

Supplemental Table S1: List of 1124 genes whose binding to eIF4E was induced by radiation

Fold Increase	Gene Symbol	Gene Description			
			1.5	AP4M1	adaptor-related protein complex 4, mu 1 subunit
2.2	ABCA11	ATP-binding cassette, sub-family A (ABC1), member 11 (pseudogene)	1.7	APBB1	amyloid beta (A4) precursor protein-binding, family B, member 1 (Fe65)
3.1	ABHD4	abhydrolase domain containing 4	2	APLP2	amyloid beta (A4) precursor-like protein 2
1.9	ABHD6	abhydrolase domain containing 6	1.5	APOL3	apolipoprotein L, 3
1.5	ABT1	activator of basal transcription 1	1.5	APTX	aprataxin
1.8	ACAD8	acyl-Coenzyme A dehydrogenase family, member 8	2.9	ARF3	ADP-ribosylation factor 3
1.8	ACAT1	acetyl-Coenzyme A acetyltransferase 1 (acetoacetyl Coenzyme A thiolase)	1.5	ARL6IP5	ADP-ribosylation-like factor 6 interacting protein 5
1.7	ACOT7	acyl-CoA thioesterase 7	10.8	ARPC2	actin related protein 2/3 complex, subunit 2, 34kDa
1.5	ACOT9	acyl-CoA thioesterase 9	1.5	ARRB2	arrestin, beta 2
1.6	ACTR5	ARP5 actin-related protein 5 homolog (yeast)	1.8	ASB13	ankyrin repeat and SOCS box-containing 13
3	ADCK2	aarF domain containing kinase 2	11.2	ASCIZ	ATM/ATR-Substrate Chk2-Interacting Zn2+-finger protein
1.8	ADPGK	ADP-dependent glucokinase	2.3	ATP1B3	ATPase, Na+/K+ transporting, beta 3 polypeptide
2.4	ADSL	adenylosuccinate lyase	1.7	ATP5B	ATP synthase, H+ transporting, mitochondrial F1 complex, beta polypeptide
2.2	AGPAT2	1-acylglycerol-3-phosphate O-acyltransferase 2 (lysophosphatidic acid acyltransferase, beta)	1.6	ATP5C1	ATP synthase, H+ transporting, mitochondrial F1 complex, gamma polypeptide 1
1.5	AIM1L	absent in melanoma 1-like	1.5	ATP5L	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit g
1.5	AKR1C2	aldo-keto reductase family 1, member C2 (dihydrodiol dehydrogenase 2; bile acid binding protein; 3-alpha hydroxysteroid dehydrogenase, type III)	2	ATP6V0E	ATPase, H+ transporting, lysosomal 9kDa, V0 subunit e
1.8	AKR7A2	aldo-keto reductase family 7, member A2 (aflatoxin aldehyde reductase)	1.6	ATP6V1D	ATPase, H+ transporting, lysosomal 34kDa, V1 subunit D
4.1	ALKBH	alkB, alkylation repair homolog (E. coli)	1.8	ATP8A2	ATPase, aminophospholipid transporter-like, Class I, type 8A, member 2
1.9	AMFR	autocrine motility factor receptor	1.8	ATPAF2	ATP synthase mitochondrial F1 complex assembly factor 2
1.7	ANAPC5	anaphase promoting complex subunit 5			
1.8	ANKRD40	ankyrin repeat domain 40			
4.5	ANXA11	annexin A11			

2.2	B4GALT4	UDP-Gal:betaGlcNAc beta 1,4- galactosyltransferase, polypeptide 4	7.4	C1orf163	chromosome 1 open reading frame 163
			1.7	C1orf174	chromosome 1 open reading frame 174
8.6	BBP	Beta-amyloid binding protein precursor	1.8	C1orf33	chromosome 1 open reading frame 33
2.1	BBS4	Bardet-Biedl syndrome 4	4.8	C20orf111	chromosome 20 open reading frame 111
1.7	BCAT1	branched chain aminotransferase 1, cytosolic	1.7	C20orf24	chromosome 20 open reading frame 24
2.6	BCL10	B-cell CLL/lymphoma 10	3	C20orf29	chromosome 20 open reading frame 29
4.7	BCL2L11	BCL2-like 11 (apoptosis facilitator)	5.3	C20orf44	chromosome 20 open reading frame 44
3.5	BIRC5	baculoviral IAP repeat- containing 5 (survivin)	3.8	C20orf45	chromosome 20 open reading frame 45
2.1	BMPR1A	bone morphogenetic protein receptor, type IA	3	C21orf91	chromosome 21 open reading frame 91
1.7	BNIP2	BCL2/adenovirus E1B 19kDa interacting protein 2	4.8	C2orf43	chromosome 2 open reading frame 43
			1.5	C3orf18	chromosome 3 open reading frame 18
1.9	BNIP3	BCL2/adenovirus E1B 19kDa interacting protein 3	1.7	C3orf37	chromosome 3 open reading frame 37
1.7	BRE	brain and reproductive organ-expressed (TNFRSF1A modulator)	1.8	C5orf30	chromosome 5 open reading frame 30
			3.7	C6orf106	chromosome 6 open reading frame 106
2.3	BTG1	B-cell translocation gene 1, anti-proliferative	4	C6orf49	chromosome 6 open reading frame 49
1.6	C10orf57	chromosome 10 open reading frame 57	1.8	C6orf82	chromosome 6 open reading frame 82
2.7	C10orf61	chromosome 10 open reading frame 61	1.6	C7orf26	chromosome 7 open reading frame 26
2	C10orf97	chromosome 10 open reading frame 97	10	C8orf30A	chromosome 8 open reading frame 30A
1.7	C11orf24	chromosome 11 open reading frame 24	3	C9orf78	chromosome 9 open reading frame 78
4.8	C12orf41	chromosome 12 open reading frame 41	5.4	C9orf82	chromosome 9 open reading frame 82
1.6	C12orf49	chromosome 12 open reading frame 49	4.1	CABIN1	calcineurin binding protein 1
1.6	C12orf52	chromosome 12 open reading frame 52	6.1	CALM1	calmodulin 1 (phosphorylase kinase, delta)
1.7	C14orf138	chromosome 14 open reading frame 138	4.3	CAMLG	calcium modulating ligand
1.5	C14orf172	chromosome 14 open reading frame 172	2.3	CAMTA2	calmodulin binding transcription activator 2
1.5	C16orf45	chromosome 16 open reading frame 45	4.7	CASP3	caspase 3, apoptosis- related cysteine peptidase
1.7	C16orf58	chromosome 16 open reading frame 58	1.8	CASP9	caspase 9, apoptosis- related cysteine peptidase
1.6	C17orf39	chromosome 17 open reading frame 39	1.5	CAV2	caveolin 2
1.8	C19orf2	chromosome 19 open reading frame 2	2.2	CCDC132	coiled-coil domain containing 132
1.5	C19orf50	chromosome 19 open reading frame 50	3.9	CCNA1	cyclin A1
8.2	C1orf144	chromosome 1 open reading frame 144			

1.7	CCNA2	cyclin A2			channel 4
1.6	CCNB1IP1	cyclin B1 interacting protein 1	2	CLINT1	clathrin interactor 1
2.5	CCNE2	cyclin E2	1.5	CLN5	ceroid-lipofuscinosis, neuronal 5
1.9	CCS	copper chaperone for superoxide dismutase	1.7	CLTA	clathrin, light polypeptide (Lca)
3	CD164	CD164 antigen, sialomucin	7.5	CNGA1	cyclic nucleotide gated channel alpha 1
1.7	CD59	CD59 antigen p18-20 (antigen identified by monoclonal antibodies 16.3A5, EJ16, EJ30, EL32 and G344)	2.3	CNIH3	cornichon homolog 3 (Drosophila)
4.3	CD63	CD63 antigen (melanoma 1 antigen)	5.5	CNP	2',3'-cyclic nucleotide 3' phosphodiesterase
1.6	CDC2	cell division cycle 2, G1 to S and G2 to M	9.9	COG2	component of oligomeric golgi complex 2
4.9	CDC25C	cell division cycle 25C	1.7	COPS2	COP9 constitutive photomorphogenic homolog subunit 2 (Arabidopsis)
2.2	CDC42EP2	CDC42 effector protein (Rho GTPase binding) 2			
1.6	CDCA4	cell division cycle associated 4	6.1	COPS7B	COP9 constitutive photomorphogenic homolog subunit 7B (Arabidopsis)
1.7	CDKL3	cyclin-dependent kinase-like 3			
1.9	CDKN1A	cyclin-dependent kinase inhibitor 1A (p21, Cip1)	1.5	COPS8	COP9 constitutive photomorphogenic homolog subunit 8 (Arabidopsis)
1.7	CDKN2C	cyclin-dependent kinase inhibitor 2C (p18, inhibits CDK4)			
1.5	CDKN3	cyclin-dependent kinase inhibitor 3 (CDK2-associated dual specificity phosphatase)	1.9	COQ2	coenzyme Q2 homolog, prenyltransferase (yeast)
2.3	CDYL	chromodomain protein, Y-like	1.8	COTL1	coactosin-like 1 (Dictyostelium)
2	CENPB	centromere protein B, 80kDa	3.5	COX11	COX11 homolog, cytochrome c oxidase assembly protein (yeast)
3.2	CENPO	centromere protein O	1.5	COX7A2	cytochrome c oxidase subunit VIIa polypeptide 2 (liver)
6.1	CEP57	centrosomal protein 57kDa	1.8	COX7B	cytochrome c oxidase subunit VIIb
1.5	CEPT1	choline/ethanolamine phosphotransferase 1	1.5	CREB1	cAMP responsive element binding protein 1
2.3	CHCHD7	coiled-coil-helix-coiled-coil-helix domain containing 7	2.3	CREG1	cellular repressor of E1A-stimulated genes 1
7.6	CHEK1	CHK1 checkpoint homolog (S. pombe)	2.1	CRELD1	cysteine-rich with EGF-like domains 1
3.1	CHST10	carbohydrate sulfotransferase 10	15.7	CRI1	CREBBP/EP300 inhibitor 1
1.8	CIDEC	cell death-inducing DFFA-like effector c	1.5	CSNK1A1	casein kinase 1, alpha 1
1.6	CINP	cyclin-dependent kinase 2-interacting protein	6.2	CTBP2	C-terminal binding protein 2
2.2	CIR	CBF1 interacting corepressor	4.4	CTDSP1	CTD (carboxy-terminal domain, RNA polymerase II, polypeptide A) small phosphatase 1
3.1	CLIC1	chloride intracellular channel 1			
5.5	CLIC4	chloride intracellular			

