

SUPPLEMENTARY FIGURE LEGENDS

Sup. Fig. 1. Validation of the *Avil* icKO and *Rosa26* icKO mice. (A) *Prdm12* immunostaining performed one month after tamoxifen injection showing loss of *Prdm12* in a DRG of a TAM-injected *Avil* icKO containing a Cre dependent tdTomato reporter gene (*Avil^{CreERT2};Rosa26^{Ai14};Prdm12^{fl/fl}*) compared to a control DRG (*Avil^{CreERT2};Rosa26^{Ai14};Prdm12^{fl/+}*) and quantification showing reduction of *Prdm12*⁺/tdTomato⁺ cells in DRG of *Avil* icKO mice. (B) Double immunostaining for *Prdm12* and Peripherin on a DRG of a *Rosa26* icKO (TAM injected *Rosa26^{CreERT2}/Rosa26^{CreERT2}; Prdm12^{fl/fl}*) and of a control mice (*Prdm12^{+/+}*) and quantification showing reduction of *Prdm12*⁺ cells in DRG of mutant mice.

Sup. Fig. 2. Gene ontology and KEGG pathway analysis of the 71 DEGs identified in DRG of both icKO models. (A) Gene ontology analysis based in all categories indicating the 6 most enriched subclassifications. (B) KEGG pathway analysis indicating the 3 most enriched pathways. (C) Genes deregulated in the neuroactive ligand-receptor interaction pathway, in red the upregulated ones and in green the downregulated ones.

Sup. Fig.3. Validation by RT-qPCR of some of the identified DEGs identified in DRG of *Rosa26* icKO *, **, ***, and **** indicate respective p values <0,05, <0,01, <0,001, and <0,0001 (Student's t-test, $\alpha = 0,05$).

Sup. Fig. 4. Conditional knockout of *Prdm12* in adult mice does not alter their locomotor activity. (A) *Rosa26* icKO (n=10) and control mice (n=12) travel the same distance and spent the

same time moving in the open field device. (B) *Rosa26* icKO (n=10) and control mice (n=11) spent the same time to cross the same distance in the beam walking test. Values are means \pm SEM. (C) Time course of the nocifensive response (licking time in seconds) of *Rosa26* icKO (n=15) and control mice (n=16) until 30 min after formalin injection. Response of individual *Rosa26* icKO and control mice in the first (0-5min post-formalin injection) and second phase (15-30min post-formalin injection) is shown on the right. Note that *Rosa26* icKO mice spent more time licking their paw when compared to control mice during the second phase ($p = 0.019$). Values are means \pm SEM. * $p < 0.05$ (Student's t-test, $\alpha = 0.05$).

Sup. Fig. 5. Comparative transcriptomic analysis of the consequences of the loss of *Prdm12* in basal and inflamed DRG. Volcano plots showing the $-\log_{10}$ adjusted p-value as a function of the \log_2 fold-changes of DEGs in basal (comparing L4-L6 DRG from uninjected sides of *Avil* icKO and control mice) and inflammatory (comparing DRG from formalin injected sides of *Avil* icKO and control mice) conditions are shown (n=5 for all biological conditions except n=4 for tamoxifen injected *Avil* icKO). Genes with a \log_2 fold-change > 0.449 are indicated in red, genes below the threshold are in light grey.

Sup. Fig. 6. Comparative transcriptomic analysis of the consequences of formalin injection in DRG of *Avil* icKO and control mice. (A) Volcano plots showing all DEGs obtained comparing the transcriptome of L4-L6 DRG from formalin injected versus non injected sides of *Rosa26* icKO and control mice, without any cut-off filtering, are shown (n=5 for all biological conditions except n=4 for tamoxifen injected *Avil* icKO). Note that many significant DEGs are found in *Avil* icKO DRG but

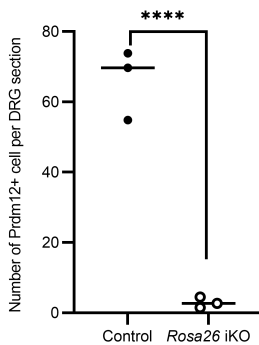
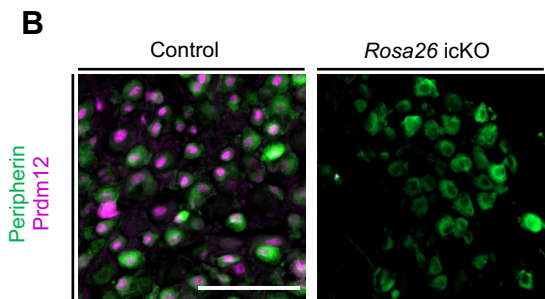
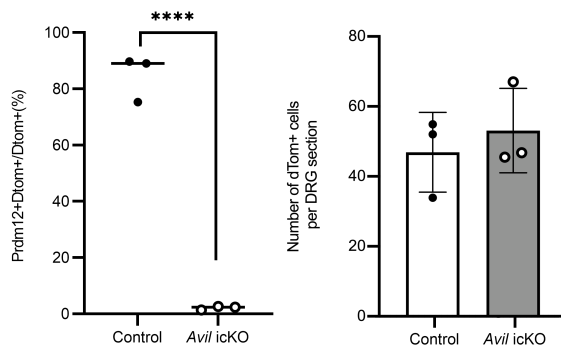
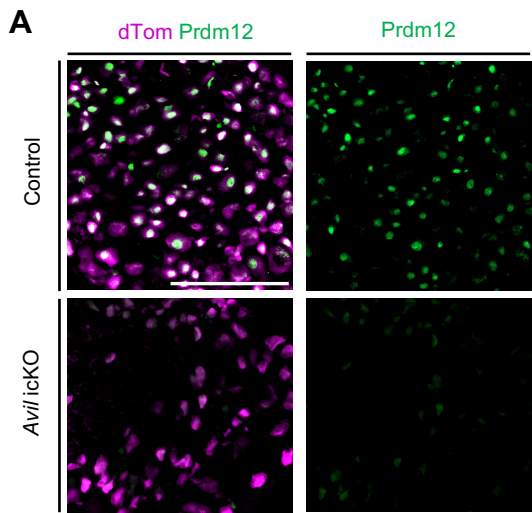
not in controls. (B,C) Gene ontology analysis of the DEGs identified comparing DRG of injected versus non injected sides of *Avil* icKO mice.

APPENDIX

List of primer pairs used for RT-qPCR analysis.

