

**Table 8: *H. sapiens* Recon 1 metabolic genes.** List of the 1,496 genes included in the network. Each locus may encode more than one transcript, which is denoted by the suffix “.1”, “.2”, etc., after the locus number (Entrez Gene ID). Database abbreviations in additional notes field: HUGO – Human Genome Organization, MGD – Mouse Genome Database, MGI – Mouse Genome Index.

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
3162.1	3162	HMOX1	heme oxygenase (decycling) 1	Aliases: bK286B10, HO-1/HUGO ID: 5013/UniProt ID: P09601/
4514.1	4514	MTCO3	cytochrome c oxidase III	HUGO ID: 7422/UniProt ID: P00414/
3421.1	3421	IDH3G	isocitrate dehydrogenase 3 (NAD+) gamma	HUGO ID: 5386/UniProt ID: P51553/
5033.1	5033	P4HA1	procollagen-proline, 2-oxoglutarate 4-dioxygenase (proline 4-hydroxylase), alpha polypeptide I	HUGO ID: 8546/UniProt ID: P13674/
4907.1	4907	NT5E	5'-nucleotidase, ecto (CD73)	Aliases: CD73, eN, eNT/HUGO ID: 8021/UniProt ID: P21589/
5106.1	5106	PCK2	phosphoenolpyruvate carboxykinase 2 (mitochondrial)	Aliases: PEPCK/HUGO ID: 8725/UniProt ID: Q16822/
212.1	212	ALAS2	aminolevulinatase, delta-, synthase 2 (sideroblastic/hypochromic anemia)	HUGO ID: 397/UniProt ID: P22557/
9446.1	9446	GSTTLp28	glutathione-S-transferase like; glutathione transferase omega	
51478.1	51478	HSD17B7	hydroxysteroid (17-beta) dehydrogenase 7	
875.1	875	CBS	cystathionine-beta-synthase	Aliases: HIP4/HUGO ID: 1550/UniProt ID: P35520/
7086.1	7086	TKT	transketolase (Wernicke-Korsakoff syndrome)	HUGO ID: 11834/UniProt ID: P29401/
6472.1	6472	SHMT2	serine hydroxymethyltransferase 2 (mitochondrial)	HUGO ID: 10852/UniProt ID: P34897/
3036.1	3036	HAS1	hyaluronan synthase 1	HUGO ID: 4818/UniProt ID: Q92839/
3990.1	3990	LIPC	lipase, hepatic	HUGO ID: 6619/UniProt ID: P11150/
2731.1	2731	GLDC	glycine dehydrogenase (decarboxylating; glycine decarboxylase, glycine cleavage system protein P)	
3615.1	3615	IMPDH2	IMP (inosine monophosphate) dehydrogenase 2	
130.1	130	ADH6	alcohol dehydrogenase 6 (class V)	Locus type: gene with protein product, function known or inferred/Aliases: ADH-5/HUGO ID: 255/UniProt ID: P28332/
9957.1	9957	HS3ST1	heparan sulfate (glucosamine) 3-O-sulfotransferase 1	Locus type: gene with protein product, function known or inferred/Aliases: 3OST1/HUGO ID: 5194/UniProt ID: O14792/
39.1	39	ACAT2	acetyl-Coenzyme A acetyltransferase 2 (acetoacetyl Coenzyme A thiolase)	HUGO ID: 94/UniProt ID: Q16146/
9488.1	9488	PIGB	phosphatidylinositol glycan, class B	HUGO ID: 8959/UniProt ID: Q8WVW7/
7841.1	7841	GCSI	glucosidase I	transcript: NM_006302
112.1	112	ADCY6	adenylate cyclase 6	HUGO ID: 237/UniProt ID: O43306/
7054.1	7054	TH	tyrosine hydroxylase	HUGO ID: 11782/UniProt ID: P07101/
3037.1	3037	HAS2	hyaluronan synthase 2	Locus type: gene with protein product, function known or inferred/HUGO ID: 4819/UniProt ID: Q92819/
3293.1	3293	HSD17B3	hydroxysteroid (17-beta) dehydrogenase 3	HUGO ID: 5212/UniProt ID: P37058/
1371.1	1371	CPOX	coproporphyrinogen oxidase (coproporphyrin, harderoporphyria)	
4126.1	4126	MANBA	mannosidase, beta A, lysosomal	HUGO ID: 6831/UniProt ID: O00462/
8867.1	8867	SYNJ1	synaptotagmin 1	transcript: NM_003895
7357.1	7357	UGCG	UDP-glucose ceramide glucosyltransferase	
1585.1	1585	CYP11B2	cytochrome P450, family 11, subfamily B, polypeptide 2	Locus type: gene with protein product, function known or inferred/Aliases: CYP11BL, CPN2, P-450C18, P450aldo, ALDOS/HUGO ID: 2592/UniProt ID: P19099/
5959.1	5959	RDH5	retinol dehydrogenase 5 (11-cis and 9-cis)	
8693.1	8693	GALNT4	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 4 (GalNAc-T4)	Locus type: gene with protein product, function known or inferred/Aliases: GalNAc-T4/HUGO ID: 4126/UniProt ID: O00208/
1606.1	1606	DGKA	diacylglycerol kinase, alpha 80kDa	*PubMed
2519.1	2519	FUCA2	fucosidase, alpha-L- 2, plasma	Locus type: gene with protein product, function known or inferred/Aliases: MGC1314, dI20N2.5/HUGO ID: 4008/UniProt ID: Q9BTY2/
23439.1	23439	ATP1B4	ATPase, (Na+)/K+ transporting, beta 4 polypeptide	HUGO ID: 808/UniProt ID: Q9UN42/
4694.1	4694	NDUFA1	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 1, 7.5kDa	Locus type: gene with protein product, function known or inferred/Aliases: MWFE, C1-MWFE/HUGO ID: 7683/UniProt ID: O15239/
3614.1	3614	IMPDH1	IMP (inosine monophosphate) dehydrogenase 1	Aliases: sWSS2608/HUGO ID: 6052/UniProt ID: P20839/
4712.1	4712	NDUFB6	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 6, 17kDa	
100.1	100	ADA	adenosine deaminase	
223.1	223	ALDH9A1	aldehyde dehydrogenase 9 family, member A1	
3423.1	3423	IDS	iduronate 2-sulfatase (Hunter syndrome)	HUGO ID: 5389/UniProt ID: P22304/
1553.1	1553	CYP2A13	cytochrome P450, family 2, subfamily A, polypeptide 13	
1892.1	1892	ECHS1	enoyl Coenzyme A hydratase, short chain, 1, mitochondrial	Aliases: SCEH/HUGO ID: 3151/UniProt ID: P30084/
2984.1	2984	GUCY2C	guanylate cyclase 2C (heat stable enterotoxin receptor)	Aliases: STAR/HUGO ID: 4688/UniProt ID: P25092/
4047.1	4047	LSS	lanosterol synthase (2,3-oxidosqualene-lanosterol cyclase)	
2977.1	2977	GUCY1A2	guanylate cyclase 1, soluble, alpha 2	Aliases: GC-SA2/HUGO ID: 4684/UniProt ID: P33402/
5049.1	5049	PAFAH1B2	platelet-activating factor acetylhydrolase, isoform Ib, beta subunit 30kDa	
10007.1	10007	GNPI	glucosamine-6-phosphate isomerase	
4513.1	4513	MTCO2	cytochrome c oxidase II	
5305.1	5305	PIP5K2A	phosphatidylinositol-4-phosphate 5-kinase, type II, alpha	HUGO ID: 8997/UniProt ID: P48426/
4759.1	4759	NEU2	sialidase 2 (cytosolic sialidase)	HUGO ID: 7759/UniProt ID: Q9Y3R4/
3242.1	3242	HPD	4-hydroxyphenylpyruvate dioxygenase	HUGO ID: 5147/UniProt ID: P32754/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
4702.1	4702	NDUFA8	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 8, 19kDa	Locus type: gene with protein product, function known or inferred/Aliases: PGIV, MGC793/HUGO ID: 7692/UniProt ID: P51970/
6303.1	6303	SAT	spermidine/spermine N1-acetyltransferase	
6489.1	6489	SIAT8A	sialyltransferase 8A (alpha-N-acetylneuraminic acid: alpha-2,8-sialyltransferase, GD3 synthase)	Aliases: ST8Sia I/HUGO ID: 10869/UniProt ID: Q92185/
3420.1	3420	IDH3B	isocitrate dehydrogenase 3 (NAD+) beta	HUGO ID: 5385/UniProt ID: O43837/
501.1	501	ALDH7A1	aldehyde dehydrogenase 7 family, member A1	HUGO ID: 877/UniProt ID: P49419/
622.1	622	BDH1	3-hydroxybutyrate dehydrogenase (heart, mitochondrial)	HUGO ID: 1027/UniProt ID: Q02338/
8942.1	8942	KYNU	kynureninase (L-kynurenine hydrolase)	
3038.1	3038	HAS3	hyaluronan synthase 3	transcript: NM_005329
4051.1	4051	CYP4F3	cytochrome P450, family 4, subfamily F, polypeptide 3	
9162.1	9162	DGKI	diacylglycerol kinase, iota	HUGO ID: 2855/UniProt ID: O75912/
2730.1	2730	GCLM	glutamate-cysteine ligase, modifier subunit	HUGO ID: 4312/UniProt ID: P48507/
15.1	15	AANAT	arylalkylamine N-acetyltransferase	Aliases: SNAT/HUGO ID: 19/UniProt ID: Q16613/
7381.1	7381	UQCRB	ubiquinol-cytochrome c reductase binding protein	Aliases: QP-C/HUGO ID: 12582/UniProt ID: P14927/
6392.1	6392	SDHD	succinate dehydrogenase complex, subunit D, integral membrane protein	*PubMed
5139.1	5139	PDE3A	phosphodiesterase 3A, cGMP-inhibited	
4728.1	4728	NDUFS8	NADH dehydrogenase (ubiquinone) Fe-S protein 8, 23kDa (NADH-coenzyme Q reductase)	
4538.1	4538	MTND4	NADH dehydrogenase 4	HUGO ID: 7459/UniProt ID: P03905/
113.1	113	ADCY7	adenylate cyclase 7	Aliases: KIAA0037/HUGO ID: 238/UniProt ID: P51828/
6716.1	6716	SRD5A2	steroid-5-alpha-reductase, alpha polypeptide 2 (3-oxo-5 alpha-steroid delta 4-dehydrogenase alpha 2)	HUGO ID: 11285/UniProt ID: P31213/
4967.1	4967	OGDH	oxoglutarate (alpha-ketoglutarate) dehydrogenase (lipoamide)	transcript: NM_001003941
6185.1	6185	RPN2	ribophorin II	HUGO ID: 10382/UniProt ID: P04844/
4860.1	4860	NP	nucleoside phosphorylase	HUGO ID: 7892/UniProt ID: P00491/
29922.1	29922	NME7	non-metastatic cells 7, protein expressed in (nucleoside-diphosphate kinase)	Locus type: gene with protein product, function known or inferred/HUGO ID: 20461/UniProt ID: Q9Y5B8/MGD ID: MGI:2449121/
211.1	211	ALAS1	aminolevulinic acid, delta-, synthase 1	HUGO ID: 396/UniProt ID: P13196/
30833.1	30833	NT5C	5', 3'-nucleotidase, cytosolic	Aliases: DNT1, DNT-1, PN-1, cdN, dNT-1, HGNC:12561/HUGO ID: 17144/UniProt ID: Q8TCD5/
5105.1	5105	PCK1	phosphoenolpyruvate carboxykinase 1 (soluble)	HUGO ID: 8724/UniProt ID: P35558/
4129.1	4129	MAOB	monoamine oxidase B	HUGO ID: 6834/UniProt ID: P27338/
9956.1	9956	HS3ST2	heparan sulfate (glucosamine) 3-O-sulfotransferase 2	Locus type: gene with protein product, function known or inferred/Aliases: 3OST2/HUGO ID: 5195/UniProt ID: Q9Y278/
4355.1	4355	MPO	myeloperoxidase	HUGO ID: 7218/UniProt ID: P05164/
56052.1	56052	ALG1	asparagine-linked glycosylation 1 homolog (yeast, beta-1,4-mannosyltransferase)	Locus type: gene with protein product, function known or inferred/Aliases: HMT-1, HMT1/HUGO ID: 18294/UniProt ID: Q8NSY4/
23498.1	23498	HAAO	3-hydroxyanthranilate 3,4-dioxygenase	HUGO ID: 4796/UniProt ID: P46952/
7358.1	7358	UGDH	UDP-glucose dehydrogenase	
5048.1	5048	PAFAH1B1	platelet-activating factor acetylhydrolase, isoform 1b, alpha subunit 45kDa	
1632.1	1632	DCI	dodecenoyl-Coenzyme A delta isomerase (3,2 trans-enoyl-Coenzyme A isomerase)	HUGO ID: 2703/UniProt ID: P42126/
2990.1	2990	GUSB	glucuronidase, beta	HUGO ID: 4696/UniProt ID: P08236/
5167.1	5167	ENPP1	ectonucleotide pyrophosphatase/phosphodiesterase 1	Aliases: PC-1, PCA1/HUGO ID: 3356/UniProt ID: P22413/
4023.1	4023	LPL	lipoprotein lipase	HUGO ID: 6677/UniProt ID: P06858/
4144.1	4144	MAT2A	methionine adenosyltransferase II, alpha	Aliases: SAMS2, MATA2, MATII/HUGO ID: 6904/UniProt ID: P31153/
2937.1	2937	GSS	glutathione synthetase	HUGO ID: 4624/UniProt ID: P48637/
9334.1	9334	B4GALT5	UDP-Gal:betaGlcNAc beta 1,4-galactosyltransferase, polypeptide 5	
51733.1	51733	UPB1	ureidopropionase, beta	Aliases: BUP1/HUGO ID: 16297/UniProt ID: Q9UBR1/
3251.1	3251	HPRT1	hypoxanthine phosphoribosyltransferase 1 (Lesch-Nyhan syndrome)	Locus type: gene with protein product, function known or inferred/Aliases: HGPR1/HUGO ID: 5157/UniProt ID: P00492/
4669.1	4669	NAGLU	N-acetylglucosaminidase, alpha- (Sanfilippo disease IIIB)	Aliases: NAG/HUGO ID: 7632/UniProt ID: P54802/
4713.1	4713	NDUFB7	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 7, 18kDa	
4537.1	4537	MTND3	NADH dehydrogenase 3	HUGO ID: 7458/UniProt ID: P03897/
7296.1	7296	TXNRD1	thioredoxin reductase 1	Locus type: gene with protein product, function known or inferred/Aliases: TXNR/HUGO ID: 12437/UniProt ID: Q16881/
5831.1	5831	PYCR1	pyrroline-5-carboxylate reductase 1	Aliases: P5C/HUGO ID: 9721/UniProt ID: P32322/
3631.1	3631	INPP4A	inositol polyphosphate-4-phosphatase, type I, 107kDa	transcript: NM_001566
1584.1	1584	CYP11B1	cytochrome P450, family 11, subfamily B, polypeptide 1	Locus type: gene with protein product, function known or inferred/Aliases: P450C11, FHI, CPN1/HUGO ID: 2591/UniProt ID: P15538/
3613.1	3613	IMPA2	inositol-(myo)-1(or 4)-monophosphatase 2	HUGO ID: 6051/UniProt ID: O14732/
3795.1	3795	KHK	ketohexokinase (fructokinase)	HUGO ID: 6315/UniProt ID: P50053/
2135.1	2135	EXTL2	exostosins (multiple)-like 2	HUGO ID: 3516/UniProt ID: Q9UBQ6/

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10380.1	10380	BPNT1	3'(2'), 5'-bisphosphate nucleotidase 1	Locus type: gene with protein product, function known or inferred/HUGO ID: 1096/UniProt ID: Q8WVL5/
224.1	224	ALDH3A2	aldehyde dehydrogenase 3 family, member A2	Aliases: FALDH/HUGO ID: 403/UniProt ID: P51648/
3422.1	3422	IDI1	isopentenyl-diphosphate delta isomerase	Locus type: gene with protein product, function known or inferred/HUGO ID: 5387/UniProt ID: Q13907/
7083.1	7083	TK1	thymidine kinase 1, soluble	HUGO ID: 11830/UniProt ID: P04183/
1160.1	1160	CKMT2	creatine kinase, mitochondrial 2 (sarcomeric)	Aliases: SMTCK/HUGO ID: 1996/UniProt ID: P17540/
4048.1	4048	LTA4H	leukotriene A4 hydrolase	Locus type: gene with protein product, function known or inferred/HUGO ID: 6710/UniProt ID: P09960/
2762.1	2762	GMD5	GDP-mannose 4,6-dehydratase	Aliases: GMD/HUGO ID: 4369/UniProt ID: O60547/
1119.1	1119	CHK	choline kinase	
5730.1	5730	PTGDS	prostaglandin D2 synthase 21kDa (brain)	Locus type: gene with protein product, function known or inferred/HUGO ID: 9592/UniProt ID: P41222/
5149.1	5149	PDE6H	phosphodiesterase 6H, cGMP-specific, cone, gamma	HUGO ID: 8790/UniProt ID: Q13956/
8821.1	8821	INPP4B	inositol polyphosphate-4-phosphatase, type II, 105kDa	Locus type: gene with protein product, function known or inferred/HUGO ID: 6075/UniProt ID: O15327/
3283.1	3283	HSD3B1	hydroxy-delta-5-steroid dehydrogenase, 3 beta- and steroid delta-isomerase 1	Locus type: gene with protein product, function known or inferred/HUGO ID: 5217/UniProt ID: P14060/
3141.1	3141	HLCS	holocarboxylase synthetase (biotin-[proprionyl-Coenzyme A carboxylase (ATP-hydrolysing)] ligase)	Aliases: HCS/HUGO ID: 4976/UniProt ID: P50747/
8789.1	8789	FBP2	fructose-1,6-bisphosphatase 2	HUGO ID: 3607/UniProt ID: O00757/
1503.1	1503	CTPS	CTP synthase	Locus type: gene with protein product, function known or inferred/HUGO ID: 2519/UniProt ID: P17812/
95.1	95	ACY1	aminoacylase 1	HUGO ID: 177/UniProt ID: Q03154/
23632.1	23632	CA14	carbonic anhydrase XIV	HUGO ID: 1372/UniProt ID: Q9ULX7/
4758.1	4758	NEU1	sialidase 1 (lysosomal sialidase)	HUGO ID: 7758/UniProt ID: Q99519/
1716.1	1716	DGUOK	deoxyguanosine kinase	Aliases: dGK/HUGO ID: 2858/UniProt ID: Q16854/
7167.1	7167	TP1	triosephosphate isomerase 1	HUGO ID: 12009/UniProt ID: P00938/
1431.1	1431	CS	citrate synthase	HUGO ID: 2422/UniProt ID: O75390/
518.1	518	ATP5G3	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit c (subunit 9) isoform 3	HUGO ID: 843/UniProt ID: P48201/Variant 1: This variant represents the longest transcript. Transcript variants 1, 2 and 3 encode the same protein.
4539.1	4539	MTND4L	NADH dehydrogenase 4L	HUGO ID: 7460/UniProt ID: P03901/
2271.1	2271	FH	fumarate hydratase	Locus type: gene with protein product, function known or inferred/HUGO ID: 3700/UniProt ID: P07954/
1594.1	1594	CYP27B1	cytochrome P450, family 27, subfamily B, polypeptide 1	
4697.1	4697	NDUFA4	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 4, 9kDa	Locus type: gene with protein product, function known or inferred/Aliases: MLRQ/HUGO ID: 7687/UniProt ID: O00483/
760.1	760	CA2	carbonic anhydrase II	HUGO ID: 1373/UniProt ID: P00918/
4128.1	4128	MAOA	monoamine oxidase A	HUGO ID: 6833/UniProt ID: P21397/
6184.1	6184	RPN1	ribophorin 1	HUGO ID: 10381/UniProt ID: P04843/
9377.1	9377	COX5A	cytochrome c oxidase subunit Va	
410.1	410	ARSA	arylsulfatase A	HUGO ID: 713/UniProt ID: P15289/
1373.1	1373	CPS1	carbamoyl-phosphate synthetase 1, mitochondrial	HUGO ID: 2323/UniProt ID: P31327/
1565.1	1565	CYP2D6	cytochrome P450, family 2, subfamily D, polypeptide 6	Locus type: gene with protein product, function known or inferred/Aliases: HGNC:2629, CPD6, P450-DB1, CYP2D, P450C2D/HUGO ID: 2625/UniProt ID: P10635/
2651.1	2651	GCNT2	glucosaminyl (N-acetyl) transferase 2, I-branching enzyme	
18.1	18	ABAT	4-aminobutyrate aminotransferase	Aliases: GABAT/HUGO ID: 23/UniProt ID: P80404/
2131.1	2131	EXT1	exostosin (multiple) 1	HUGO ID: 3512/UniProt ID: Q16394/
5464.1	5464	PP	pyrophosphatase (inorganic)	*PubMed
10157.1	10157	AASS	aminoacidipate-semialdehyde synthase	Aliases: LORSDH, LKRSDH, AASS/HUGO ID: 17366/UniProt ID: O95462/
6999.1	6999	TDO2	tryptophan 2,3-dioxygenase	HUGO ID: 11708/UniProt ID: P48775/
3292.1	3292	HSD17B1	hydroxysteroid (17-beta) dehydrogenase 1	Aliases: HSD17/HUGO ID: 5210/UniProt ID: P14061/
2572.1	2572	GAD2	glutamate decarboxylase 2 (pancreatic islets and brain, 65kDa)	Locus type: gene with protein product, function known or inferred/Aliases: GAD65/HUGO ID: 4093/UniProt ID: Q05329/
8833.1	8833	GMPS	guanine monophosphate synthetase	
4729.1	4729	NDUFV2	NADH dehydrogenase (ubiquinone) flavoprotein 2, 24kDa	
5742.1	5742	PTGS1	prostaglandin-endoperoxide synthase 1 (prostaglandin G/H synthase and cyclooxygenase)	
2597.1	2597	GAPDH	glyceraldehyde-3-phosphate dehydrogenase	Aliases: GAPDH/HUGO ID: 4141/UniProt ID: P04406/
4837.1	4837	NNMT	nicotinamide N-methyltransferase	HUGO ID: 7861/UniProt ID: P40261/
5168.1	5168	ENPP2	ectonucleotide pyrophosphatase/phosphodiesterase 2 (autotaxin)	Aliases: ATX, PD-IALPHA/HUGO ID: 3357/UniProt ID: Q13822/
7359.1	7359	UGP1	UDP-glucose pyrophosphorylase 1	Locus type: gene with protein product, function known or inferred/Aliases: UGPP1/HUGO ID: 12526/
5836.1	5836	PYGL	phosphorylase, glycogen; liver (Hers disease, glycogen storage disease type VI)	HUGO ID: 9725/UniProt ID: P06737/
5352.1	5352	PLOD2	procollagen-lysine, 2-oxoglutarate 5-dioxygenase (lysine hydroxylase) 2	Locus type: gene with protein product, function known or inferred/HUGO ID: 9082/UniProt ID: O00469/
2986.1	2986	GUCY2F	guanylate cyclase 2F, retinal	
2517.1	2517	FUCA1	fucosidase, alpha-L-, tissue	Locus type: gene with protein product, function known or inferred/HUGO ID: 4006/UniProt ID: P04066/MGI: MGI:95593/

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4200.1	4200	ME2	malic enzyme 2, NAD(+)-dependent, mitochondrial	Locus type: gene with protein product, function known or inferred/HUGO ID: 6984/UniProt ID: P23368/
1551.1	1551	CYP3A7	cytochrome P450, family 3, subfamily A, polypeptide 7	Locus type: gene with protein product, function known or inferred/Aliases: CP37, P450-HFLA/HUGO ID: 2640/UniProt ID: P24462/
64080.1	64080	RBKS	ribokinase	
51268.1	51268	PIPOX	pipecolic acid oxidase	
1583.1	1583	CYP11A1	cytochrome P450, family 11, subfamily A, polypeptide 1	Locus type: gene with protein product, function known or inferred/Aliases: P450SCC/HUGO ID: 2590/UniProt ID: P05108/
5214.1	5214	PFKP	phosphofructokinase, platelet	Locus type: gene with protein product, function known or inferred/Aliases: PFK-C, PFKF/HUGO ID: 8878/UniProt ID: Q01813/
4710.1	4710	NDUFB4	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 4, 15kDa	Locus type: gene with protein product, function known or inferred/Aliases: B15/HUGO ID: 7699/UniProt ID: O95168/
8659.1	8659	ALDH4A1	aldehyde dehydrogenase 4 family, member A1	Aliases: P5CDh/HUGO ID: 406/UniProt ID: P30038/
221.1	221	ALDH3B1	aldehyde dehydrogenase 3 family, member B1	
55577.1	55577	NAGK	N-acetylglucosamine kinase	Aliases: GNK/HUGO ID: 17174/UniProt ID: Q9UJ70/
6818.1	6818	SULT1A3	sulfotransferase family, cytosolic, 1A, phenol-preferring, member 3	
1572.1	1572	CYP2F1	cytochrome P450, family 2, subfamily F, polypeptide 1	Locus type: gene with protein product, function known or inferred/HUGO ID: 2632/UniProt ID: P24903/
8564.1	8564	KMO	kynurenine 3-monooxygenase (kynurenine 3-hydroxylase)	HUGO ID: 6381/UniProt ID: O15229/MGD ID: MGI:2138151/
1555.1	1555	CYP2B6	cytochrome P450, family 2, subfamily B, polypeptide 6	
10682.1	10682	EBP	emopamil binding protein (sterol isomerase)	
3632.1	3632	INPP5A	inositol polyphosphate-5-phosphatase, 40kDa	Locus type: gene with protein product, function known or inferred/Aliases: 5PTASE/HUGO ID: 6076/UniProt ID: Q14642/
65220.1	65220	FLJ13052	NAD kinase	transcript: NM_023018
9061.1	9061	PAPSS1	3'-phosphoadenosine 5'-phosphosulfate synthase 1	*PubMed
3425.1	3425	IDUA	iduronidase, alpha-L-	HUGO ID: 5391/UniProt ID: P35475/
5145.1	5145	PDE6A	phosphodiesterase 6A, cGMP-specific, rod, alpha	HUGO ID: 8785/UniProt ID: P16499/
1158.1	1158	CKM	creatine kinase, muscle	HUGO ID: 1994/UniProt ID: P06732/
10606.1	10606	PAICS	phosphoribosylaminoimidazole carboxylase, phosphoribosylaminoimidazole succinocarboxamide synthetase	
7084.1	7084	TK2	thymidine kinase 2, mitochondrial	HUGO ID: 11831/UniProt ID: O00142/
318.1	318	NUDT2	nudix (nucleoside diphosphate linked moiety X)-type motif 2	
54677.1	54677	CROT	carnitine O-octanoyltransferase	Aliases: COT/HUGO ID: 2366/UniProt ID: Q9UKG9/
2950.1	2950	GSTP1	glutathione S-transferase pi	
10026.1	10026	PIGK	phosphatidylinositol glycan, class K	Aliases: hGPI8/HUGO ID: 8965/UniProt ID: Q92643/
7166.1	7166	TPH1	tryptophan hydroxylase 1 (tryptophan 5-monooxygenase)	Locus type: gene with protein product, function known or inferred/HUGO ID: 12008/UniProt ID: P17752/
159.1	159	ADSS	adenylosuccinate synthase	
4121.1	4121	MAN1A1	mannosidase, alpha, class 1A, member 1	HUGO ID: 6821/UniProt ID: P33908/
4594.1	4594	MUT	methylmalonyl Coenzyme A mutase	
8513.1	8513	LIPF	lipase, gastric	
5034.1	5034	P4HB	procollagen-proline, 2-oxoglutarate 4-dioxygenase (proline 4-hydroxylase), beta polypeptide (protein disulfide isomerase; thyroid hormone binding protein p55)	HUGO ID: 8548/UniProt ID: P07237/
6487.1	6487	ST3GAL3	ST3 beta-galactoside alpha-2,3-sialyltransferase 3	Locus type: gene with protein product, function known or inferred/Aliases: ST3Gal III/HUGO ID: 10866/UniProt ID: Q11203/
1717.1	1717	DHCR7	7-dehydrocholesterol reductase	
6241.1	6241	RRM2	ribonucleotide reductase M2 polypeptide	HUGO ID: 10452/UniProt ID: P31350/
2683.1	2683	B4GALT1	UDP-Gal:betaGlcNAc beta 1,4-galactosyltransferase, polypeptide 1	Locus type: gene with protein product, function known or inferred/Aliases: beta4Gal-T1/HUGO ID: 924/UniProt ID: P15291/
517.1	517	ATP5G2	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit c (subunit 9), isoform 2	HUGO ID: 842/UniProt ID: Q06055/Variant 1: This variant represents the longer transcript, and encodes the longer isoform 2a.
26289.1	26289	AK5	adenylate kinase 5	HUGO ID: 365/UniProt ID: Q9Y6K8/
1621.1	1621	DBH	dopamine beta-hydroxylase (dopamine beta-monooxygenase)	HUGO ID: 2689/UniProt ID: P09172/
29880.1	29880	ALG5	asparagine-linked glycosylation 5 homolog (yeast, dolichyl-phosphate beta-glucosyltransferase)	Locus type: gene with protein product, function known or inferred/Aliases: bA421P11.2/HUGO ID: 20266/UniProt ID: Q9Y673/
4696.1	4696	NDUFA3	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 3, 9kDa	Aliases: B9/HUGO ID: 7686/UniProt ID: O95167/
8802.1	8802	SUCLG1	succinate-CoA ligase, GDP-forming, alpha subunit	Locus type: gene with protein product, function known or inferred/HUGO ID: 11449/UniProt ID: P53597/
481.1	481	ATP1B1	ATPase, Na+/K+ transporting, beta 1 polypeptide	HUGO ID: 804/UniProt ID: P05026/
2132.1	2132	EXT2	exostosins (multiple) 2	NM_000401
4842.1	4842	NOS1	nitric oxide synthase 1 (neuronal)	
11181.1	11181	TREH	trehalase (brush-border membrane glycoprotein)	Aliases: TRE, TREA/HUGO ID: 12266/UniProt ID: O43280/
4700.1	4700	NDUFA6	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 6, 14kDa	
5837.1	5837	PYGM	phosphorylase, glycogen; muscle (McArdle syndrome, glycogen storage disease type V)	HUGO ID: 9726/UniProt ID: P11217/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
111.1	111	ADCY5	adenylate cyclase 5	Locus type: gene with protein product, function known or inferred/HUGO ID: 236/UniProt ID: O95622/
5743.1	5743	PTGS2	prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)	Aliases: COX2/HUGO ID: 9605/UniProt ID: P35354/
2571.1	2571	GAD1	glutamate decarboxylase 1 (brain, 67kDa)	HUGO ID: 4092/UniProt ID: Q99259/
570.1	570	BAAT	bile acid Coenzyme A: amino acid N-acyltransferase (glycine N-choloyltransferase)	Aliases: BAT/HUGO ID: 932/UniProt ID: Q14032/
3294.1	3294	HSD17B2	hydroxysteroid (17-beta) dehydrogenase 2	Aliases: HSD17/HUGO ID: 5211/UniProt ID: P37059/
4726.1	4726	NDUFS6	NADH dehydrogenase (ubiquinone) Fe-S protein 6, 13kDa (NADH-coenzyme Q reductase)	HUGO ID: 7713/UniProt ID: O75380/
2940.1	2940	GSTA3	glutathione S-transferase A3	
7915.1	7915	ALDH5A1	aldehyde dehydrogenase 5 family, member A1 (succinate-semialdehyde dehydrogenase)	
1595.1	1595	CYP51A1	cytochrome P450, family 51, subfamily A, polypeptide 1	Locus type: gene with protein product, function known or inferred/Aliases: CP51, CYPL1, P450L1, LDM, P450-14DM/HUGO ID: 2649/UniProt ID: Q16850/
3945.1	3945	LDHB	lactate dehydrogenase B	Locus type: gene with protein product, function known or inferred/HUGO ID: 6541/UniProt ID: P07195/
8694.1	8694	DGAT1	diacylglycerol O-acyltransferase homolog 1 (mouse)	Locus type: gene with protein product, function known or inferred/Aliases: ARGP1, DGAT/HUGO ID: 2843/UniProt ID: O75907/
5634.1	5634	PRPS2	phosphoribosyl pyrophosphate synthetase 2	Aliases: PRS II/HUGO ID: 9465/UniProt ID: P11908/
54363.1	54363	HAO1	hydroxyacid oxidase (glycolate oxidase) 1	Aliases: GOX, HAO1/HUGO ID: 4809/UniProt ID: Q9UJM8/
272.1	272	AMPD3	adenosine monophosphate deaminase (isoform E)	HUGO ID: 470/UniProt ID: Q01432/
55811.1	55811	SAC	testicular soluble adenylyl cyclase	transcript: NM_018417
4548.1	4548	MTR	5-methyltetrahydrofolate-homocysteine methyltransferase	Locus type: gene with protein product, function known or inferred/HUGO ID: 7468/UniProt ID: Q99707/
4351.1	4351	MPI	mannose phosphate isomerase	HUGO ID: 7216/UniProt ID: P34949/
9653.1	9653	HS2ST1	heparan sulfate 2-O-sulfotransferase 1	Aliases: KIAA0448/HUGO ID: 5193/UniProt ID: O75036/
5144.1	5144	PDE4D	phosphodiesterase 4D, cAMP-specific (phosphodiesterase E3 duncce homolog, Drosophila)	HUGO ID: 8783/UniProt ID: Q08499/
3295.1	3295	HSD17B4	hydroxysteroid (17-beta) dehydrogenase 4	HUGO ID: 5213/UniProt ID: P51659/
5169.1	5169	ENPP3	ectonucleotide pyrophosphatase/phosphodiesterase 3	Aliases: PD-IBETA, gp130RB13-6, B10, CD203C/HUGO ID: 3358/UniProt ID: O14638/
26279.1	26279	PLA2G2D	phospholipase A2, group IID	Aliases: sPLA2S/HUGO ID: 9033/UniProt ID: Q9UNK4/
222.1	222	ALDH3B2	aldehyde dehydrogenase 3 family, member B2	
2983.1	2983	GUCY1B3	guanylate cyclase 1, soluble, beta 3	Aliases: GC-SB3, GC-S-beta-1/HUGO ID: 4687/UniProt ID: Q02153/
2876.1	2876	GPX1	glutathione peroxidase 1	HUGO ID: 4553/UniProt ID: P07203/
4711.1	4711	NDUFB5	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 5, 16kDa	Locus type: gene with protein product, function known or inferred/Aliases: SGDH, CI-SGDH, MGC12314/HUGO ID: 7700/UniProt ID: O43674/
1159.1	1159	CKMT1B	creatine kinase, mitochondrial 1B (ubiquitous)	Aliases: UMTCK/HUGO ID: 1995/UniProt ID: P12532/
3633.1	3633	INPP5B	inositol polyphosphate-5-phosphatase, 75kDa	Locus type: gene with protein product, function known or inferred/HUGO ID: 6077/UniProt ID: P32019/
2137.1	2137	EXTL3	exostosins (multiple)-like 3	
10858.1	10858	CYP46A1	cytochrome P450, family 46, subfamily A, polypeptide 1	Locus type: gene with protein product, function known or inferred/HUGO ID: 2641/UniProt ID: Q9Y6A2/
1571.1	1571	CYP2E1	cytochrome P450, family 2, subfamily E, polypeptide 1	Locus type: gene with protein product, function known or inferred/HUGO ID: 2631/UniProt ID: P05181/
11226.1	11226	GALNT6	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 6 (GalNAc-T6)	Locus type: gene with protein product, function known or inferred/HUGO ID: 4128/UniProt ID: Q8NCL4/
384.1	384	ARG2	arginase, type II	HUGO ID: 664/UniProt ID: P78540/
27165.1	27165	GA	liver mitochondrial glutaminase	
8704.1	8704	B4GALT2	UDP-Gal:betaGlcNAc beta 1,4- galactosyltransferase, polypeptide 2	transcript: NM_001005417
9167.1	9167	COX7A2L	cytochrome c oxidase subunit VIIa polypeptide 2 like	Locus type: gene with protein product, function known or inferred/Aliases: EB1, COX7RP, COX7AR, SIG81/HUGO ID: 2289/UniProt ID: O14548/
5321.1	5321	PLA2G4A	phospholipase A2, group IVA (cytosolic, calcium-dependent)	Locus type: gene with protein product, function known or inferred/Aliases: cPLA2-alpha/HUGO ID: 9035/UniProt ID: P47712/
1312.1	1312	COMT	catechol-O-methyltransferase	HUGO ID: 2228/UniProt ID: P21964/
5335.1	5335	PLCG1	phospholipase C, gamma 1 (formerly subtype 148)	transcript: NM_002660
239.1	239	ALOX12	arachidonate 12-lipoxygenase	HUGO ID: 429/UniProt ID: P18054/
1337.1	1337	COX6A1	cytochrome c oxidase subunit VIa polypeptide 1	Locus type: gene with protein product, function known or inferred/HUGO ID: 2277/UniProt ID: P12074/
2710.1	2710	GK	glycerol kinase	Locus type: gene with protein product, function known or inferred/HUGO ID: 4289/UniProt ID: P32189/
6240.1	6240	RRM1	ribonucleotide reductase M1 polypeptide	HUGO ID: 10451/UniProt ID: P23921/
158.1	158	ADSL	adenylosuccinate lyase	HUGO ID: 291/UniProt ID: P30566/
9583.1	9583	LYSAL1	lysosomal apyrase-like 1	
51292.1	51292	GMPR2	guanosine monophosphate reductase 2	Locus type: gene with protein product, function known or inferred/HUGO ID: 4377/UniProt ID: Q9P2T1/
8566.1	8566	PDXK	pyridoxal (pyridoxine, vitamin B6) kinase	Aliases: PNK, PKH/HUGO ID: 8819/UniProt ID: O00764/
1375.1	1375	CPT1B	carntine palmitoyltransferase 1B (muscle)	Aliases: M-CPT1, CPT1-M/HUGO ID: 2329/UniProt ID: Q92523/
533.1	533	ATP6V0B	ATPase, H+ transporting, lysosomal 21kDa, V0 subunit c'	Locus type: gene with protein product, function known or inferred/Aliases: VMA16, HATPL/HUGO ID: 861/UniProt ID: Q99437/MGD ID: MGI:1890510/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
10632.1	10632	ATP5L	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit g	
3074.1	3074	HEXB	hexosaminidase B (beta polypeptide)	HUGO ID: 4879/UniProt ID: P07686/
56913.1	56913	C1GALT1	core 1 UDP-galactose:N-acetylgalactosamine-alpha-R beta 1,3-galactosyltransferase	transcript: NM_020156
8382.1	8382	NME5	non-metastatic cells 5, protein expressed in (nucleoside-diphosphate kinase)	Aliases: nm23-H5/HUGO ID: 7853/UniProt ID: P56597/
10455.1	10455	PECI	peroxisomal D3,D2-enoyl-CoA isomerase	Locus type: gene with protein product, function known or inferred/Aliases: ACBD2, DRS1, HCA88/HUGO ID: 14601/UniProt ID: O75521/
8803.1	8803	SUCLA2	succinate-CoA ligase, ADP-forming, beta subunit	HUGO ID: 11448/UniProt ID: Q9P2R7/
2235.1	2235	FECH	ferrochelatase (protoporphyrin)	HUGO ID: 3647/UniProt ID: P22830/
1841.1	1841	DTYMK	deoxythymidylate kinase (thymidylate kinase)	
2618.1	2618	GART	phosphoribosylglycinamide formyltransferase, phosphoribosylglycinamide synthetase, phosphoribosylaminoimidazole synthetase	HUGO ID: 4163/UniProt ID: P22102/
9517.1	9517	SPTLC2	serine palmitoyltransferase, long chain base subunit 2	
216.1	216	ALDH1A1	aldehyde dehydrogenase 1 family, member A1	Aliases: RALDH1/HUGO ID: 402/UniProt ID: P00352/
2632.1	2632	GBE1	glucan (1,4-alpha-), branching enzyme 1 (glycogen branching enzyme, Andersen disease, glycogen storage disease type IV)	HUGO ID: 4180/UniProt ID: Q04446/
29925.1	29925	GMPPB	GDP-mannose pyrophosphorylase B	transcript: NM_013334
29968.1	29968	PSAT1	phosphoserine aminotransferase 1	
1635.1	1635	DCFD	dCMP deaminase	HUGO ID: 2710/UniProt ID: P32321/
1040.1	1040	CDS1	CDP-diacylglycerol synthase (phosphatidate cytidyltransferase) 1	
51477.1	51477	ISYNA1	myo-inositol 1-phosphate synthase A1	transcript: NM_016368
669.1	669	BPGM	2,3-bisphosphoglycerate mutase	Locus type: gene with protein product, function known or inferred/HUGO ID: 1093/UniProt ID: P07738/
6888.1	6888	TALDO1	transaldolase 1	HUGO ID: 11559/UniProt ID: P37837/
1650.1	1650	DDOST	dolichyl-diphosphooligosaccharide-protein glycosyltransferase	Aliases: OST, KIAA0115/HUGO ID: 2728/UniProt ID: P39656/
271.1	271	AMPD2	adenosine monophosphate deaminase 2 (isoform L)	HUGO ID: 469/UniProt ID: Q01433/
3290.1	3290	HSD11B1	hydroxysteroid (11-beta) dehydrogenase 1	Locus type: gene with protein product, function known or inferred/HUGO ID: 5208/UniProt ID: P28845/
4716.1	4716	NDUFB10	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 10, 22kDa	
5224.1	5224	PGAM2	phosphoglycerate mutase 2 (muscle)	HUGO ID: 8889/UniProt ID: P15259/
1347.1	1347	COX7A2	cytochrome c oxidase subunit VIIa polypeptide 2 (liver)	
11238.1	11238	CA5B	carbonic anhydrase VB, mitochondrial	Locus type: gene with protein product, function known or inferred/HUGO ID: 1378/UniProt ID: Q9Y2D0/
9945.1	9945	GFPT2	glutamine-fructose-6-phosphate transaminase 2	Aliases: GFAT2/HUGO ID: 4242/UniProt ID: O94808/
2589.1	2589	GALNT1	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 1 (GalNAc-T1)	Aliases: GalNAc-T1/HUGO ID: 4123/UniProt ID: Q10472/
762.1	762	CA4	carbonic anhydrase IV	Aliases: CAIV/HUGO ID: 1375/UniProt ID: P22748/
4698.1	4698	NDUFA5	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 5, 13kDa	
4831.1	4831	NME2	non-metastatic cells 2, protein (NM23B) expressed in	Aliases: NM23-H2/HUGO ID: 7850/UniProt ID: P22392/
8613.1	8613	PPAP2B	phosphatidic acid phosphatase type 2B	Aliases: PAP-2b/HUGO ID: 9229/UniProt ID: O14495/
23761.1	23761	PISD	phosphatidylserine decarboxylase	Aliases: dJ858B16.2/HUGO ID: 8999/UniProt ID: Q9UG56/
847.1	847	CAT	catalase	HUGO ID: 1516/UniProt ID: P04040/
2952.1	2952	GSTT1	glutathione S-transferase theta 1	HUGO ID: 4641/UniProt ID: P30711/
3098.1	3098	HK1	hexokinase 1	Locus type: gene with protein product, function known or inferred/HUGO ID: 4922/UniProt ID: P19367/
2583.1	2583	GALGT	UDP-N-acetyl-alpha-D-galactosamine:(N-acetylneuraminyl)galactosylglucosylceramide N-acetylgalactosaminyltransferase (GalNAc-T)	Aliases: beta1-4GalNAc-T/HUGO ID: 4117/UniProt ID: Q00973/
4143.1	4143	MAT1A	methionine adenosyltransferase I, alpha	Aliases: MAT, SAMS, MATA1, SAMS1/HUGO ID: 6903/UniProt ID: Q00266/
1589.1	1589	CYP21A2	cytochrome P450, family 21, subfamily A, polypeptide 2	Locus type: gene with protein product, function known or inferred/Aliases: P450c21B, CA21H, CPS1, CAH1/HUGO ID: 2600/UniProt ID: P08686/
3067.1	3067	HDC	histidine decarboxylase	HUGO ID: 4855/UniProt ID: P19113/
10588.1	10588	MTHFS	5,10-methylenetetrahydrofolate synthetase (5-formyltetrahydrofolate cyclo-ligase)	Locus type: gene with protein product, function known or inferred/Aliases: HsT19268/HUGO ID: 7437/UniProt ID: P49914/
5320.1	5320	PLA2G2A	phospholipase A2, group IIA (platelets, synovial fluid)	Locus type: gene with protein product, function known or inferred/HUGO ID: 9031/UniProt ID: P14555/
26290.1	26290	GALNT8	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 8 (GalNAc-T8)	Locus type: gene with protein product, function known or inferred/Aliases: GALNAc-T8/HUGO ID: 4130/UniProt ID: Q9NY28/
116285.1	116285	BUCS1	butyryl Coenzyme A synthetase 1	Aliases: MACS1/HUGO ID: 18049/UniProt ID: Q96A20/MGD ID: MGI:2152200/
8703.1	8703	B4GALT3	UDP-Gal:betaGlcNAc beta 1,4-galactosyltransferase, polypeptide 3	
483.1	483	ATP1B3	ATPase, Na+/K+ transporting, beta 3 polypeptide	
593.1	593	BCKDHA	branched chain keto acid dehydrogenase E1, alpha polypeptide (maple syrup urine disease)	HUGO ID: 986/UniProt ID: P12694/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
1374.1	1374	CPT1A	carnitine palmitoyltransferase 1A (liver)	
3101.1	3101	HK3	hexokinase 3 (white cell)	HUGO ID: 4925/UniProt ID: P52790/
9348.1	9348	NDST3	N-deacetylase/N-sulfotransferase (heparan glucosaminyl) 3	Locus type: gene with protein product, function known or inferred/HUGO ID: 7682/UniProt ID: Q9UP21/
1152.1	1152	CKB	creatine kinase, brain	HUGO ID: 1991/UniProt ID: P12277/
48.1	48	ACO1	aconitase 1, soluble	
27115.1	27115	PDE7B	phosphodiesterase 7B	HUGO ID: 8792/UniProt ID: Q9NP56/
3073.1	3073	HEXA	hexosaminidase A (alpha polypeptide)	HUGO ID: 4878/UniProt ID: P06865/
8972.1	8972	MGAM	maltase-glucoamylase (alpha-glucoamidase)	Aliases: MGA/HUGO ID: 7043/UniProt ID: O43451/
3291.1	3291	HSD11B2	hydroxysteroid (11-beta) dehydrogenase 2	HUGO ID: 5209/UniProt ID: P80365/
10195.1	10195	ALG3	asparagine-linked glycosylation 3 homolog (yeast, alpha-1,3-mannosyltransferase)	Locus type: gene with protein product, function known or inferred/Aliases: NOT56L, Not56, CDGS4, D16Erd36e/HUGO ID: 23056/UniProt ID: Q92685/MGD ID: MGI:1098592/
2939.1	2939	GSTA2	glutathione S-transferase A2	Locus type: gene with protein product, function known or inferred/HUGO ID: 4627/UniProt ID: P09210/
4668.1	4668	NAGA	N-acetylgalactosaminidase, alpha-	Aliases: D225674/HUGO ID: 7631/UniProt ID: P17050/
1609.1	1609	DGKQ	diacylglycerol kinase, theta 110kDa	
5207.1	5207	PFKFB1	6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 1	HUGO ID: 8872/UniProt ID: P16118/
411.1	411	ARSB	arylsulfatase B	HUGO ID: 714/UniProt ID: P15848/
6652.1	6652	SORD	sorbitol dehydrogenase	HUGO ID: 11184/UniProt ID: Q00796/
29926.1	29926	GMPPA	GDP-mannose pyrophosphorylase A	transcript: NM_013335
8394.1	8394	PIP5K1A	phosphatidylinositol-4-phosphate 5-kinase, type I, alpha	
7385.1	7385	UQCRC2	ubiquinol-cytochrome c reductase core protein II	HUGO ID: 12586/UniProt ID: P22695/
10312.1	10312	TCIRG1	T-cell, immune regulator 1, ATPase, H+ transporting, lysosomal V0 protein a isoform 3	transcript: NM_006019
496.1	496	ATP4B	ATPase, H+/K+ exchanging, beta polypeptide	Aliases: ATP6B/HUGO ID: 820/UniProt ID: P51164/
56895.1	56895	AGPAT4	1-acylglycerol-3-phosphate O-acyltransferase 4 (lysophosphatidic acid acyltransferase, delta)	Locus type: gene with protein product, function known or inferred/Aliases: LPAAT-delta, d1473J16.2/HUGO ID: 20885/UniProt ID: Q9NRZ5/MGD ID: MGI:1915512/
270.1	270	AMPD1	adenosine monophosphate deaminase 1 (isoform M)	Aliases: MAD, MADA/HUGO ID: 468/UniProt ID: P23109/
2938.1	2938	GSTA1	glutathione S-transferase A1	HUGO ID: 4626/UniProt ID: P08263/
4717.1	4717	NDUFC1	NADH dehydrogenase (ubiquinone) 1, subcomplex unknown 1, 6kDa	
249.1	249	ALPL	alkaline phosphatase, liver/bone/kidney	Locus type: gene with protein product, function known or inferred/Aliases: HOPS, TNSALP/HUGO ID: 438/UniProt ID: P05186/
2026.1	2026	ENO2	enolase 2 (gamma, neuronal)	HUGO ID: 3353/UniProt ID: P09104/
3099.1	3099	HK2	hexokinase 2	HUGO ID: 4923/UniProt ID: P52789/
1588.1	1588	CYP19A1	cytochrome P450, family 19, subfamily A, polypeptide 1	Locus type: gene with protein product, function known or inferred/Aliases: ARO, P-450AROM, CPV1, ARO1, CYAR/HUGO ID: 2594/UniProt ID: P11511/
6783.1	6783	SULT1E1	sulfotransferase family 1E, estrogen-preferring, member 1	Aliases: EST/HUGO ID: 11377/UniProt ID: P49888/
26301.1	26301	FS	Forssman glycolipid synthetase	
4123.1	4123	MAN2C1	mannosidase, alpha, class 2C, member 1	
587.1	587	BCAT2	branched chain aminotransferase 2, mitochondrial	Aliases: BCAM/HUGO ID: 977/UniProt ID: O15382/
8813.1	8813	DPM1	dolichyl-phosphate mannosyltransferase polypeptide 1, catalytic subunit	
189.1	189	AGXT	alanine-glyoxylate aminotransferase (oxalosis I; hyperoxaluria I; glycolicaciduria; serine-pyruvate aminotransferase)	Aliases: AGXT1/HUGO ID: 341/UniProt ID: P21549/
2194.1	2194	FASN	fatty acid synthase	HUGO ID: 3594/UniProt ID: P49327/
4540.1	4540	MTND5	NADH dehydrogenase 5	HUGO ID: 7461/UniProt ID: P03915/
2946.1	2946	GSTM2	glutathione S-transferase M2 (muscle)	
2953.1	2953	GSTT2	glutathione S-transferase theta 2	HUGO ID: 4642/UniProt ID: P30712/
1346.1	1346	COX7A1	cytochrome c oxidase subunit VIIa polypeptide 1 (muscle)	
205.1	205	AK3	adenylate kinase 3	Locus type: gene with protein product, function known or inferred/HUGO ID: 363/UniProt ID: P27144/
47.1	47	ACLY	ATP citrate lyase	HUGO ID: 115/UniProt ID: P53396/
7498.1	7498	XDH	xanthine dehydrogenase	HUGO ID: 12805/UniProt ID: P47989/
1384.1	1384	CRAT	carnitine acetyltransferase	Aliases: CAT1/HUGO ID: 2342/UniProt ID: P43155/
11253.1	11253	MAN1B1	mannosidase, alpha, class 1B, member 1	
6822.1	6822	SULT2A1	sulfotransferase family, cytosolic, 2A, dehydroepiandrosterone (DHEA) -preferring, member 1	
7363.1	7363	UGT2B4	UDP glycosyltransferase 2 family, polypeptide B4	
2356.1	2356	FPGS	folylpolyglutamate synthase	HUGO ID: 3824/UniProt ID: Q05932/
23483.1	23483	TGDS	TDP-glucose 4,6-dehydratase	Locus type: gene with protein product, function known or inferred/Aliases: TDPGD/HUGO ID: 20324/UniProt ID: O95455/MGD ID: MGI:1923605/
8654.1	8654	PDE5A	phosphodiesterase 5A, cGMP-specific	
114.1	114	ADCY8	adenylate cyclase 8 (brain)	Aliases: HBAC1/HUGO ID: 239/UniProt ID: P40145/
6799.1	6799	SULT1A2	sulfotransferase family, cytosolic, 1A, phenol-preferring, member 2	
635.1	635	BHMT	betaine-homocysteine methyltransferase	



Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
8424.1	8424	BBOX1	butyrobetaine (gamma), 2-oxoglutarate dioxygenase (gamma-butyrobetaine hydroxylase) 1	Aliases: gamma-BBH, G-BBH, BBH/HUGO ID: 964/UniProt ID: O75936/
9955.1	9955	HS3ST3A1	heparan sulfate (glucosamine) 3-O-sulfotransferase 3A1	Locus type: gene with protein product, function known or inferred/Aliases: 3OST3A1, 30ST3A1/HUGO ID: 5196/UniProt ID: Q9Y663/
435.1	435	ASL	argininosuccinate lyase	Locus type: gene with protein product, function known or inferred/HUGO ID: 746/UniProt ID: P04424/
7372.1	7372	UMPS	uridine monophosphate synthetase (orotate phosphoribosyl transferase and orotidine-5'-decarboxylase)	HUGO ID: 12563/UniProt ID: P11172/
314.1	314	AOC2	amine oxidase, copper containing 2 (retina-specific)	
1633.1	1633	DCK	deoxycytidine kinase	HUGO ID: 2704/UniProt ID: P27707/
55276.1	55276	PGM2	phosphoglucomutase 2	Locus type: gene with protein product, function known or inferred/Aliases: FLJ10983/HUGO ID: 8906/UniProt ID: Q9H0P9/MGD ID: MGI:1913931/
5138.1	5138	PDE2A	phosphodiesterase 2A, cGMP-stimulated	HUGO ID: 8777/UniProt ID: O00408/
210.1	210	ALAD	aminolevulinic acid, delta-, dehydratase	HUGO ID: 395/UniProt ID: P13716/
4701.1	4701	NDUFA7	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 7, 14.5kDa	Aliases: B14.5a/HUGO ID: 7691/UniProt ID: O95182/
2941.1	2941	GSTA4	glutathione S-transferase A4	HUGO ID: 4629/UniProt ID: O15217/
7384.1	7384	UQCRC1	ubiquinol-cytochrome c reductase core protein I	Aliases: D3S3191/HUGO ID: 12585/UniProt ID: P31930/
4714.1	4714	NDUFB8	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 8, 19kDa	Aliases: ASH1/HUGO ID: 7703/UniProt ID: O95169/
5289.1	5289	PIK3C3	phosphoinositide-3-kinase, class 3	Aliases: Vps34/HUGO ID: 8974/UniProt ID: Q15134/
5291.1	5291	PIK3CB	phosphoinositide-3-kinase, catalytic, beta polypeptide	HUGO ID: 8976/UniProt ID: P42338/
645.1	645	BLVRB	biliverdin reductase B (flavin reductase (NADPH))	HUGO ID: 1063/UniProt ID: P30043/
5498.1	5498	PPOX	protoporphyrinogen oxidase	Locus type: gene with protein product, function known or inferred/Aliases: PPO/HUGO ID: 9280/UniProt ID: P50336/MGD ID: MGI:104968/
5095.1	5095	PCCA	propionyl Coenzyme A carboxylase, alpha polypeptide	Locus type: gene with protein product, function known or inferred/HUGO ID: 8653/UniProt ID: P05165/
43.1	43	ACHE	acetylcholinesterase (YT blood group)	Locus type: gene with protein product, function known or inferred/HUGO ID: 108/UniProt ID: P22303/
2820.1	2820	GPD2	glycerol-3-phosphate dehydrogenase 2 (mitochondrial)	HUGO ID: 4456/UniProt ID: P43304/
2720.1	2720	GLB1	galactosidase, beta 1	HUGO ID: 4298/UniProt ID: P16278/
5210.1	5210	PFKFB4	6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4	
248.1	248	ALPI	alkaline phosphatase, intestinal	HUGO ID: 437/UniProt ID: P09923/
2023.1	2023	ENO1	enolase 1, (alpha)	
7298.1	7298	TYMS	thymidylate synthetase	Locus type: gene with protein product, function known or inferred/Aliases: Tsase, TMS, HsT422/HUGO ID: 12441/UniProt ID: P04818/
3628.1	3628	INPP1	inositol polyphosphate-1-phosphatase	HUGO ID: 6071/UniProt ID: P49441/
2729.1	2729	GCLC	glutamate-cysteine ligase, catalytic subunit	Aliases: GCS/HUGO ID: 4311/UniProt ID: P48506/
2936.1	2936	GSR	glutathione reductase (mitochondrial precursor)	HUGO ID: 4623/UniProt ID: P00390/
93034.1	93034	NT5C1B	5'-nucleotidase, cytosolic 1B	Aliases: AIRP, CN-1B/HUGO ID: 17818/UniProt ID: Q96P26/
953.1	953	ENTPD1	ectonucleoside triphosphate diphosphohydrolase 1	Locus type: gene with protein product, function known or inferred/Aliases: NTPDase-1, ATPDase/HUGO ID: 3363/UniProt ID: P49961/
30.1	30	ACAA1	acetyl-Coenzyme A acyltransferase 1 (peroxisomal 3-oxoacyl-Coenzyme A thiolase)	HUGO ID: 82/UniProt ID: P09110/
9296.1	9296	ATP6V1F	ATPase, H+ transporting, lysosomal 14kDa, V1 subunit F	
4833.1	4833	NME4	non-metastatic cells 4, protein expressed in	Locus type: gene with protein product, function known or inferred/Aliases: nm23-H4, NM23H4/HUGO ID: 7852/UniProt ID: O00746/
250.1	250	ALPP	alkaline phosphatase, placental (Regan isozyme)	HUGO ID: 439/UniProt ID: P05187/
4122.1	4122	MAN2A2	mannosidase, alpha, class 2A, member 2	Locus type: gene with protein product, function known or inferred/Aliases: MANA2X, HsT19662/HUGO ID: 6825/UniProt ID: P49641/
6898.1	6898	TAT	tyrosine aminotransferase	HUGO ID: 11573/UniProt ID: P17735/
586.1	586	BCAT1	branched chain aminotransferase 1, cytosolic	HUGO ID: 976/UniProt ID: P54687/
509.1	509	ATP5C1	ATP synthase, H+ transporting, mitochondrial F1 complex, gamma polypeptide 1	Variant 1: This variant represents the longer transcript, and encodes the longer isoform (L), also known as a liver type isoform.
2954.1	2954	GSTZ1	glutathione transferase zeta 1 (maleylacetoacetate isomerase)	
56894.1	56894	AGPAT3	1-acylglycerol-3-phosphate O-acyltransferase 3	Aliases: LPAAT-gamma/HUGO ID: 326/UniProt ID: Q9NRZ7/
22928.1	22928	SEPHS2	selenophosphate synthetase 2	Locus type: gene with protein product, function known or inferred/Aliases: SPS2/HUGO ID: 19686/UniProt ID: Q99611/MGD ID: MGI:108388/
2982.1	2982	GUCY1A3	guanylate cyclase 1, soluble, alpha 3	Aliases: GC-SA3/HUGO ID: 4685/UniProt ID: Q02108/
53630.1	53630	BCDO1	beta-carotene 15, 15'-dioxygenase	
4245.1	4245	MGAT1	mannosyl (alpha-1,3-)-glycoprotein beta-1,2-N-acetylglucosaminyltransferase	Aliases: GNT-1, GLCNAC-TI/HUGO ID: 7044/UniProt ID: P26572/
4704.1	4704	NDUFA9	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 9, 39kDa	Locus type: gene with protein product, function known or inferred/HUGO ID: 7693/UniProt ID: Q16795/
5198.1	5198	PFAS	phosphoribosylformylglycinamide synthase (FGAR amidotransferase)	Aliases: PURL, FGARAT, KIAA0361/HUGO ID: 8863/UniProt ID: O15067/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
8050.1	8050	PDHX	pyruvate dehydrogenase complex, component X	
1644.1	1644	DDC	dopa decarboxylase (aromatic L-amino acid decarboxylase)	Aliases: AADC/HUGO ID: 2719/UniProt ID: P20711/
115.1	115	ADCY9	adenylate cyclase 9	HUGO ID: 240/UniProt ID: O60503/
8705.1	8705	B3GALT4	UDP-Gal:betaGlcNAc beta 1,3-galactosyltransferase, polypeptide 4	Aliases: beta3Gal-T4, GalT4/HUGO ID: 919/UniProt ID: O96024/
1120.1	1120	CHKL	choline/ethanolamine kinase	*PubMed
6821.1	6821	SUOX	sulfite oxidase	Locus type: gene with protein product, function known or inferred/HUGO ID: 11460/UniProt ID: P51687/
2974.1	2974	GUCY1B2	guanylate cyclase 1, soluble, beta 2	
1562.1	1562	CYP2C18	cytochrome P450, family 2, subfamily C, polypeptide 18	
5322.1	5322	PLA2G5	phospholipase A2, group V	
5236.1	5236	PGM1	phosphoglucomutase 1	
4125.1	4125	MAN2B1	mannosidase, alpha, class 2B, member 1	Aliases: LAMAN/HUGO ID: 6826/UniProt ID: O00754/
11185.1	11185	INMT	indolethylamine N-methyltransferase	HUGO ID: 6069/UniProt ID: O95050/
7371.1	7371	UCK2	uridine-cytidine kinase 2	Locus type: gene with protein product, function known or inferred/HUGO ID: 12562/UniProt ID: Q9BZX2/MGD ID: MGI:98904/
2687.1	2687	GGTLA1	gamma-glutamyltransferase-like activity 1	Aliases: GGT-REL/HUGO ID: 4260/UniProt ID: P36269/
4519.1	4519	MTCYB	cytochrome b	HUGO ID: 7427/UniProt ID: P00156/
7360.1	7360	UGP2	UDP-glucose pyrophosphorylase 2	HUGO ID: 12527/UniProt ID: Q16851/
64132.1	64132	XYLT2	xylosyltransferase II	Aliases: XT-II/HUGO ID: 15517/UniProt ID: Q86V00/
8876.1	8876	VNN1	vanin 1	Aliases: Tiff66/HUGO ID: 12705/UniProt ID: O95497/
31.1	31	ACACA	acetyl-Coenzyme A carboxylase alpha	Aliases: ACC1/HUGO ID: 84/UniProt ID: Q13085/
383.1	383	ARG1	arginase, liver	HUGO ID: 663/UniProt ID: P05089/
2944.1	2944	GSTM1	glutathione S-transferase M1	Locus type: gene with protein product, function known or inferred/Aliases: MU, H-B, GST1/HUGO ID: 4632/UniProt ID: P09488/
6120.1	6120	RPE	ribulose-5-phosphate-3-epimerase	HUGO ID: 10293/UniProt ID: Q96AT9/
9563.1	9563	H6PD	hexose-6-phosphate dehydrogenase (glucose 1-dehydrogenase)	Aliases: HGNC:4225/HUGO ID: 4795/UniProt ID: O95479/
7173.1	7173	TPO	thyroid peroxidase	HUGO ID: 12015/UniProt ID: P07202/
2821.1	2821	GPI	glucose phosphate isomerase	
10840.1	10840	FTHFD	formyltetrahydrofolate dehydrogenase	HUGO ID: 3978/UniProt ID: O75891/
8525.1	8525	DGKZ	diacylglycerol kinase, zeta 104kDa	Aliases: DAGK5, hDGKzeta/HUGO ID: 2857/UniProt ID: Q13574/
5240.1	5240	PGP	phosphoglycolate phosphatase	HUGO ID: 8909/
10331.1	10331	B3GNT3	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 3	
217.1	217	ALDH2	aldehyde dehydrogenase 2 family (mitochondrial)	HUGO ID: 404/UniProt ID: P05091/
6483.1	6483	SIAT4B	sialyltransferase 4B (beta-galactoside alpha-2,3-sialyltransferase)	
2655.1	2655	GCTG	gamma-glutamylcyclotransferase	Locus type: gene with protein product, function known or inferred/Aliases: Ggc/HUGO ID: 4210/MGD ID: MGI:95700/
7299.1	7299	TYR	tyrosinase (oculocutaneous albinism IA)	Aliases: OCA1A/HUGO ID: 12442/UniProt ID: P14679/
5290.1	5290	PIK3CA	phosphoinositide-3-kinase, catalytic, alpha polypeptide	HUGO ID: 8975/UniProt ID: P42336/
5148.1	5148	PDE6G	phosphodiesterase 6G, cGMP-specific, rod, gamma	HUGO ID: 8789/UniProt ID: P18545/
126.1	126	ADH1C	alcohol dehydrogenase 1C (class I), gamma polypeptide	Locus type: gene with protein product, function known or inferred/HUGO ID: 251/UniProt ID: P00326/
4715.1	4715	NDUFB9	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 9, 22kDa	Locus type: gene with protein product, function known or inferred/Aliases: B22, UQOR22/HUGO ID: 7704/UniProt ID: Q9Y6M9/
763.1	763	CA5A	carbonic anhydrase VA, mitochondrial	
56922.1	56922	MCCC1	methylcrotonoyl-Coenzyme A carboxylase 1 (alpha)	Aliases: MCCA/HUGO ID: 6936/UniProt ID: Q96RQ3/
1610.1	1610	DAO	D-amino-acid oxidase	
6482.1	6482	SIAT4A	sialyltransferase 4A (beta-galactoside alpha-2,3-sialyltransferase)	transcript: NM_003033
5223.1	5223	PGAM1	phosphoglycerate mutase 1 (brain)	Locus type: gene with protein product, function known or inferred/HUGO ID: 8888/UniProt ID: P18669/
8612.1	8612	PPAP2C	phosphatidic acid phosphatase type 2C	
1376.1	1376	CPT2	carnitine palmitoyltransferase II	Locus type: gene with protein product, function known or inferred/Aliases: CPTASE/HUGO ID: 2330/UniProt ID: P23786/
2678.1	2678	GGT1	gamma-glutamyltransferase 1	Aliases: D228672, D228732, CD224/HUGO ID: 4250/UniProt ID: P19440/
445.1	445	ASS	argininosuccinate synthetase	
4199.1	4199	ME1	malic enzyme 1, NADP(+)-dependent, cytosolic	HUGO ID: 6983/UniProt ID: P48163/
56474.1	56474	CTPS2	CTP synthase II	Locus type: gene with protein product, function known or inferred/HUGO ID: 2520/UniProt ID: Q9H809/
2224.1	2224	FDPS	farnesyl diphosphate synthase (farnesyl pyrophosphate synthetase, dimethylallyltransferase, geranyltransferase)	Locus type: gene with protein product, function known or inferred/HUGO ID: 3631/UniProt ID: P14324/
2643.1	2643	GCHI	GTP cyclohydrolase 1 (dopa-responsive dystonia)	
8879.1	8879	SGPL1	sphingosine-1-phosphate lyase 1	Aliases: SPL/HUGO ID: 10817/UniProt ID: Q9ULG8/
226.1	226	ALDOA	aldolase A, fructose-bisphosphate	HUGO ID: 414/UniProt ID: P04075/
6476.1	6476	SI	sucrase-isomaltase	

