

PIMT controls insulin synthesis and secretion through PDX1

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Supplementary data

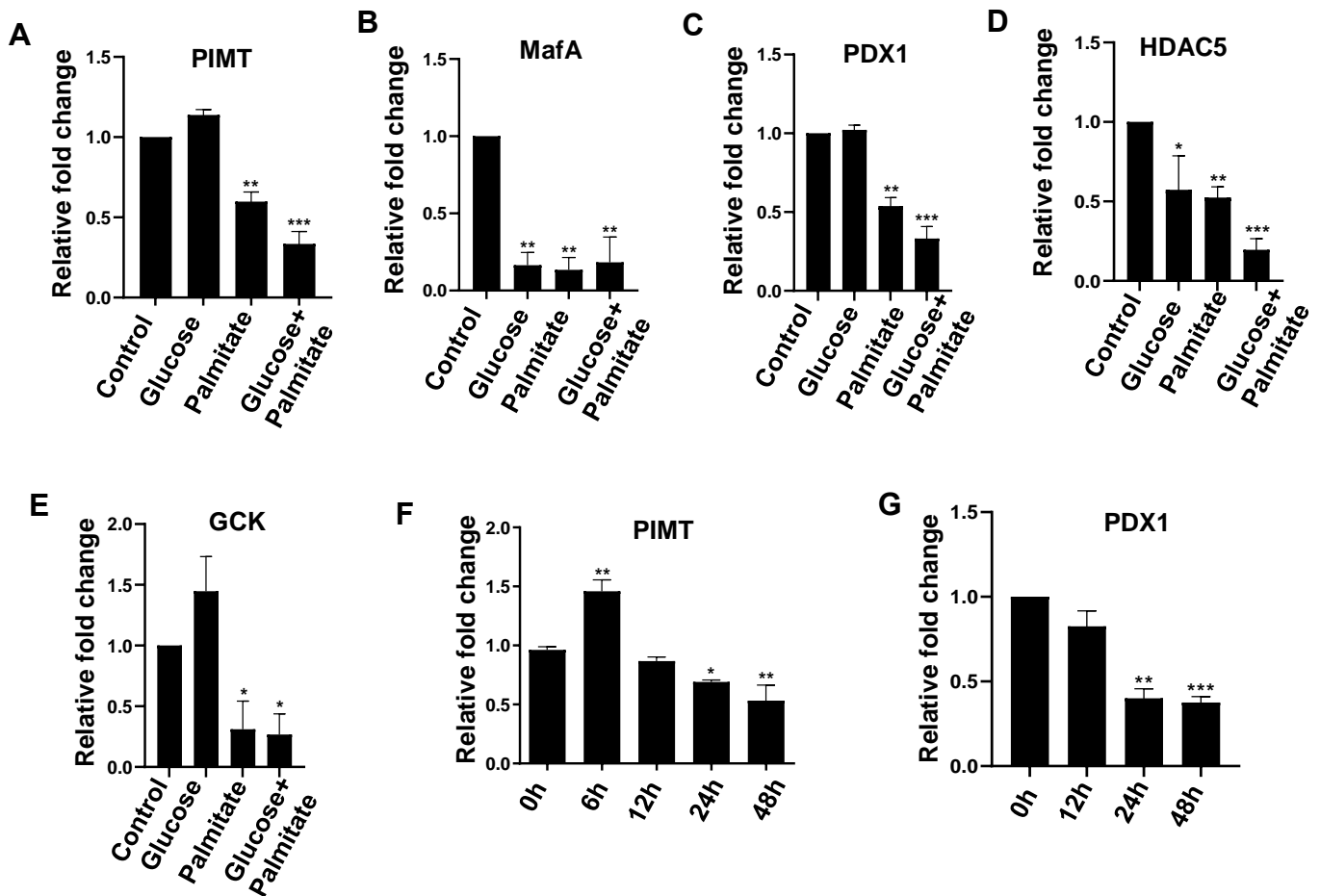
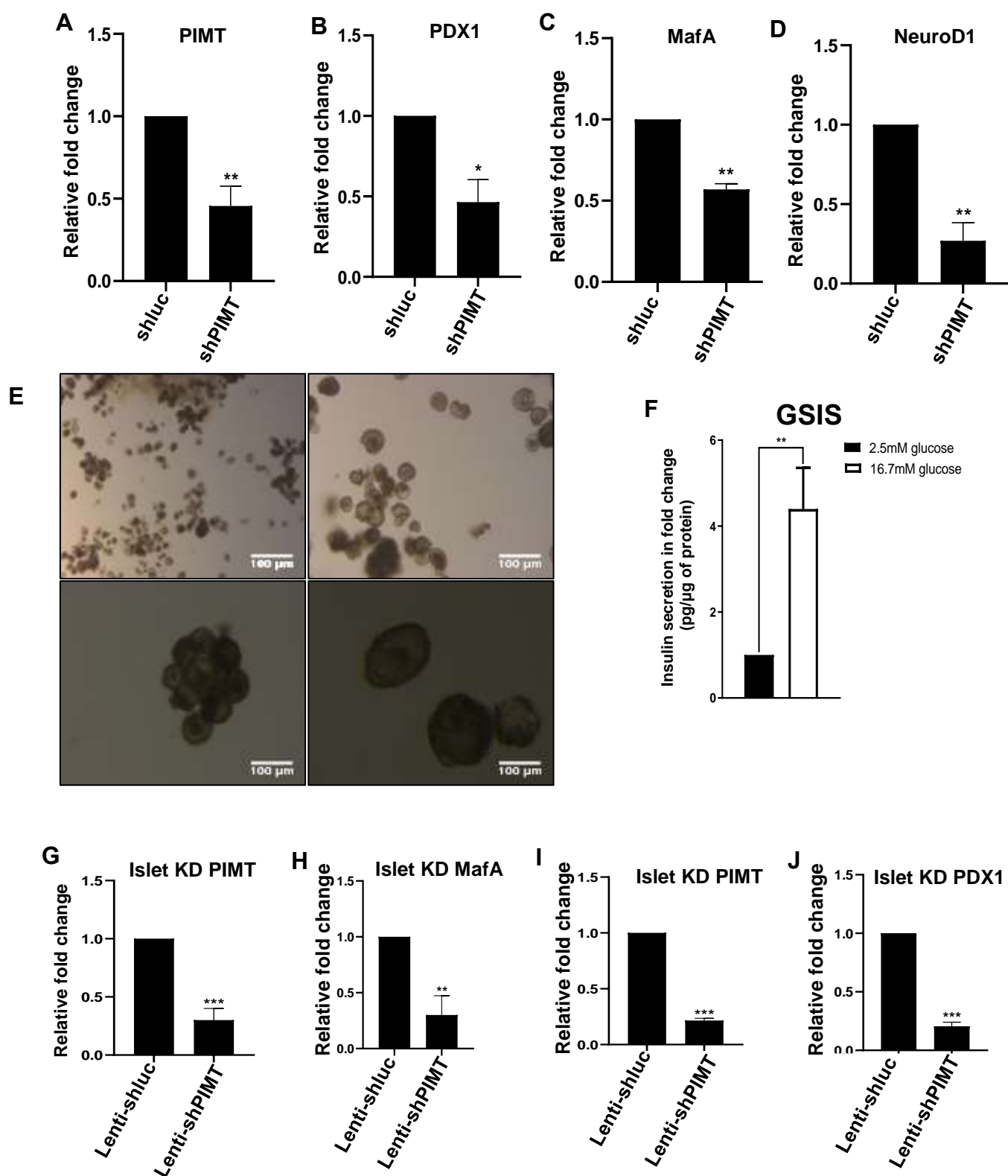


Figure S1. PIMT levels were decreased in BRIN-BD11 cells exposed to glucolipotoxicity and HFD-fed mice islets. A-E) Densitometric quantification of western blot shown in the Figure 1A. F) Densitometric quantification of PIMT western blot shown in the Figure 1G. G) Densitometric quantification of PDX1 western blot shown in the Figure 1H. Data are a representative of three independent experiments. Numerical data are shown as mean \pm SD.

Statistical analysis was performed using Tukey's multiple comparison test. A $p < 0.05$; **, $p < 0.01$; ***, $p < 0.001$ value was considered statistically significant.



