

**Supplementary table 4.** List of significant pathways (FDR<0.05). Differentially expressed genes according to literature review are shown. Genes in bold are regulated by any of the differentially expressed miRNA identified. Genes with a list one associated variant are marked with an asterisk.

ID	Pathway	FDR	matching proteins in your network (labels)
hsa04060	Cytokine-cytokine receptor interaction	1.92e-09	IL2RB, <b>TGFB1*</b> ,CSF3, IL10RA,IL4,IL17C, <b>CCR7</b> ,IL1RN, <b>IL1B</b> , <b>IL11</b> ,CD27, <b>CSF1R</b> ,CCR2,CCR5,CXCR1,TNFRSF11B,IL17D,IL16,CXCL10,TNFRSF12A,LEPR,CXCL14,IL21R,C <b>X3CR1</b> ,CXCL9,XCL2,CXCR3,TNFSF15,CNTFR,IFNA8,CCL26,CXCL1, <b>CXCL12</b> ,IL6,CXCR4,LIFR,TNF,LTB,IL12RB1, <b>CCL5</b> ,CCL4,PRLR,CCL15
hsa04151	PI3K-Akt signaling pathway	1.92e-09	IL2RB,COMP,CSF3,NFKB1,IL4, <b>CDK4</b> ,CHAD, <b>THBS1</b> ,ITGAV, <b>CCND2</b> , <b>VWF</b> , <b>RBL2</b> ,ITGA9,ITGB7,ERBB3,FGF7, <b>EGFR</b> ,NTRK2, <b>CSF1R</b> ,COL1A2,COL6 A2,ANGPT2,LAMA3,COL4A5,FOXO3, <b>FGFR3</b> ,PIK3AP1, <b>FN1</b> ,COL4A2,LAMC3,LPAR1, <b>SYK</b> ,COL4A1,IFNA8,IGF1,COL4A3,COL4A4,ITGA4,SOS1,IL6, LAMA2,TGFA,PIK3CG,PIK3R1,JAK3,LOC102723407,FGF1,PRLR,COL9A3
hsa04512	ECM-receptor interaction	2.14e-09	COMP,CHAD, <b>THBS1</b> ,ITGAV, <b>VWF</b> ,ITGA9,ITGB7,COL1A2,COL6A2,LAMA3,COL4A5, <b>FN1</b> ,COL4A2,LAMC3,COL4A1,SDC1,HMMR,COL4A3,COL4A 4,ITGA4, <b>CD44</b> ,LAMA2,FRAS1,COL9A3
hsa04061	Viral protein interaction with cytokine and cytokine receptor	1.83e-07	IL2RB, IL10RA, <b>CCR7</b> , <b>CSF1R</b> ,CCR2,CCR5,CXCR1,CXCL10,CXCL14, <b>CX3CR1</b> ,CXCL9,XCL2,CXCR3,CCL26,CXCL1, <b>CXCL12</b> ,IL6,CXCR4,TNF, <b>CCL5</b> ,CCL4,C CL15
hsa05152	Tuberculosis	3.81e-07	CD74,MAPK13,LBP, <b>CORO1A</b> , <b>TGFB1*</b> ,NFKB1,IL10RA,CYP27B1*,CTSD, <b>IL1B</b> ,FCGR2A,ATP6V0D2,CASP10,CLEC7A,SPHK1,CD209,CASP8,FCGR1 A, <b>SYK</b> ,IFNA8,LSP1,ITGB2,CD14,IL6,TNF,CRIL,ITGAX,LOC102723407
hsa05200	Pathways in cancer	4.61e-07	IL2RB, <b>TGFB1*</b> ,NFKB1,IL4,PTGER2,GADD45G, <b>CDK4</b> ,ITGAV, <b>CCND2</b> , <b>NOTCH3</b> ,FGF7, <b>EGFR</b> , <b>CSF1R</b> , <b>RUNX1</b> ,PTGER4, <b>EDNRA</b> ,LAMA3,COL4A5,ZB TB16, <b>FGFR3</b> , <b>FN1</b> ,STAT4,CASP8,COL4A2,LAMC3, <b>PTGS2</b> , <b>PIM1</b> ,LPAR1,AR,CKS2,COL4A1,PIM2, <b>FOXO1</b> ,IFNA8,TRAF3,IGF1, <b>CXCL12</b> ,MGST1,COL 4A3,COL4A4,SOS1,IL6,RASGRP3,CXCR4,AGTR1,LAMA2,TGFA, <b>ESR1</b> ,PIK3R1,JAK3, <b>HIF1A</b> ,BDKRB2,IL12RB2,FGF1
