Supplemental figure legend

Supplemental figure 1. Simultaneous knockout of *miR-206*, *miR-1a-1* and *miR-1a-2* genes in PAX7 positive murine myoblast doesn't block differentiation, but slightly decreases MHC protein level

A) qRT-PCR analysis of differentiating (DM3) control (Ctrl) and triple KO (tKO) PAX7 positive cells. Levels of pre-miRNAs were normalized to *Gapdh* and miRNAs – to *U6* snRNA. Levels are shown relative to control cells (Ctrl DM3). Values represent three biological replicates, presented as mean +/− SEM. Statistical significance was calculated using t-student test. (***) indicates p-value =< 0.001.

B) qRT-PCR analysis of proliferating (GM) and differentiating (DM3) control (Ctrl) and triple KO (tKO) PAX7 positive cells. Levels of *Myod1*, *Myogenin* and *Myh3* mRNAs were normalized to *Gapdh* and shown relative to control cells (Ctrl DM3). Box and whiskers plot from three biological replicates with black line representing the median. Statistical significance was calculated using t-student test.

C) Western blot of proliferating (GM) and differentiating (DM3, DM5) control (Ctrl) and triple KO (tKO) PAX7 positive cells. Protein levels for MYOGENIN and MHC were measured. HSP90 serves as a loading control.

D) Fusion index based on MHC immunofluorescence during differentiation time course of PAX7 positive control (Ctrl) and triple KO (tKO) cells. GM, DM1, DM3, DM5 and DM7 were analyzed. Statistical significance was calculated using t-student test.

Supplemental figure 2. Lack of miR-206/-1a leads to mitochondria function impairment in C2C12 cells

A) Top 10 significant Gene Ontology terms enriched in genes upregulated during differentiation of control cells (Ctrl). (***) indicates padj =< 0.001

B) Top 10 significant Gene Ontology terms enriched in genes upregulated during differentiation of triple KO clones (tKO1 and tKO2). (***) indicates padj =< 0.001

Supplemental figure 3. Differentially expressed miRNAs in triple KO cells do not share seed-sequence with *miR-206/-1a* and so are unlikely to repress miR-206/-1a targets.

A) qRT-PCR analysis of proliferating control (Ctrl) and triple KO (tKO) C2C12 PAX7 positive cells. Levels of mRNA of *miR-206/-1a* targets were normalized to *Gapdh* and shown relative to control cells. Values represent five biological replicates, presented as mean +/− SEM. Statistical significance was calculated using t-student test. (*) indicates p-value =< 0.05.

B) qRT-PCR analysis of differentiating control (Ctrl) and triple KO (tKO) C2C12 PAX7 positive cells. Levels of mRNA of *miR-206/-1a* targets were normalized to *Gapdh* and shown relative to control cells. Values represent five biological replicates, presented as mean +/− SEM. Statistical significance was calculated using t-student test.

C) Representative Western blot of proliferating (GM) and differentiating (DM3) control (Ctrl) and triple KO (tKO) C2C12 PAX7 positive cells. Protein levels for DNA Pol alpha, NOTCH3, PAX7, CCND1 and IGFBP5 were measured. HSP90 serves as a loading control.

D) miRNAs downregulated in proliferating triple KO C2C12 PAX7 negative clones versus control cells. padj =< 0.1

E) miRNAs upregulated in proliferating triple KO C2C12 PAX7 negative clones versus control cells. padj =< 0.1

F) miRNAs down- and upregulated in differentiating triple KO C2C12 PAX7 negative clones versus control cells. padj =< 0.1

Supplemental figure 4. Mice with triple knockout of *miR-206, miR-1a-1* and *miR-1a-2* show high levels of heart fibrosis.

A) Quantification of average fiber size based on H&E staining on gastrocnemius muscles. Statistical significance was calculated using t-student test. (***) indicates p-value =< 0.001. N = 300 fibers per group.

B) Western blot of TA muscles of wild-type (WT) and triple KO (tKO) animals. Protein levels for NOTCH3, PAX7, CCND1 and IGFBP5 were measured. HSP90 serves as a loading control.

C) Heart weight from animals used in this study. Statistical significance was calculated using t-student test. N = 5 for all group, except *miR-206&1-1&1-2* tKO, where N=2.

D) Representative picture of Masson's trichrome staining of heart section from WT, *miR-206 miR-1a-1* dKO, *miR-206 miR-1a-2* dKO and *miR-206 miR-1a-1 miR-1a-2* tKO mice. Black line = 100µm.

Supplemental item titles

Table S1. Oligonucleotides used in this study.

Table S2. Expression of *miR-206/1a* targets based on RNA-seq results.

Table S3. Expression of *miR-133* family based on small RNA-seq results.

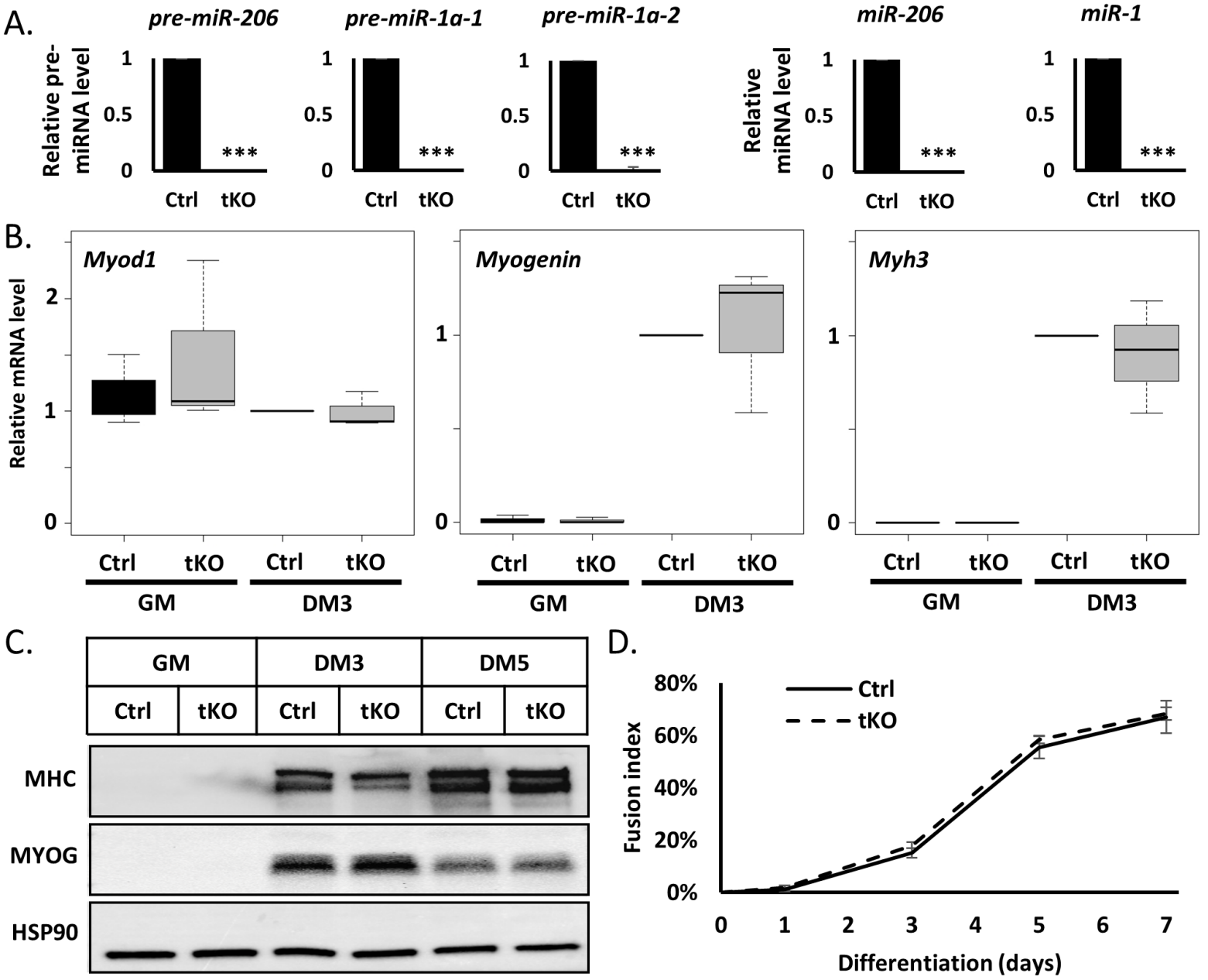
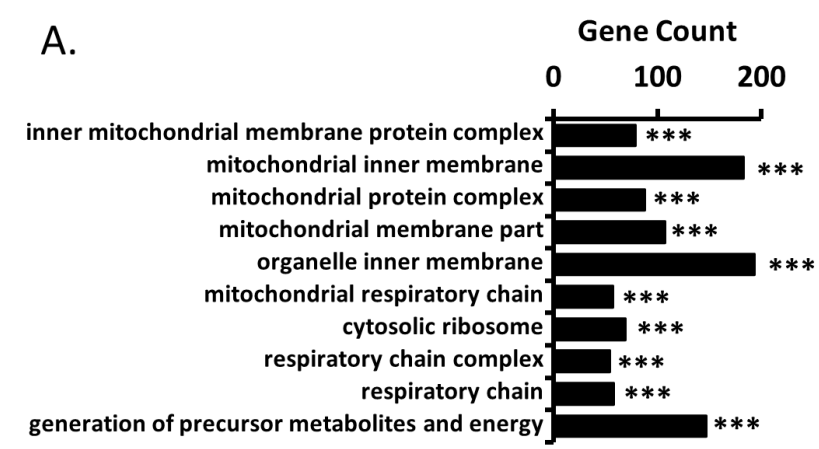

A.
pre-miR-206
pre-miR-1a-1
pre-miR-1a-2
miR-206
miR-1
Relative pre-miRNA level
Relative miRNA level
1
0.5
0
***
Ctrl
tKO
B.
Myod1
Myogenin
Myh3
Relative mRNA level
2
1
0
Ctrl
tKO
GM
DM3
C.
GM
DM3
DM5
MHC
MYOG
HSP90
D.
Ctrl
tKO
Fusion index
80%
60%
40%
20%
0%
0
1
2
3
4
5
6
7
Differentiation (days)

FIGURE S1.


A.
Gene Count
0
100
200
inner mitochondrial membrane protein complex
mitochondrial inner membrane
mitochondrial protein complex
mitochondrial membrane part
organelle inner membrane
mitochondrial respiratory chain
cytosolic ribosome
respiratory chain complex
respiratory chain
generation of precursor metabolites and energy
***

