

1β+IFN-γ-induced alternative spliced genes performed by Ingenuity Pathway Analysis

High-level Categories	Function annotation	B-H P-value	Molecular and Cellular Functions		# Molecules
				Molecules	
Cellular Movement	migration of eukaryotic cells	1.43E-06	ACAN, ACVR1, ACVRL1, ADAM15, ADAM17, ANXA2, APOE, ARHGAP8, ARHGAP24, ARNT, ARRB1, ARX, B4GALT1, BAI1, BMP6, CASR, CCDC88A, CCL5, CCL7, CCL13, CCL20, CD24, CD40, CD44, CD69, CD82, CD99L2, CLDN4, COL18A1, COL4A1, COL7A1, CRP, CSF1, CSF2RB, CSF3R, CSK, CSPG4, CX3CL1, CXCL1, CXCL2, CXCL3, CXCL9, CXCL10, CXCL11, CXCL16, DAB1, DRGX, EFNA1, EGFL7, EGR1, ELMO1, ELN, EPHA8, ERBB3, EREG, EZR, F3, FAS, FGA, FGF1, FLT1, FN1, FOXM1, FOXO1, GFER, GIT1, GRIA2, GZMB, HDAC6, ICAM1, IGSF8, IL15, IL12B, IL8RA, ITGA2B (includes EG:3674), ITGAD, ITGB4, ITGB6, JAG1, JAK2, KATNA1, KITLG, KLF2, KLF5, L1CAM, LAMA1, LAMA5, LAMB3, LCK, LILRA6, LIMK1, LIMS2, LOC643751, LPP, LRP1, LTBP2, LTK, LYST, MAP2, MAPT, MATK, MET, MLL, MMP2, MMP3, MMP9, MMP10, MMP13, MOV10L1, MRAS, MST1, MTOR, MYC, MYH11, NES, NFKB2, NKX6-1, NOS3, NR1D1, NR2F2, NRG1, NRP1, PAK4, PARP1, PARP9, PDE2A, PDE4B, PDGFRB, PEX7, PEX11B, PIK3C2B, PIK3CD, PIM1, PLAT, PLD1, PLD2, PLG, PMP22, PNO, PRKCB, PRKCD, PROC, PTPN12, RAPGEF3, RASGRP2, RECK, RELA, RELN, RGS3, SDC1, SEMA3F, SERPINA3, SLC1A2, SLC37A4, SLC9A3R1, SLIT1, SMAD3, SMARCB1, SORT1, SPARC, SRF, ST6GAL1, TBX1, TFAP2C, TFF2, TGFB2, TGM2, TIMP1, TNFRSF1B, TNFSF12, TNFSF13, VAX1, WARS, WWTR1, XIAP	175	
Cellular Movement	migration of cells	1.43E-06	ACAN, ACVR1, ACVRL1, ADAM15, ADAM17, ANXA2, APOE, ARHGAP8, ARHGAP24, ARNT, ARRB1, ARX, B4GALT1, BAI1, BMP6, CASR, CCDC88A, CCL5, CCL7, CCL13, CCL20, CD24, CD40, CD44, CD69, CD82, CD99L2, CHR, CLDN4, COL18A1, COL4A1, COL7A1, CRP, CSF1, CSF2RB, CSF3R, CSK, CSPG4, CX3CL1, CXCL1, CXCL2, CXCL3, CXCL9, CXCL10, CXCL11, CXCL16, DAB1, DRGX, EFNA1, EGFL7, EGR1, ELMO1, ELN, EPHA8, ERBB3, EREG, EZR, F3, FAS, FGA, FGF1, FLT1, FN1, FOXM1, FOXO1, GFER, GIT1, GRIA2, GZMB, HDAC6, ICAM1, IGSF8, IL15, IL12B, IL8RA, ITGA2B (includes EG:3674), ITGAD, ITGB4, ITGB6, JAG1, JAK2, KATNA1, KITLG, KLF2, KLF5, L1CAM, LAMA1, LAMA5, LAMB3, LCK, LCN2, LILRA6, LIMK1, LIMS2, LOC643751, LPP, LRP1, LTBP2, LTK, LYST, MAP2, MAPT, MATK, MET, MLL, MMP2, MMP3, MMP9, MMP10, MMP13, MOV10L1, MRAS, MST1, MTOR, MYC, MYH11, NES, NFKB2, NKX6-1, NOS3, NR1D1, NR2F2, NRG1, NRP1, PAK4, PARP1, PARP9, PDE2A, PDE4B, PDGFA, PDGFRB, PEX7, PEX11B, PIK3C2B, PIK3CD, PIM1, PLAT, PLD1, PLD2, PLG, PMP22, PNO, PRKCB, PRKCD, PROC, PTPN1, PTPN12, RAPGEF3, RASGRP2, RECK, RELA, RELN, RGS3, RRAS2, SDC1, SEMA3F, SERPINA3, SLC1A2, SLC37A4, SLC9A3R1, SLIT1, SMAD3, SMARCB1, SORT1, SPARC, SRF, ST6GAL1, STAT1, TBX1, TENC1, TFAP2C, TFF2, TGFB2, TGM2, TIE1, TIMP1, TNFRSF1B, TNFSF12, TNFSF13, TPM1, TPM3, VAX1, WARS, WWTR1, XIAP	185	
Cellular Movement	movement of eukaryotic cells	1.77E-06	ACAN, ACVR1, ACVRL1, ADAM15, ADAM17, ANXA2, APOE, ARHGAP8, ARHGAP24, ARNT, ARRB1, ARX, B4GALT1, BAI1, BMP6, CASR, CCDC88A, CCL5, CCL7, CCL13, CCL20, CD24, CD40, CD44, CD69, CD82, CD99L2, CLDN4, COL18A1, COL4A1, COL7A1, CRP, CSF1, CSF2RB, CSF3R, CSK, CSPG4, CX3CL1, CXCL1, CXCL2, CXCL3, CXCL9, CXCL10, CXCL11, CXCL16, DAB1, DRGX, EFNA1, EGFL7, EGR1, ELMO1, ELN, EPHA8, ERBB3, EREG, EZR, F3, FAS, FGA, FGF1, FLT1, FN1, FOXM1, FOXO1, GFER, GIT1, GRIA2, GZMB, HDAC6, ICAM1, IFT88, IGSF8, IL15, IL12B, IL8RA, ITGA2B (includes EG:3674), ITGAD, ITGB4, ITGB6, JAG1, JAK2, KATNA1, KITLG, KLF2, KLF5, L1CAM, LAMA1, LAMA5, LAMB3, LCK, LILRA6, LIMK1, LIMS2, LOC643751, LPP, LRP1, LTBP2, LTK, LYST, MAP2, MAPT, MATK, MET, MLL, MMP2, MMP3, MMP9, MMP10, MMP13, MOV10L1, MRAS, MST1, MTOR, MYC, MYH11, NES, NFKB2, NKX6-1, NOS3, NR1D1, NR2F2, NRG1, NRP1, PAK4, PARP1, PARP9, PDE2A, PDE4B, PDGFRB, PEX7, TNFSF12, TNFSF13, VAX1, WARS, WWTR1, XIAPPEX11B, PIK3C2B, PIK3CD, PIM1, PLAT, PLD1, PLD2, SMAD3, SMARCB1, SORT1, SPARC, SRF, ST6GAL1, TBX1, TFAP2C, TFF2, TGFB2, TGM2, TIMP1, TNFRSF1B, TNFSF12, TNFSF13, TPM1, TPM3, VAX1, WARS, WWTR1, XIAP	176	
Cellular Movement	movement of cells	2.30E-06	ACAN, ACVR1, ACVRL1, ADAM15, ADAM17, ANXA2, APOE, ARHGAP8, ARHGAP24, ARNT, ARRB1, ARX, B4GALT1, BAI1, BMP6, CASR, CCDC88A, CCL5, CCL7, CCL13, CCL20, CD24, CD40, CD44, CD69, CD82, CD99L2, CHR, CLDN4, COL18A1, COL4A1, COL7A1, CRP, CSF1, CSF2RB, CSF3R, CSK, CSPG4, CX3CL1, CXCL1, CXCL2, CXCL3, CXCL9, CXCL10, CXCL11, CXCL16, DAB1, DRGX, EFNA1, EGFL7, EGR1, ELMO1, ELN, EPHA8, ERBB3, EREG, EZR, F3, FAS, FGA, FGF1, FLT1, FN1, FOXM1, FOXO1, GFER, GIT1, GRIA2, GZMB, HDAC6, ICAM1, IFT88, IGSF8, IL15, IL12B, IL8RA, ITGA2B (includes EG:3674), ITGAD, ITGB4, ITGB6, JAG1, JAK2, KATNA1, KITLG, KLF2, KLF5, L1CAM, LAMA1, LAMA5, LAMB3, LCK, LCN2, LILRA6, LIMK1, LIMS2, LOC643751, LPP, LRP1, LTBP2, LTK, LYST, MAP2, MAPT, MATK, MET, MLL, MMP2, MMP3, MMP9, MMP10, MMP13, MOV10L1, MRAS, MST1, MTOR, MYC, MYH11, NES, NFKB2, NKX6-1, NOS3, NR1D1, NR2F2, NRG1, NRP1, PAK4, PARP1, PARP9, PDE2A, PDE4B, PDGFA, PDGFRB, PEX7, PEX11B, PIK3C2B, PIK3CD, PIM1, PLAT, PLD1, PLD2, PLG, PMP22, PNO, PRKCB, PRKCD, PROC, PTPN1, PTPN12, RAPGEF3, RASGRP2, RECK, RELA, RELN, RGS3, RRAS2, SDC1, SEMA3F, SERPINA3, SLC1A2, SLC37A4, SLC9A3R1, SLIT1, SMAD3, SMARCB1, SORT1, SPARC, SRF, ST6GAL1, STAT1, TBX1, TENC1, TFAP2C, TFF2, TGFB2, TGM2, TIE1, TIMP1, TNFRSF1B, TNFSF12, TNFSF13, TPM1, TPM3, VAX1, WARS, WWTR1, XIAP	186	
Cancer ; Cell Morphology	transformation of cells	1.21E-05	ALK, ASPH, BCL10, CCNE1, CDKN1C, CEBPA, CEBPB, COPG, CSF1, CSF2RB, CSK, CXCL1, CXCL3, EGR1, EIF4G1, ELF3, EP300, ERBB3, EWSR1, FBXO7, FGF1, FGF3, FGF4, FLT1, FOSL1, FOXM1, GLI1, HSPA1B, IL1RN, IL27RA, IRF5, ITGB4, JAG1, JAK2, KLF6, L1CAM, LCK, LOC643751, LPP, MAP3K8, MAPK10, MATK, MCTS1, MEN1, MERTK, MET, MLL, MMP2, MMP9, MRAS, MTOR, MXI1, MYC, MYH11, NBN, NEDD4, NFKB1, NFKB2, NFKBIB, NRG1, PAK4, PAWR, PDGFA, PDGFRB, PES1, PIK3CD, PIM1, PLEKHG2, PRKCD, PRKCG, PTPN1, PTPN23, RASGRP2, RBL2, RCE1, RELA, RGF, RIN1, ROS1, RRAS2, RUNX1, RUVBL1, SBF1, SEPT9, SIN3A, SMAD7, SMC3, TAF15, TGFB2, TPM3, TRIO, USF2, WNT1, WNT2, YY1	95	