hsa04380	Osteoclast differentiation	8.68e-07	LCP2,MAPK13, <b>TGFB1*</b> ,NFKB1,CYBA, <b>TYROBP</b> , <b>IL1B</b> ,FCGR2A, <b>CSF1R</b> ,TNFRSF11B,LILRB1,SOC3,FCGR1A,TREM2, <b>SYK</b> ,LILRB4,LILRB2,FHL2,T NF,PIK3R1,MAP2K6,LCK,BTK
hsa04933	AGE-RAGE signaling pathway in diabetic complications	1.94e-06	MAPK13, <b>TGFB1*</b> , <b>SERPINE1</b> ,NFKB1, <b>CDK4</b> , <b>IL1B</b> ,COL1A2,COL4A5, <b>FN1</b> ,COL4A2,PLCE1, <b>PIM1</b> ,COL4A1, <b>FOXO1</b> ,COL4A3,COL4A4,IL6,TNF,AGTR1 ,PIK3R1
hsa04062	Chemokine signaling pathway	2.09e-06	NFKB1, <b>CCR7</b> ,CCR2,CCR5,CXCR1,CXCL10,CXCL14,FOXO3, <b>CX3CR1</b> ,CXCL9,XCL2,CXCR3, <b>HCK</b> ,WAS,CCL26,CXCL1, <b>CXCL12</b> ,SOS1,CXCR4,ITK,P IK3CG,PIK3R1,LYN,JAK3,VAV1, <b>CCL5</b> ,CCL4,CCL15
hsa04620	Toll-like receptor signaling pathway	2.79e-06	MAPK13,LBP,NFKB1, <b>IL1B</b> ,LY96,CXCL10, <b>TLR8</b> ,CD86,CASP8,CXCL9,IFNA8, <b>TLR7</b> ,TRAF3,CD14,IL6,TNF,PIK3R1,MAP2K6, <b>CCL5</b> ,CCL4
hsa05144	Malaria	2.93e-06	<b>TGFB1*</b> ,COMP,CSF3,KLRB1,LRP1,HBA2, <b>THBS1</b> , <b>IL1B</b> ,SDC1,ITGB2,IL6,TNF,CRIL,HBB
hsa05146	Amoebiasis	2.93e-06	<b>TGFB1*</b> ,NFKB1, <b>IL1B</b> ,COL1A2,LAMA3,COL4A5, <b>FN1</b> ,COL4A2,LAMC3,COL4A1,CXCL1,COL4A3,COL4A4,ITGB2,CD14,IL6,TNF,LAMA2,PIK3R1, LOC102723407
hsa04510	Focal adhesion	3.49e-06	COMP,CHAD, <b>THBS1</b> ,ITGAV, <b>CCND2</b> , <b>VWF</b> ,ITGA9,ITGB7, <b>EGFR</b> ,COL1A2,COL6A2,ZYX,LAMA3,COL4A5, <b>FN1</b> ,COL4A2,LAMC3,COL4A1,IGF1,COL 4A3,COL4A4,ITGA4,SOS1,PARVG,LAMA2,PIK3R1,VAV1,COL9A3
hsa05165	Human papillomavirus infection	6.97e-06	COMP,NFKB1, <b>CDK4</b> ,CHAD, <b>THBS1</b> ,ITGAV, <b>CCND2</b> , <b>VWF</b> , <b>RBL2</b> , <b>NOTCH3</b> ,ITGA9,ITGB7, <b>EGFR</b> ,ATP6V0D2,COL1A2,COL6A2,PTGER4,LAMA3,COL 4A5, <b>FN1</b> ,CASP8,COL4A2,LAMC3, <b>PTGS2</b> ,COL4A1,DLG2, <b>FOXO1</b> ,IFNA8,TRAF3,COL4A3,COL4A4,ITGA4,SOS1,TNF,LAMA2,PIK3R1,COL9A3
hsa04630	JAK-STAT signaling pathway	9.52e-06	IL2RB,CSF3,IL10RA,IL4, <b>CCND2</b> , <b>IL11</b> , <b>EGFR</b> ,IL17D,SOC3,LEPR,IL21R,STAT4, <b>PIM1</b> ,AOX1,CNTFR,IFNA8,SOS1,IL6,LIFR,PIK3R1,JAK3,PIAS1,IL12 RB1,PRLR
