

Table S1:

Gene Symbol	Full Gene Name	Entrez Gene ID	RefSeq
A2M	alpha-2-macroglobulin	2	NM_000014
ABHD15	abhydrolase domain containing 15	116236	NM_198147
ACADVL	acyl-Coenzyme A dehydrogenase, very long chain	37	NM_000018
ACSS1	acyl-CoA synthetase short-chain family member 1	84532	NM_032501
ACY3	aspartoacylase (aminocyclase) 3	91703	NM_080658
ADAM33	ADAM metalloproteinase domain 33	80332	NM_153202
AFF2	AF4/FMR2 family, member 2	2334	NM_002025
ALX1	ALX homeobox 1	8092	NM_006982
ANGPTL4	angiopoietin-like 4	51129	NM_001039667
ANKRD20A3	ankyrin repeat domain 20 family, member A3	441425	NM_001012419
ANKRD45	ankyrin repeat domain 45	339416	NM_198493
ANXA1	annexin A1	301	NM_000700
ANXA5	annexin A5	308	NM_001154
APBB1IP	amyloid beta (A4) precursor protein-binding, family B, member 1 interacting protein	54518	NM_019043
ARAP3	ArfGAP with RhoGAP domain, ankyrin repeat and PH domain 3	64411	NM_022481
ARF3	ADP-ribosylation factor 3	377	NM_001659
ARF5	ADP-ribosylation factor 5	381	NM_001662
ARHGAP1	Rho GTPase activating protein 1	392	NM_004308
ARHGAP6	Rho GTPase activating protein 6	395	NM_006125
ARHGDIA	Rho GDP dissociation inhibitor (GDI) alpha	396	NM_004309
ARMC8	armadillo repeat containing 8	25852	NM_014154
ATP2A2	ATPase, Ca++ transporting, cardiac muscle, slow twitch 2	488	NM_170665
ATP6AP2	ATPase, H+ transporting, lysosomal accessory protein 2	10159	NM_005765
ATP6V1B2	ATPase, H+ transporting, lysosomal 56/58kDa, V1 subunit B2	526	NM_001693
B3GNT8	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 8	374907	NM_198540
B4GALNT1	beta-1,4-N-acetyl-galactosaminyl transferase 1	2583	NM_001478
BAI3	brain-specific angiogenesis inhibitor 3	577	NM_001704
BBX	bobby sox homolog (Drosophila)	56987	NM_020235
BCKDK	branched chain ketoacid dehydrogenase kinase	10295	NM_005881
BCL9L	B-cell CLL/lymphoma 9-like	283149	NM_182557
BDH2	3-hydroxybutyrate dehydrogenase, type 2	56898	NM_020139
BIN3	bridging integrator 3	55909	NM_018688
BPIL1	bactericidal/permeability-increasing protein-like 1	80341	NM_025227
BTBD10	BTB (POZ) domain containing 10	84280	NM_032320
BTN2A2	butyrophilin, subfamily 2, member A2	10385	NM_006995
C12orf36	chromosome 12 open reading frame 36	283422	NM_182558
C16orf71	chromosome 16 open reading frame 71	146562	NM_139170
C1orf101	chromosome 1 open reading frame 101	257044	NM_173807
C20orf166	chromosome 20 open reading frame 166	128826	NM_178463
C6orf125	chromosome 6 open reading frame 125	84300	NM_032340
C9orf116	chromosome 9 open reading frame 116	138162	NM_001048265
CACNA1S	calcium channel, voltage-dependent, L type, alpha 1S subunit	779	NM_000069
CAMK2D	calcium/calmodulin-dependent protein kinase (CaM kinase) II delta	817	NM_172115
CAPN12	calpain 12	147968	NM_144691
CAPN7	calpain 7	23473	NM_014296
CARM1	coactivator-associated arginine methyltransferase 1	10498	NM_199141
CASK	calcium/calmodulin-dependent serine protein kinase (MAGUK family)	8573	NM_003688
CCDC43	coiled-coil domain containing 43	124808	NM_144609
CCNE1	cyclin E1	898	NM_001238
CD46	CD46 molecule, complement regulatory protein	4179	NM_002389