Cell Death	apoptosis	3.54E-05	A4GALT, AATF, ABCB1, ACTC1, ACVR1, ADCY5, AHR, AKAP12, ALK, APAF1, APOE, ARG1, ARNT2, ARRB1, ATG12, ATMIN, ATN1, ATP1A1, ATP2B4, ATXN2, B4GALT1, BAK1, BAT3, BCL3, BCL10, BHLHE40, BIRC2, BMP6, C6, C9, CACNA1A, CACNA1C, CALCB (includes EG:797), CASP4, CASP6, CASP7, CASR, CAST, CCDC88A, CCL5, CCL13, CCNB1, CCNE1, CD24, CD40, CD44, CD69, CD74, CDKN1C, CEBPA, CEBPB, CHEK1, CHKA, CHRNA1, CIDE, CIITA, CNKSR1, COL18A1, COL2A1, CREM, CRP, CSDA, CSF1, CSF2RB, CSK, CSNK1E, CSPG4, CX3CL1, CXCL2, CYP19A1, DAB2IP, DAB2IP, DAPK2 (includes EG:300799), DDN, DLL1, DNAJB1, DNMI1, DNMT3B, EBAG9, EEF1A2, EFNA1, EGR1, EGR4, EIF2AK4, EIF4G2, EP300, EPHB6, ERBB3, EWSR1, EZR, F3, FADD, FANCA, FAS, FBL, FGF1, FGF3, FLT1, FN1, FOSL1, FOXO1, FST, FUS, GABBR1, GADD45B, GALNT2, GALNT5, GCLC, GHR, GLI1, GLP2R, GLRX, GNL3, GPX2, GRIA2, GRIN1, GRM2, GZMB, HAP1, HDAC1, HK2, HLA-DMA, HNRNP, HSPA1B, HSPB8, IGHE, IL15, IL12B, IL1RN, IL2RA, IL6ST, IRF5, ITGB4, ITGB6, ITPR1, JAG1, JAG2, JAK2, KAT5, KIAA1967, KITLG, KLF2, KLF5, KLF6, KLF1, LAMA5, LCK, LCN2, LEPR, LOC643751, LRP1, LTB, LTK, MAP3K10, MAPK10, MAPK13, MAPT, MCM10, MCTS1, MEN1, MERTK, MET, MFN1, MLL, MMP2, MMP3, MMP9, MMP10, MTF1, MTOR, MXI1, MYC, MYH11, MYOC, NBN, NDUFAF4, NFKB1, NFKB2, NFKBIB, NOS2, NOS3, NOTCH2, NPHS1, NR1D1, NR5A1, NRG1, NRGN, NRP1, NTRK2, OAS1, OAS1B, OSGIN1, PAD14, PLG, PLK1, PLK2, PLSCR1, PLSCR3, PPARGC1A, PPP1R15A (includes EG:23645), PPP2R2B, PPP5C, PRKCB, PRKCD, PRKCG, PRLR, PROC, PSEN2, PSMB1, PTPN1, PTPRO, PYCARD, RARG, RASD1, RBL2, RCAN2, RELA, REV3L, RGS3, RHOB2, RIPK2, RIPK3, RPLP0 (includes EG:6175), RRAS2, RTKN, RUNX1, RYR2, SAT1, SATB1, SCN2A, SDC1, SEMA3F, SERPINA3, SGMS1, SH3GLB1, SH3RF1, SHC3, SLC8A1, SMAD3, SMAD7, SMARCB1, SMN1, SMNDC1, SMOX, SNCA, SORT1, SPARC, SPO11, SRF, SSTR2, ST6GAL1, STAT1, STRADB, SYCP2, TBXA2R, TEC, TENC1, TGFB2, TGFBI1, TGM2, TIMP1, TNFRSF1B, TNFSF12, TNFSF13, TNNT2, TPM1, TRAF3IP2, UACA, UBA3, UBR4, UNC13B, UNCSB, UNG, VIPR2, WEE1, WNT1, WNT2, WT1, XIAP, YY1, ZNF423	301	
			AATF, ABCB1, ABCB4, ACTG1, ACVRL1, ADAM15, ADAM17, ADCY3, ADPP, ADIPOR1, AHR, AK2, AKAP12, ALK, AMACR, ANXA2, BMP6, C9, CACNA1A, CASC3, CAST, CBX1, CCNB1, CCNE1, CCT3, CD24, CD40, CD44, CD82, CDH23, CDKN1C, CEBPA, CEBPB, CGREF1, CHKA, CLCN7, CNKSR1, COL18A1, COL2A1, COL6A1, COL6A3, COPE,		

Cellular Growth and Proliferation	growth of cells	3,54E-05	CPSF4, CREM, CSF1, CSF2RB, CSF3R, CSNK1D, CSNK1E, CSPG4, CX3CL1, CXCL1, CXCL2, CXCL3, CXCL10, CXCL16, CYP19A1, DGKZ, DLL1, DNAJB1, DNAJC2, DUS2L, DUSP9, EEF2K, EFNA1, EGLN2, EGR1, EIF2AK4, EIF4G1, EIF4G2, ELF3, ENPP1, EP300, EPHB6, ERBB3, EREG, EWSR1, EZR, FANCA, FAS, FGFR1, FLOT2, FLT1, FN1, FOSL1, FOXM1, FOXO1, FRZB, FST, GADD45B, GADD45GIP1, GBP2, GFER, GHR, GHRHR, GLTSCR2, GPPB3, HDAC1, HDAC6, HGFAC, HNF4A, HNRNPC, HNRNPB, HSPB8, HSPG2 (includes EG:3339), IFT88, IGH-2, IL15, IL1RN, IL2RA, IL6ST, ITGA7, ITGB4, ITGB6, JAG1, JAK2, KHDRBS1, KIF13A, KITLG, KLF2, LAMA5, LCP1, LCP2, LHX4, LMNA, LOC643751, LTBP1, M6PRBP1, MAG, MAPK10, MAPT, MATK, MCTS1, MEN1, MET, MLL, MMP2, MMP9, MRAS, MST1, MT1F, MTCH1, MTHFD1, MTOR, MUC4, MX1, MYC, MYH11, MYL9 (includes EG:10398), NFKB1, NFKB2, NFKBIB, NINL, NOS2, NOS3, NOTCH2, NOTCH4, NR4A3, NRG1, NRP1, NTRK2, NUB1, OSGIN1, OXT, PAK4, PAWR, PCBP4, PCDH24, PDGFRB, PIK3CD, PIM1, PKP1, PLAT, PLCD1, PLG, PLK2, PLSCR1, PMP22, POU2F3, POU2F3A (includes EG:23645), PPP2R5C, PPP5C, PRKAB1, PRKCB, PRKCD, PRLR, PRPF8, PSME2, PTPN1, PTPRO, QSOX1, RARG, RASD1, RASGRP2, RBL2, RCE1, RELA, RGL2, RHOBTB2, RIPK2, ROS1, RUNX1, SAT1, SBF1, SCAMP2, SCN5A, SEPT9, SGMS1, SH2B3, SHC3, SLC12A4, SLC19A1, SLC9A3R1, SMAD3, SMAD7, SMARCB1, SMC3, SMOX, SOCS2, SPARC, SPINT2, SREBF1, SRF, SSTR2, STAT1, STEAP2, STRAP, TAP1, TEC, TENC1, TFAP2C, TGFB2, TGFB11, TGIF1, TIMELESS, TIMP1, TJAP1, TJPI1, TJP3, TMEFF1, TNFRSF1B, TNFSF12, TNFSF13, TPD52, TPM1, UNC5B, WEE1, WT1, WWTR1, XRCC1, ZAP70	250
Cell-To-Cell Signaling and Interaction	activation of cells	4,25E-05	ANK3, ANXA2, APOE, B4GALT1, BCL10, C6, CACNA1B, CALCB (includes EG:797), CASR, CCL5, CCL7, CCL13, CD24, CD40, CD44, CD74, CDKN1C, CEBPA, CEBPB, CISH, CLCN7, CRP, CSF1, CSK, CX3CL1, CXCL1, CXCL2, CXCL3, CXCL9, CYBB, DLL1, ENTDP2, F3, FAS, FN1, GP9, GZMB, HLA-C, HLA-DMA, HLA-DQB2, HLA-DRA, HNF4A, HSP90B1, HSPA4, HSPG2 (includes EG:3339), ICAM1, IGHE, IL15, IL12B, IL1RN, IL27RA, IL2RA, IL6ST, IL8RA, ITGB6, KITLG, KLF2, LCK, LCN2, LCP2, LILRA6, LRP1, LTB, LTBP1, LYST, MAG, MAOB, MET, MMP2, MMP9, MMP13, MST1, MTCH1, NBR1, NCR3, NFKB1, NFKB2, NOS2, NOS3, NRG1, OXT, PDGFA, PDGFRB, PIK3CD, PLAT, PLD2, PLG, PPP1R1A, PRKCD, PROC, PSEN2, PSMB8, PSMB9, PSME1, PSME2, RAPGEF3, RELA, SATB1, SMAD3, SNCA, SPTB, ST6GAL1, STAT1, TAOK2 (includes EG:9344), TBXA2R, TGFB2, TGM2, TIMP1, TNFRSF1B, TNFSF12, TNFSF13, VIPR2, WNT1, ZAP70	113
