Table S5A: List of genes from significantly enriched disease pathways in EC vein grafts at different time points.

Disease Pathways	2H Symbols	2H P_value	12H Symbols	12H P_value	24H Symbols	2H P_value2	7D Symbols	7D P_value	30D Symbols	30D P_value
Atherosclerosis Signaling	IL8, SELE, IL18, IL1B, NFKB1	0.081283052	IL8, CCR3, SELE, IL1A, PDGFA, CXCR4, IL6, PDGFC, PRDX6, LAMB2, COL1A2, COL1A1, PLA2G4A, IL18, SELP, CCL2, IL1RN, IL1B, MMP1 (includes EG:4312), COL3A1	0.0616595	IL8, CCR3, SELE, IL1A, VCAM1, CXCR4, IL6, PDGFC, LAMB2, IL1B, CCL2, IL1RN, IL1B, PDGFD, ITGA4, COL3A1 HLA-DMA, IL1A, HLA-DOA, HLA-DQA1, HLA-DMB, IL6, HLA-	0.00724436	IL8, SELE, VCAM1, MSR1, CXCR4, CD36, IL6, LAMB2, COL1A2, COL1A1, IL1B, CCL2, SELP, IL1RN, ITGA4, COL3A1 HLA-DQB1, HLA-DMA, IL1B, CD80, IL1RN, HLA-DRA, HLA-	0.00851138	COL1A2, COL1A1, IL1B, COL3A1, ITGA4	0.000446684
Graft-versus-Host Disease Signaling	IL1B, FCER1G, IL1B	0.124738351	IL1A, IL1B, HLA-A, CD80, IL1RN, FCER1G, IL1B, IL6 PTPN6, IL1A, CREM, GRB2, C9, IL6, FCGR1A, PIK3R3, PTPRC, IL1B, RRAS2, NFAT5, CD80, HLA-A, IL1RN, PIK3CG,	0.276694165	DQB1, IL1B, CD80, IL1RN, HLA-DRA, FCER1G, CD86, IL1B PTPN6, IL1A, CREM, GRB2, IL6, FCGR1A, PTPRC, PIK3R3, IL1B, RRAS2, CD80, IL1RN, PIK3CG, FCER1G, LYN, C7, CD86,	0.000112202	DQA1, FCER1G, CD86, HLA-DMB, IL6 PTPRC, IL1B, CD80, IL1RN, PIK3CG, FCER1G, LYN, CD86, C6,	0.003090295	IL1B, HLA-DRA, HLA-DQA1	0.005888437
Systemic Lupus Erythematosus Signaling	IL1B, FCER1G, NFATC2, IL1B	0.304088503	PLCG2, FCER1G, LYN, AKT3, IL1B, TNFSF13B	0.176603782	IL1B, PIK3CB, PIK3CD	0.008709636	IL6, FCGR1A, TNFSF13B	0.461317575	IL1B	0.39994475
Type I Diabetes Mellitus Signaling	SOCS3, FCER1G, IL1B, JAK2, NFKB1, BCL2	0.03801894	SOCS3, ICA1, HLA-A, CD80, MYD88, FCER1G, CYCS (includes EG:54205), IL1B, HSPD1, CASP8, CPE, IL1RAP	0.610942025	HLA-DMA, HLA-DOA, ICA1, HLA-DQA1, HLA-DMB, HLA-DQB1, CD80, HLA-DRA, FCER1G, IL1B, CYCS (includes EG:54205), CD86, MAP2K3, IL1RAP, CPE	0.021379621	HLA-DMA, IL12A, TNFRSF1A, HLA-DQA1, HLA-DMB, MAP3K5 (includes EG:4217), BCL2, HLA-DQB1, CD80, HLA-DRA, FCER1G, CD86, MAP2K3, CASP8, STAT1, CPE, TNFRSF11B	0.007762471	HLA-DRA, HLA-DQA1	0.130918192
