

Table 5. IPA-identified canonical signaling and metabolic pathways significantly enriched among transcripts present in mGEPs but not npGECs

Canonical Pathway	p-value*	Gene symbols
PPAR α /RXR α Activation	1.27E-05	MAP3K14, ADCY2, NFKBIE (includes EG:4794), SMAD3, GNAQ, MAPK8, CAND1, GNAS, IKBKG, PRKAR2B, CYP2C18, PRKAR1B, SLC27A1, TGS1, PPARGC1A
B Cell Receptor Signaling	2.29E-05	BLNK, ETS1, MAP3K14, GAB2, PIK3C2A, NFKBIE (includes EG:4794), MAP3K11, MAPK8, PIK3R5, NFATC1, BCL6, IKBKG, CAMK2D, SYK, LYN
PPAR Signaling	3.17E-05	PPARG, NR2F1, MAP3K14, IKBKG, IL1RN, NFKBIE (includes EG:4794), PDGFRA, PDGFC, PDGFB, MAP3K7IP1, PPARGC1A
NF- κ B Signaling	6.13E-04	MAP3K14, IKBKG, PIK3C2A, IL1RN, NFKBIE (includes EG:4794), PIK3R5, PDGFRA, TGFA, MAPK8, TNFAIP3, IRAK3, MAP3K7IP1
Actin Cytoskeleton Signaling	6.76E-04	ARHGEF4, PIK3C2A, PIK3R5, FGFR2, PIP5K1B, IQGAP1 (includes EG:8826), RAC3, PDGFC, TTN, APC, PDGFB, FGF1, MYLK, ROCK1, PAK1, PDGFRA, FGF7
IL-10 Signaling	7.30E-04	MAP3K14, IKBKG, SP1, IL1RN, NFKBIE (includes EG:4794), MAPK8, BLVRB, MAP3K7IP1
G-Protein Coupled Receptor Signaling	1.85E-03	PDE2A, ADCY2, RGS2, PIK3C2A, EDNRB, NFKBIE (includes EG:4794), GNAQ, PIK3R5, GNAS, IKBKG, PRKAR2B, CAMK2D, PRKAR1B, PDK1
ERK/MAPK Signaling	1.93E-03	ETS1, PPARG, PIK3C2A, PIK3R5, FGFR2, RAC3, PAK1, PRKAR2B, PLA2G4B, PLA2G5, PPM1L, PDGFRA, PRKAR1B, ELK3
Fc Epsilon RI Signaling	2.23E-03	PIK3C2A, SYK, PLA2G5, PLA2G4B, PIK3R5, MAPK8, LYN, PDK1, RAC3
Aryl Hydrocarbon Receptor Signaling	2.32E-03	NR2F1, NCOA2, SP1, MGST2, GSTM5, GSTA5, MAPK8, APAF1, ALDH3B1, CDKN1B, ALDH3A1
Ephrin Receptor Signaling	3.68E-03	MAP3K14, GNAQ, FGFR2, GNAZ, PDGFC, RAC3, PDGFB, FGF1, GNG10, ROCK1, GNAS, PAK1, PDGFRA
SAPK/JNK Signaling	3.74E-03	PIK3C2A, MAP3K11, PIK3R5, PDGFRA, MAPK8, FGFR2, NFATC1, MAP4K5, RAC3, MAP3K7IP1
Toll-like Receptor Signaling	4.06E-03	MAP3K14, IKBKG, MAP3K11, MAPK8, IRAK3, MAP3K7IP1
Nitric Oxide Signaling in the Cardiovascular System	5.40E-03	PDE2A, ADCY2, CACNA1D, PRKAR2B, PIK3C2A, PIK3R5, PRKAR1B, PRKG2
PDGF Signaling	5.41E-03	PIK3C2A, MAP3K11, PIK3R5, PDGFRA, MAPK8, PDGFC, PDGFB
Synaptic Long Term Depression	7.04E-03	NOS1, GNAS, CACNA1D, PLA2R1, PLA2G5, PPM1L, LYN, GNAQ, PRKG2, GNAZ
Axonal Guidance Signaling	8.38E-03	PIK3C2A, GNAQ, PIK3R5, FGFR2, NFATC1, PLXNA2, GNAZ, RAC3, PDGFC, PDGFB, GNG10, ROCK1, GNAS, PAK1, PRKAR2B, NTRK3, SEMA6D, ABLIM3, PDGFRA, PRKAR1B
Eicosanoid Signaling	8.76E-03	PTGDR, PTGER3, PLA2R1, PLA2G5, PTGS2, PTGER4
LPS/IL-1 Mediated Inhibition of RXR Function	9.58E-03	ABCB1, MGST2, GSTM5, NR1H4, GSTA5, MAP3K11, MAPK8, ALDH3B1, SLC27A1, ABCG1, ALDH3A1
FGF Signaling	1.07E-02	PIK3C2A, MAP3K11, PIK3R5, MAPK8, FGFR2, FGF7, FGF1
PTEN Signaling	1.16E-02	IKBK, MAGI1, PIK3R5, PDGFRA, CDKN1B, PDK1, RAC3, MAGI3
IGF-1 Signaling	1.36E-02	PRKAR2B, NOV, PIK3C2A, PIK3R5, PRKAR1B, MAPK8, PDK1
Apoptosis Signaling	1.36E-02	ROCK1, MAP3K14, IKBKG, NFKBIE (includes EG:4794), PDGFRA, MAPK8, APAF1, FGFR2
Xenobiotic Metabolism Signaling	1.38E-02	ABCB1, GSTM5, PIK3C2A, MAP3K11, GSTA5, MAPK8, PIK3R5, CAMK2D, MGST2, PPM1L, ALDH3B1, ALDH3A1, PPARGC1A
Endoplasmic Reticulum Stress Pathway	1.41E-02	ERN1 (includes EG:2081), MAPK8, HSPA5
NRF2-mediated Oxidative Stress Response	1.50E-02	SOD2, PIK3C2A, MGST2, GSTM5, GSTA5, MAP3K11, PIK3R5, MAPK8, FOSL1
IL-6 Signaling	1.61E-02	ABCB1, MAP3K14, IKBKG, IL1RN, NFKBIE (includes EG:4794), MAPK8, MAP3K7IP1
Integrin Signaling	1.84E-02	MYLK, ROCK1, PARVB, PAK1, PIK3C2A, ARF4, PIK3R5, PDGFRA, MAPK8, FGFR2, RAC3, TTN
Death Receptor Signaling	2.91E-02	MAP3K14, IKBKG, NFKBIE (includes EG:4794), MAPK8, APAF1
GM-CSF Signaling	2.91E-02	ETS1, CAMK2D, PIK3C2A, PIK3R5, LYN
Cardiac β -adrenergic Signaling	3.20E-02	GNAS, PDE2A, ADCY2, CACNA1D, PRKAR2B, PPM1L, PRKAR1B, GNG10
Neuregulin Signaling	3.97E-02	ERBB2IP, BTC, TGFA, CDKN1B, PDK1, AREG
Wnt/ β -catenin Signaling	4.11E-02	SOX2, CDH2, SOX9, PPM1L, GNAQ, LRP1, TCF7L2, APC, MAP3K7IP1
EGF Signaling	4.60E-02	PIK3C2A, MAP3K11, PIK3R5, MAPK8
PI3K/AKT Signaling	4.83E-02	GAB2, IKBKG, NFKBIE (includes EG:4794), PPM1L, PDGFRA, FGFR2, CDKN1B, PDK1

* these p-values were <0.05 in a right-tailed Fisher's Exact Test.