

**SUPPLEMENTARY TABLE 4. MitoCarta genes.**

The total number of nucleosomes within each gene identified as a mitochondrial associated gene by MitoCarta are listed for each treatment group by EntrezID, gene symbol and gene description.

EntrezID	Gene Symbol	Gene Description	Nucleosome Number		
			LF	HF	HF+NaB
11363	Acadl	acyl-Coenzyme A dehydrogenase, long-chain	150	145	147
11364	Acadm	acyl-Coenzyme A dehydrogenase, medium chain	79	76	84
11370	Acadvl	acyl-Coenzyme A dehydrogenase, very long chain	0	0	0
11409	Acads	acyl-Coenzyme A dehydrogenase, short chain	157	164	166
11428	Aco1	aconitase 1	1006	1009	1015
11429	Aco2	aconitase 2, mitochondrial	68	68	68
11564	Adsl	adenylosuccinate lyase 1	240	229	230
11611	Agxt	alanine-glyoxylate aminotransferase	74	76	74
11637	Ak2	adenylate kinase 2	121	120	126
11639	Ak3l1	adenylate kinase 3 alpha-like 1	0	0	0
11640	Akap1	A kinase (PRKA) anchor protein 1	318	318	335
11655	Alas1	aminolevulinic acid synthase 1	77	76	76
11656	Alas2	aminolevulinic acid synthase 2, erythroid	0	0	0
11666	Abcd1	ATP-binding cassette, sub-family D (ALD), member 1	0	0	0
11669	Aldh2	aldehyde dehydrogenase 2, mitochondrial	94	87	100
11671	Aldh3a2	aldehyde dehydrogenase family 3, subfamily A2	173	176	172
11692	Gfer	growth factor, erv1 ( <i>S. cerevisiae</i> )-like (augmenter of liver regeneration)	6	8	6
11739	Slc25a4	solute carrier family 25 (mitochondrial carrier, adenine nucleotide translocator), member 4	154	153	157
11740	Slc25a5	solute carrier family 25 (mitochondrial carrier, adenine nucleotide translocator), member 5	0	0	0
11757	Prdx3	peroxiredoxin 3	39	39	40
11758	Prdx6	peroxiredoxin 6	307	299	311
11847	Arg2	arginase type II	108	109	109
11848	Rhoa	ras homolog gene family, member A	42	42	42
11946	Atp5a1	ATP synthase, H <sup>+</sup> transporting, mitochondrial F1 complex, alpha subunit, isoform 1	36	35	37

11947	Atp5b	ATP synthase, H+ transporting mitochondrial F1 complex, beta subunit	0	0	0
11949	Atp5c1	ATP synthase, H+ transporting, mitochondrial F1 complex, gamma polypeptide 1	42	45	38
11950	Atp5f1	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit b, isoform 1	18	16	20
11951	Atp5g1	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit c (subunit 9), isoform 1	59	65	63
11957	Atp5j	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit F	433	440	425
11958	Atp5k	ATP synthase, H+ transporting, mitochondrial F1F0 complex, subunit e	0	0	0
11983	Atpif1	ATPase inhibitory factor 1	30	36	30
11992	Auh	AU RNA binding protein/enoyl-coenzyme A hydratase	293	289	289
11997	Akr1b7	aldo-keto reductase family 1, member B7	0	0	0
12015	Bad	Bcl-associated death promoter	0	0	0
12018	Bak1	BCL2-antagonist/killer 1	71	75	66
12028	Bax	Bcl2-associated X protein	34	32	34
12034	Phb2	prohibitin 2	6	5	7
12035	Bcat1	branched chain aminotransferase 1, cytosolic	1218	1212	1220
12036	Bcat2	branched chain aminotransferase 2, mitochondrial	76	72	73
12039	Bckdha	branched chain ketoacid dehydrogenase E1, alpha polypeptide	43	43	42
12040	Bckdhb	branched chain ketoacid dehydrogenase E1, beta polypeptide	1898	1893	1899
12041	Bckdk	branched chain ketoacid dehydrogenase kinase	21	24	22
12043	Bcl2	B-cell leukemia/lymphoma 2	764	768	753
12122	Bid	BH3 interacting domain death agonist	322	318	310
12257	Tspo	translocator protein	55	48	47
12261	C1qbp	complement component 1, q subcomponent binding protein	44	51	46
12352	Car5a	carbonic anhydrase 5a, mitochondrial	0	0	0
12370	Casp8	caspase 8	340	363	337
12409	Cbr2	carbonyl reductase 2	0	0	0
12468	Cct7	chaperonin subunit 7 (eta)	0	0	1
12647	Chat	choline acetyltransferase	68	66	68

12716	Ckmt1	creatine kinase, mitochondrial 1, ubiquitous	0	0	0
12846	Comt	catechol-O-methyltransferase	184	191	190
12850	Coq7	demethyl-Q 7	123	124	125
12856	Cox17	cytochrome c oxidase, subunit XVII assembly protein homolog (yeast)	25	25	27
12857	Cox4i1	cytochrome c oxidase subunit IV isoform 1	82	88	87
12858	Cox5a	cytochrome c oxidase, subunit Va	41	38	40
12859	Cox5b	cytochrome c oxidase, subunit Vb	35	31	33
12861	Cox6a1	cytochrome c oxidase, subunit VI a, polypeptide 1	117	115	121
12862	Cox6a2	cytochrome c oxidase, subunit VI a, polypeptide 2	0	0	0
12864	Cox6c	cytochrome c oxidase, subunit VIc	602	613	616
12865	Cox7a1	cytochrome c oxidase, subunit VIIa 1	34	35	32
12866	Cox7a2	cytochrome c oxidase, subunit VIIa 2	100	96	96
12867	Cox7c	cytochrome c oxidase, subunit VIIc	0	0	0
12868	Cox8a	cytochrome c oxidase, subunit VIIIA	44	48	46
12869	Cox8b	cytochrome c oxidase, subunit VIIIB	0	0	0
12892	Cpox	coproporphyrinogen oxidase	95	103	98
12894	Cpt1a	carnitine palmitoyltransferase 1a, liver	134	138	131
12895	Cpt1b	carnitine palmitoyltransferase 1b, muscle	28	25	24
12896	Cpt2	carnitine palmitoyltransferase 2	103	101	104
12908	Crat	carnitine acetyltransferase	27	33	30
12952	Cry1	cryptochrome 1 (photolyase-like)	247	241	236
12974	Cs	citrate synthase	65	59	64
13063	Cycs	cytochrome c, somatic	138	147	141
13067	Cyct	cytochrome c, testis	0	0	0
13070	Cyp11a1	cytochrome P450, family 11, subfamily a, polypeptide 1	214	201	210
13072	Cyp11b2	cytochrome P450, family 11, subfamily b, polypeptide 2	56	52	51
13081	Cyp24a1	cytochrome P450, family 24, subfamily a, polypeptide 1	19	19	17

13115	Cyp27b1	cytochrome P450, family 27, subfamily b, polypeptide 1	25	22	22
13171	Dbt	dihydrolipoamide branched chain transacylase E2	73	73	77
13177	Dci	dodecenoyl-Coenzyme A delta isomerase (3,2 trans-enoyl-Coenzyme A isomerase)	0	0	0
13358	Slc25a1	solute carrier family 25 (mitochondrial carrier, citrate transporter), member 1	80	80	85
13382	Dld	dihydrolipoamide dehydrogenase	222	233	212
13495	Drg2	developmentally regulated GTP binding protein 2	71	73	67
13717	Eln	elastin	279	281	274
13804	Endog	endonuclease G	57	54	56
14004	Chchd2	coiled-coil-helix-coiled-coil-helix domain containing 2	22	19	19
14057	Sfxn1	sideroflexin 1	171	179	173
14081	Acsl1	acyl-CoA synthetase long-chain family member 1	329	332	336
14104	Fasn	fatty acid synthase	174	167	170
14148	Fdx1	ferredoxin 1	226	225	217
14149	Fdxr	ferredoxin reductase	34	37	36
14151	Fech	ferrochelatase	233	217	216
14194	Fh1	fumarate hydratase 1	0	0	0
14232	Fkbp8	FK506 binding protein 8	18	19	18
14287	Fpgs	folypolyglutamyl synthetase	83	77	80
14297	Fxn	frataxin	334	338	330
14319	Fth1	ferritin heavy chain 1	132	126	133
14356	Fxc1	fractured callus expressed transcript 1	127	117	125
14420	Galc	galactosylceramidase	2829	2853	2827
14467	Gbas	glioblastoma amplified sequence	96	98	99
14533	Bloc1s1	biogenesis of lysosome-related organelles complex-1, subunit 1	15	17	21
14548	Mrps33	mitochondrial ribosomal protein S33	488	485	486
14555	Gpd1	glycerol-3-phosphate dehydrogenase 1 (soluble)	0	0	0
14571	Gpd2	glycerol phosphate dehydrogenase 2, mitochondrial	1119	1138	1135

14625	Gyk1	glycerol kinase-like 1	0	0	0
14626	Gk2	glycerol kinase 2	807	795	807
14651	Hagh	hydroxyacyl glutathione hydrolase	39	37	34
14660	Gls	glutaminase	481	485	475
14661	Glud1	glutamate dehydrogenase 1	47	45	45
14707	Gng5	guanine nucleotide binding protein (G protein), gamma 5 subunit	27	25	29
14719	Got2	glutamate oxaloacetate transaminase 2, mitochondrial	146	146	132
14732	Gpam	glycerol-3-phosphate acyltransferase, mitochondrial	1449	1415	1432
14775	Gpx1	glutathione peroxidase 1	50	58	55
14782	Gsr	glutathione reductase 1	126	129	116
14933	Gyk	glycerol kinase	0	0	0
14979	H2-Ke6	H2-K region expressed gene 6	0	0	0
15107	Hadh	hydroxyacyl-Coenzyme A dehydrogenase	258	249	262
15108	Hsd17b10	hydroxysteroid (17-beta) dehydrogenase 10	0	0	0
15159	Hccs	holocytochrome c synthetase	0	0	0
15275	Hk1	hexokinase 1	220	210	213
15277	Hk2	hexokinase 2	376	364	373
15278	Tfb2m	transcription factor B2, mitochondrial	42	36	41
15356	Hmgcl	3-hydroxy-3-methylglutaryl-Coenzyme A lyase	58	58	61
15360	Hmgcs2	3-hydroxy-3-methylglutaryl-Coenzyme A synthase 2	157	158	144
15473	Hrsp12	heat-responsive protein 12	55	55	53
15488	Hsd17b4	hydroxysteroid (17-beta) dehydrogenase 4	294	284	287
15492	Hsd3b1	hydroxy-delta-5-steroid dehydrogenase, 3 beta- and steroid delta-isomerase 1	103	106	105
15495	Hsd3b4	hydroxy-delta-5-steroid dehydrogenase, 3 beta- and steroid delta-isomerase 4	0	0	0
15496	Hsd3b5	hydroxy-delta-5-steroid dehydrogenase, 3 beta- and steroid delta-isomerase 5	0	0	0
15510	Hspd1	heat shock protein 1 (chaperonin)	45	43	45
15526	Hspa9	heat shock protein 9	264	246	249

