

Supplementary Table 3. Pathways differentially regulated by ablation of *Mig-6*

Term	Molecules	P-value
Cell Cycle: G2/M DNA Damage Checkpoint Regulation	CKS2,CKS1B, TOP2A,CCNB2,RPRM,CDK1, CHEK1	6.03E-04
Estrogen-mediated S-phase Entry	CCNA2,RBL1,E2F3,CCND1,CDK1	1.05E-03
Cell Cycle Control of Chromosomal Replication	MCM5,MCM3,MCM6,MCM2,MCM4	1.82E-03
LPS/IL-1 Mediated Inhibition of RXR Function	GSTA3,ABCB1,APOE,HMGCS2,IL33,GSTT1, HS6ST1,MAOB,JUN,null,ACSL5,SULT1C2, ACSL4,FABP4,SLC27A3,ABCC3	2.63E-03
GADD45 Signaling	PCNA,CCND2,CCND1,CDK1	3.24E-03
Pantothenate and CoA Biosynthesis	PANK1,ENPP3,BCAT1,DPYD	3.24E-03
ILK Signaling	MUC1,CASP3,MYH14,VIM,RHOJ,PDGFC, CCND1,JUN,null,PPP2R2B,PPP1R12A,FIGF, IRS2,DSP	3.89E-03
Tight Junction Signaling	CLDN10,TIAM1,CLDN23,JUN,CLDN5,CRB3,null, MYH14,PPP2R2B,IGSF5,ARHGEF2,CLDN7	6.03E-03
Atherosclerosis Signaling	IL33,ALOX15,APOE,LPL,CD36,S100A8,CCL11,PLA2G7,PDGFC,APOD	6.31E-03
Pancreatic Adenocarcinoma Signaling	NAPEPLD,JAK1,CYP2E1,TGFA,FIGF,E2F3, CCND1,PDGFC,null	9.33E-03
ATM Signaling	JUN,SMC2,CCNB2,BID,CDK1,CHEK1	1.17E-02
p53 Signaling	PCNA,JUN,CCND2,RPRM,CCND1,null,CHEK1,S ERPINE2	1.29E-02
Eicosanoid Signaling	PTGIS,ALOX15,PTGFR,PTGER3,ALOX5AP, PLA2G7	1.51E-02
Granzyme B Signaling	CASP3,BID,LMNB1	1.51E-02
Mismatch Repair in Eukaryotes	PCNA,MSH6,FEN1	1.51E-02
Cyclins and Cell Cycle Regulation	CCNA2,CCND2,PPP2R2B,CCNB2,E2F3, CCND1,CDK1	1.55E-02
Reelin Signaling in Neurons	APOE,ARHGEF4,ARHGEF16,ARHGEF2, DAB1,VLDLR,FRK	1.66E-02
Hepatic Fibrosis / Hepatic Stellate Cell Activation	MET,CYP2E1,MYH14,TGFA,IGFBP3,FIGF, BAMBI,PDGFC,IFNAR1,TIMP2	1.95E-02
Molecular Mechanisms of Cancer	ARHGEF4,TCF4,null,JAK1,CASP3,CREBBP, PTCH1,RHOJ,RBL1,E2F3,CCND1,RAC3,CHEK1, CCND2,JUN,ARHGEF16,null,BID,ARHGEF2	2.04E-02
Mitotic Roles of Polo-Like Kinase	KIF23,CDC20,PPP2R2B,CCNB2, Ccnb1/Gm5593,CDK1	2.29E-02
Granzyme A Signaling	HIST1H1C,CREBBP,APEX1	2.45E-02
Colorectal Cancer Metastasis Signaling	TCF4,JAK1,CASP3,PTGER3,RHOJ,PDGFC, CCND1,null,JUN,WNT7A,MSH6,FIGF,MMP11, MMP12	3.02E-02
Nitrogen Metabolism	CA3,CA2,CA12,GLUL	3.16E-02
Role of CHK Proteins in Cell Cycle Checkpoint Control	PCNA,PPP2R2B,E2F3,CDK1,CHEK1	3.47E-02
Glutathione Metabolism	GSTA3,GSR,GSTT1,GPX3,ANPEP	4.47E-02
Amyotrophic Lateral Sclerosis Signaling	null,CASP3,CASP1,GLUL,BID,FIGF,PDGFC	4.90E-02
Biosynthesis of Steroids	FDPS,SQLE,CYP2E1	5.01E-02
Induction of Apoptosis by HIV1	SLC25A13,null,SLC25A6,CASP3,BID	5.01E-02
Role of BRCA1 in DNA Damage Response	MSH6,FANCC,RBL1,E2F3,CHEK1	5.01E-02
