Table S3 Differentially expressed genes between wild-type and Atf4-/- MEFs

GeneSymbol	Accession NO.	Description	Fold chenge (*Atf4*$^{-/-}$/WT)	Zscore
Hoxb13	NM_008267	Homeobox B13	108.1163	11.0298
Lactb	NM_030717	Lactamase beta, nuclear gene encoding mitochondrial protein	33.7809	10.7847
Serpina3h	NM_001034870	Serine (or cysteine) peptidase inhibitor, clade A, member 3H	32.9172	10.7054
Ly6c1	NM_010741	Lymphocyte antigen 6 complex, locus C1	4.6897	10.4307
Ovol3	XM_355880	OVO homolog-like 3	55.0425	9.4405
Ptprh	NM_207270	Tyrosine phosphatase, receptor type, H	241.5026	8.4349
Cpsf3l	NM_028020	Cleavage and polyadenylation specific factor 3-like	240.9038	8.4311
Coch	NM_007728	Coagulation factor C homolog (Limulus polyphemus)	13.3684	7.9459
Cck	NM_031161	Cholecystokinin	4.6746	7.7590
Kif5b	NM_008448	Kinesin family member 5B	12.3615	7.7061
Wfdc2	NM_026323	WAP four-disulfide core domain 2	20.7037	7.1387
Iqcf5	NM_029300	IQ motif containing F5	102.9409	7.1231
Lce1g	NM_025413	Late cornified envelope 1G	10.2039	7.1187
Smok2b	NM_001167913	Sperm motility kinase 2B	98.4481	7.0545
Fam132a	NM_026125	Family with sequence similarity 132, member A	6.1043	6.8677
Wfdc2	NM_026323	WAP four-disulfide core domain 2	18.0970	6.8219
Acpl2	NM_153420	Acid phosphatase-like 2	5.7513	6.6417
Trim31	NM_146077	Tripartite motif-containing 31	73.7754	6.6106
Hs3st2	NM_001081327	Heparan sulfate 3-O-sulfotransferase 2	73.4230	6.6033
Slc34a1	NM_011392	Solute carrier family 34 (sodium phosphate), member 1	72.5513	6.5849
Prr9	NM_175424	Proline rich 9	5.4667	6.4492
Crb1	NM_133239	Crumbs homolog 1	59.6723	6.2842
Lce1i	NM_029667	Late cornified envelope 1I	5.1917	6.2533
Wnt8b	NM_011720	Wingless related MMTV integration site 8b	56.9637	6.2128
Hist1h4k	NM_178211	Histone cluster 1, H4k	2.5001	6.1820
Hist2h4	NM_033596	Histone cluster 2, H4	2.4874	6.1477
Serpina3f	NM_001168294	Serine (or cysteine) peptidase inhibitor, clade A, member 3F transcript variant 1	12.6776	5.9841
Mmp3	NM_010809	Matrix metallopeptidase 3	4.7335	5.9027
Ncam2	NM_010954	Neural cell adhesion molecule 2, transcript variant 2	45.7003	5.8739
Tmem229a	NM_177013	Transmembrane protein 229A	42.2065	5.7515
Arhgap8	NM_028455	Rho GTPase activating protein 8, transcript variant 3	6.5157	5.7451
Cotl1	NM_028071	Coactosin-like 1	3.0957	5.6845
Gltpd1	NM_024472	Glycolipid transfer protein domain containing 1	39.0322	5.6312
Perp	NM_022032	PERP, TP53 apoptosis effector	3.0483	5.6067
Actc1	NM_009608	Actin, alpha, cardiac muscle 1	10.5328	5.5477
Gm8740	AY056585	T-cell receptor alpha V gene segment [ENSMUST00000103649]	36.0237	5.5078
Snhg3	NR_003270	Small nucleolar RNA host gene (non-protein coding) 3	4.2553	5.4986
Ptpn5	NM_013643	Protein tyrosine phosphatase, non-receptor type 5, transcript variant 1	34.3850	5.4362
Cyp26b1	NM_175475	Cytochrome P450, family 26, subfamily b, polypeptide 1	4.0849	5.3435
Hoxc13	NM_010464	Homeobox C13	9.6293	5.3366
Lce1i	NM_029667	Late cornified envelope 1I	5.6534	5.3104
Lefty1	NM_010094	Left right determination factor 1	31.1973	5.2865
Dmd	NM_007868	Dystrophin, muscular dystrophy	9.3534	5.2682
Pf4	NM_019932	Platelet factor 4	5.5738	5.2670
Lyz1	NM_013590	Lysozyme 1	3.9842	5.2488
Clu	NM_013492	Clusterin	3.9630	5.2285
Prg4	NM_021400	Proteoglycan 4, transcript variant 1	5.4776	5.2137
Tyrobp	NM_011662	TYRO protein tyrosine kinase binding protein	5.3711	5.1535
Adam8	NM_007403	A disintegrin and metallopeptidase domain 8	3.8611	5.1298
Bcl2a1d	NM_007536	B-cell leukemia/lymphoma 2 related protein A1d	8.6249	5.0773
Vgf	NM_001039385	VGF nerve growth factor inducible	5.2268	5.0702
Gm10639	NM_001122660	Predicted gene 10639	5.0670	4.9750
Mgat4c	NM_001162368	Mannosyl (alpha-1,3-)-glycoprotein beta-1,4-N-acetylglucosaminyltransferase, isozyme C, transcript variant 1	25.4124	4.9710
Gsta2	NM_008182	Glutathione S-transferase, alpha 2	5.0283	4.9516
Cyp4a32	NM_001100181	Cytochrome P450, family 4, subfamily a, polypeptide 32	24.9406	4.9422
Dsp	NM_023842	Desmoplakin	8.1427	4.9419
Cryab	NM_009964	Crystallin, alpha B	2.6512	4.9042
Rem1	NM_009047	Rad and gem related GTP binding protein 1	4.9451	4.9005
Hist1h4d	NM_175654	Histone cluster 1, H4d	2.6464	4.8951
Erdr1	NM_133362	Erythroid differentiation regulator 1	2.0595	4.8724
Dio1	NM_007860	Deiodinase, iodothyronine, type I	23.6665	4.8615
Slc15a3	NM_023044	Solute carrier family 15, member 3	23.4095	4.8447
Gsta1	NM_008181	Glutathione S-transferase, alpha 1	4.7632	4.7857
Lce1h	NM_026335	Late cornified envelope 1H	4.7524	4.7788

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Lars2	NM_153168	Leucyl-tRNA synthetase	4.6760	4.7291
Slc26a4	NM_011867	Solute carrier family 26, member 4	21.6589	4.7252
Ahcy	BC086781	S-adenosylhomocysteine hydrolase	4.6505	4.7124
Hspe1	NM_008303	Heat shock protein 1	2.0002	4.6753
Kctd12b	NM_175429	Potassium channel tetramerisation domain containing 12b	4.5494	4.6451
Lce1e	NM_026811	Late cornified envelope 1E	4.5131	4.6206
Apoe	NM_009696	Apolipoprotein E	3.3503	4.5912
Exosc9	NM_019393	Exosome component 9	2.4446	4.4959
Etnk2	NM_175443	Ethanolamine kinase 2	6.7229	4.4908
Blnk	NM_008528	B-cell linker	6.7143	4.4878
Ybx1	M60419	Y-box binding protein 1	2.4300	4.4658
Rgs8	NM_026380	Regulator of G-protein signaling 8	18.2385	4.4607
Serpina3b	NM_173024	Serine (or cysteine) peptidase inhibitor, clade A, member 3B	4.2688	4.4501
Abcb4	NM_008830	ATP-binding cassette, sub-family B, member 4	3.1961	4.4125
Ptprt	NM_021464	Protein tyrosine phosphatase, receptor type, T	17.3145	4.3808
Lilrb3	NM_011095	Leukocyte immunoglobulin-like receptor, subfamily B, member 3	6.2406	4.3155
Tro	NM_001002272	Trophinin (Tro), transcript variant 1	3.1077	4.3061
Eif2s1	NM_026114	Eukaryotic translation initiation factor 2, subunit 1 alpha	4.0702	4.3042
Sh3bgrl2	NM_172507	SH3 domain binding glutamic acid-rich protein like 2	4.0243	4.2695
Dclre1c	NM_175683	DNA cross-link repair 1C, PSO2 homolog (S. cerevisiae), transcript variant 2	16.0588	4.2649
Angptl7	NM_001039554	Angiopoietin-like 7	6.0730	4.2514
Lmo1	NM_057173	LIM domain only 1	2.9594	4.1205
Prl2c5	NM_181852	Prolactin family 2, subfamily c, member 5	3.6963	4.0092
Sgca	NM_009161	Sarcoglycan, alpha (dystrophin-associated glycoprotein), transcript variant 2	13.5947	4.0087