15528 Hspe1	heat shock protein 1 (chaperonin 10)	57	53	51
15925 Ide	insulin degrading enzyme	217	213	223
15926 Idh1	isocitrate dehydrogenase 1 (NADP+), soluble	92	94	94
15929 Idh3g	isocitrate dehydrogenase 3 (NAD+), gamma	0	0	0
16561 Kif1b	kinesin family member 1B	338	338	331
16828 Ldha	lactate dehydrogenase A	84	83	86
16832 Ldhb	lactate dehydrogenase B	133	129	126
16922 Phyh	phytanoyl-CoA hydroxylase	124	121	127
17117 Amacr	alpha-methylacyl-CoA racemase	67	58	56
17161 Maa	monoamine oxidase A	0	0	0
17433 Mobp	myelin-associated oligodendrocytic basic protein	234	225	228
17436 Mod1	malic enzyme, supernatant	0	0	0
17448 Mdh2	malate dehydrogenase 2, NAD (mitochondrial)	49	48	48
17449 Mdh1	malate dehydrogenase 1, NAD (soluble)	84	80	73
17527 Mpv17	Mpv17 transgene, kidney disease mutant	52	51	54
17705 ATP6	ATP synthase F0 subunit 6	0	0	0
17706 ATP8	ATP synthase F0 subunit 8	0	0	0
17708 COX1	cytochrome c oxidase subunit I	0	0	0
17709 COX2	cytochrome c oxidase subunit II	0	0	0
17710 COX3	cytochrome c oxidase subunit III	0	0	0
17711 CYTB	cytochrome b	0	0	0
17713 Grpel1	GrpE-like 1, mitochondrial	117	102	112
17714 Grpel2	GrpE-like 2, mitochondrial	24	23	25
17716 ND1	NADH dehydrogenase subunit 1	0	0	0
17717 ND2	NADH dehydrogenase subunit 2	0	0	0
17718 ND3	NADH dehydrogenase subunit 3	0	0	0
17719 ND4	NADH dehydrogenase subunit 4	0	0	0

17720 ND4L	NADH dehydrogenase subunit 4L	0	0	0
17721 ND5	NADH dehydrogenase subunit 5	0	0	0
17722 ND6	NADH dehydrogenase subunit 6	0	0	0
17763 Mtcp1	mature T-cell proliferation 1	0	0	0
17768 Mthfd2	methylenetetrahydrofolate dehydrogenase (NAD+ dependent), methenyltetrahydrofolate cyclohydrolase	118	121	118
17827 Mtx1	metaxin 1	13	14	12
17850 Mut	methylmalonyl-Coenzyme A mutase	1744	1791	1721
17991 Ndufa2	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 2	12	10	11
17992 Ndufa4	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 4	1205	1219	1181
17993 Ndufs4	NADH dehydrogenase (ubiquinone) Fe-S protein 4	848	871	857
17995 Ndufv1	NADH dehydrogenase (ubiquinone) flavoprotein 1	41	43	42
18041 Nfs1	nitrogen fixation gene 1 (S. cerevisiae)	0	0	0
18082 Nipsnap1	4-nitrophenylphosphatase domain and non-neuronal SNAP25-like protein homolog 1 (C. elegans)	61	61	57
18100 Mrpl40	mitochondrial ribosomal protein L40	49	52	51
18102 Nme1	expressed in non-metastatic cells 1, protein	52	51	51
18103 Nme2	expressed in non-metastatic cells 2, protein	108	109	105
18115 Nnt	nicotinamide nucleotide transhydrogenase	902	933	890
18120 Mrpl49	mitochondrial ribosomal protein L49	13	12	12
18207 Nthl1	nth (endonuclease III)-like 1 (E.coli)	15	14	16
18242 Oat	ornithine aminotransferase	371	364	369
18293 Ogdh	oxoglutarate dehydrogenase (lipoamide)	148	147	153
18294 Ogg1	8-oxoguanine DNA-glycosylase 1	47	39	45
18408 Slc25a15	solute carrier family 25 (mitochondrial carrier ornithine transporter), member 15	156	165	164
18416 Otc	ornithine transcarbamylase	0	0	0
18477 Prdx1	peroxiredoxin 1	75	74	74
18563 Pcx	pyruvate carboxylase	0	0	0
18597 Pdha1	pyruvate dehydrogenase E1 alpha 1	0	0	0

18598	Pdha2	pyruvate dehydrogenase E1 alpha 2	2836	2863	2801
18604	Pdk2	pyruvate dehydrogenase kinase, isoenzyme 2	89	86	87
18632	Pex11b	peroxisomal biogenesis factor 11b	24	22	21
18669	Abcb1b	ATP-binding cassette, sub-family B (MDR/TAP), member 1B	0	0	0
18673	Phb	prohibitin	180	166	187
18674	Slc25a3	solute carrier family 25 (mitochondrial carrier, phosphate carrier), member 3	115	116	115
18952	39329	septin 4	0	0	0
18975	Polg	polymerase (DNA directed), gamma	146	142	146
19044	Ppox	protoporphyrinogen oxidase	21	20	25
19125	Prodh	proline dehydrogenase	91	96	91
19286	Pts	6-pyruvoyl-tetrahydropterin synthase	75	82	77
19299	Abcd3	ATP-binding cassette, sub-family D (ALD), member 3	295	289	294
19301	Pxmp2	peroxisomal membrane protein 2	0	0	0
19326	Rab11b	RAB11B, member RAS oncogene family	78	80	78
19336	Rab24	RAB24, member RAS oncogene family	148	153	155
19340	Rab3d	RAB3D, member RAS oncogene family	104	93	102
19342	Rab4b	RAB4B, member RAS oncogene family	5	5	5
19819	Rnaseh1	ribonuclease H1	49	50	59
19896	Rpl10a	ribosomal protein L10A	47	44	42
19935	Mrp123	mitochondrial ribosomal protein L23	71	70	65
20044	Rps14	ribosomal protein S14	113	116	110
20216	Acsm3	acyl-CoA synthetase medium-chain family member 3	91	93	93
20226	Sars	seryl-aminoacyl-tRNA synthetase	162	156	151
20280	Scp2	sterol carrier protein 2, liver	185	170	166
20425	Shmt1	serine hydroxymethyl transferase 1 (soluble)	67	67	70
20463	Cox7a2l	cytochrome c oxidase subunit VIIa polypeptide 2-like	371	372	370
20480	Clpb	ClpB caseinolytic peptidase B homolog (E. coli)	294	314	303

20501	Slc16a1	solute carrier family 16 (monocarboxylic acid transporters), member 1	323	340	334
20523	Slc25a14	solute carrier family 25 (mitochondrial carrier, brain), member 14	0	0	0
20655	Sod1	superoxide dismutase 1, soluble	188	183	175
20656	Sod2	superoxide dismutase 2, mitochondrial	78	77	76
20751	Spr	sepiapterin reductase	80	79	83
20773	Sptlc2	serine palmitoyltransferase, long chain base subunit 2	227	220	219
20845	Star	steroidogenic acute regulatory protein	75	71	80
20916	Sucla2	succinate-Coenzyme A ligase, ADP-forming, beta subunit	1393	1392	1373
20917	Suclg2	succinate-Coenzyme A ligase, GDP-forming, beta subunit	1000	1004	984
20930	Surf1	surfeit gene 1	23	20	24
21354	Tap1	transporter 1, ATP-binding cassette, sub-family B (MDR/TAP)	13	14	10
21379	Tbrg4	transforming growth factor beta regulated gene 4	22	25	28
21672	Prdx2	peroxiredoxin 2	0	0	0
21780	Tfam	transcription factor A, mitochondrial	134	138	131
21854	Timm17a	translocase of inner mitochondrial membrane 17a	48	55	53
21855	Timm17b	translocase of inner mitochondrial membrane 17b	0	0	0
21856	Timm44	translocase of inner mitochondrial membrane 44	83	91	88
22117	Tst	thiosulfate sulfurtransferase, mitochondrial	13	12	11
22166	Txn1	thioredoxin 1	0	0	0
22227	Ucp1	uncoupling protein 1 (mitochondrial, proton carrier)	216	205	217
22228	Ucp2	uncoupling protein 2 (mitochondrial, proton carrier)	51	53	49
22229	Ucp3	uncoupling protein 3 (mitochondrial, proton carrier)	158	156	160
22256	Ung	uracil DNA glycosylase	44	46	46
22272	Uqcrcq	ubiquinol-cytochrome c reductase, complex III subunit VII	11	12	9
22273	Uqcrc1	ubiquinol-cytochrome c reductase core protein 1	50	52	49
22317	Vamp1	vesicle-associated membrane protein 1	48	53	56
22320	Vamp8	vesicle-associated membrane protein 8	44	43	48

22333	Vdac1	voltage-dependent anion channel 1	146	145	140
22334	Vdac2	voltage-dependent anion channel 2	135	129	135
22335	Vdac3	voltage-dependent anion channel 3	193	189	178
23795	Agr2	anterior gradient 2 ( <i>Xenopus laevis</i> )	152	153	145
23923	Aadat	aminoadipate aminotransferase	2164	2156	2144
23986	Peci	peroxisomal delta3, delta2-enoyl-Coenzyme A isomerase	0	0	0
24030	Mrps12	mitochondrial ribosomal protein S12	29	32	31
26462	Txnrd2	thioredoxin reductase 2	16	15	18
26874	Abcd2	ATP-binding cassette, sub-family D (ALD), member 2	679	675	668
26897	Acot1	acyl-CoA thioesterase 1	0	0	0
26912	Gcat	glycine C-acetyltransferase (2-amino-3-ketobutyrate-coenzyme A ligase)	16	15	16
26922	Mecr	mitochondrial trans-2-enoyl-CoA reductase	36	43	45
26926	Aifm1	apoptosis-inducing factor, mitochondrion-associated 1	0	0	0
26940	Ecsit	ECSIT homolog ( <i>Drosophila</i> )	41	35	38
27045	Nit1	nitrilase 1	19	19	20
27057	Ncoa4	nuclear receptor coactivator 4	85	89	82
27060	Tcirg1	T-cell, immune regulator 1, ATPase, H+ transporting, lysosomal V0 protein A3	82	78	80
27273	Pdk4	pyruvate dehydrogenase kinase, isoenzyme 4	429	432	426
27369	Dguok	deoxyguanosine kinase	118	127	121
27376	Slc25a10	solute carrier family 25 (mitochondrial carrier, dicarboxylate transporter), member 10	64	59	57
27377	Yme111	YME1-like 1 ( <i>S. cerevisiae</i> )	71	68	65
27393	Mrpl39	mitochondrial ribosomal protein L39	79	80	77
27395	Mrpl15	mitochondrial ribosomal protein L15	403	408	397
27397	Mrpl17	mitochondrial ribosomal protein L17	102	86	97
27398	Mrpl2	mitochondrial ribosomal protein L2	7	7	4
27402	Pdhx	pyruvate dehydrogenase complex, component X	230	221	231
27407	Abcf2	ATP-binding cassette, sub-family F (GCN20), member 2	39	37	42