LXR/RXR Activation	IL33,APOE,SCD,LPL,CD36,S100A8,ARG2, APOD	5.13E-02
HIF1 $\alpha$ Signaling	JUN,CREBBP,FIGF,MMP11,MMP12,APEX1, PDGFC	5.62E-02

Term	Molecules	P-value
RhoGDI Signaling	ARHGEF4,ARHGEF16,CREBBP,RDX,PPP1R12A,RHOJ,GRIP1,ARHGEF2,CDH16,CDH13	6.92E-02
Role of IL-17A in Psoriasis	S100A9,S100A8	6.92E-02
eNOS Signaling	CCNA2,AQP5,PRKG1,CHRNA4,CASP3,FIGF,AQP4,PDGFC	7.08E-02
TNFR1 Signaling	null,JUN,CASP3,BID	7.59E-02
DNA Double-Strand Break Repair by Homologous Recombination	LIG1,ATRX	7.76E-02
Production of Nitric Oxide and Reactive Oxygen Species in Macrophages	APOE,JAK1,JUN,PPP2R2B,CREBBP,PPP1R12A,RHOJ,S100A8,ARG2,APOD	7.76E-02
Signaling by Rho Family GTPases	STMN1,ARHGEF4,JUN,ARHGEF16,RDX,PPP1R12A,VIM,CDC42EP3,RHOJ,ARHGEF2,CDH16,CDH13	8.71E-02
IL-8 Signaling	NAPEPLD,JUN,CCND2,ANGPT1,FIGF,RHOJ,CCND1,RAC3,PDGFC,TEK	8.91E-02
Urea Cycle and Metabolism of Amino Groups	null,ARG2,ASPA	9.12E-02
Pyrimidine Metabolism	TYMS,ENPP3,DUT,DPYD,ENTPD2,DCTPP1,RRM2,UNG	9.55E-02
O-Glycan Biosynthesis	GCNT3,GALNT3,GALNT12	9.77E-02
Glioma Signaling	IGF2,RBL1,E2F3,CCND1,IGF2R,PDGFC	1.00E-01
Inhibition of Angiogenesis by TSP1	JUN,CASP3,CD36	1.05E-01
Interferon Signaling	OAS1,JAK1,IFNAR1	1.05E-01
TWEAK Signaling	null,CASP3,BID	1.05E-01
Methane Metabolism	CYP2E1,SHMT1	1.10E-01
Cell Cycle Regulation by BTG Family Proteins	PPP2R2B,E2F3,CCND1	1.12E-01
Arachidonic Acid Metabolism	PTGIS,GSTT1,ALOX15,GPX3,CYP2E1,PLA2G7,null	1.24E-01
Nitric Oxide Signaling in the Cardiovascular System	PDE2A,PRKG1,FIGF,PRKG2,PDGFC	1.26E-01
Death Receptor Signaling	null,CASP3,BID,TNFSF10	1.36E-01
Cell Cycle: G1/S Checkpoint Regulation	CCND2,RBL1,E2F3,CCND1	1.42E-01
Docosahexaenoic Acid (DHA) Signaling	ALOX15,CASP3,BID	1.42E-01
Glutamate Metabolism	GSR,GLUL,GPT2	1.42E-01
One Carbon Pool by Folate	TYMS,SHMT1	1.44E-01
Sertoli Cell-Sertoli Cell Junction Signaling	CLDN10,CLDN23,PRKG1,JUN,CLDN5,null,IGSF5,PRKG2,CLDN7	1.45E-01
Retinoic acid Mediated Apoptosis Signaling	CASP3,BID,TNFSF10,IFNAR1	1.61E-01
FXR/RXR Activation	IL33,APOE,FOXA2,CREBBP,VLDLR	1.62E-01
Riboflavin Metabolism	ENPP3,PTPRJ	1.67E-01
Bladder Cancer Signaling	FIGF,MMP11,MMP12,CCND1,PDGFC	1.73E-01
Neuregulin Signaling	DCN,GRB7,TGFA,ERBB3,ERRFI1	1.73E-01
Angiopietin Signaling	ANGPT1,GRB7,TEK,null	1.74E-01
Aryl Hydrocarbon Receptor Signaling	GSTA3,GSTT1,CCNA2,JUN,CCND2,CCND1,CHEK1	1.77E-01
Inositol Metabolism	ALDOC	1.85E-01
Hereditary Breast Cancer Signaling	CREBBP,MSH6,FANCC,CCND1,CDK1,CHEK1	1.90E-01