Cell Death	apoptosis of eukaryotic cells	6,26E-05	A4GALT, AATF, ABCB1, ADCY5, AHR, ALK, APAF1, APOE, ARRB1, ATMIN, ATN1, ATP1A1, ATP2B4, ATXN2, BAK1, BCL3, BCL10, BHLHE40, BIRC2, BMP6, C9, CACNA1A, CALCB (includes EG:797), CASP4, CASP6, CASP7, CASR, CAST, CCL5, CCL13, CCNB1, CCNE1, CD24, CD40, CD44, CD69, CDKN1C, CEBPA, CEBPB, CHEK1, CHKA, CHRNA1, CIITA, COL18A1, CREM, CRP, CSF1, CSF2RB, CSK, CSPG4, CX3CL1, CXCL2, CYP19A1, DAB2IP, DAPK2 (includes EG:300799), DDN, DLL1, DNAJB1, DNMT3B, EBAG9, EEF1A2, EFNA1, EGR1, EGR4, EIF2AK4, EIF4G2, EP300, EPHB6, ERBB3, EWSR1, EZR, F3, FADD, FANCA, FAS, FGFR1, FLT1, FN1, FOSL1, FST, FUS, GABBR1, GADD45B, GALNT2, GALNT5, GCLC, GHR, GLI1, GLP2R, GLRX, GPX2, GRIA2, GRIA3, GRIN1, GZMB, HAP1, HDAC1, HLA-DMA, HNRNPC, HSPB8, IGHE, IL15, IL1RN, IL2RA, IL6ST, IRF5, ITGB4, ITPR1, JAG1, JAG2, JAK2, KAT5, KITLG, KLF2, KLF5, KLF6, LAMA5, LCK, LCN2, LEPR, LOC643751, LRP1, MAP3K10, MAPK10, MAPK13, MAPT, MCM10, MCTS1, MEN1, MERTK, MET, MLL, PADI4, PAK3, PAK4, PARP1, PAWR, PCBP2, PCSK9, PDE4A, PDGFRB, PEX11B, PGLYRP1, PHOX2A, PIK3CD, PIM1, PLAT, PLCD1, PLD1, PLD2, PLG, PLK1, PLK2, PLSCR1, PLSCR3, PPARGC1A, PPP1R15A (includes EG:23645), PPP5C, PRKCB, PRKCD, PRKCG, PRLR, PROC, PSEN2, PSMB1, PTPN1, PTPRO, PYCARD, RARG, RASD1, RBL2, RCAN2, RELA, RHOBTB2, RIPK2, RIPK3, RPLP0 (includes EG:6175), RRAS2, RTKN, RUNX1, RYR2, SAT1, SATB1, SDC1, SEMA3F, SERPINA3, SGMS1, SH3GLB1, SH3RF1, SHC3, SLC8A1, SMAD3, SMAD7, SMARCB1, SMN1, SMOX, SNCA, SPARC, SPO11, SRF, SSTR2, ST6GAL1, STAT1, STRADB, TBXA2R, TENC1, TGFB2, TGFB11, TGM2, TIMP1, TNFRSF1B, TNFSF12, TNFSF13, TNNT2, TPM1, TRAF3IP2, UBA3, UNC13B, UNC5B, UNG, VIPR2, WEE1, WNT1, WNT2, WT1, XIAP, YY1, ZNF423	251
Cell Death	cell death	6,26E-05	A4GALT, AATF, ABCB1, ABCB4, ACTC1, ACVR1, ADCY5, AHR, AKAP12, ALK, APAF1, APOE, ARG1, ARNT, ARNT2, ARRB1, ATG12, ATMIN, ATN1, ATP1A1, ATP2B4, ATXN2, B4GALT1, BACE1, BAK1, BAT3, BCL3, BCL10, BHLHE40, BIRC2, BMP6, C6, C9, CACNA1A, CACNA1C, CALCB (includes EG:797), CASP4, CASP6, CASP7, CASR, CAST, CCDC88A, CCL5, CCL13, CCNB1, CCNE1, CCT3, CCT4, CCT6A, CD24, CD40, CD44, CD69, CD74, CD82, CDKN1C, CEBPA, CEBPB, CES1 (includes EG:1066), CHEK1, CHKA, CHRND, CHRNA1, CIDEA, CIITA, CNKSR1, COL18A1, COL2A1, CREB3L1, CREM, CRHR1, CRP, CSDA, CSF1, CSF2RB, CSK, CSNK1E, CSPG4, CX3CL1, CXCL1, CXCL2, CXCL3, CYP19A1, DAB2IP, DAPK2 (includes EG:300799), DDN, DLL1, DNAJB1, DNMT1, DNMT3B, DUSP9, EBAG9, EEF1A2, EFNA1, EGR1, EGR4, EIF2AK4, EIF4G2, EMP2, EP300, EPHB6, EPHX1, ERBB3, EWSR1, EZR, F3, FADD, FANCA, FAS, FBL, FGFR1, FGFR3, FLNA, FLT1, FN1, FOSL1, FOXM1, FOXO1, FRZB, FST, FUS, GABBR1, GADD45B, GALNT2, GALNT5, GCLC, GHR, GLI1, GLP2R, GLRX, GNL3, GPX2, GRIA2, GRIA4, GRIK3, GRIN1, GRM2, GZMB, HAP1, HDAC1, HK2, HLA-DMA, HNRNPC, HSPA1B, HSPB8, ICAM1, IDO1, IGHE, IL15, IL12B, IL1RN, IL27RA, IL2RA, IL6ST, IRF5, ITGA2B (includes EG:3674), ITGB4, ITGB6, ITPR1, JAG1, JAG2, JAK2, KAT5, KHDRBS1, KIAA1967, KITLG, KLF2, KLF5, KLF6, KLK1, LAMA5, LCK, LCN2, LEPR, LHX4, LOC643751, LRP1, LTB, LTK, MAOB, MAP3K10, MAPK10, MAPK13, MAPT, MCM10, MCTS1, MEN1, MERTK, MET, MFN1, MLL, MMP2, MMP3, MMP9, MMP10, MT1F, MTOR, MX1, MYC, MYH11, MYOC, NBN, NDUFAF4, NFKB1, NFKB2, NFKBIB, NOS2, NOS3, NOTCH2, NPHS1, NR1D1, NR1H4, NR5A1, NRG1, NRGN, NRP1, NTRK2, OAS1, OAS1B, OSGIN1, PADI4, PAFAH1B3, PAK3, PAK4, PARP1, PAWR, PCBP2, PCSK9, PDE3A, PDE4A, PDGFRB, PDIA2, PEX11B, PGLYRP1, PHF17, PHOX2A, PIK3CD, PIM1, PLAT, PLCD1, PLD1, PLD2, PLG, PLK1, PLK2, PLSCR1, PLSCR3, PMP22, PPARGC1A, PPP1R15A (includes EG:23645), PPP2R2B, PPP5C, PRKCB, PRKCD, PRKCG, PRLR, PROC, PROM2, PSEN2, PSMB1, PTPN1, PTPRO, PYCARD, RARG, RASD1, RBL2, RBM17, RCAN2, RECK, RELA, REV3L, RGS3, RHOBTB2, RIPK2, RIPK3, RPLP0 (includes EG:6175), RRAS2, RTKN, RUNX1, RYR2, SAT1, SATB1, SCN2A, SCP2, SDC1, SEMA3F, SERPINA3, SERPINB9, SGMS1, SH3GLB1, SH3RF1, SHC3, SLC1A2, SLC8A1, SMAD3, SMAD7, SMARCB1, SMN1, SMNDC1, SMOX, SNCA, SORT1, SPCAN, SPO11, SPRR1A, SRF, SSTR2, ST6GAL1, STAT1, STRADB, SYCP2, TBXA2R, TEC, TENC1, TFAP2C, TGFB2, TGFB11, TGM2, TIMP1, TNFRSF1B, TNFSF12, TNFSF13, TNNT2, TPD52, TPM1, TPM3, TRAF3IP2, TXNRD1, UACA, UBA3, UBR4, UNC13B, UNC5B, UNG, VIPR2, WEE1, WNT1, WNT2, WT1, XIAP, YY1, ZNF423	342
Cellular Movement	movement of normal cells	6,76E-05	ACAN, ACVR1, ACVRL1, ADAM15, ADAM17, APOE, ARHGAP24, ARNT, ARX, B4GALT1, BAI1, BMP6, CASR, CCDC88A, CCL5, CCL7, CCL13, CCL20, CD24, CD40, CD44, CD69, CD82, CD99L2, COL18A1, COL4A1, COL7A1, CRP, CSF1, CSF3R, CSPG4, CX3CL1, CXCL1, CXCL2, CXCL3, CXCL9, CXCL10, CXCL11, CXCL16, DABI, DRGX, EFNA1, EDGFL7, ELN, F3, FAS, FGFR1, FLT1, FN1, FOXO1, GIT1, HDAC6, ICAM1, IFT88, IL15, IL12B, IL8RA, ITGAD, ITGB4, ITGB6, JAK2, KATNA1, KITLG, L1CAM, LAMA1, LAMA5, LCK, LILRA6, LOC643751, LPP, LRP1, LTK, LYST, MAP2, MAPT, MET, MMP2, MMP9, MMP10, MMP13, MRAS, MST1, MYC, NFKB2, NKX6-1, NOS3, NR1D1, NR2F2, NRG1, NRP1, PAK4, PARP1, PDE2A, PDE4B, PDGFRB, PEX7, PEX11B, PIK3CD, PIM1, PLAT, PLD2, PLG, PMP22, PNOC, PRKCB, PRKCD, PROC, RAPGEF3, RASGRP2, RECK, RELA, RELN, RGS3, SDC1, SEMA3F, SERPINA3, SLC1A2, SLC37A4, SLIT1, SMAD3, SRF, TBX1, TGFB2, TGM2, TIMP1, TNFRSF1B, TNFSF12, TNFSF13, VAX1, WARS, XIAP	132
Cancer ; Cell Morphology	transformation of eukaryotic cells	6,81E-05	ALK, ASPH, CCNE1, CEBPA, CEBPB, CSF1, CSF2RB, CSK, CXCL1, CXCL3, EIF4G1, ELF3, EP300, ERBB3, EWSR1, FBXO7, FGFR1, FGFR3, FGFR4, FLT1, FOSL1, FOXM1, GLI1, HSPA1B, IL27RA, IRF5, ITGB4, JAG1, JAK2, KLF6, LCK, LOC643751, LPP, MAP3K8, MAPK10, MATK, MCTS1, MEN1, MERTK, MET, MLL, MMP2, MMP9, MRAS, MTOR, MXI1, MYC, MYH11, NBN, NEDD4, NFKB2, NFKBIB, NRG1, PAK4, PAWR, PDGFA, PDGFRB, PES1, PIK3CD, PLEKHG2, PRKCD, PRKCG, PTPN1, PTPN23, RASGRP2, RBL2, RCE1, RELA, RRAS2, RUNX1, SBF1, SEPT9, SMAD7, SMC3, TAF15, TPM3, TRIO, USF2, WNT1, WNT2	80
Cellular Development	differentiation of cells	6,81E-05	ACVR1, AHR, AKR1B7, ANXA2, APAF1, ARNT, ARX, ASPM, ATN1, ATXN2, BCL3, BHLHE40, BMP3, BMP6, CAND2, CAST, CBX1, CCL13, CCNE1, CD24, CD40, CD44, CD74, CDH23, CDKN1C, CDO1, CEBPA, CEBPB, CHD7, CHKA, CHRND, COL11A2, COL18A1, COL2A1, COL4A1, COPS2, CSF1, CSF2RB, CSF3R, CYP19A1, DLL1, DNMT3B, DRGX, DYRK3, EFNA1, EGLN3, EGR1, EIF2AK4, EIF4G2, ENPP1, EP300, ERBB3, EREG, EWSR1, FADD, FANCA, FAS, FGFR1, FGFR3, FLNC, FLT1, FN1, FNDC3B, FOSL1, FOXO2, FST, GABBR1, GADD45B, GHR, GLI1, HDAC1, HES6, HLA-DMA, HNF4A, HOXA10, HSP90B1, ICAM1, IL15, IL12B, IL1RN, IL27RA, IL2RA, IL6ST, ITGA7, ITGB4, ITGB6, JAG1, JAG2, JAK2, KHDRBS1, KITLG, L1CAM, LCK, LCN2, LCP2, LEPR, LHX4, LILRA6, LIMK1, LINGO1, LMNA, LMO2, LOC643751, LTBP1, MAPT, MATK, MEN1, MET, MLL, MMP2, MMP3, MMP9, MMP13, MRAS, MTOR, MYC, MYH11, NBN, NFAM1, NFKB1, NFKB2, NID2, NKX6-1, NOS2, NOS3, NOTCH2, NOTCH4, NR1D1, NR1H4, NR4A3, NR5A1, NRG1, NTRK2, OXT, PAK4, PARP1, PATZ1, PCSK9, PDE4A, PDGFRB, PDLIM7, PIK3CD, PIM1, PLG, PLSCR1, PMP22, PNPLA6, POU2F3, PPARGC1A, PRKCB, PRKCD, PRLR, PSEN2, PTF1A, PTPN1, RARG, RBL2, RELA, RELN, RGL2, RIPK2, RIT2, RRAS2, RUNX1, SBF1, SH2B3, SHC3, SLC1A2, SLC37A4, SLC9A3, SMAD1, SMAD3, SMAD7, SMARCB1, SNCA,	206