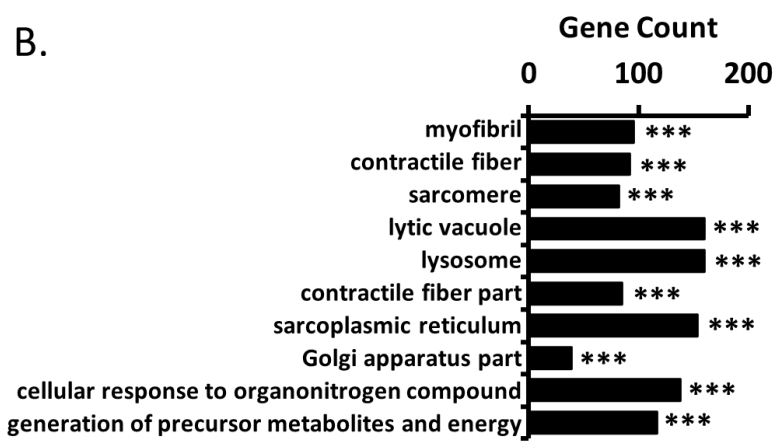
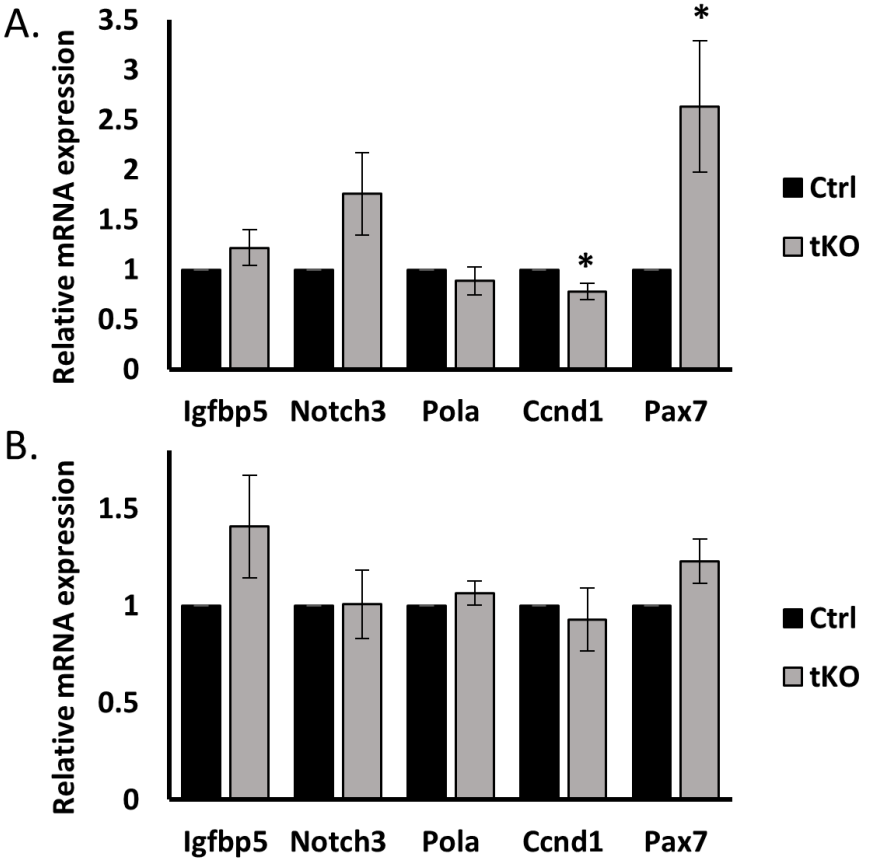
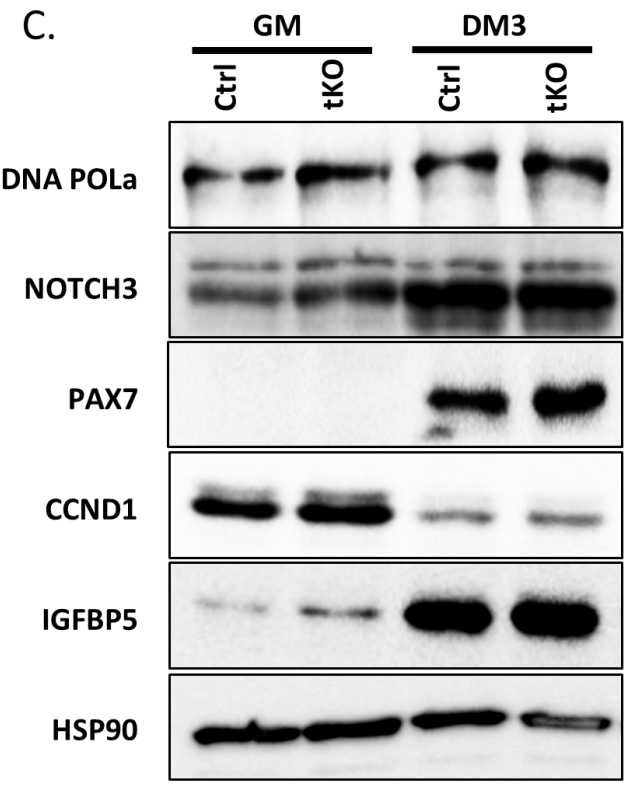

B.
Gene Count
0
100
200
myofibril
contractile fiber
sarcomere
lytic vacuole
lysosome
contractile fiber part
sarcoplasmic reticulum
Golgi apparatus part
cellular response to organonitrogen compound
generation of precursor metabolites and energy
***

FIGURE S2.





D. **tKO vs control cells Proliferation**

DOWNREGULATED miRNA		
Gene name	log2FC	padj
miR-206-3p	-7.76	<0.001
miR-669c-5p	-5.76	<0.001
miR-467c-5p	-5.13	0.003
miR-9-1-5p	-3.71	<0.001
miR-9-5p	-3.56	<0.001
miR-883a-3p	-2.23	0.074
miR-126a-3p	-1.85	0.049
miR-99a-5p	-1.36	0.090
miR-181d-5p	-1.32	0.066
miR-465c-2-5p	-1.29	0.009
miR-743b-5p	-1.25	0.088
miR-465a-3p	-1.24	0.100

E. **tKO vs control cells Proliferation**

UPREGULATED miRNA		
Gene name	log2FC	padj
miR-196a-1-3p	3.78	0.039
miR-129-2-3p	3.52	0.008
miR-129-5p	3.36	<0.001
miR-344d-3-3p	3.04	<0.001
miR-129-2-5p	2.95	0.001
miR-344d-3p	2.83	<0.001
miR-344b-3p	2.42	0.001
miR-1291-3p	2.12	<0.001
miR-10a-5p	1.40	0.002
miR-452-5p	1.27	0.039
miR-344-3p	1.22	0.039
miR-224-5p	1.21	<0.001
miR-139-5p	1.11	0.026

F. **tKO vs control cells Differentiation**

DOWNREGULATED miRNA		
Gene name	log2FC	padj
miR-206-3p	-11.61	<0.001
miR-1a-3p	-7.35	<0.001
miR-9-5p	-2.59	0.093
UPREGULATED miRNA		
Gene name	log2FC	padj
miR-344b-3p	2.77	0.015
miR-129-5p	2.68	0.031
miR-344d-3p	2.38	<0.001

FIGURE S3.

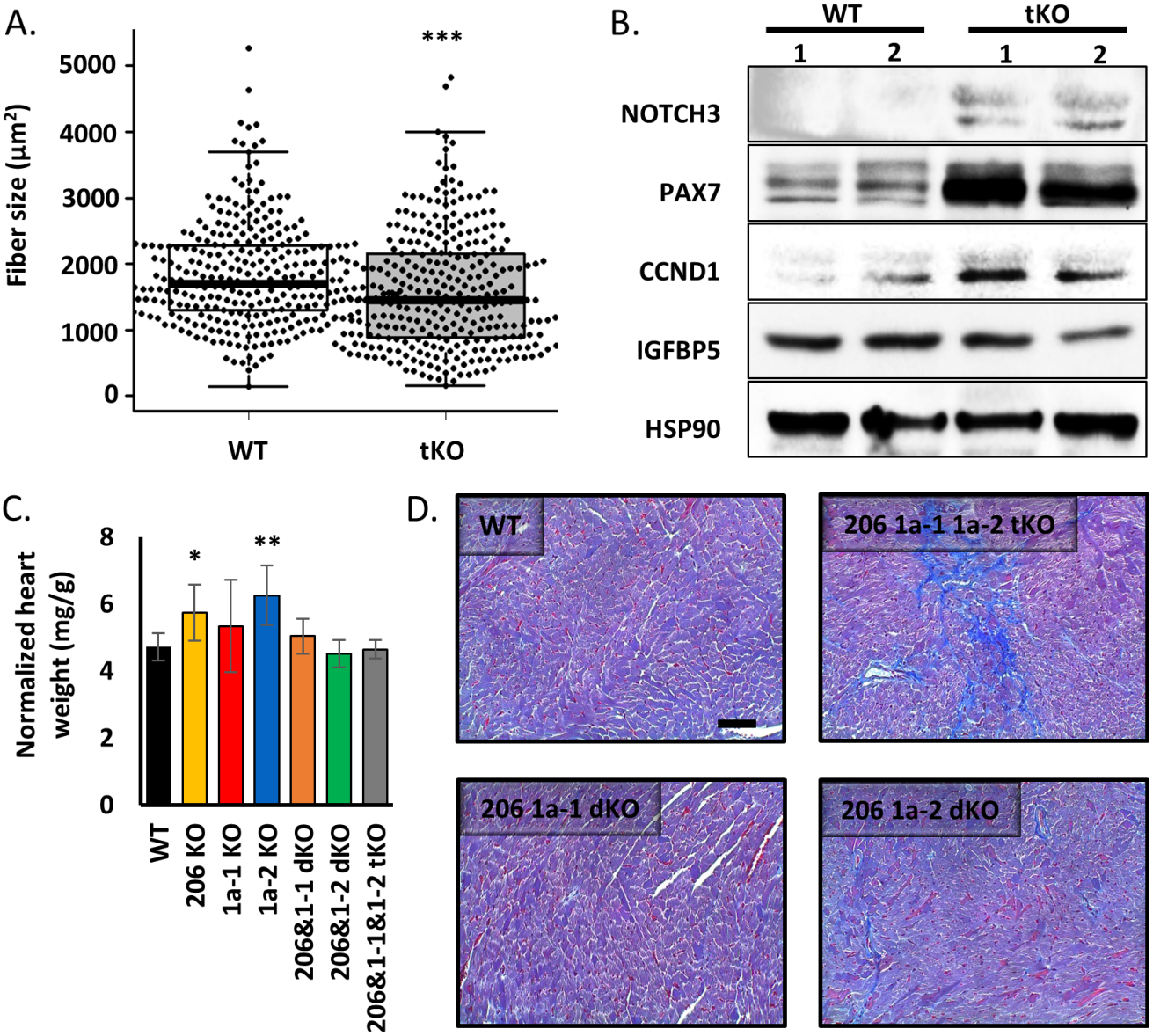

A.
Fiber size (μm²)
5000
4000
3000
2000
1000
0
***
WT
tKO
B.
WT
tKO
1
2
1
2
NOTCH3
PAX7
CCND1
IGFBP5
HSP90
C.
Normalized heart weight (mg/g)
8
6
4
2
0
*
**
WT
206 KO
1a-1 KO
1a-2 KO
206&1-1 dKO
206&1-2 dKO
206&1-1&1-2 tKO
D.
WT
206 1a-1 1a-2 tKO
206 1a-1 dKO
206 1a-2 dKO

FIGURE S4.

Primer name	Sequence
mmu-miR-206_sgRNA1	CTGCGTGACAAGTGCCTCGG AGG
mmu-miR-206_sgRNA2	AAGTGCTTCTTCAAGGCCGA TGG
mmu-miR-1a-1_sgRNA1	TGCACAAGAACAGGACTCCG AGG
mmu-miR-1a-1_sgRNA2	GCATGGGCCACCCCTCAGTC TGG
mmu-miR-1a-2_sgRNA1	TCACAGCTATCGGCCGGCGC AGG
mmu-miR-1a-2_sgRNA2	GTCCGCCAAGAAGAAGCTAA AGG
mmu_miR-206_PCR_F	GATGAAGTCAGGTCCCAGAGA
mmu_miR-206_PCR_R	GCTTGCTTGGTAGAAACATCCA
mmu-miR-1a-1_PCR_F	GTAAGCAACGGTGGGGATGA
mmu-miR-1a-1_PCR_R	CACAGGCAAAGTGGCAGAAC
mmu-miR-1a-2_PCR_F	GGCATTGATGGGATCAGGT
mmu-miR-1a-2_PCR_R	GACTTATCTCTTCAGTACAGTATAAGGGATG
mmu-pre-miR-206-5p_qPCR	CCAGGCCACATGCTTCTTT
mmu-pre-miR-206-3p_qPCR	CCACACACTTCCTTACATTCCA
mmu-pre-miR-1a-1-5p_qPCR	ACATACTTCTTTATATGCCCATA
mmu-pre-miR-1a-2-5p_qPCR	ACATACTTCTTTATGTACCCATA
mmu-pre-miR-1a-3p_qPCR	ATACATACTTCTTTACATTCCA
mmu-U6_qPCR	CTGCGCAAGGATGACACGCA
mmu-miR-206_qPCR	TGGAATGTAAGGAAGTGTGTGG
mmu-miR-1a_qPCR	TGGAATGTAAAGAAGTATGTAT
mmu-Gapdh_qPCR_F	GCACAGTCAAGGCCGAGAAT
mmu-Gapdh_qPCR_R	GCCTTCTCCATGGTGGTGAA
mmu-Myod1_qPCR_F	CATCCGCTACATCGAAGGTC
mmu-Myod1_qPCR_R	GTGGAGATGCGCTCCACTAT
mmu-Myogenin_qPCR_F	AGCGCAGGCTCAAGAAAGTGAATG
mmu-Myogenin_qPCR_R	CTGTAGGCGCTCAATGTACTGGAT
mmu-Myh3_qPCR_F	TCCAAACCGTCTCTGCACTGTT
mmu-Myh3_qPCR_R	AGCGTACAAAGTGTGGGTGTGT
mmu_miR-206_PCR_MG_WT_F	GATGAAGTCAGGTCCCAGAGA
mmu_miR-206_PCR_MG_WT_R	GCTTGCTTGGTAGAAACATCCA
mmu_miR-206_PCR_MG_KO_F	GCTCAAAACTGCAGAAGGATG
mmu_miR-206_PCR_MG_KO_R	GGTTCCGGATCCACTAGTTC
mmu-miR-1a-1_PCR_MG_F	GTAAGCAACGGTGGGGATGA
mmu-miR-1a-1_PCR_MG_WT_R	CACAGGCAAAGTGGCAGAAC
mmu-miR-1a-1_PCR_MG_KO_R	ACACCTAGGATAACTTCGTATAATGTATGCT
mmu-miR-1a-2_qPCR_MG_WT_F	CGGACATTACCTACCCAAAATACATACT
mmu-miR-1a-2_qPCR_MG_WT_R	GCCTACTCAGAGCACATACTTCTTT
mmu-miR-1a-2_qPCR_MG_KO_F	CGATCGTAATCACCCGAGTGT
mmu-miR-1a-2_qPCR_MG_KO_R	CCGTGGCCTGACTCATTCC
mmu-Igfbp5_qPCR_F	CAACGAAAAGAGCTACGGCG
mmu-Igfbp5_qPCR_R	ACCTTGGGGGAGTAGGTCTC
mmu-Notch3_qPCR_F	TGAACAACGTGGAGGCTACC
mmu-Notch3_qPCR_R	TTGGCGAGATGATCCAGCAG