Breast Cancer Regulation by Stathmin1	CDKN1A, GNA13, GNG2, PRKCB	0.477529274	PLCB2, PPP1R3C, GNB5, TUBB, PPP1R14B, GNB3, GNG11, PIK3CG, RB1CC1, ARHGEF3, ARHGEF12, TUBB2C, GRB2, GNAI1, TUBA4A, PRKAR2A, ARHGEF17, ITPR1, PIK3R3, PLCB4, RRAS2, PRKCD, CDKN1A, ARHGEF6, PPP1R12A, GNG2, CDKN1B, PPP2R1B, PRKCB	0.125025903	PLCB2, GRB2, ARHGEF15, PPP1R3C, PRKAR2A, ITPR1, PPP1R14B, GNB1, PIK3R3, PLCB4, RRAS2, GNG11, ADCY5, PIK3CG, PRKCD, CDKN1A, PIK3CB, PIK3CD, ARHGEF3, GNG2, CDKN1B, PPP2R1B, PRKCB	0.016595869	PLCB2, PPP1R3C, TUBB, PPP1R14B, PAK1, STMN1, CAMK2D, CAMK2A, ADCY5, PPM1J, PIK3CG, ARHGEF3, PPP1CA, CCNE2, ARHGEF15, TUBA4A, ITPR1, CDK1, CCNE1, PRKCD, CDKN1A, PPP1R12A, GNG2, PPP2R1B, PRKCB, CAMK2G	0.003981072	CDKN1A	0.432513831
Glioma Invasiveness Signaling	RND3, PLAUR, PLAU	0.171001532	PTK2, PIK3R3, TIMP3, RRAS2, TIMP1, PIK3CG, PLAUR, TIMP2	0.434510224	PIK3R3, TIMP3, RHOG, RRAS2, TIMP1, PIK3CG, PLAUR, MMP2, PIK3CB, PIK3CD, ITGB5, TIMP2	0.003630783	TIMP3, RHOG, F2R, TIMP1, PIK3CG, HMMR, ITGAV, PLAUR, MMP2	0.060255959	NA	#VALUE!
HER-2 Signaling in Breast Cancer	CDKN1A, NRG1, PRKCB	0.250034536	GRB2, NRG1, MDM2, ITGB8, CCND1, ITGB7, AREG, PIK3R3, RRAS2, PRKCD, PIK3CG, CDKN1A, AKT3, CDKN1B, PRKCB	0.120781384	GRB2, NRG1, MDM2, MMP2, ITGB7, PIK3R3, RRAS2, PRKCD, PIK3CG, CDKN1A, PIK3CD, PIK3CB, CDKN1B, ITGB5, PRKCB	0.002754229	CCNE2, CCNE1, PRKCD, PIK3CG, CDKN1A, NRG1, MMP2, MAP3K5 (includes EG:4217), PRKCB	0.216271852	CDKN1A	0.348337315
T Cell & B Cell Signal in Rheumatoid Arthritis	IL1B, FCER1G, IL1B, CSF2, NFKB1	0.054954087	TLR2, TLR1, IL1A, IL1B, SPP1, CD80, IL1RN, FCER1G, IL1B, IL6, TLR3, TNFSF13B	0.364753947	TLR1, HLA-DMA, IL1A, HLA-DOA, SPP1, HLA-DQA1, HLA-DMB, IL6, HLA-DQB1, TLR2, IL1B, CD80, IL1RN, HLA-DRA, FCER1G, CD86, TNFSF13B	0.001023293	TLR1, HLA-DMA, SPP1, IL12A, HLA-DQA1, HLA-DMB, IL6, HLA-DQB1, TLR2, IL1B, CD80, IL1RN, HLA-DRA, FCER1G,	0.003090295	IL1B, SPP1, HLA-DRA, HLA-DQA1	0.002570396
AML Signaling	CSF3R, MYC, CSF2RA (includes EG:1438), NFKB1	0.124738351	CSF3R, GRB2, CCND1, SPI1, EIF4EBP1, KITLG, PIK3R3, CSF2RB, RRAS2, CSF2RA (includes EG:1438), PIK3CG, AKT3, JUP, RUNX1, TCF7L2 (includes EG:6934)	0.127350308	CSF3R, GRB2, CSF1R, EIF4EBP1, KITLG, PIK3R3, CSF2RB, RRAS2, CSF2RA (includes EG:1438), PIM1, PIK3CG, PIK3CB, PIK3CD, MAP2K3, JUP, RUNX1, TCF7L2 (includes EG:6934)	0.000691831	CD86, TNFSF13B NA	#VALUE!	NA	#VALUE!