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
6817.1	6817	SULT1A1	sulfotransferase family, cytosolic, 1A, phenol-preferring, member 1	
22929.1	22929	SEPHS1	selenophosphate synthetase 1	Locus type: gene with protein product, function known or inferred/Aliases: SPS, SPS1/HUGO ID: 19685/UniProt ID: P49903/
427.1	427	ASAH1	N-acylsphingosine amidohydrolase (acid ceramidase) 1	
2645.1	2645	GCK	glucokinase (hexokinase 4, maturity onset diabetes of the young 2)	transcript: NM_000162
5331.1	5331	PLCB3	phospholipase C, beta 3 (phosphatidylinositol-specific)	HUGO ID: 9056/UniProt ID: Q01970/
4597.1	4597	MVD	mevalonate (diphospho) decarboxylase	Locus type: gene with protein product, function known or inferred/Aliases: MPD/HUGO ID: 7529/UniProt ID: P53602/
3418.1	3418	IDH2	isocitrate dehydrogenase 2 (NADP+), mitochondrial	HUGO ID: 5383/UniProt ID: P48735/
5740.1	5740	PTGIS	prostaglandin I2 (prostaglyclin) synthase	Aliases: PGIS, CYP8/HUGO ID: 9603/UniProt ID: Q16647/
32.1	32	ACACB	acetyl-Coenzyme A carboxylase beta	Locus type: gene with protein product, function known or inferred/Aliases: HACCC275, ACC2, ACCB/HUGO ID: 85/UniProt ID: O00763/
4124.1	4124	MAN2A1	mannosidase, alpha, class 2A, member 1	HUGO ID: 6824/UniProt ID: Q16706/
23236.1	23236	PLCB1	phospholipase C, beta 1 (phosphoinositide-specific)	transcript: NM_015192
5631.1	5631	PRPS1	phosphoribosyl pyrophosphate synthetase 1	Aliases: PRS 1/HUGO ID: 9462/UniProt ID: P09329/
3706.1	3706	ITPKA	inositol 1,4,5-trisphosphate 3-kinase A	HUGO ID: 6178/UniProt ID: P23677/
2184.1	2184	FAH	fumarylacetoacetate hydrolase (fumarylacetoacetase)	
26227.1	26227	PHGDH	phosphoglycerate dehydrogenase	Locus type: gene with protein product, function known or inferred/Aliases: SERA, PGDH, PDG/HUGO ID: 8923/UniProt ID: O43175/
5315.1	5315	PKM2	pyruvate kinase, muscle	Aliases: THBP1, OIP3/HUGO ID: 9021/UniProt ID: P14618/
5152.1	5152	PDE9A	phosphodiesterase 9A	HUGO ID: 8795/UniProt ID: O76083/
10678.1	10678	B3GNT1	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 1	transcript info: NM_006577
2819.1	2819	GPD1	glycerol-3-phosphate dehydrogenase 1 (soluble)	HUGO ID: 4455/UniProt ID: P21695/
5019.1	5019	OXCT1	3-oxoacid CoA transferase 1	Locus type: gene with protein product, function known or inferred/Aliases: SCOT/HUGO ID: 8527/UniProt ID: P55809/
7386.1	7386	UQCRCF1	ubiquinol-cytochrome c reductase, Rieske iron-sulfur polypeptide 1	Aliases: RIS1/HUGO ID: 12587/UniProt ID: P47985/
2717.1	2717	GLA	galactosidase, alpha	Aliases: GALA/HUGO ID: 4296/UniProt ID: P06280/
9953.1	9953	HS3ST3B1	heparan sulfate (glucosamine) 3-O-sulfotransferase 3B1	Locus type: gene with protein product, function known or inferred/Aliases: 3OST3B1, 3OST3B1/HUGO ID: 5198/UniProt ID: Q9Y662/
1807.1	1807	DPYS	dihydropyrimidinase	Locus type: gene with protein product, function known or inferred/Aliases: DHPase/HUGO ID: 3013/UniProt ID: Q14117/
275.1	275	AMT	aminomethyltransferase (glycine cleavage system protein T)	HUGO ID: 473/UniProt ID: P48728/
5406.1	5406	PNLIP	pancreatic lipase	Locus type: gene with protein product, function known or inferred/HUGO ID: 9155/UniProt ID: P16233/
476.1	476	ATP1A1	ATPase, Na+/K+ transporting, alpha 1 polypeptide	HUGO ID: 799/UniProt ID: P05023/
125.1	125	ADH1B	alcohol dehydrogenase IB (class I), beta polypeptide	Locus type: gene with protein product, function known or inferred/HUGO ID: 250/UniProt ID: P00325/
27232.1	27232	GNMT	glycine N-methyltransferase	
4190.1	4190	MDH1	malate dehydrogenase 1, NAD (soluble)	HUGO ID: 6970/UniProt ID: P40925/
4723.1	4723	NDUFV1	NADH dehydrogenase (ubiquinone) flavoprotein 1, 51kDa	HUGO ID: 7716/UniProt ID: P49821/
766.1	766	CA7	carbonic anhydrase VII	HUGO ID: 1381/UniProt ID: P43166/
6697.1	6697	SPR	sepiapterin reductase (7,8-dihydrobiopterin:NADP+ oxidoreductase)	HUGO ID: 11257/UniProt ID: P35270/
2998.1	2998	GYS2	glycogen synthase 2 (liver)	HUGO ID: 4707/UniProt ID: P54840/
11285.1	11285	B4GALT7	xylosylprotein beta 1,4-galactosyltransferase, polypeptide 7 (galactosyltransferase I)	*PubMed
8528.1	8528	DDO	D-aspartate oxidase	Locus type: gene with protein product, function known or inferred/HUGO ID: 2727/UniProt ID: Q99489/
5143.1	5143	PDE4C	phosphodiesterase 4C, cAMP-specific (phosphodiesterase E1) duncce homolog, Drosophila	HUGO ID: 8782/UniProt ID: Q08493/
2806.1	2806	GOT2	glutamic-oxaloacetic transaminase 2, mitochondrial (aspartate aminotransferase 2)	HUGO ID: 4433/UniProt ID: P00505/
3707.1	3707	ITPKB	inositol 1,4,5-trisphosphate 3-kinase B	
8509.1	8509	NDST2	N-deacetylase/N-sulfotransferase (heparan glucosaminyl) 2	Aliases: NST2, HSST2/HUGO ID: 7681/UniProt ID: P52849/
5287.1	5287	PIK3C2B	phosphoinositide-3-kinase, class 2, beta polypeptide	
2679.1	2679	GGT2	gamma-glutamyltransferase 2	Locus type: gene with protein product, function known or inferred/HUGO ID: 4251/UniProt ID: P36268/
1329.1	1329	COX5B	cytochrome c oxidase subunit Vb	HUGO ID: 2269/UniProt ID: P10606/
55907.1	55907	CMAS	cytidine monophosphate N-acetylneuraminic acid synthetase	*PubMed
10020.1	10020	GNE	UDP-N-acetylglucosamine-2-epimerase/N-acetylmannosamine kinase	
2947.1	2947	GSTM3	glutathione S-transferase M3 (brain)	Locus type: gene with protein product, function known or inferred/Aliases: GST5/HUGO ID: 4635/UniProt ID: P21266/
276.1	276	AMY1A	amylase, alpha 1A; salivary	HUGO ID: 474/UniProt ID: P04745/
5373.1	5373	PMM2	phosphomannomutase 2	Locus type: gene with protein product, function known or inferred/Aliases: CDGS/HUGO ID: 9115/UniProt ID: O15305/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
4259.1	4259	MGST3	microsomal glutathione S-transferase 3	HUGO ID: 7064/UniProt ID: O14880/
51703.1	51703	ACSL5	acyl-CoA synthetase long-chain family member 5	Locus type: gene with protein product, function known or inferred/Aliases: ACS5, ACS2/HUGO ID: 16526/UniProt ID: Q9ULC5/MGD ID: MGI:1919129/
108.1	108	ADCY2	adenylate cyclase 2 (brain)	Locus type: gene with protein product, function known or inferred/Aliases: HBAC2, KIAA1060/HUGO ID: 233/UniProt ID: Q08462/
2879.1	2879	GPX4	glutathione peroxidase 4 (phospholipid hydroperoxidase)	HUGO ID: 4556/UniProt ID: P36969/
3636.1	3636	INPPL1	inositol polyphosphate phosphatase-like 1	HUGO ID: 6080/UniProt ID: O15357/
5293.1	5293	PIK3CD	phosphoinositide-3-kinase, catalytic, delta polypeptide	*PubMed
53947.1	53947	A4GALT	alpha 1,4-galactosyltransferase	Locus type: gene with protein product, function known or inferred/Aliases: A14GALT, HGNC:8531/HUGO ID: 18149/UniProt ID: Q9NPC4/
5330.1	5330	PLCB2	phospholipase C, beta 2	
10558.1	10558	SPTLC1	serine palmitoyltransferase, long chain base subunit 1	Aliases: LCB1, SPTI, HGNC:5230, HSNAN1/HUGO ID: 11277/UniProt ID: O15269/
5230.1	5230	PGK1	phosphoglycerate kinase 1	
1339.1	1339	COX6A2	cytochrome c oxidase subunit VIa polypeptide 2	HUGO ID: 2279/UniProt ID: Q02221/
2739.1	2739	GLO1	glyoxalase I	
2548.1	2548	GAA	glucosidase, alpha; acid (Pompe disease, glycogen storage disease type II)	HUGO ID: 4065/UniProt ID: P10253/
4357.1	4357	MPST	mercaptopyruvate sulfurtransferase	Aliases: MST/HUGO ID: 7223/UniProt ID: P25325/
33.1	33	ACADL	acyl-Coenzyme A dehydrogenase, long chain	Locus type: gene with protein product, function known or inferred/Aliases: LCAD, ACAD4/HUGO ID: 88/UniProt ID: P28330/
8398.1	8398	PLA2G6	phospholipase A2, group VI (cytosolic, calcium-independent)	Aliases: iPLA2/HUGO ID: 9039/UniProt ID: O60733/
2523.1	2523	FUT1	fucosyltransferase 1 (galactoside 2-alpha-L-fucosyltransferase)	HUGO ID: 4012/UniProt ID: P19526/
3419.1	3419	IDH3A	isocitrate dehydrogenase 3 (NAD+) alpha	HUGO ID: 5384/UniProt ID: P50213/
4830.1	4830	NME1	non-metastatic cells 1, protein (NM23A) expressed in	Aliases: NM23, NM23-H1/HUGO ID: 7849/UniProt ID: P15531/
219.1	219	ALDH1B1	aldehyde dehydrogenase 1 family, member B1	Aliases: ALDHX/HUGO ID: 407/UniProt ID: P30837/
7389.1	7389	UROD	uroporphyrinogen decarboxylase	
5351.1	5351	PLOD	procollagen-lysine, 2-oxoglutarate 5-dioxygenase (lysine hydroxylase, Ehlers-Danlos syndrome type VI)	transcript: NM_000302
5153.1	5153	PDE1B	phosphodiesterase 1B, calmodulin-dependent	
5860.1	5860	QDPR	quinoid dihydropteridine reductase	Aliases: DHPR/HUGO ID: 9752/UniProt ID: P09417/
5338.1	5338	PLD2	phospholipase D2	
5096.1	5096	PCCB	propionyl Coenzyme A carboxylase, beta polypeptide	HUGO ID: 8654/UniProt ID: P05166/
178.1	178	AGL	amylase-1, 6-glucosidase, 4-alpha-glucanotransferase (glycogen debranching enzyme, glycogen storage disease type III)	Locus type: gene with protein product, function known or inferred/HUGO ID: 321/UniProt ID: P35573/MGD ID: MGI:1924809/
10841.1	10841	FTCD	formiminotransferase cyclodeaminase	*PubMed
2590.1	2590	GALNT2	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 2 (GalNAc-T2)	
3029.1	3029	HAGH	hydroxyacyl glutathione hydrolase	
10400.1	10400	PEMT	phosphatidylethanolamine N-methyltransferase	Aliases: PEMPT, PEMT2/HUGO ID: 8830/UniProt ID: Q9UBM1/
2530.1	2530	FUT8	fucosyltransferase 8 (alpha (1,6) fucosyltransferase)	HUGO ID: 4019/UniProt ID: Q9BYC5/
644.1	644	BLVRA	biliverdin reductase A	Locus type: gene with protein product, function known or inferred/HUGO ID: 1062/UniProt ID: P53004/
1103.1	1103	CHAT	choline acetyltransferase	Locus type: gene with protein product, function known or inferred/HUGO ID: 1912/UniProt ID: P28329/
4508.1	4508	MTATP6	ATP synthase 6	HUGO ID: 7414/UniProt ID: P00846/
686.1	686	BDT	biotinidase	HUGO ID: 1122/UniProt ID: P43251/
1719.1	1719	DHFR	dihydrofolate reductase	HUGO ID: 2861/UniProt ID: P00374/
523.1	523	ATP6V1A	ATPase, H+ transporting, lysosomal 70kDa, V1 subunit A	Aliases: Vma1, VA68/HUGO ID: 851/UniProt ID: P38606/
6480.1	6480	SIAT1	sialyltransferase 1 (beta-galactoside alpha-2,6-sialyltransferase)	Aliases: CD75, ST6Gal I/HUGO ID: 10860/UniProt ID: P15907/
5407.1	5407	PNLIPRP1	pancreatic lipase-related protein 1	Locus type: gene with protein product, function known or inferred/Aliases: PLRP1/HUGO ID: 9156/UniProt ID: P54315/
4707.1	4707	NDUFB1	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 1, 7kDa	Aliases: MNLL/HUGO ID: 7695/UniProt ID: O75438/
443.1	443	ASPA	aspartoacylase (aminoacylase 2, Canavan disease)	Aliases: ASP/HUGO ID: 756/UniProt ID: P45381/
8527.1	8527	DGKD	diacylglycerol kinase, delta 130kDa	Aliases: KIAA0145, DGKdelta/HUGO ID: 2851/UniProt ID: Q16760/
5286.1	5286	PIK3C2A	phosphoinositide-3-kinase, class 2, alpha polypeptide	Aliases: PI3K-C2alpha/HUGO ID: 8971/UniProt ID: O00443/
8733.1	8733	GPAA1	GPAA1P anchor attachment protein 1 homolog (yeast)	Aliases: GAA1, hGAA1/HUGO ID: 4446/UniProt ID: O43292/
3158.1	3158	HMGCS2	3-hydroxy-3-methylglutaryl-Coenzyme A synthase 2 (mitochondrial)	
10975.1	10975	UQCR	ubiquinol-cytochrome c reductase (6.4kD) subunit	transcript: NM_006830
109.1	109	ADCY3	adenylate cyclase 3	HUGO ID: 234/UniProt ID: O60266/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
5142.1	5142	PDE4B	phosphodiesterase 4B, cAMP-specific (phosphodiesterase E4) dunce homolog, Drosophila)	Locus type: gene with protein product, function known or inferred/HUGO ID: 8781/UniProt ID: Q07343/
2584.1	2584	GALK1	galactokinase 1	HUGO ID: 4118/UniProt ID: P51570/
5372.1	5372	PMM1	phosphomannomutase 1	HUGO ID: 9114/UniProt ID: Q92871/
128.1	128	ADH5	alcohol dehydrogenase 5 (class III), chi polypeptide	Locus type: gene with protein product, function known or inferred/Aliases: ADH-3, HGNC:3630, ADHX/HUGO ID: 253/UniProt ID: P11766/MGD ID: MGI:87929/
2203.1	2203	FBP1	fructose-1,6-bisphosphatase 1	HUGO ID: 3606/UniProt ID: P09467/
1629.1	1629	DBT	dihydroliipoamide branched chain transacylase (E2 component of branched chain keto acid dehydrogenase complex; maple syrup urine disease)	
1577.1	1577	CYP3A5	cytochrome P450, family 3, subfamily A, polypeptide 5	Locus type: gene with protein product, function known or inferred/Aliases: PCN3, P450PCN3, CP35/HUGO ID: 2638/UniProt ID: P20815/
1786.1	1786	DNMT1	DNA (cytosine-5-)-methyltransferase 1	Locus type: gene with protein product, function known or inferred/Aliases: MCMT, CXXC9/HUGO ID: 2976/UniProt ID: P26358/MGD ID: MGI:94912/
1582.1	1582	CYP8B1	cytochrome P450, family 8, subfamily B, polypeptide 1	Locus type: gene with protein product, function known or inferred/Aliases: CYP12/HUGO ID: 2653/UniProt ID: Q9UNU6/
10993.1	10993	SDS	serine dehydratase	Locus type: gene with protein product, function known or inferred/Aliases: SDH/HUGO ID: 10691/UniProt ID: P20132/
10317.1	10317	B3GALT5	UDP-Gal:betaGlcNAc beta 1,3-galactosyltransferase, polypeptide 5	Aliases: beta3Gal-T5/HUGO ID: 920/UniProt ID: Q9Y2C3/
4258.1	4258	MGST2	microsomal glutathione S-transferase 2	Aliases: MGST-II/HUGO ID: 7063/UniProt ID: Q99735/
539.1	539	ATP5O	ATP synthase, H+ transporting, mitochondrial F1 complex, O subunit (oligomycin sensitivity conferring protein)	Aliases: OSCP, ATPO/HUGO ID: 850/UniProt ID: P48047/
10476.1	10476	ATP5H	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit d	Locus type: gene with protein product, function known or inferred/Aliases: ATPQ, ATP5JD/HUGO ID: 845/UniProt ID: O75947/MGD ID: MGI:1918929/
132.1	132	ADK	adenosine kinase	Locus type: gene with protein product, function known or inferred/Aliases: AK/HUGO ID: 257/UniProt ID: P55263/
4705.1	4705	NDUFA10	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 10, 42kDa	
5333.1	5333	PLCD1	phospholipase C, delta 1	HUGO ID: 9060/UniProt ID: P51178/
6391.1	6391	SDHC	succinate dehydrogenase complex, subunit C, integral membrane protein, 15kDa	
3030.1	3030	HADHA	hydroxyacyl-Coenzyme A dehydrogenase/3-ketoacyl-Coenzyme A thiolase/enoyl-Coenzyme A hydratase (trifunctional protein), alpha subunit	
23556.1	23556	PIGN	phosphatidylinositol glycan, class N	transcript: NM_012327
768.1	768	CA9	carbonic anhydrase IX	
6723.1	6723	SRM	spermidine synthase	Locus type: gene with protein product, function known or inferred/Aliases: SPS1/HUGO ID: 11296/UniProt ID: P19623/
8985.1	8985	PLOD3	procollagen-lysine, 2-oxoglutarate 5-dioxygenase 3	
53.1	53	ACP2	acid phosphatase 2, lysosomal	HUGO ID: 123/UniProt ID: P11117/
2182.1	2182	ACSL4	acyl-CoA synthetase long-chain family member 4	Locus type: gene with protein product, function known or inferred/Aliases: ACS4, MRX63, LACS4/HUGO ID: 3571/UniProt ID: O60488/MGD ID: MGI:1354713/
6484.1	6484	SIAT4C	sialyltransferase 4C (beta-galactoside alpha-2,3-sialyltransferase)	
506.1	506	ATP5B	ATP synthase, H+ transporting, mitochondrial F1 complex, beta polypeptide	HUGO ID: 830/UniProt ID: P06576/
7367.1	7367	UGT2B17	UDP glycosyltransferase 2 family, polypeptide B17	Locus type: gene with protein product, function known or inferred/HUGO ID: 12547/UniProt ID: O75795/
7388.1	7388	UQCRH	ubiquinol-cytochrome c reductase hinge protein	Locus type: gene with protein product, function known or inferred/HUGO ID: 12590/UniProt ID: P07919/
4952.1	4952	OCRL	oculocerebrorenal syndrome of Lowe	HUGO ID: 8108/UniProt ID: Q01968/
5471.1	5471	PPAT	phosphoribosyl pyrophosphate amidotransferase	Aliases: GPAT/HUGO ID: 9238/UniProt ID: Q06203/
1608.1	1608	DGKG	diacylglycerol kinase, gamma 90kDa	HUGO ID: 2853/UniProt ID: P49619/
51606.1	51606	ATP6V1H	ATPase, H+ transporting, lysosomal 50/57kDa, V1 subunit H	
3704.1	3704	ITPA	inosine triphosphatase (nucleoside triphosphate pyrophosphatase)	Aliases: HGNC:15883, HLC14-06-P, dJ79416.3/HUGO ID: 6176/UniProt ID: Q9BY32/
26229.1	26229	B3GAT3	beta-1,3-glucuronyltransferase 3 (glucuronosyltransferase I)	Locus type: gene with protein product, function known or inferred/Aliases: GlcAT-1/HUGO ID: 923/UniProt ID: O94766/
9394.1	9394	HS6ST1	heparan sulfate 6-O-sulfotransferase 1	HUGO ID: 5201/UniProt ID: O60243/
2591.1	2591	GALNT3	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 3 (GalNAc-T3)	Aliases: GalNAc-T3/HUGO ID: 4125/UniProt ID: Q14435/
482.1	482	ATP1B2	ATPase, Na+/K+ transporting, beta 2 polypeptide	Aliases: AMOG/HUGO ID: 805/UniProt ID: P14415/
280.1	280	AMY2B	amylase, alpha 2B; pancreatic	HUGO ID: 478/UniProt ID: P19961/
5091.1	5091	PC	pyruvate carboxylase	Aliases: PCB/HUGO ID: 8636/UniProt ID: P11498/
4248.1	4248	MGAT3	mannosyl (beta-1,4-)-glycoprotein beta-1,4-N-acetylglucosaminyltransferase	Aliases: GNT-III/HUGO ID: 7046/UniProt ID: Q09327/
1738.1	1738	DLD	dihydroliipoamide dehydrogenase (E3 component of pyruvate dehydrogenase complex, 2-oxo-glutarate complex, branched chain keto acid dehydrogenase complex)	Aliases: DLDH/HUGO ID: 2898/UniProt ID: P09622/
23464.1	23464	GCAT	glycine C-acetyltransferase (2-amino-3-ketobutyrate coenzyme A ligase)	Aliases: KBL/HUGO ID: 4188/UniProt ID: O75600/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
127.1	127	ADH4	alcohol dehydrogenase 4 (class II), pi polypeptide	Locus type: gene with protein product, function known or inferred/Aliases: ADH-2/HUGO ID: 252/UniProt ID: P08319/
5209.1	5209	PFKFB3	6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 3	
51251.1	51251	NT5C3	5'-nucleotidase, cytosolic III	*PubMed
1327.1	1327	COX4I1	cytochrome c oxidase subunit IV isoform 1	
27306.1	27306	PGDS	prostaglandin D2 synthase, hematopoietic	transcript: NM_014485
5053.1	5053	PAH	phenylalanine hydroxylase	HUGO ID: 8582/UniProt ID: P00439/
522.1	522	ATP5J	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit F6	Variant 1: This variant (1) represents the longest transcript. Variants 1, 2, 3 and 4 encode the same isoform (a). transcript: NM_001003703
5137.1	5137	PDE1C	phosphodiesterase 1C, calmodulin-dependent 70kDa	Aliases: Hcam3/HUGO ID: 8776/UniProt ID: Q14123/
4718.1	4718	NDUFC2	NADH dehydrogenase (ubiquinone) 1, subcomplex unknown 2, 14.5kDa	Aliases: B14.5b/HUGO ID: 7706/UniProt ID: O95298/
471.1	471	ATIC	5-aminoimidazole-4-carboxamide ribonucleotide formyltransferase/IMP cyclohydrolase	Aliases: PURH, AICARFT, IMPCHASE/HUGO ID: 794/UniProt ID: P31939/
10555.1	10555	AGPAT2	1-acylglycerol-3-phosphate O-acyltransferase 2 (lysophosphatidic acid acyltransferase, beta)	
25796.1	25796	PGLS	6-phosphogluconolactonase	Aliases: 6PGL/HUGO ID: 8903/UniProt ID: O95336/
84129.1	84129	FLJ12592	hypothetical protein FLJ12592	transcript: NM_032169
978.1	978	CDA	cytidine deaminase	
6611.1	6611	SMS	spermine synthase	
4541.1	4541	MTND6	NADH dehydrogenase 6	HUGO ID: 7462/UniProt ID: P03923/
4706.1	4706	NDUFAB1	NADH dehydrogenase (ubiquinone) 1, alpha/beta subcomplex, 1, 8kDa	
5160.1	5160	PDHA1	pyruvate dehydrogenase (lipoamide) alpha 1	HUGO ID: 8806/UniProt ID: P08559/
229.1	229	ALDOB	aldolase B, fructose-bisphosphate	HUGO ID: 417/UniProt ID: P05062/
204.1	204	AK2	adenylate kinase 2	Locus type: gene with protein product, function known or inferred/HUGO ID: 362/UniProt ID: P54819/
2585.1	2585	GALK2	galactokinase 2	Aliases: GK2/HUGO ID: 4119/UniProt ID: Q01415/
1345.1	1345	COX6C	cytochrome c oxidase subunit VIc	HUGO ID: 2285/UniProt ID: P09669/
51004.1	51004	COQ6	coenzyme Q6 homolog (yeast)	Locus type: gene with protein product, function unknown/Aliases: CGI-10/HUGO ID: 20233/UniProt ID: Q9Y2Z9/
8639.1	8639	AOC3	amine oxidase, copper containing 3 (vascular adhesion protein 1)	
52.1	52	ACP1	acid phosphatase 1, soluble	HUGO ID: 122/UniProt ID: P24666/
10654.1	10654	PMVK	phosphomevalonate kinase	
1581.1	1581	CYP7A1	cytochrome P450, family 7, subfamily A, polypeptide 1	Locus type: gene with protein product, function known or inferred/HUGO ID: 2651/UniProt ID: P22680/
9380.1	9380	GRHPR	glyoxylate reductase/hydroxypyruvate reductase	HUGO ID: 4570/UniProt ID: Q9UBQ7/
26237.1	26237	ENO1B	enolase alpha, lung-specific	
4942.1	4942	OAT	ornithine aminotransferase (gyrate atrophy)	Locus type: gene with protein product, function known or inferred/Aliases: HOGA/HUGO ID: 8091/UniProt ID: P04181/
8396.1	8396	PIP5K2B	phosphatidylinositol-4-phosphate 5-kinase, type II, beta	transcript: NM_003559
1576.1	1576	CYP3A4	cytochrome P450, family 3, subfamily A, polypeptide 4	
5332.1	5332	PLCB4	phospholipase C, beta 4	HUGO ID: 9059/UniProt ID: Q15147/
4708.1	4708	NDUFB2	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 2, 8kDa	
50614.1	50614	GALNT9	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 9 (GalNAc-T9)	Aliases: GALNAC-T9/HUGO ID: 4131/UniProt ID: Q9HCQ5/
4953.1	4953	ODC1	ornithine decarboxylase 1	HUGO ID: 8109/UniProt ID: P11926/
9551.1	9551	ATP5J2	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit f, isoform 2	Aliases: F1Fo-ATPase/HUGO ID: 848/UniProt ID: P56134/Variant 1: This variant represents the longest transcript, and it encodes the longest isoform 2a
34.1	34	ACADM	acyl-Coenzyme A dehydrogenase, C-4 to C-12 straight chain	Locus type: gene with protein product, function known or inferred/Aliases: MCAD, MCADH, ACAD1/HUGO ID: 89/UniProt ID: P11310/
2525.1	2525	FUT3	fucosyltransferase 3 (galactoside 3(4)-L-fucosyltransferase, Lewis blood group included)	
4509.1	4509	MTATP8	ATP synthase 8	HUGO ID: 7415/UniProt ID: P03928/
6390.1	6390	SDHB	succinate dehydrogenase complex, subunit B, iron sulfur (Ip)	HUGO ID: 10681/UniProt ID: P21912/MGD ID: MGI:1914930/
2592.1	2592	GALT	galactose-1-phosphate uridylyltransferase	HUGO ID: 4135/UniProt ID: P07902/
7364.1	7364	UGT2B7	UDP glycosyltransferase 2 family, polypeptide B7	
262.1	262	AMD1	adenosylmethionine decarboxylase 1	HUGO ID: 457/UniProt ID: P17707/
1806.1	1806	DPYD	dihydropyrimidine dehydrogenase	HUGO ID: 3012/UniProt ID: Q12882/
8526.1	8526	DGKE	diacylglycerol kinase, epsilon 64kDa	
5294.1	5294	PIK3CG	phosphoinositide-3-kinase, catalytic, gamma polypeptide	HUGO ID: 8978/UniProt ID: P48736/
528.1	528	ATP6V1C1	ATPase, H+ transporting, lysosomal 42kDa, V1 subunit C, isoform 1	Aliases: ATP6D, VATC, Vma5/HUGO ID: 856/UniProt ID: P21283/
3157.1	3157	HMGCS1	3-hydroxy-3-methylglutaryl-Coenzyme A synthase 1 (soluble)	HUGO ID: 5007/UniProt ID: Q01581/
2948.1	2948	GSTM4	glutathione S-transferase M4	Locus type: gene with protein product, function known or inferred/HUGO ID: 4636/UniProt ID: Q03013/
1737.1	1737	DLAT	dihydrolipoamide S-acetyltransferase (E2 component of pyruvate dehydrogenase complex)	Aliases: PDC-E2/HUGO ID: 2896/UniProt ID: P10515/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
1798.1	1798	DPAGT1	dolichyl-phosphate (UDP-N-acetylglucosamine) N-acetylglucosaminophosphotransferase 1 (GlcNAc-1-P transferase)	Aliases: GPT, D11S366, DGPT, ALG7, CDG-Ij/HUGO ID: 2995/UniProt ID: Q9H3H5/
8875.1	8875	VNN2	vanin 2	
5723.1	5723	PSPH	phosphoserine phosphatase	HUGO ID: 9577/UniProt ID: P78330/
4257.1	4257	MGST1	microsomal glutathione S-transferase 1	Aliases: MGST-I/HUGO ID: 7061/UniProt ID: P10620/
2997.1	2997	GYS1	glycogen synthase 1 (muscle)	Aliases: GSY/HUGO ID: 4706/UniProt ID: P13807/
6675.1	6675	UAP1	UDP-N-acetylglucosamine pyrophosphorylase 1	
1548.1	1548	CYP2A6	cytochrome P450, family 2, subfamily A, polypeptide 6	
5136.1	5136	PDE1A	phosphodiesterase 1A, calmodulin-dependent	
23545.1	23545	ATP6V0A2	ATPase, H+ transporting, lysosomal V0 subunit a isoform 2	Aliases: TJ6, a2, TJ6s, TJ6M, ATP6a2, J6B7, ATP6N1D, Vph1, Stv1/HUGO ID: 18481/UniProt ID: Q9Y487/
5208.1	5208	PFKFB2	6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 2	HUGO ID: 8873/UniProt ID: O60825/
2588.1	2588	GALNS	galactosamine (N-acetyl)-6-sulfate sulfatase (Morquio syndrome, mucopolysaccharidosis type IVA)	Aliases: GAS, GALNAC6S/HUGO ID: 4122/UniProt ID: P34059/
4719.1	4719	NDUFS1	NADH dehydrogenase (ubiquinone) Fe-S protein 1, 75kDa (NADH-coenzyme Q reductase)	HUGO ID: 7707/UniProt ID: P28331/
521.1	521	ATP5I	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit e	HUGO ID: 846/UniProt ID: P56385/
2799.1	2799	GNS	glucosamine (N-acetyl)-6-sulfatase (Sanfilippo disease IIID)	HUGO ID: 4422/UniProt ID: P15586/
107.1	107	ADCY1	adenylate cyclase 1 (brain)	Locus type: gene with protein product, function known or inferred/HUGO ID: 232/UniProt ID: Q08828/
2805.1	2805	GOT1	glutamic-oxaloacetic transaminase 1, soluble (aspartate aminotransferase 1)	Locus type: gene with protein product, function known or inferred/HUGO ID: 4432/UniProt ID: P17174/
6713.1	6713	SQLE	squalene epoxidase	Locus type: gene with protein product, function known or inferred/HUGO ID: 11279/UniProt ID: Q14534/
4832.1	4832	NME3	non-metastatic cells 3, protein expressed in	Locus type: gene with protein product, function known or inferred/Aliases: Dnm23/HUGO ID: 7851/UniProt ID: Q13232/
2582.1	2582	GALE	UDP-galactose-4-epimerase	Locus type: gene with protein product, function known or inferred/HUGO ID: 4116/UniProt ID: Q14376/
5161.1	5161	PDHA2	pyruvate dehydrogenase (lipoamide) alpha 2	HUGO ID: 8807/UniProt ID: P29803/
203.1	203	AK1	adenylate kinase 1	HUGO ID: 361/UniProt ID: P00568/
10423.1	10423	CDIPT	CDP-diacylglycerol--inositol 3-phosphatidyltransferase (phosphatidylinositol synthase)	Locus type: gene with protein product, function known or inferred/Aliases: PIS1, PIS/HUGO ID: 1769/UniProt ID: O14735/
8790.1	8790	FPGT	fucose-1-phosphate guanylyltransferase	Aliases: GFPP/HUGO ID: 3825/UniProt ID: O14772/
23478.1	23478	SPC18	signal peptidase complex (18kD)	transcript: NM_014300
10327.1	10327	AKR1A1	aldo-keto reductase family 1, member A1 (aldehyde reductase)	transcript: NM_006066
242.1	242	ALOX12B	arachidonate 12-lipoxygenase, 12R type	HUGO ID: 430/UniProt ID: O75342/
8443.1	8443	GNPAT	glyceronephosphate O-acyltransferase	
1558.1	1558	CYP2C8	cytochrome P450, family 2, subfamily C, polypeptide 8	Locus type: gene with protein product, function known or inferred/Aliases: CPC8/HUGO ID: 2622/UniProt ID: P10632/
2593.1	2593	GAMT	guanidinoacetate N-methyltransferase	
55350.1	55350	VNN3	vanin 3	Locus type: gene with protein product, function known or inferred/Aliases: HSA238982/HUGO ID: 16431/UniProt ID: Q9NY84/
50617.1	50617	ATP6V0A4	ATPase, H+ transporting, lysosomal V0 subunit a isoform 4	*PubMed
2629.1	2629	GBA	glucosidase, beta; acid (includes glucosylceramidase)	Aliases: GLUC, GBA1/HUGO ID: 4177/UniProt ID: P04062/
30814.1	30814	PLA2G2E	phospholipase A2, group IIE	
9420.1	9420	CYP7B1	cytochrome P450, family 7, subfamily B, polypeptide 1	Locus type: gene with protein product, function known or inferred/HUGO ID: 2652/UniProt ID: O75881/
498.1	498	ATP5A1	ATP synthase, H+ transporting, mitochondrial F1 complex, alpha subunit, isoform 1, cardiac muscle	Locus type: gene with protein product, function known or inferred/Aliases: ATP5A, hATP1, ATPM, OMR, ORM, HGNC:826/HUGO ID: 823/UniProt ID: P25705/
10846.1	10846	PDE10A	phosphodiesterase 10A	HUGO ID: 8772/UniProt ID: Q9Y233/
4843.1	4843	NOS2A	nitric oxide synthase 2A (inducible, hepatocytes)	Locus type: gene with protein product, function known or inferred/Aliases: INOS, NOS, HEP-NOS/HUGO ID: 7873/UniProt ID: P35228/
35.1	35	ACADS	acyl-Coenzyme A dehydrogenase, C-2 to C-3 short chain	Locus type: gene with protein product, function known or inferred/Aliases: SCAD, ACAD3/HUGO ID: 90/UniProt ID: P16219/
64579.1	64579	NDST4	N-deacetylase/N-sulfotransferase (heparan glucosaminyl) 4	Locus type: gene with protein product, function known or inferred/HUGO ID: 20779/UniProt ID: Q9H3R1/
51.1	51	ACOX1	acyl-Coenzyme A oxidase 1, palmitoyl	Aliases: PALMCOX/HUGO ID: 119/UniProt ID: Q15067/
3906.1	3906	LALBA	lactalbumin, alpha-	Locus type: gene with protein product, function known or inferred/Aliases: LYZL7/HUGO ID: 6480/UniProt ID: P00709/
22978.1	22978	NTSC2	5'-nucleotidase, cytosolic II	Aliases: PNT5, GMP, cN-II/HUGO ID: 8022/UniProt ID: P49902/
316.1	316	AOX1	aldehyde oxidase 1	Aliases: AO, AOH1/HUGO ID: 553/UniProt ID: Q06278/
1579.1	1579	CYP4A11	cytochrome P450, family 4, subfamily A, polypeptide 11	Locus type: gene with protein product, function known or inferred/Aliases: CYP4A11/HUGO ID: 2642/UniProt ID: Q02928/
97.1	97	ACYP1	acylphosphatase 1, erythrocyte (common) type	transcript: NM_001107
2180.1	2180	ACSL1	acyl-CoA synthetase long-chain family member	
4247.1	4247	MGAT2	mannosyl (alpha-1,6-)-glycoprotein beta-1,2-N-acetylglucosaminyltransferase	Aliases: GNT-II/HUGO ID: 7045/UniProt ID: Q10469/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
9550.1	9550	ATP6V1G1	ATPase, H+ transporting, lysosomal 13kDa, V1 subunit G isoform 1	Aliases: ATP6GL, Vma10/HUGO ID: 864/UniProt ID: O75348/
8854.1	8854	ALDH1A2	aldehyde dehydrogenase 1 family, member A2	Locus type: gene with protein product, function known or inferred/Aliases: RALDH2/HUGO ID: 15472/UniProt ID: O94788/
5319.1	5319	PLA2G1B	phospholipase A2, group IB (pancreas)	HUGO ID: 9030/UniProt ID: P04054/
4329.1	4329	ALDH6A1	aldehyde dehydrogenase 6 family, member A1	HUGO ID: 7179/UniProt ID: Q02252/
23533.1	23533	P101-PI3K	phosphoinositide-3-kinase, regulatory subunit, polypeptide p101	
3156.1	3156	HMGCR	3-hydroxy-3-methylglutaryl-Coenzyme A reductase	HUGO ID: 5006/UniProt ID: P04035/
5297.1	5297	PIK4CA	phosphatidylinositol 4-kinase, catalytic, alpha polypeptide	
5051.1	5051	PAFAH2	platelet-activating factor acetylhydrolase 2, 40kDa	
529.1	529	ATP6V1E1	ATPase, H+ transporting, lysosomal 31kDa, V1 subunit E isoform 1	
5834.1	5834	PYGB	phosphorylase, glycogen; brain	HUGO ID: 9723/UniProt ID: P11216/
50808.1	50808	AK3L1	adenylate kinase 3 like 1	Locus type: gene with protein product, function unknown/Aliases: AKL3L1, HGNC:366/HUGO ID: 17376/UniProt ID: Q9UIJ7/MGI: MGI:1860835/
412.1	412	STS	steroid sulfatase (microsomal), arylsulfatase C, isozyme S	Aliases: ARSC/HUGO ID: 11425/UniProt ID: P08842/
1543.1	1543	CYP1A1	cytochrome P450, family 1, subfamily A, polypeptide 1	Locus type: gene with protein product, function known or inferred/Aliases: AHRH, AHH, P450DX, P1-450, P450-C, CP11/HUGO ID: 2595/UniProt ID: P04798/MGI: 88588/
5973.1	5973	RENBP	renin binding protein	Aliases: RBNP/HUGO ID: 9959/UniProt ID: P51606/
2752.1	2752	GLUL	glutamate-ammonia ligase (glutamine synthase)	
231.1	231	AKR1B1	aldo-keto reductase family 1, member B1 (aldose reductase)	Aliases: AR/HUGO ID: 381/UniProt ID: P15121/
2538.1	2538	G6PC	glucose-6-phosphatase, catalytic (glycogen storage disease type I, von Gierke disease)	Locus type: gene with protein product, function known or inferred/Aliases: GSD1a/HUGO ID: 4056/UniProt ID: P35575/
7378.1	7378	UPP1	uridine phosphorylase	
4522.1	4522	MTHFD1	methylenetetrahydrofolate dehydrogenase (NADP+ dependent), methylenetetrahydrofolate cyclohydrolase, formyltetrahydrofolate synthetase	
516.1	516	ATP5G1	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit c (subunit 9), isoform 1	HUGO ID: 841/UniProt ID: P05496/Variant 1: This variant represents the longer transcript, Variants 1 and 2 encode the same protein.
2875.1	2875	GPT1	glutamic-pyruvate transaminase (alanine aminotransferase)	Aliases: ALT1, GPT1/HUGO ID: 4552/UniProt ID: P24298/
594.1	594	BCKDHB	branched chain keto acid dehydrogenase E1, beta polypeptide (maple syrup urine disease)	Locus type: gene with protein product, function known or inferred/HUGO ID: 987/UniProt ID: P21953/
1743.1	1743	DLST	dihydroliipoamide S-succinyltransferase (E2 component of 2-oxo-glutarate complex)	HUGO ID: 2911/UniProt ID: P36957/
3032.1	3032	HADHB	hydroxyacyl-Coenzyme A dehydrogenase/3-ketoacyl-Coenzyme A thiolase/enoyl-Coenzyme A hydratase (trifunctional protein), beta subunit	HUGO ID: 4803/UniProt ID: P55084/
23475.1	23475	QPRT	quinolate phosphoribosyltransferase (nicotinate-nucleotide pyrophosphorylase (carboxylating))	Locus type: gene with protein product, function known or inferred/Aliases: QPRTase/HUGO ID: 9755/UniProt ID: Q15274/
4882.1	4882	NPR2	natriuretic peptide receptor B/guanylate cyclase B (atrialnatriuretic peptide receptor B)	Aliases: GUC2B/HUGO ID: 7944/UniProt ID: P20594/
1557.1	1557	CYP2C19	cytochrome P450, family 2, subfamily C, polypeptide 19	
771.1	771	CA12	carbonic anhydrase XII	Locus type: gene with protein product, function known or inferred/Aliases: HsT18816/HUGO ID: 1371/UniProt ID: O43570/
5162.1	5162	PDHB	pyruvate dehydrogenase (lipoamide) beta	HUGO ID: 8808/UniProt ID: P11177/
6916.1	6916	TBXAS1	thromboxane A synthase 1 (platelet, cytochrome P450, family 5, subfamily A)	
5147.1	5147	PDE6D	phosphodiesterase 6D, cGMP-specific, rod, delta	
3033.1	3033	HADHSC	L-3-hydroxyacyl-Coenzyme A dehydrogenase, short chain	Locus type: gene with protein product, function known or inferred/Aliases: SCHAD/HUGO ID: 4804/UniProt ID: Q16836/
220.1	220	ALDH1A3	aldehyde dehydrogenase 1 family, member A3	Aliases: RALDH3/HUGO ID: 409/UniProt ID: P47895/
9060.1	9060	PAPSS2	3'-phosphoadenosine 5'-phosphosulfate synthase 2	Aliases: ATPSK2/HUGO ID: 8604/UniProt ID: O95340/
5226.1	5226	PGD	phosphogluconate dehydrogenase	Locus type: gene with protein product, function known or inferred/HUGO ID: 8891/UniProt ID: P52209/MGI: MGI:97553/
5009.1	5009	OTC	ornithine carbamoyltransferase	HUGO ID: 8512/UniProt ID: P00480/
51809.1	51809	GALNT7	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 7 (GalNAc-T7)	Locus type: gene with protein product, function known or inferred/Aliases: GALNAC-T7/HUGO ID: 4129/UniProt ID: Q9UJ28/
3712.1	3712	IVD	isovaleryl Coenzyme A dehydrogenase	Locus type: gene with protein product, function known or inferred/Aliases: ACAD2/HUGO ID: 6186/UniProt ID: P26440/
51382.1	51382	ATP6V1D	ATPase, H+ transporting, lysosomal 34kDa, V1 subunit D	Aliases: VATD, VMA8/HUGO ID: 13527/UniProt ID: Q9Y5K8/
36.1	36	ACADSB	acyl-Coenzyme A dehydrogenase, short/branched chain	
5130.1	5130	PCYT1A	phosphate cytidylyltransferase 1, choline, alpha isoform	Aliases: CT, CTPCT/HUGO ID: 8754/UniProt ID: P49585/
11164.1	11164	NUDT5	mudix (nucleoside diphosphate linked moiety X)-type motif 5	Aliases: hYSAH1, YSA1H/HUGO ID: 8052/UniProt ID: Q9UQK9/
1854.1	1854	DUT	dUTP pyrophosphatase	
8836.1	8836	GGH	gamma-glutamyl hydrolase (conjugase, folylpolygammaglutamyl hydrolase)	



Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
761.1	761	CA3	carbonic anhydrase III, muscle specific	HUGO ID: 1374/UniProt ID: P07451/
2134.1	2134	EXTL1	exostosins (multiple)-like 1	Aliases: EXTL/HUGO ID: 3515/UniProt ID: Q92935/
9514.1	9514	CST	cerebroside (3'-phosphoadenylylsulfate:galactosylceramide 3 sulfotransferase	
50.1	50	ACO2	aconitase 2, mitochondrial	HUGO ID: 118/UniProt ID: Q99798/
2746.1	2746	GLUD1	glutamate dehydrogenase 1	Locus type: gene with protein product, function known or inferred/Aliases: GDH/HUGO ID: 4335/UniProt ID: P00367/
527.1	527	ATP6V0C	ATPase, H+ transporting, lysosomal 16kDa, V0 subunit c	
175.1	175	AGA	aspartylglucosaminidase	HUGO ID: 318/UniProt ID: P20933/
9791.1	9791	PTDSS1	phosphatidylserine synthase 1	Aliases: KIAA0024, PSSA/HUGO ID: 9587/UniProt ID: P48651/
7390.1	7390	UROS	uroporphyrinogen III synthase (congenital erythropoietic porphyria)	Locus type: gene with protein product, function known or inferred/HUGO ID: 12592/UniProt ID: P10746/
2181.1	2181	ACSL3	acyl-CoA synthetase long-chain family member 3	Locus type: gene with protein product, function known or inferred/Aliases: ACS3, PRO2194/HUGO ID: 3570/UniProt ID: O95573/MGD ID: MGI:1921455/
1491.1	1491	CTH	cystathionase (cystathionine gamma-lyase)	Locus type: gene with protein product, function known or inferred/HUGO ID: 2501/UniProt ID: P32929/
6389.1	6389	SDHA	succinate dehydrogenase complex, subunit A, flavoprotein (Fp)	Locus type: gene with protein product, function known or inferred/Aliases: FSDHF/HUGO ID: 10680/UniProt ID: P31040/
1593.1	1593	CYP27A1	cytochrome P450, family 27, subfamily A, polypeptide 1	Locus type: gene with protein product, function known or inferred/Aliases: CTX, CP27/HUGO ID: 2605/UniProt ID: Q02318/
6309.1	6309	SC5DL	sterol-C5-desaturase (ERG3 delta-5-desaturase homolog, fungal)-like	HUGO ID: 10547/UniProt ID: O75845/
251.1	251	ALPPL2	alkaline phosphatase, placental-like 2	HUGO ID: 441/UniProt ID: P10696/
1962.1	1962	EHHADH	enoyl-Coenzyme A, hydratase/3-hydroxyacyl Coenzyme A dehydrogenase	HUGO ID: 3247/UniProt ID: Q08426/
3081.1	3081	HGD	homogentisate 1,2-dioxygenase (homogentisate oxidase)	Aliases: HGO/HUGO ID: 4892/UniProt ID: Q93099/
5050.1	5050	PAFAH1B3	platelet-activating factor acetylhydrolase, isoform 1b, gamma subunit 29kDa	HUGO ID: 8576/UniProt ID: Q15102/
279.1	279	AMY2A	amylase, alpha 2A; pancreatic	HUGO ID: 477/UniProt ID: P04746/
1350.1	1350	COX7C	cytochrome c oxidase subunit VIIc	HUGO ID: 2292/UniProt ID: P15954/
4724.1	4724	NDUFS4	NADH dehydrogenase (ubiquinone) Fe-S protein 4, 18kDa (NADH-coenzyme Q reductase)	
5146.1	5146	PDE6C	phosphodiesterase 6C, cGMP-specific, cone, alpha prime	Locus type: gene with protein product, function known or inferred/Aliases: PDEA2/HUGO ID: 8787/UniProt ID: P51160/
8540.1	8540	AGPS	alkylglycerone phosphate synthase	
3155.1	3155	HMGLCL	3-hydroxymethyl-3-methylglutaryl-Coenzyme A lyase (hydroxymethylglutaricaciduria)	
23417.1	23417	MLYCD	malonyl-CoA decarboxylase	
27087.1	27087	B3GAT1	beta-1,3-glucuronyltransferase 1 (glucuronosyltransferase P)	Locus type: gene with protein product, function known or inferred/Aliases: GlcAT-P/HUGO ID: 921/UniProt ID: Q9P2W7/
3176.1	3176	HNMT	histamine N-methyltransferase	HUGO ID: 5028/UniProt ID: P50135/
10554.1	10554	AGPAT1	1-acylglycerol-3-phosphate O-acyltransferase 1 (lysophosphatidic acid acyltransferase, alpha)	
4731.1	4731	NDUFV3	NADH dehydrogenase (ubiquinone) flavoprotein 3, 10kDa	HUGO ID: 7719/UniProt ID: P56181/
440.1	440	ASNS	asparagine synthetase	Locus type: gene with protein product, function known or inferred/HUGO ID: 753/UniProt ID: P08243/
438.1	438	ASMT	acetyserotonin O-methyltransferase	
2539.1	2539	G6PD	glucose-6-phosphate dehydrogenase	Aliases: G6PD1/HUGO ID: 4057/UniProt ID: P11413/
5313.1	5313	PKLR	pyruvate kinase, liver and RBC	Locus type: gene with protein product, function known or inferred/HUGO ID: 9020/UniProt ID: P30613/
26.1	26	ABP1	amiloride binding protein 1 (amine oxidase (copper-containing))	Locus type: gene with protein product, function known or inferred/Aliases: AOC1, DAO/HUGO ID: 80/UniProt ID: P19801/
2222.1	2222	FDFT1	farnesyl-diphosphate farnesyltransferase 1	HUGO ID: 3629/UniProt ID: P37268/
3948.1	3948	LDHC	lactate dehydrogenase C	HUGO ID: 6544/UniProt ID: P07864/
84701.1	84701	COX4I2	cytochrome c oxidase subunit IV isoform 2 (lung)	Aliases: COXIV-2, COX4B, dJ857M17.2/HUGO ID: 16232/UniProt ID: Q96KJ9/
515.1	515	ATP5F1	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit b, isoform 1	HUGO ID: 840/UniProt ID: P24539/Variant 1: This variant represents the longest transcript, and encodes the longest isoform (1).
6470.1	6470	SHMT1	serine hydroxymethyltransferase 1 (soluble)	HUGO ID: 10850/UniProt ID: P34896/
5213.1	5213	PFKM	phosphofructokinase, muscle	HUGO ID: 8877/UniProt ID: P08237/
124.1	124	ADH1A	alcohol dehydrogenase 1A (class I), alpha polypeptide	Locus type: gene with protein product, function known or inferred/HUGO ID: 249/UniProt ID: P07327/
8992.1	8992	ATP6V0E	ATPase, H+ transporting, lysosomal 9kDa, V0 subunit e	Aliases: M9.2, Vma21p, VMA21/HUGO ID: 863/UniProt ID: O15342/
2949.1	2949	GSTM5	glutathione S-transferase M5	Locus type: gene with protein product, function known or inferred/HUGO ID: 4637/UniProt ID: P46439/
2878.1	2878	GPX3	glutathione peroxidase 3 (plasma)	
4881.1	4881	NPR1	natriuretic peptide receptor A/guanylate cyclase A (atriuretic peptide receptor A)	Locus type: gene with protein product, function known or inferred/Aliases: GUC2A, ANPa/HUGO ID: 7943/UniProt ID: P16066/
4056.1	4056	LTC4S	leukotriene C4 synthase	Locus type: gene with protein product, function known or inferred/Aliases: MGC33147/HUGO ID: 6719/UniProt ID: Q16873/
240.1	240	ALOX5	arachidonate 5-lipoxygenase	HUGO ID: 435/UniProt ID: P09917/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
3000.1	3000	GUCY2D	guanylate cyclase 2D, membrane (retina-specific)	Aliases: retGC, RETGC-1, ROS-GC1/HUGO ID: 4689/UniProt ID: Q02846/
3034.1	3034	HAL	histidine ammonia-lyase	HUGO ID: 4806/UniProt ID: P42357/
8399.1	8399	PLA2G10	phospholipase A2, group X	Locus type: gene with protein product, function known or inferred/Aliases: GXPLA2/HUGO ID: 9029/UniProt ID: O15496/
4512.1	4512	MTCO1	cytochrome c oxidase I	HUGO ID: 7419/UniProt ID: P00395/
3340.1	3340	NDST1	N-deacetylase/N-sulfotransferase (heparan glucosaminyl) 1	*PubMed
514.1	514	ATP5E	ATP synthase, H+ transporting, mitochondrial F1 complex, epsilon subunit	HUGO ID: 838/UniProt ID: P56381/
8529.1	8529	CYP4F2	cytochrome P450, family 4, subfamily F, polypeptide 2	
9615.1	9615	GDA	guanine deaminase	
5140.1	5140	PDE3B	phosphodiesterase 3B, cGMP-inhibited	HUGO ID: 8779/UniProt ID: Q13370/
1891.1	1891	ECH1	enoyl Coenzyme A hydratase 1, peroxisomal	Locus type: gene with protein product, function unknown/Aliases: HPXEL/HUGO ID: 3149/UniProt ID: Q13011/
2766.1	2766	GMPR	guanosine monophosphate reductase	HUGO ID: 4376/UniProt ID: P36959/
1036.1	1036	CDO1	cysteine dioxygenase, type I	Locus type: gene with protein product, function known or inferred/HUGO ID: 1795/UniProt ID: Q16878/
2595.1	2595	GANC	glucosidase, alpha; neutral C	*PubMed
1340.1	1340	COX6B1	cytochrome c oxidase subunit Vib polypeptide 1 (ubiquitous)	Locus type: gene with protein product, function known or inferred/Aliases: COXG/HUGO ID: 2280/UniProt ID: P14854/
218.1	218	ALDH3A1	aldehyde dehydrogenase 3 family, member A1	
4709.1	4709	NDUFB3	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 3, 12kDa	Aliases: B12/HUGO ID: 7698/UniProt ID: O43676/
5337.1	5337	PLD1	phospholipase D1, phosphatidylethanolamine-specific	
3938.1	3938	LCT	lactase	HUGO ID: 6530/UniProt ID: P09848/
6715.1	6715	SRD5A1	steroid-5-alpha-reductase, alpha polypeptide 1 (3-oxo-5 alpha steroid delta 4-dehydrogenase alpha 1)	HUGO ID: 11284/UniProt ID: P18405/
4720.1	4720	NDUFS2	NADH dehydrogenase (ubiquinone) Fe-S protein 2, 49kDa (NADH-coenzyme Q reductase)	
51727.1	51727	UMP-CMPK	UMP-CMP kinase	transcript: NM_016308
526.1	526	ATP6V1B2	ATPase, H+ transporting, lysosomal 56/58kDa, V1 subunit B, isoform 2	Aliases: VATB, Vma2, HO57/HUGO ID: 854/UniProt ID: P21281/
5277.1	5277	PIGA	phosphatidylinositol glycan, class A (paroxysmal nocturnal hemoglobinuria)	Aliases: GPI3/HUGO ID: 8957/UniProt ID: P37287/
55500.1	55500	EKI1	ethanolamine kinase	
26330.1	26330	GAPDS	glyceraldehyde-3-phosphate dehydrogenase, testis-specific	
5158.1	5158	PDE6B	phosphodiesterase 6B, cGMP-specific, rod, beta (congenital stationary night blindness 3, autosomal dominant)	Locus type: gene with protein product, function known or inferred/Aliases: CSNB3/HUGO ID: 8786/UniProt ID: P35913/
2027.1	2027	ENO3	enolase 3 (beta, muscle)	HUGO ID: 3354/UniProt ID: P13929/
3145.1	3145	HMBS	hydroxymethylbilan synthase	HUGO ID: 4982/UniProt ID: P08397/
23530.1	23530	NNT	nicotinamide nucleotide transhydrogenase	
4535.1	4535	MTND1	NADH dehydrogenase 1	HUGO ID: 7455/UniProt ID: P03886/
3028.1	3028	HADH2	hydroxyacyl-Coenzyme A dehydrogenase, type II	Locus type: gene with protein product, function known or inferred/Aliases: ERAB, MHBD, 17b-HSD10, ABAD, HSD17B10/HUGO ID: 4800/UniProt ID: Q99714/
4725.1	4725	NDUFS5	NADH dehydrogenase (ubiquinone) Fe-S protein 5, 15kDa (NADH-coenzyme Q reductase)	
5408.1	5408	PNLIPRP2	pancreatic lipase-related protein 2	Locus type: gene with protein product, function known or inferred/Aliases: PLRP2/HUGO ID: 9157/UniProt ID: P54317/
1351.1	1351	COX8	cytochrome c oxidase subunit VIII	
5238.1	5238	PGM3	phosphoglucomutase 3	
2744.1	2744	GLS	glutaminase	Aliases: KIAA0838, GLS1/HUGO ID: 4331/UniProt ID: O94925/
873.1	873	CBR1	carbonyl reductase 1	HUGO ID: 1548/UniProt ID: P16152/
1178.1	1178	CLC	Charcot-Leyden crystal protein	Aliases: LGALS10/HUGO ID: 2014/UniProt ID: Q05315/
4846.1	4846	NOS3	nitric oxide synthase 3 (endothelial cell)	Aliases: ECNOS/HUGO ID: 7876/UniProt ID: P29474/
535.1	535	ATP6V0A1	ATPase, H+ transporting, lysosomal V0 subunit a isoform 1	Aliases: a1, Vph1, Stv1/HUGO ID: 865/UniProt ID: Q93050/
51179.1	51179	HAO2	hydroxyacid oxidase 2 (long chain)	Aliases: HAOX2/HUGO ID: 4810/UniProt ID: Q9NYQ3/
353.1	353	APRT	adenine phosphoribosyltransferase	HUGO ID: 626/UniProt ID: P07741/
278.1	278	AMY1C	amylase, alpha 1C; salivary	Locus type: unknown/HUGO ID: 476/
191.1	191	AHCY	S-adenosylhomocysteine hydrolase	HUGO ID: 343/UniProt ID: P23526/
1545.1	1545	CYP1B1	cytochrome P450, family 1, subfamily B, polypeptide 1	
11283.1	11283	CYP4F8	cytochrome P450, family 4, subfamily F, polypeptide 8	Locus type: gene with protein product, function known or inferred/HUGO ID: 2648/UniProt ID: P98187/
5832.1	5832	ALDH18A1	aldehyde dehydrogenase 18 family, member A1	Locus type: gene with protein product, function known or inferred/Aliases: P5CS/HUGO ID: 9722/UniProt ID: P54886/
2877.1	2877	GPX2	glutathione peroxidase 2 (gastrointestinal)	
3612.1	3612	IMPA1	inositol(myo)-1(or 4)-monophosphatase 1	HUGO ID: 6050/UniProt ID: P29218/
1559.1	1559	CYP2C9	cytochrome P450, family 2, subfamily C, polypeptide 9	*PubMed
3163.1	3163	HMOX2	heme oxygenase (decycling) 2	Aliases: HO-2/HUGO ID: 5014/UniProt ID: P30519/
5281.1	5281	PIGF	phosphatidylinositol glycan, class F	HUGO ID: 8962/UniProt ID: Q07326/
3284.1	3284	HSD3B2	hydroxy-delta-5-steroid dehydrogenase, 3 beta- and steroid delta-isomerase 2	HUGO ID: 5218/UniProt ID: P26439/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
5141.1	5141	PDE4A	phosphodiesterase 4A, cAMP-specific (phosphodiesterase E2 duncce homolog, Drosophila)	HUGO ID: 8780/UniProt ID: P27815/
10873.1	10873	ME3	malic enzyme 3, NADP(+)-dependent, mitochondrial	HUGO ID: 6985/UniProt ID: Q16798/
13.1	13	AADAC	arylacacetamide deacetylase (esterase)	Locus type: gene with protein product, function known or inferred/Aliases: DAC/HUGO ID: 17/UniProt ID: P22760/
4598.1	4598	MVK	mevalonate kinase (mevalonic aciduria)	HUGO ID: 7530/UniProt ID: Q03426/
513.1	513	ATP5D	ATP synthase, H+ transporting, mitochondrial F1 complex, delta subunit	HUGO ID: 837/UniProt ID: P30049/
246.1	246	ALOX15	arachidonate 15-lipoxygenase	HUGO ID: 433/UniProt ID: P16050/
2628.1	2628	GATM	glycine amidinotransferase (L-arginine:glycine amidinotransferase)	HUGO ID: 4175/UniProt ID: P50440/
1890.1	1890	ECGF1	endothelial cell growth factor 1 (platelet-derived)	HUGO ID: 3148/UniProt ID: P19971/
8277.1	8277	TKTL1	transketolase-like 1	Locus type: gene with protein product, function known or inferred/Aliases: TKR, TKT2/HUGO ID: 11835/UniProt ID: P51854/
9487.1	9487	PIGL	phosphatidylinositol glycan, class L	HUGO ID: 8966/UniProt ID: Q9Y2B2/
9453.1	9453	GGPS1	geranylgeranyl diphosphate synthase 1	
1591.1	1591	CYP24A1	cytochrome P450, family 24, subfamily A, polypeptide 1	Locus type: gene with protein product, function known or inferred/Aliases: CP24, P450-CC24/HUGO ID: 2602/UniProt ID: Q07973/
3939.1	3939	LDHA	lactate dehydrogenase A	HUGO ID: 6535/UniProt ID: P00338/
2650.1	2650	GCNT1	glucosaminyl (N-acetyl) transferase 1, core 2 (beta-1,6-N-acetylglucosaminyltransferase)	
10797.1	10797	MTHFD2	methylene tetrahydrofolate dehydrogenase (NAD+ dependent), methenyltetrahydrofolate cyclohydrolase	
131.1	131	ADH7	alcohol dehydrogenase 7 (class IV), mu or sigma polypeptide	Locus type: gene with protein product, function known or inferred/Aliases: ADH-4/HUGO ID: 256/UniProt ID: P40394/
6718.1	6718	AKR1D1	aldo-keto reductase family 1, member D1 (delta 4-3-ketosteroid-5-beta-reductase)	
1537.1	1537	CYC1	cytochrome c-1	Locus type: gene with protein product, function known or inferred/HUGO ID: 2579/UniProt ID: P08574/
3620.1	3620	INDO	indoleamine-pyrrole 2,3 dioxygenase	
2673.1	2673	GFPT1	glutamine-fructose-6-phosphate transaminase 1	Aliases: GFAT, GFA, GFAT1/HUGO ID: 4241/UniProt ID: Q06210/
3417.1	3417	IDH1	isocitrate dehydrogenase 1 (NADP+), soluble	HUGO ID: 5382/UniProt ID: O75874/
55967.1	55967	DAP13	13kDa differentiation-associated protein	transcript: NM_018838
4536.1	4536	MTND2	NADH dehydrogenase 2	HUGO ID: 7456/UniProt ID: P03891/
5336.1	5336	PLCG2	phospholipase C, gamma 2 (phosphatidylinositol-specific)	HUGO ID: 9066/UniProt ID: P16885/
1723.1	1723	DHODH	dihydroorotate dehydrogenase	HUGO ID: 2867/UniProt ID: Q02127/
38.1	38	ACAT1	acetyl-Coenzyme A acetyltransferase 1 (acetoacetyl Coenzyme A thiolase)	Aliases: THIL/HUGO ID: 93/UniProt ID: P24752/
98.1	98	ACYP2	acylphosphatase 2, muscle type	HUGO ID: 180/UniProt ID: P14621/transcript: NM_138448.2
1586.1	1586	CYP17A1	cytochrome P450, family 17, subfamily A, polypeptide 1	Locus type: gene with protein product, function known or inferred/Aliases: P450C17, CPT7, S17AH/HUGO ID: 2593/UniProt ID: P05093/
1349.1	1349	COX7B	cytochrome c oxidase subunit VIIb	HUGO ID: 2291/UniProt ID: P24311/
230.1	230	ALDOC	aldolase C, fructose-bisphosphate	HUGO ID: 418/UniProt ID: P09972/
6646.1	6646	SOAT1	sterol O-acyltransferase (acyl-Coenzyme A: cholesterol acyltransferase) 1	Aliases: ACAT/HUGO ID: 11177/UniProt ID: P35610/
4722.1	4722	NDUFS3	NADH dehydrogenase (ubiquinone) Fe-S protein 3, 30kDa (NADH-coenzyme Q reductase)	HUGO ID: 7710/UniProt ID: O75489/
5409.1	5409	PNMT	phenylethanolamine N-methyltransferase	HUGO ID: 9160/UniProt ID: P11086/
277.1	277	AMY1B	amylase, alpha 1B; salivary	Locus type: unknown/HUGO ID: 475/
5211.1	5211	PFKL	phosphofructokinase, liver	HUGO ID: 8876/UniProt ID: P17858/
5833.1	5833	PCYT2	phosphate cytidylyltransferase 2, ethanolamine	Aliases: ET/HUGO ID: 8756/UniProt ID: Q99447/
8288.1	8288	EPX	eosinophil peroxidase	
27089.1	27089	QP-C	low molecular mass ubiquinone-binding protein (9.5kD)	transcript: NM_014402
7941.1	7941	PLA2G7	phospholipase A2, group VII (platelet-activating factor acetylhydrolase, plasma)	
10090.1	10090	UST	uronyl-2-sulfotransferase	HUGO ID: 17223/UniProt ID: Q9Y2C2/
759.1	759	CA1	carbonic anhydrase I	HUGO ID: 1368/UniProt ID: P00915/
10768.1	10768	AHCYL1	S-adenosylhomocysteine hydrolase-like 1	Aliases: XPVKONA/HUGO ID: 344/UniProt ID: O43865/
4695.1	4695	NDUFA2	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 2, 8kDa	
5288.1	5288	PIK3C2G	phosphoinositide-3-kinase, class 2, gamma polypeptide	Locus type: gene with protein product, function known or inferred/HUGO ID: 8973/UniProt ID: O75747/
29958.1	29958	DMGDH	dimethylglycine dehydrogenase precursor	*PubMed
2639.1	2639	GCDH	glutaryl-Coenzyme A dehydrogenase	
1544.1	1544	CYP1A2	cytochrome P450, family 1, subfamily A, polypeptide 2	Locus type: gene with protein product, function known or inferred/Aliases: P450, CP12/HUGO ID: 2596/UniProt ID: P05177/MGD ID: 88589/
4191.1	4191	MDH2	malate dehydrogenase 2, NAD (mitochondrial)	HUGO ID: 6971/UniProt ID: P40926/
2987.1	2987	GUK1	guanylate kinase 1	Locus type: gene with protein product, function known or inferred/HUGO ID: 4693/UniProt ID: Q16774/
247.1	247	ALOX15B	arachidonate 15-lipoxygenase, second type	HUGO ID: 434/UniProt ID: O15296/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
525.1	525	ATP6V1B1	ATPase, H+ transporting, lysosomal 56/58kDa, V1 subunit B, isoform 1 (Renal tubular acidosis with deafness)	
55512.1	55512	SMPD3	sphingomyelin phosphodiesterase 3, neutral membrane (neutral sphingomyelinase II)	Locus type: gene with protein product, function known or inferred/Aliases: NSMASE2/HUGO ID: 14240/UniProt ID: Q9NY59/
28.1	28	ABO	ABO blood group (transferase A, alpha 1-3-N-acetylgalactosaminyltransferase; transferase B, alpha 1-3-galactosyltransferase)	HUGO ID: 79/UniProt ID: P16442/
790.1	790	CAD1	carbamoyl-phosphate synthetase 2, aspartate transcarbamylase, and dihydroorotase	
5805.1	5805	PTS	6-pyruvoyltetrahydropterin synthase	HUGO ID: 9689/UniProt ID: Q03393/
952.1	952	CD38	CD38 antigen (p45)	HUGO ID: 1667/UniProt ID: P28907/
8604.1	8604	SLC25A12	solute carrier family 25 (mitochondrial carrier, Aralar), member 12	
8402.1	8402	SLC25A11	solute carrier family 25 (mitochondrial carrier; oxoglutarate carrier), member 11	
6576.1	6576	SLC25A1	solute carrier family 25 (mitochondrial carrier; citrate transporter), member 1	Aliases: CTP/HUGO ID: 10979/UniProt ID: P53007/
83884.1	83884	SLC25A2	solute carrier family 25 (mitochondrial carrier; ornithine transporter) member 2	Locus type: gene with protein product, function known or inferred/Aliases: ORNT2/HUGO ID: 22921/UniProt ID: Q9BX12/
9016.1	9016	UCP5	solute carrier family 25 (mitochondrial carrier, brain), member 14	Locus type: gene with protein product, function known or inferred/Aliases: BMCPI, UCP5/HUGO ID: 10984/UniProt ID: Q95258/
1468.1	1468	SLC25A10	solute carrier family 25 (mitochondrial carrier; dicarboxylate transporter), member 10	
57678.1	57678	KIAA1560	glycerol 3-phosphate acyltransferase, mitochondrial	
5250.1	5250	SLC25A3	solute carrier family 25 (mitochondrial carrier; phosphate carrier), member 3	Locus type: gene with protein product, function known or inferred/HUGO ID: 10989/UniProt ID: Q00325/
6648.1	6648	SOD2	superoxide dismutase 2, mitochondrial	Locus type: gene with protein product, function known or inferred/HUGO ID: 11180/UniProt ID: P04179/
7350.1	7350	UCP1	uncoupling protein 1 (mitochondrial, proton carrier)	Aliases: SLC25A7/HUGO ID: 12517/UniProt ID: P25874/
7351.1	7351	UCP2	uncoupling protein 2 (mitochondrial, proton carrier)	Aliases: SLC25A8/HUGO ID: 12518/UniProt ID: P55851/
89874.1	89874	SLC25A21	solute carrier family 25 (mitochondrial oxodicarboxylate carrier), member 21	Aliases: ODC1/HUGO ID: 14411/UniProt ID: Q9BQT8/
7352.1	7352	UCP3	uncoupling protein 3 (mitochondrial, proton carrier)	
291.1	291	SLC25A4	solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 4	Locus type: gene with protein product, function known or inferred/Aliases: T1/HUGO ID: 10990/UniProt ID: P12235/
10166.1	10166	SLC25A15	solute carrier family 25 (mitochondrial carrier; ornithine transporter) member 15	Aliases: D13S327, HHH/HUGO ID: 10985/UniProt ID: Q9Y619/
292.1	292	SLC25A5	solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 5	
293.1	293	SLC25A6	solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 6	Locus type: gene with protein product, function known or inferred/Aliases: ANT3Y, MGC17525/HUGO ID: 10992/UniProt ID: P12236/
83733.1	83733	SLC25A18	solute carrier family 25 (mitochondrial carrier), member 18	HUGO ID: 10988/UniProt ID: Q9H1K4/
56953.1	56953	NT5M	5',3'-nucleotidase, mitochondrial	Aliases: dNT-2, dNT2, mdN/HUGO ID: 15769/UniProt ID: Q9NPB1/
79751.1	79751	SLC25A22	solute carrier family 25 (mitochondrial carrier: glutamate), member 22	Locus type: gene with protein product, function known or inferred/Aliases: GC1, FLJ13044/HUGO ID: 19954/UniProt ID: Q9H936/
60386.1	60386	SLC25A19	solute carrier family 25 (mitochondrial deoxynucleotide carrier), member 19	
8034.1	8034	SLC25A16	solute carrier family 25 (mitochondrial carrier; Graves disease autoantigen), member 16	
51079.1	51079	GRIM19	cell death-regulatory protein GRIM19	transcript: NM_015965
10587.1	10587	TXNRD2	thioredoxin reductase 2	
10935.1	10935	PRDX3	peroxiredoxin 3	
64087.1	64087	MCC2	methylcrotonoyl-Coenzyme A carboxylase 2 (beta)	Aliases: MCCB/HUGO ID: 6937/UniProt ID: Q9HCC0/
2653.1	2653	GCSH	glycine cleavage system protein H (aminomethyl carrier)	HUGO ID: 4208/UniProt ID: P23434/
9481.1	9481	UCP4	uncoupling protein 4	
27034.1	27034	ACAD8	acyl-Coenzyme A dehydrogenase family, member 8	HUGO ID: 87/UniProt ID: Q9UKU7/
64902.1	64902	AGXT2	alanine-glyoxylate aminotransferase 2	HUGO ID: 14412/UniProt ID: Q9BYV1/
788.1	788	SLC25A20	solute carrier family 25 (carnitine/acylcarnitine translocase), member 20	
51805.1	51805	COQ3	coenzyme Q3 homolog, methyltransferase (yeast)	Locus type: gene with protein product, function known or inferred/Aliases: bA9819.1/HUGO ID: 18175/UniProt ID: Q9NZ16/MGD ID: MGI:101813/
23600.1	23600	AMACR	alpha-methylacyl-CoA racemase	Aliases: RACE/HUGO ID: 451/UniProt ID: Q9UHK6/
2747.1	2747	GLUD2	glutamate dehydrogenase 2	
2110.1	2110	ETFDH	electron-transferring-flavoprotein dehydrogenase	Aliases: ETFQO/HUGO ID: 3483/UniProt ID: Q16134/
6342.1	6342	SCP2	sterol carrier protein 2	
10165.1	10165	SLC25A13	solute carrier family 25, member 13 (citrin)	HUGO ID: 10983/UniProt ID: Q9UJS0/
10229.1	10229	COQ7	coenzyme Q7 homolog, ubiquinone (yeast)	
79814.1	79814	AGMAT	agmatine ureohydrolase (agmatinase)	Aliases: FLJ23384/HUGO ID: 18407/UniProt ID: Q9BSE5/
11112.1	11112	HIBADH	3-hydroxyisobutyrate dehydrogenase	HUGO ID: 4907/UniProt ID: P31937/
5232.1	5232	PGK2	phosphoglycerate kinase 2	
92579.1	92579	G6PC3	glucose 6 phosphatase, catalytic, 3	

