

S4: Top molecular networks and biological functions affected by leptin treatment.

ID	Gene in the network	Associated Network Functions	Score	# genes
1	<p>26s Proteasome, ↓ACAT2, ↑ACOT1 (includes EG:26897), Actin, ↓AES, ↓AHCY, Akt, Ap1, ↑AQP1, ↓ARG1, ↑ASS1, ↓ATG5 (includes EG:9474), ↓BAAT, BCR, Calmodulin, Calpain, Caspase, ↑CCL4, ↑CD44, Ck2, Collagen type I, Collagen type IV, Creb, ↑CTNNB1, ↓CYB5R3, ↑CYBA, ↑CYP17A1, ↓CYP2C29, Cytochrome c, ↓DBI, ↑DUSP6, ↑EDNRRB, ↑EGFR, ↑EPS8L2, ERK, ERK1/2, ↓ES22, ↑ETS2, ↓FAAH, ↑FCER1G, Fibrinogen, FOXS1, FSH, ↓GAS2, ↓GCK, ↑GCNT2, glutathione transferase, ↓GPT, Growth hormone, GST, ↓GSTA3, ↓GSTA5*, ↓GSTT1, ↓GSTT3, ↓HAMP, hCG, Histone h3, ↑HLA-DQB1, ↑HMGAI1, ↓HMGCS1, ↑HPX, ↓HSD17B10, ↓HSD3B1, Hsp90, ↑HSP90AB1, ↑HSP90B1, IFN Beta, ↑IGFBP2, IgG, IL1, IL12 (complex), Immunoglobulin, Insulin, Interferon alpha, Jnk, ↓KLK2, ↓KYNU, LDL, Lh, ↑LMO2, ↑LPL, ↑LYZ, ↑MAGED1, Mapk, ↑MAT2A, Mek, Mmp, ↑MMP12, ↑MRPS6 (includes EG:64968), ↓MVD, N-cor, ↓NDUFA3, ↑NEDD9, NFkB (complex), ↑NUPR1, P38 MAPK, palmitoyl-CoA hydrolase, ↓PCSK9, Pdgf, PDGF BB, peptidase, PI3-kinase, PI3K, Pka, Pkc(s), PLA2, ↑PLA2G12A, ↓PLA2G4F, ↓PLS3, ↑PLSCR1, ↓PPP1R1B, ↓PSEN2, ↑RAB8B, Ras homolog, ↓RILP, ↑RPS11, Rxr, ↑SAP30, ↓SCD, SENP5 (includes EG:205564), ↑SERPINB6, ↓SERPINC1, Shc, ↓SLC25A1, ↓SLC29A1, ↑SLC40A1, ↑SOCS2, STAT5a/b, Tgf beta, ↑TGFB1, ↓THRSP, ↑TMEM55A, ↓TPMT, ↓TSC22D3, ↑UNG, ↓UQCRC1, ↑USP18, Vegf, ↑XBP1, ↓ZFP36</p>	Lipid Metabolism, Small Molecule Biochemistry, Cell-To-Cell Signaling and Interaction	145	84
2	<p>↓9130409I23RIK, ↓AASS, ↓ABAT, ↓ACSS2, AFP, ↑AGPAT9, AHR, ALDH16A1, ALDH3A2, ALDH5A1, ↓ALDH6A1, AMD1, aminomethyltransferase, ↓ANKRD40, APL1B, ARF4, ↓ARG1, BAMBI, beta-estradiol, ↑C1QB, CCBP2, ↑CCT4, CDH13, CDH15, CELSR2, CGB, cholesterol, ↓CISD1, CMA1, CNN2, COL16A1, CRK, ↓CSTF3, CTSD, CYB5B, CYP27A1, DHRS1, dimethylglycine dehydrogenase, ↓DMGDH, ↓DPYD, ↑DUSP6, ECM1, EIF4E, EIF4EBP1, ENPP1, ethanol, FASTK, FCAR, FGB, FZD7, ↓GAMT, GCC2, ↓GCDH, ↑GDF10, ↓GLS2, ↑GNA14, ↑GPNMB, ↓GSTT1, ↓HAMP, ↓HAO2, HGF, HPGD, HRAS, HSD17B7, IL5, IL6, IL13RA2, IL17F, INSIG2, KDELR3, KIAA0182, ↑KLHDC2, L-glutamic