Hepatic Fibrosis /Stellate Cell Activation	IL1R2, IL8, IL1B, NFKB1, BCL2	0.155238701	IL1A, TGFBR1, LEP, PDGFA, ACTA2, MYL5, MYH11, IL6, IL1R2, COL1A2, IGF1, CCL2, TIMP1, IGF1R, LBP, MMP1 (includes EG:4312), TIMP2, IL8, EDNRB, FGFR2, IGFBP5, MYL9 (includes EG:10398), COL1A1, KDR, TGFB3, EDNRA, IL1B, A2M, COL3A1	0.003548134	MYH10, IL1A, CCR5, SMAD3, ACTA2, MYL5, MYH11, IL6, IL1R2, CCL2, TIMP1, HGF, ECE1, TIMP2, IL8, VCAM1, IGFBP5, MMP2, MYL6B, MYL9 (includes EG:10398), KDR, CD14, EDNRA, IL1B, A2M, COL3A1	7.59E-05	IL8, CCR5, VCAM1, TGFBR1, EDNRB, TNFRSF1A, MYL5, MYH11, MMP2, IL6, BCL2, COL1A2, MYL9 (includes EG:10398), COL1A1, CCL2, TIMP1, KDR, PDGFRA, CD14, EDNRA, STAT1, IFNAR1, TNFRSF11B, COL3A1	0.000128825	COL1A2, COL1A1, COL3A1	0.060255959
Endothelial Cells in Rheumatoid Arthritis	IL8, SOCS3, SELE, DAAM1, JAK2, NFKB1, IL18R1, MYC, IL1R2, IL18, CSAR1, IL1B, NFATC2, CSF2, IRAK2, PRKCB	0.001096478	IL6ST, IL18RAP, SOCS3, TLR1, PLCB2, IL1A, PDGFA, IL6, CREB5, FCGR1A, CCND1, PDGFC, IL18R1, IL1R2, CSAR1, NFAT5, PLCE1, CCL2, DKK3, PIK3CG, AKT3, DKK2, TLR3, MAPKAPK2, TNFSF13B, MMP1 (includes EG:4312), ADAMTS4, SFRP4, IL8, SELE, MYD88, TLR2, PIK3R3, PLCB4, IL18, RRAS2, IL1RN, PRKCD, PLCG2, GNAO1, FZD3, FZD6, TCF7L2 (includes EG:6934)	0.128528666	IL18RAP, TLR1, IL1A, PLCB2, PDIA3, IL6, FCGR1A, PDGFC, IL1R2, PLCE1, CSAR1, CCL2, DKK3, PIK3CG, SFRP5, SFRP4, IL8, VCAM1, SELE, DAAM1, PIK3R3, TLR2, PLCB4, IL18, RRAS2, IL1RN, PRKCD, GNAO1, IL1B, PIK3CB, MAP2K3, PIK3CD, PDGFD, TCF7L2 (includes EG:6934), PRSS35, PRKCB	0.013803843	IL18RAP, TLR1, PLCB2, SFRP2, PDIA3, IL6, CREB5, FCGR1A, C1R, PLCE1, CAMK2D, CAMK2A, CCL2, PIK3CG, SFRP5, LTBR, PLCL1, TNFSF13B, TNFRSF11B, IL8, SFRP4, VCAM1, SELE, TNFRSF1A, C1S, DAAM1, PLCL2, TLR2, IL1B, IL1RN, PRKCD, GNAO1, MAP2K3, LRP1, TCF7L2 (includes EG:6934), CAMK2G, PRKCB	0.009549926	IL1B, C1S	0.349140315

Table S5B: List of genes from significantly enriched disease pathways in SMC vein grafts at different time points.

Disease Pathways	2H Symbols	2H P_value	12H Symbols	12H P_value	24H Symbols	24H P_value	7D Symbols	7D P_value	30D Symbols	30D P_value
AML Signaling	NFKB1	0.223872114	CSF3R,MAP2K6,TCF4,GRB2,NFKB2,TCF7L1,NFKB1,SPI1,MYC,KITLG,CSF2RB,CCNA1,RRAS2,PIM1,CSF2RA (includes EG:1438),PIK3CG,AKT3,PIK3CB,MAP2K3,PIK3CD,PIK3R2,RUNX1,TCF7L2 (includes EG:6934)	0.009772372	CSF3R,KITLG,MYC,RRAS2,GRB2,RUNX1,PIK3R2,TCF7L2 (includes EG:6934)	0.104712855	NA	#VALUE!	NA	#VALUE!