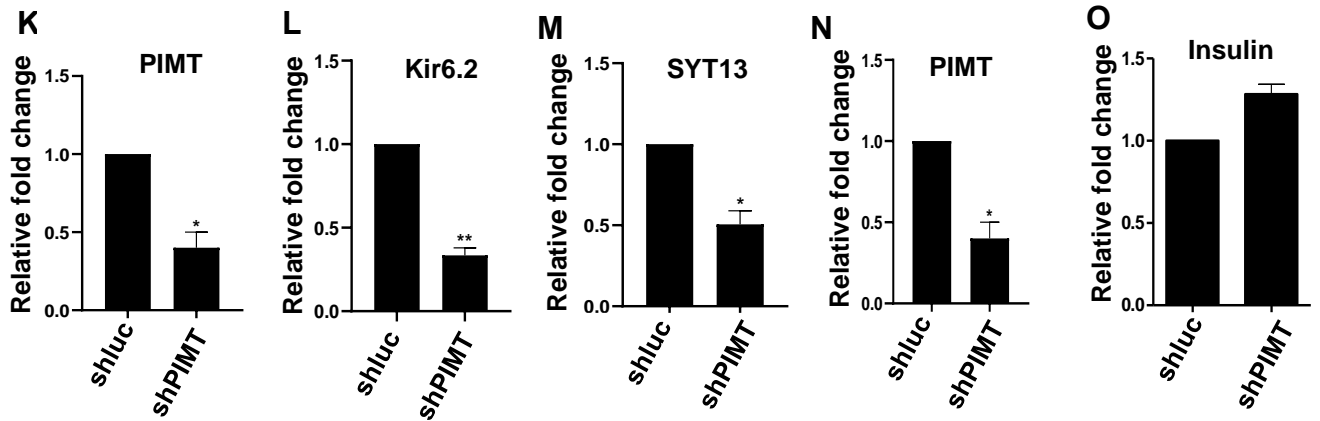
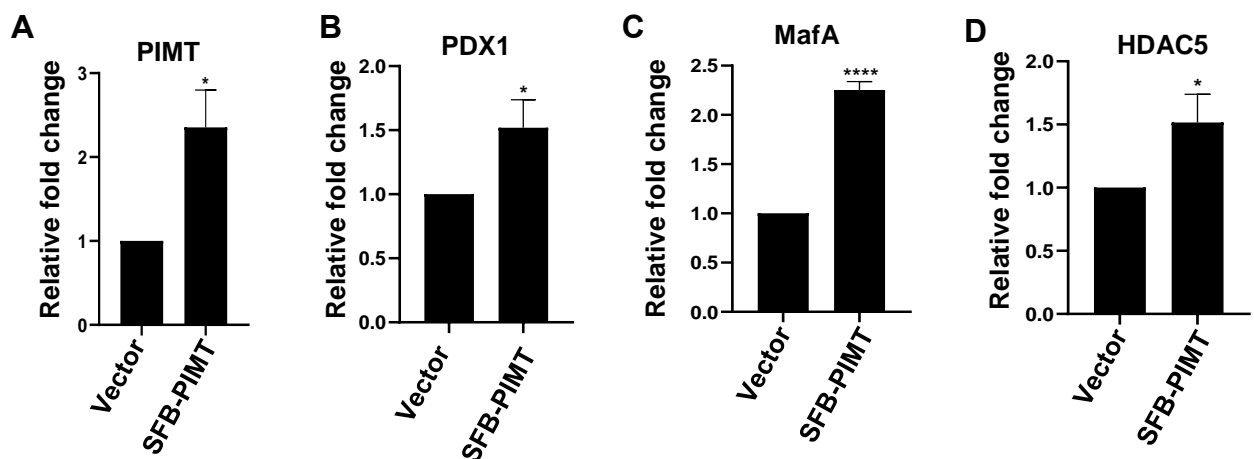


Figure S2. PIMT regulates Ins1 and Ins2 expression. A-D) Densitometric quantification of western blots shown in Figure 3G (A-C) and 3H (D). E, F) Microscopic images of isolated rat pancreatic islets using collagenase D (scale bar represents 100 μ M) and the associated glucose-stimulated insulin secretion analysis (F). G-M) Densitometric analysis of western blots shown in Figure 3I (G, H), 3J (I, J) and 3X (K-M). N-O) Densitometric analysis of western blots shown in Figure 3Z. Data are a representative of three independent experiments. Numerical data are shown as mean \pm SD. Statistical analysis was performed using Student's t-test. A $p < 0.05$; **, $p < 0.01$; ***, $p < 0.001$ value was considered statistically significant.



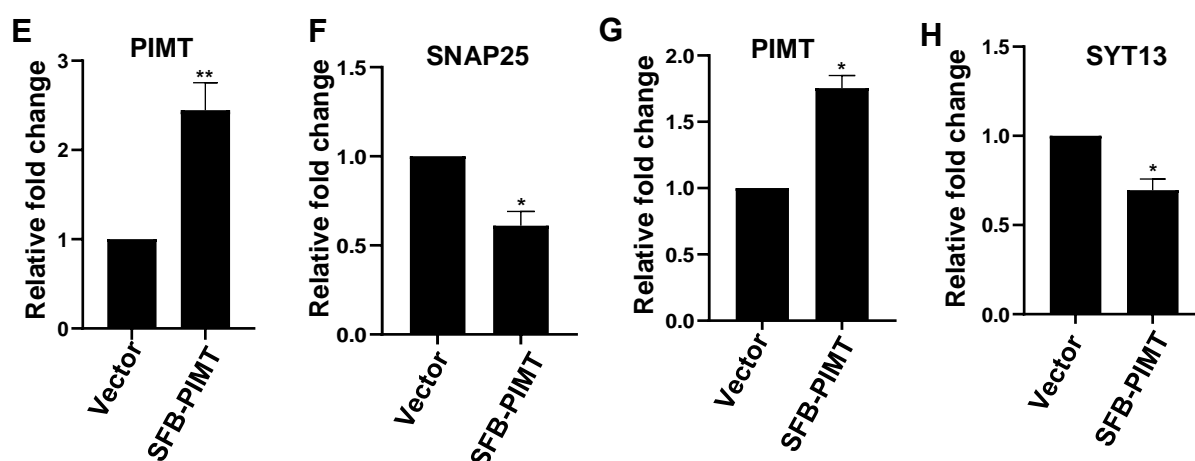


Figure S3. PIMT overexpression decreased the expression of key insulin secretory pathway genes. A-H) Densitometry quantification of western blots shown in Figure 6C (A-D), 6O (E,F) and 6P (G,H). Data are a representative of three independent experiments. Numerical data are shown as mean \pm SD. Statistical analysis was performed using Student's t-test. A $p < 0.05$; **, $p < 0.01$; ****, $p < 0.0001$ value was considered statistically significant.

Supplementary Table S1 (set 1 differentially expressed genes)

Ensemble ID	Gene name	p-value	log2FoldChange
ENSRNOG00000032699	Ttyh1	5.72682E-13	-1.665815526
ENSRNOG00000013330	Cdhr1	3.69444E-10	-0.980302709
ENSRNOG00000013564	Dok3	7.72787E-09	1.559647195
ENSRNOG00000005382	AABR07058423.1	1.96327E-08	3.678105511
ENSRNOG00000019685	Gdpd3	2.53408E-08	1.987673154
ENSRNOG00000012181	Lpl	4.70891E-08	-2.420951877
ENSRNOG00000027574	AABR07053879.1	1.34113E-07	1.319236566
ENSRNOG00000015421	Slc27a3	3.74955E-07	1.273897381
ENSRNOG00000026953	Gpr88	5.40818E-07	-1.05560244
ENSRNOG00000019422	Egr1	5.96187E-07	1.19209089
ENSRNOG00000004405	Pigr	1.45946E-06	-2.842641477
ENSRNOG00000011821	S100a4	3.15065E-06	1.836005578
ENSRNOG00000024470	Lman1	4.68397E-06	-0.784516959
ENSRNOG00000029260	Pitpm2	5.17287E-06	-0.885400796
ENSRNOG00000032609	#N/A	6.24128E-06	1.929050009
ENSRNOG00000005498	Gcg	6.88895E-06	-2.597144206