CDC37P1	cell division cycle 37 homolog (S. cerevisiae) pseudogene 1	390688	NM_001080829
CDH26	cadherin-like 26	60437	NM_021810
CELSR2	cadherin, EGF LAG seven-pass G-type receptor 2 (flamingo homolog, Drosophila)	1952	NM_001408
CHERP	calcium homeostasis endoplasmic reticulum protein	10523	NM_006387
CHN1	chimerin (chimaerin) 1	1123	NM_001822
CHRNA5	cholinergic receptor, nicotinic, alpha 5	1138	NM_000745
CHRNA1	cholinergic receptor, nicotinic, beta 1 (muscle)	1140	NM_000747

CLCN2	chloride channel 2	1181	NM_004366
CLIC2	chloride intracellular channel 2	1193	NM_001289
CSNK2B	casein kinase 2, beta polypeptide	1460	NM_001320
DBH	dopamine beta-hydroxylase (dopamine beta-monooxygenase)	1621	NM_000787
DDOST	dolichyl-diphosphooligosaccharide--protein glycosyltransferase	1650	NM_005216
DIRAS2	DIRAS family, GTP-binding RAS-like 2	54769	NM_017594
DNASE1L3	deoxyribonuclease I-like 3	1776	NM_004944
DNTT	deoxynucleotidyltransferase, terminal	1791	NM_004088
DUSP11	dual specificity phosphatase 11 (RNA/RNP complex 1-interacting)	8446	NM_003584
EBP	emopamil binding protein (sterol isomerase)	10682	NM_006579
EIF4A3	eukaryotic translation initiation factor 4A, isoform 3	9775	NM_014740
EIF4G2	eukaryotic translation initiation factor 4 gamma, 2	1982	NM_001042559
GPR144	G protein-coupled receptor 144	347088	NM_182611
EXOSC1	exosome component 1	51013	NM_016046
F2RL3	coagulation factor II (thrombin) receptor-like 3	9002	NM_003950
FAH	fumarylacetoacetate hydrolase (fumarylacetoacetase)	2184	NM_000137
FAM108A1	family with sequence similarity 108, member A1	81926	NM_001130111
FAM177B	family with sequence similarity 177, member B	400823	NM_207468
FAM3C	family with sequence similarity 3, member C	10447	NM_001040020
FGD1	FYVE, RhoGEF and PH domain containing 1 (faciogenital dysplasia)	2245	NM_004463
FGFR3	fibroblast growth factor receptor 3 (achondroplasia, thanatophoric dwarfism)	2261	NM_000142
FLRT2	fibronectin leucine rich transmembrane protein 2	23768	NM_013231
FXYP1	FXYP domain containing ion transport regulator 1 (phospholemman)	5348	NM_005031
FZD10	frizzled homolog 10 (Drosophila)	11211	NM_007197
GABRB2	gamma-aminobutyric acid (GABA) A receptor, beta 2	2561	NM_000813
GALNT11	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 11 (GalNAc-T11)	63917	NM_022087
GALNTL4	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase-like 4	374378	NM_198516
GLT8D2	glycosyltransferase 8 domain containing 2	83468	NM_031302
GOLGA5	golgi autoantigen, golgin subfamily a, 5	9950	NM_005113
GPR139	G protein-coupled receptor 139	124274	NM_001002911
GPR162	G protein-coupled receptor 162	27239	NM_014449
GPR50	G protein-coupled receptor 50	9248	NM_004224
GPR75	G protein-coupled receptor 75	10936	NM_006794
GRB2	growth factor receptor-bound protein 2	2885	NM_002086
GRIA2	glutamate receptor, ionotropic, AMPA 2	2891	NM_001083619
GYLTL1B	glycosyltransferase-like 1B	120071	NM_152312
HABP2	hyaluronan binding protein 2	3026	NM_004132
HAS1	hyaluronan synthase 1	3036	NM_001523