			SOCS2, SOCS7, SPARC, SPRR1A, SREBF1, SRF, STAT1, SYNE1, TBX1, TCEA1, TEC, TFAP2C, TGFB2, TGFB11I, TGM2, TGM3, TIMP1, TMBIM1, TNFRSF1B, TNFSF12, TNFSF13, TOM1L1, TRIM54, TRPC6, VAX1, WNT1, WT1, WWTR1, YY1, ZAP70, ZNF423	
Cell Death	cell death of eukaryotic cells	7,31E-05	A4GALT, AATF, ABCB1, ABCB4, ADCY5, AHR, ALK, APAF1, APOE, ARNT, ARRB1, ATMIN, ATN1, ATP1A1, ATP2B4, ATXN2, BACE1, BAK1, BAT3, BCL3, BCL10, BHLHE40, BIRC2, BMP6, C9, CACNA1A, CALCB (includes EG:797), CASP4, CASP6, CASP7, CASR, CAST, CCL5, CCL13, CCNB1, CCNE1, CCT3, CCT4, CCT6A, CD24, CD40, CD44, CD69, CDKN1C, CEBPA, CEBPB, CHEK1, CHKA, CHRNA1, CIITA, COL18A1, CREB3L1, CREM, CRHR1, CRP, CSF1, CSF2RB, CSK, CSPG4, CX3CL1, CXCL1, CXCL2, DAPK2 (includes EG:300799), DDN, DLL1, DNABJ1, DNMT3B, DUSP9, EBAG9, EEF1A2, EFNA1, EGR1, EGR4, EIF2AK4, EIF4G2, EMP2, EP300, EPHB6, EPHX1, ERBB3, EWSR1, CXCL3, CYP19A1, DAB2IP, EZR, F3, FADD, FANCA, FAS, FGF1, FLNA, FLT1, FN1, FOSL1, FOXO1, FRZB, FST, FUS, GABBR1, GADD45B, GALNT2, GALNT5, GCLC, GHR, GLI1, GLP2R, GLRX, GPX2, GRIA2, GRIA4, GRIK3, GRIN1, GZMB, HAP1, HDAC1, HK2, HLA-DMA, HNRNPC, HSPA1B, HSPB8, ICAM1, IDO1, IGHE, IL15, IL1RN, IL27RA, IL2RA, IL6ST, IRF5, ITGB4, ITPR1, JAG1, JAG2, JAK2, KAT5, KITLG, KLF2, KLF5, KLF6, LAMA5, LCK, LCN2, LEPR, LOC643751, LRP1, LTB, MAP3K10, MAPK13, MAPT, MCM10, MCTS1, MEN1, MERTK, MET, MLL, MMP2, MMP3, MMP9, MT1F, MTOR, MYC, MYH11, MYOC, NBN, NDUFAF4, NFKB1, NFKB2, NFKBIB, NOS2, NOS3, NPHS1, NR1D1, NR1H4, NR5A1, NRG1, NRGN, NRP1, NTRK2, OSGIN1, PADI4, PAK3, PAK4, PARP1, PAWR, PCBP2, PCSK9, PDE4A, PDGFRB, PEX11B, PGLYRP1, PHOX2A, PIK3CD, PIM1, PLAT, PLCD1, PLD1, PLD2, PLG, PLK1, PLK2, PLSCR1, PLSCR3, PMP22, PPARG1A, PRKCB, PRKCD, PRR115A (includes EG:23645), PPP5C, PRKCG, PRKCG, PRLR, PROC, PROM2, PSEN2, PSMB1, PTPN1, PTPRO, PYCARD, RARG, RASD1, RBL2, RBM17, RCAN2, RECK, REL, REV3L, RHOBTB2, RIPK2, RIPK3, RPLP0 (includes EG:6175), RRS2, RTKN, RUNX1, RYR2, SAT1, SATB1, SCP2, SDC1, SEMA3F, SERPINA3, SERPINB9, SGMMS1, SH3GLB1, SH3RF1, SHC3, SLC1A2, SLC8A1, SMAD3, SMAD7, SMARCB1, SMN1, SMOX, SNCA, SORT1, SPARC, SPO11, SPRR1A, SRF, SSTR2, ST6GAL1, STAT1, STRADB, TBXA2R, TENC1, TFAP2C, TGFB2, TGFB11I, TGM2, TIMP1, TNFRSF1B, TNFSF12, TNFSF13, TNNT2, TPD52, TPM1, TPM3, TRAF3IP2, TXNRD1, UBA3, UNC13B, UNC5B, UNG, VIPR2, WEE1, WNT1, WNT2, WT1, XIAP, YY1, ZNF423	290
Cellular Movement	migration of normal cells	7,55E-05	ACAN, ACVRI, ACVRL1, ADAM15, ADAM17, APOE, ARHGAP24, ARNT, ARX, B4GALT1, BAI1, BMP6, CASR, CCDC88A, CCL5, CCL7, CCL13, CCL20, CD24, CD40, CD44, CD69, CD82, CD99L2, COL18A1, COL4A1, COL7A1, CRP, CSF1, CSF3R, CSPG4, CX3CL1, CXCL1, CXCL2, CXCL3, CXCL9, CXCL10, CXCL11, CXCL16, DAB1, DRGX, EFNA1, EGFL7, ELN, F3, FAS, FGF1, FLT1, FN1, FOXO1, GIT1, HDAC6, ICAM1, IL15, IL12B, IL8RA, ITGAD, ITGB4, ITGB6, JAK2, KATNA1, KITLG, KLF5, L1CAM, LAMA1, LAMA5, LCK, LILRA6, LOC643751, LPP, LRP1, LTK, LYST, MAP2, MAPT, MET, MMP2, MMP9, MMP10, MMP13, MRAS, MST1, MYC, NFKB2, NKX6-1, NOS3, NR1D1, NR2F2, NRG1, NRP1, PAK4, PARP1, PDE2A, PDE4B, PDGFRB, PEX7, PEX11B, PIK3CD, PIM1, PLAT, PLD2, PLG, PMP22, PNOC, PRKCB, PRKCD, PROC, RAPGEF3, RASGRP2, RECK, REL, RELN, RGS3, SDC1, SEMA3F, SERPINA3, SLC1A2, SLC37A4, SLIT1, SMAD3, SRF, TBX1, TGFB2, TGM2, TIMP1, TNFRSF1B, TNFSF12, TNFSF13, VAX1, WARS, XIAP	131
Cancer ; Cell Morphology	transformation of cell lines	1,01E-04	ALK, ASPH, CCNE1, CEBPA, CEBPB, CSF1, CSF2RB, CXCL1, EIF4G1, ELF3, EP300, ERBB3, EWSR1, FBXO7, FGF1, FGF3, FGF4, FOSL1, GLI1, IL27RA, IRF5, ITGB4, JAG1, JAK2, KLF6, LOC643751, LPP, MAP3K8, MAPK10, MATK, MCTS1, MERTK, MET, MRAS, MTOR, MXI1, MYC, MYH11, NBN, NEDD4, NFKB2, NFKBIB, NRG1, PAWR, PDGFRB, PES1, PIK3CD, PLEKHG2, PRKCG, PTPN1, PTPN23, RASGRP2, RBL2, REL, RRS2, RUNX1, SBF1, SEPT9, SMC3, TAF15, TPM3, TRIO, WNT1, WNT2	65
Cell Death	apoptosis of normal cells	1,44E-04	AATF, ADCY5, AHR, APAF1, APOE, ARRB1, ATN1, ATP1A1, ATP2B4, BAK1, BCL3, BCL10, BIRC2, BMP6, C9, CACNA1A, CASP4, CASP6, CASP7, CASR, CAST, CCL5, CCL13, CCNB1, CD24, CD40, CD44, CD69, CDKN1C, CEBPA, CEBPB, CHEK1, CHRNA1, CIITA, COL18A1, CREM, CRP, CSF1, CSK, CX3CL1, CXCL2, CYP19A1, DAB2IP, DNMT3B, EBAG9, EFNA1, EGR1, EGR4, EP300, ERBB3, EWSR1, EZR, FADD, FANCA, FAS, FGF1, FN1, FOSL1, FOXO1, GABBR1, GADD45B, GCLC, GLRX, GRIN1, GZMB, HAP1, HLA-DMA, IGHE, IL15, IL1RN, IL2RA, IL6ST, IRF5, ITPR1, JAG2, JAK2, KAT5, KITLG, KLF2, LCK, LCN2, LEPR, LOC643751, LRP1, MAPK10, MAPK13, MAPT, MEN1, MET, MMP2, MMP3, MMP9, MT1F, MTOR, MYC, NBN, NFKB1, NFKB2, NFKBIB, NOS2, NOS3, NPHS1, NR1D1, NR5A1, NRG1, NRP1, NTRK2, PAK3, PARP1, PAWR, PCSK9, PDGFRB, PEX11B, PHOX2A, PIK3CD, PIM1, PLAT, PLCD1, PLD1, PLD2, PLG, PPARG1A, PRKCB, PRKCD, PROC, PSMB1, PTPN1, RBL2, RCAN2, REL, RYR2, SATB1, SERPINA3, SH3RF1, SHC3, SLC8A1, SMAD3, SMAD7, SMARCB1, SMN1, SNCA, SPARC, SPO11, SRF, STAT1, TBXA2R, TGFB2, TGM2, TIMP1, TNFRSF1B, TNFSF13, TNNT2, TRAF3IP2, UBA3, UNG, WT1, XIAP, ZNF423	158