27425	Atp5l	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit g	119	113	110
28028	Mrpl50	mitochondrial ribosomal protein L50	18	19	17
28030	Gfm1	G elongation factor, mitochondrial 1	113	109	113
28080	Atp5o	ATP synthase, H+ transporting, mitochondrial F1 complex, O subunit	420	422	420
28185	Tomm70a	translocase of outer mitochondrial membrane 70 homolog A (yeast)	135	126	123
28200	Dhrs4	dehydrogenase/reductase (SDR family) member 4	364	343	335
28295	D10Jhu81e	DNA segment, Chr 10, Johns Hopkins University 81 expressed	0	0	0
29818	Hspb7	heat shock protein family, member 7 (cardiovascular)	23	21	22
29876	Clic4	chloride intracellular channel 4 (mitochondrial)	293	296	296
30055	Timm13	translocase of inner mitochondrial membrane 13 homolog (yeast)	0	0	0
30056	Timm9	translocase of inner mitochondrial membrane 9 homolog (yeast)	30	33	36
30057	Timm8b	translocase of inner mitochondrial membrane 8 homolog b (yeast)	17	20	18
30058	Timm8a1	translocase of inner mitochondrial membrane 8 homolog a1 (yeast)	0	0	0
30059	Timm10	translocase of inner mitochondrial membrane 10 homolog (yeast)	22	23	24
30805	Slc22a4	solute carrier family 22 (organic cation transporter), member 4	114	112	116
30956	Aass	aminoadipate-semialdehyde synthase	460	479	474
50493	Txnrd1	thioredoxin reductase 1	107	102	107
50529	Mrps7	mitochondrial ribosomal protein S7	12	9	10
50773	Nt5c	5',3'-nucleotidase, cytosolic	53	45	55
50776	Polg2	polymerase (DNA directed), gamma 2, accessory subunit	37	40	40
50790	Acsl4	acyl-CoA synthetase long-chain family member 4	0	0	0
50799	Slc25a13	solute carrier family 25 (mitochondrial carrier, adenine nucleotide translocator), member 13	1108	1125	1107
51798	Ech1	enoyl coenzyme A hydratase 1, peroxisomal	34	28	31
52055	Rab11fip5	RAB11 family interacting protein 5 (class I)	120	111	120
52064	Coq5	coenzyme Q5 homolog, methyltransferase (yeast)	37	34	40
52123	Agpat5	1-acylglycerol-3-phosphate O-acyltransferase 5 (lysophosphatidic acid acyltransferase, epsilon)	271	266	278
52443	Mrpl48	mitochondrial ribosomal protein L48	151	158	156

52535	Mett11d1	methyltransferase 11 domain containing 1	0	0	0
52538	Acaa2	acetyl-Coenzyme A acyltransferase 2 (mitochondrial 3-oxoacyl-Coenzyme A thiolase)	228	226	235
52575	Rg9mtd1	RNA (guanine-9-) methyltransferase domain containing 1	59	61	58
52585	Dhrs1	dehydrogenase/reductase (SDR family) member 1	32	33	30
52637	Zcd1	zinc finger, CDGSH-type domain 1	0	0	0
52815	Ldhd	lactate dehydrogenase D	127	137	144
52838	D2Bwg1335e	DNA segment, Chr 2, Brigham & Women's Genetics 1335 expressed	0	0	0
52856	Gtpbp5	GTP binding protein 5	75	74	81
52892	Sco1	SCO cytochrome oxidase deficient homolog 1 (yeast)	34	30	31
53333	Tomm40	translocase of outer mitochondrial membrane 40 homolog (yeast)	62	65	62
53375	Mtx2	metaxin 2	1167	1155	1142
53600	Timm23	translocase of inner mitochondrial membrane 23 homolog (yeast)	0	0	0
53869	Rab11a	RAB11a, member RAS oncogene family	552	547	544
53895	Clpp	caseinolytic peptidase, ATP-dependent, proteolytic subunit homolog (E. coli)	19	18	20
54369	Nme6	expressed in non-metastatic cells 6, protein	26	21	24
54391	Rfk	riboflavin kinase	599	612	598
54405	Ndufa1	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 1	0	0	0
54447	Asah2	N-acylsphingosine amidohydrolase 2	429	434	440
54683	Prdx5	peroxiredoxin 5	68	65	63
55936	Ctps2	cytidine 5'-triphosphate synthase 2	0	0	0
55951	Brp44l	brain protein 44-like	81	89	92
56046	2410003P15Rik	RIKEN cDNA 2410003P15 gene	0	0	0
56075	Pdss1	prenyl (solanesyl) diphosphate synthase, subunit 1	338	348	331
56078	Car5b	carbonic anhydrase 5b, mitochondrial	0	0	0
56185	Hao3	hydroxyacid oxidase (glycolate oxidase) 3	0	0	0
56189	Prodh2	proline dehydrogenase (oxidase) 2	66	67	69
56199	Abcb10	ATP-binding cassette, sub-family B (MDR/TAP), member 10	91	90	94

56248 Ak3	adenylate kinase 3	66	67	69
56280 Mrpl37	mitochondrial ribosomal protein L37	209	203	199
56282 Mrpl12	mitochondrial ribosomal protein L12	28	34	32
56284 Mrpl19	mitochondrial ribosomal protein L19	154	145	159
56295 Higd1a	HIG1 domain family, member 1A	54	51	48
56322 Timm22	translocase of inner mitochondrial membrane 22 homolog (yeast)	139	138	143
56357 Ivd	isovaleryl coenzyme A dehydrogenase	121	114	123
56360 Acot9	acyl-CoA thioesterase 9	0	0	0
56384 Letm1	leucine zipper-EF-hand containing transmembrane protein 1	152	152	157
56412 2610024G14Rik	RIKEN cDNA 2610024G14 gene	0	0	0
56428 Mtch2	mitochondrial carrier homolog 2 (C. elegans)	137	135	143
56451 Suclg1	succinate-CoA ligase, GDP-forming, alpha subunit	311	318	312
56454 Aldh18a1	aldehyde dehydrogenase 18 family, member A1	127	126	126
56462 Mtch1	mitochondrial carrier homolog 1 (C. elegans)	53	58	55
56463 AL033314	expressed sequence AL033314	0	0	0
56520 Nme4	expressed in non-metastatic cells 4, protein	30	27	28
56551 Txn2	thioredoxin 2	148	153	147
56690 Mlycd	malonyl-CoA decarboxylase	115	117	119
56695 Pnkd	paroxysmal nonkinesigenic dyskinesia	105	102	90
56697 Akap10	A kinase (PRKA) anchor protein 10	282	296	293
56748 Nfu1	NFU1 iron-sulfur cluster scaffold homolog (S. cerevisiae)	254	253	254
56749 Dhodh	dihydroorotate dehydrogenase	44	47	46
56752 Aldh9a1	aldehyde dehydrogenase 9, subfamily A1	111	113	116
57279 Slc25a20	solute carrier family 25 (mitochondrial carnitine/acylcarnitine translocase), member 20	55	61	60
57312 Mrps31	mitochondrial ribosomal protein S31	102	106	103
57320 Park7	Parkinson disease (autosomal recessive, early onset) 7	78	79	80
57344 As3mt	arsenic (+3 oxidation state) methyltransferase	91	94	91

57423	Atp5j2	ATP synthase, H <sup>+</sup> transporting, mitochondrial F0 complex, subunit f, isoform 2	45	42	42
57431	Dnajc4	DnaJ (Hsp40) homolog, subfamily C, member 4	11	10	10
57808	Rpl35a	ribosomal protein L35a	9	9	9
57813	Tk2	thymidine kinase 2, mitochondrial	104	102	100
57869	Adck2	aarF domain containing kinase 2	49	41	47
58865	Tdh	L-threonine dehydrogenase	0	0	0
58875	Hibadh	3-hydroxyisobutyrate dehydrogenase	509	517	492
59010	Sqrdl	sulfide quinone reductase-like (yeast)	2406	2417	2393
59040	Rhot1	ras homolog gene family, member T1	160	156	145
59054	Mrps30	mitochondrial ribosomal protein S30	1392	1422	1399
59310	Mylc2pl	myosin light chain 2, precursor lymphocyte-specific	0	0	0
60441	Mrpl38	mitochondrial ribosomal protein L38	0	0	0
64059	Oxct2a	3-oxoacid CoA transferase 2A	0	0	0
64384	Sirt3	sirtuin 3 (silent mating type information regulation 2, homolog) 3 ( <i>S. cerevisiae</i> )	34	33	32
64602	Ireb2	iron responsive element binding protein 2	199	203	204
64655	Mrps22	mitochondrial ribosomal protein S22	366	359	345
64656	Mrps23	mitochondrial ribosomal protein S23	161	147	157
64657	Mrps10	mitochondrial ribosomal protein S10	213	196	208
64658	Mrps25	mitochondrial ribosomal protein S25	161	164	156
64659	Mrps14	mitochondrial ribosomal protein S14	77	73	78
64660	Mrps24	mitochondrial ribosomal protein S24	223	228	207
64697	Keg1	kidney expressed gene 1	0	0	0
64704	Htra2	HtrA serine peptidase 2	26	29	24
64833	Acot10	acyl-CoA thioesterase 10	0	0	0
65102	Nif3l1	Ngg1 interacting factor 3-like 1 ( <i>S. pombe</i> )	79	79	79
65111	Dap3	death associated protein 3	66	63	76
65967	Eefsec	eukaryotic elongation factor, selenocysteine-tRNA-specific	315	317	312

66043	Atp5d	ATP synthase, H+ transporting, mitochondrial F1 complex, delta subunit	0	0	0
66046	Ndufb5	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 5	94	105	102
66047	Mrpl54	mitochondrial ribosomal protein L54	10	12	14
66052	Sdhc	succinate dehydrogenase complex, subunit C, integral membrane protein	40	38	41
66067	Gtpbp8	GTP-binding protein 8 (putative)	52	51	53
66071	Ethe1	ethylmalonic encephalopathy 1	47	59	55
66072	0610038F07Rik	RIKEN cDNA 0610038F07 gene	0	0	0
66072	0710008K08Rik	RIKEN cDNA 0710008K08 gene	0	0	0
66075	Chchd3	coiled-coil-helix-coiled-coil-helix domain containing 3	843	872	833
66077	Aurkaip1	aurora kinase A interacting protein 1	39	33	36
66084	Rmnd1	required for meiotic nuclear division 1 homolog (S. cerevisiae)	4	4	2
66091	Ndufa3	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 3	19	18	18
66092	Ghitm	growth hormone inducible transmembrane protein	2999	3044	3023
66108	Ndufa9	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 9	150	147	147
66112	Mosc1	MOCO sulphurase C-terminal domain containing 1	116	117	119
66114	Wbscr18	Williams-Beuren syndrome chromosome region 18 homolog (human)	0	0	0
66117	1110001J03Rik	RIKEN cDNA 1110001J03 gene	0	0	0
66119	1110002E23Rik	RIKEN cDNA 1110002E23 gene	0	0	0
66121	Chchd1	coiled-coil-helix-coiled-coil-helix domain containing 1	10	11	10
66128	Mrps36	mitochondrial ribosomal protein S36	59	56	62
66142	Cox7b	cytochrome c oxidase subunit VIIb	0	0	0
66148	Dnajc15	DnaJ (Hsp40) homolog, subfamily C, member 15	132	138	138
66152	1110020P15Rik	RIKEN cDNA 1110020P15 gene	0	0	0
66154	Tmem14c	transmembrane protein 14C	87	86	91
66163	Mrpl4	mitochondrial ribosomal protein L4	53	57	47
66169	Tomm7	translocase of outer mitochondrial membrane 7 homolog (yeast)	78	80	86
66198	Them5	thioesterase superfamily member 5	70	68	66

