	Arylalkylamine N-acetyltransferase [Source:MGI Symbol;Acc:MGI:1328365] [ENSMUST00000132601]
1.875	Glytk	Glycerate kinase (Glytk), transcript variant 1, mRNA [NM_174846]
1.872	Anks6	Ankyrin repeat and sterile alpha motif domain containing 6 (Anks6), mRNA [NM_001024136]
1.862	Vmn2r33	Vomerolateral 2, receptor33 (Vmn2r33), mRNA [NM_001105065]
1.852	Gas2l1	Growth arrest-specific 2 like 1 (Gas2l1), transcript variant beta, mRNA [NM_144560]
1.852	Il1b	Interleukin 1 beta (Il1b), mRNA [NM_008361]
1.852	Cyp2r1	Cytochrome P450, family 2, subfamily r, polypeptide 1 (Cyp2r1), mRNA [NM_177382]
1.852	Il3	Interleukin 3 (Il3), mRNA [NM_010556]
1.852	Sox14	SRY-box containing gene 14 (Sox14), mRNA [NM_011440]
1.852	Dstamp	Dendrocyte expressed seven transmembrane protein (Dstamp), mRNA [NM_029422]
1.851	Mefv	Mediterranean fever (Mefv), transcript variant 3, mRNA [NM_019453]
1.845	Ctxn2	Cortexin 2 (Ctxn2), mRNA [NM_001162934]
1.843	Hsd3b2	hydroxy-delta-5-steroid dehydrogenase, 3 beta- and steroid delta-isomerase 2 [Source:MGI Symbol;Acc:MGI:96234] [ENSMUST00000107022]
1.827	Krtap12-1	Keratin associated protein 12-1 (Krtap12-1), mRNA [NM_010670]
1.822	Gucy2f	Guanylate cyclase 2f (Gucy2f), mRNA [NM_001007576]
1.805	Nacc2	Nucleus accumbens associated 2, BEN and BTB (POZ) domain containing (Nacc2), transcript variant 2, mRNA [NM_001037098]
1.792	Fam69b	Family with sequence similarity 69, member B (Fam69b), mRNA [NM_019833]
1.788	Spc25	SPC25, NDC80 kinetochore complex component, homolog (S. cerevisiae) (Spc25), transcript variant 1, mRNA [NM_001199123]
1.778	H2-Q4	Histocompatibility 2, Q region locus 4 (H2-Q4), mRNA [NM_001143689]
1.768	Ifttd1	Intermediate filament tail domain containing 1 (Ifttd1), mRNA [NM_028742]
1.768	Nei3	nei like 3 (E. coli) (Nei3), mRNA [NM_146208]
1.756	Cnga2	Cyclic nucleotide gated channel alpha 2 (Cnga2), mRNA [NM_007724]
1.754	Pcdhb12	Protocadherin beta 12 (Pcdhb12), mRNA [NM_053137]
1.749	Mroh1	Maestro heat-like repeat family member 1 (Mroh1), transcript variant 2, mRNA [NM_001162489]
1.749	Maged2	melanoma antigen, family D, 2 [Source:MGI Symbol;Acc:MGI:1933391] [ENSMUST00000026302]
1.742	Fut7	Fucosyltransferase 7 (Fut7), transcript variant 1, mRNA [NM_013524]
1.741	Zbtbd6	Kelch repeat and BTB (POZ) domain containing 6 (Zbtbd6), mRNA [NM_001034882]
1.734	Lrriq3	Leucine-rich repeats and IQ motif containing 3 (Lrriq3), mRNA [NM_028938]
1.730	Vmn2r35	Vomerolateral 2, receptor 35 (Vmn2r35), mRNA [NM_001105067]
1.723	Acly	ATP citrate lyase (Acly), transcript variant 2, mRNA [NM_134037]
1.721	Gm5464	Predicted gene 5464 (Gm5464), mRNA [NM_001034881]
1.715	Niacr1	Niacin receptor 1 (Niacr1), mRNA [NM_030701]
1.709	Cd247	CD247 antigen (Cd247), transcript variant eta, mRNA [NM_031162]
1.701	Padi3	Peptidyl arginine deiminase, type III (Padi3), mRNA [NM_011060]