acid, ↑LEPROT, LIF, LIMA1, LIMS1, LRRRC8C, ↓LSS, MICAL1, MOGS, ↓MPV17L, MSR1, ↓MVD, MYC, NME3, ↓NNMT, NOVA1, NOX3, ↑NUPR1, oxidoreductase, PARP, ↑PARP14, ↓PARVA, PDLIM4, ↓PLS3, PRL, ↓PRODH, PTEN, ↑RAB8B, ↑RBPMS, ↓RCAN2, ↓RDH16, REG3G, ↓RNF103, ↓ROBO1, ↑RPL13A, ↑RPL27A, ↑RPS19, ↑RPS21, ↓SARDH, ↑SEL1L3, ↓SELENBP1, SEMA3C, ↑SERPINA7, ↓SFXN1, ↓SIGMAR1, SLC12A6, ↓SLC25A1, SLC2A4, ↓SLC6A12, ↓SNHG11 (includes EG:319317), ↑SNX10, SOX4, SPCS2, SSBP2, STAT3, ↓TECR, TGFB1, TLR4, ↑TMEM184B, ↑TMSB4X, TNF, ↑TTC3, TWIST2, TXN2, ↓UPP2, VCL, VIM, WISP1</p>	Lipid Metabolism, Small Molecule Biochemistry, Cell Cycle	93	60
3	<p>↓ABCA6, ↓ACAT2, ACTR3, AIP, ALDH16A1, AMD1, ANAPC10, APOA4, ARL4C, ATP, ↓BHMT, ↓BLOC1S1, C10ORF10, ↓C14ORF147, ↓C8G, CABCL1, CCDC59, CD244, CDC23 (includes EG:8697), CDH13, CELSR1, ↑CHAC1, ↓CHI3L1, ↓CLCN2, CLTCL1, Coup-Tf, ↓CPPED1, CTSD, CYB5A, CYP27A1, Cytochrome p450, DAD1, ↑DBNDD2, ↓DCXR, ↑DPP7, EEF1D, enoyl-CoA hydratase, Eotaxin, ↓FAHD2A, ↓FAM158A, ↓FAM73B, FGB, FOS, GAD1, ↑GARS, GAS7, GBP1 (includes EG:2633), glutamine, GRIK2, ↓HAAO, HADHA, ↑HADHB, HNF4A, ↓HPD, HTT, hydrolase, IFITM1, IFNA2, IFNG, IL11RA, KDM5A, leukotriene C4, ↑LMAN2L, LOC100129193, MDH1, ↓MFSD2A, MIR181A1, MIR205 (includes EG:406988), MIRN324, ↑MMP12, MSR1, MT1L, ↑NCEH1, ↑NCKAP1L, ND3, ND4L, ↓NDUFA3, NDUFA9 (includes EG:4704), NDUFS1, NDUFS3, NDUFS4, NDUFS5, ↓NDUFS8, NDUFS6 (includes EG:4726), NDUFV2, ↓NIPSNAP1, ↓NNMT, NPTX1, NR3C1, ↓OLIG1, ↓OTC, PARP9, PCSK1, PCSK6, PDE4B, PIK3CD, PLAGL1, ↓PLSCR2, PNPT1, PPARGC1B, ↑PRCP, PSMA5, ↓RAET1B, REXO2, ↑RPL31, ↓SAT2, ↓SDS, SEC11A, SHH, ↑SLC15A3, ↓SLC22A18, ↓SLC29A1, ↓SLC38A4, ↓SLC44A1, ↓SLCO2B1, SP2, SPCS3, SRP54, SUPT7L, TADA1, TBC1D17, ↓TCEA3, TCF7, THRB, TICAM2, ↓TIMD2, TLR1, TMEM158, ↑TMEM208, TNFAIP6, TNFRSF8, TNFSF9, TNFSF14, TRAF6, TTC35, TTRAP, ↑UHRF2, ULBP2, ↑USP18, ↑WBPS</p>	Cell Morphology, Cellular Compromise, Genetic Disorder	71	49