Sema3f	NM_011349	Sema domain, immunoglobulin domain, short basic domain, secreted 3F	2.8724	4.0073
Mlh1	NM_026810	MutL homolog 1 (E. coli)	3.6847	3.9995
Ms4a7	NM_001025610	Membrane-spanning 4-domains, subfamily A, member 7, transcript variant 2	5.4171	3.9824
Prl2c5	NM_181852	Prolactin family 2, subfamily c, member 5	3.6458	3.9670
Slc6a12	NM_133661	Solute carrier family 6, member 12	5.3389	3.9482
Tuft1	NM_011656	Tuftelin 1	2.8117	3.9263
Acsm1	NM_054094	Acyl-CoA synthetase medium-chain family member 1	12.7180	3.9061
Kazald1	NM_178929	Kazal-type serine peptidase inhibitor domain 1	2.7891	3.8956
Sash3	NM_028773	SAM and SH3 domain containing 3	12.6049	3.8924
Rab3b	NM_023537	RAB3B, member RAS oncogene family	3.5435	3.8799
Csf2rb	NM_007780	Colony stimulating factor 2 receptor, beta, low-affinity	5.1721	3.8734
Fcer1g	NM_010185	Fc receptor, IgE, high affinity I, gamma polypeptide	3.5223	3.8615
Dhrs3	NM_011303	Dehydrogenase/reductase (SDR family) member 3	2.7599	3.8557
Cyp2j11	NM_001004141	Cytochrome P450, family 2, subfamily j, polypeptide 11	12.3027	3.8550
Thsd7a	NM_001164805	Thrombospondin, type I, domain containing 7A	3.5052	3.8466
Nt5e	NM_011851	5' nucleotidase, ecto	5.0921	3.8368
Scn10a	NM_009134	Sodium channel, voltage-gated, type X, alpha	12.0724	3.8260
Pigt	NM_133779	Phosphatidylinositol glycan anchor biosynthesis, class T (Pigt)	2.7237	3.8056
Tuft1	NM_011656	Tuftelin 1 (Tuft1)	2.7178	3.7974
Myh3	NM_001099635	Myosin, heavy polypeptide 3	11.7163	3.7799
Bmp8b	NM_007559	Bone morphogenetic protein 8b	4.9690	3.7792
Fam46b	NM_175307	Family with sequence similarity 46, member B	2.6974	3.7689
Mpzl2	NM_007962	Myelin protein zero-like 2	3.4154	3.7672
Lce1c	NM_028622	Late cornified envelope 1C	4.9403	3.7655
Gpnmb	NM_053110	Glycoprotein (transmembrane) nmb	2.6872	3.7544
Hist1h4k	NM_178211	Histone cluster 1, H4k	2.6858	3.7525
Rpl21	NM_019647	Ribosomal protein L21	3.3861	3.7407
Ccl6	NM_009139	Chemokine (C-C motif) ligand 6	4.8771	3.7352
Selp	NM_011347	Selectin, platelet	3.3627	3.7195
Pla2g2d	NM_011109	Phospholipase A2, group IID	11.1317	3.7012
Upk1b	NM_178924	Uroplakin 1B	4.7932	3.6943
Mpeg1	NM_010821	Macrophage expressed gene 1	4.7803	3.6880
Aldh1a1	NM_013467	Aldehyde dehydrogenase family 1, subfamily A1	4.7718	3.6838
Pdhb	NM_024221	Pyruvate dehydrogenase (lipoamide) beta	2.0731	3.6661
Ugt1a6a	NM_145079	UDP glucuronosyltransferase 1 family, polypeptide A6A	3.3037	3.6653
Gcnt1	NM_173442	Glucosaminyl (N-acetyl) transferase 1, core 2, transcript variant 1	4.7326	3.6644
Trim61	NM_153110	Tripartite motif-containing 61	10.7953	3.6540
Miox	NM_019977	Myo-inositol oxygenase	4.7104	3.6533
Zfp536	NM_172385	Zinc finger protein 536	4.6777	3.6369
Thsd7a	NM_001164805	Thrombospondin, type I, domain containing 7A	3.2721	3.6359
Clec4d	NM_010819	C-type lectin domain family 4, member d	4.6727	3.6344
Arsk	NM_029847	Arylsulfatase K	10.6395	3.6316

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Glrx2	NM_001038592	Glutaredoxin 2 (thioltransferase), transcript variant 1	2.5871	3.6104
Krt8	NM_031170	Keratin 8	10.3629	3.5911
Olfr1414	NM_147039	Olfactory receptor 1414	10.2423	3.5731
Olfr456	NM_001011528	Olfactory receptor 456	9.9113	3.5225
Pcp4l1	NM_025557	Purkinje cell protein 4-like 1	2.5204	3.5114
Rprd1b	NM_027434	Regulation of nuclear pre-mRNA domain containing 1B	3.1310	3.5009
Amhr2	NM_144547	Anti-Mullerian hormone type 2 receptor	4.3946	3.4899
Casp4	NM_007609	Caspase 4, apoptosis-related cysteine peptidase	4.3882	3.4865
Npy	NM_023456	Neuropeptide Y	9.6545	3.4822
Ly6f	NM_008530	Lymphocyte antigen 6 complex, locus F	4.3713	3.4774
Rgs4	NM_009062	Regulator of G-protein signaling 4	2.4960	3.4744
Hist4h4	NM_175652	Histone cluster 4, H4	2.4958	3.4741
Cd5	NM_007650	CD5 antigen	4.3628	3.4729
Pitpnm3	NM_001024927	PITPNM family member 3, transcript variant 1	9.5844	3.4709
AF251705	NM_134158	cDNA sequence AF251705	9.5816	3.4705
Pnma2	NM_175498	Paraneoplastic antigen MA2	9.4495	3.4491
Lsr	NM_017405	Lipolysis stimulated lipoprotein receptor, transcript variant 1	4.3018	3.4397
Pdpn	NM_010329	Podoplanin	2.4697	3.4343
Apln	NM_013912	Apelin	3.0623	3.4329
Dhh	NM_007857	Desert hedgehog	4.2877	3.4320
Trem2	NM_031254	Triggering receptor expressed on myeloid cells 2	4.2788	3.4271
Gprasp2	NM_001163015	G protein-coupled receptor associated sorting protein 2, transcript variant 1	4.2705	3.4225
Abcb1b	NM_011075	ATP-binding cassette, sub-family B (MDR/TAP), member 1B	2.4548	3.4112
Krt18	NM_010664	Keratin 18	2.4457	3.3971
Acpl2	NM_153420	Acid phosphatase-like 2	9.1249	3.3954
Rtn1	NM_153457	Reticulon 1, transcript variant 1	4.1992	3.3829
Tpm1	NM_001164248	Tropomyosin 1, alpha, transcript variant 1	2.4346	3.3799
Kap	NM_010594	Kidney androgen regulated protein	8.9373	3.3634
Lilrb4	NM_013532	Leukocyte immunoglobulin-like receptor, subfamily B, member 4	4.1597	3.3607
Cda	NM_028176	Cytidine deaminase	4.1468	3.3533
Lynx1	NM_011838	Ly6/neurotoxin 1	2.4120	3.3445
Cryab	NM_009964	Crystallin, alpha B	2.4118	3.3442
Ctnna2	NM_001109764	Catenin (cadherin associated protein), alpha 2, transcript variant 3	8.7997	3.3395
Rnf39	NM_001099632	Ring finger protein 39	4.0956	3.3241
Tpm1	NM_001164248	Tropomyosin 1, alpha, transcript variant 1	2.3845	3.3010
Chi3l1	NM_007695	Chitinase 3-like 1	8.5637	3.2977
Nppa	NM_008725	Natriuretic peptide precursor type A	3.9923	3.2639
Vax1	NM_009501	Ventral anterior homeobox containing gene 1	8.3354	3.2561
Bcmo1	NM_021486	Beta-carotene 15,15'-monooxygenase, transcript variant 1	31.0785	3.2456
Lce1f	NM_026394	Late cornified envelope 1F	3.9465	3.2368
Casp4	NM_007609	Caspase 4, apoptosis-related cysteine peptidase	3.9411	3.2336
Ephx2	NM_007940	Epoxide hydrolase 2, cytoplasmic	2.8618	3.2256
Meox1	NM_010791	Mesenchyme homeobox 1	8.1542	3.2223
Ctss	NM_021281	Cathepsin S	3.9069	3.2130
Prdm13	NM_001080771	PR domain containing 13	8.0359	3.1998
Itga1	NM_001033228	Integrin alpha 1	3.8715	3.1916
Wnt5b	NM_009525	Wingless-related MMTV integration site 5B	2.8302	3.1916
Ces1	NM_021456	Carboxylesterase 1	7.9485	3.1830
Bex2	NM_009749	Brain expressed X-linked 2	3.8082	3.1528
Fzd2	NM_020510	Frizzled homolog 2 (Drosophila)	3.7894	3.1411
Hoxc11	NM_001024842	Homeobox C11	3.7775	3.1338
Myh3	NM_001099635	Myosin, heavy polypeptide 3, skeletal muscle, embryonic	27.3911	3.1253