mmu-Pola_qPCR_F	CAACTTGTTGCAGTCGCCTT
mmu-Pola_qPCR_R	GGTAAAAGCACAGCTGGGTG
mmu-Ccnd1_qPCR_F	CAAAATGCCAGAGGCGGATG
mmu-Ccnd1_qPCR_R	CATGGAGGGTGGGTTGGAAA
mmu-Pax7_qPCR_F	TTCGAGAGGACCCACTACCC
mmu-Pax7_qPCR_R	TTAGCTCCTGCCTGCTTACG

ensembl	Target	C_GM	KO_GM	C_DM	KO_DM
ENSMUSG00000000131	Xpo6	19.44079668	19.33973107	7.517506934	12.14188931
ENSMUSG00000000134	Tfe3	11.64335593	8.881967456	10.13563387	12.60140252
ENSMUSG00000000787	Ddx3x	115.9988363	142.3963303	47.16917275	59.80754846
ENSMUSG00000000826	Dnajc5	22.80139496	22.03465707	12.64844858	16.0908902
ENSMUSG00000000902	Smarcb1	15.5189086	15.36618676	7.419438613	10.54368199
ENSMUSG00000001089	Luzp1	15.8974952	17.1780788	10.68349017	12.27225302
ENSMUSG00000001098	Kctd10	46.69890265	42.92598102	20.52764874	20.65192748
ENSMUSG00000001100	Poldip2	47.4430671	47.5145505	47.74070061	38.83129697
ENSMUSG00000001105	Ift20	37.56547016	39.03816854	44.44462809	54.30944609
ENSMUSG00000001156	Mxd1	1.402046774	1.208253291	4.623430024	4.594705751
ENSMUSG00000001175	Calm1	196.3907326	173.1971713	73.88058557	87.68085225
ENSMUSG00000001280	Sp1	16.01673974	13.31874188	18.60967857	16.15564352
ENSMUSG00000001300	Efnb2	11.84807681	19.37691758	6.768319095	17.01916031
ENSMUSG00000001467	Cyp51	40.89926143	30.52595101	159.0777211	238.1247587
ENSMUSG00000002413	Braf	4.174655778	4.438444335	3.971179912	6.164399266
ENSMUSG00000002768	Mea1	53.07189552	52.81526872	42.60240469	54.23609482
ENSMUSG00000003032	Klf4	9.710065302	7.529480122	19.06777296	15.85264603
ENSMUSG00000003161	Sri	39.45441251	37.70967904	16.77587823	35.05071275
ENSMUSG00000003528	Slc25a1	38.47730317	36.44050007	41.38426179	135.7938761
ENSMUSG00000003847	Nfat5	12.74210471	11.90011358	7.965558192	10.21252797
ENSMUSG00000003948	Mmd	48.98024959	61.36345323	12.17208265	32.31050367
ENSMUSG00000004319	Clcn3	5.503909636	6.30269078	3.537585859	6.933053154
ENSMUSG00000004530	Coro1c	44.9726194	40.98768901	13.03213934	18.35999093
ENSMUSG00000004535	Tax1bp1	38.32813814	38.47810617	21.08680317	26.38867298
ENSMUSG00000004568	Arhgef18	9.892225635	10.55119587	7.363597142	8.690181904
ENSMUSG00000004849	Ap1s1	144.7527854	129.0737113	66.86664643	76.56686504
ENSMUSG00000005034	Prkacb	24.57959513	22.26731921	23.80960763	23.96705284
ENSMUSG00000005103	Wdr1	194.6230659	244.8499253	93.93913712	119.8903404
ENSMUSG00000005125	Ndrg1	17.56681873	22.94806252	39.43543938	75.20601586
ENSMUSG00000005299	Letm1	17.43567679	17.59173661	8.236495809	10.49748224
ENSMUSG00000005312	Ubqln1	53.6112341	50.44223553	46.86330769	40.40312911
ENSMUSG00000006273	Atp6v1b2	51.93735079	45.79579936	55.71983033	50.10881145
ENSMUSG00000006373	Pgrmc1	93.50357884	102.0128266	44.43962813	80.78690817
ENSMUSG00000006412	Pfdn2	21.82395176	28.8716793	28.16780893	25.7280118
ENSMUSG00000006445	Epha2	57.99697145	92.87688443	34.80037306	42.81245779
ENSMUSG00000006498	Ptbp1	122.3259656	143.6002376	31.07730922	47.68658622
ENSMUSG00000007476	Lrrc8a	3.438756274	3.2535072	2.309614707	2.339574345
ENSMUSG00000007670	Khsrp	84.00945126	75.34037022	46.52965018	53.10274807
ENSMUSG00000008301	Phax	18.43591856	24.38255697	16.30542854	23.85897346
ENSMUSG00000009376	Met	15.00804626	16.10863617	7.823173801	10.79967321
ENSMUSG00000009470	Tnpo1	33.67376253	30.93935667	24.19176936	21.94528886
ENSMUSG00000009555	Cdk9	23.86737413	25.83012058	13.86212017	15.56991465
ENSMUSG00000009905	Kdsr	8.514938307	6.364418078	3.739384867	5.802447613
ENSMUSG00000010461	Eya4	8.214968964	7.873341382	11.3571641	11.24432409
ENSMUSG00000011752	Pgam1	312.357992	342.3860291	173.3823908	379.5063386
ENSMUSG00000011877	Git1	29.94581715	30.2181597	33.23104125	30.70396386

ENSMUSG00000013698	Pea15a	113.0778737	137.3960499	99.6170886	99.99586864
ENSMUSG00000013822	Elof1	43.08215018	48.60543767	21.46038909	23.13186896
ENSMUSG00000014303	Glis2	17.20121695	25.76564006	24.89640896	38.36061979
ENSMUSG00000014599	Csf1	179.1709059	256.5467625	52.51836846	80.67585617
ENSMUSG00000014932	Yes1	5.873750124	6.737379991	5.952048642	7.954277067
ENSMUSG00000015127	Unkl	1.393195499	1.16739463	1.30738062	1.675740242
ENSMUSG00000015501	Hivep2	6.230784698	5.593804841	4.642869432	5.0396268
ENSMUSG00000016559	H3f3b	273.4933747	267.1062831	89.63333192	112.3697429
ENSMUSG00000017386	Traf4	23.48381108	25.24231257	50.68244482	43.43577841
ENSMUSG00000017548	Suz12	20.26745876	21.5479208	13.86893651	17.80196378
ENSMUSG00000017858	Ift52	14.63049675	13.02445418	16.44584781	16.1868803
ENSMUSG00000018160	Med1	13.46678856	13.19013435	8.961292222	9.369049368
ENSMUSG00000018377	Vezf1	22.64155016	20.47233188	15.30845825	17.63580402
ENSMUSG00000018379	Srsf1	52.45751853	54.73583073	6.741222361	8.328708862
ENSMUSG00000018604	Tbx3	2.581765636	1.631419354	2.429099271	1.350393763
ENSMUSG00000018678	Sp2	6.159090201	6.566645773	3.31060951	3.906561377
ENSMUSG00000018750	Zbtb4	8.722184603	5.438994065	10.33042404	10.71703919
ENSMUSG00000018809	Smyd4	15.25158947	14.58206385	6.015249968	7.287700345
ENSMUSG00000018820	Zfyve27	5.900466264	5.389066125	9.529930881	11.25419009
ENSMUSG00000018846	Pank3	15.285084	12.9504227	12.76313086	16.50944049
ENSMUSG00000018999	Slc35b4	13.5302406	12.93316366	3.123832756	6.733700693
ENSMUSG00000019082	Slc25a22	4.609890084	6.294501724	2.319143879	2.905715134
ENSMUSG00000019189	Rnf145	36.2593671	27.74264784	53.47060371	88.60801904
ENSMUSG00000019802	Sec63	26.38208384	26.50790228	27.39805618	30.71508525
ENSMUSG00000019820	Utrn	13.61823703	13.5820827	14.59832555	16.15393848
ENSMUSG00000019951	Uhrf1bp1l	17.18705781	17.43537506	11.41551514	20.17912888
ENSMUSG00000019978	Epb4.1l2	54.23690393	51.55975598	47.90102332	63.28220855
ENSMUSG00000020044	Timp3	35.37245234	73.64392842	13.96386872	19.59588761
ENSMUSG00000020048	Hsp90b1	190.8011172	188.9486933	228.4756255	248.5261313
ENSMUSG00000020070	Rufy2	4.569638247	4.740997359	2.492064427	4.241476714
ENSMUSG00000020100	Slc29a3	9.864938673	8.150225098	2.437127829	7.466966635
ENSMUSG00000020130	Tbc1d15	20.50384438	21.47175882	22.05663214	22.01081501
ENSMUSG00000020160	Meis1	2.784865921	3.97315957	2.766608261	2.329875777
ENSMUSG00000020170	Frs2	25.51662152	22.37883593	13.66746979	16.70831617
ENSMUSG00000020198	Ap3d1	62.6766094	58.72762472	22.34550037	38.5430263
ENSMUSG00000020422	Tns3	60.11808586	63.87374629	20.6091627	25.35903695
ENSMUSG00000020463	Smek2	12.69220638	13.62816377	6.224443017	8.260900248
ENSMUSG00000020572	Nampt	16.80812384	19.88234669	12.8640051	15.41770283
ENSMUSG00000020661	Dnmt3a	3.165079292	2.479731109	6.350568585	6.568634176
ENSMUSG00000020719	Ddx5	180.0164159	191.7366626	75.94625483	88.17746137
ENSMUSG00000020745	Pafah1b1	33.17182893	34.40791782	26.54011523	27.49255345
ENSMUSG00000020846	Fam101b	7.876564838	10.22471092	5.225858057	6.823888023
ENSMUSG00000020886	Dlg4	8.911519414	6.470845932	35.19281816	27.13796048
ENSMUSG00000020894	Vamp2	11.81756276	13.75992726	12.40580457	14.86877783
ENSMUSG00000020973	Dnaaf2	8.799667822	8.757293313	2.914847599	2.930828812
ENSMUSG00000021112	Mpp5	4.925284812	6.478071686	7.739128052	9.118799972
ENSMUSG00000021127	Zfp36l1	5.731804285	4.384847517	20.79191984	18.89412362