Cell-To-Cell Signaling and Interaction	activation of eukaryotic cells	1,93E-04	ANK3, ANXA2, APOE, B4GALT1, BCL10, C6, CACNA1B, CALCB (includes EG:797), CASR, CCL5, CCL7, CCL13, CD40, CD44, CD74, CDKN1C, CEBPB, CISH, CLCN7, CRP, CSF1, CSK, CX3CL1, CXCL1, CXCL2, CXCL3, CXCL9, CYBB, DLL1, ENTPD2, F3, FAS, FN1, GP9, GZMB, HLA-C, HLA-DMA, HLA-DQB2, HLA-DRA, HNF4A, HSP90B1, HSPA4, HSPG2 (includes EG:3339), ICAM1, IGHE, IL15, IL12B, IL1RN, IL27RA, IL2RA, IL8RA, ITGB6, KITLG, KLF2, LCK, LCN2, LCP2, LILRA6, LRP1, LTB, LTBP1, LYST, MAG, MAOE, MET, MMP2, MMP9, MMP13, MST1, NBR1, NCR3, NFKB1, NFKB2, NOS2, NOS3, NRG1, OXB, PDGFRB, PIK3CD, PLAT, PLD2, PLG, PROC, PSEN2, PSMB8, PSMB9, PSME1, PSME2, RAPGEF3, REL, SATB1, SMAD3, SNCA, SPTB, ST6GAL1, STAT1, TAOK2 (includes EG:9344), TBXA2R, TGFB2, TGM2, TNFRSF1B, TNFSF12, TNFSF13, VIPR2, WNT1, ZAP70	106
Cell Death	cell death of normal cells	2,12E-04	AATF, ADCY5, AHR, APAF1, APOE, ARRB1, ATN1, ATP1A1, ATP2B4, BACE1, BAK1, BCL3, BCL10, BIRC2, BMP6, C9, CACNA1A, CASP4, CASP6, CASP7, CASR, CAST, CCL5, CCL13, CCNB1, CD24, CD40, CD44, CD69, CDKN1C, CEBPA, CEBPB, CHEK1, CHRNA1, CIITA, COL18A1, CREM, CRHR1, CRP, CSF1, CSK, CX3CL1, CXCL1, CXCL2, CXCL3, CYP19A1, DAB2IP, DNMT3B, EBAG9, EFNA1, EGR1, EGR4, EP300, EPHX1, ERBB3, EWSR1, EZR, FADD, FANCA, FAS, FGF1, FLNA, FN1, FOSL1, FOXO1, FRZB, GABBR1, GADD45B, GCLC, GLRX, GRIA2, GRIA4, GRIK3, GRIN1, GZMB, HAP1, HK2, HLA-DMA, HSPB8, ICAM1, IDO1, IGHE, IL15, IL1RN, IL27RA, IL2RA, IL6ST, IRF5, ITPR1, JAG2, JAK2, KAT5, KITLG, KLF2, LCK, LCN2, LEPR, LOC643751, LRP1, LTB, MAPK10, MAPK13, MAPT, MEN1, MERTK, MET, MMP2, MMP3, MMP9, MT1F, MTOR, MYC, NBN, NFKB1, NFKB2, NFKBIB, NOS2, NOS3, NPHS1, NR1D1, NR1H4, NR5A1, NRG1, NRP1, NTRK2, PAK3, PARP1, PAWR, PCBP2, PCSK9, PDGFRB, PEX11B, PHOX2A, PIK3CD, PIM1, PLAT, PLCD1, PLD1, PLD2, PLG, PPARG1A, PRKCB, PRKCD, PROC, PSMB1, PTPN1, PYCARD, RBL2, RCAN2, REL, REV3L, RIPK2, RUNX1, RYR2, SATB1, SERPINA3, SH3RF1, SHC3, SLC1A2, SLC8A1, SMAD3, SMAD7, SMARCB1, SMN1, SNCA, SORT1, SPARC, SPO11, SPRR1A, SRF, STAT1, TBXA2R, TGFB2, TGM2, TIMP1, TNFRSF1B, TNFSF13, TNNT2, TPM3, TRAF3IP2, UBA3, UNC5B, UNG, WT1, XIAP, ZNF423	186
Cancer ; Cellular Movement	migration of tumor cell lines	2,22E-04	ADAM15, ADAM17, ANXA2, ARHGAP8, ARRB1, CCDC88A, CCL5, CCL13, CD40, CD44, CD82, CLDN4, CSK, CX3CL1, CXCL2, CXCL10, DAB1, EGR1, ELMO1, ERBB3, EREG, FGA, FGF1, FN1, FOXM1, GFER, GIT1, GRIA2, GZMB, HDAC6, IGSF8, IL15, ITGB4, ITGB6, JAK2, KITLG, L1CAM, LAMA5, LAMB3, LCK, LIMK1, LRP1, LTBP2, MATK, MET, MMP2, MMP3, MMP9, MOV10L1, MST1, MTOR, NES, NRG1, NRP1, PIK3C2B, PLD1, PRKCD, PTPN12, RGS3, SDC1, SEMA3F, SLC9A3R1, SMARCB1, ST6GAL1, TFAP2C, TIMP1, WWTR1	67
Cellular Movement	migration of cell lines	2,34E-04	ADAM15, ADAM17, ANXA2, ARHGAP8, ARRB1, CCDC88A, CCL5, CCL13, CCL20, CD40, CD44, CD82, CLDN4, COL18A1, CSF2RB, CSK, CX3CL1, CXCL1, CXCL2, CXCL3, CXCL9, CXCL10, CXCL11, DAB1, EGR1, ELMO1, EPHA8, ERBB3, EREG, EZR, FGA, FGF1, FLT1, FN1, FOXM1, FOXO1, GFER, GIT1, GRIA2, GZMB, HDAC6, ICAM1, IGSF8, IL15, ITGA2B (includes EG:3674), ITGB4, ITGB6, JAG1, JAK2, KITLG, KLF2, L1CAM, LAMA5, LAMB3, LCK, LIMK1, LIMS2, LOC643751, LPP, LRP1, LTBP2, MATK, MET, MLL, MMP2, MMP3, MMP9, MOV10L1, MST1, MTOR, MYH11, NES, NRG1, NRP1, PDGFRB, PIK3C2B, PLD1, PLG, PRKCD, PTPN12, RGS3, SDC1, SEMA3F, SLC9A3R1, SMARCB1, SORT1, ST6GAL1, TFAP2C, TFF2, TIMP1, WWTR1	91
Cellular Movement	movement of cell lines	2,35E-04	ADAM15, ADAM17, ANXA2, ARHGAP8, ARRB1, CCDC88A, CCL5, CCL13, CCL20, CD40, CD44, CD82, CLDN4, COL18A1, CSF1, CSF2RB, CSK, CX3CL1, CXCL1, CXCL2, CXCL3, CXCL9, CXCL10, CXCL11, DAB1, EFNA1, EGR1, ELMO1, EPHA8, ERBB3, EREG, EZR, FGA, FGF1, FLT1, FN1, FOXM1, FOXO1, GFER, GIT1, GRIA2, GZMB, HDAC6, ICAM1, IGSF8, IL15, ITGA2B (includes EG:3674), ITGB4, ITGB6, JAG1, JAK2, KITLG, KLF2, L1CAM, LAMA5, LAMB3, LCK, LIMK1, LIMS2, LOC643751, LPP, LRP1, LTBP2,	93

			MATK, MET, MLL, MMP2, MMP3, MMP9, MOV10L1, MST1, MTOR, MYH11, NES, NRG1, NRP1, PDGFRB, PIK3C2B, PLD1, PLG, PRKCD, PTPN12, RGS3, SDC1, SEMA3F, SLC9A3R1, SMARCB1, SORT1, ST6GAL1TFAP2C, TFF2, TIMP1, WWTR1	
Cell-To-Cell Signaling and Interaction	activation of normal cells	2,73E-04	ANK3, ANXA2, APOE, B4GALT1, BCL10, C6, CACNA1B, CASR, CCL5, CCL7, CCL13, CD40, CD44, CD74, CDKN1C, CISH, CLCN7, CRP, CSF1, CSK, CX3CL1, CXCL1, CXCL2, CXCL3, CXCL9, CYBB, DLL1, ENTPD2, F3, FAS, FN1, GP9, GZMB, HLA-C, HLA-DMA, HLA-DQB2, HLA-DRA, HNF4A, HSP90B1, HSPA4, HSPG2 (includes EG:3339), ICAM1, IGHE, IL15, IL12B, IL1RN, IL27RA, IL2RA, ITGB6, KITLG, KLF2, LCK, LCN2, LCP2, LILRA6, LRP1, LTBP1, LYST, MAG, MAOB, MET, MMP9, MMP13, MST1, NBR1, NCR, NFKB1, NFKB2, NOS2, NOS3, OXT, PDGFRB, PIK3CD, PLAT, PLD2, PLG, PROC, PSEN2, PSMB8, PSMB9, PSME1, PSME2, RAPGEF3, RELA, SATB1, SMAD3, SNCA, ST6GAL1, STAT1, TAOK2 (includes EG:9344), TBXA2R, TGFB2, TGM2, TNFRSF1B, TNFSF12, TNFSF13, VIPR2	98
Hematological Disease ; Immunological Disease ; Cell Death	cell death of leukocytes	3,61E-04	APAF1, APOE, ARRB1, BAK1, BCL3, BCL10, CASP4, CASP6, CASP7, CAST, CCL5, CCL13, CCNB1, CD24, CD40, CD44, CD69, CEBPB, CHEK1, CIITA, CRP, CSF1, CXCL2, EFNA1, EGR1, EZR, FADD, FAS, FN1, GADD45B, GZMB, IDO1, IGHE, IL15, IL1RN, IL2RA, IRF5, ITPR1, JAK2, KITLG, KLF2, LCK, LCN2, LEPR, MTOR, MYC, NFKB1, NFKB2, NFKBIB, NR5A1, PARP1, PAWR, PCBP2, PIK3CD, PRKCB, PRKCD, PYCARD, RCAN2, RELA, SATB1, SMAD3, SMAD7, STAT1, TBXA2R, TGFB2, TGM2, TNFRSF1B, TNFSF13, TRAF3IP2, XIAP	70
Cellular Movement	cell movement of eukaryotic cells	3,77E-04	1810009J06RIK, ABCB4, ANXA2, APOE, ATP2B4, B4GALT1, C6, CASR, CAST, CCDC88A, CCL5, CCL7, CCL13, CCL20, CD24, CD40, CD44, CD69, CD82, CDH3, CIITA, CLDN4, COL17A1, COL4A1, CRP, CSF1, CSF3R, CSK, CSPG4, CX3CL1, CXCL1, CXCL2, CXCL3, CXCL9, CXCL10, CXCL11, CXCL16, CYP19A1, DLL1, DNMI, EFNA1, EFS, ELF3, ELN, EZR, FADD, FAS, FGB, FGFR1, FLNA, FLT1, FN1, FOSL1, GIT1, GP9, ICAM1, IGHE, IGSF8, IL15, IL12B, IL18BP, IL1RN, IL27RA, IL2RA, IL6ST, IL8RA, IRGM, ITGAD, ITGB4, KITLG, L1CAM, LAMA5, LCK, LCP1, LCP2, LILRA6, LIMK1, LOC643751, LTBP1, LYST, MET, MMP2, MMP9, MST1, MUC4, MYC, NFKB1, NFKB2, NOS2, NOS3, NRG1, NRP1, NTRK2, PAK4, PDE4B, PDGFA, PIK3CD, PLAT, PLG, PNO, PRKCB, PRKCD, PRKCG, PTPN1, PTPN12, PTPRO, RELA, RGS3, SEMA3F, SEPT9, SERPINA3, SERPING1, SLC37A4, SMAD3, SOCS2, SPARC, SREBF1, TFF2, TGFB2, TGM2, TIMP1, TNFRSF1B, TPBG	124