Rgs4	NM_009062	Regulator of G-protein signaling 4	2.2699	3.1141
Rnase9	NM_183032	Ribonuclease, RNase A family, 9 (non-active)	26.9029	3.1082
C1qc	NM_007574	Complement component 1, q subcomponent, C chain	3.7348	3.1070
Emid2	NM_024474	EMI domain containing 2	7.4985	3.0934
Kifc1	NM_053173	Kinesin family member C1	2.7406	3.0931
Abcb4	AK165484	ATP-binding cassette sub-family B member 4	26.4713	3.0928
Zfp536	NM_172385	Zinc finger protein 536	3.7102	3.0914
Wnt16	NM_053116	Wingless-related MMTV integration site 16	3.6988	3.0842
Cyb561	NM_007805	Cytochrome b-561	2.7291	3.0802
Sel1l2	NM_001033296	Sel-1 suppressor of lin-12-like 2 (C. elegans)	25.8554	3.0703
Slc11a1	NM_013612	Solute carrier family 11 (proton-coupled divalent metal ion transporters), member 1	3.6729	3.0677
Gsta4	NM_010357	Glutathione S-transferase, alpha 4	2.7123	3.0612
Gchfr	NM_177157	GTP cyclohydrolase I feedback regulator	2.2375	3.0596
Pam	NM_013626	Peptidylglycine alpha-amidating monooxygenase	3.6513	3.0538

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Mei1	NM_028897	Meiosis defective 1	7.2620	3.0441
Kcnj5	NM_010605	Potassium inwardly-rectifying channel, subfamily J, member 5	3.6268	3.0379
Igsf10	NM_001162884	Immunoglobulin superfamily, member 10	7.2003	3.0309
Igfbp4	NM_010517	Insulin-like growth factor binding protein 4	2.6810	3.0257
Nrcam	NM_176930	Neuron-glia-CAM-related cell adhesion molecule, transcript variant 1	2.6745	3.0183
Oxr1	NM_130885	Oxidation resistance 1, transcript variant 1	2.2089	3.0107
Rasl11a	NM_026864	RAS-like, family 11, member A	3.5437	2.9833
Lyz2	NM_017372	Lysozyme 2	3.5412	2.9816
Ascl2	NM_008554	Achaete-scute complex homolog 2 (Drosophila)	3.5396	2.9806
Slc16a11	NM_153081	Solute carrier family 16 (monocarboxylic acid transporters), member 11, transcript variant 3	2.1909	2.9798
Hist1h4j	NM_178210	Histone cluster 1, H4j	2.6293	2.9661
Olfr1287	NM_001011773	Olfactory receptor 1287	6.8937	2.9640
Ncf4	NM_008677	Neutrophil cytosolic factor 4	3.5146	2.9639
Pax6	NM_013627	Paired box gene 6	22.9434	2.9565
Tmem179	NM_178915	Transmembrane protein 179	3.4995	2.9538
Alcam	NM_009655	Activated leukocyte cell adhesion molecule	2.1746	2.9514
Zfp534	NM_001127188	Zinc finger protein 534	6.8321	2.9502
Trmt6	NM_175113	tRNA methyltransferase 6 homolog (S. cerevisiae)	3.4641	2.9299
Luzp2	NM_178705	Leucine zipper protein 2	6.6898	2.9178
Slitrk5	NM_198865	SLIT and NTRK-like family, member 5	3.4249	2.9031
Cyp2j13	NM_145548	Cytochrome P450, family 2, subfamily j, polypeptide 13	3.4246	2.9029
Mdk	NM_010784	Midkine, transcript variant 1	2.1466	2.9022
Sprr2a2	NM_001164787	Small proline-rich protein 2A2	6.5991	2.8968
Tbkbp1	NM_198100	TBK1 binding protein 1	2.1425	2.8950
Rprm	NM_023396	Reprimo, TP53 dependent G2 arrest mediator candidate	2.5601	2.8844
Angpt2	NM_007426	Angiopoietin 2	2.5571	2.8808
Adam26b	NM_001009547	A disintegrin and metallopeptidase domain 26B	3.3854	2.8757
Vsig2	NM_020518	V-set and immunoglobulin domain containing 2	6.4774	2.8682
Gap43	NM_008083	Growth associated protein 43	2.5395	2.8597
Hmha1	NM_001142701	Histocompatibility (minor) HA-1, transcript variant 1	2.5364	2.8559
Lcn4	NM_010695	Lipocalin 4	20.6260	2.8551
Dach1	NM_007826	Dachshund 1 (Drosophila), transcript variant 1	3.3520	2.8524
Stmn2	NM_025285	Stathmin-like 2	2.1167	2.8490
Nefm	NM_008691	Neurofilament, medium polypeptide	6.3539	2.8386
Slc7a8	NM_016972	Solute carrier family 7 (cationic amino acid transporter, y+ system), member 8	6.3323	2.8333
Myl1	NM_021285	Myosin, light polypeptide 1, transcript variant 1f	6.3229	2.8310
Sh3rf2	NM_172966	SH3 domain containing ring finger 2, transcript variant 2	6.3223	2.8309
Dlx2	NM_010054	Distal-less homeobox 2	2.5127	2.8272
Mamdc4	NM_001081199	MAM domain containing 4	3.3088	2.8219
Alox5	NM_009662	Arachidonate 5-lipoxygenase	6.2777	2.8200
Cd36	NM_007643	CD36 antigen, transcript variant 2	6.2603	2.8157
Fndc8	NM_030224	Fibronectin type III domain containing 8	19.6468	2.8088
Sval1	NM_027832	Seminal vesicle antigen-like 1	6.2256	2.8072
Tph1	NM_009414	Tryptophan hydroxylase 1, transcript variant 1	3.2862	2.8057
Spink2	NM_183284	Serine peptidase inhibitor, Kazal type 2	2.4912	2.8008
Trf	NM_133977	Transferrin	6.1933	2.7992
Hand1	NM_008213	Heart and neural crest derivatives expressed transcript 1	6.1927	2.7990
Cand2	NM_025958	Cullin-associated and neddylation-dissociated 2 (putative)	2.4885	2.7976
Gjb3	NM_001160012	Gap junction protein, beta 3, transcript variant 1	2.0839	2.7896
Itgb3bp	NM_026348	Integrin beta 3 binding protein (beta3-endonexin)	2.4810	2.7883
Aqp1	NM_007472	Aquaporin 1	2.0794	2.7815
Prr7	NM_001030296	Proline rich 7 (synaptic)	2.4700	2.7747
Trf	NM_133977	Transferrin	3.2364	2.7698
Cd276	NM_133983	CD276 antigen	2.4608	2.7633
Mmp13	NM_008607	Matrix metallopeptidase 13	3.2059	2.7475
Sft2d1	NM_134114	SFT2 domain containing 1	5.9725	2.7433
Tmem179	NM_178915	Transmembrane protein 179	3.1985	2.7421
Lor	NM_008508	Loricrin	2.4354	2.7315
Spon2	NM_133903	Spondin 2, extracellular matrix protein	2.4335	2.7291
Nxph3	NM_130858	Neurexophilin 3	2.4292	2.7237
Upk3b	NM_175309	Uroplakin 3B	5.8957	2.7234
Ccdc109b	NM_025779	Coiled-coil domain containing 109B	2.4178	2.7093
Wnt4	NM_009523	Wingless-related MMTV integration site 4	2.3931	2.6778
Stab1	NM_138672	Stabilin 1	3.1078	2.6743
Ngfr	NM_033217	Nerve growth factor receptor (TNFR superfamily, member 16)	3.1076	2.6742

GeneSymbol	Accession NO.	Description	Fold chenge (*Atf4*$^{-/-}$/WT)	Zscore
Nnat	NM_010923	Neuronatin, transcript variant 1	3.1075	2.6741
Icos	NM_017480	Inducible T-cell co-stimulator	5.6923	2.6694
Hoxd13	NM_008275	Homeobox D13	2.0164	2.6648
Adcy5	NM_001012765	Adenylate cyclase 5	3.0918	2.6622
Mdfi	NM_001109973	MyoD family inhibitor, transcript variant 2	2.3784	2.6590
Uap1	NM_133806	UDP-N-acetylglucosamine pyrophosphorylase 1	2.0092	2.6512
Isl2	NM_027397	Insulin related protein 2 (islet 2)	3.0736	2.6483
Crb2	NM_001163566	Crumbs homolog 2 (Drosophila)	5.6085	2.6466
Galnt6	NM_001161767	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 6, transcript variant 1	5.5834	2.6397
LOC100041223	NM_001160141	Spermiogenesis specific transcript on the Y 2-like	16.4463	2.6394
Zfp30	NM_013705	Zinc finger protein 30	2.3604	2.6357
