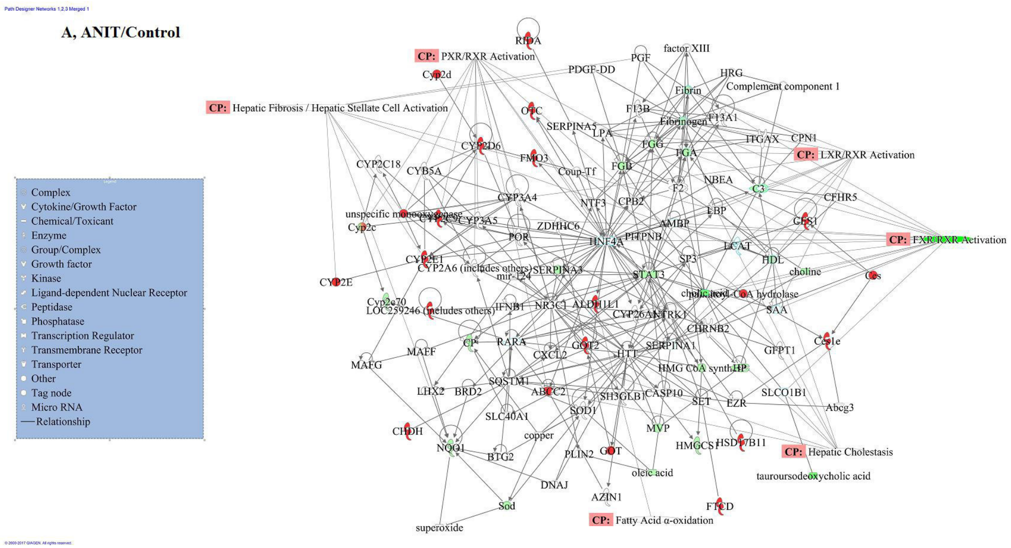
SUPPLEMENTARY MATERIAL

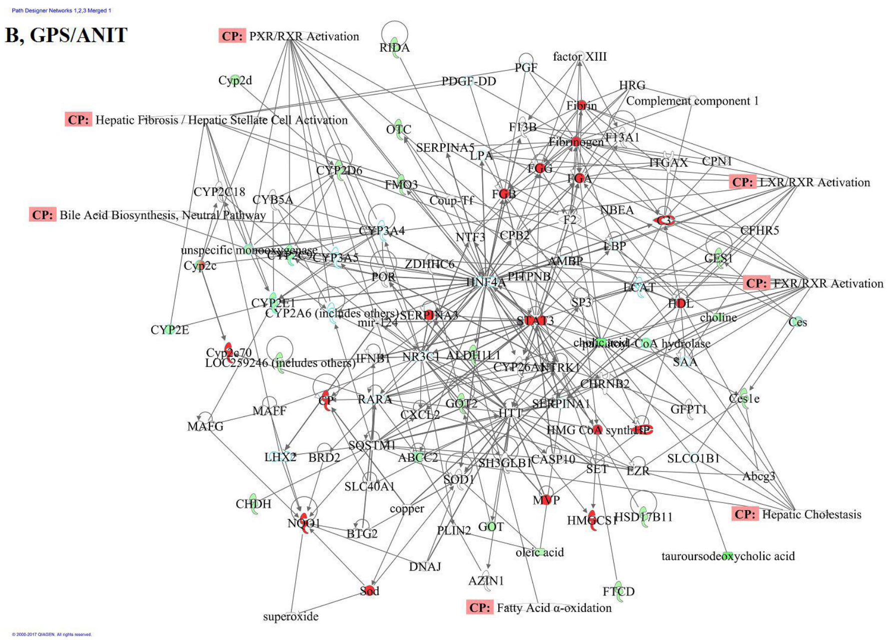
Exploration of Hepatoprotective Effect of Gentiopicroside on Alpha-Naphthylisothiocyanate-Induced Cholestatic Liver Injury in Rats by Comprehensive Proteomic and Metabolomic Signatures

