

Figure S4

A

Ingenuity Canonical Pathways	p-value	Molecules
LXR/RXR Activation	1.45E-07	CD14,CD36,C3,LPL,SCD,NOS2,TF
Tryptophan Metabolism	9.55E-04	CCBL1,CYP2B6,CYP3A4,CYP2E1
PXR/RXR Activation	1.45E-03	CYP2B6,CYP3A4,SCD
Linoleic Acid Metabolism	1.95E-03	CYP2B6,CYP3A4,CYP2E1
Xenobiotic Metabolism Signaling	2.34E-03	CYP2B6,CYP3A4,Ces1b/Ces1c,Ces1g,NOS2
Metabolism of Xenobiotics by Cytochrome P450	3.47E-03	CYP2B6,CYP3A4,CYP2E1
B Cell Development	3.80E-03	CD79B,Igk-V28
Glycerolipid Metabolism	4.07E-03	LPL,DGKB,PNLIPRP2
Complement System	4.07E-03	CFD,C3
LPS/IL-1 Mediated Inhibition of RXR Function	5.13E-03	CD14,CYP2B6,CYP3A4,FABP4
Fatty Acid Metabolism	6.76E-03	CYP2B6,CYP3A4,CYP2E1
Nitrogen Metabolism	7.24E-03	CA3,CA5B
Arachidonic Acid Metabolism	7.59E-03	CYP2B6,CYP3A4,CYP2E1
MIF Regulation of Innate Immunity	1.07E-02	CD14,NOS2
Bile Acid Biosynthesis	1.35E-02	CYP3A4,CYP2E1
Hepatic Fibrosis / Hepatic Stellate Cell Activation	1.55E-02	CD14,CYP2E1,FIGF
Starch and Sucrose Metabolism	1.58E-02	PYGL,AMY2A
Acute Phase Response Signaling	2.29E-02	C3,HP,TF
PPAR $\alpha$ /RXR $\alpha$ Activation	2.57E-02	CD36,ADIPOQ,LPL
TR/RXR Activation	4.27E-02	THRSP,HP

B

Ingenuity Canonical Pathways	p-value	Molecules
Retinol Metabolism	3.31E-03	UGT2B17,BMP2
Metabolism of Xenobiotics by Cytochrome P450	2.00E-02	CYP3A4,UGT2B17
Tryptophan Metabolism	3.89E-02	CCBL1,CYP3A4
Cardiomyocyte Differentiation via BMP Receptors	4.17E-02	BMP2
Granzyme A Signaling	4.79E-02	GZMA