66218	Ndubf9	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 9	188	190	193
66223	Mrpl35	mitochondrial ribosomal protein L35	166	159	164
66230	Mrps28	mitochondrial ribosomal protein S28	371	387	381
66242	Mrps16	mitochondrial ribosomal protein S16	76	77	78
66258	Mrps17	mitochondrial ribosomal protein S17	18	23	21
66271	Tmem126a	transmembrane protein 126A	40	43	45
66272	1810020G14Rik	RIKEN cDNA 1810020G14 gene	0	0	0
66292	Mrps21	mitochondrial ribosomal protein S21	40	38	35
66302	2410005O16Rik	RIKEN cDNA 2410005O16 gene	0	0	0
66346	1700029P11Rik	RIKEN cDNA 1700029P11 gene	0	0	0
66349	2310004L02Rik	RIKEN cDNA 2310004L02 gene	0	0	0
66359	2310005N03Rik	RIKEN cDNA 2310005N03 gene	0	0	0
66365	Ccdc90b	coiled-coil domain containing 90B	1991	2012	1950
66369	Dus2l	dihydrouridine synthase 2-like (SMM1, <i>S. cerevisiae</i> )	65	63	69
66377	Ndufc1	NADH dehydrogenase (ubiquinone) 1, subcomplex unknown, 1	0	0	0
66379	2310016M24Rik	RIKEN cDNA 2310016M24 gene	0	0	0
66383	Iscu	IscU iron-sulfur cluster scaffold homolog ( <i>E. coli</i> )	37	36	33
66387	Nudt8	nudix (nucleoside diphosphate linked moiety X)-type motif 8	12	11	15
66390	2310042G06Rik	RIKEN cDNA 2310042G06 gene	0	0	0
66399	Tsfn	Ts translation elongation factor, mitochondrial	53	52	55
66400	Alkbh7	alkB, alkylation repair homolog 7 ( <i>E. coli</i> )	0	0	0
66401	Nudt2	nudix (nucleoside diphosphate linked moiety X)-type motif 2	51	48	46
66407	Mrps15	mitochondrial ribosomal protein S15	44	45	48
66410	Mterfd1	MTERF domain containing 1	168	172	151
66414	Ndufa12	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 12	195	196	196
66416	Ndufa7	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 7 (B14.5a)	24	22	25
66419	Mrpl11	mitochondrial ribosomal protein L11	0	0	0

66427	Cyb5b	cytochrome b5 type B	259	260	260
66431	1810049H13Rik	RIKEN cDNA 1810049H13 gene	0	0	0
66433	Chchd7	coiled-coil-helix-coiled-coil-helix domain containing 7	106	102	113
66437	Fis1	fission 1 (mitochondrial outer membrane) homolog (yeast)	76	74	78
66445	Cyc1	cytochrome c-1	20	21	21
66448	Mrpl20	mitochondrial ribosomal protein L20	40	35	34
66449	Magmas	mitochondria-associated protein involved in granulocyte-macrophage colony-stimulating factor signal transduction	0	0	0
66459	Pigy	phosphatidylinositol glycan anchor biosynthesis, class Y	157	149	147
66461	Ptpmt1	protein tyrosine phosphatase, mitochondrial 1	0	0	0
66477	Usmg5	upregulated during skeletal muscle growth 5	0	0	0
66487	2010107H07Rik	RIKEN cDNA 2010107H07 gene	0	0	0
66488	2010309E21Rik	RIKEN cDNA 2010309E21 gene	0	0	0
66493	Mrpl51	mitochondrial ribosomal protein L51	31	33	30
66494	2610524G07Rik	RIKEN cDNA 2610524G07 gene	0	0	0
66495	Ndubf3	NADH dehydrogenase (ubiquinone) 1 beta subcomplex 3	142	141	137
66525	Timm50	translocase of inner mitochondrial membrane 50 homolog (yeast)	0	0	0
66536	Nipsnap3a	nipsnap homolog 3A (C. elegans)	57	59	51
66559	Metap1	methionine aminopeptidase-like 1	0	0	0
66576	Uqcrh	ubiquinol-cytochrome c reductase hinge protein	31	31	31
66586	Crls1	cardiolipin synthase 1	86	89	85
66587	Fastk	Fas-activated serine/threonine kinase	25	28	26
66592	Stoml2	stomatin (Epb7.2)-like 2	26	24	23
66593	Diablo	diablo homolog (Drosophila)	79	78	79
66594	Uqcr	ubiquinol-cytochrome c reductase (6.4kD) subunit	0	0	0
66628	Thg1l	tRNA-histidine guanylyltransferase 1-like (S. cerevisiae)	49	45	47
66658	Ccdc51	coiled-coil domain containing 51	17	18	15
66659	Acp6	acid phosphatase 6, lysophosphatidic	241	228	227

66690	4432406C05Rik	RIKEN cDNA 4432406C05 gene	0	0	0
66694	Uqcrfs1	ubiquinol-cytochrome c reductase, Rieske iron-sulfur polypeptide 1	409	408	399
66701	Spryd4	SPRY domain containing 4	41	38	39
66706	4733401H18Rik	RIKEN cDNA 4733401H18 gene	0	0	0
66736	Ttc35	tetratricopeptide repeat domain 35	733	760	721
66821	Bcs1l	BCS1-like (yeast)	19	19	17
66834	Them2	thioesterase superfamily member 2	0	0	0
66836	0610006I08Rik	RIKEN cDNA 0610006I08 gene	0	0	0
66839	0610009O20Rik	RIKEN cDNA 0610009O20 gene	0	0	0
66841	Etfdh	electron transferring flavoprotein, dehydrogenase	47	52	46
66845	Mrpl33	mitochondrial ribosomal protein L33	226	221	226
66865	Pmpca	peptidase (mitochondrial processing) alpha	28	22	26
66885	Acad8	acyl-Coenzyme A dehydrogenase, short/branched chain	160	173	166
66904	Pccb	propionyl Coenzyme A carboxylase, beta polypeptide	567	559	566
66916	Ndufb7	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 7	52	62	59
66925	Sdhd	succinate dehydrogenase complex, subunit D, integral membrane protein	56	49	52
66945	Sdha	succinate dehydrogenase complex, subunit A, flavoprotein (Fp)	45	40	42
66948	Acad8	acyl-Coenzyme A dehydrogenase family, member 8	99	99	102
66959	Dusp26	dual specificity phosphatase 26 (putative)	2401	2410	2395
66966	Trit1	tRNA isopentenyltransferase 1	139	151	144
66972	Slc25a23	solute carrier family 25 (mitochondrial carrier; phosphate carrier), member 23	25	25	26
66973	Mrps18b	mitochondrial ribosomal protein S18B	7	9	7
66988	Lap3	leucine aminopeptidase 3	83	84	81
67003	Uqcrc2	ubiquinol cytochrome c reductase core protein 2	89	90	93
67013	Oma1	OMA1 homolog, zinc metallopeptidase ( <i>S. cerevisiae</i> )	1382	1390	1382
67036	Mrpl45	mitochondrial ribosomal protein L45	99	93	95
67041	Oxct1	3-oxoacid CoA transferase 1	38	39	37

67044	Higd2a	HIG1 domain family, member 2A	28	29	29
67067	2010100O12Rik	RIKEN cDNA 2010100O12 gene	0	0	0
67092	Gatm	glycine amidinotransferase (L-arginine:glycine amidinotransferase)	188	190	191
67096	Mmachc	methylmalonic aciduria cblC type, with homocystinuria	27	30	33
67105	1700034H14Rik	RIKEN cDNA 1700034H14 gene	0	0	0
67126	Atp5e	ATP synthase, H+ transporting, mitochondrial F1 complex, epsilon subunit	32	28	26
67130	Ndufa6	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 6 (B14)	40	42	44
67145	Tomm34	translocase of outer mitochondrial membrane 34	59	64	56
67164	2610209A20Rik	RIKEN cDNA 2610209A20 gene	0	0	0
67184	Ndufa13	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 13	87	93	91
67201	2700085E05Rik	RIKEN cDNA 2700085E05 gene	0	0	0
67211	2810037C14Rik	RIKEN cDNA 2810037C14 gene	0	0	0
67212	Mrpl55	mitochondrial ribosomal protein L55	8	8	7
67247	Mosc2	MOCO sulphurase C-terminal domain containing 2	71	74	80
67264	Ndufb8	NADH dehydrogenase (ubiquinone) 1 beta subcomplex 8	0	0	0
67267	2900010M23Rik	RIKEN cDNA 2900010M23 gene	0	0	0
67270	D10Erttd322e	DNA segment, Chr 10, ERATO Doi 322, expressed	0	0	0
67273	Ndufa10	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex 10	431	421	423
67283	Slc25a19	solute carrier family 25 (mitochondrial deoxynucleotide carrier), member 19	115	122	120
67308	Mrpl46	mitochondrial ribosomal protein L46	82	83	84
67388	1110008F13Rik	RIKEN cDNA 1110008F13 gene	0	0	0
67390	Rnmt1	RNA methyltransferase like 1	204	215	208
67414	Mfn1	mitofusin 1	134	136	139
67417	Ears2	glutamyl-tRNA synthetase 2 (mitochondrial)(putative)	61	64	62
67426	Cabc1	chaperone, ABC1 activity of bc1 complex like (S. pombe)	0	0	0
67432	0610010D20Rik	RIKEN cDNA 0610010D20 gene	0	0	0
67440	Papd1	PAP associated domain containing 1	0	0	0

67441	Isoc2b	isochorismatase domain containing 2b	0	0	0
67453	Slc25a46	solute carrier family 25, member 46	227	226	239
67460	Decr1	2,4-dienoyl CoA reductase 1, mitochondrial	92	104	94
67472	Mtfr1	mitochondrial fission regulator 1	132	138	126
67530	Uqcrb	ubiquinol-cytochrome c reductase binding protein	1010	1011	975
67554	Slc25a30	solute carrier family 25, member 30	128	117	115
67582	Slc25a26	solute carrier family 25 (mitochondrial carrier, phosphate carrier), member 26	535	542	541
67634	Ftmt	ferritin mitochondrial	1677	1712	1667
67636	Lyrn5	LYR motif containing 5	51	49	53
67680	Sdhb	succinate dehydrogenase complex, subunit B, iron sulfur (lp)	105	104	98
67681	Mrpl18	mitochondrial ribosomal protein L18	7	8	8
67707	Mrpl24	mitochondrial ribosomal protein L24	34	30	36
67712	Slc25a37	solute carrier family 25, member 37	133	136	134
67713	Dnajc19	DnaJ (Hsp40) homolog, subfamily C, member 19	0	0	0
67725	Nudt13	nudix (nucleoside diphosphate linked moiety X)-type motif 13	111	107	109
67759	5033414D02Rik	RIKEN cDNA 5033414D02 gene	0	0	0
67809	1200015F23Rik	RIKEN cDNA 1200015F23 gene	0	0	0
67811	Poldip2	polymerase (DNA-directed), delta interacting protein 2	33	34	33
67834	Idh3a	isocitrate dehydrogenase 3 (NAD+) alpha	138	129	129
67840	Mrp63	mitochondrial ribosomal protein 63	78	80	75
67844	Rab32	RAB32, member RAS oncogene family	907	926	897
67851	1700021F05Rik	RIKEN cDNA 1700021F05 gene	0	0	0
67856	Echdc3	enoyl Coenzyme A hydratase domain containing 3	244	244	253
67861	2310005E10Rik	RIKEN cDNA 2310005E10 gene	0	0	0
67863	Slc25a11	solute carrier family 25 (mitochondrial carrier oxoglutarate carrier), member 11	8	8	9
67871	Mrrf	mitochondrial ribosome recycling factor	41	38	44
67876	Coq10b	coenzyme Q10 homolog B (S. cerevisiae)	75	85	78

