

**Supplemental Table 7**

Upstream Regulator	Expr Log Ratio	Molecule Type	Predicted Activation State	Activation z-score	p-value of overlap	Target Molecules in Dataset
HGF		growth factor	Activated	2,707	2,18E-01	ACTA2,CASP10,DUSP6,ERRF1,GMNN,HDAC5,LAMC2,PGAM1,PHB,SERPINE1,UBE2C
ZBTB16		transcription regulator	Activated	2,646	7,68E-02	CD86,EGR2,HPSE,IL21R,LY96,SLAMF6,TNFSF11
NFE2L2		transcription regulator	Activated	2,592	1,00E00	AKR1A1,BDNF,CBR1,CD86,SERPINE1,SOD1,UBB
CNR1	-0,787	G-protein coupled receptor	Activated	2,326	3,82E-02	BDNF,BMP4,CNR1,CYP7B1,ERRF1,PAX6
AMPK		complex	Activated	2,219	1,61E-02	BCL2L11,FBXO32,LDHB,PFKFB3,SERPINE1,SOD1
PPARG		ligand-dependent nuclear receptor	Activated	2,200	4,69E-01	ACTA2,CAV2,KLF11,MBNL1,NR1H2,PFKFB3,SERPINA1,SERPINE1,SOD1
SMAD7		transcription regulator	Activated	2,186	1,19E-01	ACTA2,BCL2L11,CDH2,GATA4,SERPINE1
SERPINF1		other		1,982	1,51E-02	ACTA2,AXIN2,BDNF,OLIG1
DUSP1		phosphatase		1,980	1,30E-01	CD86,DUSP6,SERPINE1,UBD
RUNX1		transcription regulator		1,966	2,41E-01	BCL2L11,EVI5,SERPINE1,SHANK2,SPI1,ST3GAL5
MTOR		kinase		1,961	7,53E-03	AKR1A1,BCL2L11,CD86,FBXO32,GPHN,HSPB1,IL1R1,LDHB,LDHD,SERPINA1,SOD1,TXNL1,UBE2C
PPARD		ligand-dependent nuclear receptor		1,941	4,25E-01	ACTA2,LDHB,LIPG,PDE4C,ST3GAL5
FOXO1		transcription regulator		1,856	2,56E-01	AFF3,ANLN,ATP5MC3,BCL2L11,CNR1,EGR2,FBXO32,IL1R1,SERPINE1,SOD1
COLQ		other		1,732	2,83E-02	BDNF,BMP1,BMP4,LAMB1
MYC		transcription regulator		1,713	1,43E-03	AEBP2,BCL2L11,BDNF,CASP10,CD47,CD86,CDH2,DNPH1,DUSP6,EGR2,EIF2B3,EIF4E,FBXO32,GATA4,HSPB1,IPO7,LDHB,OLIG1,PAM,PFKFB3,PGAM1,PHB,RHPN1,RPL22,RPL37,RPLP1,RPLP2,SERPINA1,SERPINE1,SNRPD1,TIAM1,TNFSF11,UBE2C,UBE2S,ULBP1
MYCN		transcription regulator		1,473	3,39E-03	AEBP2,GATA4,HDAC5,OLIG1,PHB,PTK2,RPL22,RPL37,RPLP1,RPLP2,SERPINE1,UBE2V2
EGLN		group		1,373	4,09E-04	A1BG,FEM1C,GYS1,LZTFL1,NUDT13,PAM,PGAM1,SERPINE1,ULBP1,WWTR1
RUNX2		transcription regulator		1,344	2,71E-04	ACTA2,AXIN2,CDH2,OLIG1,PTK2,SELPLG,SERPINE1,ST3GAL5,TNFSF11
TIMP3		other		1,342	1,58E-03	BMP4,EGR2,LAMC2,SERPINE1,TGFBR3
KAT2A		enzyme		1,342	7,51E-03	FBXO32,IPO7,PGAM1,UBE2S,ULBP1
PTEN		phosphatase		1,303	2,82E-02	BCL2L11,BMP1,CD86,CDH2,DNPH1,EGR2,ERRF1,GPHN,GTTF2A1,GYS1,HDAC5,LAMP3,LDHB,MPP7,PFKFB3,PTP4A2,RAD51B,SERPINE1,SLCO2B1

APP	other	1,244	5,63E-03	ACTA2,AXIN2,BCL2L11,BDNF,BMP4,CD82,CD86,CDH2,CSNK2A1,FZD7,GRIN2B,HIVEP3,HSPB1,LDHB,LPAR6,NNAT,PAX6,PDE4B,PFKFB3,PGAM1,RASSF2,RNF24,SERPINE1,SNX14,SOD1,ST3GAL5,TLR10