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
85365.1	85365	ALG2	asparagine-linked glycosylation 2 homolog (yeast, alpha-1,3-mannosyltransferase)	Locus type: gene with protein product, function known or inferred/Aliases: CDGH, FLJ14511, hALPG2/HUGO ID: 23159/UniProt ID: Q8NBX2/
8818.1	8818	DPM2	dolichyl-phosphate mannosyltransferase polypeptide 2, regulatory subunit	Locus type: gene with protein product, function known or inferred/HUGO ID: 3006/UniProt ID: O94777/
54344.1	54344	DPM3	dolichyl-phosphate mannosyltransferase polypeptide 3	Locus type: gene with protein product, function known or inferred/HUGO ID: 3007/UniProt ID: Q9P2X0/
79087.1	79087	ALG12	asparagine-linked glycosylation 12 homolog (yeast, alpha-1,6-mannosyltransferase)	Locus type: gene with protein product, function known or inferred/Aliases: ECM39/HUGO ID: 19358/UniProt ID: Q96AA4/MGD ID: MGI:2385025/
29929.1	29929	ALG6	asparagine-linked glycosylation 6 homolog (yeast, alpha-1,3-glucosyltransferase)	
79053.1	79053	ALG8	asparagine-linked glycosylation 8 homolog (yeast, alpha-1,3-glucosyltransferase)	Locus type: gene with protein product, function known or inferred/Aliases: MGC2840/HUGO ID: 23161/UniProt ID: Q9BVK2/
84920.1	84920	ALG10	asparagine-linked glycosylation 10 homolog (yeast, alpha-1,3-glucosyltransferase)	Locus type: gene with protein product, function known or inferred/Aliases: FLJ14751/HUGO ID: 23162/UniProt ID: Q96DU0/
8801.1	8801	SUCLG2	succinate-CoA ligase, GDP-forming, beta subunit	Locus type: gene with protein product, function known or inferred/HUGO ID: 11450/UniProt ID: Q96199/
22934.1	22934	RPIA	ribose 5-phosphate isomerase A (ribose 5-phosphate epimerase)	HUGO ID: 10297/UniProt ID: P49247/
84076.1	84076	DKFZP434L1717	similar to transketolase	transcript: NM_032136
126328.1	126328	NDUFA11	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 11, 14.7kDa	Locus type: gene with protein product, function known or inferred/Aliases: B14.7/HUGO ID: 20371/UniProt ID: Q86Y39/
29796.1	29796	HSPC051	ubiquinol-cytochrome c reductase complex (7.2 kD)	transcript: NM_013387
10905.1	10905	MAN1A2	mannosidase, alpha, class 1A, member 2	Aliases: MAN1B/HUGO ID: 6822/UniProt ID: O60476/
57134.1	57134	MAN1C1	mannosidase, alpha, class 1C, member 1	Aliases: HMIC/HUGO ID: 19080/UniProt ID: Q9NR34/MGD ID: MGI:2446214/
11320.1	11320	MGAT4A	mannosyl (alpha-1,3-)-glycoprotein beta-1,4-N-acetylglucosaminyltransferase, isoenzyme A	Aliases: GnT-Iva/HUGO ID: 7047/UniProt ID: Q9UM21/
11282.1	11282	MGAT4B	mannosyl (alpha-1,3-)-glycoprotein beta-1,4-N-acetylglucosaminyltransferase, isoenzyme B	Locus type: gene with protein product, function known or inferred/Aliases: GnT-Ivb/HUGO ID: 7048/UniProt ID: Q9UQ53/
4249.1	4249	MGAT5	mannosyl (alpha-1,6-)-glycoprotein beta-1,6-N-acetylglucosaminyltransferase	Aliases: GNT-V/HUGO ID: 7049/UniProt ID: Q09328/
1603.1	1603	DAD1	defender against cell death 1	HUGO ID: 2664/UniProt ID: P46966/
64772.1	64772	FLJ21865	endo-beta-N-acetylglucosaminidase	transcript: NM_022759
5476.1	5476	PPGB	protective protein for beta-galactosidase (galactosialidosis)	HUGO ID: 9251/UniProt ID: P10619/
129807.1	129807	NEU4	sialidase 4	Locus type: gene with protein product, function known or inferred/Aliases: NEU4/HUGO ID: 21328/UniProt ID: Q8WWR8/MGD ID: MGI:2661364/
55568.1	55568	GALNT10	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylglucosaminyltransferase 10 (GalNAc-T10)	Locus type: gene with protein product, function known or inferred/Aliases: DKFZp586H0623/HUGO ID: 19873/UniProt ID: Q86SR1/
63917.1	63917	GALNT11	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylglucosaminyltransferase 11 (GalNAc-T11)	Locus type: gene with protein product, function known or inferred/Aliases: FLJ21634/HUGO ID: 19875/UniProt ID: Q8NCW6/
79695.1	79695	GALNT12	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylglucosaminyltransferase 12 (GalNAc-T12)	Locus type: gene with protein product, function known or inferred/Aliases: FLJ21212/HUGO ID: 19877/UniProt ID: Q8IXK2/
114805.1	114805	GALNT13	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylglucosaminyltransferase 13 (GalNAc-T13)	
79623.1	79623	GALNT14	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylglucosaminyltransferase 14 (GalNAc-T14)	Locus type: gene with protein product, function known or inferred/Aliases: GalNAc-T10, FLJ12691, GalNAc-T14/HUGO ID: 22946/UniProt ID: Q9H9J8/MGD ID: MGI:1918935/
11227.1	11227	GALNT5	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylglucosaminyltransferase 5 (GalNAc-T5)	HUGO ID: 4127/
117248.1	117248	GALNTL2	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylglucosaminyltransferase-like 2	
55808.1	55808	SIAT7A	sialyltransferase 7 ((alpha-N-acetylneuraminyl-2,3-beta-galactosyl-1,3)-N-acetyl galactosaminide alpha-2,6-sialyltransferase) A	Locus type: gene with protein product, function known or inferred/Aliases: ST6GalNAcI/HUGO ID: 23614/UniProt ID: Q9NSC7/
192134.1	192134	IMAGE:4907098	beta-1,3-N-acetylglucosaminyltransferase protein	transcript: NM_138706
9245.1	9245	GCNT3	glucosaminyl (N-acetyl) transferase 3, mucin type	
51301.1	51301	C2GNT3	core 2 beta 1,6-N-acetylglucosaminyltransferase 3	transcript: NM_016591
51146.1	51146	A4GNT	alpha-1,4-N-acetylglucosaminyltransferase	Locus type: gene with protein product, function unknown/Aliases: LOC51146, alpha4GnT/HUGO ID: 17968/
57171.1	57171	DOLPP1	dolichyl pyrophosphate phosphatase 1	
80201.1	80201	FLJ22761	hypothetical protein FLJ22761	transcript: NM_025130
113452.1	113452	BCLP	beta-casein-like protein	transcript: NM_033504
348477.1	348477	FLJ39207	C219-reactive peptide	transcript: XM_371369
1645.1	1645	AKR1C1	aldo-keto reductase family 1, member C1 (dihydrodiol dehydrogenase 1; 20-alpha (3-alpha)-hydroxysteroid dehydrogenase)	Aliases: DDH, MBAB, DD1, HAKRC/HUGO ID: 384/UniProt ID: Q04828/
55217.1	55217	TMLHE	trimethyllysine hydroxylase, epsilon	Aliases: TMLH, FLJ10727/HUGO ID: 18308/UniProt ID: Q9NVH6/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
145226.1	145226	RDH12	retinol dehydrogenase 12 (all-trans and 9-cis)	Locus type: gene with protein product, function known or inferred/Aliases: FLJ30273/HUGO ID: 19977/UniProt ID: Q8TAW6/
6511.1	6511	SLC1A6	solute carrier family 1 (high affinity aspartate/glutamate transporter), member 6	Locus type: gene with protein product, function known or inferred/Aliases: EAAT4/HUGO ID: 10944/UniProt ID: P48664/
84889.1	84889	SLC7A3	solute carrier family 7 (cationic amino acid transporter, y+ system), member 3	Locus type: gene with protein product, function known or inferred/Aliases: CAT-3, ATRC3, FLJ14541/HUGO ID: 11061/UniProt ID: Q8N185/
65985.1	65985	AACS	acetoacetyl-CoA synthetase	Locus type: gene with protein product, function known or inferred/Aliases: FLJ12389/HUGO ID: 21298/UniProt ID: Q81WD2/
29906.1	29906	SIAT8E	sialyltransferase 8E (alpha-2, 8-polysialyltransferase)	Aliases: ST8Sia V/HUGO ID: 17827/UniProt ID: O15466/
6550.1	6550	SLC9A3	solute carrier family 9 (sodium/hydrogen exchanger), isoform 3	HUGO ID: 11073/UniProt ID: P48764/
157506.1	157506	RDH10	retinol dehydrogenase 10 (all-trans)	Locus type: gene with protein product, function known or inferred/HUGO ID: 19975/UniProt ID: Q8IZV5/
6005.1	6005	RHAG	Rhesus blood group-associated glycoprotein	Aliases: RH50A/HUGO ID: 10006/UniProt ID: Q02094/
56548.1	56548	CHST7	carbohydrate (N-acetylglucosamine 6-O) sulfotransferase 7	Aliases: C6ST-2, C6ST2/HUGO ID: 13817/UniProt ID: O75667/
3931.1	3931	LCAT	lecithin-cholesterol acyltransferase	HUGO ID: 6522/UniProt ID: P04180/
11309.1	11309	SLCO2B1	solute carrier organic anion transporter family, member 2B1	Locus type: gene with protein product, function known or inferred/Aliases: OATP-B, OATP2B1/HUGO ID: 10962/UniProt ID: O94956/
284273.1	284273	ZADH2	zinc binding alcohol dehydrogenase, domain containing 2	Locus type: gene with protein product, function unknown/Aliases: MGC45594/HUGO ID: 28697/MDG ID: MGI:2444835/
6515.1	6515	SLC2A3	solute carrier family 2 (facilitated glucose transporter), member 3	HUGO ID: 11007/UniProt ID: P11169/
114134.1	114134	SLC2A13	solute carrier family 2 (facilitated glucose transporter), member 13	Aliases: HMIT/HUGO ID: 15956/UniProt ID: Q96QE2/
2348.1	2348	FOLR1	folate receptor 1 (adult)	HUGO ID: 3791/UniProt ID: P15328/
93183.1	93183	PIGM	phosphatidylinositol glycan, class M	HUGO ID: 18858/UniProt ID: Q9H355/MDG ID: MGI:1914806/
54575.1	54575	UGT1A10	UDP glycosyltransferase 1 family, polypeptide A10	Aliases: UGT1J/HUGO ID: 12531/UniProt ID: Q9HAW8/
6785.1	6785	ELOVL4	elongation of very long chain fatty acids (FEN1/Elo2, SUR4/Elo3, yeast)-like 4	HUGO ID: 14415/UniProt ID: Q9GZRS/
66002.1	66002	CYP4F12	cytochrome P450, family 4, subfamily F, polypeptide 12	Locus type: gene with protein product, function known or inferred/HUGO ID: 18857/UniProt ID: Q9HCS2/
4905.1	4905	NSF	N-ethylmaleimide-sensitive factor	Aliases: SKD2/HUGO ID: 8016/UniProt ID: P46459/
142680.1	142680	SLC34A3	solute carrier family 34 (sodium phosphate), member 3	Locus type: gene with protein product, function known or inferred/Aliases: NPT1c, FLJ38680/HUGO ID: 20305/UniProt ID: Q8N130/
6529.1	6529	SLC6A1	solute carrier family 6 (neurotransmitter transporter, GABA), member 1	Aliases: GAT1/HUGO ID: 11042/UniProt ID: P30531/
126129.1	126129	CPT1C	carnitine palmitoyltransferase 1C	Locus type: gene with protein product, function known or inferred/Aliases: FLJ23809, CPT1C/HUGO ID: 18540/UniProt ID: Q8TCG5/
490.1	490	ATP2B1	ATPase, Ca++ transporting, plasma membrane 1	Aliases: PMCA1/HUGO ID: 814/UniProt ID: P20020/
11254.1	11254	SLC6A14	solute carrier family 6 (neurotransmitter transporter), member 14	HUGO ID: 11047/UniProt ID: Q9UN76/
57419.1	57419	SLC24A3	solute carrier family 24 (sodium/potassium/calcium exchanger), member 3	Locus type: gene with protein product, function known or inferred/HUGO ID: 10977/UniProt ID: Q9HC58/
54675.1	54675	C20orf155	chromosome 20 open reading frame 155	Aliases: dJ967N21.6/HUGO ID: 16148/
6542.1	6542	SLC7A2	solute carrier family 7 (cationic amino acid transporter, y+ system), member 2	Locus type: gene with protein product, function known or inferred/Aliases: CAT-2, HCAT2/HUGO ID: 11060/UniProt ID: P52569/
257202.1	257202	GPX6	glutathione peroxidase 6 (olfactory)	HUGO ID: 4558/UniProt ID: P59796/
79723.1	79723	SUV39H2	suppressor of variegation 3-9 homolog 2 (Drosophila)	Locus type: gene with protein product, function known or inferred/Aliases: FLJ23414/HUGO ID: 17287/UniProt ID: Q9H511/MDG ID: MGI:1890396/
84912.1	84912	SLC35B4	solute carrier family 35, member B4	Locus type: gene with protein product, function known or inferred/Aliases: FLJ14697, YEA4/HUGO ID: 20584/UniProt ID: Q969S0/
245972.1	245972	ATP6V0D2	ATPase, H+ transporting, lysosomal 38kDa, V0 subunit d isoform 2	Locus type: gene with protein product, function known or inferred/Aliases: FLJ38708, VMA6, ATP6D2/HUGO ID: 18266/UniProt ID: Q8N8Y2/
22856.1	22856	CHSY1	carbohydrate (chondroitin) synthase 1	Aliases: KIAA0990/HUGO ID: 17198/UniProt ID: Q86X52/
160851.1	160851	DGKH	diacylglycerol kinase, eta	Locus type: gene with protein product, function known or inferred/Aliases: DGKeta/HUGO ID: 2854/UniProt ID: Q9BX34/
51302.1	51302	CYP39A1	cytochrome P450, family 39, subfamily A, polypeptide 1	Locus type: gene with protein product, function known or inferred/HUGO ID: 17449/UniProt ID: Q9NYL5/MDG ID: MGI:1927096/
2544.1	2544	G6PT2	glucose-6-phosphatase, transport (phosphate/pyrophosphate) protein 2	Locus type: unknown/Aliases: GSD1c/HUGO ID: 4062/
374291.1	374291	NDUFS7	NADH dehydrogenase (ubiquinone) Fe-S protein 7, 20kDa (NADH-coenzyme Q reductase)	Locus type: gene with protein product, function known or inferred/Aliases: PSST, FLJ46880, FLJ45860/HUGO ID: 7714/UniProt ID: O75251/
27010.1	27010	TPK1	thiamin pyrophosphokinase 1	Aliases: HTPK1/HUGO ID: 17358/UniProt ID: Q9H3S4/
2531.1	2531	FVT1	follicular lymphoma variant translocation 1	HUGO ID: 4021/UniProt ID: Q06136/
222537.1	222537	HS3ST5	heparan sulfate (glucosamine) 3-O-sulfotransferase 5	Locus type: gene with protein product, function known or inferred/Aliases: 3-OST-5/HUGO ID: 19419/UniProt ID: Q8IZT8/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
122481.1	122481	AK7	adenylate kinase 7	Locus type: gene with protein product, function known or inferred/Aliases: FLJ32864/HUGO ID: 20091/UniProt ID: Q96M32/
6568.1	6568	SLC17A1	solute carrier family 17 (sodium phosphate), member 1	Aliases: NAPI-1/HUGO ID: 10929/UniProt ID: Q14916/
171425.1	171425	CLYBL	citrate lyase beta like	Locus type: gene with protein product, function known or inferred/Aliases: CLB/HUGO ID: 18355/UniProt ID: Q8N0X4/MGD ID: MGI:1916884/
80142.1	80142	PTGES2	prostaglandin E synthase 2	Aliases: FLJ14038/HUGO ID: 17822/UniProt ID: Q9H7Z7/
127124.1	127124	ATP6V1G3	ATPase, H+ transporting, lysosomal 13kDa, V1 subunit G isoform 3	Locus type: gene with protein product, function known or inferred/Aliases: ATP6G3, Vma10/HUGO ID: 18265/UniProt ID: Q96LB4/MGD ID: MGI:2450548/
50515.1	50515	CHST11	carbohydrate (chondroitin 4) sulfotransferase 11	Locus type: gene with protein product, function known or inferred/Aliases: C4ST1, C4St-1, C4ST, HSA269537/HUGO ID: 17422/UniProt ID: Q9NPF2/MGD ID: MGI:1927166/
26062.1	26062	HYALP1	hyaluronoglucosaminidase pseudogene 1	Locus type: pseudogene/HUGO ID: 5324/
9154.1	9154	SLC28A1	solute carrier family 28 (sodium-coupled nucleoside transporter), member 1	Aliases: CNT1/HUGO ID: 11001/UniProt ID: O00337/
79896.1	79896	THNSL1	threonine synthase-like 1 (bacterial)	Locus type: gene with protein product, function unknown/Aliases: FLJ22002/HUGO ID: 26160/
11041.1	11041	B3GNT6	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 6	Aliases: iGNT, iGAT/HUGO ID: 15685/UniProt ID: O43505/
6546.1	6546	SLC8A1	solute carrier family 8 (sodium/calcium exchanger), member 1	HUGO ID: 11068/UniProt ID: P32418/
140838.1	140838	HDHD4	haloacid dehalogenase-like hydrolase domain containing 4	Locus type: gene with protein product, function known or inferred/Aliases: dj694B14.3, MGC26833/HUGO ID: 16140/UniProt ID: Q8TBE9/
10050.1	10050	SLC17A4	solute carrier family 17 (sodium phosphate), member 4	Aliases: KAIA2138/HUGO ID: 10932/UniProt ID: Q9Y2C5/
56848.1	56848	SPHK2	sphingosine kinase 2	HUGO ID: 18859/UniProt ID: Q9NRA0/MGD ID: MGI:1861380/
246213.1	246213	SLC17A8	solute carrier family 17 (sodium-dependent inorganic phosphate cotransporter), member 8	Locus type: gene with protein product, function known or inferred/Aliases: VGLUT3/HUGO ID: 20151/UniProt ID: Q8NDX2/
2745.1	2745	GLRX	glutaredoxin (thioltransferase)	Aliases: GRX/HUGO ID: 4330/UniProt ID: P35754/
6533.1	6533	SLC6A6	solute carrier family 6 (neurotransmitter transporter, taurine), member 6	Aliases: TAUT/HUGO ID: 11052/UniProt ID: P31641/
91734.1	91734	IDI2	isopentenyl-diphosphate delta isomerase 2	Locus type: gene with protein product, function known or inferred/Aliases: IPP2/HUGO ID: 23487/UniProt ID: Q9BXS1/
5295.1	5295	PIK3R1	phosphoinositide-3-kinase, regulatory subunit 1 (p85 alpha)	Locus type: gene with protein product, function known or inferred/Aliases: GRB1, p85-ALPHA HUGO ID: 8979/UniProt ID: P27986/
6507.1	6507	SLC1A3	solute carrier family 1 (glial high affinity glutamate transporter), member 3	Aliases: GLAST, EAAT1/HUGO ID: 10941/UniProt ID: P43003/
80271.1	80271	ITPKC	inositol 1,4,5-trisphosphate 3-kinase C	HUGO ID: 14897/UniProt ID: Q96DU7/
80724.1	80724	ACAD10	acyl-Coenzyme A dehydrogenase family, member 10	Locus type: gene with protein product, function unknown/Aliases: MGC5601/HUGO ID: 21597/
84264.1	84264	HAGHL	hydroxyacylglutathione hydrolase-like	Locus type: gene with protein product, function known or inferred/Aliases: MGC2605/HUGO ID: 14177/UniProt ID: Q9BT45/
65263.1	65263	PYCR1	pyrroline-5-carboxylate reductase-like	Locus type: gene with protein product, function unknown/Aliases: FLJ13852/HUGO ID: 25846/
123041.1	123041	SLC24A4	solute carrier family 24 (sodium/potassium/calcium exchanger), member 4	Locus type: gene with protein product, function known or inferred/Aliases: NCKX4/HUGO ID: 10978/UniProt ID: Q8NFF2/
6572.1	6572	SLC18A3	solute carrier family 18 (vesicular acetylcholine), member 3	Locus type: gene with protein product, function known or inferred/Aliases: VACHT/HUGO ID: 10936/UniProt ID: Q16572/
5728.1	5728	PTEN	phosphatase and tensin homolog (mutated in multiple advanced cancers 1)	Locus type: gene with protein product, function known or inferred/Aliases: MMAC1, TEP1, PTEN1/HUGO ID: 9588/UniProt ID: O00633/
6537.1	6537	SLC6A10	solute carrier family 6 (neurotransmitter transporter, creatine), member 10	Aliases: CT-2/HUGO ID: 11043/UniProt ID: P53796/
5283.1	5283	PIGH	phosphatidylinositol glycan, class H	Aliases: GPI-H/HUGO ID: 8964/UniProt ID: Q14442/
5092.1	5092	PCBD	6-pyruvoyl-tetrahydropterin synthase/dimerization cofactor of hepatocyte nuclear factor 1 alpha (TCF1)	Locus type: gene with protein product, function known or inferred/Aliases: PCD/HUGO ID: 8646/UniProt ID: P80095/
124935.1	124935	SLC43A2	solute carrier family 43, member 2	Locus type: gene with protein product, function known or inferred/Aliases: MGC34680/HUGO ID: 23087/MGD ID: MGI:2442746/
55501.1	55501	CHST12	carbohydrate (chondroitin 4) sulfotransferase 12	Locus type: gene with protein product, function known or inferred/Aliases: C4S-2, C4ST2/HUGO ID: 17423/UniProt ID: Q9NRB3/MGD ID: MGI:1929064/
6559.1	6559	SLC12A3	solute carrier family 12 (sodium/chloride transporters), member 3	HUGO ID: 10912/UniProt ID: P55017/
6520.1	6520	SLC3A2	solute carrier family 3 (activators of dibasic and neutral amino acid transport), member 2	Aliases: 4T2HC, 4F2, NACAE/HUGO ID: 11026/UniProt ID: P08195/
6563.1	6563	SLC14A1	solute carrier family 14 (urea transporter), member 1 (Kidd blood group)	Locus type: gene with protein product, function known or inferred/Aliases: HST1341/HUGO ID: 10918/UniProt ID: Q13336/
28976.1	28976	ACAD9	acyl-Coenzyme A dehydrogenase family, member 9	Locus type: gene with protein product, function known or inferred/Aliases: NPD002, MGC14452/HUGO ID: 21497/UniProt ID: Q9H845/
883.1	883	CCBL1	cysteine conjugate-beta lyase; cytoplasmic (glutamine transaminase K, kynurenine aminotransferase)	HUGO ID: 1564/UniProt ID: Q16773/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
10919.1	10919	BAT8	HLA-B associated transcript 8	Locus type: gene with protein product, function unknown/Aliases: G9A, Em:AF134726.3, HGNC:13942/HUGO ID: 14129/UniProt ID: Q96KQ7/
221823.1	221823	PRPS1L1	phosphoribosyl pyrophosphate synthetase 1-like 1	Locus type: gene with protein product, function known or inferred/Aliases: PRPS3/HUGO ID: 9463/UniProt ID: P21108/
89869.1	89869	PLCZ1	phospholipase C, zeta 1	Aliases: NYD-SP27/HUGO ID: 19218/UniProt ID: Q86YW0/
6524.1	6524	SLC5A2	solute carrier family 5 (sodium/glucose cotransporter), member 2	HUGO ID: 11037/UniProt ID: P31639/
9869.1	9869	SETDB1	SET domain, bifurcated 1	Aliases: KG1T, KIAA0067, ESET/HUGO ID: 10761/UniProt ID: Q15047/
11001.1	11001	SLC27A2	solute carrier family 27 (fatty acid transporter), member 2	Locus type: gene with protein product, function known or inferred/Aliases: FATP2, HGNC:3572, hFACVL1, VLACS, VLCS, HsT17226/HUGO ID: 10996/UniProt ID: O14975/MGD ID: MGI:1347099/
23657.1	23657	SLC7A11	solute carrier family 7, (cationic amino acid transporter, y+ system) member 11	Aliases: xCT/HUGO ID: 11059/UniProt ID: Q9UPY5/
6839.1	6839	SUV39H1	suppressor of variegation 3-9 homolog 1 (Drosophila)	Locus type: gene with protein product, function known or inferred/HUGO ID: 11479/UniProt ID: O43463/
4845.1	4845	NOS2C	nitric oxide synthase 2C	Locus type: gene with protein product, function known or inferred/HUGO ID: 7875/UniProt ID: Q14961/
53919.1	53919	SLCO1C1	solute carrier organic anion transporter family, member 1C1	Locus type: gene with protein product, function known or inferred/Aliases: OATP-F, OATP1C1, OATP1/HUGO ID: 13819/UniProt ID: Q9NBY5/
6555.1	6555	SLC10A2	solute carrier family 10 (sodium/bile acid cotransporter family), member 2	Locus type: gene with protein product, function known or inferred/HUGO ID: 10906/UniProt ID: Q12908/
80168.1	80168	MOGAT2	monoacylglycerol O-acyltransferase 2	Locus type: gene with protein product, function known or inferred/Aliases: MGAT2, DGAT2L5, FLJ22644/HUGO ID: 23248/
155184.1	155184	SLC2A7	solute carrier family 2 (facilitated glucose transporter), member 7	HUGO ID: 13445/
9197.1	9197	SLC33A1	solute carrier family 33 (acetyl-CoA transporter), member 1	Aliases: AT-1/HUGO ID: 95/UniProt ID: O00400/
9056.1	9056	SLC7A7	solute carrier family 7 (cationic amino acid transporter, y+ system), member 7	Aliases: y+LAT-1/HUGO ID: 11065/UniProt ID: Q9UM01/
26873.1	26873	OPLAH	5-oxoprolinase (ATP-hydrolysing)	Aliases: OPLA, 5-Opase/HUGO ID: 8149/UniProt ID: O14841/
28234.1	28234	SLCO1B3	solute carrier organic anion transporter family, member 1B3	Locus type: gene with protein product, function known or inferred/Aliases: OATP8, OATP1B3/HUGO ID: 10961/UniProt ID: Q9NPD5/
50700.1	50700	RDH8	retinol dehydrogenase 8 (all-trans)	Locus type: gene with protein product, function known or inferred/Aliases: PRRDH/HUGO ID: 14423/UniProt ID: Q9N9R8/
57665.1	57665	RDH14	retinol dehydrogenase 14 (all-trans and 9-cis)	Locus type: gene with protein product, function known or inferred/Aliases: PAN2/HUGO ID: 19979/UniProt ID: Q9HBH5/
57282.1	57282	SLC4A10	solute carrier family 4, sodium bicarbonate transporter-like, member 10	HUGO ID: 13811/UniProt ID: Q9HCQ6/
374907.1	374907	B3GALT7	UDP-Gal:betaGal beta 1,3-galactosyltransferase polypeptide 7	Locus type: gene with protein product, function known or inferred/Aliases: BGALT15/HUGO ID: 24139/
119391.1	119391	GSTO2	glutathione S-transferase omega 2	Locus type: gene with protein product, function known or inferred/HUGO ID: 23064/
8869.1	8869	SIAT9	sialyltransferase 9 (CMP-NeuAc:lactosylceramide alpha-2,3-sialyltransferase; GM3 synthase)	Aliases: ST3GalV, SIATGM3S/HUGO ID: 10872/UniProt ID: Q9UNP4/
55229.1	55229	PANK4	pantothenate kinase 4	Locus type: gene with protein product, function known or inferred/Aliases: FLJ10782/HUGO ID: 19366/UniProt ID: Q9NVE7/
23539.1	23539	SLC16A8	solute carrier 16 (monocarboxylic acid transporters), member 8	Aliases: MCT3/HUGO ID: 16270/UniProt ID: O95907/
140679.1	140679	SLC32A1	solute carrier family 32 (GABA vesicular transporter), member 1	Locus type: gene with protein product, function known or inferred/Aliases: VGAT, bA12201.1, HGNC:15800/HUGO ID: 11018/
6528.1	6528	SLC5A5	solute carrier family 5 (sodium iodide symporter), member 5	Aliases: NIS/HUGO ID: 11040/UniProt ID: Q92911/
57127.1	57127	RHBG	Rhesus blood group, B glycoprotein	HUGO ID: 14572/UniProt ID: Q9H310/
122622.1	122622	ADSSL1	adenylosuccinate synthase like 1	Locus type: gene with protein product, function unknown/Aliases: FLJ38602/HUGO ID: 20093/UniProt ID: Q8N714/
160287.1	160287	LDHAL6A	lactate dehydrogenase A-like 6A	Locus type: gene with protein product, function unknown/Aliases: MGC23940/HUGO ID: 28335/
284111.1	284111	SLC13A5	solute carrier family 13 (sodium-dependent citrate transporter), member 5	Locus type: gene with protein product, function known or inferred/Aliases: NACT/HUGO ID: 23089/UniProt ID: Q86YT5/
29920.1	29920	PYCR2	pyrroline-5-carboxylate reductase family, member 2	Locus type: gene with protein product, function known or inferred/Aliases: P5CR2/HUGO ID: 30262/
80146.1	80146	UXS1	UDP-glucuronate decarboxylase 1	Aliases: FLJ23591/HUGO ID: 17729/UniProt ID: Q8NBX3/
51540.1	51540	SCLY	selenocysteine lyase	Locus type: gene with protein product, function known or inferred/Aliases: SCLY, SCL/HUGO ID: 18161/MGD ID: MGI:1355310/
257068.1	257068	PLCXD2	phosphatidylinositol-specific phospholipase C, X domain containing 2	Locus type: gene with protein product, function unknown/Aliases: FLJ31579/HUGO ID: 26462/
54981.1	54981	C9orf95	chromosome 9 open reading frame 95	Locus type: gene with protein product, function unknown/Aliases: FLJ20559, NRK1, bA235014.2/HUGO ID: 26057/
130752.1	130752	MDH1B	malate dehydrogenase 1B, NAD (soluble)	Aliases: FLJ25341, RP11-95H11/HUGO ID: 17836/UniProt ID: Q8IV51/
112611.1	112611	RWDD2	RWD domain containing 2	Locus type: gene with protein product, function unknown/Aliases: MGC13523, dJ747H23.2/HUGO ID: 21385/UniProt ID: Q9UYI3/MGD ID: MGI:1916769/



Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
81537.1	81537	SGPP1	sphingosine-1-phosphate phosphatase 1	Locus type: gene with protein product, function known or inferred/HUGO ID: 17720/UniProt ID: Q9BX95/MGD ID: MGI:2135760/
5334.1	5334	PLCL1	phospholipase C-like 1	Aliases: PLC-L, PLCL/HUGO ID: 9063/UniProt ID: Q15111/
8706.1	8706	B3GALT3	UDP-Gal:betaGlcNAc beta 1,3-galactosyltransferase, polypeptide 3	Locus type: gene with protein product, function known or inferred/Aliases: beta3Gal-T3, galT3, P1/HUGO ID: 918/UniProt ID: O75752/
23443.1	23443	SLC35A3	solute carrier family 35 (UDP-N-acetylglucosamine (UDP-GlcNAc) transporter), member A3	HUGO ID: 11023/UniProt ID: Q9Y2D2/
534.1	534	ATP6V1G2	ATPase, H+ transporting, lysosomal 13kDa, V1 subunit G isoform 2	Aliases: Vma10, NG38, Em:AC004181.3/HUGO ID: 862/UniProt ID: O95670/
19.1	19	ABCA1	ATP-binding cassette, sub-family A (ABC1), member 1	Aliases: TGD, Tangier disease/HUGO ID: 29/UniProt ID: O95477/
92483.1	92483	LDHAL6B	lactate dehydrogenase A-like 6B	Locus type: gene with protein product, function unknown/Aliases: LDHL/HUGO ID: 21481/
8503.1	8503	PIK3R3	phosphoinositide-3-kinase, regulatory subunit 3 (p55, gamma)	HUGO ID: 8981/UniProt ID: Q92569/
55315.1	55315	SLC29A3	solute carrier family 29 (nucleoside transporters), member 3	Locus type: gene with protein product, function known or inferred/Aliases: ENT3, FLJ11160/HUGO ID: 23096/UniProt ID: Q9BZD2/
9152.1	9152	SLC6A5	solute carrier family 6 (neurotransmitter transporter, glycine) member 5	Aliases: GLYT2/HUGO ID: 11051/UniProt ID: Q9Y345/
90161.1	90161	HS6ST2	heparan sulfate 6-O-sulfotransferase 2	Locus type: gene with protein product, function known or inferred/HUGO ID: 19133/UniProt ID: Q96MM7/
27124.1	27124	PIB5PA	phosphatidylinositol (4,5) bisphosphate 5-phosphatase, A	HUGO ID: 8956/UniProt ID: Q15735/
55301.1	55301	THEDC1	thioesterase domain containing 1	Locus type: gene with protein product, function unknown/Aliases: FLJ11106/HUGO ID: 25625/
491.1	491	ATP2B2	ATPase, Ca++ transporting, plasma membrane 2	Aliases: PMCA2/HUGO ID: 815/UniProt ID: Q01814/
91703.1	91703	ACY3	aspartoacylase (aminocyclase) 3	Locus type: gene with protein product, function known or inferred/Aliases: HCBP1, MGC9740, ACY-3/HUGO ID: 24104/MGD ID: MGI:1918920/
6506.1	6506	SLC1A2	solute carrier family 1 (glial high affinity glutamate transporter), member 2	Aliases: GLT-1, EAAT2/HUGO ID: 10940/UniProt ID: P43004/
284129.1	284129	SLC26A11	solute carrier family 26, member 11	HUGO ID: 14471/UniProt ID: Q86YX7/
10861.1	10861	SLC26A1	solute carrier family 26 (sulfate transporter), member 1	Locus type: gene with protein product, function known or inferred/Aliases: SAT-1, EDM4/HUGO ID: 10993/UniProt ID: Q9H2B4/
26002.1	26002	MOXD1	monooxygenase, DBH-like 1	Locus type: gene with protein product, function unknown/Aliases: DKFPZ564G202, MOX, dJ248E1.1/HUGO ID: 21063/UniProt ID: Q9H4M6/
5264.1	5264	PHYH	phytanoyl-CoA hydroxylase (Refsum disease)	Aliases: PAHX/HUGO ID: 8940/UniProt ID: O14832/
2108.1	2108	ETFA	electron-transfer-flavoprotein, alpha polypeptide (glutaric aciduria II)	Locus type: gene with protein product, function known or inferred/Aliases: GA2, EMA, MADD/HUGO ID: 3481/UniProt ID: P13804/
6558.1	6558	SLC12A2	solute carrier family 12 (sodium/potassium/chloride transporters), member 2	Aliases: NKCC1/HUGO ID: 10911/UniProt ID: P55011/
53354.1	53354	PANK1	pantothenate kinase 1	Locus type: gene with protein product, function known or inferred/Aliases: MGC24596, PANK1a, PANK1b/HUGO ID: 8598/UniProt ID: Q8TE04/
79901.1	79901	CYBRD1	cytochrome b reductase 1	Locus type: gene with protein product, function known or inferred/Aliases: DCYTB, FLJ23462/HUGO ID: 20797/UniProt ID: Q9HQ8/MGD ID: MGI:2654575/
6541.1	6541	SLC7A1	solute carrier family 7 (cationic amino acid transporter, y+ system), member 1	Aliases: CAT-1, HCAT1, REC1L/HUGO ID: 11057/UniProt ID: P30825/
80270.1	80270	HSD3B7	hydroxy-delta-5-steroid dehydrogenase, 3 beta- and steroid delta-isomerase 7	Locus type: gene with protein product, function known or inferred/Aliases: C(27)-3BETA-HSD/HUGO ID: 18324/UniProt ID: Q9BSN9/
58510.1	58510	PRODH2	proline dehydrogenase (oxidase) 2	Locus type: gene with protein product, function known or inferred/Aliases: HSPOX1/HUGO ID: 17325/UniProt ID: O00420/
477.1	477	ATPIA2	ATPase, Na+/K+ transporting, alpha 2 (+) polypeptide	HUGO ID: 800/UniProt ID: P50993/
121278.1	121278	TPH2	tryptophan hydroxylase 2	Locus type: gene with protein product, function known or inferred/Aliases: NTPH, FLJ37295/HUGO ID: 20692/UniProt ID: Q8IWU9/MGD ID: MGI:2651811/
51557.1	51557	GLULD1	glutamate-ammonia ligase (glutamine synthase) domain containing 1	Locus type: gene with protein product, function known or inferred/Aliases: lengsin, LGS/HUGO ID: 21016/UniProt ID: Q9NYJ0/
956.1	956	ENTPD3	ectonucleoside triphosphate diphosphohydrolase 3	Locus type: gene with protein product, function known or inferred/Aliases: NTPDase-3, HB6/HUGO ID: 3365/UniProt ID: O75355/
8781.1	8781	PSPHL	phosphoserine phosphatase-like	Aliases: CO9/HUGO ID: 9578/UniProt ID: O15172/
10164.1	10164	CHST4	carbohydrate (N-acetylglucosamine 6-O) sulfotransferase 4	Aliases: HEC-GLCNAC-6-ST, LSST/HUGO ID: 1972/UniProt ID: Q8NCG5/MGD ID: MGI:1349479/
57733.1	57733	GBA3	glucosidase, beta, acid 3 (cytosolic)	Locus type: gene with protein product, function known or inferred/Aliases: GLUC/HUGO ID: 19069/UniProt ID: Q9H227/
6549.1	6549	SLC9A2	solute carrier family 9 (sodium/hydrogen exchanger), isoform 2	HUGO ID: 11072/UniProt ID: Q9UBY0/
83852.1	83852	SETDB2	SET domain, bifurcated 2	Locus type: gene with protein product, function unknown/Aliases: CLLD8, CLLL8/HUGO ID: 20263/UniProt ID: Q96T68/
25769.1	25769	SLC24A2	solute carrier family 24 (sodium/potassium/calcium exchanger), member 2	Locus type: gene with protein product, function known or inferred/Aliases: NCKX2/HUGO ID: 10976/UniProt ID: Q9UI40/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
6647.1	6647	SOD1	superoxide dismutase 1, soluble (amyotrophic lateral sclerosis 1 (adult))	HUGO ID: 11179/UniProt ID: P00441/
9114.1	9114	ATP6V0D1	ATPase, H+ transporting, lysosomal 38kDa, V0 subunit d isoform 1	Aliases: ATP6DV, VATX, VPATPD, P39, Vma6/HUGO ID: 13724/UniProt ID: P12953/
50940.1	50940	PDE11A	phosphodiesterase 11A	HUGO ID: 8773/UniProt ID: Q9HCR9/
166012.1	166012	CHST13	carbohydrate (chondroitin 4) sulfotransferase 13	Locus type: gene with protein product, function known or inferred/Aliases: C4ST3/HUGO ID: 21755/UniProt ID: Q8NET6/
9227.1	9227	LRAT	lecithin retinol acyltransferase (phosphatidylcholine--retinol O-acyltransferase)	HUGO ID: 6685/UniProt ID: O95237/
132789.1	132789	GNPDA2	glucosamine-6-phosphate deaminase 2	Locus type: gene with protein product, function known or inferred/Aliases: 4921523118Rik, SB52/HUGO ID: 21526/UniProt ID: Q8TDQ7/MGD ID: MGI:1915230/
94005.1	94005	PIGS	phosphatidylinositol glycan, class S	HUGO ID: 14937/UniProt ID: Q96S52/
11212.1	11212	PROSC	proline synthetase co-transcribed homolog (bacterial)	Locus type: gene with protein product, function known or inferred/HUGO ID: 9457/UniProt ID: O94903/
1836.1	1836	SLC26A2	solute carrier family 26 (sulfate transporter), member 2	Locus type: gene with protein product, function known or inferred/HUGO ID: 10994/UniProt ID: P50443/
495.1	495	ATP4A	ATPase, H+/K+ exchanging, alpha polypeptide	Aliases: ATP6A/HUGO ID: 819/UniProt ID: P20648/
5052.1	5052	PRDX1	peroxiredoxin 1	Locus type: gene with protein product, function known or inferred/Aliases: NKEFA/HUGO ID: 9352/UniProt ID: Q06830/
9153.1	9153	SLC28A2	solute carrier family 28 (sodium-coupled nucleoside transporter), member 2	Locus type: gene with protein product, function known or inferred/Aliases: CNT2, SPNT1, HCNT2, HsT17153/HUGO ID: 11002/UniProt ID: O43868/
84720.1	84720	PIGO	phosphatidylinositol glycan, class O	Locus type: gene with protein product, function known or inferred/Aliases: DKFZp434M222, FLJ00135/HUGO ID: 23215/UniProt ID: Q8TEQ8/
6523.1	6523	SLC5A1	solute carrier family 5 (sodium/glucose cotransporter), member 1	Aliases: D22S675/HUGO ID: 11036/UniProt ID: P13866/
10723.1	10723	SLC12A7	solute carrier family 12 (potassium/chloride transporters), member 7	Locus type: gene with protein product, function known or inferred/Aliases: KCC4, DKFZP434F076/HUGO ID: 10915/UniProt ID: Q9Y666/
66035.1	66035	SLC2A11	solute carrier family 2 (facilitated glucose transporter), member 11	Aliases: GLUT11, GLUT10/HUGO ID: 14239/UniProt ID: Q9BYW1/
56606.1	56606	SLC2A9	solute carrier family 2 (facilitated glucose transporter), member 9	Aliases: Glut9, GLUTX/HUGO ID: 13446/UniProt ID: Q9NRM0/
11343.1	11343	MGLL	monoglyceride lipase	Locus type: gene with protein product, function known or inferred/Aliases: HK5, MGL/HUGO ID: 17038/UniProt ID: Q99685/
6820.1	6820	SULT2B1	sulfotransferase family, cytosolic, 2B, member 1	Aliases: HSST2/HUGO ID: 11459/UniProt ID: O00205/
51380.1	51380	CSAD	cysteine sulfonic acid decarboxylase	Aliases: PCAP, CSD/HUGO ID: 18966/UniProt ID: Q9Y600/MGD ID: MGI:2180098/
6554.1	6554	SLC10A1	solute carrier family 10 (sodium/bile acid cotransporter family), member 1	Aliases: NTCP/HUGO ID: 10905/UniProt ID: Q14973/
6532.1	6532	SLC6A4	solute carrier family 6 (neurotransmitter transporter, serotonin), member 4	HUGO ID: 11050/UniProt ID: P31645/
6514.1	6514	SLC2A2	solute carrier family 2 (facilitated glucose transporter), member 2	HUGO ID: 11006/UniProt ID: P11168/
8622.1	8622	PDE8B	phosphodiesterase 8B	Locus type: gene with protein product, function known or inferred/HUGO ID: 8794/UniProt ID: O95263/
5296.1	5296	PIK3R2	phosphoinositide-3-kinase, regulatory subunit 2 (p85 beta)	Aliases: P85B/HUGO ID: 8980/UniProt ID: O00459/
6505.1	6505	SLC1A1	solute carrier family 1 (neuronal/epithelial high affinity glutamate transporter, system Xag), member 1	Aliases: EAAC1, EAAT3/HUGO ID: 10939/UniProt ID: P43005/
6571.1	6571	SLC18A2	solute carrier family 18 (vesicular monoamine), member 2	Locus type: gene with protein product, function known or inferred/Aliases: SVMT, SVAT/HUGO ID: 10935/UniProt ID: Q05940/
23743.1	23743	BHMT2	betaine-homocysteine methyltransferase 2	HUGO ID: 1048/UniProt ID: Q9H2M3/
11000.1	11000	SLC27A3	solute carrier family 27 (fatty acid transporter), member 3	Locus type: gene with protein product, function known or inferred/Aliases: FATP3, MGC4365/HUGO ID: 10997/UniProt ID: Q9BTY5/MGD ID: MGI:1347358/
366.1	366	AQP9	aquaporin 9	Locus type: gene with protein product, function known or inferred/Aliases: SSC1, HsT17287/HUGO ID: 643/UniProt ID: O43315/
3635.1	3635	INPP5D	inositol polyphosphate-5-phosphatase, 145kDa	Aliases: SHIP, hp51CN/HUGO ID: 6079/UniProt ID: O00145/
2581.1	2581	GALC	galactosylceramidase (Krabbe disease)	HUGO ID: 4115/UniProt ID: P54803/
30815.1	30815	SIAT7F	sialyltransferase 7 ((alpha-N-acetylneuraminy) 2,3-betagalactosyl-1,3)-N-acetyl galactosaminide alpha-2,6-sialyltransferase) F	Locus type: gene with protein product, function known or inferred/Aliases: ST6GALNAC6, ST6GALNACV1/HUGO ID: 23364/MGD ID: MGI:1355316/
10610.1	10610	SIAT7B	sialyltransferase 7 ((alpha-N-acetylneuraminy) 2,3-betagalactosyl-1,3)-N-acetyl galactosaminide alpha-2,6-sialyltransferase) B	Locus type: gene with protein product, function known or inferred/Aliases: ST6GalNA II, III, IV, STHM/HUGO ID: 10867/UniProt ID: Q9UJ37/
6519.1	6519	SLC3A1	solute carrier family 3 (cystine, dibasic and neutral amino acid transporters, activator of cystine, dibasic and neutral amino acid transport), member 1	Aliases: CSNU1, D2H, RBAT/HUGO ID: 11025/UniProt ID: Q07837/
2992.1	2992	GYG	glycogenin	Locus type: gene with protein product, function known or inferred/HUGO ID: 4699/UniProt ID: P46976/
9057.1	9057	SLC7A6	solute carrier family 7 (cationic amino acid transporter, y+ system), member 6	Locus type: gene with protein product, function known or inferred/Aliases: y-LAT-2, KIAA0245, LAT3, LAT-2/HUGO ID: 11064/UniProt ID: Q92536/
7923.1	7923	HSD17B8	hydroxysteroid (17-beta) dehydrogenase 8	Aliases: HKE6, RING2, HKE6, D6S2245E, RING2, KE6, H2-KE6/HUGO ID: 3554/UniProt ID: Q92506/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
137872.1	137872	ADHFE1	alcohol dehydrogenase, iron containing, 1	Locus type: gene with protein product, function known or inferred/Aliases: ADHFE1, FLJ32430/HUGO ID: 16354/UniProt ID: Q81WWS/MGD ID: MGI:1923437/
57084.1	57084	SLC17A6	solute carrier family 17 (sodium-dependent inorganic phosphate cotransporter), member 6	Aliases: DNPI/HUGO ID: 16703/UniProt ID: Q9P2U8/
6579.1	6579	SLCO1A2	solute carrier organic anion transporter family, member 1A2	Locus type: gene with protein product, function known or inferred/Aliases: OATP, OATP1A2, OATP-A/HUGO ID: 10956/UniProt ID: P46721/
6535.1	6535	SLC6A8	solute carrier family 6 (neurotransmitter transporter, creatine member 8)	Aliases: CRTR, CT1/HUGO ID: 11055/UniProt ID: P48029/
9435.1	9435	CHST2	carbohydrate (N-acetylglucosamine-6-O) sulfotransferase 2	Locus type: gene with protein product, function known or inferred/Aliases: C6ST/HUGO ID: 1970/UniProt ID: Q9Y4C5/
6448.1	6448	SGSH	N-sulfoglucosamine sulfohydrolase (sulfamidase)	Locus type: gene with protein product, function known or inferred/Aliases: HSS, MPS3A, SFMD/HUGO ID: 10818/UniProt ID: P51688/
7001.1	7001	PRDX2	peroxiredoxin 2	Aliases: PRP, NKEFB/HUGO ID: 9353/UniProt ID: P32119/
90423.1	90423	ATP6V1E2	ATPase, H+ transporting, lysosomal 31kDa, V1 subunit E isoform 2	Locus type: gene with protein product, function known or inferred/Aliases: MGC9341, VMA4, ATP6E1/HUGO ID: 18125/UniProt ID: Q96A05/
349565.1	349565	NMNAT3	nicotinamide nucleotide adenyltransferase 3	Locus type: gene with protein product, function known or inferred/Aliases: PNAT3/HUGO ID: 20989/UniProt ID: Q96T66/
11182.1	11182	SLC2A6	solute carrier family 2 (facilitated glucose transporter), member 6	Aliases: GLUT9, GLUT6/HUGO ID: 11011/UniProt ID: Q9UGQ3/
84706.1	84706	GPT2	glutamic pyruvate transaminase (alanine aminotransferase) 2	Aliases: ALT2/HUGO ID: 18062/UniProt ID: Q8TD30/
197257.1	197257	LDHD	lactate dehydrogenase D	Locus type: gene with protein product, function known or inferred/HUGO ID: 19708/UniProt ID: Q8ZK5/
6575.1	6575	SLC20A2	solute carrier family 20 (phosphate transporter), member 2	Aliases: PIT-2, Glvr-2/HUGO ID: 10947/UniProt ID: Q08357/
56623.1	56623	INPP5E	inositol polyphosphate-5-phosphatase, 72 kDa	Locus type: gene with protein product, function known or inferred/Aliases: PPI5PIV/HUGO ID: 21474/UniProt ID: Q9NRR6/MGD ID: MGI:1927753/
128869.1	128869	CDC91L1	CDC91 cell division cycle 91-like 1 (S. cerevisiae)	Aliases: bA346K17.2/HUGO ID: 15791/UniProt ID: Q9H490/
7295.1	7295	TXN	thioredoxin	Aliases: TRX/HUGO ID: 12435/UniProt ID: P10599/
10948.1	10948	STARD3	START domain containing 3	Aliases: es64, MLN64/HUGO ID: 17579/UniProt ID: Q14849/MGD ID: MGI:1929618/
1638.1	1638	DCT	dopachrome tautomerase (dopachrome delta-isomerase, tyrosine-related protein 2)	HUGO ID: 2709/UniProt ID: P40126/
5244.1	5244	ABCB4	ATP-binding cassette, sub-family B (MDR/TAP), member 4	Locus type: gene with protein product, function known or inferred/Aliases: MDR2/3, PFIC-3/HUGO ID: 45/UniProt ID: P21439/
60482.1	60482	SLC5A7	solute carrier family 5 (choline transporter), member 7	Aliases: hCHT, CHT1/HUGO ID: 14025/UniProt ID: Q9GZV3/
144195.1	144195	SLC2A14	solute carrier family 2 (facilitated glucose transporter), member 14	Locus type: gene with protein product, function known or inferred/Aliases: GLUT14/HUGO ID: 18301/UniProt ID: Q8TDB8/
1718.1	1718	DHCR24	24-dehydrocholesterol reductase	Aliases: KIAA0018, seladin-1/HUGO ID: 2859/UniProt ID: Q15392/
53905.1	53905	DUOX1	dual oxidase 1	Aliases: NOXEF1, THOX1/HUGO ID: 3062/UniProt ID: Q9NRD9/
10246.1	10246	SLC17A2	solute carrier family 17 (sodium phosphate), member 2	Aliases: NPT3/HUGO ID: 10930/UniProt ID: O00624/
6580.1	6580	SLC22A1	solute carrier family 22 (organic cation transporter), member 1	Aliases: 38261/HUGO ID: 10963/UniProt ID: O15245/
124583.1	124583	CANT1	calcium activated nucleotidase 1	Locus type: gene with protein product, function known or inferred/Aliases: SHAPY, SCAN-1/HUGO ID: 19721/MGD ID: MGI:1923275/
284208.1	284208	B3GNTL1	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase-like 1	Locus type: gene with protein product, function known or inferred/HUGO ID: 21727/ transcript: NM_001009905
162466.1	162466	PHOSPHO1	phosphatase, orphan 1	HUGO ID: 16815/UniProt ID: Q8TCT1/
266722.1	266722	HS6ST3	heparan sulfate 6-O-sulfotransferase 3	HUGO ID: 19134/UniProt ID: Q8IZP7/
2351.1	2351	FOLR2L	folate receptor 2 (fetal) like	HUGO ID: 3794/
92745.1	92745	SLC38A5	solute carrier family 38, member 5	Locus type: gene with protein product, function known or inferred/Aliases: SN2, JM24/HUGO ID: 18070/UniProt ID: Q9UJU8/
91373.1	91373	UAP1L1	UDP-N-acetylglucosamine pyrophosphorylase 1-like 1	Locus type: gene with protein product, function unknown/HUGO ID: 28082/
10201.1	10201	NME6	non-metastatic cells 6, protein expressed in (nucleoside-diphosphate kinase)	Locus type: gene with protein product, function known or inferred/Aliases: NM23-H6, IPIA-ALPHA/HUGO ID: 20567/UniProt ID: O75414/MGD ID: MGI:1861676/
9187.1	9187	SLC24A1	solute carrier family 24 (sodium/potassium/calcium exchanger), member 1	Locus type: gene with protein product, function known or inferred/Aliases: NCKX1, NCKX, RODX, KIAA0702, HsT17412/HUGO ID: 10975/UniProt ID: Q60721/
492.1	492	ATP2B3	ATPase, Ca++ transporting, plasma membrane 3	Aliases: PMCA3/HUGO ID: 816/UniProt ID: Q16720/
8611.1	8611	PPAP2A	phosphatidic acid phosphatase type 2A	Aliases: PAP-2a/HUGO ID: 9228/UniProt ID: O60463/
8310.1	8310	ACOX3	acyl-Coenzyme A oxidase 3, pristanoyl	HUGO ID: 121/UniProt ID: O15254/
55224.1	55224	ETNK2	ethanolamine kinase 2	Locus type: gene with protein product, function unknown/Aliases: FLJ10761, EK12/HUGO ID: 25575/MGD ID: MGI:2443760/
28231.1	28231	SLCO4A1	solute carrier organic anion transporter family, member 4A1	Locus type: gene with protein product, function known or inferred/Aliases: OATP-E, OATP4A1/HUGO ID: 10953/UniProt ID: Q96BD0/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
10402.1	10402	SIAT10	sialyltransferase 10 (alpha-2,3-sialyltransferase VI)	Locus type: gene with protein product, function known or inferred/Aliases: ST3GALVI/HUGO ID: 18080/UniProt ID: Q9Y274/
2109.1	2109	ETFB	electron-transfer-flavoprotein, beta polypeptide	Locus type: gene with protein product, function known or inferred/HUGO ID: 3482/UniProt ID: P38117/
64078.1	64078	SLC28A3	solute carrier family 28 (sodium-coupled nucleoside transporter), member 3	Aliases: CNT3/HUGO ID: 16484/UniProt ID: Q9HAS3/
80704.1	80704	SLC19A3	solute carrier family 19, member 3	HUGO ID: 16266/UniProt ID: Q9BZV2/
10999.1	10999	SLC27A4	solute carrier family 27 (fatty acid transporter), member 4	Locus type: gene with protein product, function known or inferred/Aliases: FATP4/HUGO ID: 10998/UniProt ID: Q95186/MGD ID: MGI:1347347/
80150.1	80150	ASRGL1	asparaginase like 1	Aliases: FLJ22316, ALP1/HUGO ID: 16448/UniProt ID: Q8NI34/
6518.1	6518	SLC2A5	solute carrier family 2 (facilitated glucose/fructose transporter), member 5	Locus type: gene with protein product, function known or inferred/HUGO ID: 11010/UniProt ID: P22732/MGD ID: MGI:1928369/
478.1	478	ATPIA3	ATPase, Na+/K+ transporting, alpha 3 polypeptide	HUGO ID: 801/UniProt ID: P13637/
9194.1	9194	SLC16A7	solute carrier family 16 (monocarboxylic acid transporters), member 7	Locus type: gene with protein product, function known or inferred/Aliases: MCT2/HUGO ID: 10928/UniProt ID: O60669/
6509.1	6509	SLC1A4	solute carrier family 1 (glutamate/neutral amino acid transporter), member 4	Aliases: SATT, ASCT1/HUGO ID: 10942/UniProt ID: P43007/
1808.1	1808	DPYSL2	dihydropyrimidinase-like 2	Locus type: gene with protein product, function known or inferred/Aliases: DRP-2, DHPRP2, CRMP2, DRP2/HUGO ID: 3014/UniProt ID: Q16555/
57379.1	57379	AICDA	activation-induced cytidine deaminase	Aliases: CDA2, AID/HUGO ID: 13203/UniProt ID: Q9GZX7/
9952.1	9952	HS3ST3B2	heparan sulfate (glucosamine) 3-O-sulfotransferase 3B2	Aliases: 3OST3B2/HUGO ID: 5199/
159963.1	159963	SLC5A12	solute carrier family 5 (sodium/glucose cotransporter), member 12	Locus type: gene with protein product, function unknown/Aliases: MGC52019/HUGO ID: 28750/MGD ID: MGI:2138890/
56994.1	56994	CHPT1	choline phosphotransferase 1	Aliases: CPT1/HUGO ID: 17852/UniProt ID: Q8WUD6/
84002.1	84002	B3GNT5	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 5	Aliases: B3GN-T5, beta3Gn-T5/HUGO ID: 15684/UniProt ID: Q9BYG0/
6540.1	6540	SLC6A13	solute carrier family 6 (neurotransmitter transporter, GABA), member 13	Locus type: gene with protein product, function known or inferred/Aliases: GAT2/HUGO ID: 11046/UniProt ID: Q9NSD5/
6574.1	6574	SLC20A1	solute carrier family 20 (phosphate transporter), member 1	Aliases: PiT-1, Glvr-1/HUGO ID: 10946/UniProt ID: Q08344/
7263.1	7263	TST	thiosulfate sulfurtransferase (rhodanese)	Aliases: RDS/HUGO ID: 12388/UniProt ID: Q16762/
1607.1	1607	DGKB	diacylglycerol kinase, beta 90kDa	Locus type: gene with protein product, function known or inferred/Aliases: KIAA0718, DGK, DGK-BETA/HUGO ID: 2850/UniProt ID: Q9Y6T7/
10087.1	10087	COL4A3BP	collagen, type IV, alpha 3 (Goodpasture antigen) binding protein	Aliases: GPBP, STARD11/HUGO ID: 2205/UniProt ID: Q9Y5P4/
9807.1	9807	IHPK1	inositol hexaphosphate kinase 1	Locus type: gene with protein product, function known or inferred/Aliases: KIAA0263, IP6K1/HUGO ID: 18360/UniProt ID: Q92551/
54490.1	54490	UGT2B28	UDP glycosyltransferase 2 family, polypeptide B28	Locus type: gene with protein product, function known or inferred/HUGO ID: 13479/UniProt ID: Q9BY64/
2712.1	2712	GK2	glycerol kinase 2	Aliases: GKTA/HUGO ID: 4291/UniProt ID: Q14410/
6522.1	6522	SLC4A2	solute carrier family 4, anion exchanger, member 2 (erythrocyte membrane protein band 3-like 1)	Aliases: HKB3/HUGO ID: 11028/UniProt ID: P04920/
955.1	955	ENTPD6	ectonucleoside triphosphate diphosphohydrolase 6 (putative function)	Locus type: gene with protein product, function known or inferred/Aliases: NTPDase-6, HGNC:16241, dJ738P15.3/HUGO ID: 3368/UniProt ID: Q75354/
7306.1	7306	TYRP1	tyrosinase-related protein 1	HUGO ID: 12450/UniProt ID: P17643/
6548.1	6548	SLC9A1	solute carrier family 9 (sodium/hydrogen exchanger), isoform 1 (antiporter, Na+/H+, amiloride sensitive)	Locus type: gene with protein product, function known or inferred/HUGO ID: 11071/UniProt ID: P19634/MGD ID: MGI:102462/
6557.1	6557	SLC12A1	solute carrier family 12 (sodium/potassium/chloride transporters), member 1	Aliases: NKCC2/HUGO ID: 10910/UniProt ID: Q13621/
6561.1	6561	SLC13A1	solute carrier family 13 (sodium/sulfate symporters), member 1	Aliases: NaSi-1/HUGO ID: 10916/UniProt ID: Q9BZW2/
6513.1	6513	SLC2A1	solute carrier family 2 (facilitated glucose transporter), member 1	HUGO ID: 11005/UniProt ID: P11166/
51227.1	51227	DSCR5	Down syndrome critical region gene 5	Aliases: DCRC, DSRC/HUGO ID: 3046/UniProt ID: P57054/
6531.1	6531	SLC6A3	solute carrier family 6 (neurotransmitter transporter, dopamine), member 3	HUGO ID: 11049/UniProt ID: Q01959/
51604.1	51604	PIGT	phosphatidylinositol glycan, class T	Locus type: gene with protein product, function known or inferred/HUGO ID: 14938/UniProt ID: Q969N2/
117283.1	117283	IHPK3	inositol hexaphosphate kinase 3	Locus type: gene with protein product, function known or inferred/Aliases: INSP6K3, IP6K3/HUGO ID: 17269/UniProt ID: Q96PC2/
151531.1	151531	UPP2	uridine phosphorylase 2	Locus type: gene with protein product, function known or inferred/Aliases: UPASE2, UP2, UDRPASE2/HUGO ID: 23061/UniProt ID: Q95045/
10786.1	10786	SLC17A3	solute carrier family 17 (sodium phosphate), member 3	Aliases: NPT4/HUGO ID: 10931/UniProt ID: Q00476/
6583.1	6583	SLC22A4	solute carrier family 22 (organic cation transporter), member 4	Locus type: gene with protein product, function known or inferred/Aliases: OCTN1, MGC34546/HUGO ID: 10968/UniProt ID: O14546/
51447.1	51447	IHPK2	inositol hexaphosphate kinase 2	Aliases: IP6K2/HUGO ID: 17313/UniProt ID: Q9H4P7/
6526.1	6526	SLC5A3	solute carrier family 5 (inositol transporters), member 3	Aliases: SMIT/HUGO ID: 11038/UniProt ID: P53794/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
55349.1	55349	CHDH	choline dehydrogenase	Locus type: gene with protein product, function known or inferred/HUGO ID: 24288/MGD ID: MGI:1860776/
11136.1	11136	SLC7A9	solute carrier family 7 (cationic amino acid transporter, y+ system), member 9	HUGO ID: 11067/UniProt ID: P82251/
3992.1	3992	FADS1	fatty acid desaturase 1	Locus type: gene with protein product, function known or inferred/Aliases: D5D, FADSD5, TU12, FADS6/HUGO ID: 3574/UniProt ID: Q8NCC7/
7355.1	7355	SLC35A2	solute carrier family 35 (UDP-galactose transporter), member A2	Locus type: gene with protein product, function known or inferred/Aliases: UGAT, UGT, UGT1, UGT2, UGTL/HUGO ID: 11022/UniProt ID: P78381/
4524.1	4524	MTHFR	5,10-methylenetetrahydrofolate reductase (NADPH)	Locus type: gene with protein product, function known or inferred/HUGO ID: 7436/UniProt ID: P42898/
341947.1	341947	COX8C	cytochrome c oxidase subunit 8C	Locus type: gene with protein product, function known or inferred/Aliases: COX8-3/HUGO ID: 24382/MGD ID: MGI:1922733/
55586.1	55586	ALDR1L6	aldehyde reductase (aldose reductase) like 6	HUGO ID: 14522/UniProt ID: Q9UGB7/
8871.1	8871	SYNJ2	synaptojanin 2	Aliases: INPP5H/HUGO ID: 11504/UniProt ID: O15056/
1109.1	1109	AKR1C4	aldo-keto reductase family 1, member C4 (chlordecone reductase; 3-alpha hydroxysteroid dehydrogenase, type 1; dihydrodiol dehydrogenase 4)	Locus type: gene with protein product, function known or inferred/Aliases: DD4, HAKRA, C11, 3-alpha-HSD, CDR, MGC22581/HUGO ID: 387/UniProt ID: P17516/
3658.1	3658	IREB2	iron-responsive element binding protein 2	Locus type: gene with protein product, function known or inferred/Aliases: IRP2/HUGO ID: 6115/UniProt ID: P48200/
6565.1	6565	SLC15A2	solute carrier family 15 (H+/-peptide transporter), member 2	Locus type: gene with protein product, function known or inferred/Aliases: PEPT2/HUGO ID: 10921/UniProt ID: Q16348/
9498.1	9498	SLC4A8	solute carrier family 4, sodium bicarbonate cotransporter, member 8	Locus type: gene with protein product, function known or inferred/Aliases: NBC3/HUGO ID: 11034/UniProt ID: O94843/
549.1	549	AUH	AU RNA binding protein/enoyl-Coenzyme A hydratase	HUGO ID: 890/UniProt ID: Q13825/
6512.1	6512	SLC1A7	solute carrier family 1 (glutamate transporter), member 7	Aliases: EAAT5/HUGO ID: 10945/UniProt ID: O00341/MGD ID: MGI:2444087/
377677.1	377677	CA13	carbonic anhydrase XIII	Locus type: gene with protein product, function known or inferred/Aliases: CAXIII, FLJ37995, MGC59868/HUGO ID: 14914/
9468.1	9468	PCYT1B	phosphate cytidylyltransferase 1, choline, beta isoform	Locus type: gene with protein product, function known or inferred/Aliases: CCT-beta, CTB/HUGO ID: 8755/UniProt ID: Q9Y5K3/
8170.1	8170	SLC14A2	solute carrier family 14 (urea transporter), member 2	Aliases: HUT2, UT2/HUGO ID: 10919/UniProt ID: Q15849/
54576.1	54576	UGT1A8	UDP glycosyltransferase 1 family, polypeptide A8	Aliases: UGT1H/HUGO ID: 12540/UniProt ID: Q9HAW9/
6538.1	6538	SLC6A11	solute carrier family 6 (neurotransmitter transporter, GABA), member 11	Locus type: gene with protein product, function known or inferred/Aliases: GAT3/HUGO ID: 11044/UniProt ID: P48066/
376497.1	376497	SLC27A1	solute carrier family 27 (fatty acid transporter), member 1	Locus type: gene with protein product, function known or inferred/Aliases: FATP1, FATP, MGC71751, FLJ00336/HUGO ID: 10995/UniProt ID: Q96DY3/MGD ID: MGI:1347098/
6539.1	6539	SLC6A12	solute carrier family 6 (neurotransmitter transporter, betaine/GABA), member 12	Locus type: gene with protein product, function known or inferred/Aliases: BGT-1/HUGO ID: 11045/UniProt ID: P48065/
245973.1	245973	ATP6V1C2	ATPase, H+ transporting, lysosomal 42kDa, V1 subunit C isoform 2	Locus type: gene with protein product, function known or inferred/Aliases: VMA5, ATP6C2/HUGO ID: 18264/UniProt ID: Q8NEY4/
6543.1	6543	SLC8A2	solute carrier family 8 (sodium-calcium exchanger), member 2	Aliases: NCX2, KIAA1087/HUGO ID: 11069/UniProt ID: Q9UPR5/
50487.1	50487	PLA2G3	phospholipase A2, group III	Aliases: GIII-SPLA2/HUGO ID: 17934/UniProt ID: Q9NZ20/
57468.1	57468	SLC12A5	solute carrier family 12, (potassium-chloride transporter) member 5	Aliases: KIAA1176/HUGO ID: 13818/UniProt ID: Q9H2X9/
112724.1	112724	RDH13	retinol dehydrogenase 13 (all-trans and 9-cis)	Locus type: gene with protein product, function known or inferred/HUGO ID: 19978/UniProt ID: Q8NBN7/
2098.1	2098	ESD	esterase D/formylglutathione hydrolase	HUGO ID: 3465/UniProt ID: P10768/
64711.1	64711	HS3ST6	heparan sulfate (glucosamine) 3-O-sulfotransferase 6	HUGO ID: 14178/UniProt ID: Q96Q15/transcript: NM_001009606
84532.1	84532	ACAS2L	acetyl-Coenzyme A synthetase 2 (AMP forming)-like	Aliases: dJ568C11.3/HUGO ID: 16091/UniProt ID: Q9NUB1/
115286.1	115286	SLC25A26	solute carrier family 25, member 26	Locus type: gene with protein product, function known or inferred/HUGO ID: 20661/UniProt ID: Q96E68/
126792.1	126792	B3GALT6	UDP-Gal:betaGal beta 1,3-galactosyltransferase polypeptide 6	Aliases: beta3GalT6/HUGO ID: 17978/UniProt ID: Q96L58/
81579.1	81579	PLA2G12A	phospholipase A2, group XIIA	HUGO ID: 18554/UniProt ID: Q9BZM1/
79178.1	79178	THTPA	thiamine triphosphatase	Aliases: THTPASE/HUGO ID: 18987/UniProt ID: Q9BU02/
83697.1	83697	SLC4A9	solute carrier family 4, sodium bicarbonate cotransporter, member 9	Locus type: gene with protein product, function known or inferred/Aliases: AE4/HUGO ID: 11035/UniProt ID: Q96Q91/
28232.1	28232	SLCO3A1	solute carrier organic anion transporter family, member 3A1	Locus type: gene with protein product, function known or inferred/Aliases: OATP-D, OATP3A1/HUGO ID: 10952/UniProt ID: Q9UIG8/
196883.1	196883	ADCY4	adenylate cyclase 4	HUGO ID: 235/UniProt ID: Q8NFM4/
93010.1	93010	B3GNT7	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 7	HUGO ID: 18811/UniProt ID: Q8NFL0/
8647.1	8647	ABC11	ATP-binding cassette, sub-family B (MDR/TAP), member 1	Aliases: ABC16, SPGP, PFIC-2, PFIC2, PGY4/HUGO ID: 42/UniProt ID: Q95342/
54407.1	54407	SLC38A2	solute carrier family 38, member 2	Aliases: SAT2, ATA2, KIAA1382/HUGO ID: 13448/UniProt ID: Q96QD8/
6570.1	6570	SLC18A1	solute carrier family 18 (vesicular monoamine), member 1	Aliases: CGAT/HUGO ID: 10934/UniProt ID: P54219/
2352.1	2352	FOLR3	folate receptor 3 (gamma)	Aliases: FR-G/HUGO ID: 3795/UniProt ID: P41439/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
64131.1	64131	XYLT1	xylosyltransferase 1	Aliases: XT-1/HUGO ID: 15516/UniProt ID: Q86Y38/
64600.1	64600	PLA2G2F	phospholipase A2, group IIF	Locus type: gene with protein product, function known or inferred/HUGO ID: 30040/UniProt ID: Q9BZM2/
8574.1	8574	AKR7A2	aldo-keto reductase family 7, member A2 (aflatoxin aldehyde reductase)	Aliases: AFAR/HUGO ID: 389/UniProt ID: O43488/
51022.1	51022	GLRX2	glutaredoxin 2	Aliases: GRX2/HUGO ID: 16065/UniProt ID: Q96JCO/
81031.1	81031	SLC2A10	solute carrier family 2 (facilitated glucose transporter), member 10	Aliases: GLUT10/HUGO ID: 13444/UniProt ID: O95528/
51181.1	51181	DCXR	dicarbonyl/L-xylulose reductase	Aliases: KIDCR, DCR/HUGO ID: 18985/MGD ID: MGI:1915130/
55821.1	55821	ALLC	allantoicase	Aliases: ALC/HUGO ID: 17377/UniProt ID: Q8N6M5/MGD ID: MGI:2136971/
9023.1	9023	CH25H	cholesterol 25-hydroxylase	Locus type: gene with protein product, function known or inferred/HUGO ID: 1907/UniProt ID: O95992/
79646.1	79646	PANK3	pantothenate kinase 3	Aliases: FLJ12899/HUGO ID: 19365/UniProt ID: Q9H999/
23315.1	23315	SLC9A8	solute carrier family 9 (sodium/hydrogen exchanger), isoform 8	Locus type: gene with protein product, function known or inferred/Aliases: KIAA0939, NHE8/HUGO ID: 20728/UniProt ID: Q9Y2E8/
9954.1	9954	HS3ST3A2	heparan sulfate (glucosamine) 3-O-sulfotransferase 3A2	Aliases: 3OST3A2/HUGO ID: 5197/
1757.1	1757	SARDH	sarcosine dehydrogenase	Aliases: SDH/HUGO ID: 10536/UniProt ID: Q9UL12/
79837.1	79837	PIP5K2C	phosphatidylinositol-4-phosphate 5-kinase, type II, gamma	Locus type: gene with protein product, function known or inferred/Aliases: FLJ22055/HUGO ID: 23786/UniProt ID: Q8TBX8/
26275.1	26275	HIBCH	3-hydroxyisobutyryl-Coenzyme A hydrolase	HUGO ID: 4908/UniProt ID: Q92931/
9123.1	9123	SLC16A3	solute carrier family 16 (monocarboxylic acid transporters), member 3	Locus type: gene with protein product, function known or inferred/Aliases: MCT3/HUGO ID: 10924/UniProt ID: O15427/
6517.1	6517	SLC2A4	solute carrier family 2 (facilitated glucose transporter), member 4	HUGO ID: 11009/UniProt ID: P14672/
6530.1	6530	SLC6A2	solute carrier family 6 (neurotransmitter transporter, noradrenalin), member 2	HUGO ID: 11048/UniProt ID: P23975/
6547.1	6547	SLC8A3	solute carrier family 8 (sodium-calcium exchanger), member 3	Aliases: NCX3/HUGO ID: 11070/UniProt ID: P57103/
53343.1	53343	NUDT9	nudix (nucleoside diphosphate linked moiety X)-type motif 9	Aliases: MGC3037/HUGO ID: 8056/UniProt ID: Q9BW91/
5151.1	5151	PDE8A	phosphodiesterase 8A	Locus type: gene with protein product, function known or inferred/Aliases: HST19550/HUGO ID: 8793/UniProt ID: O60658/
79369.1	79369	B3GNT4	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 4	Aliases: B3GN-T4, beta3Gn-T4/HUGO ID: 15683/UniProt ID: Q8ND21/
10599.1	10599	SLCO1B1	solute carrier organic anion transporter family, member 1B1	Locus type: gene with protein product, function known or inferred/Aliases: OATP-C, LST-1, OATP1B1/HUGO ID: 10959/UniProt ID: Q9Y6L6/
26266.1	26266	SLC13A4	solute carrier family 13 (sodium/sulfate symporters), member 4	Aliases: SUT-1/HUGO ID: 15827/UniProt ID: Q9UKG4/
166785.1	166785	MMAA	methylmalonic aciduria (cobalamin deficiency) type A	Locus type: gene with protein product, function known or inferred/HUGO ID: 18871/UniProt ID: Q8IVH4/
54187.1	54187	NANS	N-acetylneuraminic acid synthase (sialic acid synthase)	Locus type: gene with protein product, function known or inferred/Aliases: SAS/HUGO ID: 19237/UniProt ID: Q9NR45/
493.1	493	ATP2B4	ATPase, Ca <sup>++</sup> transporting, plasma membrane 4	Aliases: PMCA4/HUGO ID: 817/UniProt ID: P23634/
954.1	954	ENTPD2	ectonucleoside triphosphate diphosphohydrolase 2	Aliases: NTPDase-2/HUGO ID: 3364/UniProt ID: Q9Y5L3/
55089.1	55089	SLC38A4	solute carrier family 38, member 4	Aliases: PAAT, NAT3, ATA3/HUGO ID: 14679/UniProt ID: Q96916/
135152.1	135152	B3GAT2	beta-1,3-glucuronyltransferase 2 (glucuronosyltransferase S)	Locus type: gene with protein product, function known or inferred/Aliases: GlcAT-S/HUGO ID: 922/UniProt ID: Q9NPZ5/
6582.1	6582	SLC22A2	solute carrier family 22 (organic cation transporter), member 2	Aliases: 38262/HUGO ID: 10966/UniProt ID: O15244/
81539.1	81539	SLC38A1	solute carrier family 38, member 1	Aliases: ATA1, NAT2, SAT1/HUGO ID: 13447/UniProt ID: Q9H2Q2/
9951.1	9951	HS3ST4	heparan sulfate (glucosamine) 3-O-sulfotransferase 4	Locus type: gene with protein product, function known or inferred/Aliases: 3OST4/HUGO ID: 5200/UniProt ID: Q8NDC2/
117247.1	117247	SLC16A10	solute carrier family 16 (monocarboxylic acid transporters), member 10	Aliases: TAT1/HUGO ID: 17027/UniProt ID: Q8TF71/
23169.1	23169	SLC35D1	solute carrier family 35 (UDP-glucuronic acid/UDP-N-acetylgalactosamine dual transporter), member D1	Locus type: gene with protein product, function known or inferred/Aliases: UGTREL7, KIAA0260/HUGO ID: 20800/UniProt ID: Q9NTN3/
6534.1	6534	SLC6A7	solute carrier family 6 (neurotransmitter transporter, L-proline), member 7	Aliases: PROT/HUGO ID: 11054/UniProt ID: Q99884/
8908.1	8908	GYG2	glycogenin 2	Locus type: gene with protein product, function unknown/Aliases: GN-2/HUGO ID: 4700/UniProt ID: O15488/
6573.1	6573	SLC19A1	solute carrier family 19 (folate transporter), member 1	Aliases: FOLT/HUGO ID: 10937/UniProt ID: P41440/
2713.1	2713	GKP3	glycerol kinase pseudogene 3	Locus type: pseudogene/HUGO ID: 4292/UniProt ID: Q14409/
9942.1	9942	XYLB	xylulokinase homolog (H. influenzae)	Locus type: gene with protein product, function known or inferred/Aliases: FLJ10343, FLJ22075, FLJ12539/HUGO ID: 12839/UniProt ID: O75191/
200010.1	200010	SLC5A9	solute carrier family 5 (sodium/glucose cotransporter), member 9	Locus type: gene with protein product, function known or inferred/Aliases: SGLT4/HUGO ID: 22146/
84679.1	84679	SLC9A7	solute carrier family 9 (sodium/hydrogen exchanger), isoform 7	Aliases: NHE7/HUGO ID: 17123/UniProt ID: Q96T83/
55326.1	55326	AGPAT5	1-acylglycerol-3-phosphate O-acyltransferase 5 (lysophosphatidic acid acyltransferase, epsilon)	Locus type: gene with protein product, function known or inferred/Aliases: FLJ11210, LPAAT-e/HUGO ID: 20886/MGD ID: MGI:1196345/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
125206.1	125206	SLC5A10	solute carrier family 5 (sodium/glucose cotransporter), member 10	Locus type: gene with protein product, function known or inferred/Aliases: SGLT5/HUGO ID: 23155/
130013.1	130013	ACMSD	aminocarboxymuconate semialdehyde decarboxylase	HUGO ID: 19288/UniProt ID: Q8TDX5/
389015.1	389015	SLC9A4	solute carrier family 9 (sodium/hydrogen exchanger), isoform 4	Locus type: gene with protein product, function known or inferred/Aliases: NHE4/HUGO ID: 11077/transcript: NM_001011552
58508.1	58508	MLL3	myeloid/lymphoid or mixed-lineage leukemia 3	Aliases: KIAA1506, HALR/HUGO ID: 13726/UniProt ID: Q8NEZ4/
4507.1	4507	MTAP	methylthioadenosine phosphorylase	Locus type: gene with protein product, function known or inferred/Aliases: MSAP, c86fus/HUGO ID: 7413/UniProt ID: Q13126/
64850.1	64850	AGXT2L1	alanine-glyoxylate aminotransferase 2-like 1	HUGO ID: 14404/UniProt ID: Q8TBG4/
84693.1	84693	MCEE	methylmalonyl CoA epimerase	HUGO ID: 16732/UniProt ID: Q8WW63/
115019.1	115019	SLC26A9	solute carrier family 26, member 9	HUGO ID: 14469/UniProt ID: Q96PK9/
81490.1	81490	PTDSS2	phosphatidylserine synthase 2	Aliases: PSS2/HUGO ID: 15463/UniProt ID: Q9BVG9/
4844.1	4844	NOS2B	nitric oxide synthase 2B	Locus type: gene with protein product, function known or inferred/HUGO ID: 7874/UniProt ID: P81272/
6649.1	6649	SOD3	superoxide dismutase 3, extracellular	HUGO ID: 11181/UniProt ID: P08294/
11046.1	11046	SLC35D2	solute carrier family 35, member D2	Locus type: gene with protein product, function unknown/Aliases: UGTrel8, SQV7L/HUGO ID: 20799/UniProt ID: O95454/
23396.1	23396	PIP5K1C	phosphatidylinositol-4-phosphate 5-kinase, type I, gamma	Aliases: PIP5Kgamma, KIAA0589 gene/HUGO ID: 8996/UniProt ID: O60331/
6508.1	6508	SLC4A3	solute carrier family 4, anion exchanger, member 3	Aliases: AE3, SLC2C/HUGO ID: 11029/UniProt ID: P48751/
347734.1	347734	SLC35B2	solute carrier family 35, member B2	Locus type: gene with protein product, function known or inferred/Aliases: UGTrel4/HUGO ID: 16872/UniProt ID: Q8TB61/
112483.1	112483	SAT2	spermidine/spermine N1-acetyltransferase 2	Locus type: gene with protein product, function known or inferred/Aliases: SSAT2/HUGO ID: 23160/UniProt ID: Q96F10/
256435.1	256435	SIAT7C	sialyltransferase 7 ((alpha-N-acetylneuraminyl-2,3-beta-galactosyl-1,3)-N-acetyl galactosaminide alpha-2,6-sialyltransferase) C	Locus type: gene with protein product, function known or inferred/Aliases: ST6GALNAC III/HUGO ID: 19343/UniProt ID: Q8N259/
116255.1	116255	MOGAT1	monoacylglycerol O-acyltransferase 1	Locus type: gene with protein product, function known or inferred/Aliases: DGAT2L, MGAT1/HUGO ID: 18210/UniProt ID: Q96PD6/ MGI:1915643/
6521.1	6521	SLC4A1	solute carrier family 4, anion exchanger, member 1 (erythrocyte membrane protein band 3, Diego blood group)	Locus type: gene with protein product, function known or inferred/Aliases: RTA1A, HGNC:12753, CD233/HUGO ID: 11027/UniProt ID: P02730/
6560.1	6560	SLC12A4	solute carrier family 12 (potassium/chloride transporters), member 4	Locus type: gene with protein product, function known or inferred/Aliases: KCC1/HUGO ID: 10913/UniProt ID: Q9UP95/
9415.1	9415	FADS2	fatty acid desaturase 2	Aliases: FADSD6, D6D, TU13, DES6, SL10262/HUGO ID: 3575/UniProt ID: O95864/
64841.1	64841	GNPNAT1	glucosamine-phosphate N-acetyltransferase 1	Locus type: gene with protein product, function known or inferred/Aliases: Gpnat1, FLJ10607/HUGO ID: 19980/UniProt ID: Q96EK6/
55902.1	55902	ACAS2	acetyl-Coenzyme A synthetase 2 (ADP forming)	Aliases: LOC55902, ACS, dJ1161H23.1/HUGO ID: 15814/UniProt ID: Q9NR19/
2530.2	2530	FUT8	fucosyltransferase 8 (alpha (1,6) fucosyltransferase)	HUGO ID: 4019/UniProt ID: Q9BYC5/
440.3	440	ASNS	asparagine synthetase	Locus type: gene with protein product, function known or inferred/HUGO ID: 753/UniProt ID: P08243/
5332.2	5332	PLCB4	phospholipase C, beta 4	HUGO ID: 9059/UniProt ID: Q15147/
5831.2	5831	PYCR1	pyroline-5-carboxylate reductase 1	Aliases: P5C/HUGO ID: 9721/UniProt ID: P32322/
5152.15	5152	PDE9A	phosphodiesterase 9A	HUGO ID: 8795/UniProt ID: O76083/
6547.5	6547	SLC8A3	solute carrier family 8 (sodium-calcium exchanger), member 3	Aliases: NCX3/HUGO ID: 11070/UniProt ID: P57103/
1716.3	1716	DGUOK	deoxyguanosine kinase	Aliases: dGK/HUGO ID: 2858/UniProt ID: Q16854/
3098.4	3098	HK1	hexokinase 1	Locus type: gene with protein product, function known or inferred/HUGO ID: 4922/UniProt ID: P19367/
11282.2	11282	MGAT4B	mannosyl (alpha-1,3-)-glycoprotein beta-1,4-N-acetylglucosaminyltransferase, isoenzyme B	Locus type: gene with protein product, function known or inferred/Aliases: GnT-IVb/HUGO ID: 7048/UniProt ID: Q9UQ53/
5152.5	5152	PDE9A	phosphodiesterase 9A	HUGO ID: 8795/UniProt ID: O76083/
7296.4	7296	TXNRD1	thioredoxin reductase 1	Locus type: gene with protein product, function known or inferred/Aliases: TXNR/HUGO ID: 12437/UniProt ID: Q16881/
10861.3	10861	SLC26A1	solute carrier family 26 (sulfate transporter), member 1	Locus type: gene with protein product, function known or inferred/Aliases: SAT-1, EDM4/HUGO ID: 10993/UniProt ID: Q9H2B4/
2944.2	2944	GSTM1	glutathione S-transferase M1	Locus type: gene with protein product, function known or inferred/Aliases: MU, H-B, GST1/HUGO ID: 4632/UniProt ID: P09488/
115019.2	115019	SLC26A9	solute carrier family 26, member 9	HUGO ID: 14469/UniProt ID: Q96PK9/
2592.3	2592	GALT	galactose-1-phosphate uridylyltransferase	HUGO ID: 4135/UniProt ID: P07902/
7173.2	7173	TPO	thyroid peroxidase	HUGO ID: 12015/UniProt ID: P07202/
10317.3	10317	B3GALT5	UDP-Gal:betaGlcNAc beta 1,3-galactosyltransferase, polypeptide 5	Aliases: beta3Gal-T5/HUGO ID: 920/UniProt ID: Q9Y2C3/
374907.2	374907	B3GALT7	UDP-Gal:betaGal beta 1,3-galactosyltransferase polypeptide 7	Locus type: gene with protein product, function known or inferred/Aliases: BGALT15/HUGO ID: 24139/
204.3	204	AK2	adenylate kinase 2	Locus type: gene with protein product, function known or inferred/HUGO ID: 362/UniProt ID: P54819/
122622.2	122622	ADSSL1	adenylosuccinate synthase like 1	Locus type: gene with protein product, function unknown/Aliases: FLJ38602/HUGO ID: 20093/UniProt ID: Q8N714/
6487.10	6487	SIAT6	sialyltransferase 6 (N-acetylglucosaminide alpha 2,3-sialyltransferase)	Locus type: gene with protein product, function known or inferred/Aliases: ST3Gal III/HUGO ID: 10866/UniProt ID: Q11203/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
622.3	622	BDH1	3-hydroxybutyrate dehydrogenase (heart, mitochondrial)	HUGO ID: 1027/UniProt ID: Q02338/
6487.2	6487	SIAT6	sialyltransferase 6 (N-acetylglucosaminide alpha 2,3-sialyltransferase)	Locus type: gene with protein product, function known or inferred/Aliases: ST3Gal III/HUGO ID: 10866/UniProt ID: Q11203/
9551.2	9551	ATP5J2	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit f, isoform 2	Aliases: F1Fo-ATPase/HUGO ID: 848/UniProt ID: P56134/
7001.2	7001	PRDX2	peroxiredoxin 2	Aliases: PRP, NKEFB/HUGO ID: 9353/UniProt ID: P32119/
4952.2	4952	OCRL	oculocerebrorenal syndrome of Lowe	HUGO ID: 8108/UniProt ID: Q01968/
84720.2	84720	PIGO	phosphatidylinositol glycan, class O	Locus type: gene with protein product, function known or inferred/Aliases: DKFZp434M222, FLJ00135/HUGO ID: 23215/UniProt ID: Q8TEQ8/
80142.3	80142	PTGES2	prostaglandin E synthase 2	Aliases: FLJ14038/HUGO ID: 17822/UniProt ID: Q9H7Z7/
10423.2	10423	CDIPT	CDP-diacylglycerol--inositol 3-phosphatidyltransferase (phosphatidylinositol synthase)	Locus type: gene with protein product, function known or inferred/Aliases: PIS1, PIS/HUGO ID: 1769/UniProt ID: O14735/
5224.2	5224	PGAM2	phosphoglycerate mutase 2 (muscle)	HUGO ID: 8889/UniProt ID: P15259/
3948.2	3948	LDHC	lactate dehydrogenase C	HUGO ID: 6544/UniProt ID: P07864/
6547.4	6547	SLC8A3	solute carrier family 8 (sodium-calcium exchanger), member 3	Aliases: NCX3/HUGO ID: 11070/UniProt ID: P57103/
5211.2	5211	PFKL	phosphofructokinase, liver	HUGO ID: 8876/UniProt ID: P17858/
5250.2	5250	SLC25A3	solute carrier family 25 (mitochondrial carrier; phosphate carrier), member 3	Locus type: gene with protein product, function known or inferred/HUGO ID: 10989/UniProt ID: Q00325/
226.2	226	ALDOA	aldolase A, fructose-bisphosphate	HUGO ID: 414/UniProt ID: P04075/
5152.16	5152	PDE9A	phosphodiesterase 9A	HUGO ID: 8795/UniProt ID: O76083/
2027.2	2027	ENO3	enolase 3 (beta, muscle)	HUGO ID: 3354/UniProt ID: P13929/
8659.2	8659	ALDH4A1	aldehyde dehydrogenase 4 family, member A1	Aliases: P5CDh/HUGO ID: 406/UniProt ID: P30038/
53343.2	53343	NUDT9	nudix (nucleoside diphosphate linked moiety X)-type motif 9	Aliases: MGC3037/HUGO ID: 8056/UniProt ID: Q9BW91/
58508.2	58508	MLL3	myeloid/lymphoid or mixed-lineage leukemia 3	Aliases: KIAA1506, HALR/HUGO ID: 13726/UniProt ID: Q8NEZ4/
127124.2	127124	ATP6V1G3	ATPase, H+ transporting, lysosomal 13kDa, V1 subunit G isoform 3	Locus type: gene with protein product, function known or inferred/Aliases: ATP6G3, Vma10/HUGO ID: 18265/UniProt ID: Q96L4/MGD ID: MGI:2450548/
669.2	669	BPGM	2,3-bisphosphoglycerate mutase	Locus type: gene with protein product, function known or inferred/HUGO ID: 1093/UniProt ID: P07738/
1716.4	1716	DGUOK	deoxyguanosine kinase	Aliases: dGK/HUGO ID: 2858/UniProt ID: Q16854/
2629.5	2629	GBA	glucosidase, beta; acid (includes glucosylceramidase)	Aliases: GLUC, GBA1/HUGO ID: 4177/UniProt ID: P04062/
47.2	47	ACLY	ATP citrate lyase	HUGO ID: 115/UniProt ID: P53396/
51703.3	51703	ACSL5	acyl-CoA synthetase long-chain family member 5	Locus type: gene with protein product, function known or inferred/Aliases: ACS5, ACS2/HUGO ID: 16526/UniProt ID: Q9ULC5/MGD ID: MGI:1919129/
3098.3	3098	HK1	hexokinase 1	Locus type: gene with protein product, function known or inferred/HUGO ID: 4922/UniProt ID: P19367/
1491.2	1491	CTH	cystathionase (cystathionine gamma-lyase)	Locus type: gene with protein product, function known or inferred/HUGO ID: 2501/UniProt ID: P32929/
5313.2	5313	PKLR	pyruvate kinase, liver and RBC	Locus type: gene with protein product, function known or inferred/HUGO ID: 9020/UniProt ID: P30613/
5152.2	5152	PDE9A	phosphodiesterase 9A	HUGO ID: 8795/UniProt ID: O76083/
132.2	132	ADK	adenosine kinase	Locus type: gene with protein product, function known or inferred/Aliases: AK/HUGO ID: 257/UniProt ID: P55263/
93034.2	93034	NT5C1B	5'-nucleotidase, cytosolic IB	Aliases: AIRP, CN-IB/HUGO ID: 17818/UniProt ID: Q96P26/
7173.5	7173	TPO	thyroid peroxidase	HUGO ID: 12015/UniProt ID: P07202/
4882.2	4882	NPR2	natriuretic peptide receptor B/guanylate cyclase B (atriuretic peptide receptor B)	Aliases: GUC2B/HUGO ID: 7944/UniProt ID: P20594/
8398.2	8398	PLA2G6	phospholipase A2, group VI (cytosolic, calcium-independent)	Aliases: iPLA2/HUGO ID: 9039/UniProt ID: O60733/
7054.3	7054	TH	tyrosine hydroxylase	HUGO ID: 11782/UniProt ID: P07101/
2592.2	2592	GALT	galactose-1-phosphate uridylyltransferase	HUGO ID: 4135/UniProt ID: P07902/
518.3	518	ATP5G3	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit c (subunit 9) isoform 3	HUGO ID: 843/UniProt ID: P48201/Variant 3: This variant (3) differs in the 5' UTR, compared to variant 1. Transcript variants 1, 2 and 3 encode the same protein.
8525.2	8525	DGKZ	diacylglycerol kinase, zeta 104kDa	Aliases: DAGK5, hDGKzeta/HUGO ID: 2857/UniProt ID: Q13574/
56606.2	56606	SLC2A9	solute carrier family 2 (facilitated glucose transporter), member 9	Aliases: Glut9, GLUTX/HUGO ID: 13446/UniProt ID: Q9NRM0/
8527.2	8527	DGKD	diacylglycerol kinase, delta 130kDa	Aliases: KIAA0145, DGKdelta/HUGO ID: 2851/UniProt ID: Q16760/
6487.11	6487	SIAT6	sialyltransferase 6 (N-acetylglucosaminide alpha 2,3-sialyltransferase)	Locus type: gene with protein product, function known or inferred/Aliases: ST3Gal III/HUGO ID: 10866/UniProt ID: Q11203/
5277.2	5277	PIGA	phosphatidylinositol glycan, class A (paroxysmal nocturnal hemoglobinuria)	Aliases: GPI3/HUGO ID: 8957/UniProt ID: P37287/
6480.2	6480	SIAT1	sialyltransferase 1 (beta-galactoside alpha-2,6-sialyltransferase)	Aliases: CD75, ST6Gal I/HUGO ID: 10860/UniProt ID: P15907/
204.2	204	AK2	adenylate kinase 2	Locus type: gene with protein product, function known or inferred/HUGO ID: 362/UniProt ID: P54819/
51227.2	51227	DSCR5	Down syndrome critical region gene 5	Aliases: DCRC, DSRC/HUGO ID: 3046/UniProt ID: P57054/
5151.2	5151	PDE8A	phosphodiesterase 8A	Locus type: gene with protein product, function known or inferred/Aliases: HsT19550/HUGO ID: 8793/UniProt ID: O60658/
3614.2	3614	IMPDH1	IMP (inosine monophosphate) dehydrogenase 1	Aliases: sWSS2608/HUGO ID: 6052/UniProt ID: P20839/



Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
7001.3	7001	PRDX2	peroxiredoxin 2	Aliases: PRP, NKEFB/HUGO ID: 9353/UniProt ID: P32119/
276.2	276	AMY1A	amylase, alpha 1A; salivary	HUGO ID: 474/UniProt ID: P04745/
5152.17	5152	PDE9A	phosphodiesterase 9A	HUGO ID: 8795/UniProt ID: O76083/
5052.3	5052	PRDX1	peroxiredoxin 1	Locus type: gene with protein product, function known or inferred/Aliases: NKEFA/HUGO ID: 9352/UniProt ID: Q06830/
6487.9	6487	SIAT6	sialyltransferase 6 (N-acetylglucosaminide alpha 2,3-sialyltransferase)	Locus type: gene with protein product, function known or inferred/Aliases: ST3Gal III/HUGO ID: 10866/UniProt ID: Q11203/
80142.2	80142	PTGES2	prostaglandin E synthase 2	Aliases: FLJ14038/HUGO ID: 17822/UniProt ID: Q9H7Z7/
2678.3	2678	GGT1	gamma-glutamyltransferase 1	Aliases: D22S672, D22S732, CD224/HUGO ID: 4250/UniProt ID: P19440/
9551.3	9551	ATP5J2	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit f, isoform 2	Aliases: F1Fo-ATPase/HUGO ID: 848/UniProt ID: P56134/
53343.3	53343	NUDT9	nudix (nucleoside diphosphate linked moiety X)-type motif 9	Aliases: MGC3037/HUGO ID: 8056/UniProt ID: Q9BW91/
8706.4	8706	B3GALT3	UDP-Gal:betaGlcNAc beta 1,3-galactosyltransferase, polypeptide 3	Locus type: gene with protein product, function known or inferred/Aliases: beta3Gal-T3, galT3, P1/HUGO ID: 918/UniProt ID: O75752/
515.2	515	ATP5F1	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit b, isoform 1	HUGO ID: 840/UniProt ID: P24539/
226.3	226	ALDOA	aldolase A, fructose-bisphosphate	HUGO ID: 414/UniProt ID: P04075/
5140.2	5140	PDE3B	phosphodiesterase 3B, cGMP-inhibited	HUGO ID: 8779/UniProt ID: Q13370/
1716.5	1716	DGUOK	deoxyguanosine kinase	Aliases: dGK/HUGO ID: 2858/UniProt ID: Q16854/
43.2	43	ACHE	acetylcholinesterase (YT blood group)	Locus type: gene with protein product, function known or inferred/HUGO ID: 108/UniProt ID: P22303/
8818.2	8818	DPM2	dolichyl-phosphate mannosyltransferase polypeptide 2, regulatory subunit	Locus type: gene with protein product, function known or inferred/HUGO ID: 3006/UniProt ID: O94777/
2530.4	2530	FUT8	fucosyltransferase 8 (alpha (1,6) fucosyltransferase)	HUGO ID: 4019/UniProt ID: Q9BYC5/
5092.2	5092	PCBD	6-pyruvoyl-tetrahydropterin synthase/dimerization cofactor of hepatocyte nuclear factor 1 alpha (TCF1)	Locus type: gene with protein product, function known or inferred/Aliases: PCD/HUGO ID: 8646/UniProt ID: P80095/
5315.2	5315	PKM2	pyruvate kinase, muscle	Aliases: THBP1, OIP3/HUGO ID: 9021/UniProt ID: P14618/
53354.2	53354	PANK1	pantothenate kinase 1	Locus type: gene with protein product, function known or inferred/Aliases: MGC24596, PANK1a, PANK1b/HUGO ID: 8598/UniProt ID: Q8TE04/
3420.2	3420	IDH3B	isocitrate dehydrogenase 3 (NAD+) beta	HUGO ID: 5385/UniProt ID: O43837/
1558.2	1558	CYP2C8	cytochrome P450, family 2, subfamily C, polypeptide 8	Locus type: gene with protein product, function known or inferred/Aliases: CPC8/HUGO ID: 2622/UniProt ID: P10632/
51703.2	51703	ACSL5	acyl-CoA synthetase long-chain family member 5	Locus type: gene with protein product, function known or inferred/Aliases: ACS5, ACS2/HUGO ID: 16526/UniProt ID: Q9ULC5/MGD ID: MGI:1919129/
4731.2	4731	NDUFV3	NADH dehydrogenase (ubiquinone) flavoprotein 3, 10kDa	HUGO ID: 7719/UniProt ID: P56181/
284273.2	284273	ZADH2	zinc binding alcohol dehydrogenase, domain containing 2	Locus type: gene with protein product, function unknown/Aliases: MGC45594/HUGO ID: 28697/MGD ID: MGI:2444835/
498.3	498	ATP5A1	ATP synthase, H+ transporting, mitochondrial F1 complex, alpha subunit, isoform 1, cardiac muscle	Locus type: gene with protein product, function known or inferred/Aliases: ATP5A, hATP1, ATPM, OMR, ORM, HGNC:826/HUGO ID: 823/UniProt ID: P25705/
51.2	51	ACOX1	acyl-Coenzyme A oxidase 1, palmitoyl	Aliases: PALMCOX/HUGO ID: 119/UniProt ID: Q15067/
84264.2	84264	HAGHL	hydroxyacylglutathione hydrolase-like	Locus type: gene with protein product, function known or inferred/Aliases: MGC2605/HUGO ID: 14177/UniProt ID: Q9BT45/
29922.2	29922	NME7	non-metastatic cells 7, protein expressed in (nucleoside-diphosphate kinase)	Locus type: gene with protein product, function known or inferred/HUGO ID: 20461/UniProt ID: Q9Y5B8/MGD ID: MGI:2449121/
3704.2	3704	ITPA	inosine triphosphatase (nucleoside triphosphate pyrophosphatase)	Aliases: HGNC:15883, HLC14-06-P, dJ794I6.3/HUGO ID: 6176/UniProt ID: Q9BY32/
7173.4	7173	TPO	thyroid peroxidase	HUGO ID: 12015/UniProt ID: P07202/
178.6	178	AGL	amylase-1, 6-glucosidase, 4-alpha-glucanotransferase (glycogen debranching enzyme, glycogen storage disease type III)	Locus type: gene with protein product, function known or inferred/HUGO ID: 321/UniProt ID: P35573/MGD ID: MGI:1924809/
518.2	518	ATP5G3	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit c (subunit 9) isoform 3	HUGO ID: 843/UniProt ID: P48201/Variant 2: This variant differs in the 5' UTR, compared to variant 1. Transcript variants 1, 2 and 3 encode the same protein.
51004.2	51004	COQ6	coenzyme Q6 homolog (yeast)	Locus type: gene with protein product, function unknown/Aliases: CGI-10/HUGO ID: 20233/UniProt ID: Q9Y2Z9/
7054.2	7054	TH	tyrosine hydroxylase	HUGO ID: 11782/UniProt ID: P07101/
51227.3	51227	DSCR5	Down syndrome critical region gene 5	Aliases: DCRC, DSRC/HUGO ID: 3046/UniProt ID: P57054/
52.2	52	ACP1	acid phosphatase 1, soluble	HUGO ID: 122/UniProt ID: P24666/
10195.4	10195	ALG3	asparagine-linked glycosylation 3 homolog (yeast, alpha-1,3-mannosyltransferase)	Locus type: gene with protein product, function known or inferred/Aliases: NOT56L, Not56, CDGS4, D16Erd36e/HUGO ID: 23056/UniProt ID: Q92685/MGD ID: MGI:1098592/
5152.18	5152	PDE9A	phosphodiesterase 9A	HUGO ID: 8795/UniProt ID: O76083/
6120.2	6120	RPE	ribulose-5-phosphate-3-epimerase	HUGO ID: 10293/UniProt ID: Q96AT9/
528.2	528	ATP6V1C1	ATPase, H+ transporting, lysosomal 42kDa, V1 subunit C, isoform 1	Aliases: ATP6D, VATC, Vma5/HUGO ID: 856/UniProt ID: P21283/
517.2	517	ATP5G2	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit c (subunit 9), isoform 2	HUGO ID: 842/UniProt ID: Q06055/Variant 2: This variant differs in the 5' UTR and the 5' coding region, and uses a downstream start codon, compared to variant 1. The resulting isoform (2b) has a shorter N-terminus when compared to isoform 2a.
5152.6	5152	PDE9A	phosphodiesterase 9A	HUGO ID: 8795/UniProt ID: O76083/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
10768.2	10768	AHCYL1	S-adenosylhomocysteine hydrolase-like 1	Aliases: XPVKONA/HUGO ID: 344/UniProt ID: O43865/
90161.2	90161	HS6ST2	heparan sulfate 6-O-sulfotransferase 2	Locus type: gene with protein product, function known or inferred/HUGO ID: 19133/UniProt ID: Q96MM7/
6547.3	6547	SLC8A3	solute carrier family 8 (sodium-calcium exchanger), member 3	Aliases: NCX3/HUGO ID: 11070/UniProt ID: P57103/
51447.3	51447	IHPK2	inositol hexaphosphate kinase 2	Aliases: IP6K2/HUGO ID: 17313/UniProt ID: Q9H4P7/
6487.4	6487	SIAT6	sialyltransferase 6 (N-acetylglucosaminide alpha 2,3-sialyltransferase)	Locus type: gene with protein product, function known or inferred/Aliases: ST3Gal III/HUGO ID: 10866/UniProt ID: Q11203/
515.3	515	ATP5F1	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit b, isoform 1	HUGO ID: 840/UniProt ID: P24539/
3098.5	3098	HK1	hexokinase 1	Locus type: gene with protein product, function known or inferred/HUGO ID: 4922/UniProt ID: P19367/
3157.2	3157	HMGCS1	3-hydroxy-3-methylglutaryl-Coenzyme A synthase 1 (soluble)	HUGO ID: 5007/UniProt ID: Q01581/
2948.2	2948	GSTM4	glutathione S-transferase M4	Locus type: gene with protein product, function known or inferred/HUGO ID: 4636/UniProt ID: Q03013/
55821.2	55821	ALLC	allantoicase	Aliases: ALC/HUGO ID: 17377/UniProt ID: Q8N6M5/MGD ID: MGI:2136971/
2530.3	2530	FUT8	fucosyltransferase 8 (alpha (1,6) fucosyltransferase)	HUGO ID: 4019/UniProt ID: Q9BYC5/
5052.2	5052	PRDX1	peroxiredoxin 1	Locus type: gene with protein product, function known or inferred/Aliases: NKEFA/HUGO ID: 9352/UniProt ID: Q06830/
498.2	498	ATP5A1	ATP synthase, H+ transporting, mitochondrial F1 complex, alpha subunit, isoform 1, cardiac muscle	Locus type: gene with protein product, function known or inferred/Aliases: ATP5A, hATP1, ATPM, OMR, ORM, HGNC:826/HUGO ID: 823/UniProt ID: P25705/
5315.3	5315	PKM2	pyruvate kinase, muscle	Aliases: THBP1, OIP3/HUGO ID: 9021/UniProt ID: P14618/
2629.3	2629	GBA	glucosidase, beta; acid (includes glucosylceramidase)	Aliases: GLUC, GBA1/HUGO ID: 4177/UniProt ID: P04062/
5152.10	5152	PDE9A	phosphodiesterase 9A	HUGO ID: 8795/UniProt ID: O76083/
4257.4	4257	MGST1	microsomal glutathione S-transferase 1	Aliases: MGST-1/HUGO ID: 7061/UniProt ID: P10620/
2348.3	2348	FOLR1	folate receptor 1 (adult)	HUGO ID: 3791/UniProt ID: P15328/
53354.3	53354	PANK1	pantothenate kinase 1	Locus type: gene with protein product, function known or inferred/Aliases: MGC24596, PANK1a, PANK1b/HUGO ID: 8598/UniProt ID: Q8TE04/
2582.2	2582	GALE	UDP-galactose-4-epimerase	Locus type: gene with protein product, function known or inferred/HUGO ID: 4116/UniProt ID: Q14376/
5244.3	5244	ABCB4	ATP-binding cassette, sub-family B (MDR/TAP), member 4	Locus type: gene with protein product, function known or inferred/Aliases: MDR2/3, PFIC-3/HUGO ID: 45/UniProt ID: P21439/
5152.4	5152	PDE9A	phosphodiesterase 9A	HUGO ID: 8795/UniProt ID: O76083/
6547.2	6547	SLC8A3	solute carrier family 8 (sodium-calcium exchanger), member 3	Aliases: NCX3/HUGO ID: 11070/UniProt ID: P57103/
10317.2	10317	B3GALT5	UDP-Gal:betaGlcNAc beta 1,3-galactosyltransferase, polypeptide 5	Aliases: beta3Gal-T5/HUGO ID: 920/UniProt ID: Q9Y2C3/
171425.2	171425	CLYBL	citrate lyase beta like	Locus type: gene with protein product, function known or inferred/Aliases: CLB/HUGO ID: 18355/UniProt ID: Q8N0X4/MGD ID: MGI:1916884/
622.2	622	BDH1	3-hydroxybutyrate dehydrogenase (heart, mitochondrial)	HUGO ID: 1027/UniProt ID: Q02338/
5152.7	5152	PDE9A	phosphodiesterase 9A	HUGO ID: 8795/UniProt ID: O76083/
51179.2	51179	HAO2	hydroxyacid oxidase 2 (long chain)	Aliases: HAOX2/HUGO ID: 4810/UniProt ID: Q9NYQ3/
10195.3	10195	ALG3	asparagine-linked glycosylation 3 homolog (yeast, alpha-1,3-mannosyltransferase)	Locus type: gene with protein product, function known or inferred/Aliases: NOT56L, Not56, CDGS4, D16Erd36e/HUGO ID: 23056/UniProt ID: Q92685/MGD ID: MGI:1098592/
10400.2	10400	PEMT	phosphatidylethanolamine N-methyltransferase	Aliases: PEMPT, PEMT2/HUGO ID: 8830/UniProt ID: Q9UBM1/
178.5	178	AGL	amylo-1, 6-glucosidase, 4-alpha-glucanotransferase (glycogen debranching enzyme, glycogen storage disease type III)	Locus type: gene with protein product, function known or inferred/HUGO ID: 321/UniProt ID: P35573/MGD ID: MGI:1924809/
55350.2	55350	VNN3	vanin 3	Locus type: gene with protein product, function known or inferred/Aliases: HSA238982/HUGO ID: 16431/UniProt ID: Q9NY84/
10476.2	10476	ATP5H	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit d	Locus type: gene with protein product, function known or inferred/Aliases: ATPQ, ATP5JD/HUGO ID: 845/UniProt ID: O75947/MGD ID: MGI:1918929/
26275.2	26275	HIBCH	3-hydroxyisobutyryl-Coenzyme A hydrolase	HUGO ID: 4908/UniProt ID: Q92931/
53905.2	53905	DUOX1	dual oxidase 1	Aliases: NOXEF1, THOX1/HUGO ID: 3062/UniProt ID: Q9NRD9/
5152.19	5152	PDE9A	phosphodiesterase 9A	HUGO ID: 8795/UniProt ID: O76083/
6487.3	6487	SIAT6	sialyltransferase 6 (N-acetylglucosaminide alpha 2,3-sialyltransferase)	Locus type: gene with protein product, function known or inferred/Aliases: ST3Gal III/HUGO ID: 10866/UniProt ID: Q11203/
51447.2	51447	IHPK2	inositol hexaphosphate kinase 2	Aliases: IP6K2/HUGO ID: 17313/UniProt ID: Q9H4P7/
2629.4	2629	GBA	glucosidase, beta; acid (includes glucosylceramidase)	Aliases: GLUC, GBA1/HUGO ID: 4177/UniProt ID: P04062/
6487.6	6487	SIAT6	sialyltransferase 6 (N-acetylglucosaminide alpha 2,3-sialyltransferase)	Locus type: gene with protein product, function known or inferred/Aliases: ST3Gal III/HUGO ID: 10866/UniProt ID: Q11203/
197257.2	197257	LDHD	lactate dehydrogenase D	Locus type: gene with protein product, function known or inferred/HUGO ID: 19708/UniProt ID: Q8IZK5/
6508.2	6508	SLC4A3	solute carrier family 4, anion exchanger, member 3	Aliases: AE3, SLC2C/HUGO ID: 11029/UniProt ID: P48751/
178.4	178	AGL	amylo-1, 6-glucosidase, 4-alpha-glucanotransferase (glycogen debranching enzyme, glycogen storage disease type III)	Locus type: gene with protein product, function known or inferred/HUGO ID: 321/UniProt ID: P35573/MGD ID: MGI:1924809/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
8706.2	8706	B3GALT3	UDP-Gal:betaGlcNAc beta 1,3-galactosyltransferase, polypeptide 3	Locus type: gene with protein product, function known or inferred/Aliases: beta3Gal-T3, galT3, P1/HUGO ID: 918/UniProt ID: O75752/
51447.5	51447	IHPK2	inositol hexaphosphate kinase 2	Aliases: IP6K2/HUGO ID: 17313/UniProt ID: Q9H4P7/
55568.2	55568	GALNT10	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 10 (GalNAc-T10)	Locus type: gene with protein product, function known or inferred/Aliases: DKFZp586H0623/HUGO ID: 19873/UniProt ID: Q86SR1/
4843.2	4843	NOS2A	nitric oxide synthase 2A (inducible, hepatocytes)	Locus type: gene with protein product, function known or inferred/Aliases: INOS, NOS, HEP-NOS/HUGO ID: 7873/UniProt ID: P35228/
2710.2	2710	GK	glycerol kinase	Locus type: gene with protein product, function known or inferred/HUGO ID: 4289/UniProt ID: P32189/
2348.2	2348	FOLR1	folate receptor 1 (adult)	HUGO ID: 3791/UniProt ID: P15328/
10195.2	10195	ALG3	asparagine-linked glycosylation 3 homolog (yeast, alpha-1,3-mannosyltransferase)	Locus type: gene with protein product, function known or inferred/Aliases: NOT56L, Not56, CDGS4, D16ErtD36e/HUGO ID: 23056/UniProt ID: Q92685/MGD ID: MGI:1098592/
54344.2	54344	DPM3	dolichyl-phosphate mannosyltransferase polypeptide 3	Locus type: gene with protein product, function known or inferred/HUGO ID: 3007/UniProt ID: Q9P2X0/
51292.3	51292	GMPR2	guanosine monophosphate reductase 2	Locus type: gene with protein product, function known or inferred/HUGO ID: 4377/UniProt ID: Q9P2T1/
26289.2	26289	AK5	adenylate kinase 5	HUGO ID: 365/UniProt ID: Q9Y6K8/
1103.4	1103	CHAT	choline acetyltransferase	Locus type: gene with protein product, function known or inferred/HUGO ID: 1912/UniProt ID: P28329/
210.2	210	ALAD	aminolevulinate, delta-, dehydratase	HUGO ID: 395/UniProt ID: P13716/
5295.2	5295	PIK3R1	phosphoinositide-3-kinase, regulatory subunit 1 (p85 alpha)	Locus type: gene with protein product, function known or inferred/Aliases: GRB1, p85-ALPHA/HUGO ID: 8979/UniProt ID: P27986/
5152.11	5152	PDE9A	phosphodiesterase 9A	HUGO ID: 8795/UniProt ID: O76083/
2948.3	2948	GSTM4	glutathione S-transferase M4	Locus type: gene with protein product, function known or inferred/HUGO ID: 4636/UniProt ID: Q03013/
5151.3	5151	PDE8A	phosphodiesterase 8A	Locus type: gene with protein product, function known or inferred/Aliases: HST19550/HUGO ID: 8793/UniProt ID: O60658/
7296.2	7296	TXNRD1	thioredoxin reductase 1	Locus type: gene with protein product, function known or inferred/Aliases: TXNR/HUGO ID: 12437/UniProt ID: Q16881/
4257.3	4257	MGST1	microsomal glutathione S-transferase 1	Aliases: MGST-1/HUGO ID: 7061/UniProt ID: P10620/
205.3	205	AK3	adenylate kinase 3	Locus type: gene with protein product, function known or inferred/HUGO ID: 363/UniProt ID: P27144/
1312.2	1312	COMT	catechol-O-methyltransferase	HUGO ID: 2228/UniProt ID: P21964/
31.2	31	ACACA	acetyl-Coenzyme A carboxylase alpha	Aliases: ACC1/HUGO ID: 84/UniProt ID: Q13085/
11343.2	11343	MGLL	monoglyceride lipase	Locus type: gene with protein product, function known or inferred/Aliases: H5K5, MGL/HUGO ID: 17038/UniProt ID: Q99685/
2876.2	2876	GPX1	glutathione peroxidase 1	HUGO ID: 4553/UniProt ID: P07203/
51022.2	51022	GLRX2	glutaredoxin 2	Aliases: GRX2/HUGO ID: 16065/UniProt ID: Q96JC0/
3290.2	3290	HSD11B1	hydroxysteroid (11-beta) dehydrogenase 1	Locus type: gene with protein product, function known or inferred/HUGO ID: 5208/UniProt ID: P28845/
5250.3	5250	SLC25A3	solute carrier family 25 (mitochondrial carrier; phosphate carrier), member 3	Locus type: gene with protein product, function known or inferred/HUGO ID: 10989/UniProt ID: Q00325/
1375.2	1375	CPT1B	carnitine palmitoyltransferase 1B (muscle)	Aliases: M-CPT1, CPT1-M/HUGO ID: 2329/UniProt ID: Q92523/
9016.2	9016	SLC25A14	solute carrier family 25 (mitochondrial carrier, brain), member 14	Locus type: gene with protein product, function known or inferred/Aliases: BMC1, UCP5/HUGO ID: 10984/UniProt ID: O95258/
18.2	18	ABAT	4-aminobutyrate aminotransferase	Aliases: GABAT/HUGO ID: 23/UniProt ID: P80404/
79053.2	79053	ALG8	asparagine-linked glycosylation 8 homolog (yeast, alpha-1,3-glucosyltransferase)	Locus type: gene with protein product, function known or inferred/Aliases: MGC2840/HUGO ID: 23161/UniProt ID: Q9BVK2/
1431.2	1431	CS	citrate synthase	HUGO ID: 2422/UniProt ID: O75390/
10919.2	10919	BAT8	HLA-B associated transcript 8	Locus type: gene with protein product, function unknown/Aliases: G9A, Em:AF134726.3, HGNC:13942/HUGO ID: 14129/UniProt ID: Q96KQ7/
376497.2	376497	SLC27A1	solute carrier family 27 (fatty acid transporter), member 1	Locus type: gene with protein product, function known or inferred/Aliases: FATP1, FATP, MGC71751, FLJ00336/HUGO ID: 10995/UniProt ID: Q96DY3/MGD ID: MGI:1347098/
6582.2	6582	SLC22A2	solute carrier family 22 (organic cation transporter), member 2	Aliases: 38262/HUGO ID: 10966/UniProt ID: O15244/
6470.2	6470	SHMT1	serine hydroxymethyltransferase 1 (soluble)	HUGO ID: 10850/UniProt ID: P34896/
2182.2	2182	ACSL4	acyl-CoA synthetase long-chain family member 4	Locus type: gene with protein product, function known or inferred/Aliases: ACS4, MRX63, LACS4/HUGO ID: 3571/UniProt ID: O60488/MGD ID: MGI:1354713/
2530.5	2530	FUT8	fucosyltransferase 8 (alpha (1,6) fucosyltransferase)	HUGO ID: 4019/UniProt ID: Q9BYC5/
51292.2	51292	GMPR2	guanosine monophosphate reductase 2	Locus type: gene with protein product, function known or inferred/HUGO ID: 4377/UniProt ID: Q9P2T1/
178.3	178	AGL	amylo-1, 6-glucosidase, 4-alpha-glucanotransferase (glycogen debranching enzyme, glycogen storage disease type III)	Locus type: gene with protein product, function known or inferred/HUGO ID: 321/UniProt ID: P35573/MGD ID: MGI:1924809/
10400.3	10400	PEMT	phosphatidylethanolamine N-methyltransferase	Aliases: PEMPT, PEMT2/HUGO ID: 8830/UniProt ID: Q9UBM1/
5152.12	5152	PDE9A	phosphodiesterase 9A	HUGO ID: 8795/UniProt ID: O76083/
4257.2	4257	MGST1	microsomal glutathione S-transferase 1	Aliases: MGST-1/HUGO ID: 7061/UniProt ID: P10620/
5244.2	5244	ABCB4	ATP-binding cassette, sub-family B (MDR/TAP), member 4	Locus type: gene with protein product, function known or inferred/Aliases: MDR2/3, PFIC-3/HUGO ID: 45/UniProt ID: P21439/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
211.2	211	ALAS1	aminolevulinatase, delta-, synthase 1	HUGO ID: 396/UniProt ID: P13196/
2348.5	2348	FOLR1	folate receptor 1 (adult)	HUGO ID: 3791/UniProt ID: P15328/
5295.3	5295	PIK3R1	phosphoinositide-3-kinase, regulatory subunit 1 (p85 alpha)	Locus type: gene with protein product, function known or inferred/Aliases: GRB1, p85-ALPHA/HUGO ID: 8979/UniProt ID: P27986/
8528.2	8528	DDO	D-aspartate oxidase	Locus type: gene with protein product, function known or inferred/HUGO ID: 2727/UniProt ID: Q99489/
7296.3	7296	TXNRD1	thioredoxin reductase 1	Locus type: gene with protein product, function known or inferred/Aliases: TXNR/HUGO ID: 12437/UniProt ID: Q16881/
31.3	31	ACACA	acetyl-Coenzyme A carboxylase alpha	Aliases: ACC1/HUGO ID: 84/UniProt ID: Q13085/
6487.5	6487	SIAT6	sialyltransferase 6 (N-acetylglucosaminidase alpha 2,3-sialyltransferase)	Locus type: gene with protein product, function known or inferred/Aliases: ST3Gal III/HUGO ID: 10866/UniProt ID: Q11203/
3098.2	3098	HK1	hexokinase 1	Locus type: gene with protein product, function known or inferred/HUGO ID: 4922/UniProt ID: P19367/
56474.2	56474	CTPS2	CTP synthase II	Locus type: gene with protein product, function known or inferred/HUGO ID: 2520/UniProt ID: Q9H809/
5152.20	5152	PDE9A	phosphodiesterase 9A	HUGO ID: 8795/UniProt ID: O76083/
5281.2	5281	PIGF	phosphatidylinositol glycan, class F	HUGO ID: 8962/UniProt ID: Q07326/
52.3	52	ACP1	acid phosphatase 1, soluble	HUGO ID: 122/UniProt ID: P24666/
1375.3	1375	CPT1B	carnitine palmitoyltransferase 1B (muscle)	Aliases: M-CPT1, CPT1-M/HUGO ID: 2329/UniProt ID: Q92523/
123041.2	123041	SLC24A4	solute carrier family 24 (sodium/potassium/calcium exchanger), member 4	Locus type: gene with protein product, function known or inferred/Aliases: NCKX4/HUGO ID: 10978/UniProt ID: Q8NFF2/
51447.4	51447	IHPK2	inositol hexaphosphate kinase 2	Aliases: IP6K2/HUGO ID: 17313/UniProt ID: Q9H4P7/
5151.5	5151	PDE8A	phosphodiesterase 8A	Locus type: gene with protein product, function known or inferred/Aliases: HsT19550/HUGO ID: 8793/UniProt ID: O60658/
2585.2	2585	GALK2	galactokinase 2	Aliases: GK2/HUGO ID: 4119/UniProt ID: Q01415/
9154.2	9154	SLC28A1	solute carrier family 28 (sodium-coupled nucleoside transporter), member 1	Aliases: CNT1/HUGO ID: 11001/UniProt ID: O00337/
80142.4	80142	PTGES2	prostaglandin E synthase 2	Aliases: FLJ14038/HUGO ID: 17822/UniProt ID: Q9H7Z7/
5152.13	5152	PDE9A	phosphodiesterase 9A	HUGO ID: 8795/UniProt ID: O76083/
160851.2	160851	DGKH	diacylglycerol kinase, eta	Locus type: gene with protein product, function known or inferred/Aliases: DGKeta/HUGO ID: 2854/UniProt ID: Q9BX34/
6487.8	6487	SIAT6	sialyltransferase 6 (N-acetylglucosaminidase alpha 2,3-sialyltransferase)	Locus type: gene with protein product, function known or inferred/Aliases: ST3Gal III/HUGO ID: 10866/UniProt ID: Q11203/
411.2	411	ARSB	arylsulfatase B	HUGO ID: 714/UniProt ID: P15848/
3421.2	3421	IDH3G	isocitrate dehydrogenase 3 (NAD+) gamma	HUGO ID: 5386/UniProt ID: P51553/
56894.2	56894	AGPAT3	1-acylglycerol-3-phosphate O-acyltransferase 3	Aliases: LPAAT-gamma/HUGO ID: 326/UniProt ID: Q9NRZ7/
123041.3	123041	SLC24A4	solute carrier family 24 (sodium/potassium/calcium exchanger), member 4	Locus type: gene with protein product, function known or inferred/Aliases: NCKX4/HUGO ID: 10978/UniProt ID: Q8NFF2/
178.2	178	AGL	amylase-1, 6-glucosidase, 4-alpha-glucanotransferase (glycogen debranching enzyme, glycogen storage disease type III)	Locus type: gene with protein product, function known or inferred/HUGO ID: 321/UniProt ID: P35573/MGI:1924809/
5152.3	5152	PDE9A	phosphodiesterase 9A	HUGO ID: 8795/UniProt ID: O76083/
1607.2	1607	DGKB	diacylglycerol kinase, beta 90kDa	Locus type: gene with protein product, function known or inferred/Aliases: KIAA0718, DGK, DGK-BETA/HUGO ID: 2850/UniProt ID: Q9Y6T7/
8611.2	8611	PPAP2A	phosphatidic acid phosphatase type 2A	Aliases: PAP-2a/HUGO ID: 9228/UniProt ID: O60463/
516.2	516	ATP5G1	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit c (subunit 9), isoform 1	HUGO ID: 841/UniProt ID: P05496/Variant 2: This variant differs in the 5' UTR, compared to variant 1. Variants 1 and 2 encode the same protein.
513.2	513	ATP5D	ATP synthase, H+ transporting, mitochondrial F1 complex, delta subunit	HUGO ID: 837/UniProt ID: P30049/
55902.2	55902	ACAS2	acetyl-Coenzyme A synthetase 2 (ADP forming)	Aliases: LOC55902, ACS, dJ1161H23.1/HUGO ID: 15814/UniProt ID: Q9NR19/
2348.4	2348	FOLR1	folate receptor 1 (adult)	HUGO ID: 3791/UniProt ID: P15328/
2629.2	2629	GBA	glucosidase, beta; acid (includes glucosylceramidase)	Aliases: GLUC, GBA1/HUGO ID: 4177/UniProt ID: P04062/
1588.2	1588	CYP19A1	cytochrome P450, family 19, subfamily A, polypeptide 1	Locus type: gene with protein product, function known or inferred/Aliases: ARO, P-450AROM, CPV1, ARO1, CYAR/HUGO ID: 2594/UniProt ID: P11511/
10317.4	10317	B3GALT5	UDP-Gal:betaGlcNAc beta 1,3-galactosyltransferase, polypeptide 5	Aliases: beta3Gal-T5/HUGO ID: 920/UniProt ID: Q9Y2C3/
1375.4	1375	CPT1B	carnitine palmitoyltransferase 1B (muscle)	Aliases: M-CPT1, CPT1-M/HUGO ID: 2329/UniProt ID: Q92523/
8854.3	8854	ALDH1A2	aldehyde dehydrogenase 1 family, member A2	Locus type: gene with protein product, function known or inferred/Aliases: RALDH2/HUGO ID: 15472/UniProt ID: O94788/
1103.2	1103	CHAT	choline acetyltransferase	Locus type: gene with protein product, function known or inferred/HUGO ID: 1912/UniProt ID: P28329/
3423.2	3423	IDS	iduronate 2-sulfatase (Hunter syndrome)	HUGO ID: 5389/UniProt ID: P22304/
1384.2	1384	CRAT	carnitine acetyltransferase	Aliases: CAT1/HUGO ID: 2342/UniProt ID: P43155/
594.2	594	BCKDHB	branched chain keto acid dehydrogenase E1, beta polypeptide (maple syrup urine disease)	Locus type: gene with protein product, function known or inferred/HUGO ID: 987/UniProt ID: P21953/
31.4	31	ACACA	acetyl-Coenzyme A carboxylase alpha	Aliases: ACC1/HUGO ID: 84/UniProt ID: Q13085/
8854.2	8854	ALDH1A2	aldehyde dehydrogenase 1 family, member A2	Locus type: gene with protein product, function known or inferred/Aliases: RALDH2/HUGO ID: 15472/UniProt ID: O94788/
85365.2	85365	ALG2	asparagine-linked glycosylation 2 homolog (yeast, alpha-1,3-mannosyltransferase)	Locus type: gene with protein product, function known or inferred/Aliases: CDHG, FLJ14511, hALPG2/HUGO ID: 23159/UniProt ID: Q8NBX2/
6480.3	6480	SIAT1	sialyltransferase 1 (beta-galactoside alpha-2,6-sialyltransferase)	Aliases: CD75, ST6Gal I/HUGO ID: 10860/UniProt ID: P15907/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
514.2	514	ATP5E	ATP synthase, H+ transporting, mitochondrial F1 complex, epsilon subunit	HUGO ID: 838/UniProt ID: P56381/
6573.2	6573	SLC19A1	solute carrier family 19 (folate transporter), member 1	Aliases: FOLT/HUGO ID: 10937/UniProt ID: P41440/
5352.2	5352	PLOD2	procollagen-lysine, 2-oxoglutarate 5-dioxygenase (lysine hydroxylase) 2	Locus type: gene with protein product, function known or inferred/HUGO ID: 9082/UniProt ID: O00469/
271.2	271	AMPD2	adenosine monophosphate deaminase 2 (isoform L)	HUGO ID: 469/UniProt ID: Q01433/
3420.3	3420	IDH3B	isocitrate dehydrogenase 3 (NAD+) beta	HUGO ID: 5385/UniProt ID: O43837/
55512.2	55512	SMPD3	sphingomyelin phosphodiesterase 3, neutral membrane (neutral sphingomyelinase II)	Locus type: gene with protein product, function known or inferred/Aliases: NSMASE2/HUGO ID: 14240/UniProt ID: Q9NY59/
5277.3	5277	PIGA	phosphatidylinositol glycan, class A (paroxysmal nocturnal hemoglobinuria)	Aliases: GPI3/HUGO ID: 8957/UniProt ID: P37287/
2678.2	2678	GGT1	gamma-glutamyltransferase 1	Aliases: D22S672, D22S732, CD224/HUGO ID: 4250/UniProt ID: P19440/
27124.2	27124	PIB5PA	phosphatidylinositol (4,5) bisphosphate 5-phosphatase, A	HUGO ID: 8956/UniProt ID: Q15735/
2571.2	2571	GAD1	glutamate decarboxylase 1 (brain, 67kDa)	HUGO ID: 4092/UniProt ID: Q99259/
5152.14	5152	PDE9A	phosphodiesterase 9A	HUGO ID: 8795/UniProt ID: O76083/
6820.2	6820	SULT2B1	sulfotransferase family, cytosolic, 2B, member 1	Aliases: HSST2/HUGO ID: 11459/UniProt ID: O00205/
1798.2	1798	DPAGT1	dolichyl-phosphate (UDP-N-acetylglucosamine) N-acetylglucosaminophosphotransferase 1 (GlcNAc-1-P transferase)	Aliases: GPT, D11S366, DGPT, ALG7, CDG-Ij/HUGO ID: 2995/UniProt ID: Q9H3H5/
112.2	112	ADCY6	adenylate cyclase 6	HUGO ID: 237/UniProt ID: O43306/
51447.6	51447	IHPK2	inositol hexaphosphate kinase 2	Aliases: IP6K2/HUGO ID: 17313/UniProt ID: Q9H4P7/
8706.3	8706	B3GALT3	UDP-Gal:betaGlcNAc beta 1,3-galactosyltransferase, polypeptide 3	Locus type: gene with protein product, function known or inferred/Aliases: beta3Gal-T3, galT3, P1/HUGO ID: 918/UniProt ID: O75752/
6487.7	6487	SIAT6	sialyltransferase 6 (N-acetylglucosaminide alpha 2,3-sialyltransferase)	Locus type: gene with protein product, function known or inferred/Aliases: ST3Gal III/HUGO ID: 10866/UniProt ID: Q11203/
5250.4	5250	SLC25A3	solute carrier family 25 (mitochondrial carrier; phosphate carrier), member 3	Locus type: gene with protein product, function known or inferred/HUGO ID: 10989/UniProt ID: Q00325/
9807.2	9807	IHPK1	inositol hexaphosphate kinase 1	Locus type: gene with protein product, function known or inferred/Aliases: KIAA0263, IP6K1/HUGO ID: 18360/UniProt ID: Q92551/
8525.3	8525	DGKZ	diacylglycerol kinase, zeta 104kDa	Aliases: DAGK5, hDGKzeta/HUGO ID: 2857/UniProt ID: Q13574/
4056.2	4056	LTC4S	leukotriene C4 synthase	Locus type: gene with protein product, function known or inferred/Aliases: MGC33147/HUGO ID: 6719/UniProt ID: Q16873/
771.2	771	CA12	carbonic anhydrase XII	Locus type: gene with protein product, function known or inferred/Aliases: HST18816/HUGO ID: 1371/UniProt ID: O43570/
7360.2	7360	UGP2	UDP-glucose pyrophosphorylase 2	HUGO ID: 12527/UniProt ID: Q16851/
440.2	440	ASNS	asparagine synthetase	Locus type: gene with protein product, function known or inferred/HUGO ID: 753/UniProt ID: P08243/
1103.3	1103	CHAT	choline acetyltransferase	Locus type: gene with protein product, function known or inferred/HUGO ID: 1912/UniProt ID: P28329/
3795.2	3795	KHK	ketohexokinase (fructokinase)	HUGO ID: 6315/UniProt ID: P50053/
5091.2	5091	PC	pyruvate carboxylase	Aliases: PCB/HUGO ID: 8636/UniProt ID: P11498/
1716.2	1716	DGUOK	deoxyguanosine kinase	Aliases: dGK/HUGO ID: 2858/UniProt ID: Q16854/
10861.2	10861	SLC26A1	solute carrier family 26 (sulfate transporter), member 1	Locus type: gene with protein product, function known or inferred/Aliases: SAT-1, EDM4/HUGO ID: 10993/UniProt ID: Q9H2B4/
10317.5	10317	B3GALT5	UDP-Gal:betaGlcNAc beta 1,3-galactosyltransferase, polypeptide 5	Aliases: beta3Gal-T5/HUGO ID: 920/UniProt ID: Q9Y2C3/
2348.6	2348	FOLR1	folate receptor 1 (adult)	HUGO ID: 3791/UniProt ID: P15328/
2181.2	2181	ACSL3	acyl-CoA synthetase long-chain family member 3	Locus type: gene with protein product, function known or inferred/Aliases: ACS3, PRO2194/HUGO ID: 3570/UniProt ID: O95573/MGD ID: MGI:1921455/
31.5	31	ACACA	acetyl-Coenzyme A carboxylase alpha	Aliases: ACC1/HUGO ID: 84/UniProt ID: Q13085/
271.3	271	AMPD2	adenosine monophosphate deaminase 2 (isoform L)	HUGO ID: 469/UniProt ID: Q01433/
23600.2	23600	AMACR	alpha-methylacyl-CoA racemase	Aliases: RACE/HUGO ID: 451/UniProt ID: Q9UHK6/
1384.3	1384	CROT	carnitine acetyltransferase	Aliases: CAT1/HUGO ID: 2342/UniProt ID: P43155/
4830.2	4830	NME1	non-metastatic cells 1, protein (NM23A) expressed in	Aliases: NM23, NM23-H1/HUGO ID: 7849/UniProt ID: P15531/
5151.4	5151	PDE8A	phosphodiesterase 8A	Locus type: gene with protein product, function known or inferred/Aliases: HST19550/HUGO ID: 8793/UniProt ID: O60658/
2618.2	2618	GART	phosphoribosylglycinamide formyltransferase, phosphoribosylglycinamide synthetase, phosphoribosylaminoimidazole synthetase	HUGO ID: 4163/UniProt ID: P22102/
7173.3	7173	TPO	thyroid peroxidase	HUGO ID: 12015/UniProt ID: P07202/
221823.2	221823	PRPS1L1	phosphoribosyl pyrophosphate synthetase 1-like 1	Locus type: gene with protein product, function known or inferred/Aliases: PRPS3/HUGO ID: 9463/UniProt ID: P21108/
205.2	205	AK3	adenylate kinase 3	Locus type: gene with protein product, function known or inferred/HUGO ID: 363/UniProt ID: P27144/
954.2	954	ENTPD2	ectonucleoside triphosphate diphosphohydrolase 2	Aliases: NTPDase-2/HUGO ID: 3364/UniProt ID: Q9Y5L3/
534.2	534	ATP6V1G2	ATPase, H+ transporting, lysosomal 13kDa, V1 subunit G isoform 2	Aliases: Vma10, NG38, Em:AC004181.3/HUGO ID: 862/UniProt ID: O95670/
6547.6	6547	SLC8A3	solute carrier family 8 (sodium-calcium exchanger), member 3	Aliases: NCX3/HUGO ID: 11070/UniProt ID: P57103/

