

SI Appendix

Oviductal motile cilia are essential for oocyte pickup, but dispensable for sperm and embryo transport

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This file contains 9 figures (Fig. S1-S9) and 4 tables (Tables S1-S4), as well as Movie Legends.

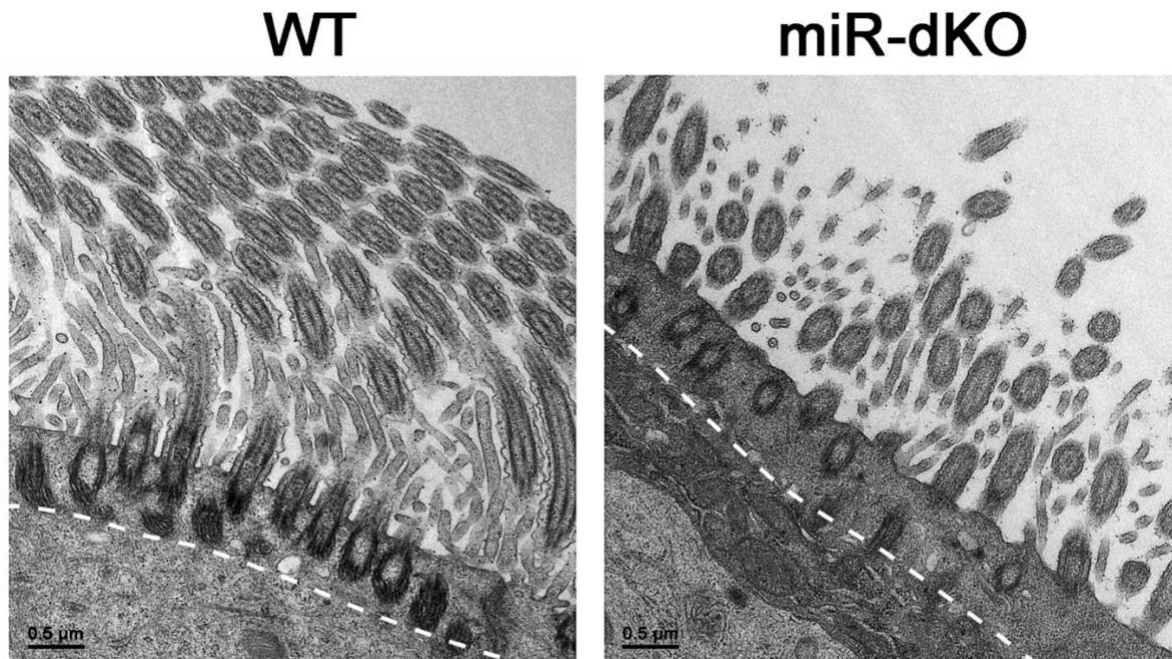


Fig. S1. TEM images showing the ultra-structure of the WT and miR-dKO oviductal epithelia. Basal bodies (broken dash lines) are abundant and well in the WT oviductal epithelium, but the basal bodies are much fewer and misaligned in the miR-dKO oviductal epithelium. Scale bar = 0.5 μm . Five WT and miR-dKO mice were analyzed, and representative images are shown.

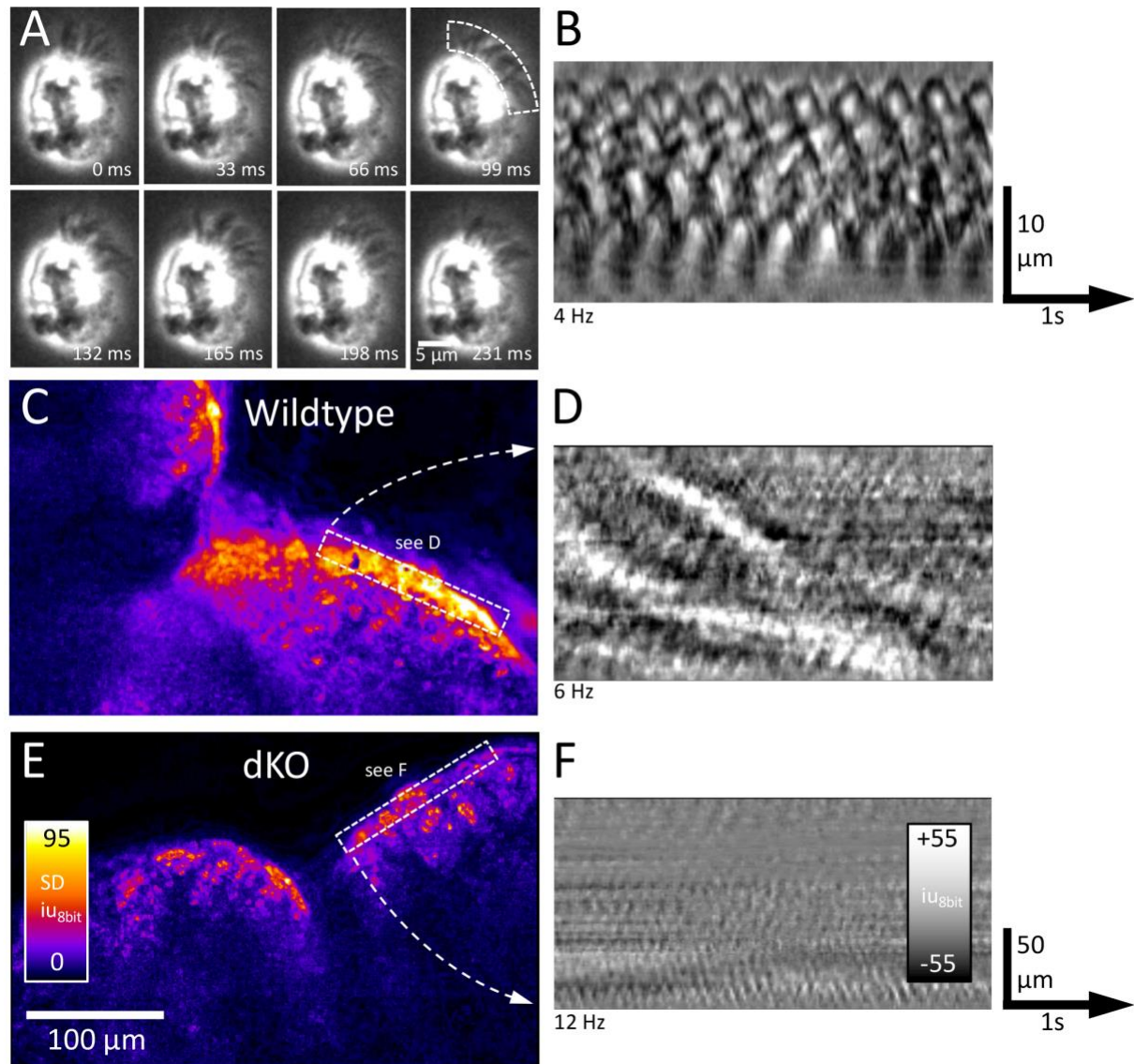


Fig. S2. Cilia movement in the epithelium of oviductal infundibulum. (A) Isolated ciliated cells from the infundibulum of wildtype mice were bulbous with ciliated membrane typically occupying a quadrant of the cell. (B) Oscillations of cilia, detected as changes in translucency due to regional clumping and separation of cilia was monitored using spatiotemporal maps constructed in an arc around the fringe. While the overall frequency of oscillation was relatively uniform within the fringe, slight changes in the phase of movement in small regions created interference patterns that changed every 1-2 seconds. (C) Wholemount oviduct preparation from a wildtype mouse that shows intense cilia movement, visualized as the deviation of intensity using standard deviation maps. (D) Spatiotemporal maps constructed along the edge of the epithelial lining (white dashed rectangle) showed uniform, strong oscillations from which slow propagating sweeping motions emerged (see white streaks). (E) Wholemount oviduct preparations of the infundibulum from miR-dKO (dKO) mice showed patchy regions of the epithelial lining that had weak oscillations. (F) The small amplitude oscillations of cilia occurred at a high frequency and emergent sweeping motions were absent.