2.5	CTDSP2	CTD (carboxy-terminal domain, RNA polymerase II, polypeptide A) small phosphatase 2	2.1	DNAJB12	DnaJ (Hsp40) homolog, subfamily B, member 12
			1.7	DNAJB9	DnaJ (Hsp40) homolog, subfamily B, member 9
1.7	CTDSPL	CTD (carboxy-terminal domain, RNA polymerase II, polypeptide A) small phosphatase-like	2.1	DNAJC17	DnaJ (Hsp40) homolog, subfamily C, member 17
			2	DNAJC8	DnaJ (Hsp40) homolog, subfamily C, member 8
2.4	CTGLF1	centaurin, gamma-like family, member 1	1.9	DNAJC9	DnaJ (Hsp40) homolog, subfamily C, member 9
6.5	CTH	cystathionase (cystathionine gamma-lyase)	4.7	DR1	down-regulator of transcription 1, TBP-binding (negative cofactor 2)
1.7	CTSB	cathepsin B	2.5	DSTN	destrin (actin depolymerizing factor)
1.8	CTSS	cathepsin S	4.4	DTX2	deltex homolog 2 (Drosophila)
1.9	CXorf12	chromosome X open reading frame 12	1.8	DUSP1	dual specificity phosphatase 1
3.9	CXorf15	chromosome X open reading frame 15	1.5	DYNLL1	dynein, light chain, LC8-type 1
5.5	CYB5B	cytochrome b5 type B (outer mitochondrial membrane)	1.8	DYNLT1	dynein, light chain, Tctex-type 1
2.5	CYB5R3	cytochrome b5 reductase 3	1.7	DYNLT3	dynein, light chain, Tctex-type 3
4.3	DBT	dihydrolipoamide branched chain transacylase E2	7.1	E2F6	E2F transcription factor 6
24.9	DCLRE1B	DNA cross-link repair 1B (PSO2 homolog, <i>S. cerevisiae</i>)	1.6	EBAG9	estrogen receptor binding site associated, antigen, 9
1.6	DCTD	dCMP deaminase	3.9	EEF1B2	eukaryotic translation elongation factor 1 beta 2
2.2	DCTN4	dynactin 4 (p62)	1.5	EFCAB2	EF-hand calcium binding domain 2
2.9	DCTN5	dynactin 5 (p25)	165.8	EFEMP2	EGF-containing fibulin-like extracellular matrix protein 2
1.6	DDX19A	DEAD (Asp-Glu-Ala-As) box polypeptide 19A	3.2	EFNA4	ephrin-A4
1.6	DDX28	DEAD (Asp-Glu-Ala-Asp) box polypeptide 28	1.8	EGFL9	EGF-like-domain, multiple 9
3.1	DDX50	DEAD (Asp-Glu-Ala-Asp) box polypeptide 50	3.7	EI24	etoposide induced 2.4 mRNA
1.7	DENND2D	DENN/MADD domain containing 2D	1.7	EIF3S4	eukaryotic translation initiation factor 3, subunit 4 delta, 44kDa
3.1	DFFB	DNA fragmentation factor, 40kDa, beta polypeptide (caspase-activated DNase)	4	EIF5	eukaryotic translation initiation factor 5
1.8	DHRS12	dehydrogenase/reductase (SDR family) member 12	1.7	EML2	echinoderm microtubule associated protein like 2
2.4	DHRS3	dehydrogenase/reductase (SDR family) member 3	2.3	EMP1	epithelial membrane protein 1
9.3	DIP	death-inducing-protein	4.3	EMP2	epithelial membrane protein 2
1.6	DKFZP564K0822	hypothetical protein DKFZp564K0822	1.6	ENDOGL1	endonuclease G-like 1
2.9	DMWD	dystrophia myotonica-containing WD repeat motif	5.3	ENOSF1	enolase superfamily member 1
			1.7	ENOX1	ecto-NOX disulfide-thiol

		exchanger 1	1.5	FKBP2	FK506 binding protein 2, 13kDa
3.3	ENSA	endosulfine alpha	1.7	FLJ22222	hypothetical protein FLJ22222
2.3	EPOR	erythropoietin receptor			
1.9	ERCC8	excision repair cross-complementing rodent repair deficiency, complementation group 8	1.8	FN3KRP	fructosamine-3-kinase-related protein
			1.5	FOXF2	forkhead box F2
			2.3	FRAG1	FGF receptor activating protein 1
12.5	ETF1	eukaryotic translation termination factor 1	1.5	FTH1	ferritin, heavy polypeptide 1
1.6	ETNK2	ethanolamine kinase 2	3.1	FTHP1	ferritin, heavy polypeptide pseudogene 1
2.8	ETS2	v-ets erythroblastosis virus E26 oncogene homolog 2 (avian)	2.5	FTL	ferritin, light polypeptide
3.2	ETV7	ets variant gene 7 (TEL2 oncogene)	7.6	FUSIP1	FUS interacting protein (serine/arginine-rich) 1
7	EXOC5	exocyst complex component 5	2.1	FZR1	fizzy/cell division cycle 20 related 1 (Drosophila)
2.5	EXOSC2	exosome component 2			
3.1	F2RL1	coagulation factor II (thrombin) receptor-like 1	2	G3BP2	GTPase activating protein (SH3 domain) binding protein 2
1.5	FAF1	Fas (TNFRSF6) associated factor 1	12.8	GABARAPL1	GABA(A) receptor-associated protein like 1
2.6	FAHD2A	fumarylacetoacetate hydrolase domain containing 2A	2.7	GAD1	glutamate decarboxylase 1 (brain, 67kDa)
			1.9	GAS2L1	growth arrest-specific 2 like 1
1.7	FAM105A	family with sequence similarity 105, member A	2.7	GAS6	growth arrest-specific 6
			3.2	GCDH	glutaryl-Coenzyme A dehydrogenase
2.4	FAM131A	family with sequence similarity 131, member A	6.9	GDF11	growth differentiation factor 11
4.7	FAM48A	family with sequence similarity 48, member A	1.5	GENX-3414	genethonin 1
7.3	FAM57A	family with sequence similarity 57, member A	1.5	GGA2	golgi associated, gamma adaptin ear containing, ARF binding protein 2
2.2	FAS	Fas (TNF receptor superfamily, member 6)	1.5	GGH	gamma-glutamyl hydrolase (conjugase, folylpolygammaglutamyl hydrolase)
1.9	FASTK	Fas-activated serine/threonine kinase			
2.1	FASTKD5	FAST kinase domains 5	1.6	GGPS1	geranylgeranyl diphosphate synthase 1
1.8	FAU	Finkel-Biskis-Reilly murine sarcoma virus (FBR-MuSV) ubiquitously expressed (fox derived); ribosomal protein S30	8.4	GGTL4	gamma-glutamyltransferase-like 4
			1.8	GHITM	growth hormone inducible transmembrane protein
1.6	FBL	fibrillarlin			
5	FBXL4	F-box and leucine-rich repeat protein 4	1.8	GINS4	GINS complex subunit 4 (Sld5 homolog)
1.7	FBXO28	F-box protein 28	2.2	GLUD1	glutamate dehydrogenase 1
1.7	FBXO9	F-box protein 9	4	GM2A	GM2 ganglioside activator
2.2	FBXW11	F-box and WD-40 domain protein 11	1.6	GNAS	GNAS complex locus
1.6	FDFT1	farnesyl-diphosphate farnesyltransferase 1	2.2	GNB1L	guanine nucleotide binding protein (G