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
27087.2	27087	B3GAT1	beta-1,3-glucuronyltransferase 1 (glucuronosyltransferase P)	Locus type: gene with protein product, function known or inferred/Aliases: GlcAT-P/HUGO ID: 921/UniProt ID: Q9P2W7/
131669.1	131669	FLJ31300	urocanate hydratase	transcript: NM_144639
10841.2	10841	FTCD	formiminotransferase cyclodeaminase	
314.2	314	AOC2	amine oxidase, copper containing 2 (retina-specific)	
27165.2	27165	GA	liver mitochondrial glutaminase	
84735.1	84735	CNDP1	carnosine dipeptidase 1 (metallopeptidase M20 family)	
7915.2	7915	ALDH5A1	aldehyde dehydrogenase 5 family, member A1 (succinate-semialdehyde dehydrogenase)	
55191.1	55191	NADSYN1	NAD synthetase 1 (glutamine-dependent)	transcript: NM_018161
1373.2	1373	CPS1	carbamoyl-phosphate synthetase 1, mitochondrial	transcript: NM_001875
2954.2	2954	GSTZ1	glutathione transferase zeta 1 (maleylacetoacetate isomerase)	
2954.3	2954	GSTZ1	glutathione transferase zeta 1 (maleylacetoacetate isomerase)	
158.2	158	ADSL	adenylosuccinate lyase	transcript: NM_000026
445.2	445	ASS	argininosuccinate synthetase	
80347.1	80347	KDTB/COAE	Phosphopantetheine adenylyltransferase/dephospho-CoA kinase	
60490.1	60490	PPDC	Phosphopantothienylcysteine decarboxylase	
2645.2	2645	GCK	glucokinase (hexokinase 4, maturity onset diabetes of the young 2)	transcript: NM_033507
79717.1	79717	PPCS	Phosphopantothene-cysteine ligase	transcript: NM_024664
80025.1	80025	PANK2	Pantothenate kinase 2	
80025.2	80025	PANK2	Pantothenate kinase 2	
80025.3	80025	PANK2	Pantothenate kinase 2	
80025.4	80025	PANK2	Pantothenate kinase 2	
80025.5	80025	PANK2	Pantothenate kinase 2	
8884.1	8884	SMVT	sodium-dependent vitamin transporter	
10560.1	10560	SLC19A2	thiamine transporter	
286016.1	286016	LOC286016	hypothetical protein LOC286016	transcript: NR_002187
55293.1	55293	UEV3	ubiquitin-conjugating enzyme E2-like	transcript: NM_018314
2639.2	2639	GCDH	glutaryl-Coenzyme A dehydrogenase	
51166.1	51166	AADAT	aminoadipate aminotransferase	
51166.2	51166	AADAT	aminoadipate aminotransferase	
97.2	97	ACYP1	acylphosphatase 1, erythrocyte (common) type	
55312.1	55312	RFK	Riboflavin kinase	
80308.1	80308	FADS	FAD-synthetase	transcript: NM_025207
80308.2	80308	FADS	FAD-synthetase	transcript: NM_201398
10327.2	10327	AKR1A1	aldo-keto reductase family 1, member iA (aldehyde reductase)	
522.2	522	ATP5J	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit F6	Variant 2
522.3	522	ATP5J	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit F6	Variant 3
522.4	522	ATP5J	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit F6	Variant 4: This variant (4) differs in the 5' UTR, compared to variant 1. Variants 1, 2, 3 and 4 encode the same isoform (a).
509.2	509	ATP5C1	ATP synthase, H+ transporting, mitochondrial F1 complex, gamma polypeptide 1	Variant 2: This variant lacks a segment in the coding region compared to variant 1. The resulting isoform (H), also known as a heart type isoform, contains a shorter and distinct C-terminus compared to isoform L.
4967.2	4967	OGDH	oxoglutarate (alpha-ketoglutarate) dehydrogenase (lipoamide)	transcript: NM_002541
27349.1	27349	MT	malonyl-CoA:acyl carrier protein transacylase, mitochondrial	transcript: NM_173467
27349.2	27349	MT	malonyl-CoA:acyl carrier protein transacylase, mitochondrial	transcript: NM_014507
29968.2	29968	PSAT1	phosphoserine aminotransferase 1	
50617.2	50617	ATP6V0A4	ATPase, H+ transporting, lysosomal V0 subunit a isoform 4	
50617.3	50617	ATP6V0A4	ATPase, H+ transporting, lysosomal V0 subunit a isoform 4	
51606.2	51606	ATP6V1H	ATPase, H+ transporting, lysosomal 50/57kDa, V1 subunit H isoform 1	
51606.3	51606	ATP6V1H	ATPase, H+ transporting, lysosomal 50/57kDa, V1 subunit H isoform 2	
23057.1	23057	NMNAT2	Nicotinamide nucleotide adenylyltransferase 2	
23057.2	23057	NMNAT2	Nicotinamide nucleotide adenylyltransferase 2	
8704.2	8704	B4GALT2	UDP-Gal:betaGlcNAc beta 1,4- galactosyltransferase, polypeptide 2	transcript: NM_003780
64802.1	64802	NMNAT1	Nicotinamide nucleotide adenylyltransferase 1	
79053.3	79053	ALG8	asparagine-linked glycosylation 8 homolog (yeast, alpha-1,3-glucosyltransferase)	transcript: NM_001007027
6482.2	6482	SIAT4A	sialyltransferase 4A (beta-galactoside alpha-2,3-sialyltransferase)	transcript: NM_173344
29796.2	29796	HSPC051	ubiquinol-cytochrome c reductase complex	
125965.1	125965	COX6B2	cytochrome c oxidase subunit VIb polypeptide 2 (testis)	

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
170712.1	170712	COX7B2	cytochrome c oxidase subunit VIIb2	
134526.1	134526	CACH1	cytosolic acetyl-CoA hydrolase	transcript: NM_130767
124637.1	124637	FLJ32499	hypothetical protein FLJ32499	transcript: NM_144607
162417.1	162417	NAGS	N-acetylglutamate synthase	
2593.2	2593	GAMT	guanidinoacetate N-methyltransferase	
29925.2	29925	GMPPB	GDP-mannose pyrophosphorylase B	transcript: NM_021971
29926.2	29926	GMPPA	GDP-mannose pyrophosphorylase A	transcript: NM_205847
7264.1	7264	TSTA3	tissue specific transplantation antigen P35B	transcript: NM_003313
197258.1	197258	FUK	fucokinase	transcript: NM_145059
2645.3	2645	GCK	glucokinase (hexokinase 4, maturity onset diabetes of the young 2)	transcript: NM_033508
4712.2	4712	NDUFB6	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 6, 17kDa	
7991.1	7991	TUSC3	tumor suppressor candidate 3	
7991.2	7991	TUSC3	tumor suppressor candidate 3	
8309.1	8309	ACOX2	acyl-Coenzyme A oxidase 2, branched chain	
113451.1	113451	ODC-p	ornithine decarboxylase-like	transcript: NM_052998
1809.1	1809	DPYSL3	dihydropyrimidinase-like 3	
7108.1	7108	TM7SF2	transmembrane 7 superfamily member 2	
6307.1	6307	SC4MOL	sterol-C4-methyl oxidase-like	
1119.2	1119	CHK	choline kinase	
1120.2	1120	CHKL	choline/ethanolamine kinase	
8760.1	8760	CDS2	CDP-diacylglycerol synthase (phosphatidate cytidyltransferase) 2	
9489.1	9489	PGS1	phosphatidylglycerophosphate synthase	
5136.2	5136	PDE1A	phosphodiesterase 1A, calmodulin-dependent	
27430.1	27430	MAT2B	methionine adenosyltransferase II, beta	
27430.2	27430	MAT2B	methionine adenosyltransferase II, beta	
23382.1	23382	AHCYL2	S-adenosylhomocysteine hydrolase-like 2	
5150.1	5150	PDE7A	phosphodiesterase 7A isoform a	
5150.2	5150	PDE7A	phosphodiesterase 7A isoform b	
80162.1	80162	FLJ22635	hypothetical protein FLJ22635	
9536.1	9536	PTGES	prostaglandin E synthase	
9536.2	9536	PTGES	prostaglandin E synthase	
2542.1	2542	SLC37A4	solute carrier family 37 (glycerol-6-phosphate transporter), member 4	transcript: NM_001467
7352.2	7352	UCP3	uncoupling protein 3 (mitochondrial, proton carrier)	
318.2	318	NUDT2	nucleoside diphosphatase	
318.3	318	NUDT2	nucleoside diphosphatase	
57818.1	57818	G6PC2	glucose-6-phosphatase, catalytic, 2	transcript: NM_021176
83549.1	83549	UCK1	uridine-cytidine kinase 1	
7378.2	7378	UPP1	uridine phosphorylase 1	
10587.2	10587	TXNRD2	thioredoxin reductase 2	
10587.3	10587	TXNRD2	thioredoxin reductase 2	
5625.1	5625	PRODH	proline dehydrogenase (oxidase) 1	aliases: PIG6; HSPOX2; PRODH1; PRODH2; TP5316
8974.1	8974	P4HA2	procollagen-proline, 2-oxoglutarate 4-dioxygenase (proline 4-hydroxylase), alpha polypeptide II	
1789.1	1789	DNMT3B	DNA (cytosine-5-)-methyltransferase 3 beta	
1789.2	1789	DNMT3B	DNA (cytosine-5-)-methyltransferase 3 beta	
1789.3	1789	DNMT3B	DNA (cytosine-5-)-methyltransferase 3 beta	
1789.4	1789	DNMT3B	DNA (cytosine-5-)-methyltransferase 3 beta	
1788.1	1788	DNMT3A	DNA (cytosine-5-)-methyltransferase 3	
1788.2	1788	DNMT3A	DNA (cytosine-5-)-methyltransferase 3	
1788.3	1788	DNMT3A	DNA (cytosine-5-)-methyltransferase 3	
1788.4	1788	DNMT3A	DNA (cytosine-5-)-methyltransferase 3	
1787.1	1787	DNMT2	DNA (cytosine-5-)-methyltransferase 2	
1787.2	1787	DNMT2	DNA (cytosine-5-)-methyltransferase 2	
1787.3	1787	DNMT2	DNA (cytosine-5-)-methyltransferase 2	
1787.4	1787	DNMT2	DNA (cytosine-5-)-methyltransferase 2	
1787.5	1787	DNMT2	DNA (cytosine-5-)-methyltransferase 2	
1787.6	1787	DNMT2	DNA (cytosine-5-)-methyltransferase 2	
6319.1	6319	SCD	stearoyl-CoA desaturase (delta-9-desaturase)	
64064.1	64064	OXCT2	3-oxoacid CoA transferase 2	
54511.1	54511	HMGCLL1	3-hydroxymethyl-3-methylglutaryl-Coenzyme A lyase-like 1	
957.1	957	ENTPD5	ectonucleoside triphosphate diphosphohydrolase 5	
23530.2	23530	NNT	Nicotinamide nucleotide transhydrogenase	
27235.1	27235	COQ2	para-hydroxybenzoate - polyprenyltransferase, mitochondrial	transcript: NM_015697
25902.1	25902	MTHFD1L	methylenetetrahydrofolate dehydrogenase (NADP+ dependent) 1-like	transcript: NM_015440
286297.1	286297	LOC286297	hypothetical protein LOC286297	transcript: XM_372099
80068.1	80068	FLJ13105	hypothetical protein FLJ13105	transcript: NM_001004346
285216.1	285216	LOC285216	hypothetical protein LOC285216	transcript: XM_496652
10390.1	10390	CEPT1	choline/ethanolamine phosphotransferase 1	

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
51005.1	51005	CGI-14	CGI-14 protein	transcript: NM_015944
27159.1	27159	CHIA	eosinophil chemotactic cytokine	transcript: NM_021797
27159.2	27159	CHIA	eosinophil chemotactic cytokine	transcript: NM_201653
54682.1	54682	MANSC1	MANSC domain containing 1	transcript: NM_018050
1118.1	1118	CHIT1	chitinase 1 (chitotriosidase)	transcript: NM_003465
200576.1	200576	PIP5K3	phosphatidylinositol-3-phosphate/phosphatidylinositol 5-kinase, type III	
200576.2	200576	PIP5K3	phosphatidylinositol-3-phosphate/phosphatidylinositol 5-kinase, type III	
200576.3	200576	PIP5K3	phosphatidylinositol-3-phosphate/phosphatidylinositol 5-kinase, type III	
5298.1	5298	PIK4CB	phosphatidylinositol 4-kinase, catalytic, beta polypeptide	
55361.1	55361	PI4KII	phosphatidylinositol 4-kinase type II	transcript: NM_018425
55268.1	55268	ECHDC2	enoyl Coenzyme A hydratase domain containing 2	transcript: NM_018281
8395.1	8395	PIP5K1B	phosphatidylinositol-4-phosphate 5-kinase, type I, beta	transcript: NM_003558
8396.2	8396	PIP5K2B	phosphatidylinositol-4-phosphate 5-kinase, type II, beta	transcript: NM_138687
8867.2	8867	SYNJ1	synaptojanin 1	transcript: NM_203446
290.1	290	ANPEP	alanyl (membrane) aminopeptidase	
10870.1	10870	HCST	hematopoietic cell signal transducer	transcript: NM_001007469
29124.1	29124	LGALS13	lectin, galactoside-binding, soluble, 13 (galectin 13)	
8560.1	8560	DEGS1	degenerative spermatocyte homolog 1, lipid desaturase (Drosophila)	transcript: NM_003676
8560.2	8560	DEGS1	degenerative spermatocyte homolog 1, lipid desaturase (Drosophila)	transcript: NM_144780
55163.1	55163	PNPO	Pyridoxine-5'-phosphate oxidase	
3631.2	3631	INPP4A	inositol polyphosphate-4-phosphatase, type I, 107kDa	transcript: NM_004027
57026.1	57026	PDXP	Pyridoxal Phosphatase	
253430.1	253430	IPMK	inositol polyphosphate multikinase	transcript: NM_152230
51109.1	51109	RDH11	retinol dehydrogenase 11 (all-trans and 9-cis)	
195814.1	195814	RDHE2	epidermal retinal dehydrogenase 2	transcript: NM_138969
84812.1	84812	PLCD4	phospholipase C, delta 4	transcript: NM_032726
23007.1	23007	PLCL3	phospholipase C-like 3	transcript: NM_014996
51196.1	51196	PLCE1	phospholipase C, epsilon 1	transcript: NM_016341
23236.2	23236	PLCB1	phospholipase C, beta 1 (phosphoinositide-specific)	transcript: NM_182734
113026.1	113026	PLCD3	phospholipase C, delta 3	transcript: NM_133373
84444.1	84444	DOT1L	DOT1-like, histone H3 methyltransferase (S. cerevisiae)	
80854.1	80854	SET7	SET domain-containing protein 7	
5335.2	5335	PLCG1	phospholipase C, gamma 1	
9651.1	9651	PLCL4	phospholipase C-like 4	transcript: XM_371214
27068.2	27068	PPA2	Inorganic pyrophosphatase 2	
27068.1	27068	PPA2	Inorganic pyrophosphatase 2	
27068.3	27068	PPA2	Inorganic pyrophosphatase 2	
27068.4	27068	PPA2	Inorganic pyrophosphatase 2	
79813.1	79813	EHMT1	euchromatic histone methyltransferase 1	
387893.1	387893	SET8	PR/SET domain containing protein 8	
5279.1	5279	PIGC	phosphatidylinositol glycan, class C	transcript: NM_002642
5279.2	5279	PIGC	phosphatidylinositol glycan, class C	transcript: NM_153747
2235.2	2235	FECH	ferrochelatase (protoporphyrin)	
9091.1	9091	PIGQ	phosphatidylinositol glycan, class Q	transcript: NM_004204
9091.2	9091	PIGQ	phosphatidylinositol glycan, class Q	transcript: NM_148920
8824.1	8824	CES2	carboxylesterase 2 (intestine, liver)	
8824.2	8824	CES2	carboxylesterase 2 (intestine, liver)	
259230.1	259230	TMEM23	transmembrane protein 23	
64781.1	64781	CERK	ceramide kinase	
64781.2	64781	CERK	ceramide kinase	
284098.1	284098	PIGW	phosphatidylinositol glycan, class W	transcript: NM_178517
81849.1	81849	ST6GALNAC5	ST6 (alpha-N-acetyl-neuraminy1-2,3-beta-galactosyl-1,3)-N-acetylgalactosaminide alpha-2,6-sialyltransferase 5	
54965.1	54965	PIGX	phosphatidylinositol glycan, class X	transcript: NM_017861
55650.1	55650	PIGV	phosphatidylinositol glycan, class V	transcript: NM_017837
23556.2	23556	PIGN	phosphatidylinositol glycan, class N	transcript: NM_176787
54872.1	54872	GPI7	GPI7 protein	transcript: NM_017733
343.1	343	AQP8	Aquaporin 8	
80055.1	80055	PGAP1	GPI deacylase	transcript: NM_024989
80235.1	80235	SMP3	SMP3 mannosyltransferase	transcript: NM_025163
22305.1	22305	ACSL6	acyl-CoA synthetase long-chain family member 6	
22305.2	22305	ACSL6	acyl-CoA synthetase long-chain family member 6	
427.2	427	ASAH1	N-acylsphingosine amidohydrolase (acid ceramidase) 1	



Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
10678.2	10678	B3GNT1	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 1	transcript: NM_033252
60559.1	60559	SPCS3	signal peptidase complex subunit 3 homolog ( <i>S. cerevisiae</i> )	
28972.1	28972	SPCS1	signal peptidase complex subunit 1 homolog	
9789.1	9789	SPCS2	signal peptidase complex subunit 2 homolog	
90701.1	90701	SEC11L3	SEC11-like 3 ( <i>S. cerevisiae</i> )	
50814.1	50814	NSDHL	NAD(P) dependent steroid dehydrogenase-like	
8654.2	8654	PDE5A	phosphodiesterase 5A, cGMP-specific	
8654.3	8654	PDE5A	phosphodiesterase 5A, cGMP-specific	
114112.1	114112	TXNRD3	thioredoxin reductase 3	
8534.1	8534	CHST1	carbohydrate (keratan sulfate Gal-6) sulfotransferase 1	transcript: NM_003654
9469.1	9469	CHST3	carbohydrate (chondroitin 6) sulfotransferase 3	transcript: NM_004273
23563.1	23563	CHST5	carbohydrate (N-acetylglucosamine 6-O) sulfotransferase 5	transcript: NM_012126
23563.2	23563	CHST5	carbohydrate (N-acetylglucosamine 6-O) sulfotransferase 5	transcript: NM_024533
4166.1	4166	CHST6	carbohydrate (N-acetylglucosamine 6-O) sulfotransferase 6	transcript: NM_021615
6566.1	6566	SLC16A1	solute carrier family 16 (monocarboxylic acid transporters), member 1	1 - 1p12 NM_003051
373156.1	373156	GSTK1	glutathione S-transferase kappa 1	
55454.1	55454	GALNACT-2	chondroitin sulfate GalNAcT-2	transcript: NM_018590
55790.1	55790	ChGn	chondroitin beta1,4 N-acetylgalactosaminyltransferase	transcript: NM_018371
113189.1	113189	D4ST1	dermatan 4 sulfotransferase 1	transcript: NM_130468
54480.1	54480	CSGlcA-T	chondroitin sulfate glucuronyltransferase	transcript: NM_019015
79586.1	79586	CHPF	chondroitin polymerizing factor	transcript: NM_024536
337876.1	337876	CSS3	chondroitin sulfate synthase 3	transcript: NM_175856
2109.2	2109	ETFB	Electron-transfer-flavoprotein, beta polypeptide	
2132.2	2132	EXT2	exostosin (multiple) 2	transcript: NM_207122
64816.1	64816	CYP3A43	cytochrome P450, family 3, subfamily A, polypeptide	
64816.2	64816	CYP3A43	cytochrome P450, family 3, subfamily A, polypeptide	
64816.3	64816	CYP3A43	cytochrome P450, family 3, subfamily A, polypeptide	
26035.1	26035	GLCE	glucuronyl C5-epimerase	transcript: NM_015554
10991.1	10991	SLC38A3	solute carrier family 38, member 3	
206358.1	206358	SLC36A1	solute carrier family 36 (proton/amino acid symporter), member 1	
23428.1	23428	SLC7A8	solute carrier family 7 (cationic amino acid transporter, y+ system), member 8	
23428.2	23428	SLC7A8	solute carrier family 7 (cationic amino acid transporter, y+ system), member 8	
56301.1	56301	SLC7A10	solute carrier family 7, (neutral amino acid transporter, y+ system) member 10	
6510.1	6510	SLC1A5	solute carrier family 1 (neutral amino acid transporter), member 5	
8140.1	8140	SLC7A5	solute carrier family 7 (cationic amino acid transporter, y+ system), member 5	
84649.1	84649	DGAT2	diacylglycerol O-acyltransferase homolog 2 (mouse)	
57030.1	57030	SLC17A7	solute carrier family 17 (sodium-dependent inorganic phosphate cotransporter), member 7	
29988.1	29988	SLC2A8	solute carrier family 2, (facilitated glucose transporter) member 8	transcript: NM_014580
154091.1	154091	SLC2A12	solute carrier family 2 (facilitated glucose transporter), member 12	transcript: NM_145176
118881.1	118881	COMTD1	catechol-O-methyltransferase domain containing 1	
766.2	766	CA7	Carbonic anhydrase VII	HUGO ID: 1381/UniProt ID: P43166/
8501.1	8501	SLC43A1	solute carrier family 43, member 1	
6536.1	6536	SLC6A9	solute carrier family 6 (neurotransmitter transporter, glycine) member 9	
6536.2	6536	SLC6A9	solute carrier family 6 (neurotransmitter transporter, glycine) member 9	
8671.1	8671	SLC4A4	solute carrier family 4, sodium bicarbonate cotransporter, member 4	
57835.1	57835	SLC4A5	solute carrier family 4, sodium bicarbonate cotransporter, member 5	
57835.2	57835	SLC4A5	solute carrier family 4, sodium bicarbonate cotransporter, member 5	
57835.3	57835	SLC4A5	solute carrier family 4, sodium bicarbonate cotransporter, member 5	
57835.4	57835	SLC4A5	solute carrier family 4, sodium bicarbonate cotransporter, member 5	
9497.1	9497	SLC4A7	solute carrier family 4, sodium bicarbonate cotransporter, member 7	
10935.2	10935	PRDX3	Peroxioredoxin 3	

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
6817.2	6817	SULT1A1	sulfotransferase family, cytosolic, 1A, phenol-preferring, member 1	
6817.3	6817	SULT1A1	sulfotransferase family, cytosolic, 1A, phenol-preferring, member 1	
6817.4	6817	SULT1A1	sulfotransferase family, cytosolic, 1A, phenol-preferring, member 1	
6817.5	6817	SULT1A1	sulfotransferase family, cytosolic, 1A, phenol-preferring, member 1	
6799.2	6799	SULT1A2	Sulfotransferase family, cytosolic, 1A, phenol-preferring, member 2	
6818.2	6818	SULT1A3	sulfotransferase family, cytosolic, 1A, phenol-preferring, member 3	
6818.3	6818	SULT1A3	sulfotransferase family, cytosolic, 1A, phenol-preferring, member 3	
480.1	480	ATP1A4	ATPase, Na <sup>+</sup> /K <sup>+</sup> transporting, alpha 4 polypeptide	
115286.2	115286	SLC25A26	solute carrier family 25, member 26	UniGene Hs.379386
115286.3	115286	SLC25A26	solute carrier family 25, member 26	UniGene Hs.379386
160728.1	160728	SLC5A8	solute carrier family 5 (iodide transporter), member 8	transcript: NM_145913
115584.1	115584	SLC5A11	solute carrier family 5 (sodium/glucose cotransporter), member 11	transcript: NM_052944
9963.1	9963	SLC23A1	solute carrier family 23 (nucleobase transporters), member 1	transcript: NM_005847
9963.2	9963	SLC23A1	solute carrier family 23 (nucleobase transporters), member 1	transcript: NM_152685
9962.1	9962	SLC23A2	solute carrier family 23 (nucleobase transporters), member 2	transcript: NM_005116
9962.2	9962	SLC23A2	solute carrier family 23 (nucleobase transporters), member 2	transcript: NM_203327
10559.1	10559	SLC35A1	solute carrier family 35 (CMP-sialic acid transporter), member A1	transcript: NM_006416
2030.1	2030	SLC29A1	solute carrier family 29 (nucleoside transporters), member 1	
55343.1	55343	SLC35C1	solute carrier family 35, member C1	transcript: NM_018389
9058.1	9058	SLC13A2	solute carrier family 13 (sodium-dependent dicarboxylate transporter), member 2	transcript: NM_003984
64849.1	64849	SLC13A3	solute carrier family 13 (sodium-dependent dicarboxylate transporter), member 3	transcript: NM_001011554
64849.2	64849	SLC13A3	solute carrier family 13 (sodium-dependent dicarboxylate transporter), member 3	transcript: NM_022829
6581.1	6581	SLC22A3	solute carrier family 22 (extraneuronal monoamine transporter), member 3	
6584.1	6584	SLC22A5	solute carrier family 22 (organic cation transporter), member 5	
6578.1	6578	SLC02A1	solute carrier organic anion transporter family, member 2A1	
6569.1	6569	SLC34A1	solute carrier family 34 (sodium phosphate), member 1	
10568.1	10568	SLC34A2	solute carrier family 34 (sodium phosphate), member 2	
1811.1	1811	SLC26A3	solute carrier family 26, member 3	
5172.1	5172	SLC26A4	solute carrier family 26, member 4	
65010.1	65010	SLC26A6	solute carrier family 26, member 6	
65010.2	65010	SLC26A6	solute carrier family 26, member 6	
65010.3	65010	SLC26A6	solute carrier family 26, member 6	
115111.1	115111	SLC26A7	solute carrier family 26, member 7	
115111.2	115111	SLC26A7	solute carrier family 26, member 7	
116369.1	116369	SLC26A8	solute carrier family 26, member 8	
116369.2	116369	SLC26A8	solute carrier family 26, member 8	
6567.1	6567	SLC16A2	solute carrier family 16 (monocarboxylic acid transporters), member 2	transcript: NM_006517
3177.1	3177	SLC29A2	solute carrier family 29 (nucleoside transporters), member 2	IT
10998.1	10998	SLC27A5	solute carrier family 27 (fatty acid transporter), member 5	
10257.1	10257	ABCC4	ATP-binding cassette, sub-family C (CFTR/MRP), member 4	IT
10057.1	10057	ABCC5	ATP-binding cassette, sub-family C (CFTR/MRP), member 5	IT
10057.2	10057	ABCC5	ATP-binding cassette, sub-family C (CFTR/MRP), member 5	IT
8714.1	8714	ABCC3	ATP-binding cassette, sub-family C (CFTR/MRP), member 3	
8714.2	8714	ABCC3	ATP-binding cassette, sub-family C (CFTR/MRP), member 3	
6553.1	6553	SLC9A5	solute carrier family 9 (sodium/hydrogen exchanger), isoform 5	transcript: NM_004594
8714.3	8714	ABCC3	ATP-binding cassette, sub-family C (CFTR/MRP), member 3	
137964.1	137964	AGPAT6	1-acylglycerol-3-phosphate O-acyltransferase 6	transcript: NM_178819

Abbreviation	Entrez Gene ID	Gene Symbol	Putative Function	Additional notes
9990.1	9990	SLC12A6	solute carrier family 12 (potassium/chloride transporters), member 6	transcript: NM_005135
50506.1	50506	DUOX2	dual oxidase 2	
26503.1	26503	SLC17A5	solute carrier family 17 (anion/sugar transporter), member 5	
10005.1	10005	PTE1	peroxisomal acyl-CoA thioesterase	
10005.2	10005	PTE1	peroxisomal acyl-CoA thioesterase	
10005.3	10005	PTE1	peroxisomal acyl-CoA thioesterase	
10965.1	10965	ZAP128	peroxisomal long-chain acyl-coA thioesterase	transcript: NM_006821
3038.2	3038	HAS3	hyaluronan synthase 3	
8875.2	8875	VNN2	vanin 2	IT
55350.3	55350	VNN3	vanin 3	IT
113235.1	113235	MGC9564	similar to RIKEN cDNA 1110002C08 gene	transcript: NM_080669
10690.1	10690	FUT9	fucosyltransferase 9 (alpha (1,3) fucosyltransferase)	
9388.1	9388	LIPG	lipase, endothelial	
10396.1	10396	ATP8A1	ATPase, aminophospholipid transporter (APLT), Class I, type 8A, member 1	
57194.1	57194	ATP10A	ATPase, Class V, type 10A	
8228.1	8228	PNPLA4	keratinocyte retinyl ester hydrolase	IT
8608.1	8608	RDH16	retinol dehydrogenase 16 (all-trans and 13-cis)	IT
8897.1	8897	MTMR3	myotubularin related protein 3	transcript: NM_021090
8897.2	8897	MTMR3	myotubularin related protein 3	transcript: NM_153050
8897.3	8897	MTMR3	myotubularin related protein 3	transcript: NM_153051
4363.1	4363	ABCC1.1	ATP-binding cassette, sub-family C (CFTR/MRP), member	
522.5	522	Atp5j.5-m	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit F6	Transcript Variant: This variant (5) differs in the 5' UTR and the 5' coding region, compared to variant 1. The predicted isoform (b) is longer, and it contains a distinct N-terminus, compared to isoform a. The existence of a translated product from this transcript needs to be experimentally confirmed.
10312.2	10312	TCIRG1	T-cell, immune regulator 1, ATPase, H+ transporting, lysosomal V0 protein A3	