CTNNB1	transcription regulator	1,173	2,79E-03	ACTA2,AXIN2,BCL2L11,BDNF,BMP1,BMP4,CD47,CDH2,CNR1,CTNNA2,CYP7B1,FZD7,GET4,IL1R1,LAMB1,LAMC2,LBH,OLIG1,ONECUT2,PDE4B,RAD23A,RPL22,RPL37,RPLP2,SERPINA1,SERPINE1,SPI1,TNFSF11
let-7	microRNA	1,155	1,56E-02	ACTA2,BDNF,BRCA2,CDH2,DUSP6,GMNN,PLAGL1,SERPINE1,SSR1
KLF2	transcription regulator	1,091	1,17E-02	BMP4,CD86,CDH2,FGR,GATA4,HPSE,SELPLG,SERPINE1
PRDM1	transcription regulator	1,000	1,21E-02	AFF3,AXIN2,BCL2L11,CD86,EGR2,FGR,MMP25,PDE4C,RASSF2,SLCO2B1
miR-122-5p (miRNAs w/seed GGAGUGU)	mature microRNA	0,984	2,45E-02	AKT3,GYS1,RAB11FIP1,XPO6
FOXP3	transcription regulator	0,882	3,62E-03	AKT3,ANLN,BCL2L11,CD101,CD226,DUSP6,NRN1,PLAGL1,TLR10
MAPK9	kinase	0,849	2,05E-02	BCL2L11,BMP1,BMP4,EIF4E,NR3C2,SELPLG,SERPINA1
KRAS	enzyme	0,808	3,33E-03	AXIN2,BMP4,CCDC125,CDH2,CYP2J2,DUSP6,EGR2,EIF4E,GMNN,GPC5,HSPB1,LAMB1,LAMC2,LAMP3,LBH,LIPG,NRN1,PDE4B,PLAGL1,PTK2,RPN1,SPI1,TCERG1,UBE2S
CSF2	cytokine	0,721	8,50E-03	AKR1A1,ANLN,BCL2L11,CD101,CD86,DUSP6,EGR2,IL1R1,LAMP3,LY9,LY96,PDE4B,PTK2,SNRPD1,SPI1,UBD,UBE2C
FOSL1	transcription regulator	0,686	4,00E-02	BDNF,CYP2J2,EGR2,SERPINE1
IL1B	cytokine	0,684	2,52E-02	ACTA2,BMP4,CASP10,CAV2,CD82,CD86,CDH2,EIF4E,ERRF1,GYS1,HSPB1,IL1R1,KCNQ1OT1,LAMC2,LY96,MAP2K6,NLRP7,OSGIN2,PAX6,PDE4B,PGAM1,SERPINE1,TNFSF11,UBD,UBE2V2
IL15	cytokine	0,667	1,50E-03	BCL2L11,CD226,CD86,EGR2,EIF4E,IL1R1,IL21R,KLRD1,LYPLA1,NR3C2,PDE4B,PFKFB3,PTP4A2,SELPLG,TJP2,TNFSF11,ULBP2
IL10RA	transmembrane receptor	0,632	3,76E-02	AKT3,BMP4,CALHM6,HPSE,LRG1,MMP25,PAM,SLAMF6,SLCO2B1,THBS4

IL6	cytokine	0,626	4,70E-02	ACTA2,AXIN2,BCL2L11,BDNF,CD82,CD86,DUSP6,EGR2,ERRFI1,IL1R1,KLRD1,LRG1,LY96,PHB,SERPINA1,SERPINE1,SPI1,TLR10,TNFSF11,UBE2C
ID2	transcription regulator	0,577	3,51E-02	ACTA2,AXIN2,BCL2L11,EGR2,MAP2K6,SLAMF6,TGFBR3,TNFSF11
EZH2	transcription regulator	0,563	1,73E-02	AXIN2,BCL2L11,BMP1,BMP4,C15orf48,CD82,CDH2,CNR1,GATA4,LAMC2,PAX6,SERPINA1,UBD
YAP1	transcription regulator	0,555	4,90E-02	ACTA2,ANLN,BCL2L11,FBXO32,RPL22,RPL37,RPLP2,SERPINE1,WWTR1
PPARGC1A	transcription regulator	0,533	4,53E-02	BMP4,FBXO32,GPC6,LAMB1,LDHB,MAP2K6,PGAM1,PHYH,SOD1,TGFBR3,TNFSF11
mir-223	microRNA	0,447	3,41E-02	ACTA2,C15orf48,EGR2,GRIN2B,LY96,MMP25
MACROH2A1	other	0,447	1,21E-02	BRCA2,MAP2K6,SERPINE1,TJP2,TMPRSS3
EGR1	transcription regulator	0,414	1,52E-02	ACTA2,BCL2L11,EGR2,HPSE,SERPINE1,SOD1,TIAM1,TNFSF11
CG	complex	0,400	5,85E-03	ACTA2,BDNF,BMP4,CDH2,DUSP6,EIF4E,GATA4,HPSE,NR1H2,NR3C2,PFKFB3,RASSF2,SOD1,TGFBR3