Leukocyte Extravasation Signaling	CLDN10,CLDN23,CLDN5,VAV3,RDX,MMP11,CLDN7,MMP12,TIMP2	1.90E-01
Type II Diabetes Mellitus Signaling	ACSL5,ADIPOQ,CD36,ACSL4,IRS2,SLC27A3	1.90E-01
Role of Oct4 in Mammalian Embryonic Stem Cell Pluripotency	null,FOXA2,NR2F2	1.91E-01

Term	Molecules	P-value
Glycosphingolipid Biosynthesis - Neolactoseries	GCNT3,FUT9	1.92E-01
Role of JAK1, JAK2 and TYK2 in Interferon Signaling	JAK1,IFNAR1	1.92E-01
Role of Lipids/Lipid Rafts in the Pathogenesis of Influenza	FDPS,IFNAR1	1.92E-01
Tumoricidal Function of Hepatic Natural Killer Cells	CASP3,BID	1.92E-01
IL-10 Signaling	IL33,JAK1,JUN,ARG2	1.94E-01
PXR/RXR Activation	ABCB1,SCD,HMGCS2,ABCC3	1.94E-01
Breast Cancer Regulation by Stathmin1	STMN1,ARHGEF4,ARHGEF16,PPP2R2B, RB1CC1,PPP1R12A,ARHGEF2,E2F3,CDK1	1.97E-01
Wnt/ $\beta$ -catenin Signaling	SOX7,SFRP4,TCF4,JUN,WNT7A,PPP2R2B, CREBBP,CCND1	2.04E-01
Renal Cell Carcinoma Signaling	MET,JUN,CREBBP,TGFA	2.08E-01
Histidine Metabolism	MAOB,CYP2E1,ASPA	2.26E-01
IL-15 Production	JAK1,FRK	2.29E-01
N-Glycan Degradation	FUCA2,MAN1A1	2.29E-01
Aminosugars Metabolism	PDE2A,PTPRJ,APEX1,NPL	2.30E-01
Ephrin B Signaling	EFNB2,VAV3,ITSN2,RAC3	2.30E-01
Glycine, Serine and Threonine Metabolism	PSAT1,MAOB,CHDH,SHMT1	2.30E-01
IGF-1 Signaling	JAK1,JUN,IGFBP3,IRS2,null	2.33E-01
Xenobiotic Metabolism Signaling	GSTA3,GSTT1,HS6ST1,ABCB1,MAOB, SULT1C2,PPP2R2B,MAF,CREBBP,UGT2B10, GRIP1,ABCC3	2.40E-01
CD27 Signaling in Lymphocytes	JUN,CASP3,BID	2.44E-01
Dopamine Receptor Signaling	MAOB,PPP2R2B,PPP1R12A,PCBD1	2.51E-01
NRF2-mediated Oxidative Stress Response	GSTA3,GSR,GSTT1,JUN,MAF,CREBBP,ENC1,B ACH1	2.54E-01
Semaphorin Signaling in Neurons	MET,SEMA4D,RHOJ	2.54E-01
Sonic Hedgehog Signaling	PTCH1,CDK1	2.54E-01
TNFR2 Signaling	null,JUN	2.54E-01
Primary Immunodeficiency Signaling	BLNK,IGHM,UNG	2.62E-01
Fatty Acid Biosynthesis	SLC27A3	2.65E-01
Pentose Phosphate Pathway	DERA,ALDOC	2.67E-01
AMPK Signaling	null,CHRNA4,PPP2R2B,ADIPOQ,ADRA2C, IRS2	2.83E-01
Cardiac $\beta$ -adrenergic Signaling	AKAP13,PDE2A,null,PPP2R2B,PPP1R12A, APEX1	2.83E-01
Ovarian Cancer Signaling	TCF4,WNT7A,MSH6,FIGF,CCND1,PDGFC	2.83E-01
IL-12 Signaling and Production in Macrophages	ALOX15,APOE,JUN,MAF,S100A8,APOD	2.89E-01
ErbB2-ErbB3 Signaling	JUN,ERBB3,CCND1	2.90E-01
Glutamate Receptor Signaling	SLC1A3,GLUL,GRIP1	2.99E-01
Actin Cytoskeleton Signaling	TIAM1,IQGAP2,ARHGEF4,VAV3,MYH14,RDX,PP P1R12A,RAC3,PDGFC	3.01E-01
Serotonin Receptor Signaling	MAOB,PCBD1	3.04E-01