hsa04659	Th17 cell differentiation	2.60e-05	MAPK13,IL2RB, <b>TGFB1*</b> ,NFKB1,IL4,RORA, <b>IL1B</b> , <b>RUNX1</b> ,IL17D,IL21R,CD247,IRF4,IL6,CD3G,JAK3, <b>HIF1A</b> ,IL12RB1,LCK
hsa04064	NF-kappa B signaling pathway	3.04e-05	LBP,NFKB1,GADD45G, <b>IL1B</b> ,LY96, <b>PTGS2</b> , <b>SYK</b> ,TRAF3,CXCL1, <b>CXCL12</b> ,CD14,TNF,LTB,LYN,LCK, LOC102723407,CCL4,BTK

ID	Pathway	FDR	matching proteins in your network (labels)
hsa04666	Fc gamma R-mediated phagocytosis	3.04e-05	FCGR2A,SPHK1,PLA2G4A,FCGR1A,PLPP3, <b>GSN</b> , <b>SYK</b> , <b>HCK</b> ,WAS,PTPRC, <b>MYO10</b> ,PIK3R1,LYN,CFL1,VAV1,LOC102723407,WASF2
hsa05222	Small cell lung cancer	3.54e-05	NFKB1,GADD45G, <b>CDK4</b> ,ITGAV,LAMA3,COL4A5, <b>FN1</b> ,COL4A2,LAMC3, <b>PTGS2</b> ,CKS2,COL4A1,TRAF3,COL4A3,COL4A4,LAMA2,PIK3R1
hsa04610	Complement and coagulation cascades	3.61e-05	<b>SERPINE1</b> , <b>VWF</b> ,C6,C7, <b>A2M</b> ,F13B,F5,C1QC,C1QA,F10,ITGB2,SERPINA1,CR1L,BDKRB2,ITGAX,CFD
hsa05134	Legionellosis	5.03e-05	NFKB1, <b>IL1B</b> ,HSPA6,CLK4,CASP8,CXCL1,ITGB2,CD14,IL6,TNF,CR1L, <b>NAIP</b> ,CASPI
hsa04614	Renin-angiotensin system	5.57e-05	CMA1,ENPEP,REN, <b>ACE*</b> ,ANPEP,AGTR2,ACE2,AGTR1,MAS1
hsa04924	Renin secretion	5.80e-05	PTGER2,CACNA1C,REN,PDE3B, <b>ACE*</b> ,GUCY1A1,PTGER4, <b>EDNRA</b> ,CTSB,NPR1,ADRB1,AGTR1,GUCY1B1,ADCYAP1
hsa04662	B cell receptor signaling pathway	7.26e-05	CD79A,NFKB1,CD72,LILRB1,PIK3AP1, <b>SYK</b> ,LILRB4,LILRB2,SOS1,RASGRP3,PIK3R1,LYN,VAV1,LOC102723407,BTK
hsa04640	Hematopoietic cell lineage	8.28e-05	CSF3,IL4, <b>IL1B</b> , <b>IL11</b> , <b>CSF1R</b> ,ANPEP,FCGR1A,ITGA4,CD14,IL6, <b>CD44</b> ,TNF,CR1L,CD3G,MS4A1,LOC102723407
hsa05140	Leishmaniasis	8.28e-05	MAPK13, <b>TGFB1*</b> ,NFKB1,IL4,CYBA, <b>IL1B</b> ,FCGR2A, <b>PTGS2</b> ,FCGR1A,ITGA4,ITGB2,TNF,CR1L,LOC102723407
hsa05169	Epstein-Barr virus infection	0.00011	MAPK13,NFKB1,GADD45G, <b>CDK4</b> , <b>CCND2</b> ,CXCL10,CASP8,CD247, <b>SYK</b> ,IFNA8,TRAF3, <b>RUNX3</b> ,NCOR2,IL6, <b>CD44</b> ,TNF,PIK3R1,LYN,CD3G,JAK3,MAP2K6,LOC102723407,BTK,B2M
hsa04664	Fc epsilon RI signaling pathway	0.00017	LCP2,MAPK13,IL4,PLA2G4A, <b>SYK</b> ,SOS1,TNF,PIK3R1,LYN,MAP2K6,VAV1,LOC102723407,BTK