Igsf1	NM_177591	Immunoglobulin superfamily, member 1, transcript variant 1	5.5525	2.6311
Tlx2	NM_009392	T-cell leukemia, homeobox 2	5.5475	2.6298
Olfr1386	NM_001011741	Olfactory receptor 1386	16.1028	2.6193
Hoxd12	NM_008274	Homeobox D12	3.0349	2.6185
Elavl2	NM_207685	ELAV (embryonic lethal, abnormal vision, Drosophila)-like 2 (Hu antigen B), transcript variant 1	5.5049	2.6179
Sct	NM_011328	Secretin	3.0243	2.6103
Nfam1	NM_028728	Nfat activating molecule with ITAM motif 1	5.4774	2.6102
Abcb1a	NM_011076	ATP-binding cassette, sub-family B (MDR/TAP), member 1A	3.0221	2.6085
Arhgap25	NM_001037727	Rho GTPase activating protein 25, transcript variant 1	5.4599	2.6053
Fam78b	NM_001160262	Family with sequence similarity 78, member B, transcript variant 1	5.4511	2.6028
Plxna2	NM_008882	Plexin A2	2.3334	2.6005
Ccdc67	NM_181816	Coiled-coil domain containing 67	15.7643	2.5991
Tmem171	NM_001025606	Transmembrane protein 171	3.0096	2.5987
Mup20	NM_001012323	Major urinary protein 20	15.7208	2.5964
Foxl1	NM_008024	Forkhead box L1	3.0033	2.5938
Cox6b2	NM_183405	Cytochrome c oxidase subunit VIb polypeptide 2, transcript variant 1	2.3196	2.5823
Adcyap1r1	NM_007407	Adenylate cyclase activating polypeptide 1 receptor 1, transcript variant 1	2.9839	2.5785
C1qa	NM_007572	Complement component 1, q subcomponent, alpha polypeptide	2.9808	2.5761
Emr1	NM_010130	EGF-like module containing, mucin-like, hormone receptor-like sequence 1	5.3494	2.5738
Ttc8	NM_029553	Tetratricopeptide repeat domain 8, transcript variant 1	2.2990	2.5550
Etv1	NM_007960	Ets variant gene 1, transcript variant 1	2.2931	2.5471
Hist1h4c	NM_178208	Histone cluster 1, H4c	2.2930	2.5470
Car12	NM_178396	Carbonic anyhydrase 12	2.2918	2.5454
Olfr1383	NM_207574	Olfactory receptor 1383	5.2509	2.5452
Aim1	NM_172393	Absent in melanoma 1	2.2883	2.5408
Slc17a4	NM_177016	Solute carrier family 17 (sodium phosphate), member 4	14.8208	2.5403
Megf11	NM_001134399	Multiple EGF-like-domains 11, transcript variant 1	14.7475	2.5355
Slpi	NM_011414	Secretory leukocyte peptidase inhibitor	2.9296	2.5354
Clec4n	NM_020001	C-type lectin domain family 4, member n	2.9219	2.5292
Bcar3	NM_013867	Breast cancer anti-estrogen resistance 3	2.2792	2.5285
Olfr979	NM_147108	Olfactory receptor 979	14.5563	2.5231
Popdc2	NM_022318	Popeye domain containing 2, transcript variant 2	2.8836	2.4981
Dfna5	NM_018769	Deafness, autosomal dominant 5 (human)	2.2549	2.4957
Rnf43	NM_172448	Ring finger protein 43	2.8746	2.4907
Hoxa13	NM_008264	Homeobox A13	2.8639	2.4819
Vpreb3	NM_009514	Pre-B lymphocyte gene 3	5.0319	2.4797
Apol11b	NM_001143686	Apolipoprotein L 11b	5.0312	2.4795
Frmpd1	NM_001081172	FERM and PDZ domain containing 1	5.0182	2.4755
Prkcb	NM_008855	Protein kinase C, beta	5.0116	2.4735
Ikzf4	NM_011772	IKAROS family zinc finger 4	2.8534	2.4733
Hcls1	NM_008225	Hematopoietic cell specific Lyn substrate 1	2.8469	2.4679
Dzip1	NM_025943	DAZ interacting protein 1	4.9899	2.4668
Wwc1	NM_170779	WW, C2 and coiled-coil domain containing 1	2.8368	2.4595
Gda	NM_010266	Guanine deaminase	2.2264	2.4567
Oas2	NM_145227	2'-5' oligoadenylate synthetase 2	4.9404	2.4515
Ddit4l	NM_030143	DNA-damage-inducible transcript 4-like	2.2219	2.4505
Prex1	NM_177782	Phosphatidylinositol-3,4,5-trisphosphate-dependent Rac exchange factor 1	2.8256	2.4503
Smad9	NM_019483	MAD homolog 9 (Drosophila)	2.2172	2.4441
Vmn2r17	NM_001104628	Vomeronasal 2, receptor 17	13.3297	2.4393
C2	NM_013484	Complement component 2 (within H-2S)	2.2074	2.4306
Pygl	NM_133198	Liver glycogen phosphorylase	2.2018	2.4227
Slc14a1	NM_028122	Solute carrier family 14 (urea transporter), member 1	4.8389	2.4195
Tmsb15b2	NM_001080967	Thymosin beta 15b2	2.1984	2.4179

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Ripk4	NM_023663	Receptor-interacting serine-threonine kinase 4	2.7866	2.4175
Pira7	NM_011094	Paired-Ig-like receptor A7	4.8028	2.4080
Olfr1240	NM_146808	Olfactory receptor 1240	12.8621	2.4052
Slc35e1	NM_177766	Solute carrier family 35, member E1	2.7683	2.4020
Ahsg	NM_013465	Alpha-2-HS-glycoprotein	12.7818	2.3993
Fgl1	BC029734	Fibrinogen-like protein 1	12.7636	2.3979
Tgfbr3	NM_011578	Transforming growth factor, beta receptor III	2.1764	2.3872
Gldn	NM_177350	Gliomedin	2.7438	2.3811
Epb4.9	NM_013514	Erythrocyte protein band 4.9	2.7422	2.3797
Htr7	NM_008315	5-hydroxytryptamine (serotonin) receptor 7	2.7399	2.3778
Svop	NM_026805	SV2 related protein	4.7086	2.3775
Myo1g	NM_178440	Myosin IG	2.7392	2.3772
Scube3	BU610818	CUB and EGF-like domain-containing protein 3 Precursor	2.7388	2.3768
Atoh8	NM_153778	Atonal homolog 8 (Drosophila)	2.1688	2.3765
Fam40b	NM_001037740	Family with sequence similarity 40, member B, transcript variant 2	4.6812	2.3686
Csf2rb2	NM_007781	Colony stimulating factor 2 receptor, beta 2, low-affinity (granulocyte-macrophage)	4.6713	2.3653
V1ra1	NM_011683	Vomeronasal 1 receptor, A1	12.2645	2.3599
Hist1h2bp	NM_178202	Histone cluster 1, H2bp	4.6503	2.3584
Evi2a	NM_001033711	Ecotropic viral integration site 2a, transcript variant 1	2.7146	2.3559
Fbxo2	NM_176848	F-box protein 2	2.1504	2.3503
Slc22a18	NM_001042760	Solute carrier family 22 (organic cation transporter), member 18, transcript variant 2	2.6838	2.3290
Jmjd7	NM_001114637	Jumonji domain containing 7	2.1338	2.3266
Mbp	NM_001025245	Myelin basic protein, transcript variant 8	2.1316	2.3235
Nkx2-9	NM_008701	NK2 transcription factor related, locus 9 (Drosophila)	4.5419	2.3221
Tmem108	NM_178638	Transmembrane protein 108	4.5286	2.3176
Krt81	NM_001166157	Keratin 81	2.6693	2.3163
Cetn4	NM_145825	Centrin 4	2.6588	2.3070
Cdh4	NM_009867	Cadherin 4	2.6489	2.2983
Alox5ap	NM_009663	Arachidonate 5-lipoxygenase activating protein	2.6457	2.2954
Chm	NM_018818	Choroidermia	2.6416	2.2918
Gcnt3	NM_028087	Glucosaminyl (N-acetyl) transferase 3, mucin type	11.3709	2.2879
Arntl	NM_007489	Aryl hydrocarbon receptor nuclear translocator-like	2.1053	2.2855
Madd	NM_145527	MAP-kinase activating death domain	4.4178	2.2795
Myo1f	NM_053214	Myosin IF	4.3791	2.2659
Clec2d	NM_053109	C-type lectin domain family 2, member d	2.6104	2.2637
Bnc1	NM_007562	Basonuclin 1	4.3719	2.2634
Rspo1	NM_138683	R-spondin homolog (Xenopus laevis)	4.3661	2.2614
Thsd1	NM_019576	Thrombospondin, type I, domain 1	2.0887	2.2612
Rtn4r	NM_022982	Reticulon 4 receptor	2.6005	2.2548
