

Supplementary Table S2. DGE for CoA-associated enzymes

Elevated mRNAs of CoA-producing enzyme reactions

GeneID(s)	Name(s)	Comments
ACAA1	acetyl-CoA Acyltransferase 1	peroxisomal
ACAA2	acetyl-CoA Acyltransferase 2	mitochondrial
ACAT1	acetyl-CoA acetyltransferase 1	
ACOT13	acyl-CoA thioesterase 13	
AGPAT5	1-acylglycerol-3-phosphate O-acyltransferase 5	
CERS2	ceramide synthase 2	
CERS5	ceramide synthase 5	
CERS6	ceramide synthase 6	
CPT2	carnitine palmitoyltransferase 2	
CRAT	carnitine O-acetyltransferase	
CROT	carnitine O-octanoyltransferase	
ELOVL1	ELOVL fatty acid elongase 1	from C16 makes C18 and C20 fatty acyl CoAs using Acetyl CoA
ELOVL5	ELOVL fatty acid elongase 5	from C16 makes C18 and C20 fatty acyl CoAs using Acetyl CoA
FASN	fatty-acid synthase	
GNPAT	glyceronephosphate O-acyltransferase	
HIBCH	3-hydroxyisobutyryl-CoA hydrolase	3-hydroxybutyric acid is elevated in PE
HMGCL	3-hydroxymethyl-3-methylglutaryl-CoA lyase	
HMGCS1	3-hydroxy-3-methylglutaryl-CoA synthase 1	
HMGCS2	3-hydroxy-3-methylglutaryl-CoA synthase 2	
LPCAT1	lysophosphatidylcholine acyltransferase 1	
SPTSSA	serine palmitoyltransferase (SPT), small subunit A	stimulates SPT activity, C16-CoA + serine => CoA + C16-serine. First step in sphingosine-1-phosphate synthesis
CS	citrate synthase	see below
SUCLG1,2	succinate-CoA ligase, alpha & beta subunits	see below

Decreased mRNAs of CoA-producing enzyme reactions

GeneID(s)	Name(s)	Comments
ACOT12	acyl-CoA thioesterase 12	expressed at v. low levels in healthy placenta (https://www.ncbi.nlm.nih.gov/gene/134526)
AWAT1	acyl-CoA wax alcohol acyltransferase 1	expressed at low levels in healthy placenta (https://www.ncbi.nlm.nih.gov/gene/158833)
BAAT	bile acid CoA: amino acid N-acyltransferase (glycine N-choloyltransferase)	produces bile acid conjugates, in peroxisomes
CERS3	ceramide synthase 3	expressed at v. low levels in healthy placenta (https://www.ncbi.nlm.nih.gov/gene/204219)
CHAT	choline O-acetyltransferase	CoA and acetylcholine producer, retarded to maintain choline levels for PC formation
CPT1B	carnitine palmitoyltransferase 1B (muscle)	produces acyl-CoAs for import into mitochondria
DGAT2	diacylglycerol O-acyltransferase 2	produces triglycerides
MOGAT1	monoacylglycerol O-acyltransferase 1	produces diglycerides
MOGAT2	monoacylglycerol O-acyltransferase 2	produces diglycerides
MOGAT3	monoacylglycerol O-acyltransferase 3	produces diglycerides
NAT1	N-acetyltransferase 1	involved in detoxification
NAT8	N-acetyltransferase 8	involved in detoxification
NAT8B	N-acetyltransferase 8B	involved in detoxification
SOAT1	sterol O-acyltransferase 1	produces acyl-cholesterol esters
SOAT2	sterol O-acyltransferase 2	produces acyl-cholesterol esters

Decreased mRNAs of CoA-dependent enzyme reactions

GeneID(s)	Name(s)	Comments
ACSBG1	acyl-CoA synthetase	produces acyl CoAs
ACSBG2	acyl-CoA synthetase	produces acyl CoAs
ACSF3	acyl-CoA synthetase	produces acyl CoAs
ACSL6	acyl-CoA synthetase	produces acyl CoAs
ACSM1	acyl-CoA synthetase	produces acyl CoAs
ACSM2B	acyl-CoA synthetase	produces acyl CoAs
ACSM3	acyl-CoA synthetase	produces acyl CoAs
ACSM5	acyl-CoA synthetase	produces acyl CoAs
ACSS3	acyl-CoA synthetase	produces acyl CoAs

Elevated mRNAs of CoA-dependent enzyme reactions

GeneID(s)	Name(s)	Comments
ACSF2	acyl-CoA synthetase 2	produces acyl CoAs (for beta oxidation), mitochondrial
ACSF4	acyl-CoA synthetase 4	produces acyl CoAs (for beta oxidation), mitochondrial
ACSL4	acyl-CoA synthetase long-chain family member 4	produces acyl CoAs, mitochondrial, peroxisome and endoplasmic reticulum
DBT	dihydrolipoamide branched chain transacylase E2	makes acyl-CoA from amino-acid breakdown intermediates, mitochondrial
ABCD1	ATP-binding cassette, sub-family D (ALD), member 1	makes acyl-CoAs when transporting very-long chain fatty acids into peroxisome

CoA-neutral linked reactions

PDH consumes CoA to form acetyl CoA which is used to produce citrate and CoA by citrate synthase

GeneID(s)	Name(s)	Comments
PDHA1	pyruvate dehydrogenase (lipoamide) alpha 1	mitochondrial
PDHA2	pyruvate dehydrogenase (lipoamide) alpha 2	mitochondrial
PDHX	pyruvate dehydrogenase complex, component X	part of PDH complex, mitochondrial
CS	citrate synthase	mitochondrial (from above)
PDK1	pyruvate dehydrogenase kinase, isozyme 1	inhibitory protein kinase of PDH, protects cells from apoptosis in response to hypoxia and oxidative stress, mitochondrial
PDK4	pyruvate dehydrogenase kinase, isozyme 4	inhibitory protein kinase of PDH, responds to high fat levels, mitochondrial

DLST consumes CoA to form succinyl CoA, which gets hydrolysed by SUCLG to produce succinate and CoA

DLST	dihydrolipoamide S-succinyltransferase (E)	component of 2-oxo-glutarate complex, producing succinyl CoA
SUCLG1	succinate-CoA ligase, alpha subunit	) from above, components of succinyl-CoA ligase
SUCLG2	succinate-CoA ligase, GDP-forming, beta subunit	) producing succinate and CoA