Supplementary Table 1. *Up-regulated genes mapped to the IPA database*

Gene	Description	Fold	P-value
AADAT	aminoadipate aminotransferase	1.335	1.25E-04
ABHD4	abhydrolase domain containing 4	1.491	2.03E-03
ACADSB	acyl-Coenzyme A dehydrogenase, short/branched chain	1.871	1.19E-02
ACADVL	acyl-Coenzyme A dehydrogenase, very long chain	1.422	1.93E-12
ACP2	acid phosphatase 2, lysosomal	1.380	8.19E-03
ADAMTS4	ADAM metallopeptidase with thrombospondin type 1 motif, 4	1.886	1.76E-02
ADFP	adipose differentiation-related protein	2.435	5.65E-04
ADIPOR2	adiponectin receptor 2	1.361	2.43E-02
ALG13 (includes EG:79868)	asparagine-linked glycosylation 13 homolog (S. cerevisiae)	1.402	4.09E-02
ANGPTL4	angiopoietin-like 4	5.483	0.00E00
APOA1	apolipoprotein A-I	1.216	1.24E-02
AQP3	aquaporin 3 (Gill blood group)	1.435	1.14E-02
ARFGAP3	ADP-ribosylation factor GTPase activating protein 3	1.108	1.92E-02
ARG1	arginase, liver	1.320	4.27E-05
ARG2	arginase, type II	4.119	2.07E-04
ARHGEF10L	Rho guanine nucleotide exchange factor (GEF) 10-like	1.807	8.42E-06
ARL6IP5	ADP-ribosylation-like factor 6 interacting protein 5	1.130	2.87E-03
ASPH	aspartate beta-hydroxylase	1.351	4.67E-02
BCKDK	branched chain ketoacid dehydrogenase kinase	1.197	1.18E-02
BNIP3L	BCL2/adenovirus E1B 19kDa interacting protein 3-like	1.195	3.69E-02
BTG3	BTG family, member 3	1.231	3.56E-02
C16ORF80	chromosome 16 open reading frame 80	1.303	1.44E-03
C1ORF21	chromosome 1 open reading frame 21	1.241	2.22E-02
C6ORF165	chromosome 6 open reading frame 165	3.622	4.38E-04
C8ORF4	chromosome 8 open reading frame 4	1.226	1.20E-02
CADM1	cell adhesion molecule 1	1.141	2.52E-02
CCL2	chemokine (C-C motif) ligand 2	2.519	5.88E-06
CD36	CD36 molecule (thrombospondin receptor)	1.802	6.14E-08
CD69	CD69 molecule	1.703	1.95E-02
CGREF1	cell growth regulator with EF-hand domain 1	3.430	9.31E-04
CIAPIN1	cytokine induced apoptosis inhibitor 1	1.332	3.77E-04
CIDEB	cell death-inducing DFFA-like effector b	1.206	6.43E-03
CLDN15	claudin 15	1.532	6.01E-05
CMPK1	cytidine monophosphate (UMP-CMP) kinase 1, cytosolic	1.153	1.84E-02
CNN1	calponin 1, basic, smooth muscle	1.294	4.68E-02
COQ3	coenzyme Q3 homolog, methyltransferase (S. cerevisiae)	1.205	2.85E-05

CPT1B	carnitine palmitoyltransferase 1B (muscle)	5.515	2.17E-09
CPT2	carnitine palmitoyltransferase II	1.231	3.15E-03
CREB3L3	cAMP responsive element binding protein 3-like 3	3.238	1.15E-12
CRYBB1	crystallin, beta B1	2.578	3.11E-03
CTGF	connective tissue growth factor	1.655	1.42E-02
CXCR4	chemokine (C-X-C motif) receptor 4	1.832	1.73E-02
CYP11A1	cytochrome P450, family 11, subfamily A, polypeptide 1	4.354	2.55E-10
CYP4F3	cytochrome P450, family 4, subfamily F, polypeptide 3	1.478	3.87E-03
CYR61	cysteine-rich, angiogenic inducer, 61	1.311	3.37E-02
DDC	dopa decarboxylase (aromatic L-amino acid decarboxylase)	1.205	2.13E-02
DDO	D-aspartate oxidase	6.119	1.06E-02
DDX10	DEAD (Asp-Glu-Ala-Asp) box polypeptide 10	1.591	4.48E-02
DPP4	dipeptidyl-peptidase 4	1.198	4.36E-02
DPYD	dihydropyrimidine dehydrogenase	1.117	3.98E-02
DYNC1I1	dynein, cytoplasmic 1, intermediate chain 1	3.201	3.13E-03
DZIP3	DAZ interacting protein 3, zinc finger	1.433	1.05E-02
ECD	ecdysoneless homolog (Drosophila)	1.327	9.37E-03