TGFA	growth factor	0,374	1,21E-02	ERRFI1,LAMC2,PLAGL1,SERPINA1,SERPINE1
TP53	transcription regulator	0,369	2,33E-02	ACTA2,AKT3,ANLN,ATL3,ATP5MC3,BCL2L11,BDNF,BMP1,BRCA2,CAV2,CD47,CD82,DUSP6,EGR2,FZD7,GATA4,GMNN,GPHN,HDAC5,HSPB1,IL21R,IPO7,LAMC2,LAMP3,LDHB,LYPLA1,MAP2K6,MCAT,MDM4,PDE4B,PFKFB3,PTK2,RAD23A,RALBP1,RASSF2,RCHY1,RPN1,SDHC,SERPINE1,SOD1,THBS4,TP53I11,UBD,UBE2C
mir-8	microRNA	0,362	1,57E-02	ACTA2,CD47,CDH2,ERRFI1,GATA4,PIP5K1A,PTK2,TIAM1
FOXO3	transcription regulator	0,338	2,90E-02	ACTA2,BCL2L11,EGR2,FBXO32,GMNN,IL1R1,MBNL1,OSGIN2,SERPINE1,SOD1,UBE2C
WNT3A	cytokine	0,312	2,77E-02	ACTA2,AXIN2,BDNF,BMP4,CDH2,EGR2,GATA4,LBH,OLIG1,TNFSF11
RETNLB	other	0,277	1,09E-02	ACTA2,BMP1,CD86,THBS4,UBE2C
FSH	complex	0,184	4,17E-02	ACTA2,AXIN2,BDNF,CDH2,GATA4,HDAC5,RASSF2,SERPINE1,TGFBR3,TP53I11,USPL1,ZNF331
DICER1	enzyme	0,018	2,21E-03	AXIN2,BCL2L11,BDNF,CD226,CD86,EGR2,KCNQ1OT1,LIPG,RAD23A,SERPINA1,SERPINE1,SPI1,TPO
SLC13A1	transporter	0,000	4,45E-03	GPC6,HSPB1,NRN1,RAD51B,RPN1,TFG
UCHL1	peptidase	0,000	4,00E-02	EIF2B3,LBH,LDHB,SERPINE1

ANXA7	ion channel	0,000	2,83E-02	BRCA2,CDH2,PAX6,RAD23A
MEF2D	transcription regulator	0,000	3,84E-02	BDNF,EGR2,HDAC5,SOD1
MEF2C	transcription regulator	-0,000	2,52E-02	BDNF,EGR2,GATA4,HDAC5,MMP25,PLAGL1
STAT3	transcription regulator	-0,229	2,08E-02	ACTA2,BCL2L11,CALHM6,CD226,CD86,CDH2, EGR2,IL1R1,LDHB,PAX6,PHB,PTK2,RNLS, SERPINA1,SERPINE1,SPI1,TNFSF11,UBD
miR-124-3p (and other miRNAs w/seed AAGGCAC)	mature microRNA	-0,271	1,60E-02	ATL3,BDNF,HDAC5,MDFIC,MMADHC,NR3C2, PHF19,TJP2,UHMK1
CCN5	growth factor	-0,277	1,73E-03	ACTA2,AXIN2,LAMC2,SERPINE1,TGFBR3 CD226,CD86,EGR2,EIF4E,GYS1,HIVEP3,IL1R1, IL21R,PDE4B,PGAM1,PHB,TNFSF11
CD28	transmembrane receptor	-0,309	1,71E-02	
miR-1-3p (and other miRNAs w/seed GGAAUGU)	mature microRNA	-0,310	4,28E-02	AGMAT,BDNF,LZTFL1,UHMK1,XPO6,YWHAQ, ZNF264
AKT1	kinase	-0,329	1,22E-02	ACTA2,ATP5MC3,BCL2L11,CD86,FBXO32,LAMB1, LDHB,SERPINE1,TGFBR3,TNFSF11,UBE2C
MAPK14	kinase	-0,356	4,28E-02	ACTA2,AXIN2,CD86,DUSP6,MAP2K6,SOD1, TNFSF11
BHLHE40	transcription regulator	-0,378	3,70E-03	ACTA2,AFF3,BDNF,C15orf48,CD86,IPCEF1, SLAMF6
HSF1	transcription regulator	-0,421	9,02E-05	BMP4,DEDD2,DHX34,HDAC5,HSPB1,PRAME, RAD51B,RPL22,TMPRSS3,TNFSF11,TRA2B,UBB, ZNF473
NGF	growth factor	-0,629	1,64E-02	AXIN2,BCL2L11,BDNF,CD86,DUSP6,EGR2,ERRFI1, GRIN2B,SOD1