Crem	NM_001110851	cAMP responsive element modulator, transcript variant 7	10.9510	2.2520
Dock9	NM_001128307	Dedicator of cytokinesis 9, transcript variant 3	4.3278	2.2478
Vav1	NM_011691	Vav 1 oncogene, transcript variant 1	4.3104	2.2416
Gng13	NM_022422	Guanine nucleotide binding protein (G protein), gamma 13	2.5843	2.2401
Slc5a7	NM_022025	Solute carrier family 5 (choline transporter), member 7	2.5838	2.2397
Stat5a	NM_011488	Signal transducer and activator of transcription 5A, transcript variant 1	2.0726	2.2375
Shisa2	NM_145463	Shisa homolog 2 (Xenopus laevis)	4.2985	2.2373
Krt7	NM_033073	Keratin 7	2.0695	2.2330
BC049730	NM_199150	cDNA sequence BC049730	10.6484	2.2253
Rgs17	NM_001161822	Regulator of G-protein signaling 17, transcript variant 1	2.0611	2.2205
Sox2	NM_011443	SRY-box containing gene 2	10.5872	2.2198
Sprr2h	NM_011474	Small proline-rich protein 2H	10.5772	2.2189
Bcl2l12	NM_029410	BCL2-like 12 (proline rich)	2.0580	2.2160
Rrp8	NM_025897	Ribosomal RNA processing 8, methyltransferase, homolog (yeast)	2.0540	2.2099
Adrbk2	NM_177078	Adrenergic receptor kinase, beta 2, transcript variant 1	4.1992	2.2014
Dusp9	NM_029352	Dual specificity phosphatase 9	2.0479	2.2008
Pira11	NM_011088	Paired-Ig-like receptor A11	4.1894	2.1978
Gata4	NM_008092	GATA binding protein 4	4.1846	2.1960
Nnat	NM_010923	Neuronatin, transcript variant 1	2.5357	2.1954
Tmod2	NM_001038710	Tropomodulin 2, transcript variant 1	2.5352	2.1949
Mios	NM_145374	Missing oocyte, meiosis regulator, homolog (Drosophila)	2.0435	2.1942
N4bp1	NM_030563	NEDD4 binding protein 1	2.5341	2.1939
Cyth4	NM_028195	Cytohesin 4	2.5334	2.1933
Prkcb	NM_008855	Protein kinase C, beta	4.1687	2.1902
Cgn	NM_001037711	Cingulin	2.5284	2.1886
Olfr63	NM_146937	Olfactory receptor 63	10.2406	2.1881
Fthl17	NM_031261	Ferritin, heavy polypeptide-like 17	10.2311	2.1873

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Serpinb6b	NM_011454	Serine (or cysteine) peptidase inhibitor, clade B, member 6b	2.0388	2.1872
Vat1l	NM_173016	Vesicle amine transport protein 1 homolog-like (T. californica)	2.5266	2.1869
Tnni1	NM_021467	Troponin I, skeletal, slow 1, transcript variant 1	2.5258	2.1862
Mapk4	NM_172632	Mitogen-activated protein kinase 4	10.2065	2.1850
Fas	NM_007987	Fas (TNF receptor superfamily member 6), transcript variant 1	2.0338	2.1797
Elavl2	NM_207685	ELAV (embryonic lethal, abnormal vision, Drosophila)-like 2 (Hu antigen B) , transcript variant 1	2.5137	2.1749
Serpinb2	NM_011111	Serine (or cysteine) peptidase inhibitor, clade B, member 2	2.5134	2.1746
Dchs1	NM_001162943	Dachsous 1 (Drosophila)	2.5082	2.1697
Tmc7	NM_172476	Transmembrane channel-like gene family 7	2.5045	2.1662
Snapc1	NM_178392	Small nuclear RNA activating complex, polypeptide 1	2.0223	2.1623
Iqub	NM_172535	IQ motif and ubiquitin domain containing	9.9529	2.1610
Stac	NM_016853	Src homology three (SH3) and cysteine rich domain	2.4951	2.1574
Des	NM_010043	Desmin	2.0186	2.1567
Mgst2	NM_174995	Microsomal glutathione S-transferase 2	2.0180	2.1558
Rbm47	NM_178446	RNA binding motif protein 47, transcript variant 1	2.4932	2.1556
Akap5	NM_001101471	A kinase (PRKA) anchor protein 5	4.0702	2.1534
Ppil5	NM_001081406	Peptidylprolyl isomerase (cyclophilin) like 5	2.0150	2.1512
Sh3bgr	NM_015825	SH3-binding domain glutamic acid-rich protein	2.0114	2.1457
Sh3bgr	NM_015825	SH3-binding domain glutamic acid-rich protein	2.0097	2.1432
Plek2	NM_013738	Pleckstrin 2	4.0234	2.1356
Wdfy4	NM_001146022	WD repeat and FYVE domain containing 4	4.0143	2.1321
Ppih	NM_001110130	Peptidyl prolyl isomerase H, transcript variant 3	2.4562	2.1204
Olfr461	NM_146382	Olfactory receptor 461	9.5354	2.1202
Dctd	NM_178788	dCMP deaminase, transcript variant 1	2.4470	2.1116
Arap3	NM_139206	ArfGAP with RhoGAP domain, ankyrin repeat and PH domain 3	2.4418	2.1065
Gsdmc3	NM_183194	Gasdermin C3	9.3901	2.1056
Folr2	NM_008035	Folate receptor 2 (fetal)	3.9404	2.1035
Pira3	NM_011090	Paired-Ig-like receptor A3, transcript variant 1	3.9393	2.1031
Npffr2	NM_133192	Neuropeptide FF receptor 2	9.3359	2.1000
Tmem125	NM_172383	Transmembrane protein 125	3.9294	2.0992
Nefl	NM_010910	Neurofilament, light polypeptide	3.9050	2.0896
Rac2	NM_009008	RAS-related C3 botulinum substrate 2	3.8954	2.0859
F5	NM_007976	Coagulation factor V	3.8834	2.0811
Car3	NM_007606	Carbonic anhydrase 3	3.8736	2.0772
Olfr1341	NM_146853	Olfactory receptor 1341	2.4107	2.0764
Bai1	NM_174991	Brain-specific angiogenesis inhibitor 1	3.8552	2.0699
Ppp1r14d	NM_028104	Protein phosphatase 1, regulatory (inhibitor) subunit 14D	9.0007	2.0652
Gdf10	NM_145741	Growth differentiation factor 10	8.9890	2.0640
Mmel1	NM_013783	Membrane metallo-endopeptidase-like 1	2.3915	2.0576
H2-Ab1	NM_207105	Histocompatibility 2, class II antigen A, beta 1	3.8123	2.0527
Ankrd33b	NM_026153	Ankyrin repeat domain 33B, transcript variant 1	8.8204	2.0459
Tcfap2b	NM_001025305	Transcription factor AP-2 beta, transcript variant 2	3.7928	2.0448
Chl1	NM_007697	Cell adhesion molecule with homology to L1CAM	3.7902	2.0437
Ypel1	NM_023249	Yippee-like 1 (Drosophila)	3.7892	2.0433
Olfr1111	NM_146593	Olfactory receptor 1111	8.7170	2.0347
Snx10	NM_028035	Sorting nexin 10, transcript variant 1	2.3678	2.0341
Rasgef1b	NM_145839	RasGEF domain family, member 1B, transcript variant 1	2.3667	2.0331
Btk	NM_013482	Bruton agammaglobulinemia tyrosine kinase	3.7481	2.0266
Kng1	NM_023125	Kininogen, transcript variant 2	2.3582	2.0246
Dynll1	NM_019682	Dynein light chain LC8-type 1	2.3578	2.0242
Rbm24	NM_001081425	RNA binding motif protein 24	2.3553	2.0216
Ank3	NM_146005	Ankyrin 3, epithelial, transcript variant 2	2.3531	2.0195
Fgf2	NM_008006	Fibroblast growth factor 2	2.3491	2.0155
Nrxn2	NM_020253	Neurexin II	3.7122	2.0117
Ctnna2	NM_009819	Catenin (cadherin associated protein), alpha 2, transcript variant 2	0.4257	-2.0053
Vmn2r78	NM_001105189	Vomeronasal 2, receptor 78	0.2716	-2.0113
Gm5144	BC051480	Hypothetical LOC381002	0.2713	-2.0128
Prosc	NM_001039077	Proline synthetase co-transcribed, transcript variant 2	0.4238	-2.0162
Nap1l5	NM_021432	Nucleosome assembly protein 1-like 5	0.1233	-2.0217
Tex11	NM_031384	Testis expressed gene 11, transcript variant 1	0.2693	-2.0240
Gper	NM_029771	G protein-coupled estrogen receptor 1	0.4221	-2.0258
