

Table S1: autophagy-related differentially expressed genes (ARDEGs).

GeneID	Name	Symbol
55626	autophagy/beclin-1 regulator 1	AMBRA1
8542	apolipoprotein L, 1	APOL1
405	aryl hydrocarbon receptor nuclear translocator	ARNT
410	arylsulfatase A	ARSA
411	arylsulfatase B	ARSB
468	activating transcription factor 4 (tax-responsive enhancer element B67)	ATF4
22926	activating transcription factor 6	ATF6
83734	ATG10 autophagy related 10 homolog (S. cerevisiae)	ATG10
9140	ATG12 autophagy related 12 homolog (S. cerevisiae)	ATG12
55054	ATG16 autophagy related 16-like 1 (S. cerevisiae)	ATG16L1
89849	ATG16 autophagy related 16-like 2 (S. cerevisiae)	ATG16L2
23130	ATG2 autophagy related 2 homolog A (S. cerevisiae)	ATG2A
55102	ATG2 autophagy related 2 homolog B (S. cerevisiae)	ATG2B
64422	ATG3 autophagy related 3 homolog (S. cerevisiae)	ATG3
115201	ATG4 autophagy related 4 homolog A (S. cerevisiae)	ATG4A
23192	ATG4 autophagy related 4 homolog B (S. cerevisiae)	ATG4B
84938	ATG4 autophagy related 4 homolog C (S. cerevisiae)	ATG4C
84971	ATG4 autophagy related 4 homolog D (S. cerevisiae)	ATG4D
9474	ATG5 autophagy related 5 homolog (S. cerevisiae)	ATG5
10533	ATG7 autophagy related 7 homolog (S. cerevisiae)	ATG7
79065	ATG9 autophagy related 9 homolog A (S. cerevisiae)	ATG9A
285973	ATG9 autophagy related 9 homolog B (S. cerevisiae)	ATG9B
471	5-aminoimidazole-4-carboxamide ribonucleotide formyltransferase/IMP cyc	ATIC
573	BCL2-associated athanogene	BAG1
9531	BCL2-associated athanogene 3	BAG3
578	BCL2-antagonist/killer 1	BAK1
581	BCL2-associated X protein	BAX
596	B-cell CLL/lymphoma 2	BCL2
598	BCL2-like 1	BCL2L1
8678	beclin 1, autophagy related	BECN1
637	BH3 interacting domain death agonist	BID
332	baculoviral IAP repeat-containing 5	BIRC5
57448	baculoviral IAP repeat-containing 6	BIRC6
662	BCL2/adenovirus E1B 19kDa interacting protein 1	BNIP1
664	BCL2/adenovirus E1B 19kDa interacting protein 3	BNIP3
665	BCL2/adenovirus E1B 19kDa interacting protein 3-like	BNIP3L
60673	chromosome 12 open reading frame 44	C12orf44
23591	chromosome 17 open reading frame 88	C17orf88
10241	calcium binding and coiled-coil domain 2	CALCOCO2
10645	calcium/calmodulin-dependent protein kinase kinase 2, beta	CAMKK2
821	calnexin	CANX
823	calpain 1, (mu/I) large subunit	CAPN1
11132	calpain 10	CAPN10
824	calpain 2, (m/II) large subunit	CAPN2
826	calpain, small subunit 1	CAPNS1
834	caspase 1, apoptosis-related cysteine peptidase (interleukin 1, beta, conver	CASP1
836	caspase 3, apoptosis-related cysteine peptidase	CASP3
837	caspase 4, apoptosis-related cysteine peptidase	CASP4

841	caspase 8, apoptosis-related cysteine peptidase	CASP8
6347	chemokine (C-C motif) ligand 2	CCL2
729230	chemokine (C-C motif) receptor 2	CCR2
4179	CD46 molecule, complement regulatory protein	CD46
1026	cyclin-dependent kinase inhibitor 1A (p21, Cip1)	CDKN1A
1027	cyclin-dependent kinase inhibitor 1B (p27, Kip1)	CDKN1B