67883	Uxs1	UDP-glucuronate decarboxylase 1	266	264	276
67892	1810063B05Rik	RIKEN cDNA 1810063B05 gene	0	0	0
67899	2010110K16Rik	RIKEN cDNA 2010110K16 gene	0	0	0
67900	1700020C11Rik	RIKEN cDNA 1700020C11 gene	0	0	0
67914	Coq9	coenzyme Q9 homolog (yeast)	23	25	28
67942	Atp5g2	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit c (subunit 9), isoform 2	61	60	58
67952	Tomm20	translocase of outer mitochondrial membrane 20 homolog (yeast)	493	490	490
67979	Atad1	ATPase family, AAA domain containing 1	186	188	181
67994	Mrps11	mitochondrial ribosomal protein S11	81	86	84
68002	1110058L19Rik	RIKEN cDNA 1110058L19 gene	0	0	0
68015	Trap1	TNF receptor-associated protein 1	227	228	225
68017	Ftsj2	FtsJ homolog 2 (E. coli)	12	15	16
68020	2810002N01Rik	RIKEN cDNA 2810002N01 gene	0	0	0
68021	Bphl	biphenyl hydrolase-like (serine hydrolase, breast epithelial mucin-associated antigen)	103	95	97
68055	Atp5s	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit s	54	52	49
68066	Slc25a39	solute carrier family 25, member 39	45	44	49
68087	Dcakd	dephospho-CoA kinase domain containing	79	83	79
68095	Ociad1	O CIA domain containing 1	102	106	98
68115	9430016H08Rik	RIKEN cDNA 9430016H08 gene	0	0	0
68117	9430083G14Rik	RIKEN cDNA 9430083G14 gene	0	0	0
68126	Fahd2a	fumarylacetoacetate hydrolase domain containing 2A	0	0	0
68133	Gcsh	glycine cleavage system protein H (aminomethyl carrier)	0	0	0
68165	B230118G17Rik	RIKEN cDNA B230118G17 gene	0	0	0
68194	Ndufb4	NADH dehydrogenase (ubiquinone) 1 beta subcomplex 4	256	269	252
68197	Ndufc2	NADH dehydrogenase (ubiquinone) 1, subcomplex unknown, 2	63	63	57
68198	Ndufb2	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 2	197	191	200
68202	Ndufa5	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 5	16	14	14

68263	Pdhb	pyruvate dehydrogenase (lipoamide) beta	148	155	153
68267	Slc25a22	solute carrier family 25 (mitochondrial carrier, glutamate), member 22	0	0	0
68291	Mto1	mitochondrial translation optimization 1 homolog (S. cerevisiae)	53	50	52
68332	0610010E21Rik	RIKEN cDNA 0610010E21 gene	0	0	0
68342	Ndufb10	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 10	7	8	7
68346	Sirt5	sirtuin 5 (silent mating type information regulation 2 homolog) 5 (S. cerevisiae)	126	119	124
68349	Ndufs3	NADH dehydrogenase (ubiquinone) Fe-S protein 3	24	23	25
68350	0610009K11Rik	RIKEN cDNA 0610009K11 gene	0	0	0
68375	Ndufa8	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 8	93	85	88
68436	1100001I22Rik	RIKEN cDNA 1100001I22 gene	0	0	0
68463	Mrpl14	mitochondrial ribosomal protein L14	444	422	421
68493	1110007M04Rik	RIKEN cDNA 1110007M04 gene	0	0	0
68499	Mrpl53	mitochondrial ribosomal protein L53	0	0	0
68512	1110019J04Rik	RIKEN cDNA 1110019J04 gene	0	0	0
68514	Efha1	EF hand domain family A1	233	224	236
68537	Mrpl13	mitochondrial ribosomal protein L13	319	326	317
68565	Mrps18a	mitochondrial ribosomal protein S18A	148	145	145
68572	Ict1	immature colon carcinoma transcript 1	48	49	47
68576	Hbxip	hepatitis B virus x interacting protein	67	66	67
68607	Serhl	serine hydrolase-like	0	0	0
68611	Mrpl28	mitochondrial ribosomal protein L28	33	35	29
68614	Letmd1	LETM1 domain containing 1	101	93	93
68626	Elac2	elaC homolog 2 (E. coli)	964	970	938
68636	Fahd1	fumarylacetoacetate hydrolase domain containing 1	62	61	60
68653	Samm50	sorting and assembly machinery component 50 homolog (S. cerevisiae)	76	82	73
68735	Mrps18c	mitochondrial ribosomal protein S18C	27	27	32
68738	Acss1	acyl-CoA synthetase short-chain family member 1	109	96	102

68758	Abhd11	abhydrolase domain containing 11	14	12	18
68836	Mrpl52	mitochondrial ribosomal protein L52	18	15	20
68915	Vars2l	valyl-tRNA synthetase 2-like	0	0	0
68917	Hint2	histidine triad nucleotide binding protein 2	20	19	16
68927	Ptcd2	pentatricopeptide repeat domain 2	200	201	201
68943	Pink1	PTEN induced putative kinase 1	79	80	77
68971	1500001M20Rik	RIKEN cDNA 1500001M20 gene	0	0	0
68972	Tatdn3	TatD DNase domain containing 3	36	37	32
69029	1500032L24Rik	RIKEN cDNA 1500032L24 gene	0	0	0
69046	Hbld2	HESB like domain containing 2	0	0	0
69076	Triap1	TP53 regulated inhibitor of apoptosis 1	11	11	9
69089	Oxa1l	oxidase assembly 1-like	169	171	168
69094	Tmem160	transmembrane protein 160	0	0	0
69099	1810009N02Rik	RIKEN cDNA 1810009N02 gene	0	0	0
69156	Comtd1	catechol-O-methyltransferase domain containing 1	199	202	193
69163	Mrpl44	mitochondrial ribosomal protein L44	130	138	120
69168	Bola1	bolA-like 1 (E. coli)	51	47	49
69219	Ddah1	dimethylarginine dimethylaminohydrolase 1	371	351	353
69310	Pacrg	Park2 co-regulated	654	675	665
69367	Glrx2	glutaredoxin 2 (thioltransferase)	95	97	88
69487	2310003L22Rik	RIKEN cDNA 2310003L22 gene	0	0	0
69527	Mrps9	mitochondrial ribosomal protein S9	332	331	326
69536	Hemk1	HemK methyltransferase family member 1	51	62	52
69553	2310033K02Rik	RIKEN cDNA 2310033K02 gene	0	0	0
69597	Afg3l2	AFG3(ATPase family gene 3)-like 2 (yeast)	98	99	98
69606	Mtfmt	mitochondrial methionyl-tRNA formyltransferase	49	50	51
69617	Pitrm1	pitrilysin metallepetidase 1	981	999	1003

69634	Clybl	citrate lyase beta like	164	154	159
69662	2310061I04Rik	RIKEN cDNA 2310061I04 gene	0	0	0
69692	Hddc2	HD domain containing 2	729	731	714
69702	Ndufaf1	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, assembly factor 1	71	79	72
69802	Cox11	COX11 homolog, cytochrome c oxidase assembly protein (yeast)	61	62	65
69875	Ndufa11	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex 11	0	0	0
69906	Slc25a32	solute carrier family 25, member 32	43	47	46
69923	Mulk	multiple substrate lipid kinase	0	0	0
69955	Fars2	phenylalanine-tRNA synthetase 2 (mitochondrial)	802	806	778
69956	Ptcd3	Pentatricopeptide repeat domain 3	100	101	101
70047	Trnt1	tRNA nucleotidyl transferase, CCA-adding, 1	61	61	62
70120	Yars2	tyrosyl-tRNA synthetase 2 (mitochondrial)	188	188	189
70186	2310056P07Rik	RIKEN cDNA 2310056P07 gene	0	0	0
70207	Ccdc44	coiled-coil domain containing 44	0	0	0
70209	Tmem143	transmembrane protein 143	32	31	31
70223	Nars	asparaginyl-tRNA synthetase	228	235	220
70257	2010107E04Rik	RIKEN cDNA 2010107E04 gene	0	0	0
70316	Ndufab1	NADH dehydrogenase (ubiquinone) 1, alpha/beta subcomplex, 1	89	88	90
70359	Gtpbp3	GTP binding protein 3	29	28	29
70383	Cox10	COX10 homolog, cytochrome c oxidase assembly protein, heme A: farnesyltransferase (yeast)	200	204	196
70397	Tmem70	transmembrane protein 70	44	40	37
70456	Brp44	brain protein 44	34	30	27
70478	Mipep	mitochondrial intermediate peptidase	345	350	345
70556	Slc25a33	solute carrier family 25, member 33	283	274	278
70560	Wars2	tryptophanyl tRNA synthetase 2 (mitochondrial)	474	463	463
70564	5730469M10Rik	RIKEN cDNA 5730469M10 gene	0	0	0
70603	Mutyh	mutY homolog (E. coli)	20	19	19

70789	Kynu	kynureninase (L-kynurenine hydrolase)	1395	1399	1368
70791	Harsl	histidyl-tRNA synthetase-like	0	0	0
70911	Phyhipl	phytanoyl-CoA hydroxylase interacting protein-like	952	919	902
71147	Oxsm	3-oxoacyl-ACP synthase, mitochondrial	147	157	142
71238	Acn9	ACN9 homolog ( <i>S. cerevisiae</i> )	857	868	860
71361	Aifm2	apoptosis-inducing factor, mitochondrion-associated 2	122	125	134
71365	Pdss2	prenyl (solaneyl) diphosphate synthase, subunit 2	377	397	388
71679	Atp5h	ATP synthase, H <sup>+</sup> transporting, mitochondrial F0 complex, subunit d	21	19	23
71701	Pnpt1	polyribonucleotide nucleotidyltransferase 1	412	424	409
71803	Slc25a18	solute carrier family 25 (mitochondrial carrier), member 18	204	209	207
71807	Tarsl1	threonyl-tRNA synthetase-like 1	0	0	0
71832	Csl	citrate synthase like	0	0	0
71883	Coq2	coenzyme Q2 homolog, prenyltransferase (yeast)	196	199	198
71886	2310002L09Rik	RIKEN cDNA 2310002L09 gene	0	0	0
71911	Bdh1	3-hydroxybutyrate dehydrogenase, type 1	471	453	452
71941	2310051N18Rik	RIKEN cDNA 2310051N18 gene	0	0	0
71970	2410018M08Rik	RIKEN cDNA 2410018M08 gene	0	0	0
71984	Sars2	seryl-aminoacyl-tRNA synthetase 2	21	14	20
71985	Acad10	acyl-Coenzyme A dehydrogenase family, member 10	57	53	53
71986	Ddx28	DEAD (Asp-Glu-Ala-Asp) box polypeptide 28	20	20	18
71989	Rpusd4	RNA pseudouridylate synthase domain containing 4	243	238	227
71998	Slc25a35	solute carrier family 25, member 35	18	23	21
72017	Cyb5r1	cytochrome b5 reductase 1	35	40	39
72026	Trmu	tRNA 5-methylaminomethyl-2-thiouridylate methyltransferase	229	219	228
72039	Mccc1	methylcrotonoyl-Coenzyme A carboxylase 1 (alpha)	63	67	59
72085	Osgepl1	O-sialoglycoprotein endopeptidase-like 1	70	71	71
72113	Adck1	aarF domain containing kinase 1	502	505	516