Molecular Mechanisms of Cancer	NFKB1,BIRC3	0.223872114	PLCB2,BMP4,ADCY4,SMAD3,CDKN2C,MAPK13,MYC,PTK2,CAMK2D,RHOG,ADCY5,PIK3CG,NFKBIB,BIRC3,CASP10,SMAD9,ARHGEF17,NFKB2,RALBP1,RASGRF2,RHOQ,GAB1,CDK4,IRS1,GNAO1,ARHGEF6,TGFB3,PRKACA,CYCS (includes EG:54205),PIK3CD,MAP2K3,FZD5,CFLAR,GNAL,CAMK2G,MAP2K6,TCF4,PA2G4,HIF1A,JAK2,NFKB1,BCL2,CDC25B,MAPKSP1,NFKBIA,NLK,BMPR1A,GNAT2,E2F5,AKT3,PIK3R2,CASP8,PRKCA,PRKDC,PAK2,GRB2,ADCY6,GNAI1,MDM2,FOS,PLCB4,RRAS2,PRKCI,FZD4,PAK3,CDKN1A,PIK3CB,CDKN1B,BIRC2,PRKAR1A,PSEN1,PRKCB	0.008128305	GRB2,BMP2,MYC,SHC1,MAPKSP1,RRAS2,GAB1,GNAO1,CDKN1A,TGFB3,PIK3R2,CDKN1B,BIRC3,PRKCB	0.50234259	TGFBR1,CDKN2C,MAP3K5 (includes EG:4217),JAK2,BCL2,CDC25B,SHC1,CASP6,HHAT,NLK,CAMK2D,FANCD2,BID,ARHGEF3,CASP8,BIRC3,PRKD1,CHEK2,CASP10,CCNE2,CASP3,GRB2,ARHGEF15,GNAI1,RHOJ,ARHGEF17,AURKA,BCL2L1,PLCB4,CCND2,PRKCD,CDKN1A,GNAO1,TGFB3,PIK3CB,CDKN1B,ADCY7,BCL2L11,PRKCB	0.197242274	FOS	0.365594792
Breast Cancer Regulation by Stathmin1	NA	NA	PLCB2,CAMK1D,PPP1R3C,ADCY4,GNB5,LIMK2,TUBB,PPP1R14B,GNB4,STMN1,GNB3,GNG11,CAMK2D,ADCY5,PIK3CG,E2F5,PIK3R2,PRKCA,ITPR2,TUBB2C,GRB2,ADCY6,GNAI1,TUBA4A,ARHGEF17,ITPR1,PPP2R5A,ROCK1,PLCB4,PRKCI,RRAS2,PPP2R3A,PPP2R2B,ARHGEF6,CDKN1A,PRKACA,PPP1R12A,PIK3CB,PIK3CD,GNG2,CDKN1B,OPN1SW,PRKAR1A,CAMK2G,PRKCB	0.007079458	SHC1,RRAS2,GRB2,ITPR2,PPP1R3C,CDKN1A,PIK3R2,ITPR1,CDKN1B,TUBB,PPP1R14B,PRKCB	0.173780083	PPP1R3C,LIMK2,TUBA3C,TUBB,SHC1,STMN1,CAMK2D,ARHGEF3,PPP1CA,PRKD1,CCNE2,GRB2,ARHGEF15,GNAI1,TUBA4A,ARHGEF17,ITPR1,PPP2R5A,CDK1,PLCB4,PRKCD,CDKN1A,PPP2R2B,PPP1R12A,PIK3CB,UHMK1,GNG2,CDKN1B,ADCY7,PRKCB	0.026915348	NA	#VALUE!