ENSRNOG00000011517	Tnfrsf21	7.07569E-06	-1.497306792
ENSRNOG00000015825	Aurkc	9.47103E-06	0.980901161
ENSRNOG00000018029	Doc2g	9.64766E-06	0.955862002
ENSRNOG00000015860	Gipr	1.04376E-05	1.076596745
ENSRNOG00000002579	Parm1	1.39E-05	-0.856834044
ENSRNOG00000017206	Igfbp5	1.45529E-05	-1.150465478
ENSRNOG00000000500	Scube3	2.70983E-05	1.395204264
ENSRNOG00000060525	AABR07007717.3	2.80904E-05	-1.411416715
ENSRNOG00000008431	Gabbr2	2.99261E-05	-1.265404168
ENSRNOG00000032539	Spag8	3.26078E-05	1.279282439
ENSRNOG00000021602	Zmynd10	3.32921E-05	1.303475006
ENSRNOG00000043098	Mt2A	3.98829E-05	-2.479542342
ENSRNOG00000060063	Naa10	4.29984E-05	1.131488948
ENSRNOG00000050647	Hspa1b	6.34434E-05	-3.842803002
ENSRNOG00000034174	Bpifb4	6.76595E-05	1.113476607
ENSRNOG00000020957	Igflr1	6.86037E-05	1.358737115
ENSRNOG00000009967	Otof	7.96405E-05	1.075890772
ENSRNOG00000004273	Ifitm1	8.15392E-05	-1.449779336
ENSRNOG00000033262	Reep6	8.34184E-05	-0.890632849
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ENSRNOG00000015696	Cdk5rap1	0.00010936	-0.995612473
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ENSRNOG00000002810	Gfpt2	0.0239984	-0.829843453
ENSRNOG00000013057	Prc1	0.024040185	-0.875289995
ENSRNOG00000017900	rnf141	0.024209202	-0.978277868
ENSRNOG00000010584	Tmem123	0.024238863	-0.903334578
ENSRNOG00000005144	Tmem18	0.024330247	-0.798953736
ENSRNOG00000025644	LOC499331	0.024382378	-1.164469071
ENSRNOG00000017477	Mmp23	0.024393831	1.318647241
ENSRNOG000000053787	Mdfic	0.024400772	-1.049403162
ENSRNOG00000015068	Il11ra1	0.024429205	0.985534359
ENSRNOG000000059487	AABR07045405.1	0.024574525	-0.96395107
ENSRNOG000000046144	H3c1	0.024675628	1.068414355
ENSRNOG00000021318	Epas1	0.024722718	-0.739061119
ENSRNOG00000011560	Mtmr9	0.024845813	-0.747531568
ENSRNOG00000008526	Pdzd3	0.025030552	0.824988566
ENSRNOG00000026169	RGD1560146	0.025336592	1.665818093
ENSRNOG00000011987	Cd2ap	0.025446238	-0.927075705
ENSRNOG00000014183	Gnaq	0.025456311	-0.807657256
ENSRNOG000000061851	Foxj3	0.026095904	-1.05265835
ENSRNOG00000016309	Rgp1	0.026479094	-0.749178807
ENSRNOG00000023257	Adamts9	0.026695016	-0.822146174
ENSRNOG00000007374	Tac1	0.026936723	-1.239284877
ENSRNOG00000015615	Tnfrsf11a	0.026979677	-1.399128824
ENSRNOG00000006076	Steap2	0.0272796	-0.936025371
ENSRNOG00000016336	AABR07045373.1	0.027309559	0.961800932
ENSRNOG00000011794	Tcea3	0.027384816	1.098703134
ENSRNOG00000011854	Dennd11	0.027440696	-1.075538212

ENSRNOG00000000474	Rgl2	0.02766439	0.804371851
ENSRNOG00000018387	Wdr7	0.028263706	-0.861610933
ENSRNOG00000004791	Arf6	0.028534308	-0.778878529
ENSRNOG00000019128	St8sia4	0.028630128	-0.815337316
ENSRNOG00000057527	RNase_MRP	0.028700125	1.312966233
ENSRNOG00000003960	Cltrn	0.028800114	0.990010866
ENSRNOG00000019729	Jmjd8	0.028977976	0.910319898
ENSRNOG00000006395	#N/A	0.029233569	1.213539802
ENSRNOG00000008857	Adamts10	0.029270225	0.766136335
ENSRNOG00000017106	Csnk1a1	0.029382239	-0.78039335
ENSRNOG00000006148	RGD1310352	0.029383087	-0.893438665
ENSRNOG00000045646	LOC102549173	0.029466046	0.882905452
ENSRNOG00000027630	Casc1	0.02948609	0.774436717
ENSRNOG00000019096	Hsd17b3	0.030181145	-1.420687018
ENSRNOG00000043103	Frrs1l	0.030218506	-0.956380852
ENSRNOG00000032739	Da2-19	0.030229896	1.157631706
ENSRNOG00000018176	Rab6a	0.030454996	-0.883601889
ENSRNOG00000014613	Ddah1	0.030531954	-0.914494897
ENSRNOG00000029903	Spock3	0.030912891	0.833712057
ENSRNOG00000001510	AC120066.1	0.03093814	1.368724264
ENSRNOG00000010131	Rin2	0.031509177	-0.970615747
ENSRNOG00000046621	AABR07043748.1	0.031546778	-0.738711741
ENSRNOG00000046971	Ccer2	0.031627075	1.342721642
ENSRNOG00000009570	Pdxdp	0.031665741	0.993377711
ENSRNOG00000000825	Calhm5	0.031721469	-0.87453675
ENSRNOG00000056193	AC108572.3	0.032047981	1.094631202
ENSRNOG00000055471	Ywhah	0.032057521	-0.978856232
ENSRNOG00000033411	Usp12	0.03211745	-0.737759823
ENSRNOG00000004104	Zkscan7	0.032388096	-0.765303931
ENSRNOG00000020460	#N/A	0.032450973	-0.834520185
ENSRNOG00000060141	Epdr1	0.032684936	-0.78207058
ENSRNOG00000014092	Paip2b	0.032766189	-1.253875684
ENSRNOG00000031790	H2bu1	0.032905605	1.152298799
ENSRNOG00000057556	Pdzn3	0.032922949	-0.754247103
ENSRNOG00000036711	Spn	0.033233311	-0.787414526
ENSRNOG00000049056	AABR07051450.1	0.033364071	0.792646985
ENSRNOG00000036839	Hnrnpa1	0.033536047	-0.772923478
ENSRNOG00000013764	Fam118a	0.033584564	-0.805464731
ENSRNOG00000058484	Anp32a	0.033707806	-0.791492125
ENSRNOG00000023733	RGD1560821	0.033759352	0.816347664
ENSRNOG00000004730	Meis2	0.034029913	-0.935563067
ENSRNOG00000036918	Etfbkm1	0.034145751	-1.169990221
ENSRNOG00000053850	Rdh5	0.034270318	1.084117708
ENSRNOG00000021170	Plekho1	0.034493614	0.901822417

ENSRNOG00000016621	Actl7b	0.034610233	1.104218578
ENSRNOG00000009381	Mapk6	0.034682413	-0.928941417
ENSRNOG000000042753	Fgf13	0.034903753	-1.180590867
ENSRNOG000000050214	Amt	0.035159628	1.090750673
ENSRNOG000000018478	Myo3a	0.035234437	0.912050183
ENSRNOG000000024363	Sertad1	0.035261707	0.81638037
ENSRNOG000000008364	Cat	0.035764169	-1.13906523
ENSRNOG000000061925	AABR07059159.1	0.035871597	-1.172663747
ENSRNOG000000032224	RGD1562378	0.035931175	1.283637524
ENSRNOG000000052051	Slc24a1	0.036091091	-1.234859696
ENSRNOG000000046794	Khdrbs1	0.036927125	-0.844176226
ENSRNOG000000016330	Rbm12b	0.036976316	1.326877185
ENSRNOG000000028422	Rmnd5a	0.037112439	-1.070339426
ENSRNOG000000009175	Jagn1	0.037256896	-0.79764181
ENSRNOG000000007088	Xpot	0.037292575	-0.836623327
ENSRNOG000000001890	Txnrd2	0.037642106	0.778956368
ENSRNOG000000016459	Eif3j	0.037794665	-1.01618198
ENSRNOG000000033912	Fcho1	0.037797874	0.855199613
ENSRNOG000000057966	Smim31	0.037856531	-0.943191055
ENSRNOG000000045749	AC105515.1	0.038135595	1.145945602
ENSRNOG000000007755	Pm20d2	0.038314409	-1.407408487
ENSRNOG000000004284	Btg1	0.038618367	-0.969447078
ENSRNOG000000031669	Lpp	0.03878304	1.172180261
ENSRNOG000000016260	Polr3g	0.03976816	-0.868864926
ENSRNOG000000012311	Slc35d3	0.03985226	-0.837881014
ENSRNOG000000003400	Fmo4	0.039893734	-1.17677829
ENSRNOG000000043233	Cyp4f6	0.040041982	-1.00135535
ENSRNOG000000004292	Sptssa	0.040061473	-0.854970254
ENSRNOG000000014647	Cbfb	0.040267867	-1.254662974
ENSRNOG000000034228	Pik3c2g	0.04061542	-1.29574534
ENSRNOG000000060349	Fam3c	0.041734892	-0.771516035
ENSRNOG000000053679	AABR07060862.1	0.042364949	-1.450376056
ENSRNOG000000020106	Tnfrsf4	0.042391949	1.054680588
ENSRNOG000000001431	Rasa4	0.042636996	0.983808446
ENSRNOG000000037647	Ostm1	0.042680605	-0.778269909
ENSRNOG000000017751	Arl6ip1	0.043130245	-1.021109732
ENSRNOG000000021263	Tmem230	0.043530979	-0.817243644
ENSRNOG000000057451	Itga5	0.043577153	-0.774982472
ENSRNOG000000050289	Cstf2t	0.043778153	-0.77594947
ENSRNOG000000004874	Flrt3	0.043906517	-1.128959723
ENSRNOG000000051650	Ywhaq	0.044154126	-0.846000759
ENSRNOG000000026527	#N/A	0.044283429	0.910465701
ENSRNOG000000014964	Hp	0.044452159	0.938251719
ENSRNOG000000020389	Capn12	0.044554012	1.102292527