1.694	Cenpm	Centromere protein M (Cenpm), transcript variant 2, mRNA [NM_178269]
1.694	Cyp19a1	Cytochrome P450, family 19, subfamily a, polypeptide 1 (Cyp19a1), mRNA [NM_007810]
1.693	Gadd45a	Growth arrest and DNA-damage-inducible 45 alpha (Gadd45a), mRNA [NM_007836]
1.692	Nt5dc2	5'-nucleotidase domain containing 2 (Nt5dc2), mRNA [NM_027289]
1.690	Atxn7l2	Ataxin 7-like 2 (Atxn7l2), mRNA [NM_175183]
1.689	Sfi1	Sfi1 homolog, spindle assembly associated (yeast) (Sfi1), mRNA [NM_030207]
1.679	Med28	Mediator of RNA polymerase II transcription, subunit 28 homolog (yeast) (Med28), mRNA [NM_025895]
1.679	Trpv1	Transient receptor potential cation channel, subfamily V, member 1 (Trpv1), mRNA [NM_001001445]
1.670	Med9os	Med9 opposite strand transcript (Med9os), long non-coding RNA [NR_045273]
1.668	Dmc1	DMC1 dosage suppressor of mck1 homolog, meiosis-specific homologous recombination (Dmc1), transcript variant 1, mRNA [NM_010059]

1.667	Skor1	SKI family transcriptional corepressor 1 (Skor1), transcript variant 1, mRNA [NM_172446]
1.664	Gcn11	Core2-GlcNAc-transferase (C2-GnT) mRNA, complete cds. [U19265]
1.660	Tnf	Tumor necrosis factor (Tnf), transcript variant 1, mRNA [NM_013693]
1.655	Gfra4	Glial cell line derived neurotrophic factor family receptor alpha 4 (Gfra4), transcript variant 4, mRNA [NM_001271002]
1.651	Rprml	Reprimo-like (Rprml), mRNA [NM_001033212]
1.649	Slc5a3	Solute carrier family 5 (inositol transporters), member 3 (Slc5a3), mRNA [NM_017391]
1.646	Dtl	Denticleless homolog (Drosophila) (Dtl), mRNA [NM_029766]
1.640	Tk1	thymidine kinase 1 [Source:MGI Symbol:Acc:MGI:98763] [ENSMUST00000153298]
1.632	Chad1	Chondroadherin-like (Chad1), mRNA [NM_001164320]
1.627	Dctd	dCMP deaminase (Dctd), transcript variant 1, mRNA [NM_178788]
1.625	Azin1	Antizyme inhibitor 1 (Azin1), transcript variant 2, mRNA [NM_018745]
1.622	Ssrp1	Structure specific recognition protein 1 (Ssrp1), transcript variant 1, mRNA [NM_182990]
1.618	Dppa5a	Developmental pluripotency associated 5A (Dppa5a), mRNA [NM_025274]
1.617	Gm13710	Predicted gene 13710 (Gm13710), long non-coding RNA [NR_046046]
1.617	Il18r1	Interleukin 18 receptor 1 (Il18r1), transcript variant 2, mRNA [NM_001161842]
1.609	Mageh1	Melanoma antigen, family H, 1 (Mageh1), mRNA [NM_023788]
1.597	Actg1	Actin, gamma, cytoplasmic 1 (Actg1), mRNA [NM_009609]
1.595	Lrrc3	Leucine rich repeat containing 3 (Lrrc3), mRNA [NM_145152]
1.589	Btk	Brutonagammaglobulinemia tyrosine kinase (Btk), mRNA [NM_013482] ES cells cDNA, RIKEN full-length enriched library, clone:C330016E03 product:SRCRB-S4D PROTEIN homolog [Homo sapiens], full insert sequence. [AK082786]
1.588	Srcrb4d	
1.587	Prdm10	PR domain containing 10 [Source:MGI Symbol:Acc:MGI:2682952] [ENSMUST00000136144]