ERGIC1	endoplasmic reticulum-golgi intermediate compartment (ERGIC) 1	1.367	4.08E-05
FAM82A2	family with sequence similarity 82, member A2	1.599	1.03E-04
FCGRT	Fc fragment of IgG, receptor, transporter, alpha	1.134	2.37E-02
FOS	v-fos FBJ murine osteosarcoma viral oncogene homolog	1.713	7.83E-03
GCLM	glutamate-cysteine ligase, modifier subunit	1.192	7.77E-03
GDE1	glycerophosphodiester phosphodiesterase 1	1.514	2.06E-03
GK	glycerol kinase	2.072	7.12E-05
GPX3	glutathione peroxidase 3 (plasma)	3.682	1.19E-04
GRPEL1	GrpE-like 1, mitochondrial (E. coli)	1.226	9.42E-05
GSTM4	glutathione S-transferase mu 4	1.346	4.83E-03
GYG1	glycogenin 1	1.136	1.63E-02
H1F0	H1 histone family, member 0	1.388	2.13E-02
HADHA	hydroxyacyl-Coenzyme A dehydrogenase/3-ketoacyl-Coenzyme A thiolase/enoyl-Coenzyme A hydratase (trifunctional protein), alpha subunit	1.462	1.94E-04
HADHB	hydroxyacyl-Coenzyme A dehydrogenase/3-ketoacyl-Coenzyme A thiolase/enoyl-Coenzyme A hydratase (trifunctional protein), beta subunit	1.214	2.03E-05
HDC	histidine decarboxylase	1.451	2.44E-02
HPRT1	hypoxanthine phosphoribosyltransferase 1	1.238	7.06E-03
HSD17B13	hydroxysteroid (17-beta) dehydrogenase 13	1.263	1.68E-02
HSF2BP	heat shock transcription factor 2 binding protein	1.798	3.01E-03
HSPB8	heat shock 22kDa protein 8	1.388	1.15E-03
ID2	inhibitor of DNA binding 2, dominant negative helix-loop-helix protein	1.280	3.23E-04
IDH1	isocitrate dehydrogenase 1 (NADP+), soluble	1.187	9.21E-03
IDH3A	isocitrate dehydrogenase 3 (NAD+) alpha	1.214	4.15E-02

IGFBP2	insulin-like growth factor binding protein 2, 36kDa	1.635	2.46E-08
IHPK1	inositol hexakisphosphate kinase 1	3.399	4.57E-03
IL1A	interleukin 1, alpha	2.029	8.63E-03
IL1RN	interleukin 1 receptor antagonist	1.645	2.63E-04
LDHA	lactate dehydrogenase A	1.560	6.36E-04
LDHB	lactate dehydrogenase B	1.313	1.19E-03
LGALS3BP	lectin, galactoside-binding, soluble, 3 binding protein	1.341	1.66E-05
LGALS4	lectin, galactoside-binding, soluble, 4	1.551	3.56E-05
LPCAT3	lysophosphatidylcholine acyltransferase 3	1.252	2.61E-03
MAT1A	methionine adenosyltransferase I, alpha	1.125	3.62E-02
MBL2	mannose-binding lectin (protein C) 2, soluble (opsonic defect)	1.353	2.19E-02
MINA	MYC induced nuclear antigen	1.127	4.31E-02
MRPS35	mitochondrial ribosomal protein S35	1.318	3.17E-02
MTIF2	mitochondrial translational initiation factor 2	1.252	3.24E-02
NET1	neuroepithelial cell transforming 1	1.211	2.21E-03
NHEJ1	nonhomologous end-joining factor 1	1.277	3.49E-02
NQO2	NAD(P)H dehydrogenase, quinone 2	1.313	4.54E-03
NR2C1	nuclear receptor subfamily 2, group C, member 1	1.359	2.98E-04
NR4A1	nuclear receptor subfamily 4, group A, member 1	2.813	2.49E-04
NUDT17 (includes EG:200035)	nudix (nucleoside diphosphate linked moiety X)-type motif 17	1.516	5.61E-04
OAT	ornithine aminotransferase (gyrate atrophy)	1.593	3.78E-02
ODC1	ornithine decarboxylase 1	1.572	1.95E-02
OLR1	oxidized low density lipoprotein (lectin-like) receptor 1	2.909	5.90E-03
OPTN	optineurin	1.257	1.55E-02
OSTALPHA	organic solute transporter alpha	2.755	1.40E-02
OXSM	3-oxoacyl-ACP synthase, mitochondrial	1.314	2.50E-04
P2RX4	purinergic receptor P2X, ligand-gated ion channel, 4	1.846	1.32E-13