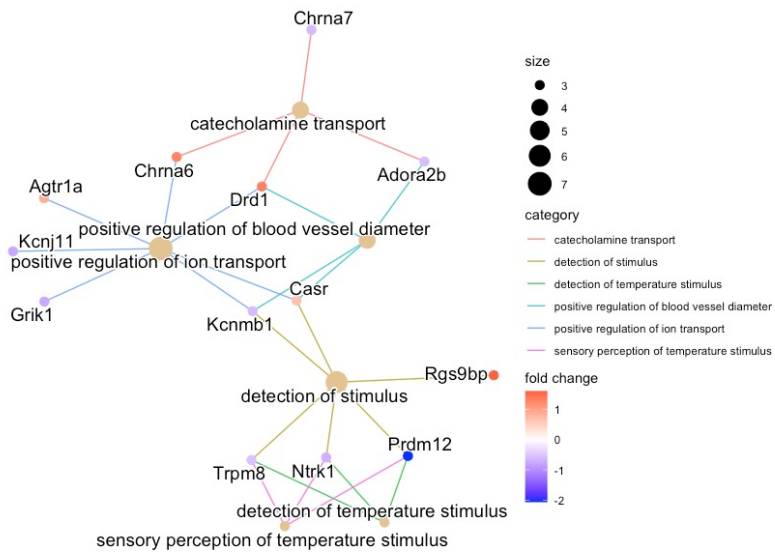
Gene	FW – Primer (5' to 3')	RV – Primer (5' to 3')
Prdm12	CTCAGGAGAGGTGCAGAAGC	ATATCCACATGCTCTGGGGC
Trpm8	TGAGAGCTGGATCAAATGGCT	GCTTTGTACAGCGCATAGGAA
Chrna6	GAGACACTTCGAGTTCAGCAG	GGTCCAGGTTATCACACCGTCA
TrkA	CCCAGATGCCTTCCGTTTCA	AGAGGCCCTGCACAGTTTTT
Mrgprb5	TCCCTGGAATGTTTCCTTCAGTT	AGATAGAGAGCGCTCAACACTG
Creg2	GAGGTGGAGTTCGCCAAGCAAG	CTGAAGCCAGATGTGTTCTACCC
Grik1	TTAACCGAAACCGAACCTTG	CAGGACTGCCCTGCTGATAG
Ism1	GATGGCCCTGACTCCGAAG	GGTCCCCACTATTTGTCCTGG
Cysltr2	CATGCTTGGAGCTGAGTCCTCA	TAGCAGACGGTGAGCGTGAGAA
Stk32a	GTGACGGCTTACGAACTGCTGA	TCTCCTGTGACCAGGCAGAAGG