TGFBR1	kinase	-0,651	1,67E-02	ACTA2,BMP4,CD86,EGR2,SERPINE1 ACTA2,AGGF1,ANLN,AXIN2,BCL2L11,BDNF,BMP4, BRCA2,CASP10,CAV2,CDC42SE2,CYP7B1,GOPC, HSF2BP,IPO7,KLHL20,LAMB1,MAP2K6,MDM4, NR1H2,ONECUT2,PDE7A,PHB,PHF19,PLCE1,PTK2, PTP4A2,RAD51B,ROBO2,RPL37,SERPINE1, SHANK2,THBS4,TJP2,TMPRSS3,TNFSF11,TP53I11, UHMK1,ULBP2
ESR1	ligand-dependent nuclear receptor	-0,690	1,41E-03	BCL2L11,BDNF,EGR2,HSPB1
MAP2K1/2	group	-0,694	4,33E-02	AFF3,BCL2L11,CBR1,GATA4,IL1R1,PAX6,RAB44, RNF144A
TET2	enzyme	-0,707	2,71E-03	

MET	kinase	-0,734	2,07E-03	BMP1,CDH2,FBXO32,HSPB1,MPP7,ONECUT2,SLCO3A1,SOD1
PLG	peptidase	-0,832	3,84E-02	BDNF,PIP5K1A,SERPINE1,TNFSF11
CD3	complex	-0,834	4,10E-02	BCL2L11,CD226,CD86,EGR2,EIF4E,GYS1,HIVEP3,IL1R1,IL21R,LYPLA1,NR3C2,PDE4B,PGAM1,PHB,PTP4A2,SELPLG,TNFSF11
GDNF	growth factor	-0,882	7,09E-03	BDNF,EGR2,NNAT,NRN1,PAX6
FN1	enzyme	-0,912	9,55E-03	ACTA2,BCL7B,CDH2,CSNK2A1,IL1R1,RASSF2,SDHC,SERPINE1,VPS4A
TGFB2	growth factor	-0,944	7,87E-04	ACTA2,BMP4,CD86,EGR2,KCNQ1OT1,LIPG,SERPINE1,TGFBR3
26s Proteasome	complex	-0,981	4,26E-02	BCL2L11,BRCA2,MDM4,UBD,ULBP1,ULBP2
WNT1	cytokine	-0,988	2,44E-02	ACTA2,AXIN2,BMP4,EIF4E,LBH,SERPINE1
SHC1	other	-1,000	2,70E-02	BCL2L11,CDH2,KLF11,SERPINE1
MAPK3	kinase	-1,044	3,01E-03	BCL2L11,BMP4,CD86,EGR2,SOD1,TNFSF11
CAV1	transmembrane receptor	-1,261	3,93E-02	BCL2L11,CAV2,GRIN2B,NR3C2,SERPINE1,TJP2
DKK1	growth factor	-1,292	6,30E-03	ACTA2,AXIN2,BDNF,BMP4,LBH
MAP4K4	kinase	-1,342	4,81E-02	DHODH,GYS1,LDHB,PGAM1,PHYH
MAPK1	kinase	-1,405	5,85E-03	BDNF,CDH2,CPED1,CTNNA2,EGR2,EVI5,FBXO32,GMNN,LAMP3,NRN1,SERPINE1,SHANK2,TNFSF11,UBE2C
TP73	transcription regulator	-1,412	2,11E-02	ACTA2,AGGF1,BCL2L11,HPSE,LBH,LDHD,LRG1,RFX2,RFX3,SERPINA1,SERPINE1,TP53I11,UBE2C
BMP7	growth factor	-1,445	3,24E-03	ACTA2,BMP1,BMP4,CAV2,CDH2,FZD7,NUDT13,PAX6,SERPINE1
DGCR8	enzyme	-1,446	1,58E-03	ACTA2,BDNF,EGR2,OLIG1,SPI1
ITGB1	transmembrane receptor	-1,673	9,61E-03	ACTA2,BMP1,CDH2,LAMB1,PTK2,SERPINE1,TNFSF11
miR-16-5p (and other miRNAs w/seed AGCAGCA)	mature microRNA	-1,766	5,83E-02	ANLN,ARL2,BDNF,EIF4E,GOLGA5,SPI1,UBE2S
CDKN1A	kinase	-1,875	2,97E-01	ACTA2,ANLN,IL1R1,SERPINE1,UBE2C,UBE2S
Tcf7	transcription regulator	-1,890	7,97E-02	EGR2,EVI5,IL1R1,IL21R,MMP25,NRN1,TIAM1
SP1	transcription regulator	-1,937	5,88E-02	ACTA2,AFAP1L1,BDNF,BMP4,CDH2,CSNK2A1,CYP7B1,HPSE,IL21R,KCNA3,RNLS,SERPINE1,SOD1,TGFBR3,TNFSF11
TICAM1	other	-1,941	9,41E-02	CD86,LZTFL1,PDE4B,SERPINE1,TNFSF11

MYB	transcription regulator		-1,960	3,50E-01	AXIN2,C15orf48,CDH2,PAX6
ETV4	transcription regulator		-1,963	2,95E-03	ACTA2,HPSE,PTK2,WWTR1