1.585	Recql4	RecQ protein-like 4 (Recql4), mRNA [NM_058214]
1.580	Mtus2	Microtubule associated tumor suppressor candidate 2 (Mtus2), mRNA [NM_029920]
1.578	Kctd11	Potassium channel tetramerisation domain containing 11 (Kctd11), mRNA [NM_153143]
1.578	Fgf21	Fibroblast growth factor 21 (Fgf21), mRNA [NM_020013]
1.576	Cenpn	Centromere protein N (Cenpn), mRNA [NM_028131]
1.569	Olfir821	Olfactory receptor 821 (Olfir821), mRNA [NM_146776]
1.566	Uxs1	UDP-glucuronate decarboxylase 1 (Uxs1), mRNA [NM_026430]
1.560	Bcl11a	B cell CLL/lymphoma 11A (zinc finger protein) (Bcl11a), transcript variant 4, mRNA [NM_001242934]
1.555	Gins2	GINS complex subunit 2 (Psf2 homolog) (Gins2), mRNA [NM_178856]
1.554	Cybrd1	Cytochrome b reductase 1 (Cybrd1), mRNA [NM_028593]
1.549	Sgcz	Sarcoglycan zeta (Sgcz), mRNA [NM_145841]
1.525	Kif4	Kinesin family member 4 (Kif4), mRNA [NM_008446]
1.525	Morf4l2	Mortality factor 4 like 2 (Morf4l2), transcript variant 2, mRNA [NM_001168225]
1.523	Cenph	Centromere protein H (Cenph), mRNA [NM_021886]
1.519	Jph3	Junctophilin 3 (Jph3), mRNA [NM_020605]
1.515	Pgpep1	Pyroglutamyl-peptidase I (Pgpep1), mRNA [NM_023217]
1.510	Tmco3	Transmembrane and coiled-coil domains 3 (Tmco3), mRNA [NM_172282]
1.506	Spag5	Sperm associated antigen 5 (Spag5), mRNA [NM_017407]
1.504	Mutyh	Adenine-DNA glycosylase mRNA, complete cds. [AY007717]
1.502	Cd300e	CD300e antigen (Cd300e), mRNA [NM_172050]
1.500	Slc29a3	Solute carrier family 29 (nucleoside transporters), member 3 (Slc29a3), mRNA [NM_023596]
1.467	Xkr5	X Kell blood group precursor-related family, member 5 (Xkr5), transcript variant 2, mRNA [NM_176951]
1.458	Gsted	Glutathione S-transferase, C-terminal domain containing (Gsted), mRNA [NM_026231]
1.454	Tssc1	Tumor suppressing subtransferable candidate 1 (Tssc1), mRNA [NM_201357]
1.445	Dzip1	DAZ interacting protein 1 (Dzip1), mRNA [NM_025943]
1.413	Bpifb6	BPI fold containing family B, member 6 (Bpifb6), mRNA [NM_199303]
1.392	Pgbd1	PiggyBac transposable element derived 1 (Pgbd1), transcript variant 1, mRNA [NM_001162919]

Table 3: Full list of downregulated transcripts

Fold change	Gene Symbol	Gene Description
24.76	Spink3	Serine peptidase inhibitor, Kazal type 3 (Spink3), mRNA [NM_009258]
11.25	Spinkl	Serine protease inhibitor, Kazal type-like (Spinkl), mRNA [NM_183123]
9.46	Sprr1a	Small proline-rich protein 1A (Sprr1a), mRNA [NM_009264]
8.87	Gsdma	Gasdermin A (Gsdma), mRNA [NM_021347]
8.22	Foxa1	Forkhead box A1 (Foxa1), mRNA [NM_008259]
5.29	Gjb2	Gap junction protein, beta 2 (Gjb2), mRNA [NM_008125]
3.65	Fam3b	Family with sequence similarity 3, member B (Fam3b), mRNA [NM_020622]
3.23	Cyp2c37	Cytochrome P450, family 2, subfamily c, polypeptide 37 (Cyp2c37), mRNA [NM_010001]
3.15	Tnnt2	Troponin T2, cardiac (Tnnt2), transcript variant 9, mRNA [NM_011619]