Cell-To-Cell Signaling and Interaction ; Hematological System Development and Function	activation of blood cells	3,97E-04	ANXA2, APOE, BCL10, C6, CASR, CCL5, CCL7, CCL13, CD40, CD44, CD74, CISH, CRP, CSF1, CSK, CX3CL1, CXCL1, CXCL3, CXCL9, DLL1, ENTPD2, F3, FAS, FN1, GP9, GZMB, HLA-C, HLA-DMA, HLA-DQB2, HLA-DRA, HNF4A, HSP90B1, HSPA4, HSPG2 (includes EG:3339), ICAM1, IGHE, IL15, IL12B, IL1RN, IL27RA, IL2RA, ITGB6, KITLG, KLF2, LCK, LCN2, LCP2, LILRA6, LRP1, LTBP1, LYST, NBR1, NCR3, NFKB1, NFKB2, NOS2, NOS3, PIK3CD, PLAT, PLD2, PLG, PROC, PSMB8, PSMB9, PSME1, PSME2, RAPGEF3, RELA, SATB1, SMAD3, ST6GAL1, STAT1, TAOK2 (includes EG:9344), TBXA2R, TNFRSF1B, TNFSF12, TNFSF13, VIPR2	79
Hematological Disease ; Immunological Disease ; Cell Death	apoptosis of leukocytes	4,54E-04	APOE, ARRB1, BAK1, BCL3, BCL10, CASP4, CASP6, CASP7, CAST, CCL5, CCL13, CCNB1, CD24, CD40, CD44, CD69, CEBPB, CHEK1, CIITA, CRP, CSF1, CXCL2, EFNA1, EGR1, EZR, FADD, FAS, FN1, GADD45B, GZMB, IGHE, IL15, IL1RN, IL2RA, IRF5, ITPR1, JAK2, KITLG, KLF2, LCK, LCN2, LEPR, MTOR, MYC, NFKB1, NFKB2, NFKBIB, NR5A1, PARP1, PAWR, PIK3CD, PRKCB, PRKCD, RCAN2, RELA, SATB1, SMAD3, STAT1, TBXA2R, TGFB2, TNFRSF1B, TNFSF13, TRAF3IP2, XIAP	64
Cell Death	cell death of leukocyte cell lines	8,64E-04	ABCB1, APAF1, BAK1, BCL3, CCL5, CCL13, CD40, CD44, FADD, FAS, FGFR1, FN1, GADD45B, GHR, GZMB, IL15, JAK2, KITLG, LCN2, MCTS1, MERTK, MET, MYC, MYH11, NBN, NFKB1, NFKB2, NOS2, NRG1, PARP1, PDGFRB, PIM1, PRKCD, PRLR, PSEN2, RELA, RUNX1, SH3GLB1, SMAD7, ST6GAL1, TGFB2, TNFRSF1B, VIPR2, XIAP, YY1	45
Organismal Injury and Abnormalities ; Cell Death	necrosis	8,70E-04	AHR, APOE, ARNT, CES1 (includes EG:1066), EGR1, ERBB3, FADD, FAS, FGFR1, FLT1, HSPA1B, ICAM1, IL1RN, IL27RA, IL2RA, ITGA2B (includes EG:3674), KLF2, MMP9, MTIF, MYC, NOS2, NOS3, NR1H4, NRG1, NTRK2, PARP1, PAWR, PLAT, PLG, PRKCB, PROC, SLC8A1, SORT1, TIMP1, TNFRSF1B, TNFSF12	36
Cell Death	apoptosis of leukocyte cell lines	8,70E-04	ABCB1, APAF1, BAK1, BCL3, CCL5, CCL13, CD40, CD44, FADD, FAS, FGFR1, FN1, GADD45B, GHR, GZMB, IL15, JAK2, KITLG, LCN2, MCTS1, MERTK, MET, MYC, MYH11, NBN, NFKB1, NFKB2, NOS2, NRG1, PARP1, PDGFRB, PIM1, PRKCD, PRLR, RELA, RUNX1, SH3GLB1, SMAD7, TGFB2, TNFRSF1B, VIPR2, XIAP, YY1	43
Cell Death	cell death of blood cells	8,70E-04	APAF1, APOE, ARRB1, BAK1, BCL3, BCL10, CASP4, CASP6, CASP7, CAST, CCL5, CCL13, CCNB1, CD24, CD40, CD44, CD69, CEBPB, CHEK1, CIITA, CRP, CSF1, CXCL2, EBAG9, EFNA1, EGR1, EZR, FADD, FAS, FN1, GADD45B, GZMB, IDO1, IGHE, IL15, IL1RN, IL2RA, IL6ST, IRF5, ITPR1, JAK2, KITLG, KLF2, LCK, LCN2, LEPR, MTOR, MYC, NFKB1, NFKB2, NFKBIB, NR5A1, PARP1, PAWR, PCBP2, PIK3CD, PRKCB, PRKCD, PYCARD, RCAN2, RELA, SATB1, SMAD3, SMAD7, STAT1, TBXA2R, TGFB2, TGM2, TNFRSF1B, TNFSF13, TRAF3IP2, XIAP	72
Cell Death	apoptosis of blood cells	8,82E-04	APOE, ARRB1, BAK1, BCL3, BCL10, CASP4, CASP6, CASP7, CAST, CCL5, CCL13, CCNB1, CD24, CD40, CD44, CD69, CEBPB, CHEK1, CIITA, CRP, CSF1, CXCL2, EBAG9, EFNA1, EGR1, EZR, FADD, FAS, FN1, GADD45B, GZMB, IGHE, IL15, IL1RN, IL2RA, IL6ST, IRF5, ITPR1, JAK2, KITLG, KLF2, LCK, LCN2, LEPR, MTOR, MYC, NFKB1, NFKB2, NFKBIB, NR5A1, PARP1, PAWR, PIK3CD, PRKCB, PRKCD, RCAN2, RELA, SATB1, SMAD3, STAT1, TBXA2R, TGFB2, TNFRSF1B, TNFSF13, TRAF3IP2, XIAP	66
Cellular Movement	infiltration of eukaryotic cells	1,04E-03	1810009J06RIK, ABCB4, APOE, B4GALT1, C6, CCL5, CCL13, CD44, CDH3, CIITA, COL17A1, CSF1, CXCL2, CXCL3, CXCL10, CYP19A1, EFS, FAS, FGB, FLT1, FN1, ICAM1, IGHE, IL15, IL12B, IL18BP, IL1RN, IL27RA, IL2RA, KITLG, LCP2, LOC643751, LTBP1, MMP2, MMP9, NFKB1, NOS2, NOS3, NRP1, PDGFA, PLAT, PLG, PRKCD, RELA, SERPING1, SMAD3, SREBF1, TGM2, TIMP1, TNFRSF1B	50
Cell-To-Cell Signaling and Interaction ; Antigen Presentation Development and Function	activation of antigen presenting cells	1,36E-03	ANXA2, APOE, C6, CCL5, CCL7, CD40, CD74, CRP, CSF1, FAS, FN1, HLA-C, HLA-DMA, HLA-DQB2, HNF4A, HSP90B1, ICAM1, IL15, ITGB6, LRP1, LTBP1, NOS2, PLG, PSMB8, PSMB9, PSME1, PSME2, RAPGEF3, STAT1, TNFRSF1B	31
Cellular Movement	infiltration of normal cells	1,45E-03	1810009J06RIK, ABCB4, APOE, B4GALT1, C6, CCL5, CCL13, CD44, CDH3, CIITA, COL17A1, CSF1, CXCL2, CXCL3, CXCL10, CYP19A1, EFS, FAS, FGB, FLT1, FN1, ICAM1, IGHE, IL15, IL12B, IL18BP, IL1RN, IL27RA, IL2RA, KITLG, LCP2, LOC643751, LTBP1, MMP2, MMP9, NFKB1, NOS2, NOS3, PDGFA, PLAT, PLG, PRKCD, RELA, SERPING1, SMAD3, SREBF1, TGM2, TIMP1, TNFRSF1B	49
Cell Death	survival of eukaryotic cells	1,47E-03	ABCB1, ABCB4, ACVRL1, ALK, APAF1, APOE, AQP3, ARRB1, AURKAIP1, BCL3, BHLHE40, CAMK1G, CASP7, CCL5, CD40, CD44, CD74, CD82, CEBPB, CHEK1, CHKA, CISH, CLDN4, CSF1, CSF2RB, CX3CL1, CXCL3, CXCL9, DGKB, DYRK3, EFNA1, EHD4, EIF2AK4, EP300, ERBB3, FANCA, FAS, FGFR1, FLT1, FN1, FN3K, GADD45B, GCLC, GHR, HSPA1B, HSPBAP1, ICAM1, IL15, IL6ST, INPP1, JAG2, JAK2, KAT5, KITLG, L1CAM, LAMA5, LCK, LINGO1, MAPK15, MAPT, MET, MMP9, MMP13, MTOR, MUSK, MYC, MYH11, NBN, NDUFAF4, NFKB1, NFKB2, NOS2, NRG1, NTRK2, PARP1, PDGFA, PDGFRB, PIK3CD, PIM1, PLG, PLK1, PLK2, PLSCR1, PNKP, PNPLA6, PPFIA2, PPM1B, PPP2R2B, PPP2R5C, PPP4R1, PRKCB, PRKCD, PRKCG, PRKD2, PSEN2, PTPN23, PTPRO, RYCN2, RELA, RFK, RPK2, RUNX1, SBF1, SHC3, SIN3A, SLC1A2, SMAD3, SMN1, SNCA, SPARC, STAT1, STAT2, TGFB2, TGM2, TIE1, TIMP1, TNFRSF1B, TNFSF13, UNC5B, UNG, WNT1, WT1, XIAP, XRCC1	125