		protein), beta polypeptide 1-like	3.4	HTATIP	HIV-1 Tat interacting protein, 60kDa
1.9	GPR110	G protein-coupled receptor 110	1.9	IDH2	isocitrate dehydrogenase 2 (NADP+), mitochondrial
2.3	GPR172A	G protein-coupled receptor 172A	2.1	IDH3B	isocitrate dehydrogenase 3 (NAD+) beta
2.4	GPR30	G protein-coupled receptor 30	1.7	IDI1	isopentenyl-diphosphate delta isomerase 1
3	GPX7	glutathione peroxidase 7	1.6	IER3	immediate early response 3
2.7	GRB10	growth factor receptor-bound protein 10	1.6	IGFBP7	insulin-like growth factor binding protein 7
1.7	GRK6	G protein-coupled receptor kinase 6	2.7	IIP45	invasion inhibitory protein 45
2	GRPEL1	GrpE-like 1, mitochondrial (E. coli)	2	IL11	interleukin 11
3	GSK3A	glycogen synthase kinase 3 alpha	2.1	IL11RA	interleukin 11 receptor, alpha
4	GTDC1	glycosyltransferase-like domain containing 1	4.1	IL13RA1	interleukin 13 receptor, alpha 1
1.6	GTF2H2	general transcription factor IIH, polypeptide 2, 44kDa	1.8	IL15	interleukin 15
1.9	GTF3C2	general transcription factor IIIC, polypeptide 2, beta 110kDa	1.6	ING1	inhibitor of growth family, member 1
1.9	GYG1	glycogenin 1	5.1	ING2	inhibitor of growth family, member 2
11.8	HCP5	HLA complex P5	1.9	ING4	inhibitor of growth family, member 4
1.7	HEMK1	HemK methyltransferase family member 1	1.6	INSIG1	insulin induced gene 1
5.3	HEXB	hexosaminidase B (beta polypeptide)	5.4	IPO13	importin 13
1.9	HIGD1A	HIG1 domain family, member 1A	1.7	IQCC	IQ motif containing C
1.6	HINT1	histidine triad nucleotide binding protein 1	6.4	IRX5	iroquois homeobox protein 5
2.6	HIST1H1E	histone 1, H1e	2	ISG20L2	interferon stimulated exonuclease gene 20kDa-like 2
1.7	HIST1H2BD	histone 1, H2bd	3.9	IVD	isovaleryl Coenzyme A dehydrogenase
2.1	HIST1H2BK	histone 1, H2bk	4.6	JOSD1	Josephin domain containing 1
1.8	HIST1H2BM	histone 1, H2bm	2.2	KATNA1	katanin p60 (ATPase-containing) subunit A 1
39.4	HLA-F	major histocompatibility complex, class I, F	2.8	KCTD13	potassium channel tetramerisation domain containing 13
1.5	HMOX1	heme oxygenase (decycling) 1	1.5	KCTD14	potassium channel tetramerisation domain containing 14
2	HSBP1	heat shock factor binding protein 1	1.6	KDELR2	KDEL (Lys-Asp-Glu-Leu) endoplasmic reticulum protein retention receptor 2
1.5	HSD17B7P2	hydroxysteroid (17-beta) dehydrogenase 7 pseudogene 2	20.5	KDELR3	KDEL (Lys-Asp-Glu-Leu) endoplasmic reticulum protein retention receptor 3
2.4	HSF2BP	heat shock transcription factor 2 binding protein	1.5	KIAA0409	KIAA0409
1.6	HSPA4	heat shock 70kDa protein 4	1.9	KIF22	kinesin family member 22
1.8	HSPBAP1	HSPB (heat shock 27kDa) associated protein 1			
1.9	HSPC111	hypothetical protein HSPC111			

1.5	KLF2	Kruppel-like factor 2 (lung)			kinase 7 interacting protein 2
2	KLF4	Kruppel-like factor 4 (gut)	2.1	MAPK12	mitogen-activated protein kinase 12
29.4	KLF6	Kruppel-like factor 6	1.5	MAPKAPK2	mitogen-activated protein kinase-activated protein kinase 2
1.6	KPNA2	karyopherin alpha 2 (RAG cohort 1, importin alpha 1)	1.5	MBD1	methyl-CpG binding domain protein 1
1.5	KPNA6	karyopherin alpha 6 (importin alpha 7)	1.5	MBIP	MAP3K12 binding inhibitory protein 1
2.2	LANCL1	LanC lantibiotic synthetase component C-like 1 (bacterial)	1.7	MCFP	mitochondrial carrier family protein
2.1	LARP6	La ribonucleoprotein domain family, member 6	1.5	MCOLN1	mucolipin 1
2.8	LASS2	LAG1 longevity assurance homolog 2 (<i>S. cerevisiae</i>)	2.1	MCP	membrane cofactor protein (CD46, trophoblast-lymphocyte cross-reactive antigen)
63.1	LGALS1	lectin, galactoside-binding, soluble, 1 (galectin 1)	1.5	MDH1	malate dehydrogenase 1, NAD (soluble)
1.6	LGALS8	lectin, galactoside-binding, soluble, 8 (galectin 8)	10.4	ME2	malic enzyme 2, NAD(+)-dependent, mitochondrial
1.6	LHFP	lipoma HMGIC fusion partner	2	ME3	malic enzyme 3, NADP(+)-dependent, mitochondrial
2.8	LITAF	lipopolysaccharide-induced TNF factor	3.3	MECP2	methyl CpG binding protein 2 (Rett syndrome)
2	LOC26010	viral DNA polymerase-transactivated protein 6	2.8	MED18	mediator of RNA polymerase II transcription, subunit 18
2.1	LOC441294	similar to CTAGE6			homolog (yeast)
1.9	LOC54103	hypothetical protein LOC54103	5.3	MED9	mediator of RNA polymerase II transcription, subunit 9
1.9	LONRF3	LON peptidase N-terminal domain and ring finger 3			homolog (yeast)
3	LRRFIP2	leucine rich repeat (in FLII) interacting protein 2	2.4	MEST	mesoderm specific transcript homolog (mouse)
2.1	LSM5	LSM5 homolog, U6 small nuclear RNA associated (<i>S. cerevisiae</i>)	1.7	METTL2	methyltransferase like 2
2.7	LYPLA1	lysophospholipase I	1.5	MFN2	mitofusin 2
1.7	LYRM1	LYR motif containing 1	1.7	MFSD5	major facilitator superfamily domain containing 5
2.3	MAFF	v-maf musculoaponeurotic fibrosarcoma oncogene homolog F (avian)	1.6	MGC14376	hypothetical protein MGC14376
1.7	MANEA	mannosidase, endo-alpha	1.9	MGC2752	hypothetical protein MGC2752
1.8	MAP2K4	mitogen-activated protein kinase kinase 4	1.5	MGST2	microsomal glutathione S-transferase 2
1.5	MAP2K5	mitogen-activated protein kinase kinase 5	1.5	MICA	MHC class I polypeptide-related sequence A
2.3	MAP2K7	mitogen-activated protein kinase kinase 7	2.2	MID1IP1	MID1 interacting protein 1 (gastrulation specific G12-like (zebrafish))
1.7	MAP3K7IP2	mitogen-activated protein kinase kinase	2.3	MIS12	MIS12 homolog (yeast)

1.6	MKMK2	MAP kinase interacting serine/threonine kinase 2	3.6	MYNN	myoneurin
1.5	MLL4	myeloid/lymphoid or mixed-lineage leukemia 4	2.3	MYO9B	myosin IXB
1.9	MLX	MAX-like protein X	1.8	MYOHD1	myosin head domain containing 1
1.9	MLYCD	malonyl-CoA decarboxylase	2.4	MYST1	MYST histone acetyltransferase 1
1.7	MMD	monocyte to macrophage differentiation-associated	8.9	na	similar to 60S ribosomal protein L13 (A52)
1.5	MMP14	matrix metalloproteinase 14 (membrane-inserted)	2.2	NAB1	NGFI-A binding protein 1 (EGR1 binding protein 1)
23	MMP9	matrix metalloproteinase 9 (gelatinase B, 92kDa gelatinase, 92kDa type IV collagenase)	1.7	NADK	NAD kinase
2.7	MPZL1	myelin protein zero-like 1	1.8	NAPG	N-ethylmaleimide-sensitive factor attachment protein, gamma
11.4	MR1	major histocompatibility complex, class I-related	1.5	NDUFA5	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 5, 13kDa
1.5	MRPL3	mitochondrial ribosomal protein L3	3.6	NEK11	NIMA (never in mitosis gene a)- related kinase 11
2.1	MRPL9	mitochondrial ribosomal protein L9	1.5	NEK2	NIMA (never in mitosis gene a)-related kinase 2
1.5	MRPS10	mitochondrial ribosomal protein S10	1.5	NFYC	nuclear transcription factor Y, gamma
1.7	MRPS12	mitochondrial ribosomal protein S12	2.1	NGFRAP1	nerve growth factor receptor (TNFRSF16) associated protein 1
2.5	MRS2L	MRS2-like, magnesium homeostasis factor (<i>S. cerevisiae</i>)	1.9	NGRN	neugrin, neurite outgrowth associated
2.8	MT1H	metallothionein 1H	1.8	NIPSNAP1	nipsnap homolog 1 (<i>C. elegans</i>)
40.7	MT1X	metallothionein 1X	2.5	NMD3	NMD3 homolog (<i>S. cerevisiae</i>)
1.7	MTA1	metastasis associated 1	1.8	NMT1	N-myristoyltransferase 1
3.7	MTHFD2L	methylenetetrahydrofolate dehydrogenase (NADP+ dependent) 2-like	3.4	NMT2	N-myristoyltransferase 2
2.8	MTO1	mitochondrial translation optimization 1 homolog (<i>S. cerevisiae</i>)	2.1	NOSIP	nitric oxide synthase interacting protein
1.9	MTRR	5-methyltetrahydrofolate-homocysteine methyltransferase reductase	1.5	NPAS2	neuronal PAS domain protein 2
1.5	MVK	mevalonate kinase (mevalonic aciduria)	6.8	NSDHL	NAD(P) dependent steroid dehydrogenase-like
4.4	MXRA7	matrix-remodelling associated 7	2.1	NSMAF	neutral sphingomyelinase (N-SMase) activation associated factor
1.6	MYCBP	c-myc binding protein	4	OAZ1	ornithine decarboxylase antizyme 1
1.9	MYD88	myeloid differentiation primary response gene (88)	1.5	OR7E47P	olfactory receptor, family 7, subfamily E, member 47 pseudogene
2.3	MYL4	myosin, light polypeptide 4, alkali; atrial, embryonic	1.8	ORC4L	origin recognition complex, subunit 4-like (yeast)
			1.6	OTUB1	OTU domain, ubiquitin aldehyde binding 1