HFM1	HFM1, ATP-dependent DNA helicase homolog (S. cerevisiae)	164045	NM_001017975
HIRA	HIR histone cell cycle regulation defective homolog A (S. cerevisiae)	7290	NM_003325
HNRNPA1	heterogeneous nuclear ribonucleoprotein A1	3178	NM_002136
HPGDS	hematopoietic prostaglandin D synthase	27306	NM_014485
HSD11B2	hydroxysteroid (11-beta) dehydrogenase 2	3291	NM_000196
HTR2B	5-hydroxytryptamine (serotonin) receptor 2B	3357	NM_000867
HTR4	5-hydroxytryptamine (serotonin) receptor 4	3360	NM_000870
HTRA3	HtrA serine peptidase 3	94031	NM_053044
IDH2	isocitrate dehydrogenase 2 (NADP+), mitochondrial	3418	NM_002168
IDH3B	isocitrate dehydrogenase 3 (NAD+) beta	3420	NM_006899
IFNGR1	interferon gamma receptor 1	3459	NM_000416
IFT57	intraflagellar transport 57 homolog (Chlamydomonas)	55081	NM_018010
IL13RA1	interleukin 13 receptor, alpha 1	3597	NM_001560
IL17RB	interleukin 17 receptor B	55540	NM_018725
IL7R	interleukin 7 receptor	3575	XM_001127146
ITGAV	integrin, alpha V (vitronectin receptor, alpha polypeptide, antigen CD51)	3685	NM_002210
ITGB1	integrin, beta 1 (fibronectin receptor, beta polypeptide, antigen CD29 includes MDF2, MSK12)	3688	NM_033668
KARS	lysyl-tRNA synthetase	3735	NM_005548
KCNA6	potassium voltage-gated channel, shaker-related subfamily, member 6	3742	NM_002235
KCNH1	potassium voltage-gated channel, subfamily H (eag-related), member 1	3756	NM_172362
KCNH8	potassium voltage-gated channel, subfamily H (eag-related), member 8	131096	NM_144633

KDSR	3-ketodihydrosphingosine reductase	2531	NM_002035
KIAA1211	KIAA1211 protein	57482	NM_020722
KIF20B	kinesin family member 20B	9585	NM_016195
KIF5B	kinesin family member 5B	3799	NM_004521
KIFC3	kinesin family member C3	3801	NM_005550
KLF2	Kruppel-like factor 2 (lung)	10365	NM_016270
L1CAM	L1 cell adhesion molecule	3897	NM_000425
L3MBTL4	l(3)mbt-like 4 (Drosophila)	91133	NM_173464
LAPTM5	lysosomal multispinning membrane protein 5	7805	NM_006762
LEPR	leptin receptor	3953	NM_001003679
LEPREL2	leprecan-like 2	10536	NM_014262
LEPROT	leptin receptor overlapping transcript	54741	NM_017526
LILRA2	leukocyte immunoglobulin-like receptor, subfamily A (with TM domain), member 2	11027	NM_006866
LILRB4	leukocyte immunoglobulin-like receptor, subfamily B (with TM and ITIM domains), member 4	11006	NM_001081438
LILRB5	leukocyte immunoglobulin-like receptor, subfamily B (with TM and ITIM domains), member 5	10990	NM_006840
LIPT2	lipoyl(octanoyl) transferase 2 (putative)	387787	XM_370636
LPAR6	lysophosphatidic acid receptor 6	10161	NM_005767
LY6G5B	lymphocyte antigen 6 complex, locus G5B	58496	NM_021221
M6PR	mannose-6-phosphate receptor (cation dependent)	4074	NM_002355
MAGEB1	melanoma antigen family B, 1	4112	NM_002363
MAGEB4	melanoma antigen family B, 4	4115	NM_002367
MAPKAP1	mitogen-activated protein kinase associated protein 1	79109	NM_024117
MBD3L2	methyl-CpG binding domain protein 3-like 2	125997	NM_144614
MBTPS1	membrane-bound transcription factor peptidase, site 1	8720	NM_003791
MCF2L2	MCF.2 cell line derived transforming sequence-like 2	23101	NM_015078
MDH1	malate dehydrogenase 1, NAD (soluble)	4190	NM_005917