CXCL12	cytokine		-1,969	5,36E-02	ACTA2,BMP1,CD47,CD82,GOPC,SELPLG,TNFSF11
CD38	enzyme		-1,982	2,82E-01	ACTA2,CD86,EVI5,RPN1
CD40LG	cytokine		-1,996	1,35E-01	APRT,CD86,IL21R,LAMP3,PEX14,RASSF2,SELPLG, SERPINE1,TNFSF11,UBD
ADAM10	peptidase	Inhibited	-2,000	1,99E-02	ACTA2,CDH2,GRIN2B,MDM4,PAX6
Jnk	group	Inhibited	-2,022	7,12E-02	ACTA2,BCL2L11,CD86,CDH2,FBXO32,PTK2, SERPINE1
OGA	enzyme	Inhibited	-2,121	2,72E-01	ADAMTS17,CD47,CD86,EGR2,IL21R,LAMB1, PLCE1,TGFBR3,WWTR1
ANGPT2	growth factor	Inhibited	-2,576	3,67E-03	ACTA2,AXIN2,BCL2L11,CD86,GATA4,HDAC5, NR3C2,SERPINE1,SOD1,TNFSF11
Diap dopamine D1 receptor	group			4,93E-02	ACTA2
ARHGEF12	other			5,52E-03	BDNF,GRIN2B
EPHB1	kinase			3,31E-02	ACTA2
TRIM72	enzyme			1,38E-02	EGR2,SERPINE1
Becn2	other			1,67E-02	ACTA2
MAP3K	group			1,67E-02	CNR1
Foxo	group			3,31E-02	BDNF
Wnt	group			3,21E-02	BCL2L11,FBXO32
TMSB4	group			4,14E-02	CDH2,GATA4,TNFSF11
TGFBR	group			3,94E-02	BMP4,SERPINE1
Calcineurin protein(s)	complex			9,26E-03	ACTA2,TNFSF11
Smad3- Smad4	complex			3,38E-02	BCL2L11,BDNF,EGR2,SERPINE1
Hdac-Rcor- Rest-Sin3a	complex			3,31E-02	BCL2L11
CRNDE	other			1,67E-02	BDNF
HOTAIR	other			2,20E-02	DUSP6,IL1R1,TIAM1
Morrbid	other			4,14E-02	ACTA2,CDH2,LAMC2
Calcb	other			1,67E-02	BCL2L11
LINC00842	other			3,31E-02	SPI1
IGF2-AS	other			3,99E-03	CDH2,SERPINE1
FOXQ1	transcription regulator			4,93E-02	BDNF
LRP4	other			3,31E-02	NRXN3
				1,63E-03	BMP4,TNFSF11

CADPS		other	4,93E-02	BDNF
ARID3B		transcription regulator	7,28E-03	BCL2L11,CASP10
EPB42		transporter	3,31E-02	CD47
TET1		enzyme	1,74E-02	EGR2,GATA4,PAX6
USP6		peptidase	4,93E-02	BMP4
MN1		other	3,99E-03	BCL2L11,TNFSF11
PRPF31		other	1,67E-02	MDM4
MCAT	0,096	enzyme	1,67E-02	LY96
IDH3B		enzyme	1,67E-02	PFKFB3
KREMEN1		other	1,67E-02	AXIN2
BCAR4		other	5,52E-03	CDH2,PFKFB3
ZFP90		transcription regulator	4,93E-02	BMP4
CYLD		transcription regulator	2,71E-02	AXIN2,CD86,SERPINE1
SOX17		transcription regulator	1,89E-02	AXIN2,GATA4,LAMB1
CASS4		other	1,67E-02	PTK2
H1-3		other	4,93E-02	AXIN2
ZNF451		enzyme	4,93E-02	SERPINE1
ST6GALNAC2		enzyme	4,93E-02	SELPLG
RAI1		other	3,31E-02	BDNF
FLCN		other	1,89E-02	BCL2L11,MTERF1,SERPINE1
CARF		transcription regulator	1,67E-02	BDNF
PSMD14		peptidase	4,93E-02	BCL2L11
WLS		other	4,74E-02	BDNF,BMP4
GLIS3		transcription regulator	4,74E-02	BCL2L11,PAX6
CDCA4		other	1,67E-02	GMNN
ITGBL1		other	4,93E-02	TNFSF11
HDGF		growth factor	4,93E-02	SERPINE1
NFKBID		transcription regulator	2,22E-02	CD86,CDH2