P2RY1	purinergic receptor P2Y, G-protein coupled, 1	1.543	6.55E-04
P4HA2	prolyl 4-hydroxylase, alpha polypeptide II	1.511	2.46E-03
PARP9	poly (ADP-ribose) polymerase family, member 9	1.177	4.04E-02
PC	pyruvate carboxylase	1.448	1.63E-03
PDLIM1	PDZ and LIM domain 1	1.265	2.62E-02
PGCP	plasma glutamate carboxypeptidase	1.862	1.51E-04
PLA2G16	phospholipase A2, group XVI	1.577	4.17E-04
PLAUR	plasminogen activator, urokinase receptor	3.101	2.39E-02
PNPLA2	patatin-like phospholipase domain containing 2	1.155	3.00E-02
POLR3GL	polymerase (RNA) III (DNA directed) polypeptide G (32kD)-like	1.154	1.24E-02
PRPSAP2	phosphoribosyl pyrophosphate synthetase-associated protein 2	1.209	4.83E-02
PTPLAD2	protein tyrosine phosphatase-like A domain containing 2	1.440	3.68E-02
RAB30	RAB30, member RAS oncogene family	2.285	6.26E-10
RBPMS	RNA binding protein with multiple splicing	1.192	9.21E-03

RCAN3	RCAN family member 3	1.521	1.59E-02
REEP5	receptor accessory protein 5	1.276	2.77E-03
RGS16	regulator of G-protein signaling 16	1.705	9.60E-03
RNF4	ring finger protein 4	1.195	1.56E-03
RRP15	ribosomal RNA processing 15 homolog (S. cerevisiae)	1.304	3.25E-02
RXRG	retinoid X receptor, gamma	4.875	5.92E-04
SCARB1	scavenger receptor class B, member 1	1.224	1.36E-02
SDF4	stromal cell derived factor 4	1.218	7.97E-03
SEC61A2	Sec61 alpha 2 subunit (S. cerevisiae)	1.412	1.66E-03
SERINC2	serine incorporator 2	1.400	1.80E-03
SERPINE1	serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1	2.790	1.04E-04
SFXN4	sideroflexin 4	1.202	6.04E-03
SH3BGRL2	SH3 domain binding glutamic acid-rich protein like 2	1.271	6.23E-03
SH3BGRL3	SH3 domain binding glutamic acid-rich protein like 3	1.150	2.76E-02
SIRPA	signal-regulatory protein alpha	1.196	2.72E-02
SLC22A5	solute carrier family 22 (organic cation/carnitine transporter), member 5	1.554	4.12E-03
SLC25A20	solute carrier family 25 (carnitine/acylcarnitine translocase), member 20	1.215	2.06E-05
SLC25A4	solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 4	1.120	3.97E-02
SLC25A40	solute carrier family 25, member 40	1.415	4.22E-02
SLC27A4	solute carrier family 27 (fatty acid transporter), member 4	1.256	9.88E-03
SLC38A5	solute carrier family 38, member 5	2.429	2.24E-02
SNAPIN	SNAP-associated protein	1.148	5.71E-03
SSR3	signal sequence receptor, gamma (translocon-associated protein gamma)	1.321	1.10E-02
STARD5	StAR-related lipid transfer (START) domain containing 5	1.206	1.08E-02
SUMO3	SMT3 suppressor of mif two 3 homolog 3 (S. cerevisiae)	1.179	3.50E-02
TAF13	TAF13 RNA polymerase II, TATA box binding protein (TBP)-associated factor, 18kDa	1.093	4.79E-02
TDH	L-threonine dehydrogenase	1.458	6.11E-04
TERF1	telomeric repeat binding factor (NIMA-interacting) 1	1.165	6.47E-03
THG1L	tRNA-histidine guanylyltransferase 1-like (S. cerevisiae)	1.210	9.55E-03
TM4SF1	transmembrane 4 L six family member 1	1.433	1.77E-03
TMEM120A	transmembrane protein 120A	2.700	0.00E00
TMEM49	transmembrane protein 49	1.275	8.11E-06
TMEM68	transmembrane protein 68	1.191	2.35E-02
TUBB6	tubulin, beta 6	1.233	3.28E-03
TUFT1	tuftelin 1	2.047	2.67E-02
UMPS	uridine monophosphate synthetase	1.131	4.37E-02
VCL	vinculin	1.700	1.44E-02
WDR18	WD repeat domain 18	1.119	2.63E-02