hsa05142	Chagas disease	0.00017	MAPK13, <b>TGFB1*</b> , <b>SERPINE1</b> ,NFKB1, <b>IL1B</b> , <b>ACE*</b> ,CASP8,CD247,C1QC,C1QA,IL6,TNF,PIK3R1,CD3G,BDKRB2, <b>CCL5</b>
hsa05202	Transcriptional misregulation in cancer	0.00017	IL2RB,NFKB1,ID2,GADD45G, <b>CCND2</b> ,ITGB7, <b>CSF1R</b> , <b>RUNX1</b> ,CD86,ZBTB16,BCL11B,FCGR1A, <b>RUNX2</b> , <b>FOXO1</b> ,IGF1,AFF1, <b>BCL6</b> ,CD14,IL6,KMT2A,LOC102723407,EYA1
hsa05130	Pathogenic Escherichia coli infection	0.00019	CLDN11,MAPK13,NFKB1,CYTH4,MYO5C, <b>IL1B</b> ,FCGR2A,HCLS1,MYO1D,CASP8,LPAR1,TUBAL3,MYO5A,CLDN5,IL6,TNF, <b>MYO10</b> , <b>NAIP</b> ,CASPI,TUBA1A,LOC102723407,WASF2,MYO1F
hsa04974	Protein digestion and absorption	0.00021	COL1A2,COL6A2,COL4A5,COL18A1,COL4A2,DPP4, <b>SLC16A10</b> ,COL5A1,COL5A2,COL15A1,COL4A1,COL4A3,COL4A4,ACE2,COL9A3, <b>KCNN4</b>
hsa05205	Proteoglycans in cancer	0.0003	MAPK13, <b>TGFB1*</b> , <b>THBS1</b> ,ITGAV, <b>TIMP3</b> ,LUM,ERBB3, <b>EGFR</b> ,ANK3,COL1A2,HCLS1, <b>FN1</b> ,PLCE1,SDC1,IGF1,HPSE,SOS1, <b>CD44</b> ,TNF, <b>ESR1</b> ,PIK3R1, <b>HIF1A</b> ,VAV1
hsa05323	Rheumatoid arthritis	0.00038	<b>TGFB1*</b> , <b>IL1B</b> , <b>IL11</b> ,ATP6V0D2,CD28,CD86,CXCL1, <b>CXCL12</b> ,ITGB2,IL6,TNF,LTB, <b>CCL5</b> ,LOC102723407
hsa04650	Natural killer cell mediated cytotoxicity	0.00043	LCP2,HCST, <b>TYROBP</b> ,CD247,SH2D1A, <b>SYK</b> ,IFNA8,KLRC2,ITGB2,SOS1,TNF,PIK3R1,KLRC1,VAV1,LCK,LOC102723407,CD48
hsa05133	Pertussis	0.00043	MAPK13,NFKB1, <b>IL1B</b> ,IRF8,LY96,C1QC,C1QA,ITGB2,CD14,IL6,TNF,CFL1,CASPI
hsa04672	Intestinal immune network for IgA production	0.00044	<b>TGFB1*</b> ,IL4,ITGB7,CD28,CD86, <b>CXCL12</b> ,ITGA4,IL6,CXCR4,LOC102723407
hsa05163	Human cytomegalovirus infection	0.00049	MAPK13,IL10RA,NFKB1,PTGER2, <b>CDK4</b> ,ITGAV, <b>IL1B</b> , <b>EGFR</b> ,CCR5,PTGER4,CASP8,AKAP13, <b>PTGS2</b> ,IFNA8, <b>CXCL12</b> ,SOS1,IL6,CXCR4,TNF,PIK3R1,MAP2K6, <b>CCL5</b> , <b>CCL4</b> ,B2M
hsa04668	TNF signaling pathway	0.00053	BCL3,MAPK13,NFKB1, <b>IL1B</b> ,CASP10,CXCL10,SOC3,CASP8, <b>PTGS2</b> ,TRAF3,CXCL1,IL6,TNF,PIK3R1,MAP2K6, <b>CCL5</b>
hsa05135	Yersinia infection	0.00054	LCP2,MAPK13,NFKB1, <b>IL1B</b> ,FCGR2A, <b>FN1</b> ,WAS,ITGA4,IL6,TNF,PIK3R1,CASPI,MAP2K6,VAV1,LCK,WASF2,LOC102723407

ID	Pathway	FDR	matching proteins in your network (labels)