ENSRNOG00000033010	Akr1c12	0.044811158	-1.060850166
ENSRNOG00000055277	LOC100362333	0.044812358	-0.846530575
ENSRNOG00000011535	Gcsh	0.045694478	-0.905930204
ENSRNOG00000045698	Lin7c	0.045858604	-0.810930701
ENSRNOG00000017904	Nol7	0.045977143	-0.873583697
ENSRNOG00000019959	Kcnc3	0.046134529	0.777795415
ENSRNOG00000023320	#N/A	0.046213147	0.861002155
ENSRNOG00000042374	Tgif2	0.046404694	0.997980084
ENSRNOG00000059572	Tsen34l1	0.046479714	-1.545335251
ENSRNOG00000011861	Aadat	0.046875879	-0.90069536
ENSRNOG00000020723	Pten	0.047172096	-0.810113015
ENSRNOG00000003247	Sde2	0.04745819	-0.947385754
ENSRNOG00000024595	Cers6	0.047583553	-0.777002563
ENSRNOG00000024757	AABR07069219.1	0.047634438	-0.909734103
ENSRNOG00000028576	AABR07028446.1	0.047656054	0.888606044
ENSRNOG00000052421	AABR07012475.2	0.047685324	0.789626429
ENSRNOG00000013670	Pax3	0.047753483	-1.421393461
ENSRNOG00000018770	Pmaip1	0.047803184	-1.081886285
ENSRNOG00000020927	Tulp2	0.048091739	1.273362887
ENSRNOG00000047895	Mettl1	0.048285147	-1.091981749
ENSRNOG00000005285	Fbxo33	0.049665384	-0.927689394
ENSRNOG00000014899	AC110824.1	0.049921147	-1.498771364

Supplementary Table S2 (set 2 differentially expressed genes)

Ensemble ID	Gene name	p-value	log2FoldChange
ENSRNOG00000002413	Gpc4	4.18674E-37	1.991742964
ENSRNOG00000000825	Calhm5	2.03493E-27	3.973986669
ENSRNOG00000037188	Mug1	2.31596E-24	4.665979596
ENSRNOG00000045919	LOC103694120	7.28286E-21	5.503619366
ENSRNOG00000013092	Lonrf3	4.24698E-20	1.062354276
ENSRNOG00000012906	Bcas1	2.98693E-19	-4.061333043
ENSRNOG00000024763	LOC685431	5.19913E-19	1.249990248
ENSRNOG00000057527	RNase_MRP	1.6798E-18	2.145288629
ENSRNOG00000018229	Slc45a1	2.19575E-18	-3.453445388
ENSRNOG00000051483	LOC103689961	1.3678E-17	1.467227778
ENSRNOG00000061230	L1cam	1.68977E-17	-0.93104142
ENSRNOG00000020325	Calhm2	4.57156E-17	1.699768133
ENSRNOG00000006069	Eif2ak3	1.4212E-16	-1.050123237

ENSRNOG00000016541	Enc1	4.04918E-16	-0.913724251
ENSRNOG00000047401	Gfy	1.85951E-15	1.945858973
ENSRNOG00000003769	Tmem163	1.67544E-14	1.043779198
ENSRNOG00000008837	Ass1	5.04676E-14	0.839209015
ENSRNOG00000043419	Hist3h2ba	7.54629E-14	1.090622996
ENSRNOG00000017403	Apobr	8.86656E-14	-2.404044613
ENSRNOG00000013916	Nefm	1.05679E-13	-1.294533803
ENSRNOG00000015593	Sigirr	2.38785E-13	0.875016443
ENSRNOG00000018420	Slc22a7	6.2352E-13	1.816007548
ENSRNOG00000014387	Chac1	7.32434E-13	-1.235760366
ENSRNOG00000000878	Slc44a4	7.36685E-13	1.047562435
ENSRNOG00000009031	Gucy2c	3.40896E-12	2.379194632
ENSRNOG00000019318	Syt3	1.2883E-11	1.262692253
ENSRNOG00000020151	Cdh1	1.37095E-11	1.230124167
ENSRNOG00000015860	Gipr	2.09219E-11	1.27997949
ENSRNOG00000054259	Klf11	3.02709E-11	-0.917846899
ENSRNOG00000024712	Insc	3.8602E-11	-2.145929455
ENSRNOG00000005248	Slc1a4	4.20647E-11	-0.90437716
ENSRNOG00000026605	Ifi27l2b	4.43352E-11	-1.377519482
ENSRNOG00000046404	LOC291276	5.71481E-11	3.718902121
ENSRNOG00000022337	Slitrk6	9.62301E-11	-1.103912414
ENSRNOG00000001074	Mphosph9	1.14208E-10	-0.984642311
ENSRNOG00000030118	Msn	1.38595E-10	-1.073210303
ENSRNOG00000012052	Ins1	1.70908E-10	1.759232996
ENSRNOG00000007713	Tmcc3	1.9019E-10	-0.812578557
ENSRNOG00000001187	Oasl	3.48112E-10	-1.000234249
ENSRNOG00000019685	Gdpd3	4.64619E-10	2.814564113
ENSRNOG00000004692	A1bg	6.11901E-10	1.466578899
ENSRNOG00000012181	Lpl	7.28517E-10	-1.892547537
ENSRNOG00000008478	Mmp13	7.58615E-10	3.051167851
ENSRNOG00000011032	Lhfp12	1.1671E-09	-0.915620684
ENSRNOG00000000723	RT1-CE5	1.44451E-09	0.944684385
ENSRNOG00000025702	Kdm2b	1.60212E-09	-0.95646682
ENSRNOG00000020380	Lgals7	1.77812E-09	2.297709636
ENSRNOG00000013851	Spry4	3.02003E-09	-0.980601063
ENSRNOG00000028713	Acvrl1	3.90711E-09	1.693673026
ENSRNOG00000049349	Tafa5	6.494E-09	-1.226374407
ENSRNOG00000020505	Map4k1	8.60295E-09	0.913202148
ENSRNOG00000055672	Gpx2	9.42718E-09	-3.451645872
ENSRNOG00000020583	Fcgrt	1.26819E-08	1.772832652
ENSRNOG00000008536	Actc1	1.43617E-08	-2.40418825
ENSRNOG00000020531	Fen1	2.29769E-08	-0.811675199
ENSRNOG00000032590	Ttc28	3.99255E-08	-1.185204316
ENSRNOG00000021102	Scn1b	4.02643E-08	1.58475123

ENSRNOG00000028235	RGD1560795	4.6759E-08	1.500837224
ENSRNOG00000028543	AABR07052523.1	1.15755E-07	1.095463428
ENSRNOG00000025055	Zdhhc19	1.3951E-07	-2.411639305
ENSRNOG00000060568	Ptpn21	1.51535E-07	-0.81526306
ENSRNOG00000001520	Dlx1	1.75366E-07	-1.128945337
ENSRNOG00000013658	Nefl	1.76964E-07	-1.137446144
ENSRNOG00000031540	LOC100362384	1.83496E-07	0.877224192
ENSRNOG00000012862	Spsb4	1.99228E-07	-1.025345036
ENSRNOG00000022699	AABR07030039.1	3.22446E-07	1.113944525
ENSRNOG00000024517	Gpr119	3.45567E-07	1.60089125
ENSRNOG00000000699	Selplg	3.95946E-07	3.65338239
ENSRNOG00000019500	Cyp1a1	4.02631E-07	-1.831788643
ENSRNOG00000011541	Cygb	4.12137E-07	-0.781686982
ENSRNOG00000042860	Pappa2	4.13358E-07	0.977528215
ENSRNOG00000027767	Slc38a5	4.35948E-07	1.353652003
ENSRNOG00000016695	Mmp2	4.45573E-07	-1.159923504
ENSRNOG00000014550	Plcx3	4.64444E-07	-1.304584777
ENSRNOG00000024093	Dmrta1	7.25696E-07	-0.926326628
ENSRNOG00000000925	Psph	1.32527E-06	-0.795667907
ENSRNOG00000042980	Adam19	1.34748E-06	-1.477887233
ENSRNOG00000031930	Bin2	1.61813E-06	-1.908535769
ENSRNOG00000013605	AC120568.1	2.02953E-06	1.920251733
ENSRNOG00000049269	RGD1563294	2.07176E-06	0.984726204
ENSRNOG00000028744	Mtnr1a	2.25085E-06	-1.188127071
ENSRNOG00000046007	Cldn3	2.42622E-06	0.917292051
ENSRNOG00000017072	Slc16a14	2.42968E-06	-1.104381924
ENSRNOG00000023458	Dcaf12l1	2.62086E-06	-1.030529193
ENSRNOG00000053055	Otop3	2.70252E-06	2.34073544
ENSRNOG00000046428	Lrrc75b	2.77975E-06	-0.739282859
ENSRNOG00000033722	Rnf207	3.42233E-06	-1.701774042
ENSRNOG00000003807	Wnt9b	3.96513E-06	-1.748367489
ENSRNOG00000011821	S100a4	3.97527E-06	1.187036503
ENSRNOG00000006855	Padi4	5.20669E-06	1.848846018
ENSRNOG00000018285	Kcna2	5.83E-06	-0.804578376
ENSRNOG00000054246	LOC679711	6.0546E-06	1.145466372
ENSRNOG00000020259	RGD1305347	6.12461E-06	1.12706301
ENSRNOG00000014740	Gast	6.76595E-06	1.111344935
ENSRNOG00000022921	Dact2	7.9998E-06	0.787650963
ENSRNOG00000004500	Myc	8.43466E-06	1.634493803
ENSRNOG00000017525	Epha1	8.70549E-06	0.959502409
ENSRNOG00000037167	Rtp3	8.75224E-06	-1.292868907
ENSRNOG00000032609	AY172581.18	9.24167E-06	1.778449346
ENSRNOG00000052368	Clcnka	9.76069E-06	1.191707463
ENSRNOG00000007490	Gabbr2	9.82101E-06	-3.087354549