Slc9a10	NM_198106	Musculus solute carrier family 9, member 10	0.1228	-2.0258
Trpm3	NM_001035244	Transient receptor potential cation channel, subfamily M, member 3, transcript variant 7	0.2689	-2.0265
Bhmt	NM_016668	Betaine-homocysteine methyltransferase	0.1218	-2.0329

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Rbl1	NM_001139516	Retinoblastoma-like 1 (p107), transcript variant 2	0.4196	-2.0394
C1qtnf7	BC090967	Complement C1q tumor necrosis factor-related protein 7 Precursor	0.2661	-2.0426
Ttc9	NM_001033149	Tetratricopeptide repeat domain 9	0.4179	-2.0492
Fam13c	NM_024244	Family with sequence similarity 13, member C, transcript variant 1	0.2647	-2.0508
Tmem191c	NM_177473	Transmembrane protein 191C	0.2640	-2.0547
Egln1	NM_053207	EGL nine homolog 1 (C. elegans)	0.2640	-2.0551
Akap6	NM_198111	A kinase (PRKA) anchor protein 6	0.2583	-2.0883
Olfr921	NM_146782	Olfactory receptor 921	0.2582	-2.0891
Trim16	NM_053169	Mus musculus tripartite motif-containing 16	0.4989	-2.1239
Nudt6	NM_153561	Nudix (nucleoside diphosphate linked moiety X)-type motif 6	0.4970	-2.1356
Sema5a	NM_009154	Sema domain, seven thrombospondin repeats, transmembrane domain (TM) and short cytoplasmic domain 5A	0.4967	-2.1372
Capsl	NM_029341	Calcyphosine-like	0.1072	-2.1545
Ceacam16	NM_001033419	Carcinoembryonic antigen-related cell adhesion molecule 16	0.1068	-2.1582
Chst2	NM_018763	Carbohydrate sulfotransferase 2	0.4928	-2.1616
Thg1l	NM_001080969	tRNA-histidine guanylyltransferase 1-like (S. cerevisiae)	0.3981	-2.1635
Ccdc80	NM_026439	Coiled-coil domain containing 80	0.4921	-2.1659
Ugt2b1	NM_152811	UDP glucuronosyltransferase 2 family, polypeptide B1	0.3967	-2.1716
Clec11a	NM_009131	C-type lectin domain family 11, member a	0.3959	-2.1766
Zfp300	NM_183185	Znc finger protein 300	0.1048	-2.1768
Shisa6	NM_001034874	Shisa homolog 6 (Xenopus laevis)	0.2435	-2.1791
Slc2a6	NM_172659	Solute carrier family 2 (facilitated glucose transporter), member 6	0.4885	-2.1884
Abca5	NM_147219	ATP-binding cassette, sub-family A (ABC1), member 5	0.3932	-2.1923
Xlr3b	NM_001081643	X-linked lymphocyte-regulated 3B	0.3926	-2.1963
Abhd1	NM_021304	Abhydrolase domain containing 1	0.3924	-2.1975
Macc1	NM_001163136	Metastasis associated in colon cancer 1	0.3921	-2.1993
Cth	NM_145953	Cystathionase (cystathionine gamma-lyase)	0.4866	-2.1999
Cmbl	NM_181588	Carboxymethylenebutenolidase-like (Pseudomonas)	0.3911	-2.2054
Herc3	NM_028705	Hect domain and RLD 3	0.4852	-2.2092
Hoxb2	NM_134032	Homeobox B2	0.4842	-2.2155
Scnn1b	NM_011325	Sodium channel, nonvoltage-gated 1 beta	0.1005	-2.2163
Dact1	NM_021532	Dapper homolog 1, antagonist of beta-catenin (xenopus)	0.3884	-2.2216
Guca1a	NM_008189	Guanylate cyclase activator 1a (retina)	0.2359	-2.2279
Ang2	NM_007449	Angiogenin, ribonuclease A family, member 2	0.3869	-2.2306
Nedd9	NM_017464	Neural precursor cell expressed, developmentally down-regulated gene 9, transcript variant 2	0.4803	-2.2398
Fzd4	NM_008055	Frizzled homolog 4 (Drosophila)	0.4783	-2.2530
Ctnna3	NM_001164376	Catenin (cadherin associated protein), alpha 3, transcript variant 1	0.0966	-2.2536
Uhrf1bp1	NM_001080769	UHRF1 (ICBP90) binding protein 1	0.2267	-2.2894
Fcgrt	NM_010189	Fc receptor, IgG, alpha chain transporter	0.4725	-2.2899
Retnlg	NM_181596	Resistin like gamma	0.0925	-2.2958
Defb47	NM_001039125	Defensin beta 47	0.2251	-2.2998
Hoxa3	NM_010452	Homeobox A3	0.4707	-2.3018
Rsrc2	NM_001005523	Arginine/serine-rich coiled-coil 2, transcript variant 3	0.2228	-2.3161
Abca12	NM_175210	ATP-binding cassette, sub-family A, member 12	0.0905	-2.3162
Tubd1	NM_019756	Tubulin, delta 1	0.4678	-2.3207
Mthfd1l	NM_001170786	Methylenetetrahydrofolate dehydrogenase (NADP+ dependent) 1-like, nuclear gene encoding mitochondrial protein, transcript variant 3	0.4675	-2.3224
Engase	NM_172573	Endo-beta-N-acetylglucosaminidase	0.3718	-2.3242
Xlr4b	NM_021365	X-linked lymphocyte-regulated 4B	0.2204	-2.3326
Afap1l2	NM_146102	Actin filament associated protein 1-like 2	0.3704	-2.3328
Relt	NM_177073	RELT tumor necrosis factor receptor	0.4652	-2.3378
Cth	NM_145953	Cystathionase	0.4645	-2.3425
Fxyd2	NM_052823	FXYD domain-containing ion transport regulator 2	0.4639	-2.3466
Per2	NM_011066	Period homolog 2 (Drosophila)	0.0873	-2.3503
Olfr870	NM_146904	Olfactory receptor 870	0.2176	-2.3520
Tnik	NM_026910	TRAF2 and NCK interacting kinase, transcript variant 1	0.3674	-2.3525
Hoxb6	NM_008269	Homeobox B6	0.4625	-2.3554
Insig1	NM_153526	Insulin induced gene 1	0.4590	-2.3786
Car10	NM_028296	Carbonic anhydrase 10	0.2137	-2.3801
Gdf9	NM_008110	Growth differentiation factor 9	0.2135	-2.3815
Vill	NM_001164567	Villin-like, transcript variant 1	0.4580	-2.3856
Hoxc5	NM_175730	Homeobox C5	0.4573	-2.3904
Accn3	NM_183000	Amiloride-sensitive cation channel 3	0.3607	-2.3958
Slc16a9	NM_025807	Solute carrier family 16 (monocarboxylic acid transporters), member 9	0.0817	-2.4132
Adamts6	NM_001081020	A disintegrin-like and metallopeptidase (reprolysin type) with thrombospondin type 1 motif, 6	0.3566	-2.4226

GeneSymbol	Accession NO.	Description	Fold chenge (*Atf4*$^{-/-}$/WT)	Zscore
Sp8	NM_177082	Trans-acting transcription factor 8	0.3552	−2.4315
Smcp	NM_008574	Sperm mitochondria-associated cysteine-rich protein, nuclear gene encoding mitochondrial protein	0.0801	−2.4321
Ociad2	NM_026950	OCIA domain containing 2	0.3551	−2.4326
Slfn2	NM_011408	Schlafen 2	0.3548	−2.4343
Dnajc3	NM_008929	DnaJ (Hsp40) homolog, subfamily C, member 3 (Dnajc3)	0.4501	−2.4385
Samd14	NM_146025	Sterile alpha motif domain containing 14 (Samd14), transcript variant 1	0.4500	−2.4398
Fam132b	NM_173395	Family with sequence similarity 132, member B	0.4478	−2.4546
Nell2	NM_016743	NEL-like 2 (chicken)	0.3503	−2.4644
Arntl2	NM_172309	Aryl hydrocarbon receptor nuclear translocator-like 2	0.0773	−2.4670
Fmn1	NM_001043322	Formin 1 (Fmn1), transcript variant 2	0.0764	−2.4771
Tmem52	AK009779	Transmembrane protein 52 Precursor	0.0763	−2.4784
Zfand5	NM_009551	Zinc finger, AN1-type domain 5	0.3476	−2.4825
Atp10a	NM_009728	ATPase, class V, type 10A	0.3474	−2.4838
Btbd9	NM_172618	BTB (POZ) domain containing 9, transcript variant 2	0.4405	−2.5051
Aspn	NM_025711	Asporin	0.4403	−2.5061
Robo1	NM_019413	Roundabout homolog 1 (Drosophila)	0.4397	−2.5105