1.8	P2RX5	purinergic receptor P2X, ligand-gated ion channel, 5			polypeptide
12.7	P2RY2	purinergic receptor P2Y, G-protein coupled, 2	1.8	PIM2	pim-2 oncogene
1.6	PABPN1	poly(A) binding protein, nuclear 1	2.3	PIP5K1A	phosphatidylinositol-4-phosphate 5-kinase, type I, alpha
1.5	PAIP1	poly(A) binding protein interacting protein 1	2	PKNOX1	PBX/knotted 1
1.8	PAOX	polyamine oxidase (exo-N4-amino)	2.9	PLA2G4B	homeobox 1
2.2	PAX8	paired box gene 8	3.3	PLAC1	phospholipase A2, group IVB (cytosolic)
1.5	PBX2	pre-B-cell leukemia transcription factor 2	1.5	PLAUR	placenta-specific 1
4	PCGF2	polycomb group ring finger 2	1.5	PLEKHM2	plasminogen activator, urokinase receptor
1.8	PCLO	piccolo (presynaptic cytomatrix protein)			pleckstrin homology domain containing, family M (with RUN domain) member 2
2.9	PCOLCE2	procollagen C-endopeptidase enhancer 2	1.6	PLSCR3	phospholipid scramblase 3
2.1	PCTP	phosphatidylcholine transfer protein	2.1	PMAIP1	phorbol-12-myristate-13-acetate-induced protein 1
9	PCYT1A	phosphate cytidylyltransferase 1, choline, alpha	18.4	PMP22	peripheral myelin protein 22
2.9	PDCD2	programmed cell death 2	1.9	PMS2L3	postmeiotic segregation increased 2-like 3
1.6	PDE10A	phosphodiesterase 10A	1.6	PMS2L5	postmeiotic segregation increased 2-like 5
1.9	PDS5A	PDS5, regulator of cohesion maintenance, homolog A (S. cerevisiae)	4.8	POLA2	polymerase (DNA directed), alpha 2 (70kD subunit)
2.1	PEX16	peroxisomal biogenesis factor 16	2	POLDIP2	polymerase (DNA-directed), delta interacting protein 2
1.7	PEX3	peroxisomal biogenesis factor 3	6.2	POLDIP3	polymerase (DNA-directed), delta interacting protein 3
2.4	PFKL	phosphofructokinase, liver	9.4	POLE3	polymerase (DNA directed), epsilon 3 (p17 subunit)
1.7	PGF	placental growth factor, vascular endothelial growth factor-related protein	1.6	PON3	paraoxonase 3
6.7	PGGT1B	protein geranylgeranyltransferase type I, beta subunit	2.7	POT1	POT1 protection of telomeres 1 homolog (S. pombe)
1.5	PHB	prohibitin	1.6	PPA1	pyrophosphatase (inorganic) 1
1.5	PHF1	PHD finger protein 1	2.3	PPFIA1	protein tyrosine phosphatase, receptor type, f polypeptide (PTPRF), interacting protein (liprin), alpha 1
1.9	PHF2	PHD finger protein 2			peptidylprolyl isomerase A (cyclophilin A)
1.6	PHTF1	putative homeodomain transcription factor 1			peptidylprolyl isomerase D (cyclophilin D)
15.2	PHTF2	putative homeodomain transcription factor 2	2.8	PPIA	protein phosphatase 1, regulatory subunit 7
3.3	PIAS2	protein inhibitor of activated STAT, 2	1.6	PPID	
7.7	PIGB	phosphatidylinositol glycan, class B	2.5	PPP1R7	
2.5	PIK4CB	phosphatidylinositol 4-kinase, catalytic, beta			

4.8	PPP2R1B	protein phosphatase 2 (formerly 2A), regulatory subunit A (PR65), beta isoform	1.6	PTPN3	protein tyrosine phosphatase, non-receptor type 3
10	PPP3R1	protein phosphatase 3 (formerly 2B), regulatory subunit B, 19kDa, alpha isoform (calcineurin B, type I)	1.6	PTPN9	protein tyrosine phosphatase, non-receptor type 9
2.2	PPT2	palmitoyl-protein thioesterase 2	3.9	PTPRA	protein tyrosine phosphatase, receptor type, A
1.8	PRG1	proteoglycan 1, secretory granule	1.7	PTTG1	pituitary tumor-transforming 1
1.5	PRKAB1	protein kinase, AMP-activated, beta 1 non-catalytic subunit	7.8	QKI	quaking homolog, KH domain RNA binding (mouse)
2.4	PRKD3	protein kinase D3	1.9	RAB2	RAB2, member RAS oncogene family
4.3	PRKRIP1	PRKR interacting protein 1 (IL11 inducible)	2.9	RAB23	RAB23, member RAS oncogene family
2.2	PRPF4	PRP4 pre-mRNA processing factor 4 homolog (yeast)	8.8	RABEP1	rabaptin, RAB GTPase binding effector protein 1
5.6	PRSS23	protease, serine, 23	2	RABL2B	RAB, member of RAS oncogene family-like 2B
1.5	PRUNE	prune homolog (Drosophila)	1.8	RAC3	ras-related C3 botulinum toxin substrate 3 (rho family, small GTP binding protein Rac3)
12.4	PSKH1	protein serine kinase H1	1.5	RAD17	RAD17 homolog (S. pombe)
1.8	PSMA1	proteasome (prosome, macropain) subunit, alpha type, 1	1.8	RAD51	RAD51 homolog (RecA homolog, E. coli) (S. cerevisiae)
1.5	PSMA7	proteasome (prosome, macropain) subunit, alpha type, 7	1.7	RAD51AP1	RAD51 associated protein 1
5.5	PSMB4	proteasome (prosome, macropain) subunit, beta type, 4	1.9	RAD9A	RAD9 homolog A (S. pombe)
1.6	PSMC5	proteasome (prosome, macropain) 26S subunit, ATPase, 5	1.7	RALA	v-ral simian leukemia viral oncogene homolog A (ras related)
2	PSMD4	proteasome (prosome, macropain) 26S subunit, non-ATPase, 4	6.5	RANBP3	RAN binding protein 3
1.7	PSME1	proteasome (prosome, macropain) activator subunit 1 (PA28 alpha)	1.7	RANGAP1	Ran GTPase activating protein 1
2	PTP4A1	protein tyrosine phosphatase type IVA, member 1	2.2	RBMS2	RNA binding motif, single stranded interacting protein 2
1.6	PTPLAD1	protein tyrosine phosphatase-like A domain containing 1	1.7	RBMX2	RNA binding motif protein, X-linked 2
7.1	PTPN11	protein tyrosine phosphatase, non-receptor type 11 (Noonan syndrome 1)	1.5	RCL1	RNA terminal phosphate cyclase-like 1
11.7	PTPN2	protein tyrosine phosphatase, non-receptor type 2	3.7	RCP9	Calcitonin gene-related peptide-receptor component protein regulator of G-protein signalling 19
			2.3	RGS19	regulator of G-protein signalling 19
			1.5	RHEB	Ras homolog enriched in brain
			2.4	RHOA	ras homolog gene family, member A
			7	RHOBTB3	Rho-related BTB