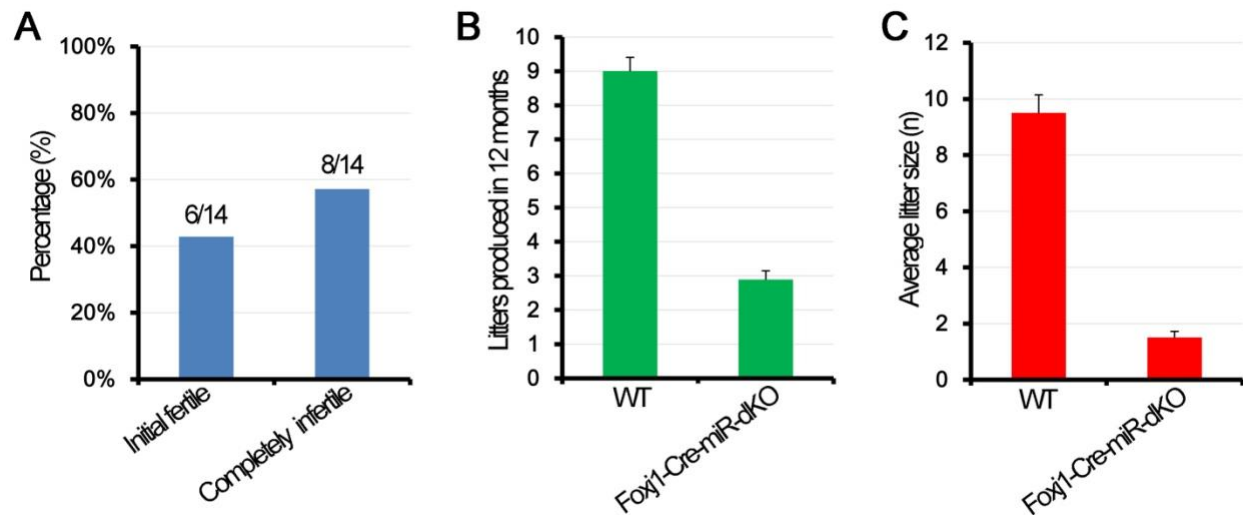


Fig. S3. Fecundity of female mice with cilia-specific knockout of miR-34b/c and miR-449 clusters (Foj1-Cre-miR-dKO). (A) A total of 14 Foj1-Cre-miR-dKO females were mated with fertility-proved males (one male with one female) for 12 months to test fecundity. ~57% (8 out of 14) Foj1-Cre-miR-dKO females were completely infertile, whereas the rest (~43%) were initially fertile, but their fecundity decreased rapidly with age and became completely infertile after 6 months of age. (B) The number of litters produced by WT and initially fertile Foj1-Cre-miR-dKO females (n=6) during the 12 month-long fecundity tests. (C) Litter size of WT and initially fertile Foj1-Cre-miR-dKO females (n=6) during the 12 month-long fecundity tests.

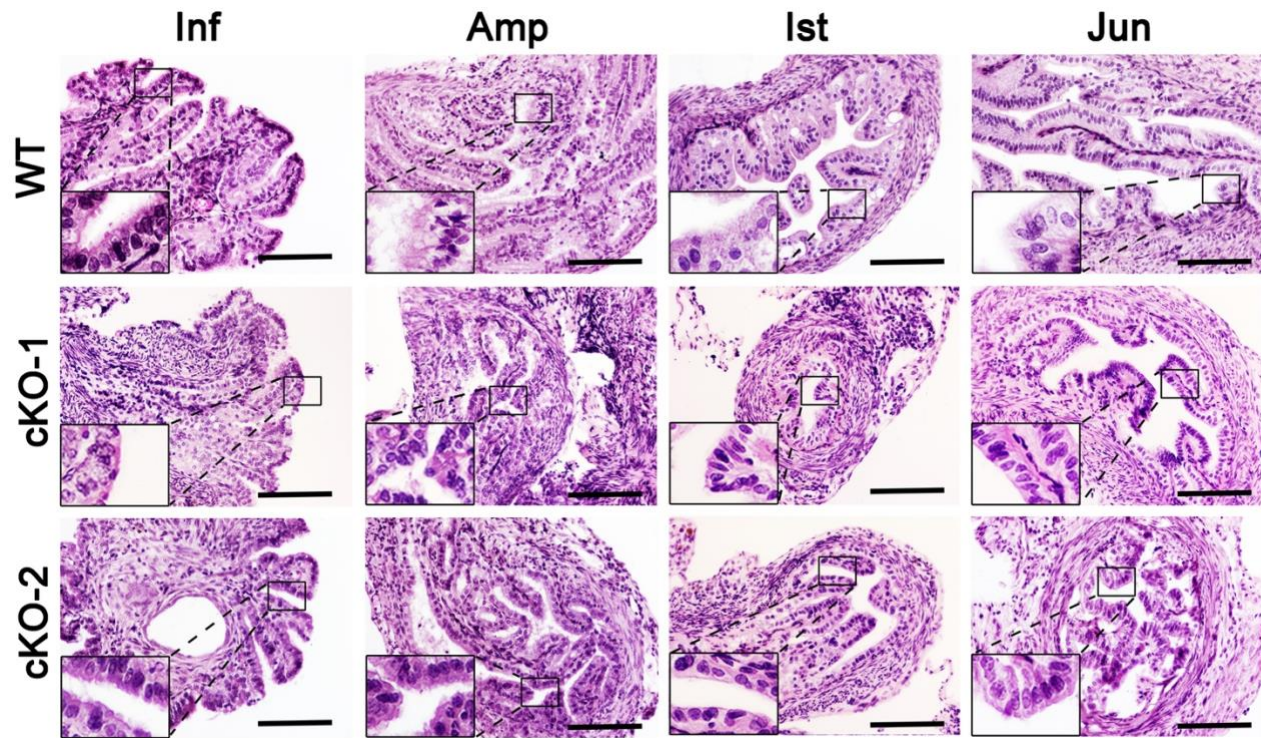


Fig. S4. Histology of the WT and conditional KO (Foxj1-Cre-miR-dKO) oviducts. The upper panels show normal cilia in the epithelium of infundibulum (Inf), ampulla (Amp), isthmus (Ist) and uterotubal junction (Jun). The middle panels indicate that cilia are absent in the epithelium of the four oviductal regions in those completely infertile Foxj1-Cre-miR-dKO females (cKO-1). The lower panels display partial cilia in the epithelium of the four oviductal regions in those initially fertile Foxj1-Cre-miR-dKO females (cKO-2). Insets represent the digital enlargement of framed areas in the original panels. n=4 oviducts. Scale bar = 50 μ m.

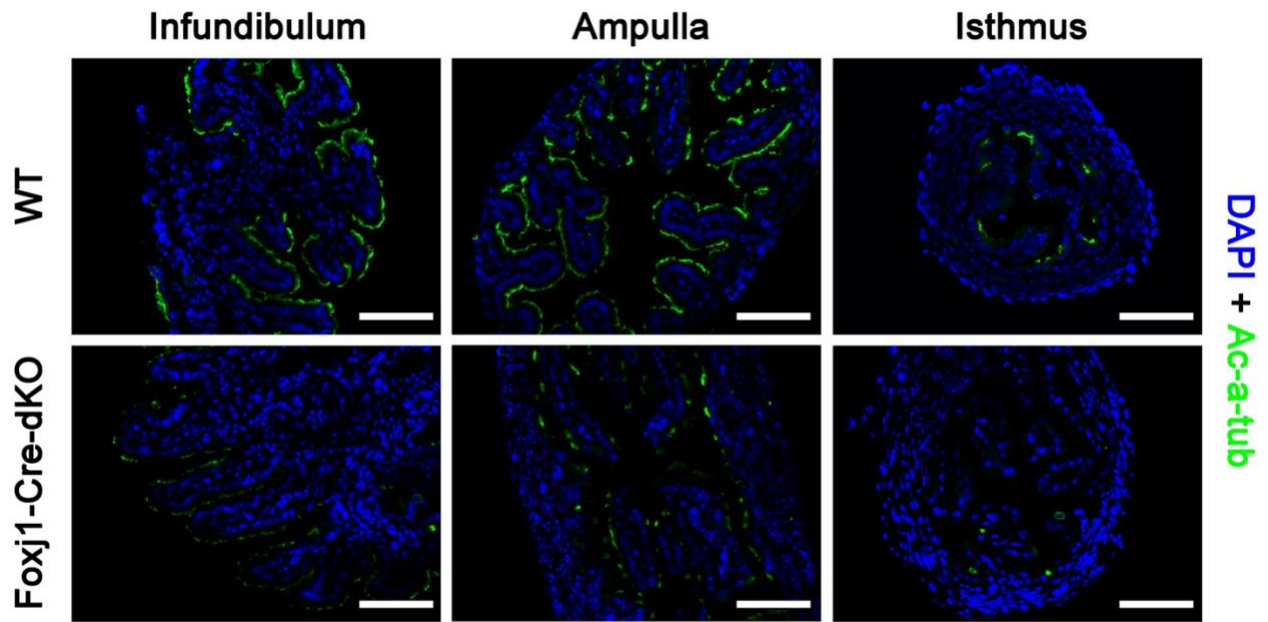


Fig. S5. Immunofluorescent staining of Ac-a-Tubulin, a ciliated cell marker, in the infundibulum, ampulla and isthmus of WT and Foxj1-Cre-miR-dKO oviducts. Three mice for each genotype were analyzed. Scare bar = 50 μ m.

