

Supplementary Table S3. Subcellular localisation

Area of metabolism	Cytosol	Mitochondria	ER	Peroxisome	Nucleus	Golgi	Lysosome	Plasma membrane	External
CoA synthesis	PANK1								
	PPCS								
	PPCDC								
	DAKD								
Shingosine-1-P/			SPTSSA						
sphinganine-1-P			CERS2,5,6. CERS3						
synthesis		SPHK2	SPHK2		SPHK1, SPHK2		SPHK2	SPHK1	
Lysophosphatidyl			LPCAT1			LPCAT1			
serine synthesis			PNPLA6						
		PNPLA7	PNPLA7		PNPLA7		PNPLA7		
			PTDSS1						
			PTDSS2						
					PLSCR2			PLSCR4	
								PLA2G2A	PLA2G2A
Fatty acid synthesis	FASN								
	OLAH	ACSF3							
Acyl carnitines		CPT1B - situated in out membrane; forms acyl carnitine for shuttling into mitochondria							
		CPT2 - situated in inner mitochondrial membrane, normally for passing acyl moiety from carnitine to CoA							
				CROT					
		CRAT	CRAT	CRAT	CRAT				
SLC22A5	(Acyl)carnitine transporter found in most membranes								
Ketone body synthesis		ACAT1							
	HMGCS1	HMGCS2							
		HMGCL		HMGCL					
		BDH1							

Beta oxidation			ACSBG1						
	ACSBG2							ACSBG2	
ACS=AcylCoASynthase		ACSF2							
CPT=Carnitine		ACSF3							
Palmitoyl Transfrase		ACSL4	ACSL4	ACSL4					
		ACSL6	ACSL6	ACSL6					
		ACSM1							
		ACSM2B							
		ACSM3							
		ACSM5							
		ACSS3							
		CPT1B							
		CPT2							
		ACADSB							
		ECHS1							
		HADHA		ACOX3					
		HADH							
		ACAA2		ACAA1					
		ACAT1							
		ECI1							
		ALDH1B1							
	ALDH7A1	ALDH7A1			ALDH7A1				
	ADH1C, 5, 6								

TCA cycle	PCK1	PDHA1							
		PDHA2							
PDK1		PDHX							
PDK4	ACLY	CS							
		ACO2							
		IDH1							
		IDH2							
		IDH3B							
		DLST							
		SUCLG1,2							
		SDHA,AF2,C,D							
		FH							
Glycolysis/	PGM2								
gluconogenesis	HK1	HK1	G6PC2						
		GCK			GCK				ADPGK
gluconeogenesis									
unlikely	PFKAL				FBP2				GPI
because PCK1	ALDOA								ALDOA
(PEP carboxykinase)									
down	BPGM								BPGM
	PGK2								
	PGAM1								PGAM1
			MINPP1						
	PCK1								
	PKLR								PKLR
		PKM							
	LDHB								
	LDHC								
		PDHA1, PDHX, PDK4							

Glycerolipids	ALDH7A1	ALDH7A1							
		GK,GK2							
		GPAT2							
		AGPAT5	AGPAT5		AGPAT5				
			MOGAT1, 2, 3						PNLIPRP1, 2
									LIPC, F
									LIPG
								PNPLA2	
								PNPLA3	
								LPL	LPL
	LPIN1,2		LPIN1,2		LPIN1,2				
			DGAT2		LPIN3				
					DGKZ			DGKE,G,H,Z	

|