MEIG1	meiosis expressed gene 1 homolog (mouse)	644890	NM_001080836
MIF	macrophage migration inhibitory factor (glycosylation-inhibiting factor)	4282	NM_002415
MLST8	MTOR associated protein, LST8 homolog (S. cerevisiae)	64223	NM_022372
MPP7	membrane protein, palmitoylated 7 (MAGUK p55 subfamily member 7)	143098	NM_173496
MSI2	musashi homolog 2 (Drosophila)	124540	NM_138962
MVD	mevalonate (diphospho) decarboxylase	4597	NM_002461
MYLK3	myosin light chain kinase 3	91807	NM_182493
NAA35	N(alpha)-acetyltransferase 35, NatC auxiliary subunit	60560	NM_024635
NAE1	NEDD8 activating enzyme E1 subunit 1	8883	NM_001018159
NARS	asparaginyl-tRNA synthetase	4677	NM_004539
NDUFB5	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 5, 16kDa	4711	NM_002492
NDUFB8	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 8, 19kDa	4714	NM_005004
NDUFS2	NADH dehydrogenase (ubiquinone) Fe-S protein 2, 49kDa (NADH-coenzyme Q reductase)	4720	NM_004550
NEK10	NIMA (never in mitosis gene a)- related kinase 10	152110	NM_001031741
NETO1	neuropilin (NRP) and tolloid (TLL)-like 1	81832	NM_138966
NKD1	naked cuticle homolog 1 (Drosophila)	85407	NM_033119
NR2F1	nuclear receptor subfamily 2, group F, member 1	7025	NM_005654
NR4A3	nuclear receptor subfamily 4, group A, member 3	8013	NM_173198
NSMCE4A	non-SMC element 4 homolog A (S. cerevisiae)	54780	NM_017615
NUDT18	nudix (nucleoside diphosphate linked moiety X)-type motif 18	79873	NM_024815
NUDT9P1	Putative nucleoside diphosphate-linked moiety X motif 9P1	119369	NR_002779
NXF3	nuclear RNA export factor 3	56000	NM_022052
ODZ1	odz, odd Oz/ten-m homolog 1(Drosophila)	10178	NM_014253
OPRK1	opioid receptor, kappa 1	4986	NM_000912
OR10V1	olfactory receptor, family 10, subfamily V, member 1	390201	NM_001005324
OR1C1	olfactory receptor, family 1, subfamily C, member 1	26188	NM_012353
OR4D1	olfactory receptor, family 4, subfamily D, member 1	26689	NM_012374
OR7C1	olfactory receptor, family 7, subfamily C, member 1	26664	NM_198944
OTUD7B	OTU domain containing 7B	56957	NM_020205
PACSLN3	protein kinase C and casein kinase substrate in neurons 3	29763	NM_016223
PAOX	polyamine oxidase (exo-N4-amino)	196743	NM_207127
PATE2	prostate and testis expressed 2	399967	NM_212555
PBX4	pre-B-cell leukemia homeobox 4	80714	NM_025245

PCCA	propionyl Coenzyme A carboxylase, alpha polypeptide	5095	NM_000282
PDC	phosducin	5132	NM_002597
PDE8A	phosphodiesterase 8A	5151	NM_002605
PDLIM5	PDZ and LIM domain 5	10611	NM_001011513
PEX19	peroxisomal biogenesis factor 19	5824	NM_002857
PGGT1B	protein geranylgeranyltransferase type I, beta subunit	5229	NM_005023
PHF5A	PHD finger protein 5A	84844	NM_032758
PHKA2	phosphorylase kinase, alpha 2 (liver)	5256	NM_000292
PLAUR	plasminogen activator, urokinase receptor	5329	NM_002659
PLS3	plastin 3 (T isoform)	5358	NM_005032
PLSCR4	phospholipid scramblase 4	57088	NM_020353
POLE2	polymerase (DNA directed), epsilon 2 (p59 subunit)	5427	NM_002692
POLR2F	polymerase (RNA) II (DNA directed) polypeptide F	5435	NM_021974