3.12	Ankrd1	Ankyrin repeat domain 1 (cardiac muscle) (Ankrd1), mRNA [NM_013468]
3.06	Iglv1	Clone 46s58 immunoglobulin lambda chain mRNA, partial cds. [AY170578]
2.80	Upb1	Ureidopropionase, beta (Upb1), mRNA [NM_133995]
2.71	Fam25c	Family with sequence similarity 25, member C (Fam25c), mRNA [NM_183278]
2.68	Pla2g12b	Phospholipase A2, group XIIb (Pla2g12b), mRNA [NM_023530]
2.46	Igf2	Insulin-like growth factor binding protein 2 (Igf2), mRNA [NM_008342]
2.41	Pitx2	Paired-like homeodomain transcription factor 2 (Pitx2), transcript variant 3, mRNA [NM_001042502]
2.04	Ces2b	Carboxyesterase 2B (Ces2b), mRNA [NM_198171]
1.99	Mns1	Meiosis-specific nuclear structural protein 1 (Mns1), mRNA [NM_008613]
1.88	Dixdc1	DIX domain containing 1 (Dixdc1), mRNA [NM_178118]
1.87	Pik3c2b	Bromodomain and WD repeat domain containing 1 (Pik3c2b), mRNA [NM_001099276]
1.81	Abcg5	ATP-binding cassette, sub-family G (WHITE), member 5 (Abcg5), mRNA [NM_031884]
1.77	Ddit4	DNA-damage-inducible transcript 4 (Ddit4), mRNA [NM_029083]
1.72	Amica1	Adhesion molecule, interacts with CXADR antigen 1 (Amica1), mRNA [NM_001005421]
1.71	Slc4a4	Solute carrier family 4 (anion exchanger), member 4 (Slc4a4), transcript variant 1, mRNA [NM_018760]
1.68	Slc4a4	Solute carrier family 4 (anion exchanger), member 4 (Slc4a4), transcript variant 1, mRNA [NM_018760]
1.68	Igf2	Insulin-like growth factor 2 (Igf2), transcript variant 1, mRNA [NM_010514]
1.67	Cyp2f2	Cytochrome P450, family 2, subfamily f, polypeptide 2 (Cyp2f2), mRNA [NM_007817]
1.66	Brwd1	Bromodomain and WD repeat domain containing 1 (Brwd1), transcript variant 2, mRNA [NM_001103179]
1.65	Wnt9b	Wingless-type MMTV integration site 9B (Wnt9b), mRNA [NM_011719]
1.64	Sgk1	Serum/glucocorticoid regulated kinase 1 (Sgk1), transcript variant 1, mRNA [NM_001161845]
1.63	Trp53inp1	Transformation related protein 53 inducible nuclear protein 1 (Trp53inp1), transcript variant 1, mRNA [NM_021897]
1.61	Fam180a	Family with sequence similarity 180, member A (Fam180a), mRNA [NM_173375]
1.61	Abcb4	ATP-binding cassette, sub-family B (MDR/TAP), member 4 (Abcb4), mRNA [NM_008830]
1.59	Cryaa	Crystallin, alpha A (Cryaa), transcript variant 1, mRNA [NM_001278569]
1.58	Vmn1r217	Vomer nasal 1 receptor 217 (Vmn1r217), mRNA [NM_134239]
1.57	Olf190	Olfactory receptor 190 (Olf190), mRNA [NM_146397]
1.57	Gaa	Glucosidase, alpha, acid [Source:MGI Symbol;Acc:MGI:95609] [ENSMUST00000106258]
1.56	Kitl	Kit ligand (Kitl), mRNA [NM_013598]
1.56	Plcx2	Phosphatidylinositol-specific phospholipase C, X domain containing 2 (Plcx2), mRNA [NM_001134480]
1.54	Gnrhr	Gonadotropin releasing hormone receptor (Gnrhr), mRNA [NM_010323]
1.53	Akap13	A kinase (PRKA) anchor protein 13 (Akap13), mRNA [NM_029332]
1.52	Cyp2d11	Cytochrome P450, family 2, subfamily d, polypeptide 11 (Cyp2d11), mRNA [NM_001104531]