		domain containing 3			homolog 1 (Drosophila)
1.8	RHOT1	ras homolog gene family, member T1	2.5	SCPEP1	serine carboxypeptidase 1
1.6	RHOT2	ras homolog gene family, member T2	1.5	SDAD1	SDA1 domain containing 1
1.6	RIPK2	receptor-interacting serine-threonine kinase 2	2.1	SDCCAG3	serologically defined colon cancer antigen 3
2	RNF146	ring finger protein 146	4.8	SEC22L1	SEC22 vesicle trafficking protein-like 1 (S. cerevisiae)
1.5	RNF41	ring finger protein 41			
1.9	RNPEPL1	arginyl aminopeptidase (aminopeptidase B)-like 1	15.1	SEC23A	Sec23 homolog A (S. cerevisiae)
3.2	RPA1	replication protein A1, 70kDa	1.6	SECISBP2	SECIS binding protein 2
			1.8	SECTM1	secreted and transmembrane 1
2.4	RPL13	ribosomal protein L13			
2.4	RPL18	ribosomal protein L18	1.5	SENP2	SUMO1/sentrin/SMT3 specific peptidase 2
2.6	RPL35	ribosomal protein L35	6.7	SEPHS1	selenophosphate synthetase 1
18.5	RPL35A	ribosomal protein L35a	2.2	SERGEF	secretion regulating guanine nucleotide exchange factor
1.7	RPS10	ribosomal protein S10			
2	RPS14	ribosomal protein S14			
1.9	RPS20	ribosomal protein S20	1.5	SET	SET translocation (myeloid leukemia-associated)
3	RPS6KA4	ribosomal protein S6 kinase, 90kDa, polypeptide 4	1.6	SETDB1	SET domain, bifurcated 1
1.5	RPS6KB1	ribosomal protein S6 kinase, 70kDa, polypeptide 1	2.5	SF4	splicing factor 4
4.5	RRAGD	Ras-related GTP binding D	1.9	SH2D3A	SH2 domain containing 3A
1.5	RRM2	ribonucleotide reductase M2 polypeptide	15.6	SIAH1	seven in absentia homolog 1 (Drosophila)
1.9	RRP15	ribosomal RNA processing 15 homolog (S. cerevisiae)	1.6	SIP1	survival of motor neuron protein interacting protein 1
2	RRS1	RRS1 ribosome biogenesis regulator homolog (S. cerevisiae)	19.4	SIRT3	sirtuin (silent mating type information regulation 2 homolog) 3 (S. cerevisiae)
1.7	RSU1	Ras suppressor protein 1	2.2	SIX2	sine oculis homeobox homolog 2 (Drosophila)
1.5	RY1	putative nucleic acid binding protein RY-1	1.8	SLC12A9	solute carrier family 12 (potassium/chloride transporters), member 9
1.9	S100A10	S100 calcium binding protein A10 (annexin II ligand, calpactin I, light polypeptide (p11))	2.9	SLC22A14	solute carrier family 22 (organic cation transporter), member 14
2	S100A4	S100 calcium binding protein A4 (calcium protein, calvasculin, metastasin, murine placental homolog)	1.6	SLC25A14	solute carrier family 25 (mitochondrial carrier, brain), member 14
3.1	SAP30	sin3-associated polypeptide, 30kDa	7.2	SLC25A5	solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 5
170.9	SAPS2	SAPS domain family, member 2	2	SLC31A1	solute carrier family 31 (copper transporters), member 1
2.3	SCARB2	scavenger receptor class B, member 2			
2	SCMH1	sex comb on midleg	2	SLC31A2	solute carrier family 31 (copper transporters),

		member 2			cerevisiae)
1.6	SLC35A2	solute carrier family 35 (UDP-galactose transporter), member A2	2.6	SPHK1	sphingosine kinase 1
			26.2	SPOP	speckle-type POZ protein
1.5	SLC35C2	solute carrier family 35, member C2	32.5	SPRY4	sprouty homolog 4 (Drosophila)
3.5	SLC35F2	solute carrier family 35, member F2	4.2	SRD5A1	steroid-5-alpha-reductase, alpha
1.5	SLC38A6	solute carrier family 38, member 6			polypeptide 1 (3-oxo-5
1.5	SLC39A6	solute carrier family 39 (zinc transporter), member 6	9	SREBF2	alpha-steroid delta 4-dehydrogenase alpha 1)
3.9	SLC39A8	solute carrier family 39 (zinc transporter), member 8	2.1	SRI	sterol regulatory element binding transcription factor 2
2	SLC41A3	solute carrier family 41, member 3	1.5	SRP72	sorcin
1.8	SLC43A1	solute carrier family 43, member 1	1.7	SRPK1	signal recognition particle 72kDa
28.4	SLCO1B3	solute carrier organic anion transporter family, member 1B3	58.5	SRPRB	SFRS protein kinase 1
1.5	SMAD2	SMAD, mothers against DPP homolog 2 (Drosophila)	2.4	SS18	signal recognition particle receptor, B subunit
3.5	SMARCD2	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily d, member 2	14.9	SSBP3	synovial sarcoma translocation, chromosome 18
1.5	SMN1	survival of motor neuron 1, telomeric	1.9	STAT1	single stranded DNA binding protein 3
1.5	SNAI2	snail homolog 2 (Drosophila)	1.7	STK11	signal transducer and activator of transcription 1, 91kDa
2.2	SNRPD1	small nuclear ribonucleoprotein D1 polypeptide 16kDa	9.1	STK6	serine/threonine kinase 11 (Peutz-Jeghers syndrome)
2.8	SNRPE	small nuclear ribonucleoprotein polypeptide E	12.5	STOM	serine/threonine kinase 6
1.5	SNRPF	small nuclear ribonucleoprotein polypeptide F	10.7	STX18	stomatin
1.6	SNRPG	small nuclear ribonucleoprotein polypeptide G	10.7	STX18	syntaxin 18
2.4	SOCS2	suppressor of cytokine signaling 2	1.5	SULT1A1	syntaxin 18
2.1	SOD1	superoxide dismutase 1, soluble (amyotrophic lateral sclerosis 1 (adult))	1.5	SULT1A1	sulfotransferase family, cytosolic, 1A, phenol-preferring, member 1
2.3	SORBS3	sorbin and SH3 domain containing 3	7.9	SULT1A3	sulfotransferase family, cytosolic, 1A, phenol-preferring, member 3
59.9	SORT1	sortilin 1	1.8	SUMO3	SMT3 suppressor of mif two 3 homolog 3 (yeast)
1.8	SPCS3	signal peptidase complex subunit 3 homolog (S.	3.7	SYPL1	synaptophysin-like 1
			3.7	SYPL1	synaptophysin-like 1
			1.9	TAF6	TAF6 RNA polymerase II, TATA box binding protein (TBP)-associated factor, 80kDa
			1.6	TANK	TRAF family member-associated NFKB activator
			2.5	TAX1BP3	Tax1 (human T-cell leukemia virus type I) binding protein 3
			2.2	TBC1D22A	TBC1 domain family, member 22A

3.1	TBC1D8	TBC1 domain family, member 8 (with GRAM domain)	1.8	TNFRSF14	tumor necrosis factor receptor superfamily, member 14 (herpesvirus entry mediator)
1.5	TCEAL1	transcription elongation factor A (SII)-like 1	2.6	TNFSF10	tumor necrosis factor (ligand) superfamily, member 10
2.3	TCFL5	transcription factor-like 5 (basic helix-loop-helix)	2	TNFSF13	tumor necrosis factor (ligand) superfamily, member 13
2.6	TCP11L1	t-complex 11 (mouse) like 1	2.3	TNFSF9	tumor necrosis factor (ligand) superfamily, member 9
1.5	TEGT	testis enhanced gene transcript (BAX inhibitor 1)	3.7	TOR1A	torsin family 1, member A (torsin A)
3.2	TENC1	tensin like C1 domain containing phosphatase (tensin 2)	2.6	TOR1AIP1	torsin A interacting protein 1
2.9	TFAM	transcription factor A, mitochondrial	3.5	TP53AP1	TP53 activated protein 1
9.5	TFCP2	transcription factor CP2	2	TPD52	tumor protein D52
1.5	TFDP1	transcription factor Dp-1	3.2	TPM4	tropomyosin 4
7.9	TFDP2	transcription factor Dp-2 (E2F dimerization partner 2)	1.5	TRAM1	translocation associated membrane protein 1
5.1	TFPI	tissue factor pathway inhibitor (lipoprotein-associated coagulation inhibitor)	2.2	TRAPPC2	trafficking protein particle complex 2
1.7	TGDS	TDP-glucose 4,6-dehydratase	1.9	TRAPPC4	trafficking protein particle complex 4
8.3	THAP10	THAP domain containing 10	2.7	TRBC1	T cell receptor beta constant 1
1.6	THG1L	tRNA-histidine guanylyltransferase 1-like (<i>S. cerevisiae</i>)	2.5	TRIM68	tripartite motif-containing 68
2.5	TIA1	TIA1 cytotoxic granule-associated RNA binding protein	2.7	TSPAN3	tetraspanin 3
3.4	TIMM17A	translocase of inner mitochondrial membrane 17 homolog A (yeast)	5.2	TSPAN9	tetraspanin 9
1.5	TINF2	TERF1 (TRF1)-interacting nuclear factor 2	3.8	TTC19	tetratricopeptide repeat domain 19
4.2	TK2	thymidine kinase 2, mitochondrial	1.8	TXNL2	thioredoxin-like 2
1.9	TMBIM4	transmembrane BAX inhibitor motif containing 4	10.6	UBA52	ubiquitin A-52 residue ribosomal protein fusion product 1
1.5	TMCO1	transmembrane and coiled-coil domains 1	1.8	UBAP1	ubiquitin associated protein 1
1.5	TMED9	transmembrane emp24 protein transport domain containing 9	1.5	UBE2D3	ubiquitin-conjugating enzyme E2D 3 (UBC4/5 homolog, yeast)
1.9	TMPO	thymopoietin	4.5	UBE2G1	ubiquitin-conjugating enzyme E2G 1 (UBC7 homolog, yeast)
9	TMSB10	thymosin, beta 10	2.8	UBE2J1	ubiquitin-conjugating enzyme E2, J1 (UBC6 homolog, yeast)
13218.9	TNFRSF11B	tumor necrosis factor receptor superfamily, member 11b (osteoprotegerin)	4.4	UBE2L3	ubiquitin-conjugating enzyme E2L 3
			1.5	UBE2L6	ubiquitin-conjugating enzyme E2L 6
			1.5	UBE2N	ubiquitin-conjugating enzyme E2N (UBC13 homolog, yeast)
			2.5	UBE2V1	ubiquitin-conjugating enzyme E2 variant 1