POLR2L	polymerase (RNA) II (DNA directed) polypeptide L, 7.6kDa	5441	NM_021128
POTEE	POTE ankyrin domain family, member E	445582	NM_001083538
POTEG	POTE ankyrin domain family, member G	404785	NM_001005356
PPID	peptidylprolyl isomerase D (cyclophilin D)	5481	NM_005038
PPP1R13L	protein phosphatase 1, regulatory (inhibitor) subunit 13 like	10848	NM_006663
PRKCA	protein kinase C, alpha	5578	NM_002737
PRKCB	protein kinase C, beta	5579	NM_212535
PRPF31	PRP31 pre-mRNA processing factor 31 homolog (S. cerevisiae)	26121	NM_015629
PRPF8	PRP8 pre-mRNA processing factor 8 homolog (S. cerevisiae)	10594	NM_006445
PRPS1L1	phosphoribosyl pyrophosphate synthetase 1-like 1	221823	NM_175886
PRPSAP1	phosphoribosyl pyrophosphate synthetase-associated protein 1	5635	NM_002766
PRY	PTPN13-like, Y-linked	9081	NM_004676
PRY2	PTPN13-like, Y-linked 2	442862	NM_001002758
PTPN9	protein tyrosine phosphatase, non-receptor type 9	5780	NM_002833
PTPRC	protein tyrosine phosphatase, receptor type, C	5788	NM_002838
PTPRD	protein tyrosine phosphatase, receptor type, D	5789	NM_001040712
PTPRK	protein tyrosine phosphatase, receptor type, K	5796	NM_002844
PYCR2	pyrroline-5-carboxylate reductase family, member 2	29920	NM_013328
PYGM	phosphorylase, glycogen; muscle (McArdle syndrome, glycogen storage disease type V)	5837	NM_005609
RAB7L1	RAB7, member RAS oncogene family-like 1	8934	NM_003929
RAN	RAN, member RAS oncogene family	5901	NM_006325
RARA	retinoic acid receptor, alpha	5914	NM_000964
RARG	retinoic acid receptor, gamma	5916	NM_000966
RASA4	RAS p21 protein activator 4	10156	NM_001079877
RCHY1	ring finger and CHY zinc finger domain containing 1	25898	NM_001008925
RHOBTB2	Rho-related BTB domain containing 2	23221	NM_015178
RHOD	ras homolog gene family, member D	29984	NM_014578
RNF169	ring finger protein 169	254225	XM_495886
RPL18	ribosomal protein L18	6141	NM_000979
RPL21	ribosomal protein L21	6144	NM_000982
RPL21P16	ribosomal protein L21 pseudogene 16	729402	NM_001139505
RPL21P62	ribosomal protein L21 pseudogene 62	442160	XM_001128707
RPL23AP82	ribosomal protein L23a pseudogene 82	284942	NM_203302
RPS2	ribosomal protein S2	6187	NM_002952
RPS25	ribosomal protein S25	6230	NM_001028
RPS25P6	ribosomal protein S25 pseudogene 6	401206	XM_937380
RPS26P10	ribosomal protein S26 pseudogene 10	401470	XM_376787
RPS26P35	ribosomal protein S26 pseudogene 35	441377	XM_496991
RPS26P8	ribosomal protein S26 pseudogene 8	644191	XM_930072
RPS6KL1	ribosomal protein S6 kinase-like 1	83694	NM_031464
SAP30L	SAP30-like	79685	NM_024632
SDF2L1	stromal cell-derived factor 2-like 1	23753	NM_022044
SEC24C	SEC24 related gene family, member C (S. cerevisiae)	9632	NM_004922
SEC31B	SEC31 homolog B (S. cerevisiae)	25956	NM_015490
SERPINB4	serpin peptidase inhibitor, clade B (ovalbumin), member 4	6318	NM_002974
SEZ6L2	seizure related 6 homolog (mouse)-like 2	26470	NM_201575

SF3A1	splicing factor 3a, subunit 1, 120kDa	10291	NM_001005409
SFT2D2	SFT2 domain containing 2	375035	NM_199344
SHC1	SHC (Src homology 2 domain containing) transforming protein 1	6464	NM_003029