			A4GALT, AATF, ABCB1, AHR, ALK, APAF1, APOE, ATMIN, BAK1, BCL3, BCL10, BHLHE40, BIRC2, BMP6, CALCB (includes EG:797), CASP4, CASP6, CASP7, CASR, CAST, CCL13, CCNE1, CD24, CD40, CD44, CDKN1C, CEBPA, CEBPB, CHKA, COL18A1, CSF2RB, CSPG4, DAPK2 (includes EG:300799), DDN, DLL1, DNAJB1, EEF1A2, EGR1, EIF2AK4, EIF4G2, EP300, EPHB6, ERBB3, EWSR1, F3, FADD, FAS, FGFR1, FLT1, FN1, FOXO1, FST, FUS, GADD45B, GALNT2, GALNT5, GHR, GLI1, GLP2R, GLRX, GPX2, GRIA2, GZMB,	

Cell Death	apoptosis of cell lines	1,54E-03	HAP1, HDAC1, HNRNPC, HSPB8, IL15, IRF5, ITGB4, ITPR1, JAG1, JAK2, KAT5, KITLG, KLF2, KLF5, KLF6, LAMA5, LCK, LCN2, LRP1, MAP3K10, MAPK10, MAPK13, MAPT, MCM10, MCTS1, MEN1, MERTK, MET, MLL, MMP9, MTOR, MYC, MYH11, MYOC, NBN, NDUFAF4, NFKB1, NFKB2, NFKBIB, NOS2, NOS3, NR5A1, NRG1, NRG1, NRPI, NTRK2, OSGIN1, PAD14, PAK4, PARP1, PAWR, PCBP2, PDE4A, PDGFRB, PGLYRP1, PIMI, PLD1, PLD2, PLG, PLK1, PLK2, PLSCR1, PLSCR3, PPP1R15A (includes EG:23645), PPP5C, PRKCB, PRKCD, PRKCG, PRLR, PSEN2, PTPN1, PTPRO, PYCARD, RARG, RASD1, RBL2, RELA, RHOBTB2, RIPK2, RIPK3, RPLP0 (includes EG:6175), RRAS2, RTKN, RUNX1, SAT1, SDC1, SEMA3F, SGMS1, SH3GLB1, SH3RF1, SMAD7, SMOX, SNCA, SPARC, SSTR2, ST6GAL1, STAT1, STRADB, TENC1, TGFB2, TGFB111, TGM2, TIMP1, TNFRSF1B, TNFSF12, TNFSF13, TPM1, UNC13B, UNC5B, VIPR2, WEE1, WNT1, WNT2, WT1, XIAP, YY1	180
Cellular Movement	cell movement	1,71E-03	I810009J06RIK, ABCB4, ACTG1, ANXA2, APOE, ATP2B4, B4GALT1, C6, CASR, CAST, CCDC88A, CCL5, CCL7, CCL13, CCL20, CD24, CD40, CD44, CD69, CD82, CDH3, CIITA, CLDN4, COL17A1, COL2A1, COL4A1, CRP, CSF1, CSF3R, CSK, CSPG4, CX3CL1, CXCL1, CXCL2, CXCL3, CXCL9, CXCL10, CXCL11, CXCL16, CYP19A1, DLL1, DNMI1, EFNA1, EFS, ELF3, ELMO1, ELN, ERBB3, EZR, F3, FADD, FAS, FGB, FGFR1, FLNA, FLT1, FN1, FOSL1, GIT1, GP9, GRIN1, HDAC6, ICAM1, IGHE, IGSF8, IL15, IL12B, IL18BP, IL1RN, IL27RA, IL2RA, IL6ST, IL8RA, IRGM, ITGAD, ITGB4, JAK2, KITLG, L1CAM, LAMA5, LCK, LCP1, LCP2, LECT2, LILRA6, LIMK1, LOC643751, LTB, LYST, MET, MMP2, MMP9, MST1, MUC4, MYC, NFKB1, NFKB2, NOS2, NOS3, NRG1, NRPI, NTRK2, PAK4, PDE4B, PDGFA, PDGFRB, PIK3CD, PLAT, PLD1, PLG, PNOC, PRKCB, PRKCD, PRKCG, PTPN1, PTPN12, PTPRO, RELA, RGS3, SEMA3F, SEPT9, SERPINA3, SERPING1, SLC37A4, SMAD3, SOCS2, SPARC, SPINT2, SREBF1, TFF2, TGFB2, TGM2, TIMP1, TNFRSF1B, TPBG, TPM1, TPM3, VIPR2	138
Cell-To-Cell Signaling and Interaction ; Hematological System; Development and Function; Immune Cell Trafficking	activation of leukocytes	2,54E-03	ANXA2, APOE, BCL10, C6, CASR, CCL5, CCL7, CCL13, CD40, CD44, CD74, CISH, CRP, CSF1, CSK, CXCL1, CXCL3, CXCL9, DLL1, FAS, FN1, GZMB, HLA-C, HLA-DMA, HLA-DQB2, HLA-DRA, HNF4A, HSP90B1, HSPA4, ICAM1, IGHE, IL15, IL12B, IL1RN, IL27RA, IL2RA, ITGB6, KITLG, KLF2, LCK, LCN2, LCP2, LILRA6, LRP1, LTB, LTBP1, LYST, NBR1, NCR3, NFKB1, NFKB2, NOS2, PIK3CD, PLD2, PLG, PROC, PSMB8, PSMB9, PSME1, PSME2, RAPGEF3, RELA, SATB1, SMAD3, ST6GAL1, STAT1, TAOK2 (includes EG:9344), TNFRSF1B, TNFSF12, TNFSF13, VIPR2	71
Hematological Disease; Immunological Disease; Cell Death	apoptosis of mononuclear leukocytes	2,58E-03	APOE, ARRB1, BAK1, BCL3, BCL10, CASP4, CASP7, CCL5, CCL13, CCNB1, CD24, CD40, CD44, CHEK1, CIITA, CSF1, EFNA1, EGRI, EZR, FADD, FAS, FN1, GADD45B, GZMB, IL15, IL2RA, ITPR1, KITLG, KLF2, LCK, MYC, NFKB1, NFKB2, NFKBIB, NR5A1, PARP1, PAWR, PIK3CD, PRKCB, RCAN2, RELA, SATB1, SMAD3, STAT1, TBXA2R, TGFB2, TNFRSF1B, TNFSF13, TRAF3IP2, XIAP	50
Cellular Growth and Proliferation	proliferation of normal cells	3,05E-03	ACVRL1, ADAM15, AHR, APOE, ARG1, ARHGAP24, ARNT, B4GALT1, BCL10, BMP6, CACNA1G, CALCB (includes EG:797), CASR, CCL5, CCL13, CCL20, CCNE1, CD6, CD24, CD40, CD44, CD74, CDKN1C, CEBPA, CEBPB, CHEK1, CHRNA1, CIITA, CISH, COL14A1, COL18A1, COL2A1, COL4A1, CREM, CRP, CSF1, CSF2RB, CSF3R, CSK, CTNBP1, CXCL1, CXCL2, CXCL3, CXCL9, CXCL10, CXCL16, DLL1, EFNA1, EFS, EGRI, ELN, EPHB6, EREG, F3, FADD, FAS, FGFR1, FGFR3, FLT1, FN1, FNTB, FOXM1, FOXO1, FST, FUS, GABBR1, GHR, GLI1, GNL3, HAO1, HOXA10, HSP90B1, HSPG2 (includes EG:3339), ICAM1, IDO1, IFT88, IL15, IL12B, IL1RN, IL27RA, IL2RA, IL6ST, ISG15, ITGA2B (includes EG:3674), ITGAD, ITGB4, JAG1, JAG2, JAK2, KCNP3, KHDRBS1, KITLG, KLF2, L1CAM, LAMA1, LAMA5, LCK, LCP2, LEPR, LOC643751, LRP1, LTBP1, MAPT, MEN1, MET, MLL, MMP3, MMP9, MTOR, MXI1, MYC, MYH6, NBN, NCSTN, NFKB1, NFKB2, NFKBID, NOS2, NOS3, NR1D1, NR4A3, NR5A1, NRG1, NRPI, NTRK2, OXT, PAWR, PDGFA, PDGFRB, PIK3CD, PIMI, PLAT, PLCD1, PLG, PRDX4, PRKCB, PRKCD, PRLR, PROC, PTPRO, RBL2, RELA, RIPK2, RUNX1, SATB1, SH2B3, SIN3A, SLC1A2, SLC29A1, SMAD3, SMAD7, SMARCB1, SPARC, ST6GAL1, STAT1, TBXA2R, TCOF1, TEC, TFAP2C, TFF2, TGFB2, TGIF1, TGM2, TNFRSF1B, TNFSF12, TNFSF13, TOMI1, TRPC6, VAX1, WNT1, WT1, YY1, ZAP70	173
Cell Death	cell death of cell lines	3,28E-03	A4GALT, AATF, ABCB1, ABCB4, AHR, ALK, APAF1, APOE, ARNT, ATMIN, BAK1, BAT3, BCL3, BCL10, BHLHE40, BIRC2, BMP6, CALCB (includes EG:797), CASP4, CASP6, CASP7, CASR, CAST, CCL5, CCL13, CCNE1, CCT3, CCT4, CCT6A, CD24, CD40, CD44, CDKN1C, CEBPA, CEBPB, CHEK1, CHKA, COL18A1, CREB3L1, CRHR1, CSF2RB, CSPG4, DAPK2 (includes EG:300799), DDN, DLL1, DNAJB1, DUSP9, EIF1A2, EGRI, EIF2AK4, EIF4G2, EMP2, EP300, EPHB6, ERBB3, EWSR1, F3, FADD, FAS, FGFR1, FLT1, FN1, FOXO1, FST, FUS, GADD45B, GALNT2, GALNT5, GHR, GLI1, GLP2R, GLRX, GPX2, GRIA2, GZMB, HAP1, HDAC1, HK2, HNRNPC, HSPA1B, HSPB8, IL15, IL1RN, IRF5, ITGB4, ITPR1, JAG1, JAK2, KAT5, KITLG, KLF2, KLF5, KLF6, LAMA5, LCK, LCN2, LRP1, LTB, MAP3K10, MAPK10, MAPK13, MAPT, MCM10, MCTS1, MEN1, MERTK, MET, MLL, MMP9, MTIF, MTOR, MYC, MYH11, MYOC, NBN, NDUFAF4, NFKB1, NFKB2, NFKBIB, NOS2, NOS3, NR5A1, NRG1, NRG1, NRG1, NTRK2, OSGIN1, PAD14, PAK4, PARP1, PAWR, PCBP2, PDE4A, PDGFRB, PGLYRP1, PIMI, PLD1, PLD2, PLG, PLK1, PLK2, PLSCR1, PLSCR3, PMP22, PPP1R15A (includes EG:23645), PPP5C, PRKCB, PRKCD, PRKCG, PRLR, PROM2, PSEN2, PTPN1, PTPRO, PYCARD, RARG, RASD1, RBL2, RBM17, RELA, RHOBTB2, RIPK2, RIPK3, RPLP0 (includes EG:6175), RRAS2, RTKN, RUNX1, SAT1, SCP2, SDC1, SEMA3F, SGMS1, SH3GLB1, SH3RF1, SMAD7, SMOX, SNCA, SPARC, SSTR2, ST6GAL1, STAT1, STRADB, TENC1, TFAP2C, TGFB2, TGFB111, TGM2, TIMP1, TNFRSF1B, TNFSF12, TNFSF13, TPD52, TPM1, TXNRD1, UNC13B, UNC5B, VIPR2, WEE1, WNT1, WNT2, WT1, XIAP, YY1	203