MASTL		kinase	4,14E-02	ANLN,RAB11FIP1,SERPINE1
TAF3		transcription regulator	4,93E-02	GATA4
HERC2		enzyme	4,93E-02	USP16
HNF1A-AS1		other	3,94E-02	CDH2,UBE2C
CLSTN1		other	1,67E-02	GRIN2B
FOXG1		transcription regulator	2,53E-02	BCL2L11,SERPINE1
PTPN23		phosphatase	4,93E-02	CDH2
CADPS2		other	3,31E-02	BDNF
FZD8		G-protein coupled receptor	3,13E-03	ACTA2,BMP4,GATA4
AGO3		translation regulator	3,31E-02	BCL2L11
PARM1		other	3,31E-02	BMP4

Crhr	group	1,67E-02	BDNF
Trk Receptor	group	4,93E-02	DUSP6
AChR	complex	4,74E-02	CSNK2A1,VPS4A
adrenoceptor	group	4,93E-02	PDE4B
Nkx2-2os	other	2,53E-02	NNAT,PAX6
HIP1	other	3,31E-02	BDNF
TNKS2	enzyme	3,31E-02	AXIN2
Collagen type IV	complex	4,74E-02	ACTA2,SERPINE1
USP39	peptidase	1,67E-02	MDM4
FBLIM1	other	3,31E-02	TNFSF11
NFATC3	transcription regulator	3,10E-02	ACTA2,CASP10,EGR2,TNFSF11
CSNK1E	kinase	4,93E-02	SERPINE1
LPXN	transcription regulator	4,93E-02	ACTA2
SETDB1	enzyme	1,74E-02	CNTN4,GRIN2B,ROBO2
PRCC	other	1,67E-02	SERPINE1
LHX2	transcription regulator	9,03E-03	BDNF,PAX6,ROBO2
DYNLRB1	other	1,67E-02	SERPINE1
MAPK8IP2	other	3,31E-02	BDNF
STAR	transporter	1,64E-02	CD86,NR1H2
BSN	other	1,67E-02	BDNF
ACTC1	enzyme	3,31E-02	ACTA2
LAMTOR2	other	4,93E-02	LAMTOR1
MYLPF	other	1,67E-02	ACTA2
MED12	transcription regulator	4,74E-02	BMP4,EGR2
CCN4	other	1,15E-02	AXIN2,CDH2
MZB1	other	8,25E-04	BDNF,CD86
VAMP7	transporter	4,93E-02	CD82
HLTF	transcription regulator	3,31E-02	SERPINE1
FAF1	other	2,69E-03	AXIN2,TNFSF11
CXCR5	G-protein coupled receptor	1,67E-02	TNFSF11
MAT1A	enzyme	4,74E-02	PHB,SOD1
TMOD1	enzyme	4,93E-02	PTK2
PPP3CB	phosphatase	1,92E-02	FBXO32,KLRD1
PURB	transcription regulator	4,93E-02	ACTA2
MSX2	transcription regulator	3,28E-02	BMP4,CDH2,EGR2
PRPF8	other	3,31E-02	MDM4
CDH2	-3,408 other	2,53E-02	ACTA2,AKT3
GASS-AS1	other	3,31E-02	ACTA2



ADAMTS9-AS2		other	3,31E-02	TGFBR3
EN1		transcription regulator	1,92E-02	PAX6,TNFSF11
OSMR		transmembrane receptor	2,11E-02	C15orf48,LRG1,SERPINA1,TNFSF11
KIF5A		transporter	1,67E-02	GABRB2
CCR7		G-protein coupled receptor	2,22E-02	BCL2L11,CD86
RLIM		enzyme	1,38E-02	CDH2,SERPINE1
LTBR		transmembrane receptor	4,84E-02	ACTA2,CD86,SERPINA1
SH3KBP1		other	1,64E-02	CD86,SERPINE1
LY96	0,057	transmembrane receptor	2,86E-02	CD86,LY96
TSTA3		enzyme	1,67E-02	ACTA2
NGFR		transmembrane receptor	2,04E-02	GRIN2B,HPSE,SERPINE1
UBE2K		transcription regulator	1,67E-02	UBD
APBB1		transcription regulator	2,53E-02	ACTA2,CD82
miR-222-5p (miRNAs w/seed UCAGUAG)		mature microRNA	4,93E-02	ACTA2