2.3	UBE2V2	ubiquitin-conjugating enzyme E2 variant 2			(KOX 15)
1.5	UBE3B	ubiquitin protein ligase E3B	3.6	ZNF232	zinc finger protein 232
3.5	UBL3	ubiquitin-like 3	1.7	ZNF239	zinc finger protein 239
1.9	UBXD6	UBX domain containing 6	1.5	ZNF277	zinc finger protein 277
1.7	UCHL5IP	UCHL5 interacting protein	2.7	ZNF278	zinc finger protein 278
1.7	UFC1	ubiquitin-fold modifier conjugating enzyme 1	27	ZNF34	zinc finger protein 34 (KOX 32)
3.5	UNG2	uracil-DNA glycosylase 2	4.5	ZNF410	zinc finger protein 410
2.4	USP3	ubiquitin specific peptidase 3	13	ZNF435	zinc finger protein 435
1.7	VBP1	von Hippel-Lindau binding protein 1	57.8	ZNF45	zinc finger protein 45
8.5	VEGF	vascular endothelial growth factor	4.2	ZNF473	zinc finger protein 473
1.6	VGFB	VEGF nerve growth factor inducible	8.3	ZNF673	zinc finger protein 673
6.4	VPS37C	vacuolar protein sorting 37C (yeast)	25	ZNF768	zinc finger protein 768
1.6	VRK3	vaccinia related kinase 3	2	ZNF9	zinc finger protein 9 (a cellular retroviral nucleic acid binding protein)
3.2	WASPIP	Wiskott-Aldrich syndrome protein interacting protein	1.6	ZSCAN5	zinc finger and SCAN domain containing 5
13.8	WBP5	WW domain binding protein 5	Not Bound to Bound		
1.7	WDR23	WD repeat domain 23		AASDHPPT	aminoadipate-semialdehyde dehydrogenase-phosphopantetheinyl transferase
5.8	WDR62	WD repeat domain 62		ABCA2	ATP-binding cassette, sub-family A (ABC1), member 2
1.9	WHSC1	Wolf-Hirschhorn syndrome candidate 1		ACVR1	activin A receptor, type I
6.1	WIPI2	WD repeat domain, phosphoinositide interacting 2		ADAM10	ADAM metallopeptidase domain 10
2.1	WSB2	WD repeat and SOCS box-containing 2		ADH5	alcohol dehydrogenase 5 (class III), chi polypeptide
3.6	XAB1	XPA binding protein 1, GTPase		AGA	aspartylglucosaminidase
2.1	XAF1	XIAP associated factor-1		AK2	adenylate kinase 2
7.9	YWHAQ	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, theta polypeptide		ALDH1B1	aldehyde dehydrogenase 1 family, member B1
3.4	ZC3H14	zinc finger CCCH-type containing 14		ALDH3A2	aldehyde dehydrogenase 3 family, member A2
1.5	ZDHHC6	zinc finger, DHHC-type containing 6		ALMS1	Alstrom syndrome 1
1.7	ZFP36	zinc finger protein 36, C3H type, homolog (mouse)		AMD1	adenosylmethionine decarboxylase 1
6.3	ZNF133	zinc finger protein 133 (clone pHZ-13)		ANGPT1	angiopoietin 1
1.7	ZNF143	zinc finger protein 143 (clone pHZ-1)		ANKRD49	ankyrin repeat domain 49
1.5	ZNF22	zinc finger protein 22		APOL2	apolipoprotein L, 2
				APS	adaptor protein with pleckstrin homology and src homology 2 domains

ARIH2	ariadne homolog 2 (Drosophila)	C1orf121	chromosome 1 open reading frame 121
ARL8B	ADP-ribosylation factor-like 8B	C1orf166	chromosome 1 open reading frame 166
ARNTL2	aryl hydrocarbon receptor nuclear translocator-like 2	C1QDC1	C1q domain containing 1
ARSB	arylsulfatase B	C20orf18	chromosome 20 open reading frame 18
ASF1A	ASF1 anti-silencing function 1 homolog A (S. cerevisiae)	C20orf3	chromosome 20 open reading frame 3
ASTE1	asteroid homolog 1 (Drosophila)	C21orf55	chromosome 21 open reading frame 55
B2M	beta-2-microglobulin	C2orf24	chromosome 2 open reading frame 24
B4GALT1	UDP-Gal:betaGlcNAc beta 1,4-galactosyltransferase, polypeptide 1	C2orf56	chromosome 2 open reading frame 56
BAIAP2	BAI1-associated protein 2	C4orf16	chromosome 4 open reading frame 16
BECN1	beclin 1 (coiled-coil, myosin-like BCL2 interacting protein)	C6orf62	chromosome 6 open reading frame 62
BFSP1	beaded filament structural protein 1, filensin	C6orf68	chromosome 6 open reading frame 68
BNIP3L	BCL2/adenovirus E1B 19kDa interacting protein 3-like	C7orf25	chromosome 7 open reading frame 25
BRD2	bromodomain containing 2	C8orf41	chromosome 8 open reading frame 41
BRD9	bromodomain containing 9	CANT1	calcium activated nucleotidase 1
BRMS1	breast cancer metastasis suppressor 1	CASP10	caspase 10, apoptosis-related cysteine peptidase
BSDC1	BSD domain containing 1	CBX3	chromobox homolog 3 (HP1 gamma homolog, Drosophila)
BTF3	basic transcription factor 3	CCDC59	coiled-coil domain containing 59
BTN3A3	butyrophilin, subfamily 3, member A3	CCNG2	cyclin G2
BUB1	BUB1 budding uninhibited by benzimidazoles 1 homolog (yeast)	CCNJ	cyclin J
BZW1	basic leucine zipper and W2 domains 1	CCNT2	cyclin T2
C14orf118	chromosome 14 open reading frame 118	CDCA8	cell division cycle associated 8
C15orf39	chromosome 15 open reading frame 39	CDH11	cadherin 11, type 2, OB-cadherin (osteoblast)
C16orf34	chromosome 16 open reading frame 34	CDK10	cyclin-dependent kinase (CDC2-like) 10
C16orf5	chromosome 16 open reading frame 5	CDKAL1	CDK5 regulatory subunit associated protein 1-like 1
C17orf70	chromosome 17 open reading frame 70	CDS2	CDP-diacylglycerol synthase (phosphatidate cytidyltransferase) 2
C1orf108	chromosome 1 open reading frame 108	CDV3	CDV3 homolog (mouse)
		CERK	ceramide kinase
		CES2	carboxylesterase 2 (intestine, liver)
		CFLAR	CASP8 and FADD-like apoptosis regulator
		CH25H	cholesterol 25-

	hydroxylase	DCUN1D4	DCN1, defective in cullin neddylation 1, domain containing 4 (<i>S. cerevisiae</i>)
CHCHD3	coiled-coil-helix-coiled-coil-helix domain containing 3		
CHST4	carbohydrate (N-acetylglucosamine 6-O) sulfotransferase 4	DDX17	DEAD (Asp-Glu-Ala-Asp) box polypeptide 17
CLK1	CDC-like kinase 1	DHODH	dihydroorotate dehydrogenase
CLN8	ceroid-lipofuscinosis, neuronal 8 (epilepsy, progressive with mental retardation)	DHRS7	dehydrogenase/reductase (SDR family) member 7
COG5	component of oligomeric golgi complex 5	DKFZP564O0523	hypothetical protein DKFZp564O0523
COL1A1	collagen, type I, alpha 1	DLG1	discs, large homolog 1 (<i>Drosophila</i>)
COX15	COX15 homolog, cytochrome c oxidase assembly protein (yeast)	DLX4	distal-less homeobox 4
CRBN	cereblon	DNAJB4	DnaJ (Hsp40) homolog, subfamily B, member 4
CREM	cAMP responsive element modulator	DNAJC10	DnaJ (Hsp40) homolog, subfamily C, member 10
CRKL	v-crk sarcoma virus CT10 oncogene homolog (avian)-like	DRAM	damage-regulated autophagy modulator
CSG1cA-T	chondroitin sulfate glucuronyltransferase	DYRK3	dual-specificity tyrosine-(Y)-phosphorylation regulated kinase 3
CSNK1E	casein kinase 1, epsilon	ECHDC1	enoyl Coenzyme A hydratase domain containing 1
CTAGE5	CTAGE family, member 5	EDIL3	EGF-like repeats and discoidin I-like domains 3
CTBP1	C-terminal binding protein 1	EGFR	Epidermal growth factor receptor (EGFR)
CTSO	cathepsin O	EIF2AK1	eukaryotic translation initiation factor 2-alpha kinase 1
CUL1	cullin 1	EIF4E2	eukaryotic translation initiation factor 4E family member 2
CXorf34	chromosome X open reading frame 34	ELAVL1	ELAV (embryonic lethal, abnormal vision, <i>Drosophila</i>)-like 1 (Hu antigen R)
CXorf45	chromosome X open reading frame 45	EPB41L4B	erythrocyte membrane protein band 4.1 like 4B
CYB561	cytochrome b-561		
CYP26B1	cytochrome P450, family 26, subfamily B, polypeptide 1	EPN2	epsin 2
CYP2R1	cytochrome P450, family 2, subfamily R, polypeptide 1	ETFDH	electron-transferring-flavoprotein dehydrogenase
CYP51A1	cytochrome P450, family 51, subfamily A, polypeptide 1	EVA1	epithelial V-like antigen 1
DARS2	aspartyl-tRNA synthetase 2 (mitochondrial)	EXOC7	exocyst complex component 7
DBF4	DBF4 homolog (<i>S. cerevisiae</i>)	EXTL2	exostoses (multiple)-like 2
DCUN1D2	DCN1, defective in cullin neddylation 1, domain containing 2 (<i>S. cerevisiae</i>)	EXTL3	exostoses (multiple)-like 3