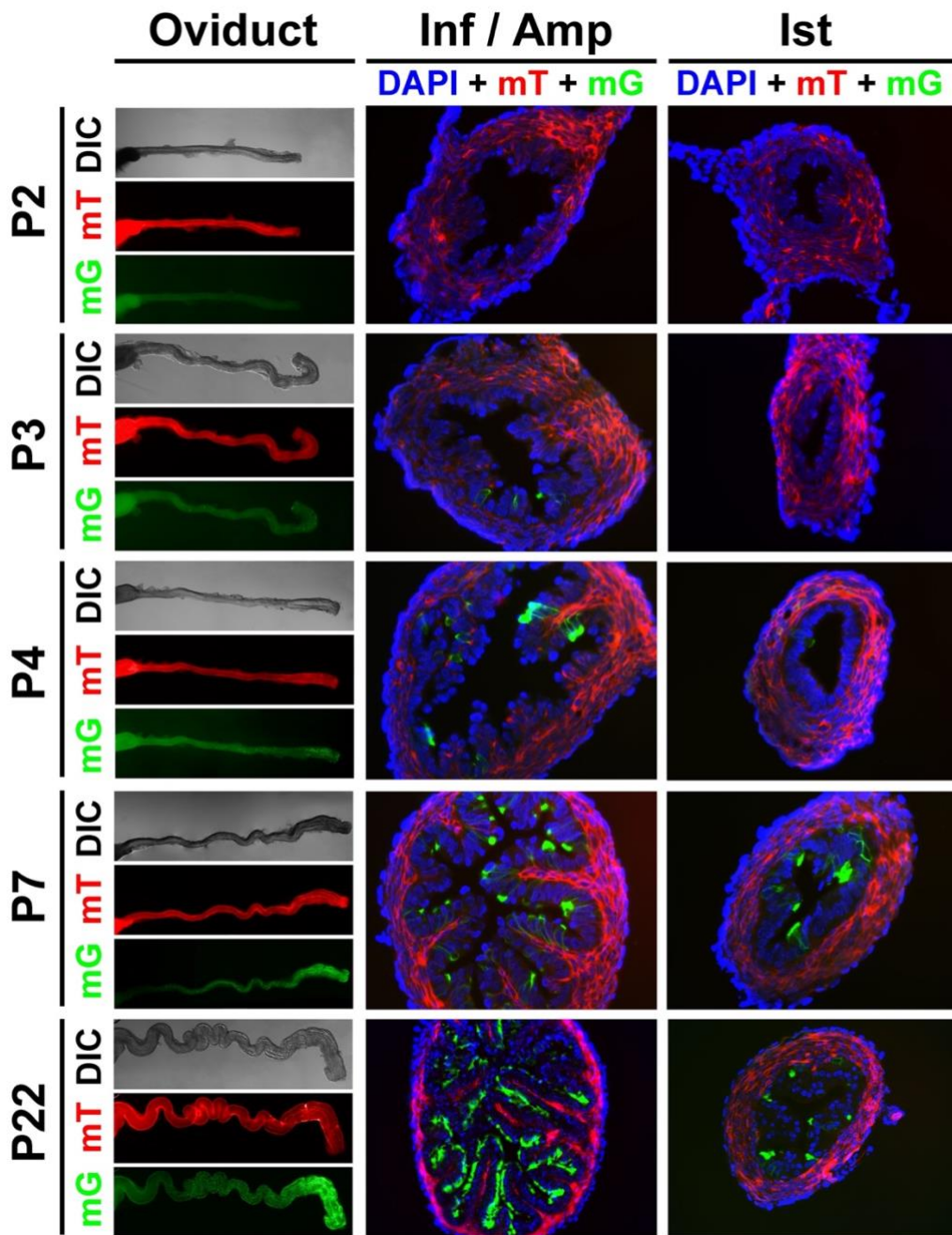


Fig. S6. Generation of a ciliated cell-specific, dual reporter mouse line (Foxj1-Cre-mTmG), which expresses membrane-tagged GFP (mG) in ciliated cells in the oviductal epithelium. In Foxj1-Cre-mTmG female mice, ciliated cells are mG-positive, whereas non-ciliated cells remain mT-positive (red). mG-positive ciliated cells start to appear in the Foxj1-Cre-mTmG oviducts at postnatal day 4 (P4), suggesting that Foxj1-Cre-mediated inactivation of the two miRNA clusters occurs after P4.

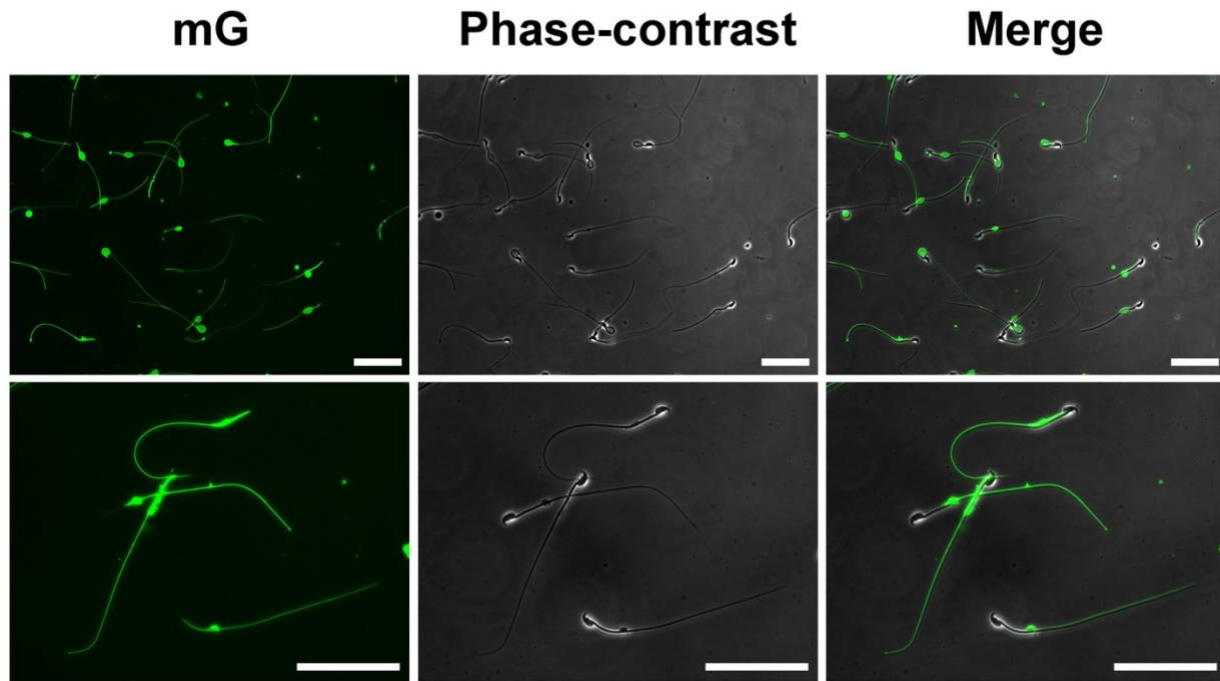


Fig. S7. Low- (Upper panels) and high-power (Lower panels) micrographs showing the “green” fluorescent sperm derived from *Stra8-Cre-mTmG^{+Tg}* males. Scale bar= 50 μ m. Scale bar= 50 μ m.

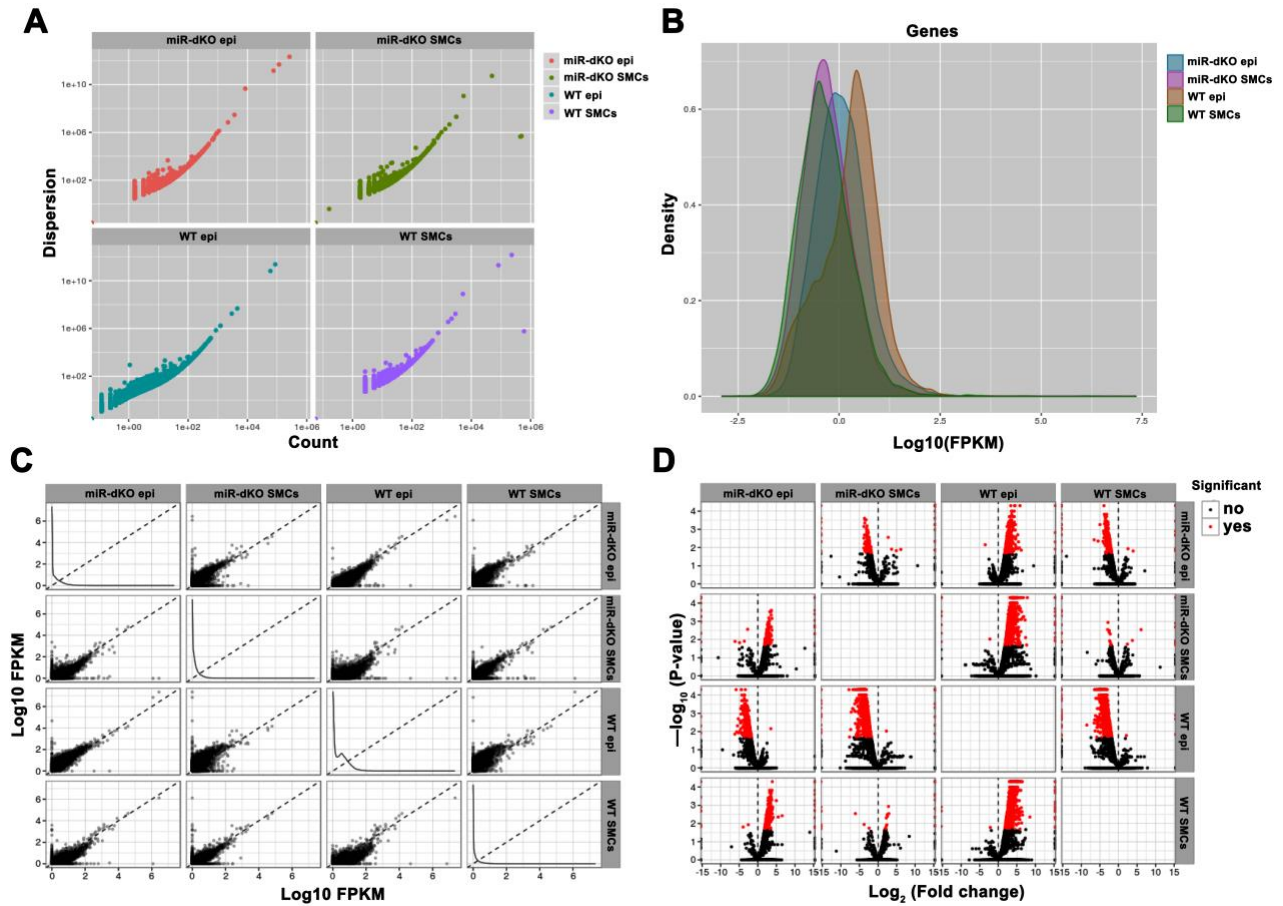


Fig. S8. Quality control data of the RNA-Seq analyses. (A) Overdispersion plots demonstrating the estimated overdispersion for each sample as a quality control measure. (B) Density plots showing the distribution of \log_{10} normalized FPKM scores across four sample groups. (C) Scatterplot matrix showing the pairwise scatterplots of the \log_{10} normalized FPKM scores across four sample groups. (D) The volcano plot showing the pairwise volcano plots of the \log_2 fold change and associated \log_{10} p-value across four sample groups.