Endothelial Cells in Rheumatoid Arthritis	NFKB1	0.413999675	TLR1,IL18RAP,SOCS3,PLCB2,IL6,CREB5,FCGR1A,IL18R1,MYC,VEGFA,IL1R2,CAMK2D,PLCE1,PIK3CG,DKK2,TRAF5,LTBR,NFKBIB,PLCL1,ADAMTS4,IL8,SELE,C1S,TLR2,IL18,IL1RN,PLCG2,GNAO1,PIK3CD,FZD5,MAP2K3,PDGFD,PRSS35,CAMK2G,MAP2K6,IL1A,TCF4,ICAM1,JAK2,NFKB1,IL17RA,PDGFC,C5AR1,NFKBIA,NLK,CCL2,PPP3CB,CFB,AKT3,PIK3R2,MAPKAPK2,NOS2,MMP1 (includes EG:4312),PRKCA,MYD88,TNFRSF1A,IL15,IL1R1,TCF7L1,KLK4,ROCK1,FOS,PLCB4,RRAS2,PRKCI,FZD4,NFATC2,IL1B,PIK3CB,TCF7L2 (includes EG:6934),PRKCB,IRAK2	0.006606934	IL8,SFRP4,TNFRSF1A,IL6,FCGR1A,MYC,IL1R2,C5AR1,RRAS2,CCL2,IL1RN,GNAO1,PIK3R2,NOS2,TCF7L2 (includes EG:6934),PRKCB,ADAMTS4	0.261818301	TLR1,SFRP2,ICAM1,JAK2,IL6,CREB5,FCGR1A,VEGFA,PLCE1,NLK,CAMK2D,CCL2,CFB,DKK2,LTBR,PRKD1,TNFSF13B,IL8,SFRP4,VCAM1,MYD88,C1S,DAAM1,IL1R1,KLK4,TLR2,PLCB4,IL18,PRKCD,GNAO1,PIK3CB,IRAK4,TCF7L2 (includes EG:6934),RYK,PRSS35,PRKCB	0.299916252	FOS,SFRP2,C1S,FCGR1A	0.019498446
Role of NFAT in Cardiac Hypertrophy	HDAC4	0.272270131	MAP2K6,PLCB2,LIF,CAMK1D,ADCY4,RCAN2,GNB5,MAPK13,IL6,GNB4,PLCE1,GNG11,CAMK2D,GNB3,PPP3CB,ADCY5,PIK3CG,IGF1R,AKT3,PIK3R2,PLCL1,PRKCA,AKAP5,HDAC4,ITPR2,GRB2,GNAI1,ADCY6,ITPR1,HDAC5,PLCB4,PRKCI,RRAS2,PLCG2,PRKACA,TGFB3,PIK3CB,MEF2C,MAP2K3,PIK3CD,GNG2,SLC8A1,OPN1SW,PRKAR1A,CAMK2G,PRKCB	0.005128614	AKAP5,GRB2,ITPR2,RCAN2,MEF2A (includes EG:4205),ITPR1,IL6,SHC1,RRAS2,TGFB3,MEF2C,PIK3R2,PRKCB	0.128233058	TGFBR1,GRB2,GNAI1,IL6,ITPR1,SHC1,PLCB4,CAMK2D,PLCE1,PRKCD,TGFB3,PIK3CB,GNG2,SLC8A1,ADCY7,PRKD1,PRKCB	0.679203633	NA	#VALUE!
Hepatic Fibrosis Cell Activation	NFKB1	0.233345806	IL1A,LEP,ICAM1,SMAD3,ACTA2,MYL5,MYH11,IL6,NFKB1,BCL2,IL1R2,VEGFA,COL1A2,CCL2,TIMP1,IGF1R,PDGFRA,MMP1 (includes EG:4312),TIMP2,IL8,EDNRB,TNFRSF1A,FGFR2,MMP2,IFNGR1,IGFBP5,IL1R1,NFKB2,MYL6B,MYL9 (includes EG:10398),COL1A1,CD40,KDR,TGFB3,CD14,EDNRA,IL1B,A2M,IFNAR1,COL3A1	0.000316228	IL1R2,MYL9 (includes EG:10398),IL8,CCL2,TIMP1,TNFRSF1A,PDGFRA,TGFB3,IGFBP5,IL6,A2M,FGF1	0.066069345	MYH10,TGFBR1,ICAM1,IL6,MYH7B (includes EG:57644),BCL2,VEGFA,COL1A2,CCL2,EDN1,TIMP1,LBP,STAT1,MYH1,IL8,VCAM1,EDNRB,IGFBP5,MYH7,IL1R1,MYL1,FGF1,COL1A1,CD40,KDR,TGFB3,CD14,MYH9,IFNAR1,COL3A1	7.08E-05	COL1A2,COL1A1	0.083176377
Atherosclerosis Signaling	CXCR4,NFKB1	0.130918192	CCR3,IL1A,ICAM1,PLA2R1,ALOX12,IL6,NFKB1,PDGFC,PRDX6,COL1A2,LCAT,CCL2,PROCA1,MMP1 (includes EG:4312),IL8,SELE,CXCR4,NFKB2,F3,LAMB2,COL1A1,PLA2G4A,IL18,SELP,CD40,IL1RN,IL1B,PDGFD,COL3A1	0.005128614	LAMB2,IL8,CCL2,CXCR4,IL1RN,IL6	0.354813389	IL8,VCAM1,ICAM1,MSR1,PLA2G10,YWHAZ,IL6,F3,WISP2,LAMB2,COL1A2,COL1A1,IL18,CCL2,CD40,COL10A1,ITGA4,COL3A1	0.056234133	COL1A2,COL1A1	0.070794578