FAIM	Fas apoptotic inhibitory molecule	GDAP2	ganglioside induced differentiation associated protein 2
FAM32A	family with sequence similarity 32, member A	GLB1L	galactosidase, beta 1-like
FAM46C	family with sequence similarity 46, member C	GLMN	glomulin, FKBP associated protein
FAM69A	Family with sequence similarity 69, member A	GLO1	glyoxalase I
FANCC	Fanconi anemia, complementation group C	GMFB	glia maturation factor, beta
FARP1	FERM, RhoGEF (ARHGEF) and pleckstrin domain protein 1 (chondrocyte-derived)	GNA11	guanine nucleotide binding protein (G protein), alpha 11 (Gq class)
FBXL2	F-box and leucine-rich repeat protein 2	GNL1	guanine nucleotide binding protein-like 1
FBXL5	F-box and leucine-rich repeat protein 5	GOLGA1	golgi autoantigen, golgin subfamily a, 1
FEZ2	fasciculation and elongation protein zeta 2 (zygin II)	GRB2	growth factor receptor-bound protein 2
FKBP14	FK506 binding protein 14, 22 kDa	GTF2F2	general transcription factor IIF, polypeptide 2, 30kDa
FLJ11184	hypothetical protein FLJ11184	GTF2H1	general transcription factor IIIH, polypeptide 1, 62kDa
FNBP3	formin binding protein 3	GTF3C4	general transcription factor IIIC, polypeptide 4, 90kDa
FOXK2	forkhead box K2	H2AFY	H2A histone family, member Y
FRAT1	frequently rearranged in advanced T-cell lymphomas	H3F3A	H3 histone, family 3A
FZD6	frizzled homolog 6 (Drosophila)	HADHB	hydroxyacyl-Coenzyme A dehydrogenase/3-ketoacyl-Coenzyme A thiolase/enoyl-Coenzyme A hydratase (trifunctional protein), beta subunit
G6PC3	glucose 6 phosphatase, catalytic, 3	HERC4	hect domain and RLD 4
GALNT1	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 1 (GalNAc-T1)	HFE	hemochromatosis
GAPDH	glyceraldehyde-3-phosphate dehydrogenase	HIP2	huntingtin interacting protein 2
GCAT	glycine C-acetyltransferase (2-amino-3-ketobutyrate coenzyme A ligase)	HIST2H2BE	histone 2, H2be
GCLC	glutamate-cysteine ligase, catalytic subunit	HLA-DPA1	major histocompatibility complex, class II, DP alpha 1
GCNT1	glucosaminyl (N-acetyl) transferase 1, core 2 (beta-1,6-N-acetylglucosaminyltransferase)	HMGA1	high mobility group AT-hook 1
		HMGN4	high mobility group nucleosomal binding domain 4
		HNRPDL	heterogeneous nuclear ribonucleoprotein D-like
		HTATSF1	HIV TAT specific factor 1
		HUS1	HUS1 checkpoint homolog (S. pombe)

HYPK	Huntingtin interacting protein K	LBH	limb bud and heart development homolog (mouse)
IDH3A	isocitrate dehydrogenase 3 (NAD+) alpha	LDLRAP1	low density lipoprotein receptor adaptor protein 1
IDS	iduronate 2-sulfatase (Hunter syndrome)	LEPR	leptin receptor
IFIT3	interferon-induced protein with tetratricopeptide repeats 3	LEPROT	leptin receptor overlapping transcript
IFNAR1	interferon (alpha, beta and omega) receptor 1	LEPROTL1	leptin receptor overlapping transcript-like 1
IGFBP3	insulin-like growth factor binding protein 3	LIF	leukemia inhibitory factor (cholinergic differentiation factor)
IL27RA	interleukin 27 receptor, alpha	LMF2	lipase maturation factor 2
IMPDH2	IMP (inosine monophosphate) dehydrogenase 2	LOC127406	similar to laminin receptor 1 (ribosomal protein SA)
IQCB1	IQ motif containing B1	LOC145387	LOC145387
IRAK4	interleukin-1 receptor-associated kinase 4	LOC63920	transposon-derived Buster3 transposase-like
ITCH	itchy homolog E3 ubiquitin protein ligase (mouse)	LOC92249	hypothetical protein LOC92249
ITM2B	integral membrane protein 2B	LPXN	leupaxin
ITPK1	inositol 1,3,4-triphosphate 5/6 kinase	M6PR	mannose-6-phosphate receptor (cation dependent)
JMJD4	jumonji domain containing 4	MAEA	macrophage erythroblast attacher
KATNB1	katanin p80 (WD repeat containing) subunit B 1	MAP2K3	mitogen-activated protein kinase kinase 3
KCNS3	potassium voltage-gated channel, delayed-rectifier, subfamily S, member 3	MAP3K7	mitogen-activated protein kinase kinase kinase 7
KCTD2	potassium channel tetramerisation domain containing 2	MBD4	methyl-CpG binding domain protein 4
KIAA0494	KIAA0494	MCM4	MCM4 minichromosome maintenance deficient 4 (S. cerevisiae)
KIAA0495	KIAA0495	MDH2	malate dehydrogenase 2, NAD (mitochondrial)
KIAA0652	KIAA0652	MELK	maternal embryonic leucine zipper kinase
KIAA0892	KIAA0892	MGAT2	mannosyl (alpha-1,6)-glycoprotein beta-1,2-N-acetylglucosaminyltransferase
KIAA0974	KIAA0974 mRNA	MGC12760	hypothetical protein MGC12760
KIAA1128	KIAA1128	MGC3262	hypothetical protein MGC3262
KIAA2010	KIAA2010	MIPEP	mitochondrial intermediate peptidase
KLHL12	kelch-like 12 (Drosophila)		
KRIT1	KRIT1, ankyrin repeat containing		
LAP3	leucine aminopeptidase 3		

MKRN1	makorin, ring finger protein, 1	OSR2	odd-skipped related 2 (Drosophila)
MMP24	matrix metalloproteinase 24 (membrane-inserted)	PACS2	phosphofurin acidic cluster sorting protein 2
MNS1	meiosis-specific nuclear structural 1	PAICS	phosphoribosylaminoimidazole carboxylase, phosphoribosylaminoimidazole
MON1B	MON1 homolog B (yeast)		succinocarboxamide synthetase
MOSPD1	motile sperm domain containing 1	PAK4	p21(CDKN1A)-activated kinase 4
MRP63	mitochondrial ribosomal protein 63	PAM	peptidylglycine alpha-amidating monooxygenase
MSRB2	methionine sulfoxide reductase B2	PARP16	poly (ADP-ribose) polymerase family, member 16
MSTO1	misato homolog 1 (Drosophila)	PARVA	parvin, alpha
MTCH1	mitochondrial carrier homolog 1 (C. elegans)	PBLD	phenazine biosynthesis-like protein domain containing
MTHFD2	methylenetetrahydrofolate dehydrogenase (NADP+ dependent) 2, methenyltetrahydrofolate cyclohydrolase	PDCD4	programmed cell death 4 (neoplastic transformation inhibitor)
MTUS1	mitochondrial tumor suppressor 1	PDE8A	phosphodiesterase 8A
MUM1	melanoma associated antigen (mutated) 1	PDGFA	platelet-derived growth factor alpha polypeptide
MXD4	MAX dimerization protein 4	PDLIM5	PDZ and LIM domain 5
NDRG3	NDRG family member 3	PHLDA1	pleckstrin homology-like domain, family A, member 1
NET1	neuroepithelial cell transforming gene 1	PIGO	phosphatidylinositol glycan, class O
NFIC	nuclear factor I/C (CCAAT-binding transcription factor)	PIP5K2A	phosphatidylinositol-4-phosphate 5-kinase, type II, alpha
NFIL3	nuclear factor, interleukin 3 regulated	PIP5K2B	phosphatidylinositol-4-phosphate 5-kinase, type II, beta
NFKBIA	nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha	PKP3	plakophilin 3
NFYA	nuclear transcription factor Y, alpha	PLA2G6	phospholipase A2, group VI (cytosolic, calcium-independent)
NR2C1	nuclear receptor subfamily 2, group C, member 1	PLK4	polo-like kinase 4 (Drosophila)
NR2C2	nuclear receptor subfamily 2, group C, member 2	POLR2D	polymerase (RNA) II (DNA directed) polypeptide D
NR2F6	nuclear receptor subfamily 2, group F, member 6	PPCS	phosphopantothenoylecysteine synthetase
NRF1	nuclear respiratory factor 1	PPIC	peptidylprolyl isomerase C (cyclophilin C)
NUDT13	nudix (nucleoside diphosphate linked moiety X)-type motif 13	PPM1G	protein phosphatase 1G (formerly 2C), magnesium-dependent,