ENSMUSG00000021156	Zmynd11	24.99347881	21.9311419	16.13614485	15.43924778
ENSMUSG00000021188	Trip11	4.925123087	4.81831273	2.135768169	3.428178056
ENSMUSG00000021275	Tecpr2	3.688861674	3.586011931	3.306541101	3.144263937
ENSMUSG00000021367	Edn1	1.932907631	4.592516659	3.840172775	5.649617759
ENSMUSG00000021468	Sptlc1	20.25297731	15.90390908	8.359152319	11.05933828
ENSMUSG00000021546	Hnrnpk	212.2048066	220.3276581	102.7754176	106.5290964
ENSMUSG00000021549	Rasa1	16.00025597	10.81866929	4.588084811	5.831377022
ENSMUSG00000021670	Hmgcr	23.63166275	15.4570261	27.24937179	34.65528292
ENSMUSG00000021693	Kif2a	13.38533159	12.79095849	7.839345223	7.225058696
ENSMUSG00000021745	Ptprg	8.888918112	6.884418599	6.7177981	8.987599293
ENSMUSG00000021767	Kat6b	5.632222365	3.872282643	4.008753949	3.85724399
ENSMUSG00000021877	Arf4	102.4395961	113.9200517	99.82086839	121.8962619
ENSMUSG00000021890	Eaf1	22.33335402	30.48490071	12.54954938	22.01870972
ENSMUSG00000021895	Arhgef3	3.45075786	3.017827826	4.680026394	4.591032524
ENSMUSG00000022003	Slc25a30	20.00952956	19.4656944	48.66510958	52.32157585
ENSMUSG00000022016	Akap11	9.283812149	8.518245635	6.813354519	8.412496644
ENSMUSG00000022119	Rbm26	13.48586484	13.4474989	8.189823127	9.27368941
ENSMUSG00000022178	Ajuba	50.1191038	70.5992695	18.04665568	25.94160325
ENSMUSG00000022200	Golph3	33.58000963	31.85664514	39.86526998	34.3632198
ENSMUSG00000022285	Ywhaz	177.4667706	163.1639139	73.66960992	116.7928642
ENSMUSG00000022353	Mtss1	17.93813564	15.60999751	27.75098554	25.14173174
ENSMUSG00000022390	Zc3h7b	35.04938031	29.97385315	28.1887019	27.32635043
ENSMUSG00000022401	Xpnpep3	8.111169141	6.705867529	4.917809086	4.29776232
ENSMUSG00000022426	Josd1	28.781719	25.54343611	29.82077877	29.06217981
ENSMUSG00000022451	Twf1	42.79917886	38.44984431	12.34441986	28.70021724
ENSMUSG00000022462	Slc38a2	101.2389255	75.83168233	58.69383632	53.65939868
ENSMUSG00000022676	Snai2	10.8397059	13.16055245	13.12119124	22.46318783
ENSMUSG00000022752	Tomm70a	48.92791392	54.48248267	27.08164296	24.90883357
ENSMUSG00000022770	Dlg1	23.04250282	33.42181521	21.34013687	27.54863246
ENSMUSG00000022811	Zfp148	8.363238296	9.946292029	4.936274149	6.79912987
ENSMUSG00000022836	Mylk	3.503840245	2.281037763	12.54964325	20.27263181
ENSMUSG00000022858	Tra2b	41.8068367	46.95265045	6.929094538	9.226347206
ENSMUSG00000022960	Donson	5.420377218	5.997313126	1.318382598	1.36944313
ENSMUSG00000023025	Larp4	23.61536711	25.66303154	9.078397523	10.39165526
ENSMUSG00000023951	Vegfa	39.55429528	36.39705188	46.15739241	46.11379249
ENSMUSG00000024048	Myl12a	288.3635222	388.4826026	343.4197844	363.4336604
ENSMUSG00000024069	Slc30a6	7.11028056	7.706966716	4.151254687	4.44010933
ENSMUSG00000024074	Crim1	18.17490084	25.01333486	8.394334117	8.766647619
ENSMUSG00000024081	Cebpz	13.16411348	15.03928288	5.36256679	6.619480275
ENSMUSG00000024242	Map4k3	5.33456566	5.136084754	4.394609142	6.112074515
ENSMUSG00000024317	Rnf138	3.761823138	4.847178126	4.308195568	4.390796665
ENSMUSG00000024472	Dcp2	4.711918696	6.48264412	3.46066599	5.012635195
ENSMUSG00000024487	Yipf5	29.2009261	37.22551132	33.46280435	44.42149826
ENSMUSG00000024491	Rbm27	8.650173653	12.76853337	3.536144772	4.519824003
ENSMUSG00000024589	Nedd4l	5.455584023	9.847257074	5.330282344	5.480725726
ENSMUSG00000024594	Prrc1	13.48370531	16.33370313	31.0221598	39.22317533
ENSMUSG00000024603	Dctn4	27.82217491	30.81374305	29.6239501	35.38906823

ENSMUSG00000024639	Gnaq	16.38938135	13.54700908	7.696604081	8.975104529
ENSMUSG00000024695	Zfp91	43.69572219	40.55650027	62.14543837	52.9477403
ENSMUSG00000024811	Tnks2	29.31280935	26.45629438	22.72651145	24.80382836
ENSMUSG00000024816	Frmd8	21.75324364	17.2050425	11.99647162	13.93369127
ENSMUSG00000024835	Coro1b	150.1517539	121.1060306	141.0563503	162.0884219
ENSMUSG00000024948	Map4k2	5.1571712	3.983527169	4.658069879	6.710162115
ENSMUSG00000024975	Pdcd4	3.929584492	2.180751138	11.72937824	18.03158364
ENSMUSG00000024985	Tcf7l2	5.679969069	4.773281989	3.847178251	4.00550585
ENSMUSG00000025019	Lcor	1.947732559	2.107879579	1.123100931	1.47578306
ENSMUSG00000025041	Nt5c2	12.69751217	14.09159227	6.118748475	8.653407224
ENSMUSG00000025192	Entpd7	4.331004637	3.456937455	2.096552295	3.056208726
ENSMUSG00000025234	Arih1	17.45473357	19.11413181	21.97950448	24.00375677
ENSMUSG00000025236	Adpgk	15.01349036	15.1958662	7.77434009	13.5896202
ENSMUSG00000025255	Zfhx4	5.229640804	5.235252271	2.363504025	4.230231483
ENSMUSG00000025314	Ptprj	4.232155095	4.265060913	2.160491979	4.00809231
ENSMUSG00000025332	Kdm5c	40.2347084	34.65327581	35.90787147	38.59010992
ENSMUSG00000025437	Usp33	12.17152581	11.83943652	7.041908547	9.803483534
ENSMUSG00000025511	Tspan4	87.42766613	86.74887235	35.93015467	29.49593546
ENSMUSG00000025578	Cbx8	5.278815204	5.053386523	3.500202776	4.290006448
ENSMUSG00000025586	Cpeb1	1.952346749	1.809211027	4.036019905	4.354479941
ENSMUSG00000025626	Phf6	13.8664771	13.70405285	5.059563411	6.807270213
ENSMUSG00000025810	Nrp1	22.14969366	20.806093	10.28710088	15.61666508
ENSMUSG00000025856	Pdgfa	65.62516062	52.63657403	33.74721698	29.98597007
ENSMUSG00000025862	Stag2	15.28187249	14.29069372	10.26284529	11.05459815
ENSMUSG00000025867	Cplx2	7.456018475	5.905050766	2.535723011	4.306309132
ENSMUSG00000025870	Arl10	10.59213082	10.21009615	7.83292136	7.528600603
ENSMUSG00000025873	Faf2	26.36171831	21.1372463	18.18411422	18.21336976
ENSMUSG00000025969	Nrp2	81.1275456	69.17143927	70.57076063	85.39682652
ENSMUSG00000025980	Hspd1	268.8057457	363.7183904	87.2873701	103.0779209
ENSMUSG00000025986	Slc39a10	8.693243302	8.31523417	6.507153415	7.395502415
ENSMUSG00000026017	Carf	1.536738953	1.190430312	1.463432145	1.670262011
ENSMUSG00000026028	Trak2	17.4421253	17.88555454	11.33552738	12.62898701
ENSMUSG00000026111	Unc50	16.54303747	18.52820364	12.85196999	16.62507946
ENSMUSG00000026155	Smap1	9.465670544	8.794523469	9.584967015	10.92635018
ENSMUSG00000026185	Igfbp5	2.5308487	2.531456665	321.1033111	365.6941892
ENSMUSG00000026193	Fn1	510.8951268	549.7453616	1730.264749	1593.708613
ENSMUSG00000026234	Ncl	212.9555674	259.2774819	52.67337414	58.46685952
ENSMUSG00000026238	Ptma	1652.407253	1533.289796	270.7389649	457.9663318
ENSMUSG00000026305	Lrrfip1	59.22496573	89.34658984	26.88681086	32.51987174
ENSMUSG00000026313	Hdac4	4.009285667	3.484298072	7.088913161	7.139012678
ENSMUSG00000026384	Ptpn4	1.752900806	2.274237041	2.512766273	4.379247286
ENSMUSG00000026425	Srgap2	8.425696763	7.826067162	11.03697252	10.85721842
ENSMUSG00000026434	Nucks1	48.76348389	48.17978534	15.75104898	17.55276749
ENSMUSG00000026470	Stx6	24.6324381	22.3240218	24.7792906	26.49713513
ENSMUSG00000026547	Tagln2	283.9734907	489.7719279	63.34915585	120.6551337
ENSMUSG00000026604	Ptpn14	24.88702997	20.96657435	20.8115268	22.75475461
ENSMUSG00000026617	Bpnt1	14.58476203	17.9571465	7.010574968	7.50989034

ENSMUSG00000026618	Iars2	21.41766051	19.08406615	12.00273348	10.05544025
ENSMUSG00000026626	Ppp2r5a	30.02237587	24.9950104	26.49028986	31.06537844
ENSMUSG00000026643	Nmt2	19.47453995	21.20503419	18.0115865	19.20441329
ENSMUSG00000026667	Uhmk1	18.44629488	17.43588177	4.886353873	14.60004173
ENSMUSG00000026696	Vamp4	8.611876502	8.04421191	14.88627868	16.36675138
ENSMUSG00000026775	Yme1l1	31.50980773	29.15426678	29.67525816	27.83472932
ENSMUSG00000026819	Slc25a25	4.705610049	5.900406705	10.92980051	8.985961244
ENSMUSG00000026827	Gpd2	22.68084081	20.48441658	8.817218193	12.748471
ENSMUSG00000026843	Fubp3	26.68324763	28.85499399	9.241670066	14.500831
ENSMUSG00000026858	Fam73b	9.081568168	9.775980337	3.124528337	5.344142175
ENSMUSG00000027030	Stk39	11.02366532	17.25757124	7.867873786	9.149383248
ENSMUSG00000027104	Atf2	11.6941292	11.1539397	7.490855893	7.154054158
ENSMUSG00000027162	Lin7c	24.59073518	24.80973056	13.13879401	17.74463829
ENSMUSG00000027177	Hipk3	20.87290129	17.41898969	9.451684165	11.36397819
ENSMUSG00000027184	Caprin1	121.5592567	107.3785752	45.64360968	50.73697675
ENSMUSG00000027189	Trim44	6.351580074	4.92374438	4.631904741	5.247712221
ENSMUSG00000027193	Api5	51.10874413	50.48728813	22.00194148	25.84709333
ENSMUSG00000027244	Atg13	11.03341577	8.85419414	31.06954351	24.51061383
ENSMUSG00000027254	Map1a	22.00767913	16.17526917	33.23075037	42.80820662
ENSMUSG00000027303	Ptpra	24.98208823	20.09657084	29.63651491	32.83705063
ENSMUSG00000027351	Spred1	14.14583191	11.14777397	6.447307078	8.1319007
ENSMUSG00000027367	Stard7	30.93357457	30.62300792	18.8206894	22.21582585
ENSMUSG00000027495	Fam210b	3.574126427	2.413766711	4.453302453	5.845360935
ENSMUSG00000027540	Ptpn1	24.83298835	18.72692182	13.77081516	16.55556546
ENSMUSG00000027552	E2f5	7.779873073	10.39980877	8.175680893	17.88148767
ENSMUSG00000027580	Helz2	2.718072437	2.513446616	1.005416614	1.769919201
ENSMUSG00000027634	Ndrg3	18.74699003	17.74036157	37.22797437	46.39745217
ENSMUSG00000027646	Src	23.24791779	30.78851851	19.13255199	23.4004696
ENSMUSG00000027652	Ralgapb	14.85744589	12.78547077	8.77484019	11.65110373
ENSMUSG00000027663	Zmat3	24.37216372	20.91082813	22.49486284	21.09191739
ENSMUSG00000027678	Ncoa3	7.272317655	6.010549628	4.610489725	4.050453833
ENSMUSG00000027684	Mecom	2.619272857	3.545954174	1.458249106	2.135620717
ENSMUSG00000027695	Pld1	4.028671515	2.794586904	3.042167614	3.921252062
ENSMUSG00000027706	Sec62	29.03834431	28.51355335	32.73957751	31.89596678
ENSMUSG00000027778	Ift80	5.596907869	5.093688747	3.532034745	4.897539527
ENSMUSG00000027784	Ppm1l	11.37016883	9.792732101	7.695131938	8.247282798
ENSMUSG00000027808	Serp1	82.71328885	87.28118135	104.3631866	134.1317723
ENSMUSG00000027835	Pdcd10	13.06294993	15.99867941	9.105635486	10.5514535
ENSMUSG00000027859	Ngf	12.32283626	44.21139391	6.080162318	8.1470602
ENSMUSG00000027879	Sec22b	25.20651177	27.01888587	39.95744045	43.94415946
ENSMUSG00000027951	Adar	11.54132008	12.65916271	4.040802871	5.760604829
ENSMUSG00000027985	Lef1	2.293299641	1.823772653	3.444270347	1.782865043
ENSMUSG00000027993	Trim2	6.84561183	6.147966687	3.525856698	5.953420852
ENSMUSG00000028034	Fubp1	14.45417976	19.39835416	5.917545066	6.360679544
ENSMUSG00000028042	Zbtb7b	21.93767674	22.6840199	37.77062951	46.6556016
ENSMUSG00000028053	Ash1l	9.522217261	9.217755783	3.852192253	4.757618855
ENSMUSG00000028086	Fbxw7	5.739205227	6.253388641	3.687041456	4.443295452