1.51	Col1a1	Collagen, type I, alpha 1 (Col1a1), mRNA [NM_007742]
1.50	Tead1	TEA domain family member 1 (Tead1), transcript variant 1, mRNA [NM_001166584]
1.50	Slc12a2	Solute carrier family 12, member 2 (Slc12a2), mRNA [NM_009194]
1.50	Wdr92	WD repeat domain 92 (Wdr92), mRNA [NM_178909]
1.49	Il31ra	Interleukin 31 receptor A (Il31ra), mRNA [NM_139299]
1.47	Fam107a	Family with sequence similarity 107, member A (Fam107a), mRNA [NM_183187]
1.46	H2-M9	Histocompatibility 2, M region locus 9 (H2-M9), mRNA [NM_008205]
1.45	Il2rb	Interleukin 2 receptor, beta chain (Il2rb), mRNA [NM_008368]
1.44	Scrt2	Scratch homolog 2, zinc finger protein (Drosophila) (Scrt2), mRNA [NM_001160410]
1.43	Npnt	Nephronectin (Npnt), transcript variant 1, mRNA [NM_033525]
1.38	Sord	Sorbitol dehydrogenase (Sord), mRNA [NM_146126]

Table 4: Ingenuity Pathway Analysis enriched with upregulated transcripts.

Ingenuity Canonical Pathways	p-value	Molecules
Graft-versus-Host Disease Signaling	2.14E-03	HLA-B,IL1B,TNF
Type I Diabetes Mellitus Signaling	3.09E-03	CD247,HLA-B,IL1B,TNF
Agranulocyte Adhesion and Diapedesis	3.72E-03	CCL7,Ccl2,IL1B,TNF,ACTG1
TREM1 Signaling	4.37E-03	CCL7,IL1B,TNF
Differential Regulation of Cytokine Production in Macrophages and T Helper Cells by IL-17A and IL-17F	4.37E-03	IL1B,TNF
Acetyl-CoA Biosynthesis III (from Citrate)	5.50E-03	ACLY
Differential Regulation of Cytokine Production in Intestinal Epithelial Cells by IL-17A and IL-17F	7.24E-03	IL1B,TNF
Role of Osteoblasts, Osteoclasts and Chondrocytes in Rheumatoid Arthritis	7.76E-03	WNT7A,BMP3,IL1B,TNF,IL18R1
UDP-D-xylose and UDP-D-glucuronate Biosynthesis	0.01	UXS1
FXR/RXR Activation	0.01	CYP19A1,IL1B,TNF
Crosstalk between Dendritic Cells and Natural Killer Cells	0.01	HLA-B,TNF,ACTG1
Communication between Innate and Adaptive Immune Cells	0.01	HLA-B,IL1B,TNF
Granulocyte Adhesion and Diapedesis	0.02	CCL7,Ccl2,IL1B,TNF
Airway Inflammation in Asthma	0.02	TNF
1,25-dihydroxyvitamin D3 Biosynthesis	0.02	CYP2R1
Role of Hypercytokinemia/hyperchemokineemia in the Pathogenesis of Influenza	0.03	IL1B,TNF
MSP-ROn Signaling Pathway	0.03	TNF,ACTG1
Role of IL-17F in Allergic Inflammatory Airway Diseases	0.03	CCL7,IL1B
IL-6 Signaling	0.03	CYP19A1,IL1B,TNF
Protein Citrullination	0.03	PADI3
LXR/RXR Activation	0.03	CCL7,IL1B,TNF
Serotonin and Melatonin Biosynthesis	0.03	AANAT
Systemic Lupus Erythematosus Signaling	0.04	CD247,HLA-B,IL1B,TNF
Role of Cytokines in Mediating Communication between Immune Cells	0.04	IL1B,TNF
Airway Pathology in Chronic Obstructive Pulmonary Disease	0.04	TNF
Prostanoid Biosynthesis	0.05	PTGES
Salvage Pathways of Pyrimidine Deoxyribonucleotides	0.05	TK1
IL-10 Signaling	0.05	IL1B,TNF

Table 5: Ingenuity Pathway Analysis enriched with downregulated transcripts.