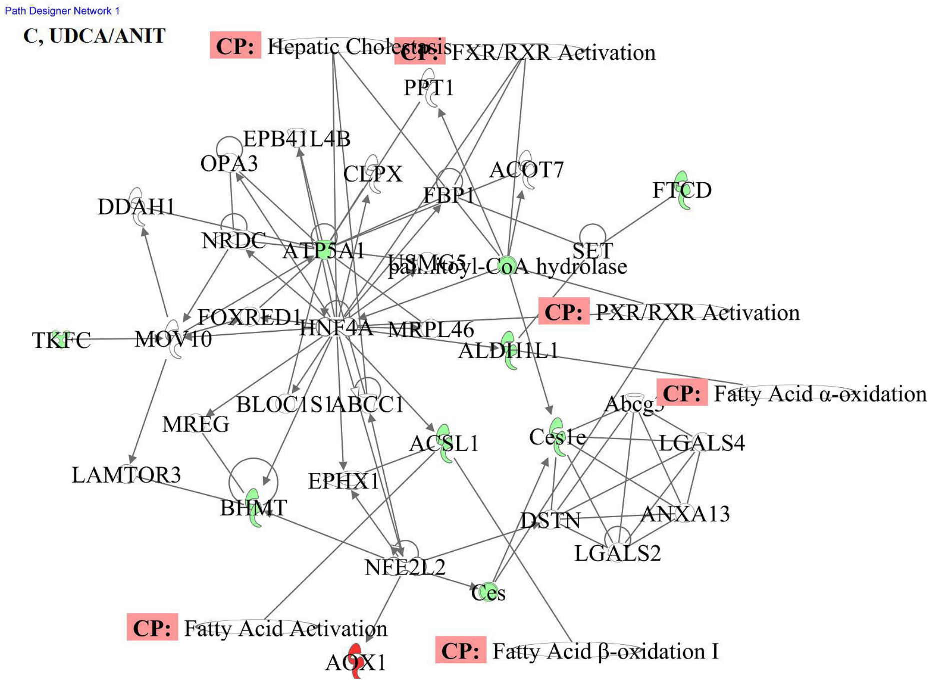
Han Han[a,b,c] Lili Xu[b] Kai Xiong[c] Tong Zhang[a,c] Zhengtao Wang[b]

[a]Experiment Center for Teaching and Learning, Shanghai University of Traditional Chinese Medicine, Shanghai, [b]Institute of Chinese Materia Medica, Shanghai University of Traditional Chinese Medicine, Shanghai, [c]School of Pharmacy, Shanghai University of Traditional Chinese Medicine, Shanghai, China

Supplementary Figure 1. Integrated network analysis of the differentially expressed metabolites and proteins by IPA. (A) ANIT/control; (B) GPS/ANIT; and (C) UDCA/ANIT. Metabolites and proteins are represented as nodes, and the biological relationship between two nodes is represented as a line. Solid lines between molecules show a direct physical relationship between molecules, while dotted lines show indirect functional relation. Red symbols represent up-regulated; green symbols represent down-regulated; while the CP symbols represent canonical pathways that are related to the identified proteins and metabolites.