Sup. Fig. 1

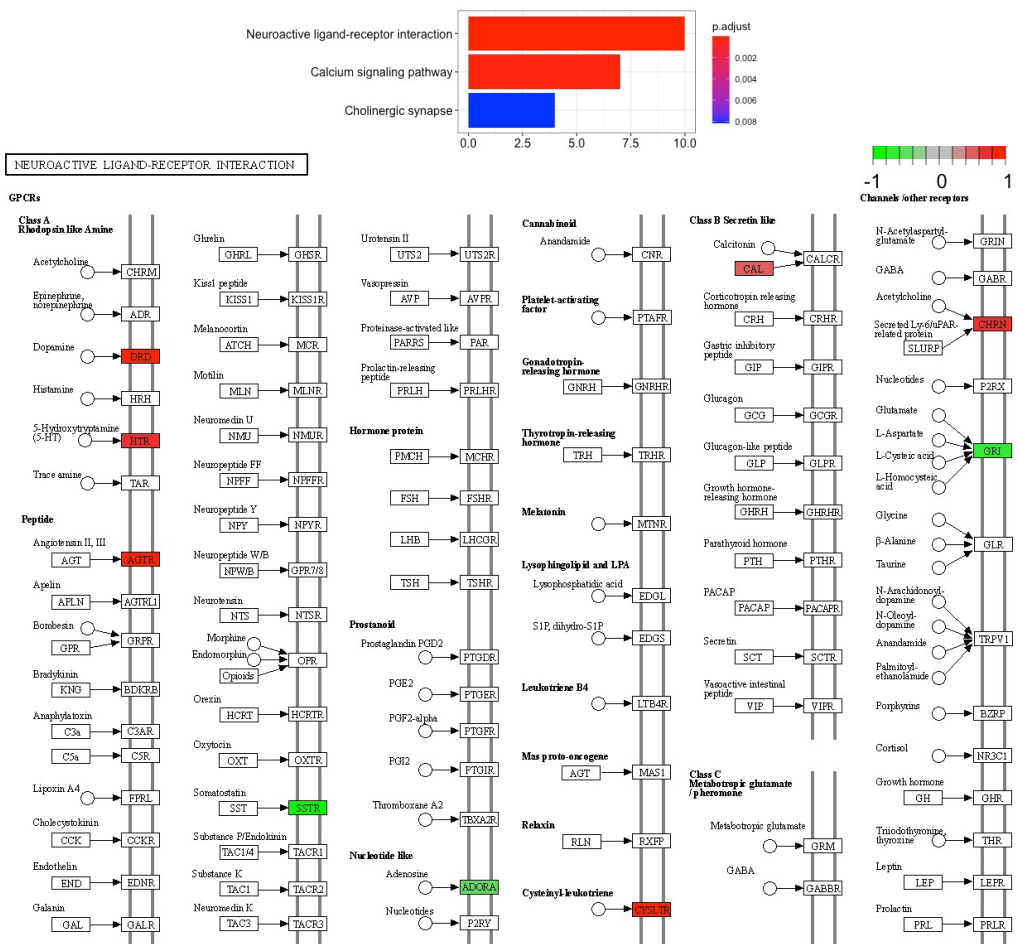


Sup. Fig. 2

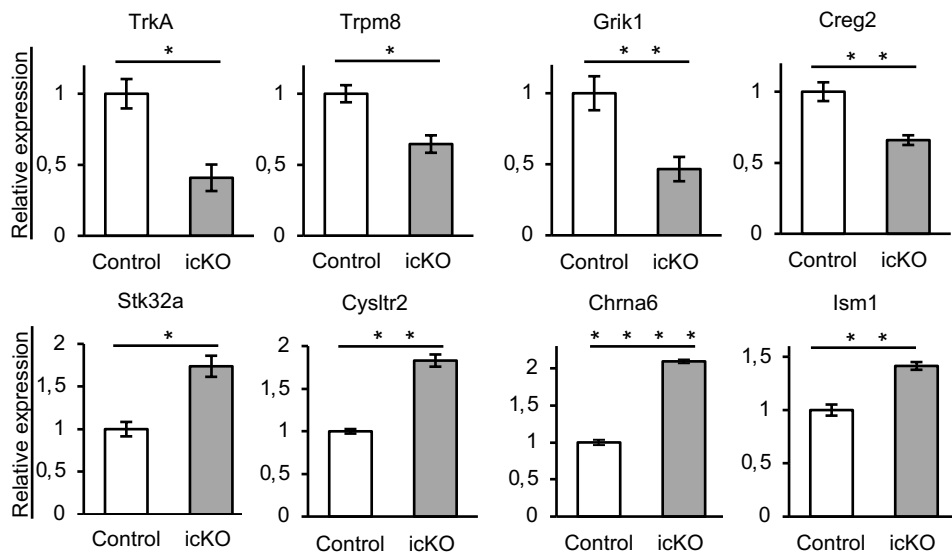
A



B

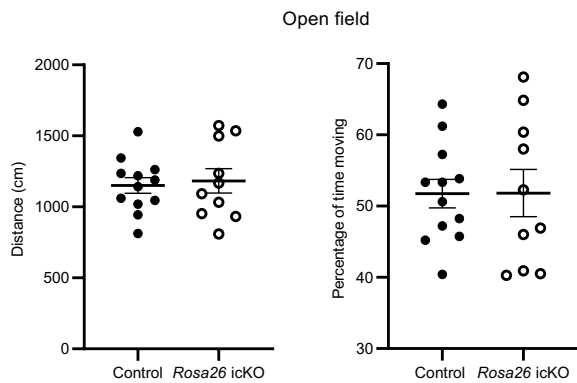


Sup. Fig. 3

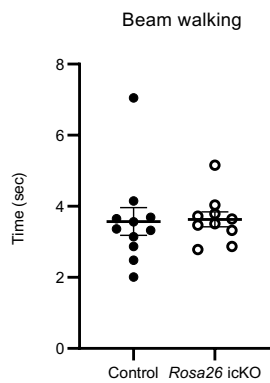


Sup. Fig. 4

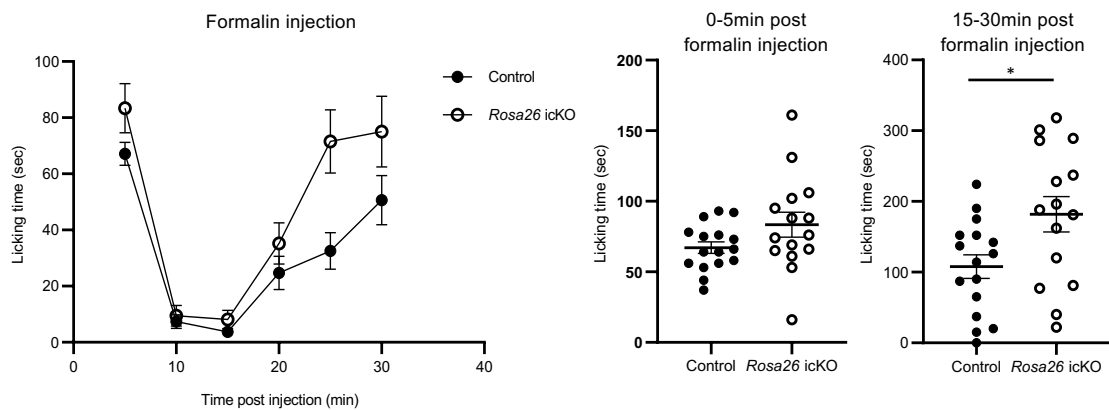
A



B

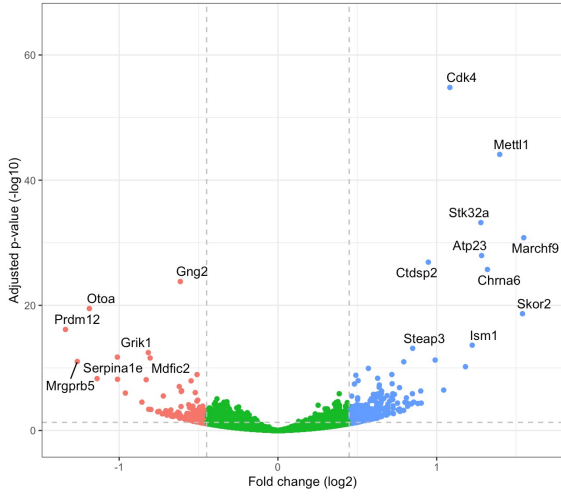


C

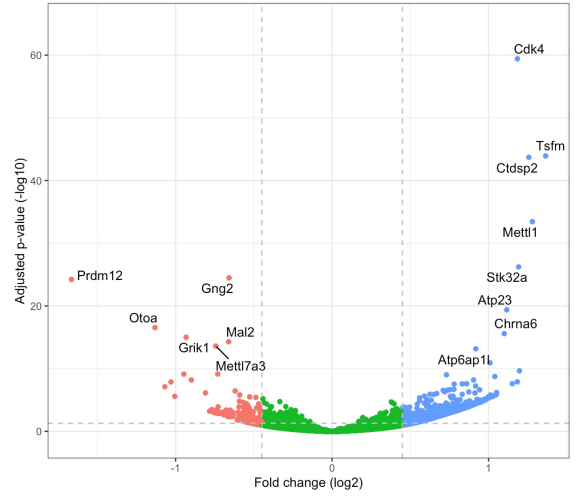


Sup. Fig. 5

Avil icKO vs Control DRG (non inj. side)

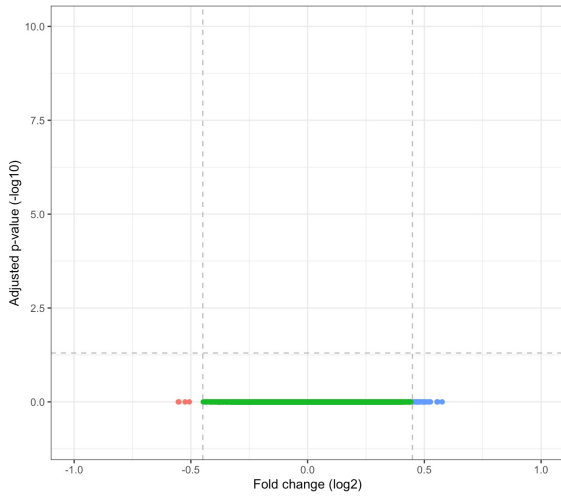


Avil icKO vs Control DRG (formalin inj. side)