Ingenuity Canonical Pathways	p-value	Molecules
Bupropion Degradation	4.57E-05	CYP2D6,CYP2F1,CYP2C18
Acetone Degradation I (to Methylglyoxal)	5.13E-05	CYP2D6,CYP2F1,CYP2C18
Estrogen Biosynthesis	1.45E-04	CYP2D6,CYP2F1,CYP2C18
Nicotine Degradation III	3.72E-04	CYP2D6,CYP2F1,CYP2C18
Melatonin Degradation I	4.37E-04	CYP2D6,CYP2F1,CYP2C18
Superpathway of Melatonin Degradation	5.62E-04	CYP2D6,CYP2F1,CYP2C18
Nicotine Degradation II	5.89E-04	CYP2D6,CYP2F1,CYP2C18
Aldosterone Signaling in Epithelial Cells	7.59E-04	PIK3C2B,SGK1,SLC12A2,CRYAA
FXR/RXR Activation	1.62E-03	ABCG5,ABCB4,FOXA1
Sorbitol Degradation I	2.69E-03	SORD
Glioblastoma Multiforme Signaling	7.24E-03	PIK3C2B,IGF2,WNT9B
IL-2 Signaling	8.91E-03	PIK3C2B,IL2RB
Uracil Degradation II (Reductive)	0.01	UPB1
Thymine Degradation	0.01	UPB1
IL-15 Signaling	0.01	PIK3C2B,IL2RB
Role of JAK1 and JAK3 in \hat{I}^3c Cytokine Signaling	0.01	PIK3C2B,IL2RB
Growth Hormone Signaling	0.01	PIK3C2B,IGF2
VEGF Family Ligand-Receptor Interactions	0.02	PIK3C2B,PLA2G12B
Acute Myeloid Leukemia Signaling	0.02	KITLG,PIK3C2B
Role of Osteoblasts, Osteoclasts and Chondrocytes in Rheumatoid Arthritis	0.02	COL1A1,PIK3C2B,WNT9B
Melanocyte Development and Pigmentation Signaling	0.02	KITLG,PIK3C2B
Glioma Signaling	0.03	PIK3C2B,IGF2
IGF-1 Signaling	0.03	PIK3C2B,IGFBP2
p53 Signaling	0.03	PIK3C2B,TP53INP1
Telomerase Signaling	0.03	PIK3C2B,IL2RB
Hematopoiesis from Multipotent Stem Cells	0.03	KITLG
Glycogen Degradation III	0.03	GAA
iCOS-iCOSL Signaling in T Helper Cells	0.03	PIK3C2B,IL2RB
Fc Epsilon RI Signaling	0.03	PIK3C2B,PLA2G12B
Role of NANOG in Mammalian Embryonic Stem Cell Pluripotency	0.04	PIK3C2B,WNT9B
CCR3 Signaling in Eosinophils	0.04	PIK3C2B,PLA2G12B
IL-6 Signaling	0.04	COL1A1,PIK3C2B
Sperm Motility	0.04	SLC12A2,PLA2G12B
Atherosclerosis Signaling	0.04	COL1A1,PLA2G12B
Insulin Receptor Signaling	0.05	PIK3C2B,SGK1
Ovarian Cancer Signaling	0.05	PIK3C2B,WNT9B
Human Embryonic Stem Cell Pluripotency	0.05	PIK3C2B,WNT9B
Hepatic Cholestasis	0.05	ABCG5,ABCB4