Path Designer Networks 1,2,3 Merged 1
A, ANIT/Control
Complex
Cytokine/Growth Factor
Chemical/Toxicant
Enzyme
Group/Complex
Growth factor
Kinase
Ligand-dependent Nuclear Receptor
Peptidase
Phosphatase
Transcription Regulator
Transmembrane Receptor
Transporter
Other
Tag node
Micro RNA
Relationship
CP: PXR/RXR Activation
CP: Hepatic Fibrosis / Hepatic Stellate Cell Activation
CP: LXR/RXR Activation
CP: FXR/RXR Activation
CP: Hepatic Cholestasis
CP: Fatty Acid α-oxidation
RIDA
Cyp2d
PDGF-DD
PGF
factor XIII
HRG
Complement component 1
Fibrin
OTC
F13B
SERPINA5
LPA
Fibrinogen
F13A1
ITGAX
CPN1
CYP2D6
FMO3
FGB
FGG
FGA
CYP2C18
CYB5A
Coup-Tf
F2
NBEA
C3
CYP3A4
NTF3
CPB2
CFHR5
unspecific monooxygenase
CYP3A5
ZDHHC6
AMBP
LBP
CES1
Cyp2c
POR
HNF4A
PITPNB
LCAT
CYP2E1
CYP2A6 (includes others)
mir-124
SERPINA3
STAT3
SP3
HDL
choline
Ces
CYP2E
Cyp2c70
LOC259246 (includes others)
IFNB1
NR3C1
ALDH1L1
palmitoyl-CoA hydrolase
SAA
CYP26A1
NTRK1
CHRNB2
Ces1e
MAFF
CP
RARA
CXCL2
GOT2
HTT
SERPINA1
GFPT1
MAFG
SQSTM1
HMG CoA synthase
LHX2
BRD2
ABCC2
SH3GLB1
CASP10
SET
EZR
SLCO1B1
Abcg3
SLC40A1
SOD1
CHDH
copper
MVP
HMGCS1
HSD17B11
NQO1
BTG2
PLIN2
GOT
oleic acid
DNAJ
AZIN1
tauroursodeoxycholic acid
Sod
FTCD
superoxide
© 2000-2017 QIAGEN. All rights reserved.


Path Designer Networks 1,2,3 Merged 1
B, GPS/ANIT
CP: PXR/RXR Activation
CP: Hepatic Fibrosis / Hepatic Stellate Cell Activation
CP: Bile Acid Biosynthesis, Neutral Pathway
CP: LXR/RXR Activation
CP: FXR/RXR Activation
CP: Hepatic Cholestasis
CP: Fatty Acid α-oxidation
RIDA
Cyp2d
PDGF-DD
PGF
factor XIII
HRG
Complement component 1
Fibrin
OTC
F13B
SERPINA5
LPA
Fibrinogen
F13A1
ITGAX
CPN1
CYP2D6
FMO3
FGG
FGB
FGA
CYP2C18
CYB5A
Coup-Tf
F2
NBEA
C3
CFHR5
CYP3A4
NTF3
CPB2
unspecific monooxygenase
CYP3A5
AMBP
LBP
CES1
Cyp2c
POR
ZDHHC6
HNF4A
PITPNB
LCAT
HDL
choline
CYP2E1
CYP2A6 (includes others)
mir-124
SERPINA3
STAT3
SP3
Ces
CYP2E
Cyp2c70
LOC259246 (includes others)
IFNB1
NR3C1
ALDH1L1
palmitoyl-CoA hydrolase
SAA
CYP26A1
NTRK1
CHRNB2
Ces1e
MAFF
CP
RARA
CXCL2
GOT2
HTT
SERPINA1
GFPT1
MAFG
SQSTM1
HMG CoA synthase
LHX2
BRD2
ABCC2
SH3GLB1
CASP10
SET
EZR
SLCO1B1
Abcg3
SLC40A1
SOD1
CHDH
copper
MVP
HMGCS1
HSD17B11
NQO1
BTG2
PLIN2
GOT
oleic acid
tauroursodeoxycholic acid
DNAJ
AZIN1
Sod
FTCD
superoxide
© 2000-2017 QIAGEN. All rights reserved.


Path Designer Network 1
C, UDCA/ANIT
CP: Hepatic Cholestasis
CP: FXR/RXR Activation
PPT1
EPB41L4B
OPA3
CLPX
ACOT7
FBP1
FTCD
DDAH1
NRDC
ATP5A1
HSMG5
palmitoyl-CoA hydrolase
SET
CP: PXR/RXR Activation
FOXRED1
HNF4A
MRPL46
TKFC
MOV10
ALDH1L1
CP: Fatty Acid α-oxidation
BLOC1S1
ABCC1
Abcg3
MREG
ACSL1
Ces1e
LGALS4
LAMTOR3
EPHX1
BHMT
DSTN
ANXA13
LGALS2
NFE2L2
Ces
CP: Fatty Acid Activation
CP: Fatty Acid β-oxidation I
AOX1