Fam171b	NM_175514	Family with sequence similarity 171, member B	0.4395	−2.5121
Rhbdl3	NM_139228	Rhomboid, veinlet-like 3 (Drosophila)	0.1939	−2.5296
A2bp1	NM_021477	Ataxin 2 binding protein 1, transcript variant 2	0.3400	−2.5346
Tlr1	NM_030682	Toll-like receptor 1	0.1920	−2.5448
Palmd	NM_023245	Palmdelphin	0.3365	−2.5591
Slfn10	NM_181542	Schlafen 10	0.3347	−2.5716
Tmem188	NM_029074	Transmembrane protein 188	0.4303	−2.5763
Pcdh9	NM_001081377	Protocadherin 9	0.3326	−2.5864
Nr1d1	NM_145434	Nuclear receptor subfamily 1, group D, member 1	0.3324	−2.5876
Orm3	NM_013623	Orosomucoid 3	0.0673	−2.5978
Pkhd1l1	NM_138674	Polycystic kidney and hepatic disease 1-like 1	0.1842	−2.6086
P4ha3	NM_177161	Procollagen-proline, 2-oxoglutarate 4-dioxygenase, alpha polypeptide III	0.4248	−2.6163
Fxyd2	NM_052823	FXYD domain-containing ion transport regulator 2, transcript variant b	0.4241	−2.6213
Ucp3	NM_009464	Uncoupling protein 3, nuclear gene encoding mitochondrial protein	0.4229	−2.6301
Pcsk2	NM_008792	Proprotein convertase subtilisin/kexin type 2	0.3262	−2.6324
Spop	NM_025287	Speckle-type POZ protein	0.4982	−2.6401
Epha3	NM_010140	Eph receptor A3	0.3248	−2.6426
Nrn1	NM_153529	Neuritin 1	0.3230	−2.6551
Dact1	AK077691	Dapper homolog 1 (Thymus-expressed novel gene 3 protein)	0.3218	−2.6643
V1rb3	NM_053226	Vomeronasal 1 receptor, B3	0.1763	−2.6756
Rnaseh2b	NM_026001	Ribonuclease H2, subunit B	0.4923	−2.6853
Mthfd1l	NM_172308	Methylenetetrahydrofolate dehydrogenase (NADP+ dependent) 1-like, nuclear gene encoding mitochondrial protein, transcript variant 2	0.4908	−2.6971
Olfr978	NM_147105	Olfactory receptor 978	0.3150	−2.7144
Gpr18	NM_182806	G protein-coupled receptor 18	0.0594	−2.7178
Ptprb	NM_029928	Protein tyrosine phosphatase, receptor type, B	0.4109	−2.7178
Cpxm2	NM_018867	Carboxypeptidase X 2	0.1711	−2.7217
Kif26b	NM_001161665	Kinesin family member 26B	0.4103	−2.7223
Serpina3n	NM_009252	Serine (or cysteine) peptidase inhibitor, clade A, member 3N	0.1708	−2.7245
Pip	NM_008843	Prolactin induced protein	0.0587	−2.7293
Fam59b	NM_001167879	Family with sequence similarity 59, member B	0.4082	−2.7380
Car11	NM_009800	Carbonic anhydrase 11	0.3117	−2.7392
Psd3	NM_177698	Pleckstrin and Sec7 domain containing 3, transcript variant 2	0.4068	−2.7485
Mgst3	NM_025569	Microsomal glutathione S-transferase 3	0.4841	−2.7491
Raet1a	NM_009016	Retinoic acid early transcript 1, alpha (Raet1a), mRNA [NM_009016]	0.3095	−2.7557
Tnfrsf11b	NM_008764	Tumor necrosis factor receptor superfamily, member 11b (osteoprotegerin)	0.4828	−2.7589
Exoc8	NM_198103	Exocyst complex component 8	0.4051	−2.7613
Heyl	NM_013905	Hairy/enhancer-of-split related with YRPW motif-like	0.1654	−2.7737
Wbscr17	NM_145218	Williams-Beuren syndrome chromosome region 17 homolog (human)	0.4777	−2.7992
Skint5	NM_001167878	Selection and upkeep of intraepithelial T cells 5, transcript variant 2	0.0540	−2.8079
Myo7a	NM_008663	Myosin VIIA	0.2977	−2.8478
Fasl	NM_010177	Fas ligand (TNF superfamily, member 6)	0.0514	−2.8542
Rpl21	NM_019647	Ribosomal protein L21	0.2962	−2.8595
Tmem204	NM_001001183	Transmembrane protein 204	0.1541	−2.8826
Alx1	NM_172553	ALX homeobox 1	0.1539	−2.8854
Tnfsf18	NM_183391	Tumor necrosis factor (ligand) superfamily, member 18	0.0496	−2.8884
Bhlhe40	NM_011498	Basic helix-loop-helix family, member e40	0.3878	−2.8951
Gjb2	NM_008125	Gap junction protein, beta 2	0.4634	−2.9148
Plcl1	NM_001114663	Phospholipase C-like 1	0.2886	−2.9202

GeneSymbol	Accession NO.	Description	Fold chenge (*Atf4*$^{-/-}$/WT)	Zscore
Ucp2	NM_011671	Uncoupling protein 2 (mitochondrial, proton carrier), nuclear gene encoding mitochondrial protein	0.3805	−2.9537
Col8a1	NM_007739	Collagen, type VIII, alpha 1	0.4558	−2.9777
Gpr155	NM_001080707	G protein−coupled receptor 155	0.1439	−2.9882
Skap1	NM_001033186	Src family associated phosphoprotein 1	0.1433	−2.9946
Rspo2	NM_172815	R−spondin 2 homolog (Xenopus laevis)	0.3708	−3.0323
Akr1e1	NM_018859	Aldo−keto reductase family 1, member E1	0.3697	−3.0418
Camk2b	NM_007595	Calcium/calmodulin−dependent protein kinase II, beta	0.1388	−3.0438
Nrg2	NM_001167891	Mus musculus neuregulin 2	0.1371	−3.0631
Arsk	NM_029847	Arylsulfatase K	0.2712	−3.0674
Isoc2b	NM_026158	Isochorismatase domain containing 2b	0.2711	−3.0682
C1qtnf3	NM_030888	C1q and tumor necrosis factor related protein 3	0.3642	−3.0876
Ppm1e	NM_177167	Protein phosphatase 1E (PP2C domain containing)	0.1348	−3.0890
Itga7	NM_008398	Integrin alpha 7	0.4419	−3.0954
Nonagouti	NM_015770	Nonagouti (a)	0.0395	−3.1058
Eppk1	NM_144848	Epiplakin 1	0.2648	−3.1234
Npr3	NM_008728	Natriuretic peptide receptor 3, transcript variant 1	0.2644	−3.1270
Xlr4a	NM_001081642	X−linked lymphocyte−regulated 4A	0.1307	−3.1368
Copz2	NM_019877	Coatomer protein complex, subunit zeta 2	0.4322	−3.1795
Klf13	NM_021366	Kruppel−like factor 13	0.4301	−3.1975
Mc3r	NM_008561	Melanocortin 3 receptor	0.3513	−3.1979
Wdr52	NM_001033247	WD repeat domain 52	0.0358	−3.1988
Cry2	NM_009963	Cryptochrome 2, transcript variant 1	0.4293	−3.2045
Il6	NM_031168	Interleukin 6	0.2553	−3.2095
Pcdh18	NM_130448	Protocadherin 18	0.4278	−3.2185
Uap1l1	NM_001033293	UDP−N−acteylglucosamine pyrophosphorylase 1−like 1	0.4246	−3.2465
Tmem41b	NM_153525	Transmembrane protein 41B	0.4243	−3.2493
Gatad1	NM_026033	GATA zinc finger domain containing 1	0.4232	−3.2592
Ccdc151	NM_001163787	Mus musculus coiled−coil domain containing 151, transcript variant 1	0.2475	−3.2825
Itgbl1	NM_145467	Integrin, beta−like 1	0.3405	−3.2933
Fap	NM_007986	Fibroblast activation protein	0.3358	−3.3356
Megf10	NM_001001979	EGF−like−domains 10	0.3358	−3.3362
Pnpo	NM_134021	Pyridoxine 5'−phosphate oxidase	0.4128	−3.3531
Edil3	NM_010103	EGF−like repeats and discoidin I−like domains 3, transcript variant 2	0.3312	−3.3778
Fam101b	NM_029658	Family with sequence similarity 101, member B	0.3293	−3.3958
Plekha4	NM_148927	Pleckstrin homology domain containing, family A (phosphoinositide binding specific) member 4	0.2358	−3.3959
Arntl2	AK019506	Aryl hydrocarbon receptor nuclear translocator−like protein 2 (Brain and muscle ARNT−like 2)	0.3285	−3.4033
Ch25h	NM_009890	Cholesterol 25−hydroxylase	0.3273	−3.4145
Klhdc5	NM_001081237	Kelch domain containing 5	0.3268	−3.4188