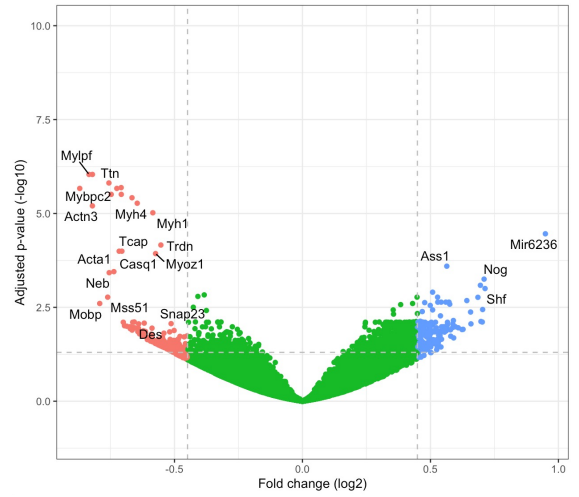


Sup. Fig. 6

A Formalin injected vs non injected DRG (control mice)

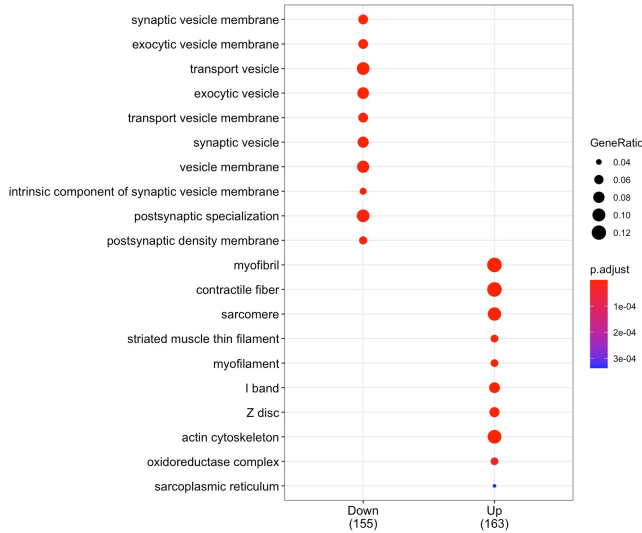


Formalin injected vs non injected (*Avil* icKO)



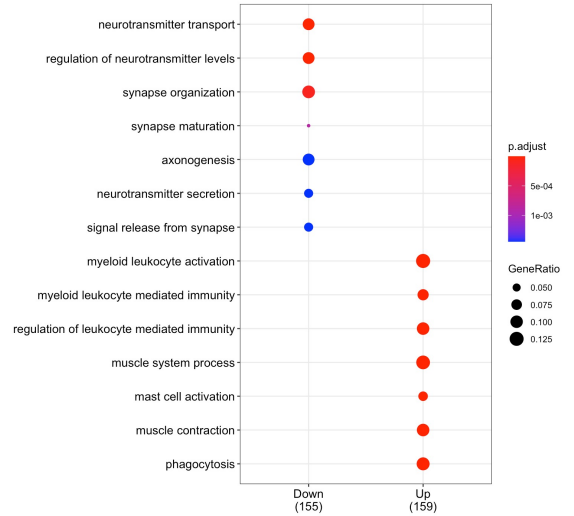
B

GO - Cellular Component DEG in Formalin injected icKO



C

GO - Biological Process DEG in Formalin injected icKO



Sup data Table 1: List of DEGs identified in DRG of *Avil* icKO mice. Genes in common with the list of DEGs from *Rosa26* icKO are indicated in bold.

gene_id	gene_name	padj	log2 fold-change
ENSMUSG00000079466	Prdm12	6,87618E-51	-2,061218667
ENSMUSG00000050967	Creg2	2,22916E-12	-1,150260952
ENSMUSG00000005640	Insrr	1,08601E-09	-0,989022289
ENSMUSG00000070551	Mrgprb5	7,94579E-07	-0,96718776
ENSMUSG00000078612	Fyb2	6,60899E-06	-0,936113267
ENSMUSG00000026971	Itgb6	1,73878E-06	-0,930051102
ENSMUSG00000090667	Mdfic2	2,99124E-13	-0,833479826
ENSMUSG00000085224	Gm13425	8,15502E-10	-0,832903464
ENSMUSG00000035431	Sstr1	0,000508315	-0,821633603
ENSMUSG00000043110	Lrrn4	7,39693E-05	-0,804405836
ENSMUSG00000027221	Chst1	2,24134E-07	-0,800993472
ENSMUSG00000022935	Grik1	3,37132E-15	-0,756899316
ENSMUSG00000108393	Gm32633	0,002333173	-0,756433503
ENSMUSG00000096146	Kcnj11	0,000480546	-0,748196108
ENSMUSG00000074575	Kcng1	0,00347177	-0,722226091
ENSMUSG00000108313	Gm45052	0,007482341	-0,696411441
ENSMUSG00000028072	Ntrk1	1,04309E-06	-0,690969218
ENSMUSG00000075070	4932412D23Rik	0,009591405	-0,686890843
ENSMUSG00000058057	Mettl7a3	6,87983E-07	-0,686216648
ENSMUSG00000034990	Otoa	4,46165E-06	-0,681508842
ENSMUSG00000029055	Plch2	0,00082822	-0,680242207
ENSMUSG00000028794	A3galt2	2,68531E-10	-0,676373756
ENSMUSG00000091722	Siah3	3,64752E-08	-0,665597345
ENSMUSG00000046182	Gsg1l	0,000205162	-0,631496167
ENSMUSG00000110020	Gm45441	0,024241507	-0,629366994
ENSMUSG00000022304	Dpys	0,015228369	-0,615310752
ENSMUSG00000106554	Gm33474	0,035269324	-0,611571694
ENSMUSG00000030525	Chrna7	0,003023635	-0,597979724
ENSMUSG00000066279	Chrna10	0,044506234	-0,59577922
ENSMUSG00000052117	D630039A03Rik	0,021129383	-0,59513901
ENSMUSG00000041773	Enc1	2,21627E-05	-0,591706776
ENSMUSG00000053886	Sh2d4a	0,018753164	-0,590103491
ENSMUSG00000030200	Bcl2l14	0,002342692	-0,589299996
ENSMUSG00000020591	Ntsr2	0,003434903	-0,586608519
ENSMUSG00000020155	Kcnmb1	3,69904E-05	-0,577873142
ENSMUSG00000026765	Lypd6b	8,73594E-05	-0,5772459
ENSMUSG00000018500	Adora2b	0,002186639	-0,570072999
ENSMUSG00000024479	Mal2	2,56132E-09	-0,568950874
ENSMUSG00000021118	Plek2	0,0002641	-0,566186537
ENSMUSG00000024366	Gfra3	0,001463727	-0,562052133
ENSMUSG00000040867	Begain	8,36821E-06	-0,559889059