hsa04660	T cell receptor signaling pathway	0.00057	LCP2,MAPK13,NFKB1,IL4, <b>CDK4</b> ,CD28,CD247,SOS1,ITK,TNF,PTPRC,PIK3R1,CD3G,VAV1,LCK
hsa04625	C-type lectin receptor signaling pathway	0.00061	BCL3,MAPK13,NFKB1, <b>IL1B</b> ,CLEC7A,IL17D,CD209,CASP8, <b>PTGS2</b> , <b>SYK</b> ,LSP1,IL6,TNF,PIK3R1,CASP1
hsa04657	IL-17 signaling pathway	0.00073	MAPK13,CSF3,NFKB1,IL4,IL17C, <b>IL1B</b> ,IL17D,CXCL10,CASP8, <b>PTGS2</b> ,TRAF3,CXCL1,IL6,TNF
hsa05145	Toxoplasmosis	0.00073	MAPK13, <b>TGFB1*</b> ,NFKB1,IL10RA,LY96,CCR5,HSPA6,LAMA3,CASP8,LAMC3,TNF,LAMA2,PIK3CG, <b>LDLR</b> ,MAP2K6
hsa04611	Platelet activation	0.0012	LCP2,MAPK13, <b>VWF</b> ,VAMP8,FCGR2A,GUCY1A1,COL1A2,P2RY12,PLA2G4A, <b>SYK</b> ,TBXA2R,PIK3CG,GUCY1B1,PIK3R1,LYN,BTK
hsa05162	Measles	0.0014	IL2RB,NFKB1,EIF2S1, <b>CDK4</b> , <b>CCND2</b> , <b>IL1B</b> ,HSPA6,CD209,CD28,CASP8,IFNA8, <b>TLR7</b> ,TRAF3,IL6,PIK3R1,CD3G,JAK3
hsa04810	Regulation of actin cytoskeleton	0.0015	PFN1,ITGAV,ITGA9,ITGB7,FGF7, <b>EGFR</b> , <b>FGFR3</b> , <b>FN1</b> , <b>GSN</b> ,LPAR1, <b>CXCL12</b> ,ITGA4,ITGB2,SOS1,CXCR4,PIK3R1,CFL1,BDKRB2,ITGAX,VAV1,FGF1,WASF2
hsa05321	Inflammatory bowel disease	0.0033	<b>TGFB1*</b> ,NFKB1,IL4,RORA, <b>IL1B</b> ,IL21R,STAT4,IL6,TNF,IL12RB1
hsa04514	Cell adhesion molecules	0.004	CLDN11,ITGAV,ITGA9,ITGB7,CD28,CD86,L1CAM,SDC1,IGSF11,ITGA4,ITGB2,CLDN5,PTPRC,CNTN1,CD226, <b>NCAM1</b>
hsa04658	Th1 and Th2 cell differentiation	0.004	MAPK13,IL2RB,NFKB1,IL4, <b>NOTCH3</b> ,STAT4,CD247, <b>RUNX3</b> ,CD3G,JAK3,,IL12RB1,LCK
hsa04145	Phagosome	0.0047	<b>CORO1A</b> ,COMP, <b>THBS1</b> ,ITGAV,CYBA,FCGR2A,ATP6V0D2,CLEC7A,OLR1,CD209,FCGR1A,TUBAL3,ITGB2,CD14,TUBA1A,LOC102723407
hsa04015	Rap1 signaling pathway	0.005	LCP2,MAPK13,PFN1, <b>THBS1</b> ,FGF7, <b>EGFR</b> , <b>CSF1R</b> ,ANGPT2, <b>FGFR3</b> ,CNR1,PLCE1,LPAR1,IGF1,ITGB2,RASGRP3,PIK3R1,MAP2K6, <b>FPR1</b> ,VAV1,FGF1
hsa05167	Kaposi sarcoma-associated herpesvirus infection	0.0052	MAPK13,NFKB1, <b>CDK4</b> ,CCR5,ANGPT2,CD86,CASP8, <b>PTGS2</b> , <b>SYK</b> , <b>HCK</b> ,IFNA8,TRAF3,CXCL1,IL6,PIK3CG,PIK3R1,LYN, <b>HIF1A</b> ,MAP2K6
hsa04010	MAPK signaling pathway	0.0065	MAPK13, <b>TGFB1*</b> ,NFKB1,DUSP1,GADD45G, <b>IL1B</b> ,CACNA1C,ERBB3,FGF7, <b>EGFR</b> ,NTRK2, <b>CSF1R</b> ,HSPA6,ANGPT2, <b>FGFR3</b> ,MAPT,PLA2G4A,IGF1,SOS1,CD14,RASGRP3,TNF,TGFA,MAP2K6,FGF1