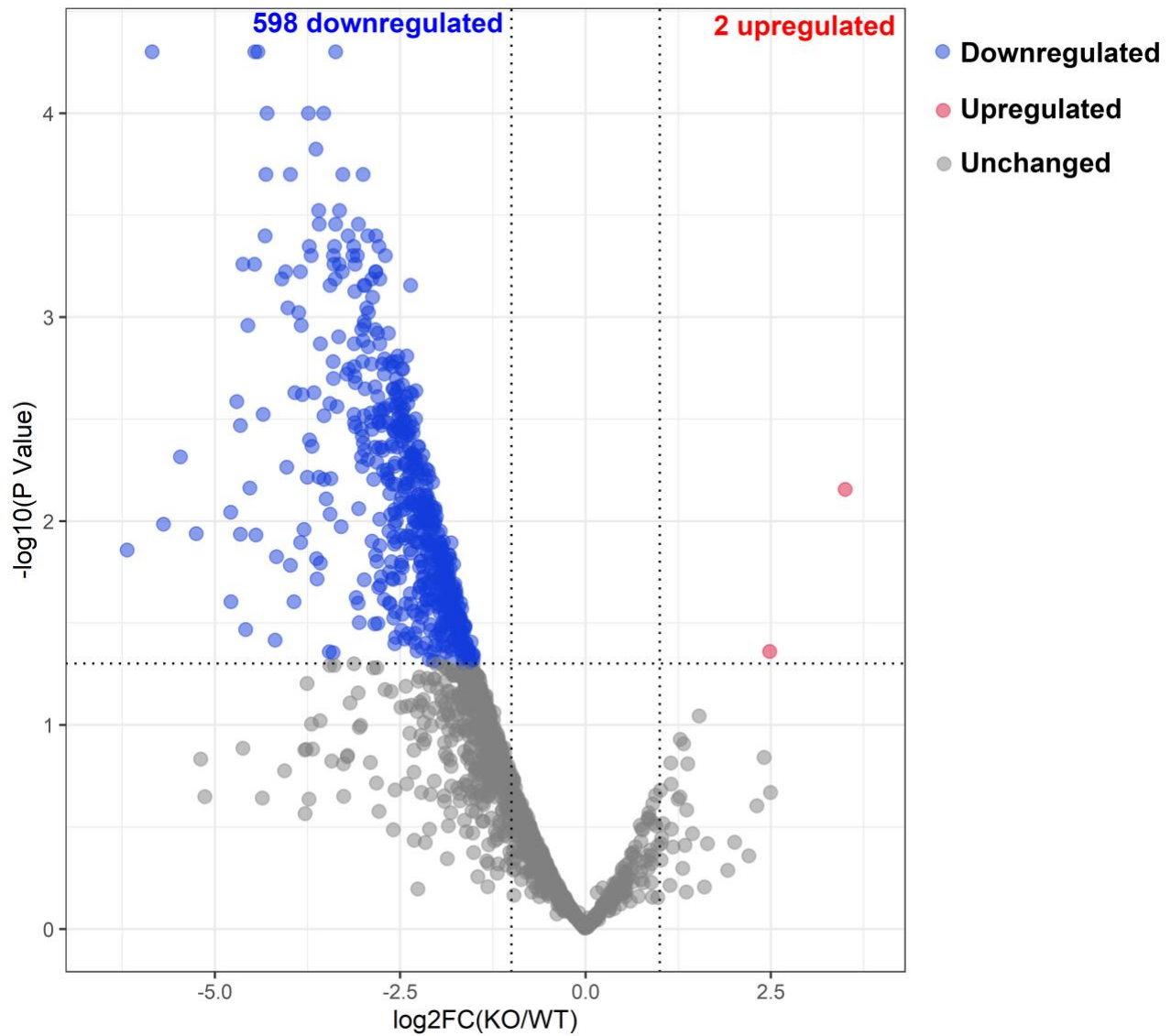


Fig. S9. Scatter plots showing the differential expression genes (DEGs) in the epithelium cells of miR-dKO and WT oviducts determined by RNA-seq analyses. A total of 600 genes were identified to be dysregulated in miR-dKO epithelium cells compared to that of WT controls. Blue dots indicate downregulated genes identified in miR-dKO oviductal epithelium cells, and red dots indicate upregulated genes identified in miR-dKO oviductal epithelium cells.

Movie Legends:

Movie S1. Cilia beating in the WT oviductal epithelium.

Movie S2. Cilia beating in the miR-dKO oviductal epithelium.

Movie S3. Dispersed single cells of the WT oviductal epithelium under lower magnification (10X).

Movie S4. Dispersed single cells of the miR-dKO oviductal epithelium under lower magnification (10X).

Movie S5. One WT ciliated cell in the infundibulum region under higher magnification (100X).

Movie S6. One miR-dKO ciliated cell with immature cilia in the infundibulum region under higher magnification (100X).

Table S1. The significantly dys-regulated gene transcripts as determined by RNA-Seq in oviductal epithelium cells of miR-dKO mice.