1029	cyclin-dependent kinase inhibitor 2A (melanoma, p16, inhibits CDK4)	CDKN2A
8837	CASP8 and FADD-like apoptosis regulator	CFLAR
25978	chromatin modifying protein 2B	CHMP2B
128866	chromatin modifying protein 4B	CHMP4B
1201	ceroid-lipofuscinosis, neuronal 3	CLN3
1508	cathepsin B	CTSB
1509	cathepsin D	CTSD
1514	cathepsin L1	CTSL1
6376	chemokine (C-X3-C motif) ligand 1	CX3CL1
7852	chemokine (C-X-C motif) receptor 4	CXCR4
1612	death-associated protein kinase 1	DAPK1
23604	death-associated protein kinase 2	DAPK2
1649	DNA-damage-inducible transcript 3	DDIT3
9077	DIRAS family, GTP-binding RAS-like 3	DIRAS3
10395	deleted in liver cancer 1	DLC1
3337	DnaJ (Hsp40) homolog, subfamily B, member 1	DNAJB1
4189	DnaJ (Hsp40) homolog, subfamily B, member 9	DNAJB9
55332	DNA-damage regulated autophagy modulator 1	DRAM1
9695	ER degradation enhancer, mannosidase alpha-like 1	EDEM1
1938	eukaryotic translation elongation factor 2	EEF2
29904	eukaryotic elongation factor-2 kinase	EEF2K
1956	epidermal growth factor receptor (erythroblastic leukemia viral (v-erb-b) on	EGFR
5610	eukaryotic translation initiation factor 2-alpha kinase 2	EIF2AK2
9451	eukaryotic translation initiation factor 2-alpha kinase 3	EIF2AK3
1965	eukaryotic translation initiation factor 2, subunit 1 alpha, 35kDa	EIF2S1
1978	eukaryotic translation initiation factor 4E binding protein 1	EIF4EBP1
1981	eukaryotic translation initiation factor 4 gamma, 1	EIF4G1
2064	v-erb-b2 erythroblastic leukemia viral oncogene homolog 2, neuro/glioblast	ERBB2
2081	endoplasmic reticulum to nucleus signaling 1	ERN1
30001	ERO1-like (<i>S. cerevisiae</i>)	ERO1L
8772	Fas (TNFRSF6)-associated via death domain	FADD
55578	family with sequence similarity 48, member A	FAM48A
355	Fas (TNF receptor superfamily, member 6)	FAS
2280	FK506 binding protein 1A, 12kDa	FKBP1A
2281	FK506 binding protein 1B, 12.6 kDa	FKBP1B
2353	FBJ murine osteosarcoma viral oncogene homolog	FOS
2308	forkhead box O1	FOXO1
2309	forkhead box O3	FOXO3
2548	glucosidase, alpha; acid	GAA
11337	GABA(A) receptor-associated protein	GABARAP
23710	GABA(A) receptor-associated protein like 1	GABARAPL1
11345	GABA(A) receptor-associated protein-like 2	GABARAPL2
2597	glyceraldehyde-3-phosphate dehydrogenase	GAPDH
2773	guanine nucleotide binding protein (G protein), alpha inhibiting activity poly	GNAI3

10399	guanine nucleotide binding protein (G protein), beta polypeptide 2-like 1	GNB2L1
57120	golgi-associated PDZ and coiled-coil motif containing	GOPC
2894	glutamate receptor, ionotropic, delta 1	GRID1
2895	glutamate receptor, ionotropic, delta 2	GRID2
3065	histone deacetylase 1	HDAC1
10013	histone deacetylase 6	HDAC6
9146	hepatocyte growth factor-regulated tyrosine kinase substrate	HGS
3091	hypoxia inducible factor 1, alpha subunit (basic helix-loop-helix transcription factor)	HIF1A
3326	heat shock protein 90kDa alpha (cytosolic), class B member 1	HSP90AB1