SLC26A2	solute carrier family 26 (sulfate transporter), member 2	1836	NM_000112
SLC2A9	solute carrier family 2 (facilitated glucose transporter), member 9	56606	NM_001001290
SLC44A4	solute carrier family 44, member 4	80736	NM_025257
SLCO6A1	solute carrier organic anion transporter family, member 6A1	133482	NM_173488
SMPDL3B	sphingomyelin phosphodiesterase, acid-like 3B	27293	NM_014474
SOBP	sine oculis binding protein homolog (Drosophila)	55084	NM_018013
SOD2	superoxide dismutase 2, mitochondrial	6648	NM_001024465
SORBS1	sorbin and SH3 domain containing 1	10580	NM_001034954
SPI1	spleen focus forming virus (SFFV) proviral integration oncogene spi1	6688	NM_001080547
SREBF2	sterol regulatory element binding transcription factor 2	6721	NM_004599
STARD9	StAR-related lipid transfer (START) domain containing 9	57519	XM_001129482
STK16	serine/threonine kinase 16	8576	NM_001008910
STS	steroid sulfatase (microsomal), arylsulfatase C, isozyme S	412	NM_000351
STX2	syntaxin 2	2054	NM_001980
STYK1	serine/threonine/tyrosine kinase 1	55359	NM_018423
TAS2R1	taste receptor, type 2, member 1	50834	NM_019599
TAS2R5	taste receptor, type 2, member 5	54429	NM_018980
TBX2	T-box 2	6909	NM_005994
TGFBR1	transforming growth factor, beta receptor 1 (activin A receptor type II-like kinase, 53kDa)	7046	NM_004612
TGS1	trimethylguanosine synthase homolog (S. cerevisiae)	96764	NM_024831
TIAM1	T-cell lymphoma invasion and metastasis 1	7074	NM_003253
TM7SF2	transmembrane 7 superfamily member 2	7108	NM_003273
TMEM126A	transmembrane protein 126A	84233	NM_032273
TMEM150A	transmembrane protein 150A	129303	NM_001031738
TPO	thyroid peroxidase	7173	NM_000547
TPP2	tripeptidyl peptidase II	7174	NM_003291
TPSAB1	tryptase alpha/beta 1	7177	NM_003294
TPSB2	tryptase beta 2	64499	NM_024164
TRIM11	tripartite motif-containing 11	81559	NM_145214
TRIM23	tripartite motif-containing 23	373	NM_033228
TRPM5	transient receptor potential cation channel, subfamily M, member 5	29850	NM_014555
TUBGCP5	tubulin, gamma complex associated protein 5	114791	NM_052903
TWF1	twinfilin, actin-binding protein, homolog 1 (Drosophila)	5756	NM_002822
TXNL4A	thioredoxin-like 4A	10907	NM_006701
UACA	uveal autoantigen with coiled-coil domains and ankyrin repeats	55075	NM_001008224
UBE2L6	ubiquitin-conjugating enzyme E2L 6	9246	NM_004223
UGT1A10	UDP glucuronosyltransferase 1 family, polypeptide A10	54575	NM_019075
UGT1A3	UDP glucuronosyltransferase 1 family, polypeptide A3	54659	NM_019093
UGT2B7	UDP glucuronosyltransferase 2 family, polypeptide B7	7364	XM_001128725
USP33	ubiquitin specific peptidase 33	23032	NM_015017
USP8	ubiquitin specific peptidase 8	9101	NM_005154
VCL	vinculin	7414	NM_014000
VDAC2	voltage-dependent anion channel 2	7417	NM_003375
YAP1	Yes-associated protein 1, 65kDa	10413	NM_006106
YSK4	yeast Sps1/Ste20-related kinase 4 (S. cerevisiae)	80122	NM_001018046
ZMYND10	zinc finger, MYND-type containing 10	51364	NM_015896
ZNF276	zinc finger protein 276	92822	NM_152287
ZNF326	zinc finger protein 326	284695	NM_182975
ZNF641	zinc finger protein 641	121274	NM_152320