ENSRNOG00000007489	Zfp41	1.16563E-05	-0.763037026
ENSRNOG00000008487	Amotl2	1.52967E-05	-1.623301894
ENSRNOG000000027030	Adm	1.53782E-05	1.035522848
ENSRNOG00000009577	Ndst4	1.56483E-05	-1.576188652
ENSRNOG000000052667	AABR07027555.1	1.57117E-05	1.230511798
ENSRNOG00000000873	Brs3	1.57656E-05	-1.701585639
ENSRNOG000000020517	Prrg2	1.78797E-05	0.768548172
ENSRNOG00000003832	Vash2	2.01673E-05	-0.747508731
ENSRNOG00000001151	Sirt4	2.09198E-05	0.768534846
ENSRNOG000000016244	Mical2	2.15672E-05	-1.157272822
ENSRNOG000000012237	Rdx	2.44548E-05	-1.064944653
ENSRNOG000000027574	AABR07053879.1	2.56088E-05	1.699493504
ENSRNOG000000026212	Micall1	2.65156E-05	-0.73984492
ENSRNOG000000014610	Anpep	2.67044E-05	0.77619217
ENSRNOG000000020792	Etv4	2.6822E-05	-1.0068985
ENSRNOG000000021318	Epas1	2.73156E-05	-0.764069594
ENSRNOG000000001191	Tchp	3.01154E-05	-0.740792153
ENSRNOG000000047712	Dcx	3.32393E-05	-2.225181393
ENSRNOG000000025624	Arhgap20	3.55607E-05	-0.843080296
ENSRNOG000000040205	Zcchc24	4.42886E-05	-1.507262732
ENSRNOG000000013304	Arg1	4.71E-05	-1.258458273
ENSRNOG000000010011	Osbp13	5.06829E-05	-1.122727316
ENSRNOG000000054978	H1f2	5.41898E-05	1.377826537
ENSRNOG000000005382	AABR07058423.1	5.65059E-05	1.517212553
ENSRNOG000000021802	Isg15	6.12576E-05	-1.194273144
ENSRNOG000000016299	Klf4	6.15989E-05	-0.994085318
ENSRNOG000000012721	Ednra	6.20673E-05	-1.5049246
ENSRNOG000000006526	Sema3c	6.34593E-05	-0.79552083
ENSRNOG000000007607	Nr4a1	6.75216E-05	0.869054075
ENSRNOG000000025354	Rinl	6.77615E-05	0.813853835
ENSRNOG000000003870	C1qtnf2	6.86041E-05	1.318945948
ENSRNOG000000048927	AABR07018533.1	7.3982E-05	0.865836472
ENSRNOG000000049334	Atp2c2	7.52667E-05	1.040672823
ENSRNOG000000013209	Barhl1	7.58384E-05	0.939611526
ENSRNOG000000031852	Lsamp	8.24901E-05	1.138370716
ENSRNOG000000004709	Foxn3	8.84845E-05	-0.875234997
ENSRNOG000000007151	Cdk14	8.86267E-05	-0.874423908
ENSRNOG000000025644	LOC499331	9.12598E-05	-0.790286767
ENSRNOG000000007951	Galnt14	9.38337E-05	0.910370611
ENSRNOG000000013166	Wnt4	9.65255E-05	1.471465804
ENSRNOG000000015550	Ptgds	9.77039E-05	-1.12949946
ENSRNOG000000054563	Selenoh	0.000103269	0.883856225
ENSRNOG000000026169	RGD1560146	0.000104151	4.640830191
ENSRNOG000000059362	Has3	0.000105092	-0.877358178

ENSRNOG00000056247	7SK	0.000107635	1.667068937
ENSRNOG00000012345	AABR07004276.1	0.000123367	1.165329757
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ENSRNOG00000031590	AABR07048308.2	0.029714311	1.057491706
ENSRNOG00000021581	Rapgef2	0.029789128	-0.79785118
ENSRNOG00000008658	Mitf	0.029967239	-0.806062659
ENSRNOG00000003266	LOC100361655	0.030381013	0.837965535
ENSRNOG00000060395	AABR07025301.1	0.03099389	1.0962684
ENSRNOG00000010484	Zdhhc21	0.031038805	-0.948472993
ENSRNOG00000028845	Ebf1	0.031441661	-0.963123636
ENSRNOG00000013018	Eda2r	0.031584715	-1.89489354
ENSRNOG00000005576	Rpia	0.031784003	-0.807314443
ENSRNOG00000053620	AABR07051069.1	0.031951499	1.23927566
ENSRNOG00000041826	AABR07053152.1	0.032029924	0.931789451
ENSRNOG00000018237	Gstp1	0.032809234	-0.75060468
ENSRNOG00000014197	Tmem51	0.033947845	0.90161508
ENSRNOG00000056485	LOC103694903	0.03526823	0.889740777
ENSRNOG00000001227	Adarb1	0.035435376	-0.82285646
ENSRNOG00000022595	LOC100362965	0.035665407	0.909335358
ENSRNOG00000048834	Plin3	0.035673383	2.469908258
ENSRNOG00000016336	AABR07045373.1	0.035824981	0.901242372
ENSRNOG00000056942	SNORD31	0.036018411	0.896850727

ENSRNOG00000018109	Clic4	0.036122429	-1.626583958
ENSRNOG00000062002	Kcna3	0.03645952	-1.504050996
ENSRNOG00000011854	Dennd11	0.036500705	-1.283600543
ENSRNOG00000032947	AABR07067749.1	0.036706906	1.022584921
ENSRNOG00000001123	RGD1562310	0.037433464	-0.963573847
ENSRNOG00000023068	Cd5l	0.037522246	-1.022953597
ENSRNOG00000020129	Cdh3	0.038206721	-0.842827704
ENSRNOG00000042753	Fgf13	0.038232128	-0.886021562
ENSRNOG00000031669	Lpp	0.038481229	1.251049741
ENSRNOG00000042752	AABR07065010.1	0.038527852	0.884240728
ENSRNOG00000060156	SNORD28	0.03963364	0.771664341
ENSRNOG00000019316	Sh3bp4	0.040852495	-0.873162313
ENSRNOG00000048585	AABR07018244.1	0.041173647	0.785360918
ENSRNOG00000011642	Tfap2d	0.041473238	-0.774298301
ENSRNOG00000011009	Cmtm4	0.041489733	-1.523468078
ENSRNOG00000062228	LOC100359515	0.04229718	-1.776535531
ENSRNOG00000062246	AABR07003509.1	0.042651163	1.004497662
ENSRNOG00000021745	Bhlhe22	0.043069871	-1.19541723
ENSRNOG00000024259	Tmem54	0.043628354	0.801407158
ENSRNOG00000015848	Etfrf1	0.043683776	0.944974267
ENSRNOG00000049985	Gprasp1	0.044773032	-0.810227945
ENSRNOG00000046181	Anks4b	0.044787123	-0.746744011
ENSRNOG00000058136	Vom1r90	0.04494678	-1.496734821
ENSRNOG00000030299	AABR07024742.1	0.046101202	0.983916875
ENSRNOG00000030447	AC105662.1	0.046183363	0.898049883
ENSRNOG00000048812	Gpx1	0.046302472	0.981769305
ENSRNOG00000033673	AABR07061532.1	0.047188744	1.21691595
ENSRNOG00000017842	Scnn1g	0.047287865	0.820718925
ENSRNOG00000032148	AABR07018050.1	0.047753835	1.18005106
ENSRNOG00000006950	Padi3	0.047903076	0.861607138
ENSRNOG00000055292	LOC679087	0.048127967	0.851137352
ENSRNOG00000036665	AC110474.1	0.048434055	1.088681656
ENSRNOG00000006033	LOC100910790	0.048502184	-0.759955971
ENSRNOG00000042905	RT1-T24-4	0.049861467	0.862123419