ENSMUSG00000087014	Gm16364	0,001419061	-0,556369075
ENSMUSG00000034758	Tle6	0,016785238	-0,551092835
ENSMUSG00000042254	Cilp	0,009977591	-0,547401572
ENSMUSG00000090122	Kcne1l	0,045355967	-0,54493929
ENSMUSG00000028148	Them5	0,036402771	-0,543657688
ENSMUSG00000045288	Ush1g	0,004267852	-0,542189715
ENSMUSG00000043004	Gng2	5,92755E-11	-0,541522522
ENSMUSG00000063594	Gng8	0,011744536	-0,538529911
ENSMUSG00000034773	Hrob	0,022745801	-0,529251415
ENSMUSG00000021070	Bdkrb2	0,02060274	-0,528641913
ENSMUSG00000002771	Grin2d	0,003848654	-0,528146897
ENSMUSG00000036251	Trpm8	0,019871541	-0,523880437
ENSMUSG00000066129	Kndc1	0,012784124	-0,522462843
ENSMUSG00000059456	Ptk2b	0,00263904	-0,517684968
ENSMUSG00000021294	Kif26a	0,008717552	-0,512027086
ENSMUSG00000039508	Calhm4	0,000263528	-0,508184207
ENSMUSG00000030283	St8sia1	0,000508162	-0,503319062
ENSMUSG00000042826	Fgf11	0,014456818	-0,502679014
ENSMUSG00000114547	Gm3226	0,029431388	-0,497499947
ENSMUSG00000033256	Shf	0,012188309	-0,496385412
ENSMUSG00000074006	Omp	0,001264606	-0,496116077
ENSMUSG00000086915	Gm16364	0,007482341	-0,482256634
ENSMUSG00000102752	Gm7694	8,82685E-05	-0,47309272
ENSMUSG00000058975	Kcnc1	0,038243455	-0,472890643
ENSMUSG00000026437	Cdk18	0,033861268	-0,472601471
ENSMUSG00000032269	Htr3a	0,024241507	-0,472445939
ENSMUSG00000040136	Abcc8	0,00581554	-0,471952056
ENSMUSG00000040972	Igsf21	0,046913099	-0,464476024
ENSMUSG00000000305	Cdh4	0,0015443	-0,464469962
ENSMUSG00000038756	Ttll6	0,016033496	-0,4639528
ENSMUSG00000041261	Car8	0,04656829	-0,461956361
ENSMUSG00000025650	Col7a1	0,006072258	-0,457971301
ENSMUSG00000099560	Mrgprx3-ps	3,45001E-05	0,450529233
ENSMUSG00000041986	Elmod1	7,28079E-05	0,450989342
ENSMUSG00000033278	Ptprm	0,015333745	0,452191946
ENSMUSG00000050783	Htr1f	0,015480806	0,452397027
ENSMUSG00000016918	Sulf1	7,95623E-09	0,458878213
ENSMUSG00000037795	N4bp2	0,006954496	0,475695934
ENSMUSG00000054196	Cthrc1	0,003959486	0,47727586
ENSMUSG00000025255	Zfhx4	0,000240471	0,477863882
ENSMUSG00000036111	Lmo1	7,43091E-05	0,47947598
ENSMUSG00000038128	Camk4	0,002083642	0,480107348
ENSMUSG00000029552	Tes	0,000302034	0,483033991
ENSMUSG00000024222	Fkbp5	0,02431054	0,48430953

ENSMUSG00000030666	Calcb	2,06855E-06	0,484570461
ENSMUSG00000059173	Pde1a	0,000319544	0,484817396
ENSMUSG00000042363	Lgalsl	1,08495E-14	0,484852462
ENSMUSG00000100706	Gm19744	0,009591405	0,485311449
ENSMUSG00000028003	Lrat	0,045373867	0,486806446
ENSMUSG00000010755	Cars	7,0847E-14	0,489920244
ENSMUSG00000050377	Il31ra	0,022897241	0,490252459
ENSMUSG00000055865	Tafa3	7,02126E-08	0,490961261
ENSMUSG00000056498	Tmem154	0,002415581	0,506000348
ENSMUSG00000014782	Plekhg4	0,018299137	0,508435674
ENSMUSG00000068114	Ccdc134	6,57947E-05	0,510027266
ENSMUSG00000075270	Pde11a	0,000145106	0,513422019
ENSMUSG00000021032	Ngb	0,000208804	0,519157361
ENSMUSG00000052629	Gm9885	0,000714518	0,520460621
ENSMUSG00000042581	Thsd7b	1,9713E-06	0,524987132
ENSMUSG00000024601	Isoc1	2,67519E-17	0,543356594
ENSMUSG00000093502	Gm20700	5,15189E-05	0,544465552
ENSMUSG00000115317	Gm32618	0,021690053	0,54678771
ENSMUSG00000044164	Rnf182	1,93078E-05	0,557427204
ENSMUSG00000002459	Rgs20	0,012875977	0,563565968
ENSMUSG00000036960	Clca2	0,013107622	0,566958947
ENSMUSG00000029830	Svopl	0,037934413	0,601883238
ENSMUSG00000087651	1500009L16Rik	2,79894E-05	0,623953648
ENSMUSG00000050534	Htr5b	2,2881E-07	0,631242981
ENSMUSG00000051980	Casr	0,004781286	0,640877095
ENSMUSG00000090191	9230105E05Rik	0,020340283	0,643447462
ENSMUSG00000040569	Slc26a7	6,87983E-07	0,645695009
ENSMUSG00000041309	Nkx6-2	0,013248743	0,646210223
ENSMUSG00000037447	Arid5a	1,50777E-12	0,649817027
ENSMUSG00000020123	Avpr1a	0,013471685	0,66726083
ENSMUSG00000055409	Nell1	0,007576232	0,671008586
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ENSMUSG00000068117	Mei1	0,002460754	0,724107358
ENSMUSG00000044921	Rassf9	1,24266E-07	0,724406481
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ENSMUSG00000115062	4930544F09Rik	0,002035389	0,751266273
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ENSMUSG00000035910	Dcdc2a	0,000210139	0,783174513
ENSMUSG00000078958	Atp6ap1l	2,51821E-11	0,78390427
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ENSMUSG00000028294	Cfap206	3,10223E-18	0,940283805
ENSMUSG00000033470	Cysltr2	2,29573E-15	0,977588253
ENSMUSG00000091519	Skor2	4,28507E-14	0,979688835
ENSMUSG00000053441	Adamts19	3,64752E-08	1,059809248
ENSMUSG00000020811	Wscd1	7,67586E-10	1,064527016
ENSMUSG00000039954	Stk32a	1,80843E-26	1,163398686
ENSMUSG00000031491	Chrna6	5,73609E-32	1,260920817
ENSMUSG00000021478	Drd1	5,92755E-11	1,295484019
ENSMUSG00000056043	Rgs9bp	4,14617E-23	1,594836464