hsa05221	Acute myeloid leukemia	0.0069	NFKB1, <b>CSF1R</b> , <b>RUNX1</b> ,ZBTB16,FCGR1A, <b>PIM1</b> ,PIM2,SOS1,CD14,PIK3R1
hsa05143	African trypanosomiasis	0.0099	HBA2, <b>IL1B</b> ,IL6,TNF,HPR,HBB,LOC102723407
hsa04068	FoxO signaling pathway	0.0106	MAPK13, <b>TGFB1*</b> ,GADD45G, <b>CCND2</b> , <b>RBL2</b> , <b>EGFR</b> , <b>FOXO1</b> ,FOXO3,IGF1, <b>BCL6</b> ,SOS1,IL6,PIK3R1, <b>SOD2</b>
hsa04115	p53 signaling pathway	0.0106	<b>SERPINE1</b> ,GADD45G, <b>CDK4</b> , <b>THBS1</b> , <b>CCND2</b> , <b>CCNG1</b> ,CASP8,RRM2,IGF1,CDK1
hsa05131	Shigellosis	0.0108	MAPK13,PFN1,NFKB1,CYTH4, <b>IL1B</b> , <b>EGFR</b> ,HK3,HCLS1,CBX3,FOXO3,PLCE1, <b>FOXO1</b> ,CD14, <b>CD44</b> ,TNF,PIK3R1, <b>NAIP</b> ,CASP1, <b>CCL5</b> ,WASF2
hsa05340	Primary immunodeficiency	0.0108	CD79A,IGLL1,PTPRC,JAK3,LCK,BTK,LOC102723407
hsa05160	Hepatitis C	0.011	CLDN11,NFKB1,EIF2S1, <b>CDK4</b> , <b>EGFR</b> ,CXCL10,SOCS3,CASP8,IFNA8,TRAF3,SOS1,CLDN5,TNF,PIK3R1,PIAS1, <b>LDLR</b>
hsa05410	Hypertrophic cardiomyopathy	0.0128	<b>TGFB1*</b> ,ITGAV,ITGA9,CACNA1C,ITGB7, <b>ACE*</b> ,IGF1,ITGA4,IL6,TNF,LAMA2
hsa05164	Influenza A	0.015	NFKB1,EIF2S1, <b>CDK4</b> , <b>IL1B</b> ,CXCL10,SOCS3,TPSAB1,CASP8,IFNA8, <b>TLR7</b> ,TRAF3,IL6,TNF,PIK3R1,CASP1, <b>CCL5</b>
hsa05120	Epithelial cell signaling in Helicobacter pylori infection	0.0163	MAPK13,CSK,NFKB1, <b>EGFR</b> ,ATP6V0D2,CXCR1,CXCL1,LYN, <b>CCL5</b>

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hsa05322	Systemic lupus erythematosus	0.0194	SNRPD3,C6,FCGR2A,C7,CD28,CD86,FCGR1A,C1QC,C1QA,TNF,LOC102723407
hsa05414	Dilated cardiomyopathy	0.0194	<b>TGFB1*</b> ,ITGAV,ITGA9,CACNA1C,ITGB7,ADRB1,IGF1,ITGA4,TNF,LAMA2,LOC102723407
hsa04917	Prolactin signaling pathway	0.0205	MAPK13,NFKB1, <b>CCND2</b> ,SOCS3,FOXO3,SOS1, <b>ESR1</b> ,PIK3R1,PRLR
hsa04020	Calcium signaling pathway	0.026	CACNA1C,ERBB3, <b>EGFR</b> ,SPHK1, <b>EDNRA</b> ,OXTR,TRDN,ADRB1,PLCE1,PHKA1,HRH1,CXCR4,TBXA2R,AGTR1,P2RX6,BDKRB2,LOC102723407
hsa05206	MicroRNAs in cancer	0.026	NFKB1, <b>THBS1</b> , <b>CCND2</b> , <b>NOTCH3</b> , <b>TIMP3</b> ,ERBB3, <b>EGFR</b> , <b>FGFR3</b> , <b>CCNG1</b> , <b>PTGS2</b> , <b>PIM1</b> ,SPRY2,SOS1, <b>CD44</b> ,PIK3R1