test_id	gene_id	gene	locus	sample_1	sample_2	status	value_1	value_2	log2.fold_c	test_stat	p_value	significant
XLOC_000002	XLOC_000002	Tcea1	chr1:4847774-4887990	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.09178	11.638	2.47604	3.1481	0.00405	yes
XLOC_000037	XLOC_000037	Efhc1	chr1:20941706-20980922	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.28653	18.1676	3.81981	4.4162	0.0024	yes
XLOC_000095	XLOC_000095	Nck2	chr1:43502595-43627363	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.12947	13.5668	2.11609	2.57625	0.0198	yes
XLOC_000096	XLOC_000096	1500015O10Rik	chr1:43787446-43799409	AAdko-FF-TTep	AAwt-FF-TTep	OK	57.6679	185.152	1.68287	2.12495	0.03565	yes
XLOC_000129	XLOC_000129	Bzw1	chr1:58449979-58464170	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.25609	16.0899	2.83426	3.64622	0.00115	yes
XLOC_000155	XLOC_000155	Eef1b2	chr1:63223404-63227060	AAdko-FF-TTep	AAwt-FF-TTep	OK	12.8904	42.839	1.73263	2.20416	0.0305	yes
XLOC_000170	XLOC_000170	Spag16	chr1:69873543-70771706	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.38781	12.1026	3.12444	2.51978	0.003	yes
XLOC_000224	XLOC_000224	Mff	chr1:82721492-82749034	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.00802	11.6426	1.95253	2.3178	0.03295	yes
XLOC_000327	XLOC_000327	Serpinb11	chr1:109258865-109278045	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.522608	14.3684	4.78102	4.0736	0.0249	yes
XLOC_000435	XLOC_000435	Ivns1abp	chr1:153191627-153211575	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.10538	24.6544	2.989	3.95678	0.0007	yes
XLOC_000490	XLOC_000490	4930455F23Rik	chr1:166205728-166217978	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.621319	23.6516	5.25046	5.12495	0.01155	yes
XLOC_000500	XLOC_000500	Ildr2	chr1:168184206-168247250	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.79248	13.431	2.26595	2.80895	0.0066	yes
XLOC_000515	XLOC_000515	1700009P17Rik	chr1:173044199-173057098	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.43493	49.0554	3.83606	4.46668	0.0011	yes
XLOC_000596	XLOC_000596	Trp53bp2	chr1:184339297-184392567	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.75825	27.6985	2.88168	3.04349	0.00355	yes
XLOC_000631	XLOC_000631	Irf6	chr1:194979305-194998229	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.62111	13.2488	1.87136	2.51932	0.01535	yes
XLOC_000640	XLOC_000640	Rp1	chr1:4234693-4399358	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.07524	13.6095	3.66188	3.91114	0.00235	yes
XLOC_000652	XLOC_000652	Cops5	chr1:10014911-10027979	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.27648	15.7767	3.62755	3.36939	0.0153	yes
XLOC_000658	XLOC_000658	Tram1	chr1:13554782-13579945	AAdko-FF-TTep	AAwt-FF-TTep	OK	10.4122	36.0694	1.7925	2.30255	0.0211	yes
XLOC_000694	XLOC_000694	Ptp4a1	chr1:30997147-31006600	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.34353	16.277	2.28339	3.04545	0.00495	yes
XLOC_000759	XLOC_000759	Mfsd6	chr1:52713147-52784162	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.71601	15.7563	1.74029	2.234	0.02765	yes
XLOC_000771	XLOC_000771	Sf3b1	chr1:55042012-55084322	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.50013	19.3124	2.94945	3.78236	0.0009	yes
XLOC_000822	XLOC_000822	Fn1	chr1:71632046-71699808	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.54584	23.4486	2.7253	3.18388	0.00565	yes
XLOC_000829	XLOC_000829	Igfbp5	chr1:72904638-72921439	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.87156	12.274	2.71329	3.59642	0.0016	yes
XLOC_000844	XLOC_000844	Ccdc108	chr1:74948646-74982173	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.08264	47.1016	3.5282	3.61303	0.00305	yes
XLOC_000868	XLOC_000868	Cul3	chr1:80262198-80337330	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.9603	11.8759	2.59889	3.40535	0.00225	yes
XLOC_000870	XLOC_000870	Irs1	chr1:82229679-82288014	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.84388	15.2099	2.41907	3.03421	0.00655	yes
XLOC_000901	XLOC_000901	Arl4c	chr1:90594800-90598766	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.3762	12.1942	1.85272	2.47961	0.01865	yes
XLOC_000971	XLOC_000971	Actr3	chr1:127289481-127332304	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.86165	17.2199	1.82456	2.41121	0.01715	yes
XLOC_000981	XLOC_000981	Dars	chr1:130260283-130313993	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.02663	14.5157	2.84045	2.76006	0.00435	yes
XLOC_000984	XLOC_000984	Cd55	chr1:132334755-132359833	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.94447	17.4869	2.14837	2.77156	0.00955	yes
XLOC_001120	XLOC_001120	Atp1b1	chr1:166237805-166388486	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.4851	14.5457	2.54922	2.7912	0.01265	yes
XLOC_001140	XLOC_001140	Pbx1	chr1:170049494-170362389	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.64854	16.3565	2.16447	2.72827	0.00895	yes
XLOC_001171	XLOC_001171	Pea15a	chr1:174126859-174136912	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.59173	20.1649	1.85048	2.47927	0.01465	yes
XLOC_001209	XLOC_001209	Adss	chr1:179693308-179726640	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.13389	12.6792	2.5709	3.25595	0.0052	yes
XLOC_001219	XLOC_001219	H3f3a	chr1:182732698-182743734	AAdko-FF-TTep	AAwt-FF-TTep	OK	23.6437	114.783	2.27937	2.9502	0.0055	yes
XLOC_001432	XLOC_001432	Arhgap18	chr10:26492317-26638454	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.01014	13.4665	3.73675	4.82752	0.0001	yes
XLOC_001504	XLOC_001504	Smpd13a	chr10:57514349-57531636	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.34163	15.5204	1.83786	2.31601	0.0302	yes
XLOC_001514	XLOC_001514	Micu1	chr10:59165382-59326870	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.30177	14.7034	2.67533	3.20284	0.0056	yes
XLOC_001573	XLOC_001573	Vpreb3	chr10:75405742-75412394	AAdko-FF-TTep	AAwt-FF-TTep	OK	7.16544	42.2535	2.55994	2.3438	0.03715	yes
XLOC_001579	XLOC_001579	2610028H24Rik	chr10:75911825-75978602	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.5059	17.9268	2.35427	2.38996	0.02555	yes
XLOC_001701	XLOC_001701	Tcp11l2	chr10:84039691-84077100	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.77109	18.6688	1.96824	2.61737	0.0141	yes

XLOC_001856	XLOC_001856	Ptges3	chr10:127496037-127514310	AAdko-FF-TTep	AAwt-FF-TTep	OK	10.2239	59.6759	2.5452	3.24557	0.0034	yes
XLOC_001868	XLOC_001868	Cs	chr10:127774887-127799535	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.22961	15.1333	2.76286	3.55357	0.0029	yes
XLOC_001909	XLOC_001909	Esr1	chr10:5340926-5734686	AAdko-FF-TTep	AAwt-FF-TTep	OK	12.8338	66.0622	2.36388	1.87058	0.0227	yes
XLOC_001953	XLOC_001953	Myb	chr10:20844735-20880790	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.05083	16.2277	2.98418	3.88982	0.00105	yes
XLOC_001988	XLOC_001988	Tpd52l1	chr10:31052096-31165727	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.25432	14.413	2.14694	2.46099	0.0244	yes
XLOC_001990	XLOC_001990	Rnf217	chr10:31221589-31329531	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.09166	14.9168	1.86618	2.37844	0.02065	yes
XLOC_002055	XLOC_002055	Serinc1	chr10:57235581-57252335	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.53825	11.9936	2.24036	2.91407	0.0088	yes
XLOC_002076	XLOC_002076	Tspan15	chr10:61648143-61693966	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.2208	11.6718	1.85754	2.43088	0.02185	yes
XLOC_002227	XLOC_002227	AppI2	chr10:83062778-83111421	AAdko-FF-TTep	AAwt-FF-TTep	OK	7.36628	23.3565	1.66482	2.08231	0.04575	yes
XLOC_002229	XLOC_002229	Ckap4	chr10:83989049-83996633	AAdko-FF-TTep	AAwt-FF-TTep	OK	10.7571	45.806	2.09025	2.58017	0.01765	yes
XLOC_002235	XLOC_002235	D10Wsu52e	chr10:85401381-85420538	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.84423	16.449	2.09723	2.5107	0.02415	yes
XLOC_002238	XLOC_002238	Hsp90b1	chr10:86153585-86168189	AAdko-FF-TTep	AAwt-FF-TTep	OK	7.57662	25.8914	1.77285	2.25712	0.03135	yes
XLOC_002258	XLOC_002258	Rmst	chr10:91544490-91627923	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.6356	20.1517	2.9347	3.87672	0.0004	yes
XLOC_002287	XLOC_002287	Nudt4	chr10:95009640-95026801	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.35937	54.9173	3.11031	3.8335	0.00055	yes
XLOC_002316	XLOC_002316	Atxn7l3b	chr10:112362483-112366082	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.50433	12.6306	2.33442	3.00983	0.00635	yes
XLOC_002330	XLOC_002330	Cct2	chr10:116488053-116500870	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.79206	28.3012	2.28871	3.08426	0.0023	yes
XLOC_002340	XLOC_002340	Rap1b	chr10:117250936-117283073	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.35213	11.7513	3.11952	3.72446	0.00175	yes
XLOC_002537	XLOC_002537	Sec14l3	chr11:3964855-3978993	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.37408	19.7852	3.84788	4.94456	0.0006	yes
XLOC_002579	XLOC_002579	Ppp3r1	chr11:17059300-17100383	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.00104	12.0689	2.59247	3.31859	0.00355	yes
XLOC_002584	XLOC_002584	Rab1	chr11:20101604-20126859	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.82114	19.1833	2.32778	3.11075	0.00345	yes
XLOC_002591	XLOC_002591	Cct4	chr11:22890592-22904433	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.56517	24.3491	2.12937	2.84304	0.0081	yes
XLOC_002611	XLOC_002611	Rtn4	chr11:29592897-29926033	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.41814	18.5495	2.44009	3.0056	0.00875	yes
XLOC_002693	XLOC_002693	Hnrnp1	chr11:50191220-50200260	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.40167	29.4234	2.74084	3.47241	0.0017	yes
XLOC_002710	XLOC_002710	Ppp2ca	chr11:51912325-51936916	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.82334	20.1921	1.79387	2.39229	0.02435	yes
XLOC_002712	XLOC_002712	Skp1a	chr11:52045496-52060360	AAdko-FF-TTep	AAwt-FF-TTep	OK	9.61012	36.8834	1.94035	2.58727	0.0136	yes
XLOC_002714	XLOC_002714	9530068E07Rik	chr11:52209929-52222225	AAdko-FF-TTep	AAwt-FF-TTep	OK	8.67055	25.2601	1.54266	2.07864	0.03925	yes
XLOC_002781	XLOC_002781	Lrrc48	chr11:60166881-60207835	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.34812	33.9507	4.65442	4.54548	0.0116	yes
XLOC_002785	XLOC_002785	Alkbh5	chr11:60351184-60372014	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.96961	12.955	1.70644	2.27858	0.03045	yes
XLOC_002812	XLOC_002812	Tvp23b	chr11:62692991-62708686	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.53881	22.8388	2.04384	2.57483	0.01845	yes
XLOC_002815	XLOC_002815	Pmp22	chr11:62945011-62973048	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.20033	18.7006	2.15451	2.75821	0.01225	yes
XLOC_002899	XLOC_002899	Txndc17	chr11:72021055-72023989	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.84585	19.5247	2.34392	2.96335	0.00825	yes
XLOC_002909	XLOC_002909	Atp2a3	chr11:72774670-72806545	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.4884	12.4011	3.05864	3.37335	0.0087	yes
XLOC_002947	XLOC_002947	Prpf8	chr11:75300278-75322949	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.22167	12.4793	1.95365	2.49076	0.021	yes
XLOC_002956	XLOC_002956	Ywhae	chr11:75546388-75579343	AAdko-FF-TTep	AAwt-FF-TTep	OK	12.6922	64.7453	2.35084	2.86438	0.0081	yes
XLOC_002957	XLOC_002957	1700016K19Rik	chr11:75813413-75817071	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.77901	32.28	3.09456	2.9801	0.02375	yes
XLOC_002984	XLOC_002984	2610507B11Rik	chr11:78075255-78104127	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.00106	14.2358	1.83107	2.32323	0.0282	yes
XLOC_003106	XLOC_003106	Spop	chr11:95275396-95354724	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.63906	12.5564	1.78678	2.32364	0.0262	yes
XLOC_003181	XLOC_003181	Eif1	chr11:100181309-100184493	AAdko-FF-TTep	AAwt-FF-TTep	OK	9.40549	50.636	2.42859	3.16773	0.00455	yes
XLOC_003199	XLOC_003199	Vps25	chr11:101115056-101120860	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.30327	16.9799	2.36186	2.35461	0.0376	yes
XLOC_003274	XLOC_003274	Prkar1a	chr11:109512262-109530962	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.61994	12.2524	2.22545	2.86523	0.00925	yes
XLOC_003286	XLOC_003286	Dnaic2	chr11:114588725-114619200	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.87811	28.474	3.92229	4.4492	0.00235	yes
XLOC_003287	XLOC_003287	Kif19a	chr11:114626702-114651889	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.46433	15.0931	2.12324	2.71989	0.01315	yes
XLOC_003327	XLOC_003327	Sec14l1	chr11:116976485-117020582	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.98668	16.7545	1.7484	2.18665	0.02395	yes