Sup data Table 2: List of DEGs identified in DRG of *Rosa26* icKO. Genes in common with the list of DEGs from *Avil* icKO are indicated in bold.

gene_id	gene_name	padj	log2 fold change
ENSMUSG00000079466	Prdm12	4,88E-59	-2,008959219
ENSMUSG00000050967	Creg2	2,6E-16	-1,215122611
ENSMUSG00000070551	Mrgprb5	1,61E-08	-0,996439748
ENSMUSG00000043110	Lrrn4	1,15E-07	-0,951971537
ENSMUSG00000037537	H2-M11	2,1E-05	-0,935850265
ENSMUSG00000075070	4932412D23Rik	3,49E-05	-0,914476967
ENSMUSG00000000794	Kcnn3	1,31E-08	-0,879355199
ENSMUSG00000005640	Insrr	3,6E-08	-0,874142688
ENSMUSG00000022935	Grik1	8E-25	-0,83753511
ENSMUSG00000072849	Serpina1e	0,000165	-0,817354794
ENSMUSG00000102128	Gm18349	1,06E-05	-0,780758638
ENSMUSG00000036251	Trpm8	8,3E-07	-0,772932567
ENSMUSG00000032807	Alox12b	0,001402	-0,765883953
ENSMUSG00000053886	Sh2d4a	8,57E-05	-0,756218005
ENSMUSG00000061184	Tmprss11c	1,94E-05	-0,755629456
ENSMUSG00000028813	CK137956	0,000662	-0,726446098
ENSMUSG00000108313	Gm45052	0,004808	-0,704208344
ENSMUSG00000078612	Fyb2	0,00159	-0,697434984
ENSMUSG00000034990	Otoa	1,7E-07	-0,694039649
ENSMUSG00000026971	Itgb6	0,001165	-0,691533894
ENSMUSG00000058057	Mettl7a3	1,57E-08	-0,689355742
ENSMUSG00000028794	A3galt2	1,39E-13	-0,683570833
ENSMUSG00000022304	Dpys	0,002756	-0,678238065
ENSMUSG00000090667	Mdfic2	3,77E-10	-0,647566669
ENSMUSG00000020155	Kcnmb1	2,86E-08	-0,641054282
ENSMUSG00000085224	Gm13425	6,28E-07	-0,628585056
ENSMUSG00000023073	Slc10a2	0,020058	-0,62418181
ENSMUSG00000027606	Dnajc5b	0,020562	-0,621024962
ENSMUSG00000085111	Ascl4	0,013669	-0,614184046
ENSMUSG00000091722	Siah3	2,08E-08	-0,610713799
ENSMUSG00000029188	Slc34a2	0,018055	-0,609222481
ENSMUSG00000108393	Gm32633	0,021986	-0,608131352
ENSMUSG00000018500	Adora2b	0,000165	-0,601274454
ENSMUSG00000035431	Sstr1	0,028175	-0,599752507
ENSMUSG00000074575	Kcng1	0,02109	-0,598478594
ENSMUSG00000024479	Mal2	1,66E-13	-0,594272485
ENSMUSG00000079465	Col4a3	0,003201	-0,593618014
ENSMUSG00000021118	Plek2	5,92E-05	-0,589940593
ENSMUSG00000043004	Gng2	5,47E-17	-0,583374525
ENSMUSG00000029281	Smr2	0,029065	-0,579858109
ENSMUSG00000037492	Zmat4	2,96E-08	-0,576796516