C

Ingenuity Canonical Pathways	p-value	Molecules
Metabolism of Xenobiotics by Cytochrome P450	1.58E-08	ADH4 (includes EG:127),GSTM5,CYP51A1,CYP2C18,CYP2B6,ALDH1A3,UGT2B10,CYP3A43,Adh6a,Gsta4,UGT2B15,ADH1C (includes EG:11522),CYP2S1,CYP2J2,CYP2C8,UGT2A3,Gstm3,GSTA3,CYP3A4,Cyp2c40 (includes others)
LPS/IL-1 Mediated Inhibition of RXR Function	5.25E-08	PPARA,GSTM5,FABP6,MAOB,CYP2B6,ALDH1A3,HMGCS2,ABCG8,ABCB1,SLC27A4,IL1RL1,ALDH3A2,Gstm3,FMO5,LBP,HS3ST1,CHST4,CYP2C8,GSTA3,LY96 (includes EG:17087),CYP3A4,ACSL1,ABCC2,ACSL3,PAPSS2,HMGCS1,Sult1d1
Tryptophan Metabolism	1.70E-07	ADH4 (includes EG:127),CYP51A1,SIAH1,CYP2C18,MAOB,CYP2B6,DHCR24,ALDH1A3,CYP3A43,CYP2S1,DDC,CYP2J2,CYP2C8,CCBL1,ALDH3A2,WARS,BCKDHB,CYP3A4,ABP1 (includes EG:26),Cyp2c40 (includes others)
Interferon Signaling	1.17E-06	IRF1 (includes EG:16362),IRF9,STAT1,MX1,OAS1,TAP1,STAT2,PSMB8,IFIT3,IFIT1
Xenobiotic Metabolism Signaling	3.89E-06	GSTM5,MAOB,CYP2B6,ALDH1A3,GCLC,UGT2B10,UGT2B15,ABCB1,Ces1g,NOS2,LIPA,ALDH3A2,Gstm3,MAP3K13,PIK3R3,FMO5,NQO1,Ces1b/Ces1c,MAP2K6,HS3ST1,CHST4,CYP2C8,Ces2a,FTL,Ces2b/Ces2c,GSTA3,CYP3A4,CES1,ABCC2,Sult1d1
Fatty Acid Metabolism	5.25E-06	ADH4 (includes EG:127),CYP51A1,CYP2C18,CYP2B6,ALDH1A3,CYP3A43,Adh6a,ADH1C (includes EG:11522),CYP2S1,SLC27A4,CYP2J2,CYP2C8,ALDH3A2,CYP3A4,ACSL1,ACSL3,Cyp2c40 (includes others)
Fructose and Mannose Metabolism	2.75E-05	ADH4 (includes EG:127),NUDT5,PFKFB3,DUSP16,GMDS,ALDOC,SORD,HK2,GMPPB,PGM2
PXR/RXR Activation	3.31E-05	PPARA,G6PC,ALDH3A2,CYP2B6,HMGCS2,CYP3A4,ABCB1,ABCC2,PAPSS2,FOXO3,SCD,CYP2C8
Linoleic Acid Metabolism	4.47E-05	CYP51A1,CYP2C18,CYP2B6,FADS3,CYP3A4,CYP3A43,PLA2G2F,CYP2S1,PLA2G5,Cyp2c40 (includes others),CYP2J2,CYP2C8
Activation of IRF by Cytosolic Pattern Recognition Receptors	7.76E-05	ZBP1,IFIH1,IRF9,STAT1,DHX58,TBK1,STAT2,DDX58,ADAR,ISG15,IFIT2
LXR/RXR Activation	8.91E-05	CD36,IL1RL1,CCL2,IL33,MSR1 (includes EG:20288),LY96 (includes EG:17087),ABCG8,ARG2 (includes EG:11847),SCD,LBP,NOS2,IL18 (includes EG:16173)
Nitrogen Metabolism	1.02E-04	CA13,CA3,CA8,ADAR,TGM2,ASNS,GLS,CA2
Aminoacyl-tRNA Biosynthesis	1.02E-04	YARS,TARS,WARS,IARS,LARS,CARS,AARS,MARS
Arachidonic Acid Metabolism	1.15E-04	GPX2,CYP51A1,CYP2C18,CYP2B6,CYP3A43,PLA2G2F,CYP2S1,PLA2G5,CYP2J2,CYP2C8,GGT1,CBR1,Cyp4f16/Gm9705,CYP3A4,Cyp2c40 (includes others)
p38 MAPK Signaling	1.32E-04	ATF4,MAP2K6,PLA2G2F,TIFA,PLA2G5,MEF2C,IL18 (includes EG:16173),IL1RL1,HIST3H3,MYC,IL33,DAXX,STAT1,EEF2K
Biosynthesis of Steroids	1.55E-04	FDPS,FDFT1,IDI1,DHCR7,LSS,NQO1
Arginine and Proline Metabolism	1.82E-04	SRM,ALDH3A2,MAOB,ALDH1A3,BCKDHB,Amd1 (includes others),ARG2 (includes EG:11847),ABP1 (includes EG:26),PRODH,NOS2,OAT