XLOC_003351	XLOC_003351	Baiap2	chr11:119804405-119868096	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.39341	23.9174	2.44465	3.02822	0.00525	yes
XLOC_003359	XLOC_003359	Hgs	chr11:120328948-120345298	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.29166	12.0183	2.39077	2.9378	0.00835	yes
XLOC_003401	XLOC_003401	Ewsr1	chr11:4969690-4999205	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.05775	26.4289	2.38555	3.12234	0.00435	yes
XLOC_003403	XLOC_003403	Kremen1	chr11:5091555-5161613	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.10727	15.1659	1.88458	2.49677	0.01805	yes
XLOC_003446	XLOC_003446	Meis1	chr11:18780430-18919014	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.8672	21.3163	2.46259	3.25336	0.0018	yes
XLOC_003447	XLOC_003447	Actr2	chr11:19962306-20012954	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.74207	18.0345	3.37189	4.44648	0.00035	yes
XLOC_003455	XLOC_003455	Mdh1	chr11:21456694-21471937	AAdko-FF-TTep	AAwt-FF-TTep	OK	8.20551	37.0927	2.17647	2.87144	0.00875	yes
XLOC_003471	XLOC_003471	Ccdc104	chr11:29121535-29147272	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.3443	13.5008	3.32812	3.90296	0.00125	yes
XLOC_003489	XLOC_003489	Npm1	chr11:33052497-33063206	AAdko-FF-TTep	AAwt-FF-TTep	OK	9.36019	40.8678	2.12636	2.84033	0.0089	yes
XLOC_003492	XLOC_003492	Gabrp	chr11:33450780-33478957	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.74642	20.3957	2.10335	2.76717	0.0097	yes
XLOC_003554	XLOC_003554	Ube2b	chr11:51798647-51813968	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.33166	15.9549	2.25969	2.92537	0.0074	yes
XLOC_003604	XLOC_003604	Fam183b	chr11:58606303-58615462	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.52468	25.1068	2.47219	2.4826	0.0287	yes
XLOC_003641	XLOC_003641	Rnf112	chr11:61261943-61267388	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.56146	13.8574	1.96011	2.40905	0.02835	yes
XLOC_003662	XLOC_003662	Dnahc9	chr11:65644825-65982053	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.50284	15.7136	3.38625	4.07772	0.00045	yes
XLOC_003741	XLOC_003741	Tekt1	chr11:72158221-72175382	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.186	25.8146	4.44401	4.30157	0.0117	yes
XLOC_003770	XLOC_003770	Pafah1b1	chr11:74487450-74537886	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.79356	12.7614	2.83089	3.79606	0.0006	yes
XLOC_003785	XLOC_003785	Glod4	chr11:76033896-76057201	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.02177	14.0107	2.79284	3.44182	0.0033	yes
XLOC_003787	XLOC_003787	Abr	chr11:76230235-76391229	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.27428	12.2482	1.90332	2.4155	0.01925	yes
XLOC_003827	XLOC_003827	Myo1d	chr11:80295628-80593527	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.0014	18.8258	2.649	3.49336	0.0017	yes
XLOC_003848	XLOC_003848	Dusp14	chr11:83861546-83881859	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.91626	22.6323	2.20275	2.49724	0.02785	yes
XLOC_003870	XLOC_003870	Cltc	chr11:86508154-86570994	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.35036	16.941	2.33813	3.01498	0.00475	yes
XLOC_003884	XLOC_003884	Msi2	chr11:88152883-88579581	AAdko-FF-TTep	AAwt-FF-TTep	OK	8.99393	40.0928	2.15632	2.03503	0.0399	yes
XLOC_003925	XLOC_003925	Ube2z	chr11:95908749-95926678	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.35975	16.4885	1.62122	2.15059	0.0394	yes
XLOC_003935	XLOC_003935	Lrrc46	chr11:96895915-96902683	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.51771	17.4227	2.79078	2.82885	0.0212	yes
XLOC_003938	XLOC_003938	Kpnb1	chr11:97021023-97049206	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.00518	12.1893	2.60381	3.49495	0.00175	yes
XLOC_003947	XLOC_003947	Rpl23	chr11:97638839-97643753	AAdko-FF-TTep	AAwt-FF-TTep	OK	23.5698	86.0118	1.86759	2.36435	0.01695	yes
XLOC_004023	XLOC_004023	Jup	chr11:100230169-100259104	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.46193	17.2287	1.65733	2.19537	0.035	yes
XLOC_004032	XLOC_004032	Rab5c	chr11:100576579-100599444	AAdko-FF-TTep	AAwt-FF-TTep	OK	9.68562	29.7067	1.61687	2.13409	0.0423	yes
XLOC_004086	XLOC_004086	Gosr2	chr11:103538162-103559024	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.51396	15.8855	2.65967	3.37571	0.0033	yes
XLOC_004098	XLOC_004098	Smarcd2	chr11:106124484-106134286	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.14705	15.7757	1.61588	2.06494	0.04555	yes
XLOC_004105	XLOC_004105	Tex2	chr11:106363452-106474244	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.72555	12.3765	1.73207	2.28825	0.02825	yes
XLOC_004167	XLOC_004167	H3f3b	chr11:115883274-115885818	AAdko-FF-TTep	AAwt-FF-TTep	OK	20.8256	104.731	2.33026	2.63729	0.0108	yes
XLOC_004178	XLOC_004178	Foxj1	chr11:116192016-116196668	AAdko-FF-TTep	AAwt-FF-TTep	OK	38.737	152.829	1.98013	2.01969	0.0493	yes
XLOC_004369	XLOC_004369	Adi1	chr12:29360071-29367039	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.32894	14.9373	2.68118	3.13983	0.00585	yes
XLOC_004423	XLOC_004423	PsmA6	chr12:56499811-56519446	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.76852	28.7024	2.3149	2.8792	0.0097	yes
XLOC_004449	XLOC_004449	Atp5s	chr12:70825948-70846900	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.440564	12.1661	4.78737	0.955231	0.00905	yes
XLOC_004458	XLOC_004458	PsmA3	chr12:72075609-72116810	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.80917	15.5516	3.10367	3.40517	0.00345	yes
XLOC_004484	XLOC_004484	Hspa2	chr12:77505162-77507923	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.10675	13.7864	2.71015	3.2588	0.00325	yes
XLOC_004502	XLOC_004502	Slc39a9	chr12:81745201-81784329	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.31241	12.3556	2.41769	3.20758	0.00245	yes
XLOC_004553	XLOC_004553	Ahsa1	chr12:88607677-88614902	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.32523	31.3103	2.30745	2.94149	0.008	yes
XLOC_004571	XLOC_004571	Zc3h14	chr12:99985028-100139694	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.82041	12.0769	2.72991	2.79816	0.0045	yes
XLOC_004578	XLOC_004578	Calm1	chr12:101437750-101448016	AAdko-FF-TTep	AAwt-FF-TTep	OK	8.79538	70.8739	3.01044	3.25793	0.00385	yes
XLOC_004707	XLOC_004707	Eif5	chr12:112776311-112784964	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.02652	21.5183	2.41795	3.15063	0.00385	yes