72168	Aifm3	apoptosis-inducing factor, mitochondrion-associated 3	75	76	71
72170	Chchd4	coiled-coil-helix-coiled-coil-helix domain containing 4	77	75	82
72252	1700022A21Rik	RIKEN cDNA 1700022A21 gene	0	0	0
72416	Lrpprc	leucine-rich PPR-motif containing	345	359	348
72446	2600010E01Rik	RIKEN cDNA 2600010E01 gene	0	0	0
72479	Hsd12	hydroxysteroid dehydrogenase like 2	105	104	96
72535	Aldh1b1	aldehyde dehydrogenase 1 family, member B1	192	185	190
72552	Hsd11	hydroxysteroid dehydrogenase like 1	20	19	18
72562	Pcbd2	pterin 4 alpha carbinolamine dehydratase/dimerization cofactor of hepatocyte nuclear factor 1 alpha (TCF1) 2	85	83	97
72634	Tdrkh	tudor and KH domain containing protein	46	45	44
72795	Ttc19	tetratricopeptide repeat domain 19	240	234	230
72900	Ndufv2	NADH dehydrogenase (ubiquinone) flavoprotein 2	42	49	46
72947	Agxt2l2	alanine-glyoxylate aminotransferase 2-like 2	408	404	419
72960	Top1mt	DNA topoisomerase 1, mitochondrial	107	112	109
73046	Glrx5	glutaredoxin 5 homolog (S. cerevisiae)	159	148	146
73078	Pmpcb	peptidase (mitochondrial processing) beta	108	106	108
73095	Slc25a42	solute carrier family 25, member 42	74	80	83
73132	Slc25a16	solute carrier family 25 (mitochondrial carrier, Graves disease autoantigen), member 16	98	85	91
73297	1700034I23Rik	RIKEN cDNA 1700034I23 gene	0	0	0
73333	Slc25a31	solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 31	141	148	137
73398	1700054F22Rik	RIKEN cDNA 1700054F22 gene	0	0	0
73694	2410091C18Rik	RIKEN cDNA 2410091C18 gene	0	0	0
73724	Mcee	methylmalonyl CoA epimerase	141	147	140
73919	Lym1	LYR motif containing 1	257	253	261
74011	Slc25a27	solute carrier family 25, member 27	46	46	45
74088	0610012H03Rik	RIKEN cDNA 0610012H03 gene	0	0	0
74104	Abcb6	ATP-binding cassette, sub-family B (MDR/TAP), member 6	26	30	26

74114	Crot	carnitine O-octanoyltransferase	261	266	249
74129	Dmgdh	dimethylglycine dehydrogenase precursor	135	121	128
74142	Lonp1	lon peptidase 1, mitochondrial	20	19	18
74143	Opa1	optic atrophy 1 homolog (human)	563	548	562
74147	Ehhadh	enoyl-Coenzyme A, hydratase/3-hydroxyacyl Coenzyme A dehydrogenase	128	123	123
74238	Mterfd3	MTERF domain containing 3	108	114	102
74239	Iqce	IQ motif containing E	72	65	68
74252	Armc1	armadillo repeat containing 1	1193	1239	1196
74316	Hbld1	HESB like domain containing 1	0	0	0
74450	Pank2	pantothenate kinase 2 (Hallervorden-Spatz syndrome)	70	74	70
74451	Pgs1	phosphatidylglycerophosphate synthase 1	199	202	215
74528	8430406I07Rik	RIKEN cDNA 8430406I07 gene	0	0	0
74551	Pck2	phosphoenolpyruvate carboxykinase 2 (mitochondrial)	41	39	45
74600	Mrpl47	mitochondrial ribosomal protein L47	37	35	32
74610	Abcb8	ATP-binding cassette, sub-family B (MDR/TAP), member 8	29	24	27
74686	4930443G12Rik	RIKEN cDNA 4930443G12 gene	0	0	0
74776	Ppa2	pyrophosphatase (inorganic) 2	392	396	398
74868	Tmem65	transmembrane protein 65	583	584	578
74934	Armc4	armadillo repeat containing 4	826	808	801
75398	Mrpl32	mitochondrial ribosomal protein L32	115	122	109
75406	Ndufs7	NADH dehydrogenase (ubiquinone) Fe-S protein 7	43	41	47
75420	Secisbp2	SECIS binding protein 2	199	192	197
75483	Cox8c	cytochrome c oxidase, subunit VIIIc	93	91	88
75530	Lym7	LYR motif containing 7	110	104	110
75572	Acyp2	acylphosphatase 2, muscle type	370	375	381
75597	Ndufa12l	Ndufa12-like	0	0	0
75619	Fastkd2	FAST kinase domains 2	288	298	294

75778	Them4	thioesterase superfamily member 4	214	204	213
75805	Nln	neurolysin (metallopeptidase M3 family)	244	257	245
75986	Agmat	agmatine ureohydrolase (agmatinase)	91	80	80
76137	Ccdc90a	coiled-coil domain containing 90A	175	173	181
76178	6330578E17Rik	RIKEN cDNA 6330578E17 gene	0	0	0
76187	Adhfe1	alcohol dehydrogenase, iron containing, 1	75	71	69
76263	Gstk1	glutathione S-transferase kappa 1	0	0	0
76308	Rab1b	RAB1B, member RAS oncogene family	0	0	0
76366	Mtif3	mitochondrial translational initiation factor 3	173	165	161
76467	Msrb2	methionine sulfoxide reductase B2	328	320	311
76563	Qrsl1	glutaminyl-tRNA synthase (glutamine-hydrolyzing)-like 1	399	394	400
76614	Immt	inner membrane protein, mitochondrial	112	118	116
76722	Ckmt2	creatine kinase, mitochondrial 2	384	397	408
76784	Mtif2	mitochondrial translational initiation factor 2	43	41	43
76826	Nubpl	nucleotide binding protein-like	600	628	601
76889	Adck4	aarF domain containing kinase 4	41	42	42
76916	4930455C21Rik	RIKEN cDNA 4930455C21 gene	0	0	0
76947	2310030N02Rik	RIKEN cDNA 2310030N02 gene	0	0	0
77219	Zadh1	zinc binding alcohol dehydrogenase, domain containing 1	0	0	0
77329	C030010C08Rik	RIKEN cDNA C030010C08 gene	0	0	0
77407	Rab35	RAB35, member RAS oncogene family	134	121	124
77422	C330018D20Rik	RIKEN cDNA C330018D20 gene	0	0	0
77619	C330008K14Rik	RIKEN cDNA C330008K14 gene	0	0	0
77622	Apex2	apurinic/apyrimidinic endonuclease 2	0	0	0
77697	Mmab	methylmalonic aciduria (cobalamin deficiency) type B homolog (human)	82	75	80
77721	Mrps5	mitochondrial ribosomal protein S5	0	0	0
77981	B230110C06Rik	RIKEN cDNA B230110C06 gene	0	0	0

78038	Mccc2	methylcrotonoyl-Coenzyme A carboxylase 2 (beta)	260	261	271
78070	Cpt1c	carnitine palmitoyltransferase 1c	52	50	53
78330	1500032D16Rik	RIKEN cDNA 1500032D16 gene	0	0	0
78523	Mrpl9	mitochondrial ribosomal protein L9	41	45	46
78617	Cstad	CSA-conditional, T cell activation-dependent protein	0	0	0
78830	Slc25a12	solute carrier family 25 (mitochondrial carrier, Aralar), member 12	236	225	238
78920	Dlst	dihydrolipoamide S-succinyltransferase (E2 component of 2-oxo-glutarate complex)	56	57	52
79044	Mrps34	mitochondrial ribosomal protein S34	0	0	1
79059	Nme3	expressed in non-metastatic cells 3	52	52	51
79464	Lias	lipoic acid synthetase	65	56	56
80907	Lactb	lactamase, beta	131	140	131
80911	Acox3	acyl-Coenzyme A oxidase 3, pristanoyl	136	130	136
83408	Gimap3	GTPase, IMAP family member 3	0	0	0
83885	Slc25a2	solute carrier family 25 (mitochondrial carrier, ornithine transporter) member 2	169	157	154
83945	Dnaja3	DnaJ (Hsp40) homolog, subfamily A, member 3	45	49	48
84682	Cox4i2	cytochrome c oxidase subunit IV isoform 2	124	124	126
85305	Kars	lysyl-tRNA synthetase	23	24	24
93692	Glrx	glutaredoxin	307	312	301
93734	Mpv17l	Mpv17 transgene, kidney disease mutant-like	0	0	0
93747	Echs1	enoyl Coenzyme A hydratase, short chain, 1, mitochondrial	31	33	28
93757	Imp2l	IMP2 inner mitochondrial membrane peptidase-like ( <i>S. cerevisiae</i> )	1322	1333	1312
94044	Bcl2l13	BCL2-like 13 (apoptosis facilitator)	133	127	125
94061	Mrpl1	mitochondrial ribosomal protein L1	278	270	274
94062	Mrpl3	mitochondrial ribosomal protein L3	720	730	725
94063	Mrpl16	mitochondrial ribosomal protein L16	93	89	91
94064	Mrpl27	mitochondrial ribosomal protein L27	32	30	30
94065	Mrpl34	mitochondrial ribosomal protein L34	6	5	7

94066	Mrpl36	mitochondrial ribosomal protein L36	176	190	189
94067	Mrpl43	mitochondrial ribosomal protein L43	16	17	19
94254	Wbscr16	Williams-Beuren syndrome chromosome region 16 homolog (human)	0	0	0
94279	Sfxn2	sideroflexin 2	35	33	33
94280	Sfxn3	sideroflexin 3	40	38	37
94281	Sfxn4	sideroflexin 4	82	85	80
94282	Sfxn5	sideroflexin 5	182	195	178
96979	Ptges2	prostaglandin E synthase 2	52	53	56
97212	Hadha	hydroxyacyl-Coenzyme A dehydrogenase/3-ketoacyl-Coenzyme A thiolase/enoyl-Coenzyme A hydratase (trifunctional protein), alpha subunit	69	67	64
98314	D2hgdh	D-2-hydroxyglutarate dehydrogenase	0	0	0
98363	Efhd1	EF hand domain containing 1	140	139	147
99045	Mrps26	mitochondrial ribosomal protein S26	163	167	161
100705	Acacb	acetyl-Coenzyme A carboxylase beta	175	191	177
100900	Hscb	HscB iron-sulfur cluster co-chaperone homolog (E. coli)	46	35	39
100978	Nfxl1	nuclear transcription factor, X-box binding-like 1	98	90	94
102060	Gadd45gip1	growth arrest and DNA-damage-inducible, gamma interacting protein 1	0	0	0
102436	Lars2	leucyl-tRNA synthetase, mitochondrial	287	277	281
102632	Acad11	acyl-Coenzyme A dehydrogenase family, member 11	80	82	78
103172	Ndg2	Nur77 downstream gene 2	0	0	0
103466	C630002B14Rik	RIKEN cDNA C630002B14 gene	0	0	0
103775	Slc25a41	solute carrier family 25, member 41	0	0	0
103850	Nt5m	5',3'-nucleotidase, mitochondrial	138	135	145
104086	Cyp27a1	cytochrome P450, family 27, subfamily a, polypeptide 1	116	105	122
104112	Acly	ATP citrate lyase	97	92	89
104130	Ndubf11	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 11	0	0	0
104174	Gldc	glycine decarboxylase	268	276	262
104444	Rexo2	REX2, RNA exonuclease 2 homolog (S. cerevisiae)	49	60	52

104458 Rars	arginyl-tRNA synthetase	232	249	236
104776 Aldh6a1	aldehyde dehydrogenase family 6, subfamily A1	39	45	44
104910 AI132487	expressed sequence AI132487	0	0	0
105014 Rdh14	retinol dehydrogenase 14 (all-trans and 9-cis)	993	992	961
105675 Ppif	peptidylprolyl isomerase F (cyclophilin F)	147	155	142
106557 Ldhal6b	lactate dehydrogenase A-like 6B	567	571	572
107029 Me2	malic enzyme 2, NAD(+)-dependent, mitochondrial	141	131	134
107146 Glyat	glycine-N-acyltransferase	96	104	95
107375 AW491445	expressed sequence AW491445	0	0	0
107476 Acaca	acetyl-Coenzyme A carboxylase alpha	448	455	450
107569 Nt5c3	5'-nucleotidase, cytosolic III	155	160	157
107732 Mrpl10	mitochondrial ribosomal protein L10	11	10	14
107733 Mrpl41	mitochondrial ribosomal protein L41	15	18	14
107734 Mrpl30	mitochondrial ribosomal protein L30	36	33	33
107747 Aldh111	aldehyde dehydrogenase 1 family, member L1	193	173	184
107885 Mthfs	5, 10-methenyltetrahydrofolate synthetase	543	550	535
108037 Shmt2	serine hydroxymethyl transferase 2 (mitochondrial)	24	20	21
108147 Atic	5-aminoimidazole-4-carboxamide ribonucleotide formyltransferase/IMP cyclohydrolase	306	304	313
108156 Mthfd1	methylenetetrahydrofolate dehydrogenase (NADP+ dependent), methenyltetrahydrofolate cyclohydrolase, formyltetrahydrofolate synthase	105	102	103
108645 Mat2b	methionine adenosyltransferase II, beta	4751	4810	4771
108654 4933403F05Rik	RIKEN cDNA 4933403F05 gene	0	0	0
108682 Gpt2	glutamic pyruvate transaminase (alanine aminotransferase) 2	160	163	151
108755 Lym2	LYR motif containing 2	0	0	0
108841 Rdh13	retinol dehydrogenase 13 (all-trans and 9-cis)	84	94	85
108853 Mtrf1l	mitochondrial translational release factor 1-like	154	156	158
108888 Atad3a	ATPase family, AAA domain containing 3A	32	34	31
109093 Rarsl	arginyl-tRNA synthetase-like	0	0	0