Supplementary Table S3 (set 3 differentially expressed genes)

Ensemble ID	Gene name	p-value	log2FoldChange
ENSRNOG00000002413	Gpc4	4.58501E-17	2.188752181
ENSRNOG00000026605	Ifi27l2b	6.57965E-16	-2.162404371
ENSRNOG00000000825	Calhm5	1.59635E-13	4.220348562
ENSRNOG00000009031	Gucy2c	1.65021E-12	3.014197153
ENSRNOG00000012906	Bcas1	2.66001E-12	-4.438778076

ENSRNOG00000037188	Mug1	1.00636E-09	4.3341293
ENSRNOG00000020325	Calhm2	1.2174E-09	2.145719468
ENSRNOG00000032699	Ttyh1	3.77758E-09	1.780735551
ENSRNOG00000027767	Slc38a5	2.97848E-08	3.272845012
ENSRNOG00000045919	LOC103694120	3.19256E-08	5.662724359
ENSRNOG00000007539	Rsad2	3.47387E-08	-1.858110862
ENSRNOG00000013166	Wnt4	5.5766E-08	2.06127471
ENSRNOG00000024517	Gpr119	9.86361E-08	2.53937917
ENSRNOG00000025055	Zdhhc19	5.08162E-07	-4.17764389
ENSRNOG00000010011	Osbp13	5.49993E-07	-1.660623302
ENSRNOG00000021802	Isg15	6.14088E-07	-1.6308009
ENSRNOG00000000463	Col11a2	6.90978E-07	-1.338591538
ENSRNOG00000022921	Dact2	7.67474E-07	1.708545282
ENSRNOG00000017427	LOC100909840	9.8389E-07	4.305869045
ENSRNOG00000001187	Oasl	1.60515E-06	-1.41749886
ENSRNOG00000031167	AABR07054319.1	1.78335E-06	5.135476384
ENSRNOG00000053055	Otop3	3.11692E-06	4.04106576
ENSRNOG00000037167	Rtp3	3.51193E-06	-1.548953382
ENSRNOG00000021507	Luzp2	4.39524E-06	2.25268066
ENSRNOG00000006280	Pcsk9	4.91755E-06	2.423760595
ENSRNOG00000059232	U6	4.95313E-06	-4.759441514
ENSRNOG00000022256	Cxcl10	5.20296E-06	-1.964640147
ENSRNOG00000013092	Lonrf3	5.83416E-06	1.158044512
ENSRNOG00000033722	Rnf207	5.93489E-06	-2.108479092
ENSRNOG00000021011	Fut2	1.05141E-05	1.682484759
ENSRNOG00000012417	Iapp	1.13441E-05	2.348244856
ENSRNOG00000022267	AABR07039334.1	1.26177E-05	4.037531898
ENSRNOG00000030954	Fat1	1.37827E-05	1.241846984
ENSRNOG00000046404	LOC291276	1.49036E-05	4.198409199
ENSRNOG00000010725	Cpa1	1.49561E-05	-1.900350831
ENSRNOG00000017525	Epha1	2.0835E-05	2.299636095
ENSRNOG00000015075	Stc1	2.18714E-05	2.288001872
ENSRNOG00000007048	Rap1b	2.21757E-05	1.354085254
ENSRNOG00000053334	Stmn4	2.63359E-05	-1.449545344
ENSRNOG00000008337	Gjd2	3.28199E-05	2.078994973
ENSRNOG00000011411	Adgrg6	3.47326E-05	4.581623077
ENSRNOG00000020792	Etv4	3.53519E-05	-1.728493476
ENSRNOG00000006331	Elovl5	3.8725E-05	2.570325019
ENSRNOG00000000055	Fcrl6	6.00224E-05	-3.05982555
ENSRNOG00000012052	Ins1	6.11068E-05	1.592583804
ENSRNOG00000010758	Lpar2	6.66505E-05	4.797522219
ENSRNOG00000001849	Mapk1	6.72366E-05	1.385324929
ENSRNOG00000022537	E2f8	6.73713E-05	2.002873506
ENSRNOG00000001640	Tomm70	6.85445E-05	1.469914054

ENSRNOG00000028895	Rtp4	6.99626E-05	-1.940757465
ENSRNOG00000004192	Arhgap30	7.55298E-05	2.337079711
ENSRNOG00000018420	Slc22a7	7.58136E-05	2.125371002
ENSRNOG00000004089	Enpp2	7.75426E-05	2.130171251
ENSRNOG00000016983	Myh7	7.75986E-05	6.169814497
ENSRNOG00000015550	Ptgds	8.83909E-05	-1.204667149
ENSRNOG00000013304	Arg1	8.97845E-05	-1.545457031
ENSRNOG00000053706	Lonrf1	9.28315E-05	2.945033282
ENSRNOG00000034230	Fcrl1	9.45911E-05	-3.254763907
ENSRNOG00000053044	AABR07012775.1	9.81482E-05	-2.598016137
ENSRNOG00000054282	AABR07072203.1	0.000103454	-4.104204783
ENSRNOG00000008536	Actc1	0.000118065	-2.669871756
ENSRNOG00000008979	Guca2b	0.000128776	-1.962152489
ENSRNOG00000000021	AABR07061902.1	0.000136196	4.025341129
ENSRNOG00000015376	Npas1	0.000141301	3.391721132
ENSRNOG00000049437	Gpc1	0.000141863	2.409340816
ENSRNOG00000001729	Xxylt1	0.000150979	4.151378454
ENSRNOG00000013443	Tm9sf3	0.000153106	1.37948961
ENSRNOG00000050869	Cebpd	0.000155215	1.361173306
ENSRNOG00000008000	Syt13	0.000155687	0.950581949
ENSRNOG00000000595	Traf3ip2	0.000158242	-1.136827308
ENSRNOG00000009373	RGD1562690	0.00017358	2.076321508
ENSRNOG00000003025	AABR07039336.2	0.000177387	1.579284286
ENSRNOG00000005486	Phf20l1	0.000180502	-1.982287168
ENSRNOG00000002802	Cxcl1	0.000181711	-2.143052942
ENSRNOG00000004100	Trib1	0.000193138	3.097708506
ENSRNOG00000007514	Sox12	0.000219318	3.56098831
ENSRNOG00000047712	Dcx	0.000223468	-2.321898915
ENSRNOG00000046327	Rbpj	0.000228377	1.045255301
ENSRNOG00000054172	Ctnnb1	0.000231711	2.361192115
ENSRNOG00000005369	Kcnj3	0.000232178	1.816501479
ENSRNOG00000047628	Khsrp	0.000246502	2.458963269
ENSRNOG00000058710	AABR07021465.2	0.000248472	2.803310989
ENSRNOG00000046727	Abcc2	0.000249981	-1.416213681
ENSRNOG00000012881	Fgl2	0.000252991	1.3522542
ENSRNOG00000022800	Sp140	0.000256991	-1.508302625
ENSRNOG00000025742	Lmnb2	0.000258279	3.320084874
ENSRNOG00000009323	Fam214b	0.000268898	1.664833686
ENSRNOG00000019598	Vegfa	0.000269698	1.182043369
ENSRNOG00000021176	Mtmr11	0.000270887	-0.87507157
ENSRNOG00000010362	Anxa2	0.000282296	-1.078915621
ENSRNOG00000048961	Bhlhe41	0.000295509	3.58361496
ENSRNOG00000014288	Fn1	0.000296053	1.763506511
ENSRNOG00000026120	Fam8a1	0.000311159	2.918646847