XLOC_004779	XLOC_004779	2410004P03Rik	chr12:17011763-17018533	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.82994	34.5523	2.8387	3.51596	0.0022	yes
XLOC_004810	XLOC_004810	Hbp1	chr12:32339733-32635400	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.1729	12.9417	2.57433	2.99388	0.0103	yes
XLOC_004814	XLOC_004814	Cdhr3	chr12:33718565-33777741	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.465553	24.0911	5.69341	1.92977	0.01035	yes
XLOC_004830	XLOC_004830	Dnajb9	chr12:45306883-45311055	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.33121	29.7436	2.48004	3.34383	0.0018	yes
XLOC_004879	XLOC_004879	Cdkl1	chr12:70847786-71087989	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.39045	40.0545	2.64798	2.56447	0.01785	yes
XLOC_004913	XLOC_004913	Atp6v1d	chr12:79943968-79962625	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.15291	14.4551	1.79938	2.16831	0.0467	yes
XLOC_004917	XLOC_004917	Vti1b	chr12:80231774-80273445	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.60744	12.7177	2.98401	2.8945	0.0194	yes
XLOC_004922	XLOC_004922	Actn1	chr12:81268528-81361358	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.70819	21.6182	2.54346	3.34018	0.00165	yes
XLOC_004983	XLOC_004983	Gtf2a1	chr12:92793701-92828927	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.21436	12.9604	2.54914	3.38358	0.002	yes
XLOC_005031	XLOC_005031	Clmn	chr12:106001323-106103347	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.60034	12.9487	2.31604	2.81022	0.00835	yes
XLOC_005053	XLOC_005053	Hsp90aa1	chr12:111929245-111934605	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.70614	45.7403	3.28085	4.04992	0.0006	yes
XLOC_005060	XLOC_005060	Ckb	chr12:112907565-112910549	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.77058	42.4248	4.58261	4.0296	0.03405	yes
XLOC_005109	XLOC_005109	Gdi2	chr13:3537320-3610354	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.69842	27.0521	2.24711	2.47157	0.02245	yes
XLOC_005137	XLOC_005137	Psma2	chr13:14705508-14717940	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.54219	21.9858	1.98804	2.33664	0.03565	yes
XLOC_005195	XLOC_005195	Hist1h1d	chr13:23646900-23650518	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.13057	14.6543	2.78202	3.64333	0.00285	yes
XLOC_005201	XLOC_005201	Hist1h2bc	chr13:23776067-23784349	AAdko-FF-TTep	AAwt-FF-TTep	OK	8.31598	39.8972	2.26233	2.75922	0.01275	yes
XLOC_005257	XLOC_005257	Bphl	chr13:34129509-34165943	AAdko-FF-TTep	AAwt-FF-TTep	OK	7.04773	26.2066	1.8947	2.36272	0.02895	yes
XLOC_005297	XLOC_005297	Rnf144b	chr13:47218088-47343360	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.31405	15.2562	2.20273	2.94657	0.0056	yes
XLOC_005428	XLOC_005428	Cetn3	chr13:81922290-81936156	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.29281	15.2118	2.2078	2.43937	0.02975	yes
XLOC_005443	XLOC_005443	Serinc5	chr13:93381092-93481901	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.68329	15.459	1.72285	2.29351	0.03025	yes
XLOC_005452	XLOC_005452	Tbca	chr13:95558897-95612854	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.43585	34.0236	2.64596	2.64891	0.0252	yes
XLOC_005521	XLOC_005521	Net1	chr13:3881808-3917466	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.76576	15.743	2.50897	3.24269	0.0036	yes
XLOC_005615	XLOC_005615	Hist1h1e,Hist1h2bc	chr13:23674632-23714427	AAdko-FF-TTep	AAwt-FF-TTep	OK	9.30287	48.341	2.3775	3.08267	0.0036	yes
XLOC_005661	XLOC_005661	Serpinb6a	chr13:34009786-34094663	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.21197	20.7495	2.30051	2.62329	0.0126	yes
XLOC_005707	XLOC_005707	Fam120a	chr13:48974585-49063197	AAdko-FF-TTep	AAwt-FF-TTep	OK	7.25821	29.2164	2.00909	2.4046	0.02165	yes
XLOC_005731	XLOC_005731	4833439L19Rik	chr13:54605165-54666743	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.96696	13.0692	1.72006	2.14296	0.0313	yes
XLOC_005761	XLOC_005761	Ubqln1	chr13:58277516-58317014	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.0824	12.8738	2.06231	2.79091	0.00995	yes
XLOC_005765	XLOC_005765	Hnrnpk	chr13:58493311-58512510	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.8478	24.06	1.81292	2.21658	0.03525	yes
XLOC_005775	XLOC_005775	Isca1	chr13:59856775-59871150	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.44297	16.2394	2.23777	2.6583	0.0168	yes
XLOC_005816	XLOC_005816	Uqcrb	chr13:67001556-67006286	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.95542	31.2608	3.40292	2.76409	0.04415	yes
XLOC_005860	XLOC_005860	Sdha	chr13:74459702-74487688	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.624	13.2935	1.87507	2.43518	0.02505	yes
XLOC_005914	XLOC_005914	Btf3	chr13:99079851-99086961	AAdko-FF-TTep	AAwt-FF-TTep	OK	10.1278	71.9511	2.8287	3.77822	0.0004	yes
XLOC_006039	XLOC_006039	Pxk	chr14:8930726-8997625	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.2847	11.8498	2.37479	2.97479	0.0059	yes
XLOC_006046	XLOC_006046	Sntn	chr14:14503389-14515662	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.44772	37.6912	4.70237	5.18951	0.0026	yes
XLOC_006064	XLOC_006064	Vcl	chr14:21748654-21852895	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.83152	11.6402	1.60313	2.11361	0.042	yes
XLOC_006068	XLOC_006068	Vdac2	chr14:22650782-22668132	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.00967	30.9381	2.36403	3.14916	0.00235	yes
XLOC_006076	XLOC_006076	Anxa11	chr14:26661640-26706290	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.29117	13.7677	2.58714	2.94836	0.012	yes
XLOC_006124	XLOC_006124	Ncoa4	chr14:32973077-32992549	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.59373	12.9962	2.32499	3.10023	0.0037	yes
XLOC_006145	XLOC_006145	Anxa8	chr14:34864315-34915940	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.37107	42.309	3.27491	4.27976	0.0002	yes
XLOC_006291	XLOC_006291	Kcnrg	chr14:62217062-62301210	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.94882	17.297	4.18824	3.48698	0.03835	yes
XLOC_006331	XLOC_006331	Stc1	chr14:69647345-69659458	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.22086	18.4936	2.13142	2.8226	0.0088	yes
XLOC_006358	XLOC_006358	Esd	chr14:75132151-75150250	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.81257	12.9108	2.83247	2.95941	0.0147	yes
XLOC_006370	XLOC_006370	Tsc22d1	chr14:76814603-76907573	AAdko-FF-TTep	AAwt-FF-TTep	OK	11.9783	34.2272	1.51472	1.97028	0.04495	yes