109232	Sccpdh	saccharopine dehydrogenase (putative)	319	331	323
109264	Me3	malic enzyme 3, NADP(+)-dependent, mitochondrial	507	495	477
109731	Maob	monoamine oxidase B	0	0	0
110074	Dut	deoxyuridine triphosphatase	467	445	466
110115	Cyp11b1	cytochrome P450, family 11, subfamily b, polypeptide 1	44	50	48
110196	Fdps	farnesyl diphosphate synthetase	30	32	33
110198	Akr7a5	aldo-keto reductase family 7, member A5 (aflatoxin aldehyde reductase)	0	0	0
110265	MsrA	methionine sulfoxide reductase A	623	631	631
110308	Krt5	keratin 5	62	58	58
110323	Cox6b1	cytochrome c oxidase, subunit VIb polypeptide 1	35	35	33
110391	Qdpr	quinoid dihydropteridine reductase	829	839	837
110446	Acat1	acetyl-Coenzyme A acetyltransferase 1	175	176	169
110460	Acat2	acetyl-Coenzyme A acetyltransferase 2	68	63	62
110695	Aldh7a1	aldehyde dehydrogenase family 7, member A1	200	189	186
110821	Pcca	propionyl-Coenzyme A carboxylase, alpha polypeptide	561	558	555
110826	Etfb	electron transferring flavoprotein, beta polypeptide	57	62	60
110842	EtfA	electron transferring flavoprotein, alpha polypeptide	280	279	275
110959	Nudt19	nudix (nucleoside diphosphate linked moiety X)-type motif 19	61	62	62
113868	Acaa1a	acetyl-Coenzyme A acyltransferase 1A	0	0	0
114863	Prosc	proline synthetase co-transcribed	0	0	0
114896	Afg3l1	AFG3(ATPase family gene 3)-like 1 (yeast)	0	0	0
117147	AcsM1	acyl-CoA synthetase medium-chain family member 1	164	169	163
118451	Mrps2	mitochondrial ribosomal protein S2	36	41	38
121022	Mrps6	mitochondrial ribosomal protein S6	305	302	302
170442	Bbox1	butyrobetaine (gamma), 2-oxoglutarate dioxygenase 1 (gamma-butyrobetaine hydroxylase)	439	467	437
170718	Idh3b	isocitrate dehydrogenase 3 (NAD+) beta	24	25	23
170719	Oxr1	oxidation resistance 1	2045	2073	2014

170728 Rtn4ip1	reticulon 4 interacting protein 1	130	135	140
170731 Mfn2	mitofusin 2	85	87	87
171210 Acot2	acyl-CoA thioesterase 2	75	80	76
192136 AF397014	cDNA sequence AF397014	0	0	0
192166 Sardh	sarcosine dehydrogenase	337	331	333
192287 Slc25a36	solute carrier family 25, member 36	457	455	435
192654 Lypla3	lysophospholipase 3	0	0	0
194744 Slc25a43	solute carrier family 25, member 43	0	0	0
207704 Gtpbp10	GTP-binding protein 10 (putative)	0	0	0
208194 Endogl1	endonuclease G-like 1	0	0	0
208501 1810043H04Rik	RIKEN cDNA 1810043H04 gene	0	0	0
208595 LOC208595	mitochondrial transcription termination factor-like	0	0	0
209027 Pycr1	pyrroline-5-carboxylate reductase 1	0	0	0
209692 Dhdkd1	dehydrogenase E1 and transketolase domain containing 1	74	75	73
210148 Slc30a6	solute carrier family 30 (zinc transporter), member 6	153	151	160
210582 Coq10a	coenzyme Q10 homolog A (yeast)	48	47	52
211253 Mtrf1	mitochondrial translational release factor 1	51	49	44
211389 Suox	sulfite oxidase	64	66	62
211488 Gm237	gene model 237, (NCBI)	0	0	0
211948 E430028B21Rik	RIKEN cDNA E430028B21 gene	0	0	0
212032 Hk3	hexokinase 3	193	189	193
212442 Lactb2	lactamase, beta 2	106	99	99
212508 Mtg1	mitochondrial GTPase 1 homolog ( <i>S. cerevisiae</i> )	35	36	41
212647 Aldh4a1	aldehyde dehydrogenase 4 family, member A1	97	102	105
212679 Mars2	methionine-tRNA synthetase 2 (mitochondrial)	173	169	168
213012 Abhd10	abhydrolase domain containing 10	154	156	156
213393 8430408G22Rik	RIKEN cDNA 8430408G22 gene	0	0	0

214579	Aldh5a1	aldehyde dehydrogenase family 5, subfamily A1	133	126	132
214580	Pstk	phosphoseryl-tRNA kinase	62	63	63
214663	Slc25a29	solute carrier family 25 (mitochondrial carrier, palmitoylcarnitine transporter), member 29	57	48	49
214932	Cecr5	cat eye syndrome chromosome region, candidate 5 homolog (human)	224	228	224
214952	Rhot2	ras homolog gene family, member T2	30	26	29
215201	4732479N06Rik	RIKEN cDNA 4732479N06 gene	0	0	0
215951	Lace1	lactation elevated 1	290	293	284
215999	Ccdc109a	coiled-coil domain containing 109A	328	332	343
216001	Cbara1	calcium binding atopy-related autoantigen 1	355	339	342
216119	A130042E20Rik	RIKEN cDNA A130042E20 gene	0	0	0
216151	Polrmt	polymerase (RNA) mitochondrial (DNA directed)	45	43	44
216188	Aldh1l2	aldehyde dehydrogenase 1 family, member L2	245	237	234
216443	Mars	methionine-tRNA synthetase	44	39	36
216456	Gls2	glutaminase 2 (liver, mitochondrial)	40	34	41
216767	Mrpl22	mitochondrial ribosomal protein L22	21	22	21
216792	A230051G13Rik	RIKEN cDNA A230051G13 gene	0	0	0
216821	Tmem11	transmembrane protein 11	110	108	106
217038	Mrm1	mitochondrial rRNA methyltransferase 1 homolog ( <i>S. cerevisiae</i> )	391	390	396
217057	Pthr2	peptidyl-tRNA hydrolase 2	99	93	95
217149	Mel13	melanoma nuclear protein 13	0	0	0
217214	Nags	N-acetylglutamate synthase	63	64	60
217262	Abca9	ATP-binding cassette transporter sub-family A member 9	198	207	195
217378	C330021A05Rik	RIKEN cDNA C330021A05 gene	0	0	0
217593	Slc25a21	solute carrier family 25 (mitochondrial oxodicarboxylate carrier), member 21	714	726	721
217666	L2hgdh	L-2-hydroxyglutarate dehydrogenase	53	53	57
217707	Coq6	coenzyme Q6 homolog (yeast)	62	61	57
217830	9030617O03Rik	RIKEN cDNA 9030617O03 gene	0	0	0

218506	Mrps27	mitochondrial ribosomal protein S27	84	87	91
218629	Dhx29	DEAH (Asp-Glu-Ala-His) box polypeptide 29	78	82	79
218865	Chdh	choline dehydrogenase	485	460	467
218885	Oxnad1	oxidoreductase NAD-binding domain containing 1	73	78	75
223262	Timm8a2	translocase of inner mitochondrial membrane 8 homolog a2 (yeast)	0	0	0
223665	C030006K11Rik	RIKEN cDNA C030006K11 gene	0	0	0
223696	Tomm22	translocase of outer mitochondrial membrane 22 homolog (yeast)	35	39	37
223722	Mcat	malonyl CoA:ACP acyltransferase (mitochondrial)	46	43	45
223753	Cerk	ceramide kinase	200	186	194
224481	Tfb1m	transcription factor B1, mitochondrial	213	214	209
224530	Acat3	acetyl-Coenzyme A acetyltransferase 3	0	0	0
224805	Aarsl	alanyl-tRNA synthetase like	0	0	0
224904	2410015M20Rik	RIKEN cDNA 2410015M20 gene	0	0	0
225655	BC019561	cDNA sequence BC019561	0	0	0
225791	Zadh2	zinc binding alcohol dehydrogenase, domain containing 2	635	628	631
225887	Ndufs8	NADH dehydrogenase (ubiquinone) Fe-S protein 8	28	30	31
226139	Cox15	COX15 homolog, cytochrome c oxidase assembly protein (yeast)	82	83	77
226153	Peo1	progressive external ophthalmoplegia 1 (human)	0	0	0
226527	BC026585	cDNA sequence BC026585	0	0	0
226539	Dars2	aspartyl-tRNA synthetase 2 (mitochondrial)	43	41	42
226646	Ndufs2	NADH dehydrogenase (ubiquinone) Fe-S protein 2	20	20	20
226654	EG226654	predicted gene, EG226654	0	0	0
227095	Hibch	3-hydroxyisobutyryl-Coenzyme A hydrolase	177	180	177
227197	Ndufs1	NADH dehydrogenase (ubiquinone) Fe-S protein 1	83	80	78
227231	Cps1	carbamoyl-phosphate synthetase 1	2605	2653	2597
227683	Coq4	coenzyme Q4 homolog (yeast)	20	22	20
227731	Slc25a25	solute carrier family 25 (mitochondrial carrier, phosphate carrier), member 25	187	188	183

228026	Pdk1	pyruvate dehydrogenase kinase, isoenzyme 1	272	249	263
228033	Atp5g3	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit c (subunit 9), isoform 3	890	892	911
228061	Agps	alkylglycerone phosphate synthase	309	297	295
228607	D430028G21Rik	RIKEN cDNA D430028G21 gene	0	0	0
228715	Gm561	gene model 561, (NCBI)	0	0	0
228859	D930001I22Rik	RIKEN cDNA D930001I22 gene	0	0	0
229211	Acad9	acyl-Coenzyme A dehydrogenase family, member 9	127	126	125
229487	Pet112l	PET112-like (yeast)	994	1016	1000
229517	Slc25a44	solute carrier family 25, member 44	57	58	58
229731	Slc25a24	solute carrier family 25 (mitochondrial carrier, phosphate carrier), member 24	322	339	329
229905	Ccbl2	cysteine conjugate-beta lyase 2	183	193	195
230027	Coq3	coenzyme Q3 homolog, methyltransferase (yeast)	106	105	109
230075	Ndufb6	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 6	265	268	253
230125	Mcart1	mitochondrial carrier triple repeat 1	231	237	235
230577	Pars2	prolyl-tRNA synthetase (mitochondrial)(putative)	68	72	77
230598	Nrd1	nardilysin, N-arginine dibasic convertase, NRD convertase 1	179	178	179
230649	Atpaf1	ATP synthase mitochondrial F1 complex assembly factor 1	60	60	56
230935	Dnajc11	DnaJ (Hsp40) homolog, subfamily C, member 11	160	159	170
231086	Hadhb	hydroxyacyl-Coenzyme A dehydrogenase/3-ketoacyl-Coenzyme A thiolase/enoyl-Coenzyme A hydratase (trifunctional protein), beta subunit	20	17	23
231279	Guf1	GUF1 GTPase homolog (S. cerevisiae)	64	65	63
231287	Atp10d	ATPase, Class V, type 10D	432	436	437
231413	Grsf1	G-rich RNA sequence binding factor 1	181	168	178
231430	Cox18	COX18 cytochrome c oxidase assembly homolog (S. cerevisiae)	626	605	613
232339	Ankrd26	ankyrin repeat domain 26	820	825	817
232536	Mrps35	mitochondrial ribosomal protein S35	68	71	68
232664	4921511K06Rik	RIKEN cDNA 4921511K06 gene	0	0	0
233189	Atpbd3	ATP binding domain 3	0	0	0