	gamma isoform		oncogene family
		RABIF	RAB interacting factor
PPP2CB	protein phosphatase 2 (formerly 2A), catalytic subunit, beta isoform	RAD51L3	RAD51-like 3 (<i>S. cerevisiae</i>)
PRDM2	PR domain containing 2, with ZNF domain	RAP1GDS1	RAP1, GTP-GDP dissociation stimulator 1
PRDX3	peroxiredoxin 3	RBMS3	RNA binding motif, single stranded interacting protein
PREI3	preimplantation protein 3	RCC1	regulator of chromosome condensation 1
PRKACB	protein kinase, cAMP-dependent, catalytic, beta	REXO2	REX2, RNA exonuclease 2 homolog (<i>S. cerevisiae</i>)
PRPS1	phosphoribosyl pyrophosphate synthetase 1	RGL2	ral guanine nucleotide dissociation stimulator-like 2
PRR14	proline rich 14	RGS10	regulator of G-protein signalling 10
PRSS3	protease, serine, 3 (mesotrypsin)	RINT1	RAD50 interactor 1
PSMC3	proteasome (prosome, macropain) 26S subunit, ATPase, 3	RIOK3	RIO kinase 3 (yeast)
PSMC3IP	PSMC3 interacting protein	RIPK1	receptor (TNFRSF)-interacting serine-threonine kinase 1
PSMD14	proteasome (prosome, macropain) 26S subunit, non-ATPase, 14	RNF11	ring finger protein 11
PSPC1	paraspeckle component 1	RNF13	ring finger protein 13
PSTPIP2	proline-serine-threonine phosphatase interacting protein 2	RNF139	ring finger protein 139
PTDSS1	phosphatidylserine synthase 1	RNF216	ring finger protein 216
PTEN	phosphatase and tensin homolog (mutated in multiple advanced cancers 1)	RNF24	ring finger protein 24
PTENP1	phosphatase and tensin homolog (mutated in multiple advanced cancers 1), pseudogene 1	RNF4	ring finger protein 4
PTN	pleiotrophin (heparin binding growth factor 8, neurite growth-promoting factor 1)	RNF44	ring finger protein 44
PTTG1IP	pituitary tumor-transforming 1 interacting protein	RP4-692D3.1	hypothetical protein LOC728621
PUS3	pseudouridylate synthase 3	RPL12	ribosomal protein L12
PYGO1	pygopus homolog 1 (<i>Drosophila</i>)	RPL13A	ribosomal protein L13a
RAB11A	RAB11A, member RAS oncogene family	RPL15	ribosomal protein L15
RAB27B	RAB27B, member RAS oncogene family	RPL18A	ribosomal protein L18a
RAB8A	RAB8A, member RAS	RPL21	ribosomal protein L21
		RPL22	ribosomal protein L22
		RPL28	ribosomal protein L28
		RPL31	ribosomal protein L31
		RPL38	ribosomal protein L38
		RPL5	ribosomal protein L5
		RPN1	ribophorin I
		RPS12	ribosomal protein S12
		RPS19	ribosomal protein S19
		RPS21	ribosomal protein S21
		RPS27A	ribosomal protein S27a
		RPS28	ribosomal protein S28
		RPS6	ribosomal protein S6

RTF1	Rtf1, Paf1/RNA polymerase II complex component, homolog (S. cerevisiae)	SLC26A4	solute carrier family 26, member 4
SAP18	sin3-associated polypeptide, 18kDa	SLC35E1	solute carrier family 35, member E1
SC4MOL	sterol-C4-methyl oxidase-like	SMAD5	SMAD, mothers against DPP homolog 5 (Drosophila)
SCAMP1	secretory carrier membrane protein 1	SMARCD3	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily d, member 3
SCAMP5	secretory carrier membrane protein 5		
SCML1	sex comb on midleg-like 1 (Drosophila)	SMS	spermine synthase
SCRN3	secernin 3	SNN	stannin
SCYE1	small inducible cytokine subfamily E, member 1 (endothelial monocyte-activating)	SOD2	superoxide dismutase 2, mitochondrial
SCYL3	SCY1-like 3 (S. cerevisiae)	SP110	SP110 nuclear body protein
SDC2	syndecan 2 (heparan sulfate proteoglycan 1, cell surface-associated, fibroglycan)	SP2	Sp2 transcription factor
SDC4	syndecan 4 (amphiglycan, ryudocan)	SPATA2L	spermatogenesis associated 2-like
SDFR1	stromal cell derived factor receptor 1	SRR	serine racemase
SEC11L1	SEC11-like 1 (S. cerevisiae)	SSRP1	structure specific recognition protein 1
SEMA4F	sema domain, immunoglobulin domain (Ig), transmembrane domain (TM) and short cytoplasmic domain, (semaphorin) 4F	ST13	suppression of tumorigenicity 13 (colon carcinoma) (Hsp70 interacting protein)
SEPT11	septin 11	STC1	stanniocalcin 1
SERINC3	serine incorporator 3	STCH	stress 70 protein chaperone, microsome-associated, 60kDa
SF3A1	splicing factor 3a, subunit 1, 120kDa	STK24	serine/threonine kinase 24 (STE20 homolog, yeast)
SFN	stratifin	STOML1	stomatin (EPB72)-like 1
SFRS14	splicing factor, arginine/serine-rich 14	STX12	syntaxin 12
SFXN3	sideroflexin 3	STX6	syntaxin 6
SHOX2	short stature homeobox 2	STX7	syntaxin 7
SIRT5	sirtuin (silent mating type information regulation 2 homolog) 5 (S. cerevisiae)	STYK1	serine/threonine/tyrosine kinase 1
SIX1	sine oculis homeobox homolog 1 (Drosophila)	SVIL	supervillin
SKP1A	S-phase kinase-associated protein 1A (p19A)	SYBL1	synaptobrevin-like 1
SLC25A37	solute carrier family 25, member 37	TACSTD2	tumor-associated calcium signal transducer 2
		TAF1A	TATA box binding protein (TBP)-associated factor, RNA polymerase I, A, 48kDa
		TBXA2R	thromboxane A2 receptor
		TDP1	tyrosyl-DNA phosphodiesterase 1
		TERF1	telomeric repeat binding factor (NIMA-

	interacting) 1	VAPA	VAMP (vesicle-associated membrane protein)-associated protein A, 33kDa
TES	testis derived transcript (3 LIM domains)	VPS24	vacuolar protein sorting 24 (yeast)
TEX261	testis expressed sequence 261	WDR46	WD repeat domain 46
TGFBR2	transforming growth factor, beta receptor II (70/80kDa)	WDR48	WD repeat domain 48
TGIF2	TGFB-induced factor 2 (TALE family homeobox)	XPO6	exportin 6
THAP1	THAP domain containing, apoptosis associated protein 1	XPO7	exportin 7
TIMM44	translocase of inner mitochondrial membrane 44 homolog (yeast)	YRDC	yrnC domain containing (E.coli)
TIMP3	TIMP metallopeptidase inhibitor 3 (Sorsby fundus dystrophy, pseudoinflammatory)	YWHAZ	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, zeta polypeptide
TM7SF1	transmembrane 7 superfamily member 1 (upregulated in kidney)	ZBED1	zinc finger, BED-type containing 1
TMEFF1	transmembrane protein with EGF-like and two follistatin-like domains 1	ZCCHC10	zinc finger, CCHC domain containing 10
TNFRSF1A	tumor necrosis factor receptor superfamily, member 1A	ZCCHC4	zinc finger, CCHC domain containing 4
TOB1	transducer of ERBB2, 1	ZFAND1	zinc finger, AN1-type domain 1
TOM1L1	target of myb1-like 1 (chicken)	ZFP37	zinc finger protein 37 homolog (mouse)
TPI1	triosephosphate isomerase 1	ZNF177	zinc finger protein 177
TPK1	thiamin pyrophosphokinase 1	ZNF227	zinc finger protein 227
TPM1	tropomyosin 1 (alpha)	ZNF230	zinc finger protein 230
TTC4	tetratricopeptide repeat domain 4	ZNF306	zinc finger protein 306
TULP3	tubby like protein 3	ZNF330	zinc finger protein 330
TWISTNB	TWIST neighbor	ZNF505	zinc finger protein 505
TXK	TXK tyrosine kinase	ZNF557	zinc finger protein 557
TXNDC	thioredoxin domain containing	ZNF675	zinc finger protein 675
UBE2NL	ubiquitin-conjugating enzyme E2N-like	ZWINT	ZW10 interactor
UFM1	ubiquitin-fold modifier 1	ZXDC	ZXD family zinc finger C
UIMC1	ubiquitin interaction motif containing 1		
UQCRB	ubiquinol-cytochrome c reductase binding protein		
VAMP3	vesicle-associated membrane protein 3 (cellubrevin)		