Glycolysis/Gluconeogenesis	2.40E-04	ADH4 (includes EG:127),G6PC,ALDH3A2,ALDH1A3,ALDOC,Adh6a,ADH1C (includes EG:11522),ACSL1,ACSS2,ACSL3,HK2,PGM2
Pyruvate Metabolism	4.68E-04	ADH4 (includes EG:127),ME1,ALDH3A2,ACOT12,ALDH1A3,BCKDHB,PKC1 (includes EG:18534),ACSL1,ACSS2,ACSL3
Glutathione Metabolism	6.46E-04	GPX2,GSTM5,Gstm3,GSR,GCLC,GSTA3,Gsta4,GCLM,GGT1
Sphingolipid Metabolism	6.76E-04	ASAH2,DUSP16,SPTLC2,SPTSSA,KDSR,ASAH1,UGCG,SGPP1,LPIN2,LCT,PPAP2A
Glycerolipid Metabolism	7.76E-04	ADH4 (includes EG:127),LIPA,ALDH3A2,ALDH1A3,CLPS,Adh6a,ADH1C (includes EG:11522),DGKB,LPIN2,LCT,PNLIPRP2,PPAP2A
Hepatic Fibrosis / Hepatic Stellate Cell Activation	8.71E-04	VEGFA,HGF,ICAM1,SMAD4,MMP13,CXCL9,FIGF,IL1RL1,CCL2,STAT1,LY96 (includes EG:17087),PDGFC,EDN1,IL4R,LBP
Bile Acid Biosynthesis	1.51E-03	ADH4 (includes EG:127),LIPA,ALDH3A2,ALDH1A3,CYP3A4,Adh6a,ADH1C (includes EG:11522),SRD5A1
Role of Pattern Recognition Receptors in Recognition of Bacteria and Viruses	1.62E-03	IFIH1,TLR2,EIF2AK2,OAS1,OAS2,RIPK2,DDX58,PIK3R3,OAS3,RNASEL
Starch and Sucrose Metabolism	1.95E-03	UGT2A3,NUDT5,G6PC,UGT2B10,UGT2B15,UGDH,ENPP3,HK2,PGM2
Tyrosine Metabolism	1.95E-03	ADH4 (includes EG:127),MAOB,ALDH1A3,BCKDHB,TAT,Adh6a,ADH1C (includes EG:11522),ABP1 (includes EG:26),DDC
Atherosclerosis Signaling	2.14E-03	CCL11,CD36,CCL2,IL33,ICAM1,MSR1 (includes EG:20288),PDGFC,MMP13,PLA2G2F,PLA2G5,IL18 (includes EG:16173)
Pancreatic Adenocarcinoma Signaling	2.19E-03	HBEGF,SUV39H1,VEGFA,E2F3,STAT1,SMAD4,PDGFC,CCND1,STAT3,CDKN1B,PIK3R3,FIGF
IL-10 Signaling	2.63E-03	IL1RL1,IL33,SOCS3,ARG2 (includes EG:11847),MAP2K6,STAT3,IL4R,LBP,IL18 (includes EG:16173)
IL-22 Signaling	3.31E-03	SOCS3,STAT1,IL22RA2,STAT3,IL22RA1
Acute Phase Response Signaling	3.39E-03	SERPING1,MAP2K6,SERPINA3,STAT3,RBP2,IL18 (includes EG:16173),OSMR,IL33,SOCS3,FTL,CP,NOLC1,SA2,PIK3R3,LBP
Phenylalanine Metabolism	3.72E-03	MAOB,DHCR24,ALDH1A3,TAT,ABP1 (includes EG:26),DDC
NRF2-mediated Oxidative Stress Response	3.72E-03	GSTM5,GPX2,GCLC,ATF4,MAP2K6,FKBP5,CBR1,FTL,GSR,Gstm3,STIP1,GSTA3,ABCC2,GCLM,PIK3R3,NQO1
FXR/RXR Activation	3.80E-03	PPARA,SLC10A2,FABP6,G6PC,MLXIPL,IL33,ABCG8,ABCC2,VLDLR,IL18 (includes EG:16173)
Keratan Sulfate Biosynthesis	5.01E-03	B4GALT6,B4GALT5,B4GALT1,HS3ST1,CHST4,ST3GAL1,Sult1d1
Pentose and Glucuronate Interconversions	5.62E-03	ADH4 (includes EG:127),UGT2A3,BCKDHB,UGT2B10,UGT2B15,UGDH
Methionine Metabolism	5.62E-03	SRM,TAT,Amd1 (includes others),TGM2,MARS
Fatty Acid Biosynthesis	5.62E-03	ACSL3,OXSM,BTD
Nicotinate and Nicotinamide Metabolism	8.32E-03	BST1 (includes EG:12182),G6PC,EIF2AK2,DUSP16,NT5E,MAP2K6,ENPP3,NAMPT,CD38,SGK1