233799	Acsm2	acyl-CoA synthetase medium-chain family member 2	0	0	0
233801	BC048390	cDNA sequence BC048390	0	0	0
233870	Tufm	Tu translation elongation factor, mitochondrial	33	33	34
234309	Cbr4	carbonyl reductase 4	879	876	867
234384	BC051227	cDNA sequence BC051227	0	0	0
234847	Spg7	spastic paraplegia 7 homolog (human)	75	79	76
235169	Foxred1	FAD-dependent oxidoreductase domain containing 1	13	12	13
235339	Dlat	dihydrolipoamide S-acetyltransferase (E2 component of pyruvate dehydrogenase complex)	144	141	145
235442	Rab8b	RAB8B, member RAS oncogene family	137	145	140
235582	6230410P16Rik	RIKEN cDNA 6230410P16 gene	0	0	0
235674	Acaa1b	acetyl-Coenzyme A acyltransferase 1B	0	0	0
236900	Pdk3	pyruvate dehydrogenase kinase, isoenzyme 3	0	0	0
237880	1700071K01Rik	RIKEN cDNA 1700071K01 gene	0	0	0
237926	Rsad1	radical S-adenosyl methionine domain containing 1	55	53	53
239017	Ogdhl	oxoglutarate dehydrogenase-like	235	231	241
239555	Smcr7l	Smith-Magenis syndrome chromosome region, candidate 7-like (human)	115	101	113
240025	Dact2	dapper homolog 2, antagonist of beta-catenin (xenopus)	435	426	436
240549	LOC240549	similar to arylacetyl acyl-CoA N-acyltransferase	0	0	0
240853	EG240853	predicted gene, EG240853	0	0	0
241159	Neu4	sialidase 4	0	0	0
241516	Fsip2	fibrous sheath-interacting protein 2	0	0	0
241656	Pak7	p21 (CDKN1A)-activated kinase 7	598	625	589
241727	Snph	syntaphilin	125	125	122
243382	Ppm1k	protein phosphatase 1K (PP2C domain containing)	193	189	184
243931	Tshz3	teashirt zinc finger family member 3	2506	2524	2480
243996	4933405O20Rik	RIKEN cDNA 4933405O20 gene	0	0	0
244141	Nars2	asparaginyl-tRNA synthetase 2 (mitochondrial)(putative)	1066	1073	1070

244562	Abcc12	ATP-binding cassette, sub-family C (CFTR/MRP), member 12	1015	1017	1010
244954	Prss35	protease, serine, 35	183	192	193
245347	EG245347	predicted gene, EG245347	0	0	0
245651	EG245651	predicted gene, EG245651	0	0	0
246221	Mpst	mercaptopyruvate sulfurtransferase	30	29	27
246696	Slc25a28	solute carrier family 25, member 28	97	102	105
246703	Apoa1bp	apolipoprotein A-I binding protein	45	47	46
246782	Atpaf2	ATP synthase mitochondrial F1 complex assembly factor 2	80	83	90
257633	BC021611	cDNA sequence BC021611	0	0	0
257635	Sdsl	serine dehydratase-like	53	54	51
264895	BC018371	cDNA sequence BC018371	0	0	0
267019	Rps15a	ribosomal protein S15a	0	0	0
268782	Agxt2	alanine-glyoxylate aminotransferase 2	367	376	371
268822	Adck5	aarF domain containing kinase 5	96	87	89
268860	Abat	4-aminobutyrate aminotransferase	217	211	223
269951	Idh2	isocitrate dehydrogenase 2 (NADP+), mitochondrial	160	161	159
270076	Gcdh	glutaryl-Coenzyme A dehydrogenase	39	34	37
270151	BC034204	cDNA sequence BC034204	0	0	0
270166	Clpx	caseinolytic peptidase X (E.coli)	102	105	105
270685	Mthfd1l	methylenetetrahydrofolate dehydrogenase (NADP+ dependent) 1-like	515	521	500
272428	C730027J19Rik	RIKEN cDNA C730027J19 gene	0	0	0
280408	Rilp	Rab interacting lysosomal protein	30	34	30
319518	4930402E16Rik	RIKEN cDNA 4930402E16 gene	0	0	0
319554	Idi1	isopentenyl-diphosphate delta isomerase	106	107	102
319653	Slc25a40	solute carrier family 25, member 40	249	264	242
320262	A830073O21Rik	RIKEN cDNA A830073O21 gene	0	0	0
320635	Cyb5r2	cytochrome b5 reductase 2	253	250	243

320717 Pptc7	PTC7 protein phosphatase homolog ( <i>S. cerevisiae</i> )	120	114	117
320769 Prdx6-rs1	peroxiredoxin 6, related sequence 1	0	0	0
320806 Gfm2	G elongation factor, mitochondrial 2	84	81	79
320808 Wdr22	WD repeat domain 22	0	0	0
320951 Pisd	phosphatidylserine decarboxylase	257	261	258
321003 Xpnpep3	X-prolyl aminopeptidase (aminopeptidase P) 3, putative	0	0	0
328258 AU042651	expressed sequence AU042651	0	0	0
329384 Pthr1	peptidyl-tRNA hydrolase 1 homolog ( <i>S. cerevisiae</i> )	8	12	10
331026 Gmppb	GDP-mannose pyrophosphorylase B	67	64	67
333182 Cox6b2	cytochrome c oxidase subunit VIb polypeptide 2	0	0	0
338350 9330129D05Rik	RIKEN cDNA 9330129D05 gene	0	0	0
338359 Supv31	suppressor of var1, 3-like 1 ( <i>S. cerevisiae</i> )	53	46	44
353172 Gars	glycyl-tRNA synthetase	194	190	171
353242 Mrpl21	mitochondrial ribosomal protein L21	54	46	49
353371 Oxct2b	3-oxoacid CoA transferase 2B	0	0	0
380660 8430416H19Rik	RIKEN cDNA 8430416H19 gene	0	0	0
380773 1810035L17Rik	RIKEN cDNA 1810035L17 gene	0	0	0
380836 Mrs2l	MRS2-like, magnesium homeostasis factor ( <i>S. cerevisiae</i> )	0	0	0
380840 Lyrn4	LYR motif containing 4	191	191	193
381038 Parl	presenilin associated, rhomboid-like	107	107	111
381045 Ccdc58	coiled-coil domain containing 58	91	89	87
381110 AW061290	expressed sequence AW061290	0	0	0
381314 lars2	isoleucine-tRNA synthetase 2, mitochondrial	21	23	21
381511 Ppm2c	protein phosphatase 2C, magnesium dependent, catalytic subunit	0	0	0
381760 Ssbp1	single-stranded DNA binding protein 1	63	64	60
382051 4833426J09Rik	RIKEN cDNA 4833426J09 gene	0	0	0
382117 D9Erttd402e	DNA segment, Chr 9, ERATO Doi 402, expressed	0	0	0

384071	Slc25a34	solute carrier family 25, member 34	57	56	57
384281	2010003O18Rik	RIKEN cDNA 2010003O18 gene	0	0	0
387314	BC023818	cDNA sequence BC023818	0	0	0
403187	Opa3	optic atrophy 3 (human)	77	66	77
407785	Ndufs6	NADH dehydrogenase (ubiquinone) Fe-S protein 6	89	96	93
432551	Hspd1	chaperonin	45	43	45
432676	EG432676	predicted gene, EG432676	0	0	0
432732	AK157302	cDNA sequence AK157302	0	0	0
432822	EG432822	predicted gene, EG432822	0	0	0
433229	EG433229	predicted gene, EG433229	0	0	0
433256	Acsl5	acyl-CoA synthetase long-chain family member 5	103	90	94
433326	EG433326	predicted gene, EG433326	0	0	0
433470	AA467197	expressed sequence AA467197	0	0	0
433771	2310028O11Rik	RIKEN cDNA 2310028O11 gene	0	0	0
433923	EG433923	predicted gene, EG433923	0	0	0
433968	EG433968	predicted gene, EG433968	0	0	0
434437	EG434437	predicted gene, EG434437	0	0	0
545725	Mterf	mitochondrial transcription termination factor	102	99	100
546368	EG546368	predicted gene, EG546368	0	0	0
547412	LOC547412	hypothetical LOC547412	0	0	0
595136	Ndufs5	NADH dehydrogenase (ubiquinone) Fe-S protein 5	43	43	40
620637	LOC620637	hypothetical LOC620637	0	0	0
621381	EG621381	predicted gene, EG621381	0	0	0
622178	EG622178	predicted gene, EG622178	0	0	0
622268	EG622268	predicted gene, EG622268	0	0	0
622958	EG622958	predicted gene, EG622958	0	0	0
623031	LOC623031	similar to hydroxyacyl-Coenzyme A dehydrogenase/3-ketoacyl-Coenzyme A thiolase/enoyl-Coenzyme A hydratase (trifunctional protein), beta subunit	0	0	0

623133	EG623133	predicted gene, EG623133	0	0	0
623402	EG623402	predicted gene, EG623402	0	0	0
623661	EG623661	predicted gene, EG623661	0	0	0
623924	EG623924	predicted gene, EG623924	0	0	0
624814	LOC624814	similar to NADH dehydrogenase (ubiquinone) Fe-S protein 3	0	0	0
625167	EG625167	predicted gene, EG625167	0	0	0
625249	Gpx4	glutathione peroxidase 4	76	69	74
627557	EG627557	predicted gene, EG627557	0	0	0
628438	EG628438	predicted gene, EG628438	0	0	0
636544	EG636544	predicted gene, EG636544	0	0	0
637273	EG637273	predicted gene, EG637273	0	0	0
641376	Tomm40l	translocase of outer mitochondrial membrane 40 homolog-like (yeast)	15	13	15
664994	Isoc2a	isochorismatase domain containing 2a	0	0	0
665367	LOC665367	similar to coiled-coil-helix-coiled-coil-helix domain containing 2	0	0	0
665563	LOC665563	similar to methylenetetrahydrofolate dehydrogenase (NADP+ dependent) 2-like	0	0	0
665566	LOC665566	similar to ubiquitin carboxyl-terminal hydrolase 1 A (ubiquitin thiolesterase FAF-X) (Ubiquitin-specific-processing protease FAF-X) (Deubiquitinating enzyme FAF-X) (Fat facets protein-related, X-linked) (Ubiquitin-	0	0	0
666366	EG666366	predicted gene, EG666366	0	0	0
666538	EG666538	predicted gene, EG666538	0	0	0
667008	EG667008	predicted gene, EG667008	0	0	0
667103	LOC667103	similar to Brain protein 44-like protein	0	0	0
668378	LOC668378	similar to Protein FAM38A	0	0	0