ENSMUSG00000030200	Bcl2l14	0,001015	-0,566809391
ENSMUSG00000096146	Kcnj11	0,014157	-0,557966576
ENSMUSG00000025105	Bnc1	0,048571	-0,549297786
ENSMUSG00000071317	Bves	3,97E-07	-0,537519937
ENSMUSG00000005968	Tuft1	0,000521	-0,529270844
ENSMUSG00000036760	Kcnk9	0,014157	-0,526823414
ENSMUSG00000038756	Ttll6	0,000797	-0,521324
ENSMUSG00000026765	Lypd6b	0,000101	-0,520492389
ENSMUSG00000036036	Zfp57	0,003825	-0,518684156
ENSMUSG00000039508	Calhm4	0,000164	-0,509945315
ENSMUSG00000027221	Chst1	0,004672	-0,508610852
ENSMUSG00000032420	Nt5e	2,16E-09	-0,506455901
ENSMUSG00000029503	P2rx2	0,011023	-0,505974645
ENSMUSG00000026828	Galnt5	2,44E-07	-0,505421762
ENSMUSG00000030323	lft122	0,00275	-0,503537491
ENSMUSG00000029994	Anxa4	0,026372	-0,502716897
ENSMUSG00000101581	C430002N11Rik	0,028428	-0,491330605
ENSMUSG00000043003	Rasef	0,005429	-0,489579356
ENSMUSG00000051029	Serpib1b	1,55E-05	-0,484177871
ENSMUSG00000063594	Gng8	0,014834	-0,476676938
ENSMUSG00000030525	Chrna7	0,013153	-0,475809154
ENSMUSG00000054988	Agtr1b	0,005812	-0,469644848
ENSMUSG00000055067	Smyd3	8,07E-11	-0,46250136
ENSMUSG00000030092	Cntn6	0,028546	-0,458086838
ENSMUSG00000040016	Ptger3	0,000155	-0,457281598
ENSMUSG00000015882	Lcorl	2,76E-06	-0,456475107
ENSMUSG00000046182	Gsg1l	0,015805	-0,452413261
ENSMUSG00000028072	Ntrk1	0,001713	-0,449454847
ENSMUSG00000087014	Gm16364	0,0062	-0,449232819
ENSMUSG00000020635	Fkbp1b	1,48E-26	0,452102521
ENSMUSG00000022856	Tmem41a	7,27E-08	0,454621586
ENSMUSG0000002228	Ppm1j	1,91E-11	0,455250313
ENSMUSG00000029552	Tes	0,000115	0,458279757
ENSMUSG00000047604	Frat2	0,000774	0,458325711
ENSMUSG00000044927	H1f10	0,015319	0,460477245
ENSMUSG00000042275	Pelo	0,03352	0,461399309
ENSMUSG00000009614	Sardh	0,010134	0,464635028
ENSMUSG00000113390	Gm32635	0,000187	0,472068017
ENSMUSG00000033177	Tmprss7	0,006947	0,47917211
ENSMUSG00000087382	Ctcflos	0,030131	0,480374905
ENSMUSG00000044164	Rnf182	0,000233	0,481806072
ENSMUSG00000031210	Gpr165	0,002506	0,482126096
ENSMUSG00000046806	Cyren	0,005268	0,484198749
ENSMUSG00000020099	Unc5b	0,003825	0,4856604

ENSMUSG00000037759	Ptger2	0,006342	0,491715773
ENSMUSG00000038354	Ankrd35	4,73E-05	0,493341078
ENSMUSG00000042581	Thsd7b	9,69E-08	0,510327926
ENSMUSG00000023945	Slc5a7	0,025995	0,514961517
ENSMUSG00000027230	Creb3l1	0,006703	0,516163779
ENSMUSG00000031492	Chrn3	0,015667	0,517642458
ENSMUSG00000059146	Ntrk3	3,35E-05	0,518158011
ENSMUSG00000022096	Hr	1,58E-07	0,520945468
ENSMUSG00000033470	Cysltr2	2,29E-05	0,526297229
ENSMUSG00000004366	Sst	0,029391	0,527078629
ENSMUSG00000112739	Gm20597	0,014813	0,536932706
ENSMUSG00000089762	Ier5l	0,003596	0,537949199
ENSMUSG00000021765	Fst	0,030131	0,538141161
ENSMUSG00000030376	Slc8a2	0,007338	0,544046923
ENSMUSG00000010755	Cars	2,92E-20	0,550610904
ENSMUSG00000021032	Ngb	8,9E-06	0,557502735
ENSMUSG00000030666	Calcb	8,75E-12	0,567460179
ENSMUSG00000024222	Fkbp5	0,000318	0,576882551
ENSMUSG00000041930	Fam222a	0,003241	0,577587007
ENSMUSG00000091175	S100a7l2	0,016582	0,584988642
ENSMUSG00000028294	Cfap206	7,5E-09	0,606630051
ENSMUSG00000066687	Zbtb16	0,024926	0,607342018
ENSMUSG00000055409	Nell1	0,009713	0,612649928
ENSMUSG00000051980	Casr	0,002696	0,619073815
ENSMUSG00000036960	Clca2	0,002841	0,620140377
ENSMUSG00000068117	Mei1	0,00866	0,631708241
ENSMUSG00000104610	Gm567	0,000526	0,633077879
ENSMUSG00000115062	4930544F09Rik	0,012705	0,638681636
ENSMUSG00000035910	Dcdc2a	0,002042	0,654676394
ENSMUSG00000043557	Mdga1	2,18E-05	0,657832889
ENSMUSG00000050534	Htr5b	5,66E-09	0,662761743
ENSMUSG00000006344	Ggt5	4,28E-06	0,668947736
ENSMUSG00000074766	Ism1	1,55E-09	0,669250196
ENSMUSG00000047259	Mc4r	0,005128	0,691369893
ENSMUSG00000037447	Arid5a	7,22E-17	0,697435544
ENSMUSG00000063415	Cyp26b1	0,002176	0,720855201
ENSMUSG00000036111	Lmo1	2,04E-14	0,752847573
ENSMUSG00000021647	Cartpt	1,47E-05	0,786644836
ENSMUSG00000015134	Aldh1a3	1,44E-05	0,792046215
ENSMUSG00000049115	Agtr1a	6,61E-15	0,792971772
ENSMUSG00000052629	Gm9885	1,91E-10	0,815965861
ENSMUSG00000074934	Grem1	0,000155	0,846626835
ENSMUSG00000026389	Steap3	1,7E-15	0,85720776
ENSMUSG00000041309	Nkx6-2	5,92E-05	0,874545108

ENSMUSG00000078958	Atp6ap1l	8,48E-20	0,987706691
ENSMUSG00000031491	Chrna6	6,31E-26	1,0070795
ENSMUSG00000020811	Wscd1	3,93E-10	1,044960286
ENSMUSG00000091519	Skor2	5,56E-21	1,092590668
ENSMUSG00000039954	Stk32a	1,51E-37	1,231914038
ENSMUSG00000056043	Rgs9bp	3,49E-15	1,240084519
ENSMUSG00000021478	Drd1	9,15E-11	1,270111152

Sup data Table 3: List of DEG identified in TG of *Rosa26* icKO. Genes in common with the list of DEGs from DRG of *Rosa26* icKO are indicated in bold. Genes in common with the list of DEGs from DRG of *Avil* icKO are in italic.