ENSMUSG00000028156	Eif4e	46.97791597	54.92838921	29.01273758	29.47128094
ENSMUSG00000028249	Sdcbp	53.3722863	58.11999157	36.95804693	58.97586172
ENSMUSG00000028271	Gtf2b	19.19131132	23.04487423	10.00559283	13.72070867
ENSMUSG00000028274	Rngtt	4.840539975	5.7460659	3.812829563	4.70203754
ENSMUSG00000028333	Anp32b	190.0790556	250.2194795	75.31448148	84.14358669
ENSMUSG00000028399	Ptprd	1.73450031	2.251254236	2.881856872	6.200102828
ENSMUSG00000028412	Slc44a1	25.01566198	22.22913522	26.67549605	26.18313863
ENSMUSG00000028487	Bnc2	4.392244597	4.068854509	4.137626067	3.979741724
ENSMUSG00000028525	Pde4b	3.982955771	3.450171334	2.424850352	1.561428162
ENSMUSG00000028578	Caap1	3.370404194	4.332851645	2.047846751	3.084682329
ENSMUSG00000028583	Pdpn	92.21710722	77.96978247	90.82893382	130.7247416
ENSMUSG00000028656	Cap1	155.0941754	201.9325815	71.58236986	123.3632105
ENSMUSG00000028759	Hp1bp3	29.18516472	24.57139182	21.26749455	22.27069139
ENSMUSG00000028796	Phc2	36.25593317	43.78974174	20.66633446	24.72031173
ENSMUSG00000028843	Sh3bgrl3	49.60135711	60.66652597	43.85062473	60.12787245
ENSMUSG00000028868	Wasf2	28.92736574	26.40206753	27.35466933	35.14696393
ENSMUSG00000028926	Cdk14	15.59603598	12.37862304	14.08562268	18.73476756
ENSMUSG00000028957	Per3	1.446053406	1.089023557	4.17258298	4.015739971
ENSMUSG00000028995	Fam126a	14.73585723	9.501256954	11.59952927	10.79365439
ENSMUSG00000029004	Kmt2e	15.69371804	13.18360189	6.42747279	9.789784719
ENSMUSG00000029063	Nadk	68.03813405	77.76690084	28.99132933	41.74633402
ENSMUSG00000029090	Gpr125	21.20059457	18.96701301	9.80244909	17.56053788
ENSMUSG00000029169	Dhx15	58.40543375	78.25903369	18.02184703	23.50752922
ENSMUSG00000029196	Tada2b	12.27920991	13.56462916	4.34809534	6.192549827
ENSMUSG00000029208	Guf1	4.586160775	3.615318258	2.893720681	2.47667273
ENSMUSG00000029221	Slc30a9	15.41743268	13.61103721	17.93483815	16.07358724
ENSMUSG00000029238	Clock	11.66017929	10.91398894	4.751307182	4.806713458
ENSMUSG00000029270	Fam69a	4.360897267	4.319675198	6.403268608	11.1478567
ENSMUSG00000029287	Tgfbr3	7.583258077	4.917028283	5.778322244	4.922933386
ENSMUSG00000029290	Zfp326	7.777955205	7.729029269	1.971320178	1.904958617
ENSMUSG00000029405	G3bp2	19.28362316	16.5836119	7.362454766	8.556498884
ENSMUSG00000029438	Bcl7a	3.25685322	2.457088707	3.528527957	3.138547828
ENSMUSG00000029461	Fam168a	19.21651908	14.01505299	17.76337546	20.34603456
ENSMUSG00000029538	Srsf9	76.15677666	76.40747175	24.74988427	46.16241432
ENSMUSG00000029580	Actb	2552.09836	2769.754359	526.202166	714.9247083
ENSMUSG00000029617	Ccz1	33.15159963	32.38480347	23.70044082	24.13733062
ENSMUSG00000029684	Wasl	16.13628187	20.07589602	18.37039735	19.09053717
ENSMUSG00000029787	Avl9	4.411128435	3.889996025	3.156077433	4.596689219
ENSMUSG00000029840	Mtpn	118.4617301	124.5372471	83.48126575	113.9748161
ENSMUSG00000029860	Zyx	108.4857775	159.3353193	116.0556109	166.6654485
ENSMUSG00000029924	Slc37a3	12.54383536	11.35525374	14.62193304	18.86867938
ENSMUSG00000029994	Anxa4	75.76429349	69.70425227	72.95059977	75.01690756
ENSMUSG00000030055	Rab43	14.40421526	10.63571006	8.975553643	10.29813766
ENSMUSG00000030067	Foxp1	14.17233363	11.56298882	7.339120423	7.067188116
ENSMUSG00000030082	Sec61a1	92.91460929	93.11769658	94.67569685	101.2862299
ENSMUSG00000030126	Tmcc1	4.774785864	4.990452591	3.675609573	3.610654065
ENSMUSG00000030172	Erc1	11.79589288	9.942063479	5.22702988	6.288338249

ENSMUSG00000030315	Vgll4	25.80342432	22.23878372	34.13946281	26.87474021
ENSMUSG00000030347	D6Wsu163e	10.80710559	10.49997078	4.847130902	5.49405705
ENSMUSG00000030352	Tspan9	34.24734057	41.86972037	56.1194617	56.68913987
ENSMUSG00000030409	Dmpk	69.13823306	78.81759293	103.8389523	107.7782547
ENSMUSG00000030660	Pik3c2a	5.922614525	7.251493632	3.521601225	5.573294048
ENSMUSG00000030685	Kctd13	5.57036463	6.221716001	13.16731376	13.9910761
ENSMUSG00000030754	Copb1	43.5627859	44.79534218	48.94191961	49.46054661
ENSMUSG00000030816	Rnf40	23.97912501	21.39428683	22.51583765	22.01465387
ENSMUSG00000030970	Ctbp2	10.47848527	10.49237012	6.471240409	7.11489282
ENSMUSG00000030980	Knop1	14.74720306	15.68657872	5.758197212	9.206761207
ENSMUSG00000031007	Atp6ap2	50.81432558	54.0813882	61.73363288	84.68552475
ENSMUSG00000031012	Cask	7.2579823	6.478943042	7.564808609	7.328231622
ENSMUSG00000031134	Rbmx	16.32139339	18.12294148	1.887019346	2.621027985
ENSMUSG00000031154	Otud5	16.31373649	14.87308716	19.30439026	18.91706285
ENSMUSG00000031284	Pak3	3.478515546	3.72322375	3.91754916	4.669858163
ENSMUSG00000031333	Abcb7	6.470119801	6.03672706	5.164909447	5.228297757
ENSMUSG00000031400	G6pdx	60.26968652	48.89195777	17.32100669	38.2349437
ENSMUSG00000031540	Kat6a	14.17292724	12.15467532	4.08060018	4.775028557
ENSMUSG00000031575	Ash2l	34.08565113	34.18836249	20.65222494	22.36543759
ENSMUSG00000031684	Slc10a7	9.54298782	9.152369037	3.459440218	5.983517878
ENSMUSG00000031691	Tnpo2	46.26256605	45.35578238	46.63782636	47.54159821
ENSMUSG00000031731	Ap1g1	14.15239642	12.11164409	6.017469199	8.433867033
ENSMUSG00000031732	Phlpp2	4.313429768	4.723653239	1.654289352	1.948600414
ENSMUSG00000031751	Amfr	77.48454727	71.54679837	87.02463659	78.61013974
ENSMUSG00000031799	Tpm4	431.5329009	539.8311683	68.40919291	188.4441286
ENSMUSG00000031902	Nfatc3	17.9836748	16.15984942	9.605821157	13.92347014
ENSMUSG00000031924	Cyb5b	76.05176506	67.30785266	45.34811226	56.26329259
ENSMUSG00000031971	Ccsap	3.060557581	2.689459787	1.508391043	2.332723083
ENSMUSG00000032035	Ets1	19.61017321	24.11210853	8.962658365	12.47026691
ENSMUSG00000032096	Arcn1	64.72830291	60.28984319	56.31311822	58.33737213
ENSMUSG00000032112	Trappc4	25.80217777	30.42701182	22.79118846	29.36988205
ENSMUSG00000032217	Rnf111	7.148341182	7.384156187	4.330428207	5.885607012
ENSMUSG00000032220	Myo1e	16.75341696	17.16757273	9.606634096	13.47324649
ENSMUSG00000032231	Anxa2	500.7102313	511.3648516	241.464888	338.0736606
ENSMUSG00000032252	Glce	13.37737737	15.90766731	13.72497413	17.97643574
ENSMUSG00000032253	Phip	5.92874397	5.200501664	3.04619691	3.785443487
ENSMUSG00000032350	Gclc	14.28444905	13.36771042	4.897495376	6.280395022
ENSMUSG00000032383	Ppib	75.331998	70.31899901	76.5279203	92.19927734
ENSMUSG00000032423	Syncrip	29.53600939	29.00476864	8.634694635	9.95452123
ENSMUSG00000032449	Slc25a36	6.691753567	6.128872844	10.96330408	11.48645018
ENSMUSG00000032481	Smarcc1	33.37646084	28.24571642	18.04448281	20.3177637
ENSMUSG00000032512	Wdr48	10.26027908	9.207335622	6.367047658	7.765983653
ENSMUSG00000032560	Dnajc13	19.41489012	16.43267847	7.473434709	9.137290518
ENSMUSG00000032599	Ip6k2	7.778104799	8.133183565	8.900083001	14.64237183
ENSMUSG00000032624	Eml4	10.24332004	9.23140183	5.261342778	5.529172117
ENSMUSG00000032640	Chsy1	10.53807815	7.442380919	7.875051845	8.476342339
ENSMUSG00000032652	Crebl2	3.021090864	2.66887908	2.001357377	3.088573232

ENSMUSG00000032733	Snx33	8.806620636	6.488997776	6.511142203	6.881179766
ENSMUSG00000032757	Bet1	7.696578213	8.038570984	12.64207995	14.31948847
ENSMUSG00000033228	Scaf11	34.90756594	32.30750225	16.73264385	17.06388696
ENSMUSG00000033237	Arid2	10.14776379	8.99419747	3.443939593	5.163186055
ENSMUSG00000033487	Fndc3a	16.85554786	14.49374998	8.067776187	17.8491498
ENSMUSG00000033530	Ttc7b	8.033752367	7.902257442	13.39952732	13.32525823
ENSMUSG00000033629	Ptplad1	18.26891084	19.18182486	12.75575693	17.99524957
ENSMUSG00000033902	Mapkbp1	5.912025214	4.982233622	7.692701967	9.55399922
ENSMUSG00000034101	Ctnnd1	6.832778996	6.108859751	7.878657475	6.392446472
ENSMUSG00000034201	Gas2l1	35.58348849	30.94116426	30.73911203	32.56737645
ENSMUSG00000034254	Agpat1	59.41410616	59.6792613	51.57290298	54.74558238
ENSMUSG00000034341	Wbp2	52.26330806	55.10936737	74.22376813	65.08381747
ENSMUSG00000034342	Cbl	5.293649529	4.517496645	2.350674681	3.528273318
ENSMUSG00000034471	Caskin2	8.327781923	7.883932789	4.390135174	5.15433425
ENSMUSG00000034484	Snx2	35.00948266	47.4224485	22.09765979	36.04408486
ENSMUSG00000034574	Daam1	5.007018167	7.000461837	5.485369104	7.116921303
ENSMUSG00000034575	Papd7	13.55931545	11.9367578	7.255491607	5.562148674
ENSMUSG00000034602	Mon2	16.44026996	14.24713659	14.70916909	17.89697226
ENSMUSG00000034820	Cpsf7	20.80538758	21.52568032	12.40304474	12.42715153
ENSMUSG00000035011	Zbtb7a	29.44187627	28.08414475	26.92399893	26.52784253
ENSMUSG00000035311	Gnptab	12.13446593	12.4910308	4.808046522	6.49130098
ENSMUSG00000035329	Fbxo33	5.199254725	5.070612746	1.78015161	3.313269868
ENSMUSG00000035623	Rsf1	2.982222226	2.775481495	3.099489086	3.451506963
ENSMUSG00000035696	Rnf38	5.506948221	6.250803681	4.775371634	5.653107518
ENSMUSG00000035953	Tmem55b	16.63260146	16.60828309	17.72728814	18.6448132
ENSMUSG00000036155	Mgat5	4.748769299	3.73536032	2.421505055	4.724047832
ENSMUSG00000036197	Gxylt1	15.94144384	14.94982945	2.336915409	3.150632031
ENSMUSG00000036323	Srp72	50.59196191	41.49480566	51.53164052	57.50092994
ENSMUSG00000036438	Calm2	281.9037703	279.3432709	179.7122015	211.3176786
ENSMUSG00000036461	Elf1	7.076810551	5.660806323	4.51150278	4.444617506
ENSMUSG00000036591	Arhgap21	14.83735968	12.6247447	10.25768686	10.68120912
ENSMUSG00000037013	Ss18	13.5911708	14.75500625	5.867568519	7.182629166
ENSMUSG00000037119	D15Ertd621e	49.74563494	44.11869244	15.17357811	22.46125134
ENSMUSG00000037172	E330009J07Rik	1.401096437	1.888174588	1.731941404	3.295517489
ENSMUSG00000037235	Mxd4	18.13249134	10.69859576	47.46530179	68.00561444
ENSMUSG00000037236	Matr3	20.22000644	20.74051442	15.31107821	17.44675896
ENSMUSG00000037253	Mex3c	19.53495561	24.91929309	5.54197524	11.22090284
ENSMUSG00000037316	Bag4	3.996491576	3.826595986	3.068030015	3.683462192
ENSMUSG00000037353	Letmd1	16.80750219	19.92243628	14.60230233	23.93161897
ENSMUSG00000037458	Azin1	53.3887323	61.9644594	34.36194853	36.06419076
ENSMUSG00000037475	Thoc2	5.646293997	4.931809925	3.209126303	3.963046655
ENSMUSG00000037487	Ubr5	52.12812671	47.82985527	43.5834236	39.4441829
ENSMUSG00000037503	Fam168b	47.66824684	41.71330335	16.20020777	24.82203017
ENSMUSG00000037722	Gnpnat1	7.940372722	8.370479782	7.632356511	9.838968066
ENSMUSG00000037822	Smim14	11.56324111	8.879836168	14.16830426	14.74650351
ENSMUSG00000037905	Bri3bp	6.540790955	5.69630096	7.317382841	8.045616806
ENSMUSG00000037966	Ninj1	22.91291662	22.95972836	48.22171762	43.24788514