miR-743b-3p (and other miRNAs w/seed AAAGACA)		mature microRNA	4,93E-02	EIF4E
mir-878		microRNA	3,31E-02	EIF4E
mir-880		microRNA	3,31E-02	EIF4E
miR-450a-5p (and other miRNAs w/seed UUUGCGA)		mature microRNA	2,20E-02	FZD7,PTK2,SERPINE1
miR-1258 (miRNAs w/seed GUUAGGA)		mature microRNA	1,67E-02	HPSE
mir-1258		microRNA	1,67E-02	HPSE
mir-134		microRNA	3,31E-02	BDNF

miR-2861 (and other miRNAs w/seed GGGCCUG)	mature microRNA	1,67E-02	HDAC5
miR-571 (miRNAs w/seed GAGUUGG)	mature microRNA	1,67E-02	GMNN
miR-1298-5p (and other miRNAs w/seed UCAUUCG)	mature microRNA	3,31E-02	PTK2
KREMEN2	other	1,67E-02	AXIN2
EED	transcription regulator	3,49E-02	BDNF,GATA4,OLIG1
PLK1	kinase	1,03E-02	ACTA2,BCL2L11,CDH2,GMNN
RGS19	enzyme	2,43E-04	AXIN2,BMP4,GATA4
IFI6	other	1,67E-02	BCL2L11
SUZ12	enzyme	2,68E-02	CNR1,FBXO32,GATA4,LAMC2,PAX6,UHMK1
CSK	kinase	2,86E-02	FGR,PTK2
BAZ1A	other	3,31E-02	TNFSF11
HCN1	ion channel	1,67E-02	BDNF
EXOC5	other	1,67E-02	ACTA2
ITGA9	other	5,62E-03	ACTA2,CDH2,TNFSF11
MYH11	other	4,93E-02	ACTA2
AXIN2	-1,321 other	3,31E-02	BMP4
DTX1	transcription regulator	1,00E-02	CD82,DUSP6,UHMK1
HAS2	enzyme	1,38E-02	ACTA2,PTK2
TRIM63	enzyme	4,93E-02	FBXO32
CDKN2B	transcription regulator	9,26E-03	CD86,SERPINE1
RBM4	other	4,93E-02	ULBP1
CLCN1	ion channel	4,93E-02	HDAC5
GPRASP1	transporter	1,67E-02	CNR1
USP2	peptidase	7,28E-03	MDM4,SERPINE1
ACKR1	G-protein coupled receptor	4,74E-02	BDNF,UBD
SOST	other	1,74E-02	AXIN2,SOD1,TNFSF11
STK16	kinase	4,93E-02	SERPINE1
MEOX1	transcription regulator	1,15E-02	BMP4,GATA4
ITIH5	other	1,67E-02	ACTA2

SPHK1	kinase	7,75E-03	ACTA2,BCL2L11,MAP2K6,SERPINE1
BCAN	other	3,31E-02	CDH2
OTUD7B	peptidase	3,99E-03	ACTA2,PTK2
STRAP	other	4,93E-02	SERPINE1
IFT57	other	2,86E-02	BDNF,CASP10
FANCC	other	2,70E-02	AXIN2,CYP7B1,IL1R1,WWTR1
PIP5K1C	kinase	5,52E-03	ERRFI1,PIP5K1A
β-catenin- BCL9-PYGO- TCF/LEF	complex	3,31E-02	AXIN2
CEACAM1	transporter	2,89E-02	CD86,ULBP1,ULBP2
GIPC1	other	1,63E-03	SERPINE1,TGFBR3
SDC2	other	7,28E-03	ACTA2,TGFBR3
GRIN2A	ion channel	1,67E-02	BDNF
SEM1	peptidase	1,67E-02	BRCA2
GFRA2	transmembrane receptor	4,93E-02	EGR2
PLEKHA1	other	3,31E-02	CD86
RELN	peptidase	1,15E-02	BDNF,GRIN2B
FRS2	other	1,17E-03	ACTA2,BMP4,PAX6
NRP1	transmembrane receptor	1,81E-03	ACTA2,CD86,PTK2
GABRG2	ion channel	3,31E-02	GPHN
ERG	transcription regulator	2,46E-02	AXIN2,CDH2,CHTOP,CNR1,EVI5,GPATCH2L, RAPH1,RPL22
ING2	transcription regulator	3,31E-02	SERPINE1
RGCC	other	2,22E-02	ACTA2,CDH2