gene_id	gene_name	padj	log2 fold change
ENSMUSG00000079466	<i>Prdm12</i>	5,28E-49	-1,474695164
ENSMUSG00000050967	<i>Creg2</i>	6,7E-25	-0,93852079
ENSMUSG00000005640	<i>Insrr</i>	1,07E-15	-0,849368472
ENSMUSG00000028072	<i>Ntrk1</i>	6E-10	-0,632605234
ENSMUSG00000020155	<i>Kcnmb1</i>	8,25E-10	-0,626617269
ENSMUSG00000085224	<i>Gm13425</i>	4,02E-12	-0,579449626
ENSMUSG00000029281	<i>Smr2</i>	1,4E-06	-0,578229851
ENSMUSG00000022935	<i>Grik1</i>	4,13E-12	-0,54169118
ENSMUSG00000059456	<i>Ptk2b</i>	9,45E-08	-0,513249628
ENSMUSG00000022840	<i>Adcy5</i>	6E-10	-0,510500219
ENSMUSG00000063796	<i>Slc22a8</i>	7,16E-05	-0,50682555
ENSMUSG00000039323	<i>Igfbp2</i>	0,000115	-0,496065754
ENSMUSG00000004655	<i>Aqp1</i>	4,13E-12	-0,491476955
ENSMUSG00000029843	<i>Slc13a4</i>	0,000172	-0,484454347
ENSMUSG00000086425	<i>F730016J06Rik</i>	0,000307	-0,473255713
ENSMUSG00000048424	<i>Ranbp3l</i>	0,000333	-0,462607437
ENSMUSG00000030525	<i>Chrna7</i>	4,27E-09	-0,455049524
ENSMUSG00000015090	<i>Ptgds</i>	0,000804	-0,449116047
ENSMUSG00000024650	<i>Slc22a6</i>	0,000706	-0,448653484
ENSMUSG00000063594	<i>Gng8</i>	0,000578	-0,440793251
ENSMUSG00000034773	<i>Hrob</i>	0,001385	-0,437359926
ENSMUSG00000048387	<i>Osr1</i>	0,001535	-0,42563754
ENSMUSG00000042671	<i>Rgs8</i>	0,000172	-0,42450219
ENSMUSG00000027840	<i>Wnt2b</i>	6,2E-05	-0,423894512
ENSMUSG00000019876	<i>Pkib</i>	0,000148	-0,419364094
ENSMUSG00000025867	<i>Cplx2</i>	9,45E-08	-0,409165088
ENSMUSG00000027737	<i>Slc7a11</i>	0,002393	-0,409069744
ENSMUSG00000021070	<i>Bdkrb2</i>	0,000324	-0,40901335
ENSMUSG00000029188	<i>Slc34a2</i>	0,002894	-0,406876773
ENSMUSG00000079507	<i>H2-Q1</i>	0,002573	-0,405518027
ENSMUSG00000028794	<i>A3galt2</i>	1,93E-05	-0,405449484
ENSMUSG00000078612	<i>Fyb2</i>	0,00249	-0,404939972
ENSMUSG00000036814	<i>Slc6a20a</i>	0,003626	-0,404845606
ENSMUSG00000028785	<i>Hpca</i>	0,002971	-0,403398701
ENSMUSG00000027654	<i>Fam83d</i>	0,004502	-0,403359779
ENSMUSG00000045288	<i>Ush1g</i>	0,004281	-0,403284069
ENSMUSG00000026259	<i>Ngef</i>	0,004635	-0,401446841
ENSMUSG00000046352	<i>Gjb2</i>	0,004241	-0,399378328
ENSMUSG00000020884	<i>Asgr1</i>	0,004491	-0,395902762
ENSMUSG00000105576	<i>Gm42164</i>	0,00271	-0,390783215

ENSMUSG00000055235	Wdr86	0,007609	-0,388255775
ENSMUSG00000032796	Lama1	0,00249	-0,386750336
ENSMUSG00000018459	Slc13a3	0,008054	-0,386666692
ENSMUSG00000058057	Mettl7a3	0,000524	-0,386535283
ENSMUSG00000027221	Chst1	0,001963	-0,38572861
ENSMUSG00000032243	Itga11	0,003531	-0,384436287
ENSMUSG00000021294	<i>Kif26a</i>	0,006021	-0,384023682
ENSMUSG00000026062	Slc9a2	0,008651	-0,382596024
ENSMUSG00000048373	Fgfbp1	0,009005	-0,377403976
ENSMUSG00000013584	Aldh1a2	0,011223	-0,376428571
ENSMUSG00000074743	Thbd	0,011304	-0,374736809
ENSMUSG00000033174	Mgll	0,003076	-0,373699983
ENSMUSG00000048939	Atp13a5	0,010162	-0,372870147
ENSMUSG00000046402	Rbp1	0,00724	-0,371006991
ENSMUSG00000039004	Bmp6	0,013224	-0,369453785
ENSMUSG00000040659	Efhd2	0,000652	-0,369407015
ENSMUSG00000035200	Chrn4	0,008054	-0,367435675
ENSMUSG00000087014	Gm16364	0,002528	-0,36679738
ENSMUSG00000058396	Gpr182	0,01497	-0,365286438
ENSMUSG00000026475	Rgs16	0,013483	-0,364144851
ENSMUSG00000041120	Nbl1	0,00249	-0,363495771
ENSMUSG00000020473	Aebp1	0,01568	-0,362772496
ENSMUSG00000043099	Hic1	0,01497	-0,361377919
ENSMUSG00000032269	<i>Htr3a</i>	0,000107	-0,358776614
ENSMUSG00000032128	Robo3	0,013554	-0,356580761
ENSMUSG00000036760	Kcnk9	0,021804	-0,352661296
ENSMUSG00000070304	Scn2b	0,017388	-0,347408606
ENSMUSG00000034990	Otoa	0,026486	-0,346044648
ENSMUSG00000041559	Fmod	0,019901	-0,345560304
ENSMUSG00000068735	Trp53i11	0,029986	-0,341278025
ENSMUSG00000042215	Bag2	0,000534	-0,337699922
ENSMUSG00000024479	Mal2	2,59E-06	-0,337672296
ENSMUSG00000032420	Nt5e	0,000296	-0,33318022
ENSMUSG00000102128	Gm18349	0,017818	-0,333041054
ENSMUSG00000017344	Vtn	0,038325	-0,332357712
ENSMUSG00000024366	<i>Gfra3</i>	0,003385	-0,331853806
ENSMUSG00000006014	Prg4	0,034351	-0,327774166
ENSMUSG00000009378	Slc16a12	0,010424	-0,327413712
ENSMUSG00000021822	Plau	0,013354	-0,326378974
ENSMUSG00000042604	Kcna4	0,000456	-0,325950251
ENSMUSG00000028125	Abca4	0,040702	-0,325724792
ENSMUSG00000024036	Slc37a1	0,002346	-0,325707489
ENSMUSG00000005968	Tuft1	0,044266	-0,323561884
ENSMUSG00000054477	Kcnn2	0,005725	-0,322494484