ENSMUSG00000038013	Wipf2	6.837007491	5.904265373	5.389259536	6.703128543
ENSMUSG00000038146	Notch3	10.95898707	6.323381036	20.0404936	45.51220235
ENSMUSG00000038291	Snx25	11.13615459	11.13598864	3.082930449	6.979973591
ENSMUSG00000038366	Lasp1	145.8399009	208.1811141	33.62630864	71.56335528
ENSMUSG00000038400	Pmepa1	44.85085483	60.45744909	11.29530391	14.0284159
ENSMUSG00000038402	Foxf2	20.63949274	15.75606243	14.70338738	9.501020458
ENSMUSG00000038518	Jarid2	1.924922266	1.360500336	2.174793702	2.297151157
ENSMUSG00000038534	Osbpl7	1.555652528	1.28318271	1.320870488	1.778822744
ENSMUSG00000038535	Zfp280d	1.430997534	1.844134277	1.485138806	1.444419737
ENSMUSG00000038679	Trps1	3.611771382	2.169599032	3.739375739	3.285008095
ENSMUSG00000038822	Hace1	2.522417903	2.262028187	1.490244902	1.618978025
ENSMUSG00000038872	Zfhx3	4.563340302	3.888114678	3.397357871	3.241870754
ENSMUSG00000039068	Zzz3	8.34030909	9.198004318	3.963244174	4.006099362
ENSMUSG00000039145	Camk1d	2.359449108	1.184669823	2.135036807	1.511506129
ENSMUSG00000039159	Ube2h	30.79688013	25.59143421	73.60783328	84.60428673
ENSMUSG00000039202	Abhd2	22.47236499	19.11038171	13.79043437	21.75511154
ENSMUSG00000039286	Fndc3b	22.68506469	24.5934002	20.49159626	31.54198553
ENSMUSG00000039361	Picalm	41.74873956	45.0103096	35.05667429	37.88258266
ENSMUSG00000039414	Heatr5b	10.23752696	8.678097853	8.754571267	11.68025024
ENSMUSG00000039428	Tmem135	5.28853793	6.169693515	10.95069589	12.86806342
ENSMUSG00000039473	Ubn1	19.85957469	20.14963314	15.56429078	18.9775981
ENSMUSG00000039485	Tspyl4	1.514509413	1.238321187	1.525725411	1.362364047
ENSMUSG00000039585	Myo9a	3.311662132	3.340844135	1.706345407	2.306029627
ENSMUSG00000039630	Hnrnpu	8.248213219	8.584682766	2.206564639	3.008725422
ENSMUSG00000039789	Zfp597	1.780848876	2.270245359	1.049027875	1.569685544
ENSMUSG00000039841	Zfp800	3.197446507	4.439946508	1.071127164	1.482871596
ENSMUSG00000039852	Rere	20.27552036	17.93886672	24.49871995	25.99236141
ENSMUSG00000039910	Cited2	189.8317582	228.7606711	221.4188219	221.3135282
ENSMUSG00000039968	Rsbn1l	3.337928227	3.023749839	4.189548715	4.245330115
ENSMUSG00000039988	Ankrd13c	32.6912937	31.32025068	20.06229138	24.2953684
ENSMUSG00000040029	Ipo8	17.10399941	13.53631131	11.2695978	9.797950037
ENSMUSG00000040152	Thbs1	388.9384144	441.9875683	496.6655328	476.5278306
ENSMUSG00000040268	Plekha1	9.669069747	10.6362612	16.92699113	17.78331373
ENSMUSG00000040274	Cdk6	9.137292553	9.076753977	6.260916028	7.040195247
ENSMUSG00000040351	Ankib1	16.19398605	14.50021917	7.397524327	11.23680275
ENSMUSG00000040370	Lyrm5	4.296626763	4.353903968	9.26327839	7.933580668
ENSMUSG00000040479	Dgkz	22.83201445	19.73874239	18.17580516	16.47901439
ENSMUSG00000040520	Manea	8.328992166	8.087526037	8.440573286	11.46798102
ENSMUSG00000040565	Btaf1	9.080679793	9.897269149	3.781262444	4.51848438
ENSMUSG00000040661	Rad54l2	6.59523816	6.189343194	4.667206155	5.945418591
ENSMUSG00000040681	Hmgn1	191.7573359	175.2606586	45.61479202	70.80014123
ENSMUSG00000041040	Fam117b	7.448824639	6.547143102	6.421332674	7.751523175
ENSMUSG00000041075	Fzd7	21.40341716	16.06878957	20.82898635	15.51317944
ENSMUSG00000041220	Elovl6	12.2652008	10.68734768	4.331707834	12.54156693
ENSMUSG00000041258	Zfp236	4.78809527	4.891761098	3.222188068	3.650550057
ENSMUSG00000041324	Inhba	35.97733332	50.89064249	26.59089632	22.13692781
ENSMUSG00000041483	Zfp281	8.788790301	8.254735201	3.301015863	5.473760985

ENSMUSG00000041530	Ago1	7.996469188	5.336353075	5.755889766	8.951557184
ENSMUSG00000041695	Kcnj2	20.67784638	11.43773229	9.145428995	8.372558716
ENSMUSG00000041720	Pi4ka	20.71834126	18.95976944	12.85675056	19.88227719
ENSMUSG00000041734	Kirrel	48.79801379	39.799364	16.53759314	18.02871025
ENSMUSG00000041815	Poldip3	60.2802219	52.57977773	47.55316398	43.87711652
ENSMUSG00000041852	Tcf20	13.51024382	12.79058254	8.771722854	9.97536425
ENSMUSG00000041935	AW549877	9.453573206	8.272171104	10.00744248	11.39358827
ENSMUSG00000042138	Msantd2	2.995364668	3.3752115	1.486293608	1.826308901
ENSMUSG00000042271	Nxt2	4.859009135	5.805583269	2.329824443	3.849037503
ENSMUSG00000042292	Mkl1	32.84023586	28.54865355	26.23753486	26.32332776
ENSMUSG00000042460	C1galt1	10.20687616	10.84941687	5.467570264	6.924256265
ENSMUSG00000043061	Tmem18	9.076437112	9.999417612	2.582873194	5.525073251
ENSMUSG00000043190	Rfesd	1.613645584	1.49876715	2.232594295	1.955054854
ENSMUSG00000043415	Otud1	4.482923779	6.396076374	7.105032174	9.038724627
ENSMUSG00000043587	Pxylp1	18.72620531	8.180063384	8.324008406	7.803106001
ENSMUSG00000043929	Klhl15	1.397025848	1.326242034	1.398864491	1.650877488
ENSMUSG00000044098	Rsbn1	2.321527607	2.450288806	2.37673866	2.502057256
ENSMUSG00000044149	Nkrf	5.246199218	5.662429123	1.292606096	1.415769938
ENSMUSG00000044786	Zfp36	7.006123039	8.428520209	8.442253694	10.80057479
ENSMUSG00000045038	Prkce	2.237802356	2.224685551	2.134258075	2.817666252
ENSMUSG00000045817	Zfp36l2	90.87645254	77.22334369	21.69879667	30.25548166
ENSMUSG00000046032	Snx12	33.78217013	34.08425987	20.09591421	18.03836733
ENSMUSG00000046434	Hnrnpa1	529.3995209	515.1486726	184.566014	214.3980561
ENSMUSG00000046562	Unc119b	29.34371391	24.47898452	16.9117807	22.02643168
ENSMUSG00000046722	Cdc42se1	35.40004395	31.45573598	44.98648751	54.9995091
ENSMUSG00000047126	Cltc	102.4126383	85.17130836	75.11262314	77.22154489
ENSMUSG00000047407	Tgif1	7.998429989	9.992477311	12.74257822	15.08455378
ENSMUSG00000047712	Ust	5.189014508	4.797688039	5.135018392	10.30220562
ENSMUSG00000047731	Wbp1l	34.16533428	24.33923848	25.62360388	32.34700603
ENSMUSG00000047747	Rnf150	5.092641528	2.106122544	3.03238272	4.164285338
ENSMUSG00000047767	Atg16l2	3.67336061	3.501233987	6.051717097	5.482991583
ENSMUSG00000048482	Bdnf	22.60831308	23.04767154	6.046986555	9.474477238
ENSMUSG00000048833	Slc39a9	13.70804409	12.54824694	10.32324996	13.71280864
ENSMUSG00000049038	Mterfd3	3.041749287	3.663665523	2.020294328	2.495182303
ENSMUSG00000049076	Acap2	15.00116264	15.15338165	11.83433458	13.70012108
ENSMUSG00000049775	Tmsb4x	286.4099905	455.3273606	266.8193907	936.5265593
ENSMUSG00000049807	Arhgap23	20.1207182	18.48514756	23.51995586	19.70174651
ENSMUSG00000050310	Rictor	4.55998455	4.197605569	3.971734444	3.815984977
ENSMUSG00000050390	C77080	19.73874709	21.89778949	35.23065437	45.26879152
ENSMUSG00000050721	Plekho2	17.80994479	17.45437078	21.90191032	23.54504531
ENSMUSG00000050953	Gja1	122.9772672	144.0432866	76.07347181	98.73981019
ENSMUSG00000051853	Arf3	148.126207	117.801108	108.047577	134.8207519
ENSMUSG00000052040	Klf13	13.38389785	11.61426631	11.68029559	11.68163914
ENSMUSG00000052056	Zfp217	5.825104946	4.035589789	3.293935974	3.414711411
ENSMUSG00000052144	Ppp4r2	34.47904952	34.17883414	21.42568384	22.56487128
ENSMUSG00000052459	Atp6v1a	59.54429438	47.62701469	59.59955607	79.05162127
ENSMUSG00000052681	Rap1b	86.78503553	87.57226715	41.60911542	48.95723198