hsa05132	Salmonella infection	0.0274	MAPK13,PFN1,NFKB1,CYTH4,CSE1L, <b>IL1B</b> ,RHOB,LY96,ARHGEF26,CASP8,CD14,IL6,TNF,PTPRC,PIK3CG, <b>NAIP</b> ,CASP1,MAP2K6
hsa05150	Staphylococcus aureus infection	0.0275	FCGR2A,KRT17,FPR3,FCGR1A,C1QC,C1QA,ITGB2,CFD, <b>FPR1</b> ,LOC102723407
hsa00350	Tyrosine metabolism	0.0282	ADH1A,PNMT,ADH1B,AOC3,AOX1,IL4I1
hsa04210	Apoptosis	0.0285	CTSZ,NFKB1, <b>CTSC</b> ,CTSD,GADD45G,EIF2S1,CASP10,CTSB,CASP8,TUBAL3,TNF,PIK3R1,TUBA1A
hsa05235	PD-L1 expression and PD-1 checkpoint pathway in cancer	0.0285	MAPK13,NFKB1, <b>EGFR</b> ,CD28,CD247,PIK3R1,CD3G, <b>HIF1A</b> ,MAP2K6,LCK
hsa05332	Graft-versus-host disease	0.0306	<b>IL1B</b> ,CD28,CD86,IL6,TNF,KLRC1
hsa04218	Cellular senescence	0.033	MAPK13, <b>TGFB1*</b> , <b>SERPINE1</b> ,NFKB1,GADD45G, <b>CDK4</b> , <b>CCND2</b> , <b>RBL2</b> , <b>FOXO1</b> ,FOXO3,CDK1,IL6,PIK3R1,MAP2K6
hsa04623	Cytosolic DNA-sensing pathway	0.033	NFKB1, <b>IL1B</b> ,CXCL10,IFNA8,IL6,CASP1, <b>CCL5</b> ,CCL4
hsa01521	EGFR tyrosine kinase inhibitor resistance	0.0363	ERBB3, <b>EGFR</b> , <b>FGFR3</b> ,FOXO3,IGF1,SOS1,IL6,TGFA,PIK3R1
hsa04750	Inflammatory mediator regulation of TRP channels	0.0376	MAPK13,PTGER2, <b>IL1B</b> ,PTGER4,PLA2G4A,IGF1,HRH1,PIK3R1,BDKRB2,MAP2K6
hsa04080	Neuroactive ligand-receptor interaction	0.0445	PTGER2,SSTR1,PTGER4,P2RY14, <b>EDNRA</b> , <b>TAC1</b> ,OXTR,VIPR1,LEPR,FPR3,ADRB1,CNR1,AGTR2,LPAR1,HRH1,NPY,TBXA2R,AGTR1,P2RX6,BDKRB2,ADCYAP1, <b>FPRI</b> ,PRLR,MAS1
hsa04014	Ras signaling pathway	0.0459	NFKB1,FGF7,PLA1A, <b>EGFR</b> ,NTRK2, <b>CSF1R</b> ,ANGPT2, <b>FGFR3</b> ,RASAL3,PLA2G4A,PLCE1,PLA2G5,IGF1,SOS1,RASGRP3,TGFA,PIK3R1,FGF1
hsa04670	Leukocyte transendothelial migration	0.0459	CLDN11,MAPK13,CYBA, <b>CXCL12</b> ,ITGA4,ITGB2,CLDN5,CXCR4,ITK,PIK3R1,VAV1
hsa04926	Relaxin signaling pathway	0.0459	MAPK13, <b>TGFB1*</b> ,NFKB1, <b>EGFR</b> ,COL1A2,COL4A5,COL4A2,COL4A1,COL4A3,COL4A4,SOS1,PIK3R1
hsa05161	Hepatitis B	0.0459	MAPK13, <b>TGFB1*</b> ,NFKB1,CASP10,STAT4,CASP8,IFNA8,TRAF3,SOS1,IL6,TNF,PIK3R1,JAK3,MAP2K6
hsa05223	Non-small cell lung cancer	0.0483	GADD45G, <b>CDK4</b> , <b>EGFR</b> ,FOXO3,SOS1,TGFA,PIK3R1,JAK3

FDR: False discovery rate. \*: CAVS associated variant.