Hematological Disease ; Immunological Disease ; Cell Death	apoptosis of lymphocytes	3,97E-03	APOE, ARRB1, BAK1, BCL3, BCL10, CASP4, CASP7, CCL5, CCL13, CCNB1, CD24, CD40, CD44, CHEK1, CIITA, EFNA1, EGRI, EZR, FADD, FAS, FN1, GZMB, IL15, IL2RA, ITPR1, KITLG, KLF2, LCK, MYC, NFKB1, NFKB2, NFKBIB, NR5A1, PARP1, PAWR, PIK3CD, PRKCB, RCAN2, RELA, SATB1, SMAD3, STAT1, TBXA2R, TGFB2, TNFRSF1B, TNFSF13, TRAF3IP2, XIAP	48
Cell Death	survival of cells	3,97E-03	ABCB1, ABCB4, ACVRL1, ALK, APAF1, APOE, AQP3, ARRB1, AURKAIP1, BCL3, BHLHE40, CAMK1G, CASP6, CASP7, CCL5, CD40, CD44, CD74, CD82, CEBPB, CHEK1, CHKA, CISH, CLDN4, COL18A1, CSF1, CSF2RB, CX3CL1, CXCL3, CXCL9, DGKB, DYRK3, EFNA1, EHD4, EIF2AK4, EP300, ERBB3, FANCA, FAS, FGFR1, FLT1, FN1, FN3K, GADD45B, GCLC, GHR, GLRX, GZMB, HSPA1B, HSPBAP1, ICAM1, IL15, IL6ST, INPP1, JAG2, JAK2, KAT5, KITLG, L1CAM, LAMA5, LCK, LINGO1, MAP3K8, MAPK15, MAPT, MET, MMP9, MMP13, MTOR, MUSK, MYC, MYH11, NBN, NDUFAF4, NFKB1, NFKB2, NOS2, NRG1, NTRK2, PARP1, PDGFA, PDGFRB, PIK3CD, PIMI, PLG, PLK1, PLK2, PLSCR1, PNKP, PNPLA6, PPFIA2, PPM1B, PPP2R2B, PPP2R5C, PPP4R1, PRKCB, PRKCD, PRKCG, PSEN2, PTPN23, PTPRO, PYCARD, RAPS, REL, REV3L, RFK, RIPK2, RUNX1, SBF1, SHC3, SIN3A, SLC1A2, SMAD1, SMAD3, SMN1, SNCA, SPARC, STAT1, STAT2, TENC1, TGFB2, TGM2, TIE1, TIMP1, TNFRSF1B, TNFSF13, UNC5B, UNG, WNT1, WT1, XIAP, XRCC1	133
Cellular Movement	infiltration of blood cells	3,97E-03	I810009J06RIK, ABCB4, APOE, B4GALT1, C6, CCL5, CCL13, CD44, CDH3, CIITA, COL17A1, CSF1, CXCL2, CXCL3, CXCL10, CYP19A1, EFS, FAS, FGB, FLT1, FN1, ICAM1, IGHE, IL15, IL12B, IL18BP, IL1RN, IL27RA, IL2RA, KITLG, LOC643751, LTB, MMP2, MMP9, NFKB1, NOS2, NOS3, PLAT, PLG, PRKCD, RELA, SERPING1, SMAD3, SREBF1, TGM2, TIMP1, TNFRSF1B	47
Hematological Disease ; Immunological Disease ; Cell Death	cell death of mononuclear leukocytes	4,08E-03	APAF1, APOE, ARRB1, BAK1, BCL3, BCL10, CASP4, CASP7, CCL5, CCL13, CCNB1, CD24, CD40, CD44, CHEK1, CIITA, CSF1, EFNA1, EGRI, EZR, FADD, FAS, FN1, GADD45B, GZMB, IDO1, IL15, IL2RA, ITPR1, KITLG, KLF2, LCK, MYC, NFKB1, NFKB2, NFKBIB, NR5A1, PARP1, PAWR, PIK3CD, PRKCB, RCAN2, RELA, SATB1, SMAD3, SMAD7, STAT1, TBXA2R, TGFB2, TGM2, TNFRSF1B, TNFSF13, TRAF3IP2, XIAP	54
Cellular Development	development of cells	4,08E-03	ACAN, ACVR1, ADAM17, AHR, AMHR2, ANK1, ARHGDIG, ARHGEP2, ATP1B1, ATRN, B4GALT1, BAI1, BCL10, CALCB (includes EG:797), CAST, CCDC88A, CCL5, CCL7, CCNE1, CD6, CD24, CD40, CD44, CD69, CD74, CD82, CDKN1C, CEBPA, CLASP2, COL11A1, COL18A1, COL5A3, CRIP2, CSF1, CSF3R, CSK, CSPG4, CX3CL1, CXCL2, CXCL11, CYP19A1, DDX25, DEAF1, DLL1, EBF3, EFNA1, EGRI, EHMT2, ENPP1, EP300, EPHA3, ERBB3, EWSR1, EZR, FADD, FAS, FGFR1, FGFR3, FLNC, FLT1, FN1, FOXO1, FST, FUS, GHR, GIT1, GZMB, HDAC1, HOXA10, HTRA4, ICAM1, IL15, IL12B, IL1RN, IL2RA, IL6ST, ITGA2B (includes EG:3674), ITGB6, JAG1, KITLG, KLF2, KLF5, L1CAM,	162

			LAMA1, LAMA5, LCK, LCN2, LCP2, LFNG, LMO2, LOC643751, LPP, LTB, MARK2, MATK, MEN1, MERTK, MET, MLL, MMP2, MMP9, MTOR, MYC, MYH6, MYH11, NBN, NFKB1, NFKB2, NKX6-1, NOS2, NOTCH2, NOTCH4, NR1D1, NRG1, NTRK2, PAFAH1B3, PAK3, PAK4, PDGFA, PDGFRB, PIK3CD, PIM1, PITX1, PLAT, PLD1, PLEKHG2, PLG, PMP22, PTGFRN, PTPN12, RBL2, REL, RELN, REM1, RGS3, RUNX1, SATB1, SDC1, SERPINA3, SH2B3, SIX5, SLC19A1, SLC4A2, SMAD3, SOCS5, SPARC, SPO11, SRF, STAT1, STRADB, TAOK2 (includes EG:9344), TAPBP, TEC, TGFB2, TGFB11, TNFSF12, WNT1, WT1, YBX2, ZAP70, ZNF423	
Cellular Movement	cell movement of cell lines	4,65E-03	ANXA2, CCL5, CCL7, CCL13, CCL20, CD24, CD44, CD69, CD82, CDH3, CLDN4, CSF1, CSK, CX3CL1, CXCL1, CXCL3, CXCL9, CXCL10, CXCL11, DLL1, DNMT1, ELF3, ERBB3, FADD, FLNA, FLT1, FN1, FOSL1, GIT1, GP9, IGSF8, IL12B, IL8RA, ITGB4, KITLG, L1CAM, LAMA5, LCK, LCP1, LIMK1, LOC643751, MET, MMP2, MST1, MUC4, NRG1, NRP1, PIK3CD, PLG, PRKCD, PRKCG, PTPN1, PTPN12, PTPRO, RGS3, SEPT9, SMAD3, SOCS2, SPARC, TFF2	60
Cellular Assembly and Organization	growth of plasma membrane projections	5,20E-03	ACAN, ADAM17, ALK, APOE, ARHGAP17, BMP6, CACNA1A, CSF1, CSPG5, CXCL9, CYP19A1, DOK4, EFNA1, FAS, FGFR1, FGFR3, FGFR4, FN1, GRIN1, HAP1, ICAM5, KALRN, KATNA1, KITLG, L1CAM, LAMA1, LCP2, LIMK1, LINGO1, LOC643751, MAG, MAP2, MAPT, MARK2, MATK, MET, MMP2, NFKB1, NRG1, NRP1, NTRK2, PAK4, PDE4A, PDGFRB, PLAT, PLD1, PNOC, PRKCD, RAPSN, REL, RELN, RIT2, SEMA3F, SIPI1, SLIT1, SMN1, SOCS2, SPRR1A, TGM2, TPM3, TRIO, WT1	62
Cell Morphology	shape change	5,24E-03	ADCY3, ANK1, ANXA2, AP2M1, APOE, ARHGAP17, ARHGAP18, ATRN, BCL10, CALCB (includes EG:797), CAST, CCL5, CCL7, CCL13, CCNE1, CD24, CD40, CD44, CLASP2, COL18A1, COL5A3, CSF1, CSK, CSPG4, CX3CL1, DNMT1, EFNA1, ERBB3, EZR, FADD, FAS, FGFR1, FLNC, FN1, FST, GIT1, GZMB, HTR4, IL2RA, ITGA2B (includes EG:3674), ITGB6, KALRN, KITLG, L1CAM, LAMA1, LAMA5, LIMA1, LMNA, LMO2, LOC643751, LPP, MARK2, MATK, MERTK, MET, MLL, MMP9, MYC, MYOC, NKX6-1, NOS3, NRP1, NTRK2, PAK3, PAK4, PDGFA, PLAT, PLD1, PLEKHG2, PMP22, PRKCD, PTGFRN, PTPN12, RBL2, RECK, REM1, RGS3, SDC1, SERPINA3, SH3BP1, SPARC, SRF, SULF2, TAOK2 (includes EG:9344), TGFB11, TPM1, VPS37C, WNT1, WWP2	89

24h. Data are results obtained from a pool of 3 independent biological experiments classified by IPA software.

function which is the lowest level function found in IPA. **B-H P-value:** Benjamini-Hochberg multiple testing correction p-value. **# Molecules:** number of Molecules