ENSMUSG00000052748	Swt1	1.647643195	1.994038616	1.461894837	1.613374673
ENSMUSG00000052962	Mrpl35	3.329802309	3.729669045	2.064401654	2.305079346
ENSMUSG00000053931	Cnn3	264.3189466	258.6699996	294.7553778	225.5234812
ENSMUSG00000054008	Ndst1	32.76229293	33.85666576	15.64984455	21.85753713
ENSMUSG00000054115	Skp2	7.003451875	7.814883982	2.163417735	2.189679409
ENSMUSG00000054178	Gm9938	2.611660684	2.82010841	1.976001073	2.441766377
ENSMUSG00000054823	Whsc1l1	11.45430961	10.80937768	7.559410438	9.265111375
ENSMUSG00000054920	Klhl5	12.76091289	7.98936257	23.26359866	33.66256936
ENSMUSG00000055065	Ddx17	61.55859328	64.34253564	37.59769763	45.26578137
ENSMUSG00000055435	Maf	7.106390147	1.82751907	10.50407646	5.097967378
ENSMUSG00000055485	Soga1	16.37777884	11.66127641	9.013068741	9.590383438
ENSMUSG00000055633	Zfp580	3.650862404	4.682842227	4.183741382	4.600500379
ENSMUSG00000056220	Pla2g4a	9.748644722	12.87634604	6.864784821	8.466345715
ENSMUSG00000057457	Phex	1.456400111	1.181961728	5.753751292	4.062762957
ENSMUSG00000058706	0610030E20Rik	5.342481661	5.497086996	5.73276977	5.270384064
ENSMUSG00000058881	Zfp516	11.33976133	10.82757456	15.54040499	18.21604527
ENSMUSG00000059005	Hnrnpa3	163.4592678	170.0804275	51.51012359	62.95968842
ENSMUSG00000059474	Mbtd1	3.682145673	3.717019504	3.659993588	3.79299108
ENSMUSG00000059713	Rcan3	7.016380587	6.721975882	4.859713576	6.128612825
ENSMUSG00000059890	Ube4a	10.80802263	10.05700122	4.30582263	6.984831386
ENSMUSG00000060938	Rpl26	86.34282037	102.6806683	82.38553905	79.86359415
ENSMUSG00000061175	Fnip2	10.47858461	7.271757832	10.42528439	8.856879761
ENSMUSG00000061288	Taok3	11.78853035	8.920278151	11.51869471	10.78904042
ENSMUSG00000061559	Wdr61	7.791368384	9.152883241	6.051888578	7.013566706
ENSMUSG00000061665	Cd2ap	12.69940472	13.35314555	6.042448381	8.418140908
ENSMUSG00000061751	Kalrn	4.170807423	5.634339277	3.106387562	5.446433041
ENSMUSG00000062127	Cttnbp2nl	10.29951091	9.836141073	7.810724323	9.520256163
ENSMUSG00000062232	Rapgef2	8.631208557	8.373424537	5.938559799	7.034090988
ENSMUSG00000062352	Itgb1bp1	20.99573036	23.98115462	15.03821044	15.3781566
ENSMUSG00000063902	Gm7964	18.09750629	17.38726117	9.027075505	8.926827263
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ENSMUSG00000066150	Slc31a1	15.72413081	15.8297684	18.72046658	25.04151811
ENSMUSG00000066406	Akap13	7.512190788	5.450919788	8.825773332	9.792581842
ENSMUSG00000066735	Vkorc1l1	11.19379254	9.498776167	6.225759803	6.088358895
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ENSMUSG00000067787	Blcap	27.52810362	34.698475	16.1622316	22.57493162
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ENSMUSG00000070327	Rnf213	5.282284812	4.613322078	2.471263849	3.294053156
ENSMUSG00000070348	Ccnd1	133.6801551	129.0533482	33.82631047	39.45735411
ENSMUSG00000071064	Zfp827	4.621272589	3.40391146	2.293413289	2.682580313
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ENSMUSG00000071172	Srsf3	74.6114497	72.70514073	7.282413409	9.968814549
ENSMUSG00000071451	Psmg4	31.37222454	30.10344834	28.06195592	26.7480604
ENSMUSG00000071647	Eml3	12.04976271	13.00298929	7.89597955	15.64416065
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ENSMUSG00000073676	Hspe1	239.7181443	315.3603235	154.124154	151.9404026
ENSMUSG00000074305	Peak1	22.64119555	15.60785467	13.22180214	13.83162617
ENSMUSG00000074513	Arfip1	31.94474422	31.29875695	48.09848708	40.31813949
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ENSMUSG00000079659	Tmem243	9.006013985	5.848016686	8.208882347	8.717415187
ENSMUSG00000089715	Cbx6	76.38489582	56.06767193	35.11632223	50.95450065
ENSMUSG00000089911	Hiat1	16.3498847	17.08088159	10.31087425	11.54787387
ENSMUSG00000091898	Tnnc1	3.174930985	3.84752927	36.55992589	46.83462799
ENSMUSG00000094483	Purb	21.22891391	23.21441665	11.40619108	16.40542883
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LFC_KOvsWT_GM	pvalue_KOvsWT_GM	padj_KOvsWT_GM	LFC_KOvsWT_DM	pvalue_KOvsWT_DM
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0.29519	0.026394	0.15764	0.24826	0.26252
-0.029494	0.74755	0.89726	0.29546	0.047568
0.0019565	0.98574	0.99466	0.44882	0.012861
0.12372	0.20753	0.4874	0.15424	0.32967
-0.08754	0.59139	0.8077	-0.0057901	0.97476
0.022638	0.86577	0.94931	-0.29344	0.073587
0.071198	0.49737	0.74571	0.24632	0.14332
-0.1703	0.3488	0.63002	-0.01872	0.92725
-0.15506	0.25431	0.53996	0.18677	0.28018
-0.23805	0.016246	0.11697	-0.21029	0.29823
0.6745	1.07E-06	9.31E-05	1.0865	2.90E-06
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0.012979	0.92275	0.97213	0.30107	0.13079
-0.32719	0.0077506	0.07728	-0.24854	0.24256
-0.046212	0.68648	0.86214	0.97106	1.40E-10
-0.059716	0.64762	0.84087	1.6028	5.95E-31
-0.074393	0.6205	0.82443	0.28213	0.17138
0.28494	0.16232	0.42772	1.2949	2.58E-16
0.17927	0.34081	0.62413	0.76561	0.00109
-0.10225	0.48763	0.73967	0.44184	0.0038522
0.021041	0.85263	0.94303	0.24542	0.20813
0.10753	0.26062	0.5461	0.19795	0.24065
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0.3371	0.078191	0.28757	0.76395	0.0019784
0.030551	0.77047	0.90798	0.29291	0.10155
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0.13562	0.33743	0.62102	0.80447	1.30E-11
0.39116	0.0047968	0.05691	-0.12447	0.51754
0.58772	0.0024252	0.036417	0.23188	0.42232
0.23059	0.10704	0.34183	0.53674	0.00708
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0.10961	0.43971	0.705	0.36528	0.079678
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0.27381	0.077497	0.28621	-0.016833	0.90392
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0.40723	0.074423	0.28116	0.52582	0.014871
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-0.018752	0.88628	0.95786	0.28397	0.15364
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0.10072	0.3245	0.60906	0.30514	0.052576
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0.6332	0.014008	0.10827	0.38725	0.091629
-0.001282	0.99346	0.9978	0.087863	0.58614
0.06687	0.56784	0.79263	0.58497	0.016783
-0.22634	0.17068	0.43758	1.343	2.47E-09
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0.23473	0.10839	0.34436	0.2004	0.22285
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0.069051	0.50428	0.75068	0.018108	0.88793
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0.13355	0.49103	0.7415	0.44626	0.0037584
-0.25347	0.23223	0.51788	-0.81854	0.00039852
-0.12896	0.27939	0.56567	0.58962	0.011748
0.40171	0.0094209	0.085802	0.06985	0.69816
0.060834	0.65665	0.8455	0.26444	0.16178
-0.027751	0.82967	0.93278	0.206	0.3984
0.13062	0.40372	0.67672	0.20794	0.28635

0.23603	0.0095015	0.086119	-0.0042821	0.97683
0.12819	0.33641	0.62003	0.59901	0.00032259
0.26852	0.014414	0.10988	0.39467	0.018413
0.24735	0.061998	0.25473	0.23257	0.2438
0.3791	0.0093843	0.085601	0.12952	0.37562
0.344	0.047504	0.21742	0.93725	5.78E-06
-0.13953	0.39661	0.67089	-0.047905	0.74556
-0.082658	0.6386	0.83496	-0.070973	0.73262
-0.17313	0.25416	0.53996	-0.52015	0.035664
0.30941	0.11697	0.35968	0.48298	0.021356
-0.20344	0.17629	0.44497	0.4765	0.00048152
0.3641	0.017094	0.12012	0.69768	0.00010705
-0.20578	0.24829	0.53467	0.038149	0.76057
0.26597	0.075359	0.2825	0.22057	0.36012
0.27393	0.084188	0.29843	0.38668	0.088859
-0.10678	0.49283	0.7428	0.3213	0.026406
-0.2685	0.13197	0.38452	0.31868	0.15311
-0.31741	0.12085	0.3666	-0.09264	0.62819
-0.58236	4.03E-07	4.12E-05	-0.13508	0.42872
-0.21502	0.16836	0.43446	0.4603	0.049832
0.20078	0.079422	0.28975	0.46616	0.004777
-0.13446	0.3463	0.6281	0.73833	4.37E-05
0.40572	0.0035369	0.046592	0.3135	0.060524
0.15671	0.14625	0.40737	0.40776	0.051256
-0.29958	0.030708	0.17265	-0.24544	0.17639
-0.14742	0.35624	0.63511	-0.17967	0.3077
-0.07015	0.64482	0.83927	-0.028495	0.91027
0.0061934	0.96557	0.9879	0.69617	0.00022411
-0.4934	0.014037	0.10839	-0.23249	0.2445
0.0054658	0.9687	0.98909	-0.090908	0.67877
-0.18905	0.090236	0.30958	0.15679	0.40776
-0.36227	0.0043883	0.054092	-0.1917	0.27954
-0.39798	0.0097757	0.087462	0.1507	0.31495
0.018719	0.88928	0.95883	0.80769	2.12E-06
0.12807	0.39713	0.67128	0.33137	0.14443
-0.013829	0.8941	0.96127	-5.36E-05	0.99972
0.32458	8.94E-05	0.0035611	0.02621	0.85855
-0.14953	0.29832	0.5843	0.43934	0.032253
0.08821	0.34216	0.62512	0.38031	0.023404
0.51158	0.0020753	0.032712	0.46831	0.006775
-0.12083	0.20809	0.48773	0.32241	0.032157
-0.096178	0.4536	0.71673	0.021757	0.8954
-0.38468	0.0099626	0.088485	0.15784	0.34733
-0.25908	0.048173	0.2195	-0.077481	0.74025
0.021895	0.81166	0.92613	0.076863	0.6971
0.078252	0.55133	0.78106	-0.060961	0.76356
-0.21534	0.055923	0.23999	0.19805	0.33317

-0.17677	0.25452	0.53996	-0.32525	0.091762
-0.024462	0.83439	0.93432	0.13513	0.44323
0.26165	0.18678	0.45953	-0.011922	0.95285
0.19502	0.12045	0.366	0.022692	0.87865
0.26856	0.11862	0.36207	0.54633	0.0066702
0.16454	0.28897	0.5755	0.071311	0.72825
0.05703	0.48731	0.7396	-0.022333	0.88385
-0.14175	0.12294	0.37043	-0.051486	0.72779
0.017032	0.88499	0.95683	0.094137	0.54182
0.10371	0.40352	0.67672	0.56907	0.004271
0.09941	0.41553	0.68429	0.40127	0.016234
-0.12428	0.46201	0.72334	-0.075691	0.68052
0.1445	0.40787	0.6794	0.34235	0.16209
-0.11125	0.27063	0.55647	-0.045152	0.76122
0.10488	0.51292	0.75721	0.19585	0.27156
-0.077729	0.55519	0.78362	-0.024146	0.89772
-0.25502	0.13306	0.38673	1.0116	3.12E-08
-0.19341	0.11654	0.35891	0.13512	0.59128
0.019099	0.85917	0.94619	0.087216	0.59703
-0.038046	0.73703	0.89167	0.65057	0.0027399
-0.0098756	0.92474	0.97267	0.013165	0.94628
-0.20084	0.039942	0.19833	0.37563	0.07978
0.14396	0.19736	0.47404	0.17848	0.35941
-0.090735	0.44072	0.70562	-0.15934	0.367
0.30826	0.061811	0.25441	1.337	1.18E-16
-0.1296	0.30736	0.59303	0.41801	0.06661
-0.14942	0.29184	0.57794	0.22196	0.31563
-0.14647	0.41828	0.68616	0.55268	0.0019201
0.29187	0.050176	0.22465	0.42245	0.015194
-0.082065	0.36182	0.64007	0.015664	0.92358
0.2419	0.043658	0.20713	0.32546	0.03511
0.060894	0.53131	0.76906	0.34928	0.10084
0.05031	0.70441	0.87263	0.44131	0.0043824
0.047818	0.64886	0.84145	0.43382	0.013583
0.2559	0.030824	0.17293	0.30926	0.14366
-0.15628	0.28426	0.57057	0.24413	0.23008
-0.072726	0.62776	0.8285	0.30269	0.070313
-0.076902	0.46306	0.72398	0.23071	0.26787
-0.0081223	0.93426	0.97627	0.15814	0.34057
-0.09994	0.48042	0.73535	0.035411	0.85555
-0.21626	0.011411	0.095717	0.12907	0.3695
-0.13319	0.22034	0.50296	0.22202	0.24305
-0.20708	0.15895	0.42299	0.20705	0.34254
0.075386	0.58143	0.80095	0.63669	0.00012721
-0.12812	0.21898	0.50143	0.031986	0.84986
-0.45658	0.00014682	0.0052109	0.074232	0.6283
-0.13611	0.43173	0.69897	0.50878	0.021765