3309	heat shock 70kDa protein 5 (glucose-regulated protein, 78kDa)	HSPA5
3312	heat shock 70kDa protein 8	HSPA8
26353	heat shock 22kDa protein 8	HSPB8
3458	interferon, gamma	IFNG
3551	inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta	IKKBK
9641	inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase epsilon	IKBKE
11009	interleukin 24	IL24
345611	immunity-related GTPase family, M	IRGM
3675	integrin, alpha 3 (antigen CD49C, alpha 3 subunit of VLA-3 receptor)	ITGA3
3655	integrin, alpha 6	ITGA6
3688	integrin, beta 1 (fibronectin receptor, beta polypeptide, antigen CD29 included)	ITGB1
3691	integrin, beta 4	ITGB4
3708	inositol 1,4,5-triphosphate receptor, type 1	ITPR1
9711	KIAA0226	KIAA0226
9776	KIAA0652	KIAA0652
22863	KIAA0831	KIAA0831
3799	kinesin family member 5B	KIF5B
54800	kelch-like 24 (Drosophila)	KLHL24
3916	lysosomal-associated membrane protein 1	LAMP1
3920	lysosomal-associated membrane protein 2	LAMP2
84557	microtubule-associated protein 1 light chain 3 alpha	MAP1LC3A
81631	microtubule-associated protein 1 light chain 3 beta	MAP1LC3B
440738	microtubule-associated protein 1 light chain 3 gamma	MAP1LC3C
5609	mitogen-activated protein kinase kinase 7	MAP2K7
5594	mitogen-activated protein kinase 1	MAPK1
5595	mitogen-activated protein kinase 3	MAPK3
5599	mitogen-activated protein kinase 8	MAPK8
9479	mitogen-activated protein kinase 8 interacting protein 1	MAPK8IP1
5601	mitogen-activated protein kinase 9	MAPK9
51360	membrane-bound transcription factor peptidase, site 2	MBTPS2
64223	MTOR associated protein, LST8 homolog (S. cerevisiae)	MLST8
64419	myotubularin related protein 14	MTMR14
2475	mechanistic target of rapamycin (serine/threonine kinase)	MTOR
4609	v-myc myelocytomatosis viral oncogene homolog (avian)	MYC
92345	nuclear assembly factor 1 homolog (S. cerevisiae)	NAF1
10135	nicotinamide phosphoribosyltransferase	NAMPT
4077	neighbor of BRCA1 gene 1	NBR1
10787	NCK-associated protein 1	NCKAP1
4780	nuclear factor (erythroid-derived 2)-like 2	NFE2L2
4790	nuclear factor of kappa light polypeptide gene enhancer in B-cells 1	NFKB1
159296	NK2 transcription factor related, locus 3 (Drosophila)	NKX2-3

58484 NLR family, CARD domain containing 4	NLRC4
4864 Niemann-Pick disease, type C1	NPC1
3084 neuregulin 1	NRG1
9542 neuregulin 2	NRG2
10718 neuregulin 3	NRG3
5034 prolyl 4-hydroxylase, beta polypeptide	P4HB
5071 Parkinson disease (autosomal recessive, juvenile) 2, parkin	PARK2
142 poly (ADP-ribose) polymerase 1	PARP1
8682 phosphoprotein enriched in astrocytes 15	PEA15
27043 proline, glutamate and leucine rich protein 1	PELP1
5195 peroxisomal biogenesis factor 14	PEX14
8504 peroxisomal biogenesis factor 3	PEX3
5289 phosphoinositide-3-kinase, class 3	PIK3C3
30849 phosphoinositide-3-kinase, regulatory subunit 4	PIK3R4
65018 PTEN induced putative kinase 1	PINK1
23645 protein phosphatase 1, regulatory (inhibitor) subunit 15A	PPP1R15A