Valine, Leucine and Isoleucine Biosynthesis	BCAT1	3.13E-01
IL-9 Signaling	JAK1,IRS2	3.17E-01
Role of JAK2 in Hormone-like Cytokine Signaling	JAK1,IRS2	3.17E-01

Term	Molecules	P-value
Synthesis and Degradation of Ketone Bodies	HMGCS2	3.37E-01
ERK5 Signaling	CTF1,MEF2C,WNK1	3.45E-01
Role of JAK1 and JAK3 in $\gamma$ c Cytokine Signaling	BLNK,JAK1,IRS2	3.45E-01
Apoptosis Signaling	null,CASP3,BID,CDK1	3.50E-01
Activation of IRF by Cytosolic Pattern Recognition Receptors	JUN,CREBBP,IFNAR1	3.55E-01
G $\alpha$ 12/13 Signaling	JUN,VAV3,MEF2C,CDH16,CDH13	3.63E-01
Notch Signaling	CNTN1,HEY1	3.66E-01
Phenylalanine Metabolism	MAOB,CYP2E1	3.66E-01
CTLA4 Signaling in Cytotoxic T Lymphocytes	AP1M2,PPP2R2B,AP1S3,PTPN22	3.72E-01
Phospholipase C Signaling	BLNK,NAPEPLD,ARHGEF4,ARHGEF16,CREBBP,PPP1R12A,RHOJ,MEF2C,ARHGEF2	3.72E-01
Valine, Leucine and Isoleucine Degradation	BCAT1,HMGCS2,Aox3	3.73E-01
Alanine and Aspartate Metabolism	GPT2,ASPA	3.78E-01
Chronic Myeloid Leukemia Signaling	RBL1,E2F3,CCND1,null	3.80E-01
Calcium Signaling	CHRNA4,TNNI2,ATP2B1,MYH14,CREBBP,MEF2C,ATP2B2	3.84E-01
Glioblastoma Multiforme Signaling	IGF2,WNT7A,RHOJ,E2F3,CCND1,PDGFC	3.90E-01
Mechanisms of Viral Exit from Host Cells	LMNB1,null	3.90E-01
Netrin Signaling	PRKG1,RAC3	3.90E-01
Role of PKR in Interferon Induction and Antiviral Response	CASP3,BID	3.90E-01
Thyroid Cancer Signaling	TCF4,CCND1	3.90E-01
Starch and Sucrose Metabolism	ENPP3,UGT2B10,AMY2A	3.92E-01
Mouse Embryonic Stem Cell Pluripotency	ID1,TCF4,JAK1,CREBBP	3.95E-01
PPAR Signaling	IL33,JUN,CREBBP,PDGFC	3.95E-01
Agrin Interactions at Neuromuscular Junction	JUN,ERBB3,RAC3	4.01E-01
Chemokine Signaling	JUN,PPP1R12A,CCL11	4.09E-01
Basal Cell Carcinoma Signaling	TCF4,WNT7A,PTCH1	4.19E-01
Extrinsic Prothrombin Activation Pathway	F5	4.21E-01
Parkinson's Signaling	CASP3	4.21E-01
cAMP-mediated signaling	null,AKAP13,PDE2A,RGS2,null,PTGER3,ADRA2C,APEX1	4.24E-01
HGF Signaling	MET,ELF3,JUN,CCND1	4.26E-01
$\beta$ -alanine Metabolism	null,DPYD	4.26E-01
PDGF Signaling	JAK1,JUN,PDGFC	4.28E-01
Small Cell Lung Cancer Signaling	CKS1B,BID,CCND1	4.28E-01
IL-17 Signaling	JAK1,JUN,CCL11	4.37E-01
iNOS Signaling	JAK1,JUN	4.38E-01
Cholecystinin/Gastrin-mediated Signaling	IL33,JUN,RHOJ,MEF2C	4.41E-01
Cyanoamino Acid Metabolism	SHMT1	4.41E-01
Phenylalanine, Tyrosine and Tryptophan Biosynthesis	PCBD1	4.41E-01
RAN Signaling	KPNA2	4.41E-01
Tryptophan Metabolism	MAOB,CYP2E1,INMT,null,Aox3	4.44E-01
Arginine and Proline Metabolism	null,MAOB,ARG2	4.46E-01