Ctsk	NM_007802	Cathepsin K	0.4053	−3.4235
Slc12a5	NM_020333	Solute carrier family 12, member 5 (Slc12a5)	0.1082	−3.4270
Rdh8	NM_001030290	Retinol dehydrogenase 8	0.2326	−3.4283
Eif2s2	NM_026030	Eukaryotic translation initiation factor 2, subunit 2 (beta)	0.4036	−3.4388
Tgfb1i1	NM_009365	Transforming growth factor beta 1 induced transcript 1	0.4985	−3.5079
Kif3a	NM_008443	Kinesin family member 3A	0.3172	−3.5107
Tac1	NM_009311	Tachykinin 1	0.1017	−3.5219
Lbx1	AK144562	Transcription factor LBX1 (Ladybird homeobox protein homolog 1)	0.2213	−3.5458
Hspb2	NM_024441	Heat shock protein 2, transcript variant 1	0.3135	−3.5463
Pkp1	NM_019645	Plakophilin 1	0.3134	−3.5472
Mgst3	NM_025569	Microsomal glutathione S−transferase 3	0.3887	−3.5818
Iqgap2	NM_027711	IQ motif containing GTPase activating protein 2	0.0971	−3.5939
Lama4	NM_010681	Laminin, alpha 4	0.3856	−3.6122
Lrrc15	NM_028973	Leucine rich repeat containing 15	0.3839	−3.6293
Mgll	NM_001166250	Monoglyceride lipase, transcript variant 4	0.3013	−3.6681
Sp110	NM_175397	Sp110 nuclear body protein	0.0924	−3.6696
Sphk1	NM_025367	Sphingosine kinase 1 (Sphk1), transcript variant 2	0.4775	−3.7248
B4galt3	NM_020579	UDP−Gal:betaGlcNAc beta 1,4−galactosyltransferase, polypeptide 3	0.3714	−3.7550
Cwc22	NM_030560	CWC22 spliceosome−associated protein homolog (S. cerevisiae)	0.3699	−3.7698
Col8a2	NM_199473	Collagen, type VIII, alpha 2	0.2011	−3.7705
Rbp1	NM_011254	Retinol binding protein 1	0.4722	−3.7811
Mtmr14	NM_026849	Myotubularin related protein 14	0.0855	−3.7893
Sema7a	NM_011352	Sema domain, immunoglobulin domain, and GPI membrane anchor 7A	0.2894	−3.7916
Htr2a	NM_172812	5−hydroxytryptamine (serotonin) receptor 2A	0.2878	−3.8084
Slco4a1	NM_148933	Solute carrier organic anion transporter family, member 4a1	0.3644	−3.8272
Arc	NM_018790	Activity regulated cytoskeletal−associated protein	0.1930	−3.8679

GeneSymbol	Accession NO.	Description	Fold chenge (*Atf4*$^{-/-}$/WT)	Zscore
Mid1	NM_183151	Midline 1, transcript variant 2	0.1928	−3.8702
Nr1d2	BC096461	Nuclear receptor subfamily 1, group D, member 2	0.2770	−3.9253
Dnm1	NM_010065	Dynamin 1	0.4574	−3.9413
Trnt1	NM_027296	tRNA nucleotidyl transferase, CCA-adding, 1	0.1858	−3.9575
Wisp1	NM_018865	WNT1 inducible signaling pathway protein 1	0.3466	−4.0166
Diap3	NM_019670	Diaphanous homolog 3 (Drosophila)	0.2683	−4.0227
Bcat2	NM_009737	Branched chain aminotransferase 2, nuclear gene encoding mitochondrial protein	0.3460	−4.0231
Pde8b	NM_001170669	Phosphodiesterase 8B, transcript variant 1	0.2649	−4.0626
Acsl6	NM_001033599	Acyl-CoA synthetase long-chain family member 6, transcript variant 4	0.0715	−4.0649
Fibin	NM_026271	Fin bud initiation factor homolog (zebrafish)	0.3411	−4.0776
C1qtnf3	NM_030888	C1q and tumor necrosis factor related protein 3	0.3406	−4.0835
Mgll	NM_001166251	Monoglyceride lipase, transcript variant 1	0.3386	−4.1055
Mid1	NM_183151	Midline 1, transcript variant 2	0.1720	−4.1384
Atp10d	NM_153389	ATPase, class V, type 10D	0.1667	−4.2120
Mbl2	NM_010776	Mannose-binding lectin 2	0.0614	−4.2978
Mgll	NM_001166251	Monoglyceride lipase, transcript variant 1	0.3214	−4.3031
Ceacam12	NM_026087	Carcinoembryonic antigen-related cell adhesion molecule 12, transcript variant 1	0.0584	−4.3758
Copz2	NM_019877	Coatomer protein complex, subunit zeta 2	0.2383	−4.3863
Prkcq	NM_008859	Protein kinase C	0.0566	−4.4230
Mfap4	NM_029568	Microfibrillar-associated protein 4	0.3112	−4.4253
Prm1	NM_013637	Protamine 1	0.0551	−4.4662
Has2	NM_008216	Hyaluronan synthase 2	0.3074	−4.4722
Adrb3	NM_013462	Adrenergic receptor, beta 3	0.1479	−4.4941
Cyp51	NM_020010	Cytochrome P450, family 51	0.2297	−4.4994
Rgl1	NM_016846	Ral guanine nucleotide dissociation stimulator,-like 1	0.3045	−4.5086
Otud7a	NM_130880	OTU domain containing 7A	0.1460	−4.5252
Tef	NM_017376	Thyrotroph embryonic factor, transcript variant 1	0.3027	−4.5305
Sept12	AK006458	septin 12	0.0523	−4.5460
Col4a6	NM_053185	Collagen, type IV, alpha 6	0.0508	−4.5907
Cx3cl1	NM_009142	Chemokine (C-X3-C motif) ligand 1	0.2965	−4.6087
Klhl30	NM_027551	Kelch-like 30 (Drosophila)	0.2214	−4.6109
Wisp1	NM_018865	WNT1 inducible signaling pathway protein 1	0.3929	−4.7054
Iqcj	NM_177585	IQ motif containing J	0.0445	−4.7933
Sim2	NM_011377	Single-minded homolog 2 (Drosophila)	0.2038	−4.8655
Zdhhc23	NM_001007460	Zinc finger, DHHC domain containing 23	0.1252	−4.8867
Crip1	NM_007763	Cysteine-rich protein 1 (intestinal)	0.3662	−5.0608
Phyhip	NM_145981	Phytanoyl-CoA hydroxylase interacting protein	0.0361	−5.1137
Flt1	NM_010228	FMS-like tyrosine kinase 1	0.2595	−5.1146
Plac9	NM_207229	Placenta specific 9	0.3613	−5.1281
Nr4a1	NM_010444	Nuclear receptor subfamily 4, group A, member 1	0.3477	−5.3219
Gbp1	NM_010259	Guanylate binding protein 1	0.0315	−5.3245
Abcg3	NM_030239	ATP-binding cassette, sub-family G (WHITE), member 3	0.0308	−5.3594
Cd44	NM_009851	CD44 antigen (Cd44), transcript variant 1	0.2429	−5.3658
Clec9a	NM_172732	C-type lectin domain family 9, member a	0.0303	−5.3864
Tox4	NM_023434	TOX high mobility group box family member 4	0.3408	−5.4218
Inpp5e	NM_033134	Inositol polyphosphate-5-phosphatase E	0.1697	−5.4262
Oas1h	NM_145228	2'-5' oligoadenylate synthetase 1H, transcript variant 1	0.0277	−5.5208
Apol10b	NM_177820	Apolipoprotein L 10b	0.0947	−5.5433
Per3	NM_011067	Period homolog 3 (Drosophila)	0.0935	−5.5740
Dbp	NM_016974	D-site albumin promoter binding protein	0.1530	−5.7431
Gbp1	NM_010259	Guanylate binding protein 1	0.0221	−5.8698
Timm9	BC028435	Translocase of inner mitochondrial membrane 9 homolog (yeast)	0.1451	−5.9063
Wisp2	NM_016873	WNT1 inducible signaling pathway protein 2	0.2053	−6.0046
Vmn2r121	NM_001100616	Vomeronasal 2, receptor 121	0.0703	−6.2444
Fxyd6	NM_022004	FXYD domain-containing ion transport regulator 6	0.1613	−6.9198
Apcs	NM_011318	Serum amyloid P-component	0.0111	−6.9356
Ysk4	NM_011737	Yeast Sps1/Ste20-related kinase 4 (S. cerevisiae)	0.0389	−7.6369
Pop4	NM_025390	Processing of precursor 4, ribonuclease P/MRP family, (S. cerevisiae)	0.1050	−8.5488
H60a	NM_010400	Histocompatibility 60a	0.0024	−9.3090
Il4ra	NM_001008700	Interleukin 4 receptor, alpha	0.0156	−9.7866
Tmem14c	NM_025387	Transmembrane protein 14C	0.0150	−12.8611
Syt10	NM_018803	Synaptotagmin X	0.0155	−15.8160