ENSRNOG00000056148	Nudcd3	0.00031237	3.151835563
ENSRNOG00000001212	Dnmt3l	0.000315043	-2.607145129
ENSRNOG00000062101	Ace	0.000334486	3.408858348
ENSRNOG00000009514	Mme	0.00033502	1.102553329
ENSRNOG00000014689	Zbtb4	0.000344844	3.947537491
ENSRNOG00000011124	AABR07067267.1	0.000367178	1.552796995
ENSRNOG00000012728	Nkx2-2	0.000373996	1.653786995
ENSRNOG00000015406	Pgm5	0.000392929	3.070888867
ENSRNOG00000009884	Lgals1	0.000395637	1.255198528
ENSRNOG00000004692	A1bg	0.000396079	1.695638808
ENSRNOG00000017434	Mgat3	0.000400198	3.272787024
ENSRNOG00000000781	Rnf39	0.000401109	1.322378303
ENSRNOG00000056716	Zbtb20	0.000410906	-1.891844258
ENSRNOG00000012393	S100a13	0.000415094	-1.328717303
ENSRNOG00000061998	AABR07044421.1	0.000444398	3.392731965
ENSRNOG00000032414	Tmem161b	0.000451439	1.20955013
ENSRNOG00000059142	Dtwd2	0.000454257	2.132384377
ENSRNOG00000013798	Fnbp1l	0.000456282	1.103038764
ENSRNOG00000026953	Gpr88	0.000467039	1.023904524
ENSRNOG00000007668	Mafa	0.000477601	5.515978927
ENSRNOG00000014035	Arhgef4	0.000481903	4.020473126
ENSRNOG00000020295	Plekhn1	0.000484291	-1.272752271
ENSRNOG00000012054	Zmpste24	0.000487498	1.196737945
ENSRNOG00000036701	Actg1	0.000489285	2.430125298
ENSRNOG00000002934	Atp1b1	0.000492925	1.047678097
ENSRNOG00000049407	Shisa8	0.00049517	3.359676507
ENSRNOG00000060229	Arf1	0.000497172	1.886037884
ENSRNOG00000009019	Slc6a6	0.000503533	2.007122893
ENSRNOG00000013452	Rcn1	0.000508687	2.050508462
ENSRNOG00000048875	Znrf4	0.000509135	3.135678353
ENSRNOG00000003769	Tmem163	0.000510142	1.231611944
ENSRNOG00000058545	Arhgap4	0.000531485	-1.078211572
ENSRNOG00000038572	Ncapg	0.00053304	1.176664948
ENSRNOG00000019295	Rab12	0.000546586	2.758796256
ENSRNOG00000060063	Naa10	0.000546843	-1.138640368
ENSRNOG00000016704	Pcyox1	0.000559853	2.304317216
ENSRNOG00000053813	Nkap	0.00056608	-1.860679233
ENSRNOG00000021128	Kcnj11	0.000571218	1.030698114
ENSRNOG00000045770	Hira	0.000572234	4.277212635
ENSRNOG00000029360	Serinc1	0.000573829	1.782291276
ENSRNOG00000024832	Gpr158	0.000581247	2.62771344
ENSRNOG00000020557	Ryr1	0.000588945	-1.164631974
ENSRNOG00000024492	Ap1ar	0.000606003	2.176091497
ENSRNOG00000031113	Zscan22	0.000607637	3.038969337

ENSRNOG00000006987	Tmem263	0.000608429	2.055539454
ENSRNOG00000019730	Inpp1	0.000619486	3.024861867
ENSRNOG00000045738	Ak4	0.000648723	3.654464482
ENSRNOG00000004500	Myc	0.000649907	1.417332524
ENSRNOG00000053452	LOC100361457	0.000653115	1.171597555
ENSRNOG00000033280	Pam	0.000655454	1.005570647
ENSRNOG00000047453	Casd1	0.000656812	1.950152641
ENSRNOG00000008553	Mthfr	0.000659947	4.082065992
ENSRNOG00000010813	Tspan14	0.000667321	2.398698937
ENSRNOG00000009856	Sypl1	0.000685389	1.074712159
ENSRNOG00000022941	AABR07004746.1	0.000693127	2.063046149
ENSRNOG00000042499	LOC100364435	0.000696681	-1.216183187
ENSRNOG00000003832	Vash2	0.000709825	-1.349712346
ENSRNOG00000015297	RGD1561662	0.000712086	2.095423101
ENSRNOG00000039587	Wdr13	0.00071874	2.505960852
ENSRNOG00000017429	Lat	0.000719881	-1.112753376
ENSRNOG00000005308	Tmx2	0.000727603	1.302348268
ENSRNOG00000061316	Ulbpl	0.000730756	1.544092451
ENSRNOG00000015354	Aox1	0.000756421	-1.089818885
ENSRNOG00000013851	Spry4	0.000764145	-1.204956678
ENSRNOG00000010880	Gpr27	0.000770023	2.76617284
ENSRNOG00000022738	AC098459.1	0.000793602	2.717785304
ENSRNOG00000020930	Atxn7l3	0.000821801	2.736205435
ENSRNOG00000013946	Rnf149	0.000850013	2.642713188
ENSRNOG00000022698	Vsig10	0.000853243	2.583753225
ENSRNOG00000007561	Glb1l2	0.000871088	2.377141453
ENSRNOG00000004909	Cnot2	0.000892985	1.041806992
ENSRNOG00000020261	Fam53c	0.000926528	3.215234987
ENSRNOG00000025074	Fgg	0.000944444	1.836162923
ENSRNOG00000009282	Nub1	0.000951727	2.175437103
ENSRNOG00000005130	LOC103693780	0.000953745	2.222141145
ENSRNOG00000019613	Syt9	0.000964025	2.458906789
ENSRNOG00000005498	Gcg	0.000971271	2.347458579
ENSRNOG00000011287	Minpp1	0.000977482	2.054594595
ENSRNOG00000001217	Lrrc3	0.000983738	3.415324558
ENSRNOG00000006832	Zdhhc5	0.000986825	1.848010225
ENSRNOG00000055246	Ncor1	0.000991187	-1.488146176
ENSRNOG00000023467	Fam168b	0.000993149	1.786942787
ENSRNOG00000004405	Pigr	0.001000622	2.568677011
ENSRNOG00000016950	Otud1	0.001000715	3.285101664
ENSRNOG00000015177	Sun2	0.001007885	3.067686628
ENSRNOG00000013547	Slc6a12	0.001024118	2.185872921
ENSRNOG00000005260	Acp1	0.001026019	1.337043874
ENSRNOG00000005818	RGD1563349	0.001032079	1.246595502

ENSRNOG00000027592	Rerg	0.001043407	-2.021317058
ENSRNOG00000006241	Marchf7	0.001047644	1.935154854
ENSRNOG000000057096	Gnai1	0.001049009	2.305116002
ENSRNOG00000019992	AABR07054400.1	0.001050816	2.102703691
ENSRNOG00000010109	Nol9	0.001060044	2.439650563
ENSRNOG00000010064	Abcc4	0.001113202	2.19193811
ENSRNOG000000061544	Spock2	0.001125128	3.048550645
ENSRNOG00000003134	Slc4a4	0.001129442	2.849514593
ENSRNOG000000051420	Cables2	0.001138848	2.561473611
ENSRNOG00000007759	Foxd2	0.001147955	2.877590509
ENSRNOG00000005191	Trim44	0.00115455	2.27560385
ENSRNOG00000049349	Tafa5	0.001155657	-1.298442464
ENSRNOG00000004628	Dazap2	0.001160376	1.214079927
ENSRNOG00000049496	Trim62	0.001160475	3.456556166
ENSRNOG00000017974	Gprin1	0.001173997	3.314194002
ENSRNOG00000012106	Dnaja4	0.001175042	1.190152399
ENSRNOG00000006600	Unk	0.001185754	2.219992606
ENSRNOG00000007034	Hipk2	0.001188312	-1.45077923
ENSRNOG00000042860	Pappa2	0.001193301	1.164116872
ENSRNOG00000019346	LOC103693999	0.001194051	1.417038025
ENSRNOG00000010853	Chrna7	0.001202412	2.713046764
ENSRNOG00000003189	Cited1	0.001208938	-0.98344466
ENSRNOG00000042340	LOC679894	0.001209239	-2.212360678
ENSRNOG00000009625	Dpysl2	0.001233555	2.471015741
ENSRNOG00000011417	Pde3b	0.001251181	1.311602918
ENSRNOG000000050445	Gde1	0.001256867	2.161372679
ENSRNOG00000018803	Mrtfa	0.001261095	2.681017529
ENSRNOG00000015428	Mff	0.001267765	2.356186635
ENSRNOG00000024027	Lemd3	0.001268099	1.169428917
ENSRNOG000000055446	Amfr	0.001278577	2.757032685
ENSRNOG00000021438	Tuba1c	0.001291497	2.717717059
ENSRNOG00000004423	Zbtb18	0.001292395	3.109246328
ENSRNOG00000025669	Tmem104	0.001294831	3.461843235
ENSRNOG00000028733	Prkar1b	0.001297267	2.696197159
ENSRNOG00000025349	Maneal	0.001311656	2.790524059
ENSRNOG00000019958	Tmem151b	0.001319545	3.243294469
ENSRNOG00000014675	Pi4k2a	0.001344345	2.590495309
ENSRNOG00000014209	Utp6	0.001345434	2.228921531
ENSRNOG00000000606	Pcdh15	0.001349611	2.531442931
ENSRNOG00000010298	Xbp1	0.001355903	1.262936609
ENSRNOG00000015970	Tbc1d13	0.001361226	2.408438006
ENSRNOG00000002433	G3bp2	0.001387969	1.887301363
ENSRNOG00000014504	Il1r1	0.001389842	2.005706855
ENSRNOG00000059373	LOC100909548	0.001426395	2.167839948