Tyrosine Metabolism	MAOB,CYP2E1,Aox3	4.46E-01
Nicotinate and Nicotinamide Metabolism	ENPP3,PTPRJ,CDK1,Aox3	4.49E-01
PI3K Signaling in B Lymphocytes	BLNK,JUN,ATF5,VAV3,IRS2	4.50E-01

Term	Molecules	P-value
Role of Osteoblasts, Osteoclasts and Chondrocytes in Rheumatoid Arthritis	IL33,SFRP4,null,TCF4,JUN,WNT7A,DLX5,IL18R1	4.50E-01
Endoplasmic Reticulum Stress Pathway	CASP3	4.59E-01
EGF Signaling	JAK1,JUN	4.60E-01
Retinol Metabolism	RDH10,UGT2B10	4.71E-01
Cellular Effects of Sildenafil (Viagra)	PDE2A,PRKG1,MYH14,PPP1R12A,PRKG2	4.75E-01
Linoleic Acid Metabolism	ALOX15,CYP2E1,PLA2G7	4.89E-01
Role of Wnt/GSK-3 $\beta$ Signaling in the Pathogenesis of Influenza	TCF4,WNT7A,IFNAR1	4.89E-01
Stilbene, Coumarine and Lignin Biosynthesis	CYP2E1	4.95E-01
Hepatic Cholestasis	IL33,ABCB1,JUN,SLCO3A1,ABCC3	5.01E-01
PPAR $\alpha$ /RXR $\alpha$ Activation	JUN,LPL,CREBBP,ADIPOQ,CD36,MED24	5.08E-01
Androgen Signaling	JUN,AR,CREBBP,CCND1	5.14E-01
Prostate Cancer Signaling	AR,CREBBP,CCND1	5.14E-01
RhoA Signaling	RHPN2,RDX,PPP1R12A,CDC42EP3	5.14E-01
PTEN Signaling	CASP3,CCND1,IGF2R,RAC3	5.21E-01
Sphingosine-1-phosphate Signaling	CASP3,CASP1,RHOJ,PDGFC	5.21E-01
Maturity Onset Diabetes of Young (MODY) Signaling	FOXA2	5.28E-01
Polyamine Regulation in Colon Cancer	TCF4	5.28E-01
Chondroitin Sulfate Biosynthesis	HS6ST1,SULT1C2	5.35E-01
Cysteine Metabolism	HS6ST1,SULT1C2	5.35E-01
IL-2 Signaling	JAK1,JUN	5.35E-01
Metabolism of Xenobiotics by Cytochrome P450	GSTA3,GSTT1,CYP2E1,UGT2B10	5.36E-01
Regulation of Actin-based Motility by Rho	PPP1R12A,RHOJ,RAC3	5.40E-01
Lymphotoxin $\beta$ Receptor Signaling	CASP3,CREBBP	5.46E-01
ErbB Signaling	JUN,TGFA,ERBB3	5.47E-01
Fructose and Mannose Metabolism	PTPRJ,ALDOC	5.56E-01
Keratan Sulfate Biosynthesis	HS6ST1,SULT1C2	5.56E-01
Propanoate Metabolism	ACSS1,SLC27A3	5.56E-01
Thrombopoietin Signaling	JUN,IRS2	5.56E-01
Glycosphingolipid Biosynthesis - Globoseries	FUT9	5.60E-01
IL-22 Signaling	JAK1	5.60E-01
Phospholipid Degradation	NAPEPLD,PPAP2C,PLA2G7	5.62E-01
Actin Nucleation by ARP-WASP Complex	PPP1R12A,RHOJ	5.65E-01
Glioma Invasiveness Signaling	RHOJ,TIMP2	5.74E-01
IL-17A Signaling in Gastric Cells	JUN	5.74E-01
Role of JAK family kinases in IL-6-type Cytokine Signaling	JAK1	5.74E-01
Antiproliferative Role of TOB in T Cell Signaling	CCNA2	5.89E-01
Myc Mediated Apoptosis Signaling	CASP3,BID	5.94E-01
TREM1 Signaling	CASP1,CD83	5.94E-01
Intrinsic Prothrombin Activation Pathway	F5	6.15E-01
Citrate Cycle	IDH3A	6.28E-01
Methionine Metabolism	null	6.28E-01