-0.39155	0.003415	0.045825	0.035277	0.83303
0.074646	0.53148	0.76923	0.14772	0.32902
-0.091173	0.3288	0.61317	-0.014493	0.93678
-0.14723	0.29278	0.57883	0.40886	0.12253
-0.18069	0.26773	0.55351	0.9273	5.44E-05
-0.0041966	0.97603	0.99095	-0.037672	0.82599
0.084666	0.46764	0.72599	0.42849	0.012671
-0.21239	0.09631	0.32294	0.25693	0.14603
-0.13764	0.20368	0.48281	-0.28713	0.20433
-0.17612	0.1224	0.36936	0.048812	0.7327
0.024275	0.79651	0.9192	0.052561	0.68382
0.088255	0.40764	0.6794	-0.18971	0.26449
-0.20023	0.067839	0.26707	0.46045	0.039008
-0.056162	0.62323	0.82501	0.19072	0.19107
0.41671	0.00342	0.04585	0.62811	0.00011561
0.44182	0.0093657	0.085601	0.32024	0.060038
-0.16224	0.054296	0.23533	-0.37037	0.055936
-0.18159	0.078169	0.28757	0.23885	0.13309
0.063147	0.64606	0.83968	-0.023025	0.88512
-0.047931	0.54769	0.77951	-0.049274	0.75303
0.058362	0.52157	0.76189	0.34586	0.079186
-0.018092	0.86804	0.95061	0.75756	0.00028799
-0.082302	0.45719	0.71951	0.094009	0.65445
0.18659	0.17529	0.44341	0.18699	0.27347
0.015131	0.88306	0.9562	0.03373	0.81402
-0.27489	0.14113	0.40118	0.80384	0.00017999
-0.067063	0.62282	0.82498	0.31564	0.18184
-0.24834	0.070303	0.27244	0.11798	0.49595
0.00065513	0.99606	0.99863	0.20114	0.21788
-0.21359	0.3578	0.63599	-0.051848	0.82289
-0.20313	0.12248	0.36937	0.0035832	0.98807
0.12755	0.28279	0.56899	0.23255	0.17633
-0.14931	0.18985	0.46402	0.46432	0.017367
0.39224	0.023157	0.14527	0.81177	4.53E-06
-0.64021	0.00037889	0.010187	0.46398	0.0035067
0.053366	0.56362	0.78952	0.15542	0.2621
0.34718	0.0031359	0.043292	0.76924	0.0026311
-0.038928	0.77937	0.91181	0.19917	0.34175
0.24219	0.082981	0.29627	0.62282	0.0020302
0.21937	0.066326	0.26392	0.03419	0.78315
-0.16432	0.24453	0.53031	0.22059	0.33672
-0.097438	0.41508	0.68403	-0.16633	0.36667
-0.1689	0.04859	0.22042	0.53596	0.00097531
0.088244	0.47137	0.72863	0.28323	0.2144
-0.32191	0.053382	0.23333	0.041124	0.82392
-0.16849	0.22499	0.50848	0.10796	0.5054
0.018558	0.88275	0.95613	-0.15343	0.41229

-0.18849	0.0345	0.18422	0.26692	0.084714
-0.5708	0.014126	0.10854	1.1033	8.51E-16
0.015915	0.8818	0.95611	1.0411	2.23E-08
0.48373	0.00135	0.024489	0.99043	5.09E-09
0.39958	0.018788	0.12743	0.23774	0.28819
-0.3292	0.057578	0.24404	-0.60004	0.0015962
-0.4185	0.021182	0.13787	0.04008	0.80062
-0.22811	0.17906	0.44905	0.35481	0.098349
0.3403	0.037399	0.1915	-0.07467	0.6777
-0.5656	0.0082824	0.08027	-0.18738	0.45628
-0.13006	0.3046	0.58989	0.062562	0.75185
-0.1984	0.11246	0.35148	-0.08825	0.62698
0.15053	0.23383	0.51963	-0.028109	0.89057
-0.85262	1.09E-06	9.39E-05	-0.47714	0.013508
-0.2315	0.098161	0.32664	0.16028	0.29948
-0.20749	0.037158	0.19091	0.5776	0.00038778
0.12677	0.33826	0.62164	0.52023	0.0068996
0.11912	0.37606	0.6535	0.073037	0.62853
-0.21363	0.026844	0.15907	0.33759	0.068816
0.22303	0.082543	0.29571	0.19657	0.11905
0.038593	0.70101	0.87064	0.23834	0.12829
-0.16454	0.52444	0.76338	-0.18321	0.45034
0.026464	0.87511	0.95287	0.3002	0.23679
0.06955	0.55049	0.7808	0.31888	0.22962
0.31065	0.11147	0.35	0.44492	0.060108
0.45543	0.00060772	0.014123	0.38364	0.054392
-0.15177	0.23414	0.51988	0.056956	0.67038
0.26748	0.036997	0.19061	-0.021583	0.91524
-0.1184	0.37415	0.65196	-0.017553	0.92462
-0.043171	0.68422	0.86043	0.21951	0.20155
-0.30959	0.0013674	0.024681	-0.22414	0.171
0.19124	0.131	0.38324	-0.079588	0.75082
0.14686	0.20663	0.48664	0.03683	0.86104
0.010081	0.9437	0.97944	0.12649	0.42642
-0.13574	0.21546	0.49752	0.51158	0.0065421
0.032719	0.83442	0.93432	-0.23503	0.13033
-0.18423	0.097433	0.32512	-0.14623	0.3944
-0.020993	0.88743	0.95805	0.34865	0.08468
0.13104	0.35722	0.63576	0.17406	0.44021
-0.071152	0.51411	0.75805	0.27436	0.1766
-0.10786	0.28811	0.57442	0.58399	1.24E-05
-0.15811	0.22922	0.51441	0.23379	0.12542
-0.3314	0.081163	0.29285	-0.40903	0.036138
-0.14492	0.51401	0.75798	1.015	0.00050254
0.047721	0.62087	0.82464	0.11961	0.56645
0.41868	0.048219	0.21954	-0.2643	0.21853
-0.066613	0.63123	0.83137	0.51854	0.055603

-0.52783	6.71E-05	0.002855	0.56161	0.0008658
-0.3084	0.22108	0.50388	-0.098908	0.75581
-0.10376	0.50344	0.75023	0.57166	7.24E-06
-0.26341	0.016612	0.1182	0.086285	0.53547
-0.17439	0.035119	0.18566	-0.13212	0.30708
-0.058986	0.50425	0.75068	0.12822	0.47932
-0.15685	0.3026	0.58827	0.12178	0.57454
0.16986	0.25027	0.53592	0.24313	0.25878
0.22837	0.22246	0.50581	0.52526	0.042978
-0.17157	0.16132	0.42666	-0.014546	0.93355
0.095086	0.50037	0.74744	0.24533	0.27479
0.14149	0.42972	0.69746	0.95952	1.63E-07
-0.07262	0.73201	0.88961	-0.19755	0.39448
0.46028	0.0099491	0.088485	0.28324	0.24834
-0.65677	0.011381	0.095669	-0.10521	0.70012
-0.04914	0.75871	0.90132	0.1658	0.49313
0.085771	0.54575	0.77837	0.026513	0.89691
0.11913	0.32155	0.6067	0.06374	0.80219
0.24679	0.16816	0.43446	0.29961	0.22786
0.012222	0.94304	0.97918	0.3496	0.018071
-0.21281	0.0055839	0.062528	0.40016	0.079569
0.029941	0.74436	0.89604	-0.16786	0.29912
-0.021488	0.87456	0.95267	0.18141	0.32437
-0.2262	0.10435	0.3367	0.32878	0.057682
-0.14692	0.18765	0.46072	0.25749	0.16554
-0.23355	0.074173	0.28071	-0.0056182	0.97754
0.31268	0.022388	0.142	0.21033	0.34637
-0.086698	0.52875	0.76716	0.91819	1.16E-09
-0.45688	1.03E-06	9.02E-05	0.2817	0.098705
-1.0412	1.21E-07	1.37E-05	0.34639	0.13334
-0.04682	0.7892	0.91536	-0.12889	0.58367
0.045331	0.78567	0.91435	0.57432	0.00044489
-0.10149	0.38307	0.65949	0.33727	0.058731
0.24698	0.15244	0.41483	0.24324	0.21993
0.028692	0.81126	0.92611	0.15222	0.42729
0.57894	0.00302	0.042342	1.5573	1.16E-12
-0.088714	0.57966	0.79984	-0.24696	0.20612
-0.093511	0.51685	0.75897	-0.085489	0.6926
0.15159	0.30785	0.59375	0.31594	0.11981
-0.0082032	0.94833	0.98154	0.087684	0.7057
0.23845	0.013309	0.10525	0.29371	0.18995
-0.29342	0.014844	0.11133	0.2836	0.030471
-0.15298	0.40897	0.68001	-0.034827	0.83265
-0.47479	0.00034049	0.009383	0.0092512	0.96577
0.0052271	0.96614	0.98793	0.029009	0.87228
-0.28282	0.04757	0.21765	0.35132	0.022129
0.031464	0.75254	0.89909	0.196	0.11358

0.26769	0.066553	0.26436	0.093994	0.62943
0.16602	0.21815	0.50077	0.12032	0.5377
-0.011925	0.90631	0.9655	-0.38967	0.030682
0.063166	0.60435	0.81561	0.4277	0.0039024
0.16798	0.15173	0.41423	-0.018176	0.91979
0.09744	0.65726	0.84561	0.1888	0.50109
-0.064606	0.46457	0.72428	0.2385	0.12833
-0.56757	0.0014512	0.025773	0.45305	0.026432
0.079997	0.47317	0.72926	0.18433	0.44733
-1.4932	1.26E-11	2.88E-09	-0.87612	0.00057226
-0.43355	0.0030513	0.042615	0.053055	0.76224
0.32337	0.071228	0.27454	0.11878	0.6465
0.38783	0.0064427	0.067649	0.24251	0.17
-0.213	0.35444	0.63385	-0.422	0.10482
0.054572	0.63751	0.83442	-0.13868	0.37247
-0.046705	0.66645	0.85073	0.18659	0.2016
0.065444	0.64864	0.84136	0.24002	0.11452
0.031083	0.85089	0.94241	0.015663	0.92335
-0.038382	0.77362	0.90954	0.29511	0.040079
-0.081088	0.44529	0.70968	0.51708	0.039129
0.18622	0.44187	0.70649	-0.0068139	0.98292
-0.47775	9.90E-05	0.003849	-0.19851	0.45548
-0.34986	0.01823	0.12549	-0.11653	0.48328
0.23461	0.068026	0.26766	0.18014	0.24854
0.086058	0.50497	0.75072	0.36381	0.10405
0.34127	0.13684	0.39364	0.64851	0.004347
-0.044368	0.72819	0.88748	0.24436	0.074004
-0.021979	0.87471	0.95267	0.1785	0.37604
0.20029	0.056069	0.24033	0.020487	0.91872
-0.039291	0.78178	0.91288	-0.042894	0.77021
0.16777	0.11814	0.36144	0.22203	0.19523
0.22403	0.18418	0.45617	0.21954	0.2338
-0.28339	0.064579	0.26007	-0.13539	0.46687
0.025608	0.78219	0.91288	0.37178	0.026433
-0.41552	0.0011086	0.021264	0.10579	0.48479
-0.19933	0.1641	0.42946	-0.064703	0.76662
-0.067704	0.60028	0.81331	0.29807	0.24836
-0.26549	0.060574	0.2514	-0.11762	0.55397
0.0006153	0.994	0.99783	-0.14733	0.22251
0.077764	0.70831	0.87489	0.25034	0.31921
0.31716	0.055136	0.23761	0.43412	0.00093664
-0.10078	0.39046	0.66615	0.36617	0.12265
0.16578	0.14742	0.409	0.081034	0.72483
0.16799	0.14065	0.40042	-0.031949	0.82644
0.16935	0.24568	0.53193	0.98809	5.00E-08
-0.44153	0.091116	0.31185	-0.30736	0.1656
-0.14937	0.084611	0.2992	0.17523	0.28171

-0.13821	0.49224	0.74246	0.29699	0.20905
-0.022924	0.9015	0.96367	0.1723	0.47334
-0.39073	0.0052359	0.059872	0.16679	0.4094
-0.013554	0.93418	0.97627	0.2698	0.14422
-0.019925	0.80043	0.92121	0.37899	0.030189
-0.038905	0.76761	0.90615	-0.061274	0.79531
0.12384	0.27017	0.55595	0.89931	1.30E-07
-0.059298	0.69671	0.86809	0.30642	0.10507
0.38721	0.0039625	0.050532	-0.039583	0.81898
-0.44947	0.0095344	0.086168	0.023244	0.89577
-0.0094466	0.92809	0.97393	-0.25278	0.10833
-0.32741	0.037244	0.19114	-0.25421	0.35586
-0.056349	0.63673	0.83403	0.61423	3.20E-05
-0.0042418	0.96667	0.98807	0.27789	0.025545
0.31026	0.086544	0.30291	0.21136	0.32358
-0.54642	0.00024635	0.00754	0.042051	0.8311
-0.39623	0.0048873	0.057416	0.47733	0.0010649
0.077684	0.44566	0.71002	0.11536	0.47292
0.21485	0.34942	0.63072	0.17863	0.57189
0.13727	0.25714	0.54194	0.43027	0.025389
0.22633	0.10658	0.34108	0.67768	0.00092299

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miRNA linked with miR-133	miR-133 locus	WTvsTKO_DM_Log2FC	padj
miR-1a-1	miR-133a-2-3p	-2.339982412	0.112667348
	miR-133a-2-5p	1.141813076	0.998694198
miR-1a-2	miR-133a-3p	1.865452036	0.998694198
miR-206	miR-133b-3p	-1.736178383	0.998694198
	miR-133b-5p	-1.423375103	0.998694198