ENSRNOG00000015502	Mfsd14a	0.001446968	1.833281944
ENSRNOG00000012742	Irx2	0.001460985	2.145506096
ENSRNOG00000002781	Kdsr	0.001467008	1.525194557
ENSRNOG00000008478	Mmp13	0.001467362	2.65819623
ENSRNOG00000019560	Pde2a	0.001487085	1.58867519
ENSRNOG00000050337	AABR07054264.1	0.001496738	-3.370641527
ENSRNOG00000014496	Coro6	0.001502287	-0.970066565
ENSRNOG00000048818	Catsperd	0.001513277	-1.529763245
ENSRNOG00000013763	Erlin2	0.001516105	1.148919446
ENSRNOG00000016863	Pnma8b	0.001545098	2.394683534
ENSRNOG00000010960	Ankh	0.001546015	1.71185457
ENSRNOG00000013474	Cas21	0.001549428	2.508878588
ENSRNOG00000011363	Napepld	0.001553943	2.83684265
ENSRNOG00000004339	Yy1	0.001559301	1.686160777
ENSRNOG00000024712	Insc	0.001576647	-2.43783293
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ENSRNOG00000008332	Smo	0.04516521	-1.613867168
ENSRNOG00000027229	Slc35d2	0.045176079	-0.860600237

ENSRNOG00000014513	Rexo5	0.045217876	-0.746463269
ENSRNOG00000025523	Armh3	0.045233804	1.249981707
ENSRNOG00000010486	Mpp4	0.045325793	-1.269988716
ENSRNOG00000005447	Ypel2	0.045473503	1.572006751
ENSRNOG00000020134	Upf1	0.045549483	1.310428748
ENSRNOG00000042536	Pde4d	0.045604107	1.109981848
ENSRNOG00000001130	Nos1	0.045630644	2.068974486
ENSRNOG00000005391	Prex2	0.045715373	-0.870364144
ENSRNOG00000054429	AABR07011697.1	0.045744322	1.577541897
ENSRNOG00000020773	Map3k11	0.045756211	1.022836907
ENSRNOG00000017837	Znf48	0.045899514	1.364267266
ENSRNOG00000008036	Dennd4c	0.045910863	1.3315165
ENSRNOG00000028025	Aknad1	0.045969984	1.679029667
ENSRNOG00000047225	Tma7	0.046038705	-0.782112582
ENSRNOG00000024602	Plekha7	0.046130137	2.044631067
ENSRNOG00000000693	#N/A	0.046150974	1.465849806
ENSRNOG000000061524	AABR07068285.2	0.046163986	1.615215703
ENSRNOG00000015002	Abhd15	0.046203	1.243111977
ENSRNOG00000015911	Lrp5	0.046209663	0.791525926
ENSRNOG00000016391	Arid4b	0.046242381	-1.432262426
ENSRNOG00000043060	Dnajc4	0.04629055	-0.821332139
ENSRNOG00000018113	AABR07028352.1	0.046306759	0.996454428
ENSRNOG00000033346	LOC100361636	0.046323684	-1.814892469
ENSRNOG00000016606	Snorc	0.046448479	-1.647196834
ENSRNOG00000062091	AC116220.2	0.046496003	1.78336609
ENSRNOG00000020423	Apc	0.046512638	0.945880427
ENSRNOG00000012806	Rbbp6	0.046548334	-0.896566796
ENSRNOG00000025332	Cd109	0.046569025	-1.325744345
ENSRNOG00000013663	Tmem86a	0.046579486	0.848619615
ENSRNOG00000003463	Srebf1	0.046623212	1.27172559
ENSRNOG00000008425	Nav1	0.046690253	1.399975253
ENSRNOG00000023536	Adgrd1	0.046707575	1.554051688
ENSRNOG00000005183	Rtf1	0.046767374	-0.863133278
ENSRNOG00000032327	Pdia5	0.046778474	-0.74095816
ENSRNOG00000007097	Gpatch3	0.046918958	1.70006843
ENSRNOG00000027728	Ibtk	0.046991986	0.829764116
ENSRNOG00000017523	H6pd	0.04699258	1.1326455
ENSRNOG00000004563	Sec24a	0.047140775	1.337728233
ENSRNOG00000002585	Cul4b	0.047305856	-1.083624954
ENSRNOG00000008113	RGD1561149	0.047408228	1.122768373
ENSRNOG00000009683	Sdcbp	0.047569866	-0.922629988
ENSRNOG00000009965	Pih1d2	0.047614072	-1.005445292
ENSRNOG00000010895	Tmem30a	0.047662026	0.873908447
ENSRNOG00000050978	LOC100911295	0.047684957	0.846003672

ENSRNOG00000023086	LOC100360828	0.04771596	-1.046545453
ENSRNOG00000052087	Ubap2	0.047853255	1.037222429
ENSRNOG00000046405	Hic1	0.047911187	-1.068819635
ENSRNOG00000012420	Bcl9l	0.04803852	1.518278241
ENSRNOG00000000961	#N/A	0.048056022	0.874052817
ENSRNOG00000020289	Akt1s1	0.048072115	0.787029008
ENSRNOG00000026143	Ckap2l	0.048240775	1.176629648
ENSRNOG00000009653	Numb	0.048252856	1.142388576
ENSRNOG00000053654	AABR07061614.3	0.048293392	1.369661209
ENSRNOG00000046803	Arhgef16	0.048325281	0.821432215
ENSRNOG00000026519	LOC100364062	0.048367925	1.238577759
ENSRNOG00000018475	#N/A	0.04845094	1.03324472
ENSRNOG00000018980	Tjap1	0.048558734	0.876708685
ENSRNOG00000060946	Cask	0.048570376	1.355096708
ENSRNOG00000033496	Igdcc4	0.048585247	2.136812122
ENSRNOG00000047495	AABR07049948.1	0.048721696	1.386011558
ENSRNOG00000013314	Avl9	0.0487437	1.231686088
ENSRNOG00000058515	AABR07054460.4	0.048807952	2.37270361
ENSRNOG00000060594	LOC100911672	0.048842643	1.065139613
ENSRNOG00000003694	Prox1	0.048872789	0.95291863
ENSRNOG00000050343	Jmy	0.048916608	1.795056301
ENSRNOG00000018066	Bccip	0.048919147	0.795173221
ENSRNOG00000020426	#N/A	0.049367678	0.951243349
ENSRNOG00000036677	Slc16a3	0.049434122	1.19289643
ENSRNOG00000056212	Flt3lg	0.049494629	-0.937439372
ENSRNOG00000038004	Zfp804a	0.049580607	1.03322235
ENSRNOG00000016294	Cd4	0.049643077	1.735970624
ENSRNOG00000056770	AABR07002875.1	0.049652757	-1.399211904
ENSRNOG00000009110	Psen1	0.049664213	1.031053316
ENSRNOG00000027949	Rfx6	0.049705654	-0.848689585
ENSRNOG00000015953	Oaz2	0.049711603	1.135045831
ENSRNOG00000051564	Rap2a	0.049744421	1.076566104
ENSRNOG00000008658	Mitf	0.04983322	-1.219448184
ENSRNOG00000050860	Abcb11	0.04984946	-1.212798916
ENSRNOG00000002021	Son	0.049908408	-0.739601377
ENSRNOG00000033202	Fbxo41	0.049929639	1.927258332
ENSRNOG00000018714	Arl5b	0.049943607	-0.856134166
ENSRNOG00000021105	Gabpb2	0.04995346	1.031974398
ENSRNOG00000019645	Osbp2	0.049984021	0.886463663

Supplementary Table S4. NCBI gene IDs used in investigation of gene expression by qPCR.

Gene name	NCBI I.D
Ins1	NM_019129.3
Ins2	NM_019130.2
Tgs1	NM_001107904.1
MafA	NM_001399773.1
GAPDH	NM_017008.4
Pdx1	NM_022852.4
Hdac5	NM_053450
Munc18	NM_013038
NeuroD1	NM_019218
PRIP	NM_001276714
SNAP25	NM_001270576
Pax6	NM_013001.2
Gnas	NM_001024823.4
Kcnj11	NM_031358.3
Gpr119	NM_181770.1
Kcnn1	NM_019313.1
Rab3A	NM_013018.2
Gpi	NM_207592.1
Klf11	NM_001037354.2
Nr4A1	NM_024388.2
Syt11	NM_031667.3
Syt13	NM_030839.3