Retinol Metabolism	9.12E-03	ADH4 (includes EG:127),UGT2A3,UGT2B10,ADH1C (includes EG:11522),UGT2B15,Rdh7
Cell Cycle: G1/S Checkpoint Regulation	1.05E-02	NRG1 (includes EG:112400),SUV39H1,MYC,E2F3,SMAD4,CCND1,CDKN1B
Role of Macrophages, Fibroblasts and Endothelial Cells in Rheumatoid Arthritis	1.05E-02	TLR2,IL7,PLCE1,VEGFA,ATF4,ICAM1,MAP2K6,MMP13,CCND1,IL18R1,STAT3,FIGF,NOS2,IL18 (includes EG:16173),CCL2,IL1RL1,MYC,IL33,SOCS3,PDGFC,PIK3R3,CEBPD
Galactose Metabolism	1.15E-02	ADH4 (includes EG:127),G6PC,B4GALT1,LCT,HK2,PGM2
Bladder Cancer Signaling	1.35E-02	SUV39H1,VEGFA,MYC,PDGFC,CCND1,MMP13,MMP7,FIGF,FGF7
Pyrimidine Metabolism	1.41E-02	NUDT5,UPP1,POLR1B,ENTPD5,NT5E,POLR3E,ENTPD4,DPYSL2,PNPT1,ENPP3,CTPS,UCK2
IL-9 Signaling	1.51E-02	SOCS3,STAT1,BCL3,STAT3,PIK3R3
Hepatic Cholestasis	1.74E-02	PPARA,SLC10A2,IL1RL1,FABP6,IL33,LY96 (includes EG:17087),ABCG8,ABCB1,ABCC2,PPRC1,LBP,IL18 (includes EG:16173)
ERK5 Signaling	1.78E-02	MYC,SFN,ATF4,GAB1,MEF2C,FOXO3,SGK1
Role of JAK1 and JAK3 in yc Cytokine Signaling	1.78E-02	IL7,SOCS3,STAT1,STAT3,IL4R,PIK3R3,IL15RA
Toll-like Receptor Signaling	1.91E-02	PPARA,TLR2,EIF2AK2,LY96 (includes EG:17087),MAP2K6,LBP
Glutamate Metabolism	1.91E-02	CCBL1,GSR,GCLC,GCLM,GLS
Phospholipid Degradation	2.00E-02	TMEM86B,PLCE1,GDE1 (includes EG:393213),PLA2G2F,DGKB,PLA2G5,LPIN2,PPAP2A
Role of JAK family kinases in IL-6-type Cytokine Signaling	2.19E-02	OSMR,SOCS3,STAT1,STAT3
Glycine, Serine and Threonine Metabolism	2.63E-02	PLCE1,MAOB,TARS,PSAT1,SHMT2,ABP1 (includes EG:26),PHGDH
Role of PKR in Interferon Induction and Antiviral Response	2.88E-02	IRF1 (includes EG:16362),EIF2AK2,STAT1,MAP2K6,RNASEL
Antigen Presentation Pathway	2.88E-02	HLA-DMA,CIITA,PSMB9,TAP1,PSMB8
Neuregulin Signaling	2.95E-02	NRG1 (includes EG:112400),HBEGF,MYC,GRB7,CDKN1B,PIK3R3,EREG,PTEN
T Helper Cell Differentiation	3.02E-02	HLA-DMA,STAT1,IL18R1,STAT3,IL4R,BCL6,IL18 (includes EG:16173)
HIF1α Signaling	3.02E-02	VEGFA,EGLN3,PDGFC,MMP13,EDN1,PIK3R3,MMP7,FIGF,NOS2
Propanoate Metabolism	3.47E-02	ALDH3A2,DHCR24,ALDH1A3,ACSL1,ACSS2,ACSL3
Glucocorticoid Receptor Signaling	3.47E-02	CCL11,HSPA1A/HSPA1B,ICAM1,SMAD4,CCL13,TAF13 (includes EG:310784),FKBP5,STAT3,NOS2,GTF2B,CCL2,HSPA8,STAT1,TAT,PKC1 (includes EG:18534),PIK3R3,FOXO3,SGK1
Ascorbate and Aldarate Metabolism	3.55E-02	ALDH3A2,ALDH1A3,BCKDHB
Histidine Metabolism	4.47E-02	ALDH3A2,MAOB,ALDH1A3,ABP1 (includes EG:26),DDC
ILK Signaling	4.57E-02	ARHGEF6,VEGFA,ATF4,MAP2K6,CCND1,FIGF,NOS2,Actg2,MYC,PDGFC,RHOJ,PIK3R3,PTEN
Riboflavin Metabolism	4.79E-02	DUSP16,ENPP3,ACP6
MSP-RON Signaling Pathway	4.90E-02	CCL2,TLR2,Actg2,PIK3R3,NOS2
JAK/Stat Signaling	4.90E-02	PTPN1,SOCS3,STAT1,STAT2,STAT3,PIK3R3