5564 protein kinase, AMP-activated, beta 1 non-catalytic subunit	PRKAB1
5573 protein kinase, cAMP-dependent, regulatory, type I, alpha (tissue specific epsilon)	PRKAR1A
5580 protein kinase C, delta	PRKCD
5588 protein kinase C, theta	PRKCQ
5728 phosphatase and tensin homolog	PTEN
5753 PTK6 protein tyrosine kinase 6	PTK6
8766 RAB11A, member RAS oncogene family	RAB11A
5861 RAB1A, member RAS oncogene family	RAB1A
53917 RAB24, member RAS oncogene family	RAB24
83452 RAB33B, member RAS oncogene family	RAB33B
5868 RAB5A, member RAS oncogene family	RAB5A
7879 RAB7A, member RAS oncogene family	RAB7A
5879 ras-related C3 botulinum toxin substrate 1 (rho family, small GTP binding protein)	RAC1
5894 v-raf-1 murine leukemia viral oncogene homolog 1	RAF1
5925 retinoblastoma 1	RB1
9821 RB1-inducible coiled-coil 1	RB1CC1
5970 v-rel reticuloendotheliosis viral oncogene homolog A (avian)	RELA
10287 regulator of G-protein signaling 19	RGS19
6009 Ras homolog enriched in brain	RHEB
6198 ribosomal protein S6 kinase, 70kDa, polypeptide 1	RPS6KB1
57521 regulatory associated protein of MTOR, complex 1	RPTOR
56681 SAR1 homolog A (<i>S. cerevisiae</i>)	SAR1A
5265 serpin peptidase inhibitor, clade A (alpha-1 antitrypsin), member 1	SERPINA1
83667 sestrin 2	SESN2
51100 SH3-domain GRB2-like endophilin B1	SH3GLB1
23411 sirtuin (silent mating type information regulation 2 homolog) 1 (<i>S. cerevisiae</i>)	SIRT1
22933 sirtuin (silent mating type information regulation 2 homolog) 2 (<i>S. cerevisiae</i>)	SIRT2
8877 sphingosine kinase 1	SPHK1
83985 spinster homolog 1 (<i>Drosophila</i>)	SPNS1
8878 sequestosome 1	SQSTM1
6767 suppression of tumorigenicity 13 (colon carcinoma) (Hsp70 interacting protein)	ST13
6794 serine/threonine kinase 11	STK11
29110 TANK-binding kinase 1	TBK1
10548 transmembrane 9 superfamily member 1	TM9SF1

81671 transmembrane protein 49	TMEM49
157753 transmembrane protein 74	TMEM74
8743 tumor necrosis factor (ligand) superfamily, member 10	TNFSF10
7157 tumor protein p53	TP53
58476 tumor protein p53 inducible nuclear protein 2	TP53INP2
8626 tumor protein p63	TP63
7161 tumor protein p73	TP73
7248 tuberous sclerosis 1	TSC1
7249 tuberous sclerosis 2	TSC2
286319 tumor suppressor candidate 1	TUSC1
8408 unc-51-like kinase 1 (C. elegans)	ULK1
9706 unc-51-like kinase 2 (C. elegans)	ULK2
25989 unc-51-like kinase 3 (C. elegans)	ULK3
9100 ubiquitin specific peptidase 10	USP10
7405 UV radiation resistance associated gene	UVRAG
9341 vesicle-associated membrane protein 3 (cellubrevin)	VAMP3
6845 vesicle-associated membrane protein 7	VAMP7
7422 vascular endothelial growth factor A	VEGFA
23001 WD repeat and FYVE domain containing 3	WDFY3
11152 WD repeat domain 45	WDR45
56270 WDR45-like	WDR45L
55062 WD repeat domain, phosphoinositide interacting 1	WIPI1
26100 WD repeat domain, phosphoinositide interacting 2	WIPI2
53349 zinc finger, FYVE domain containing 1	ZFYVE1