RBMX	other	3,31E-02	BRCA2
LAMC1	other	2,22E-02	ACTA2,EGR2
BARX2	transcription regulator	3,57E-02	ACTA2,ANLN
LYPD6	other	4,93E-02	AXIN2
KIF17	transporter	1,67E-02	GRIN2B
AGO4	translation regulator	3,31E-02	BCL2L11
SNAI2	transcription regulator	2,33E-02	BCL2L11,BRCA2,CDH2,EGR2
SVIL	other	3,31E-02	ANLN
CDH5	other	1,64E-02	CDH2,TIAM1
ADCYAP1R1	G-protein coupled receptor	5,52E-03	BDNF,EGR2
NDRG1	kinase	2,71E-02	BCL2L11,CD82,ERRFI1
ATP7A	transporter	1,38E-02	PAM,PTK2
PPP1CA	phosphatase	9,26E-03	CDH2,WWTR1
PLEKHA2	other	3,31E-02	CD86

STX6		transporter	3,31E-02	PTK2
PLAT		peptidase	1,89E-02	BDNF,GRIN2B,SERPINE1
RPA1		other	4,33E-02	NAV2,RASSF10
CDK5R2		other	4,93E-02	BDNF
Smad2/3/4		group	1,81E-03	ACTA2,CDH2,SERPINE1
ENTPD1		enzyme	1,38E-02	CD86,SERPINE1
BAIAP2		kinase	4,93E-02	GRIN2B
NONO		transcription regulator	4,26E-03	PDE4B,PDE4C,PDE7A
RXFP1		G-protein coupled receptor	1,67E-02	ACTA2
EFNB2		kinase	2,86E-02	TIAM1,TNFSF11
ADAM19		peptidase	1,67E-02	EGR2
GDF10		growth factor	1,67E-02	SERPINE1
ELN		other	1,64E-02	CD86,PTK2
NOX4		enzyme	4,84E-02	ACTA2,BCL2L11,SERPINE1
CCDC80		other	7,28E-03	AXIN2,FZD7
GSK3A		kinase	3,94E-02	GATA4,SERPINE1
DAXX		transcription regulator	2,64E-03	CASP10,HSPB1,SERPINE1
RHCE/RHD		transporter	3,31E-02	CD47
ST8SIA2		enzyme	3,31E-02	PAX6
UBL5		other	1,67E-02	MDM4
CYP2J2	1,873	enzyme	4,74E-02	CD82,CYP2J2
HOXA1		transcription regulator	1,15E-02	EGR2,GATA4
EFNA2		kinase	1,51E-02	BDNF,DUSP6,UBE2C,UBE2S
NTSR1		G-protein coupled receptor	1,67E-02	BDNF
AZIN1		enzyme	4,93E-02	ACTA2
LOC10035958				
3/Ptma		other	3,31E-02	BCL2L11
CRTAP		other	3,31E-02	SERPINE1
ACTA2	-0,245	other	7,28E-03	ACTA2,PTK2
CDC42		enzyme	1,60E-02	BCL2L11,CD86,UBE2C
Cdc42		enzyme	3,49E-02	ACTA2,CD86,SPI1
Col17a1		other	1,64E-02	AXIN2,SERPINA1
NEDD4		enzyme	3,21E-02	DUSP6,ERRFI1
PCDH11Y		other	4,74E-02	AXIN2,BMP4
RNF11		enzyme	3,31E-02	SERPINE1
H1-5		other	3,31E-02	AXIN2
RPS4Y1		other	3,31E-02	CDH2
HUS1		kinase	3,31E-02	BCL2L11
GNRH2		other	9,26E-03	RPLP1,RPLP2

AZGP1		transporter	9,03E-03	BMP4,FBXO32,GYS1
NET1		other	3,99E-03	CDH2,SERPINE1
LAMB2		enzyme	3,31E-02	LAMB1
SERPINH1		other	9,26E-03	CDH2,SERPINE1
EEF2		translation regulator	1,67E-02	BDNF
SLC30A3		transporter	9,26E-03	BDNF,GRIN2B
SNRNP70		other	4,93E-02	MDM4
ZFYVE16		other	3,31E-02	SERPINE1
SOD1	0,650	enzyme	3,40E-02	BMP4,CDH2,CNR1,HIVEP3,HSPB1,SHANK2,SOD1, TNFSF11,VAPB
SMAD3- EP300		complex	1,67E-02	SERPINE1
TCF		group	1,91E-02	BMP4,CTNNA2,IL1R1,SERPINA1,SERPINE1