XLOC_006380	XLOC_006380	Sugt1	chr14:79987497-80031123	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.965535	13.0296	3.75432	3.90178	0.0061	yes
XLOC_006392	XLOC_006392	Klf5	chr14:99697909-99713843	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.94273	12.4401	2.07977	2.52449	0.02025	yes
XLOC_006426	XLOC_006426	Tm9sf2	chr14:122506303-122558825	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.19853	28.9846	2.22529	2.86412	0.00505	yes
XLOC_006457	XLOC_006457	Rpl15	chr14:19100336-19103500	AAdko-FF-TTep	AAwt-FF-TTep	OK	9.75595	36.599	1.90745	2.52145	0.0184	yes
XLOC_006461	XLOC_006461	2700060E02Rik	chr14:20570478-20643045	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.43835	13.4869	1.97177	2.39157	0.02555	yes
XLOC_006529	XLOC_006529	Zfp488	chr14:34780255-34791950	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.29327	14.3041	2.64095	3.42001	0.0027	yes
XLOC_006545	XLOC_006545	Ghitm	chr14:37933631-37948508	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.08119	15.4756	1.92293	2.57192	0.01685	yes
XLOC_006549	XLOC_006549	Fam213a	chr14:41807012-41827064	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.81292	29.7028	3.40046	4.34612	0.0005	yes
XLOC_006699	XLOC_006699	Efha1	chr14:58535116-58618099	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.59348	12.5163	1.80035	2.3071	0.0289	yes
XLOC_006749	XLOC_006749	Bnip3l	chr14:67604076-67627714	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.36905	16.1068	1.88228	2.51404	0.01565	yes
XLOC_006801	XLOC_006801	Fam216b	chr14:78480830-78488814	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.2206	24.233	4.31131	5.25443	0.0002	yes
XLOC_006901	XLOC_006901	Sepp1	chr15:3220766-3230508	AAdko-FF-TTep	AAwt-FF-TTep	OK	8.67339	46.5552	2.42427	2.98298	0.00535	yes
XLOC_006903	XLOC_006903	Oxct1	chr15:3970110-4105344	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.55043	18.8318	2.0491	2.67129	0.01095	yes
XLOC_006925	XLOC_006925	Capsl	chr15:9365782-9395790	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.20764	45.9721	2.88864	3.71954	0.0017	yes
XLOC_006940	XLOC_006940	Golph3	chr15:12251250-12281022	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.93848	35.5342	2.35652	3.05137	0.0047	yes
XLOC_006948	XLOC_006948	Fam134b	chr15:25773018-25903442	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.66599	15.5453	3.22203	3.64165	0.0019	yes
XLOC_006953	XLOC_006953	Dnahc5	chr15:28133520-28401800	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.521381	29.9773	5.84539	5.92041	0.00005	yes
XLOC_006977	XLOC_006977	Atp6v1c1	chr15:38591658-38622199	AAdko-FF-TTep	AAwt-FF-TTep	OK	8.1935	42.6527	2.38008	3.16802	0.0038	yes
XLOC_006979	XLOC_006979	Fzd6	chr15:38837825-38869736	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.24874	12.8595	2.51565	3.23936	0.00255	yes
XLOC_007058	XLOC_007058	Maf1	chr15:76181723-76184808	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.79373	13.747	2.29886	2.24685	0.03555	yes
XLOC_007094	XLOC_007094	Eif3l	chr15:78905652-78924830	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.04766	14.7991	2.27973	2.84223	0.01005	yes
XLOC_007106	XLOC_007106	Syng1	chr15:79921763-79949931	AAdko-FF-TTep	AAwt-FF-TTep	OK	30.0057	2.64934	-3.50153	-2.60762	0.007	yes
XLOC_007124	XLOC_007124	Tef	chr15:81633102-81657293	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.84888	21.8213	1.89951	2.50084	0.01765	yes
XLOC_007125	XLOC_007125	Aco2	chr15:81702892-81756643	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.78963	27.6382	2.02526	2.49094	0.01785	yes
XLOC_007158	XLOC_007158	Atxn10	chr15:85166810-85294266	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.38005	15.0765	2.15718	2.79731	0.0103	yes
XLOC_007255	XLOC_007255	Eif4b	chr15:101904203-101927604	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.16554	14.29	1.77843	2.39732	0.0163	yes
XLOC_007280	XLOC_007280	Hnrnpa1	chr15:103070862-103075386	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.86802	16.0028	2.04866	2.3708	0.0231	yes
XLOC_007281	XLOC_007281	Copz1	chr15:103103348-103130295	AAdko-FF-TTep	AAwt-FF-TTep	OK	14.0427	41.6223	1.56754	2.07922	0.0428	yes
XLOC_007326	XLOC_007326	Cct5	chr15:31520638-31531559	AAdko-FF-TTep	AAwt-FF-TTep	OK	9.18992	28.8767	1.65178	2.21102	0.0321	yes
XLOC_007341	XLOC_007341	Rgs22	chr15:35938150-36070215	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.580125	14.2874	4.62224	5.4043	0.00055	yes
XLOC_007346	XLOC_007346	Pabpc1	chr15:36525412-36538728	AAdko-FF-TTep	AAwt-FF-TTep	OK	7.90202	37.9905	2.26535	2.88996	0.006	yes
XLOC_007347	XLOC_007347	Ywhaz	chr15:36700015-36726684	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.30518	18.1209	2.07351	2.74534	0.0085	yes
XLOC_007349	XLOC_007349	Ncald	chr15:37295929-37722183	AAdko-FF-TTep	AAwt-FF-TTep	OK	8.6157	41.2686	2.26001	2.70125	0.0127	yes
XLOC_007354	XLOC_007354	Azin1	chr15:38417184-38449021	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.00182	17.6292	3.13858	4.23981	0.0005	yes
XLOC_007363	XLOC_007363	Eif3e	chr15:43081585-43114282	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.39336	17.7292	2.88901	3.53129	0.00325	yes
XLOC_007374	XLOC_007374	Eif3h	chr15:51618108-51697007	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.94927	21.7557	2.1361	2.6898	0.01435	yes
XLOC_007379	XLOC_007379	Enpp2	chr15:54670452-54751701	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.86259	20.9623	2.8724	3.84743	0.0008	yes
XLOC_007463	XLOC_007463	Puff60	chr15:75900611-75911376	AAdko-FF-TTep	AAwt-FF-TTep	OK	7.82799	24.826	1.66514	2.0925	0.04105	yes
XLOC_007478	XLOC_007478	Slc39a4	chr15:76442812-76447282	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.92593	22.9807	3.57679	3.47954	0.0161	yes
XLOC_007485	XLOC_007485	Arhgap39	chr15:76554414-76648600	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.88441	14.4005	2.93394	3.54662	0.0014	yes
XLOC_007546	XLOC_007546	St13	chr15:81193916-81230226	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.29337	24.0793	2.48761	3.10655	0.00385	yes
XLOC_007555	XLOC_007555	Nhp2l1	chr15:81871774-81878028	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.32701	14.1787	2.09142	2.29468	0.03435	yes
XLOC_007617	XLOC_007617	Rabl2	chr15:89412957-89422354	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.67538	20.5847	2.48561	3.01578	0.0089	yes

XLOC_007676	XLOC_007676	Tuba1b	chr15:98761861-98764821	AAdko-FF-TTep	AAwt-FF-TTep	OK	23.8532	76.6665	1.68441	2.19615	0.0372	yes
XLOC_007677	XLOC_007677	Tuba1a	chr15:98780277-98783932	AAdko-FF-TTep	AAwt-FF-TTep	OK	43.017	174.978	2.02419	2.18503	0.0408	yes
XLOC_007868	XLOC_007868	Efcab1	chr16:14906736-14926159	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.641641	16.1599	4.65451	4.37039	0.0034	yes
XLOC_007871	XLOC_007871	Mkp2	chr16:16213437-16272805	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.58055	12.1673	1.76476	2.34273	0.0229	yes
XLOC_007875	XLOC_007875	Mapk1	chr16:16983474-17047546	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.7554	12.5861	2.1915	2.8273	0.00865	yes
XLOC_007916	XLOC_007916	Psmc2	chr16:20651724-20663487	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.41398	17.3277	1.67832	2.18437	0.0347	yes
XLOC_007932	XLOC_007932	Eif4a2	chr16:23107551-23127803	AAdko-FF-TTep	AAwt-FF-TTep	OK	15.6077	86.2488	2.46624	2.41605	0.0169	yes
XLOC_007952	XLOC_007952	Hes1	chr16:30065442-30067882	AAdko-FF-TTep	AAwt-FF-TTep	OK	7.20243	23.725	1.71985	2.20342	0.03435	yes
XLOC_008008	XLOC_008008	Lrrc58	chr16:37868485-37888943	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.8939	15.5689	2.42758	3.08185	0.00325	yes
XLOC_008011	XLOC_008011	Gsk3b	chr16:38085149-38246165	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.57568	11.6442	2.17658	2.77042	0.00965	yes
XLOC_008016	XLOC_008016	B4galt4	chr16:38742376-38769158	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.00198	11.9422	2.57657	3.23419	0.0054	yes
XLOC_008027	XLOC_008027	Wdr52	chr16:44394911-44482541	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.5281	16.5338	3.4356	3.01666	0.0062	yes
XLOC_008052	XLOC_008052	Rpl24	chr16:55966387-55971550	AAdko-FF-TTep	AAwt-FF-TTep	OK	33.3751	110.402	1.72593	2.28421	0.02925	yes
XLOC_008117	XLOC_008117	Il10rb	chr16:91406479-91426079	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.37299	11.7382	1.79912	2.15508	0.04265	yes
XLOC_008140	XLOC_008140	Ets2	chr16:95924013-95942656	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.71846	21.5657	1.91504	2.54233	0.0184	yes
XLOC_008167	XLOC_008167	Rogdi	chr16:5008821-5013646	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.81872	22.6391	1.96005	2.28432	0.0343	yes
XLOC_008168	XLOC_008168	Glyr1	chr16:5013994-5050003	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.12694	15.0337	1.86505	2.47079	0.01725	yes
XLOC_008178	XLOC_008178	Emp2	chr16:10281841-10314061	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.58842	14.6005	1.66995	2.24313	0.02695	yes
XLOC_008197	XLOC_008197	Pdxdc1	chr16:13819369-13903228	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.96832	23.9544	2.00489	2.38325	0.02635	yes
XLOC_008210	XLOC_008210	Spag6	chr16:16751887-16829459	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.694281	16.3158	4.55461	5.12572	0.0011	yes
XLOC_008223	XLOC_008223	4930451C15Rik	chr16:17543255-17561343	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.08914	21.7998	4.32306	4.60468	0.0004	yes
XLOC_008238	XLOC_008238	Comt	chr16:18348274-18479166	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.56328	16.0947	2.65052	2.83011	0.0112	yes
XLOC_008290	XLOC_008290	Atp13a5	chr16:29230978-29378818	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.36295	16.548	1.62556	2.14635	0.03255	yes
XLOC_008316	XLOC_008316	Iqcg	chr16:32914185-33056272	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.702713	15.5095	4.46407	5.07742	0.00055	yes
XLOC_008464	XLOC_008464	Cct8	chr16:87455229-87496114	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.3613	14.2532	2.59363	2.6681	0.01935	yes
XLOC_008501	XLOC_008501	Tmem50b	chr16:91574752-91597925	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.10646	15.8733	1.63621	2.08294	0.0468	yes
XLOC_008608	XLOC_008608	Prr18	chr17:8533209-8538483	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.14198	18.0582	2.52291	3.23256	0.0029	yes
XLOC_008710	XLOC_008710	Dcpp3	chr17:24054424-24056408	AAdko-FF-TTep	AAwt-FF-TTep	OK	16.2684	68.95	2.08348	2.68224	0.01295	yes
XLOC_008748	XLOC_008748	Tekt4	chr17:25608534-25613539	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.5318	11.6931	2.20742	2.31829	0.04185	yes
XLOC_008797	XLOC_008797	Srsf3	chr17:29169604-29180317	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.15753	24.3719	2.55142	2.86074	0.01	yes
XLOC_008982	XLOC_008982	Enpp5	chr17:44215794-44223510	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.50608	14.7482	1.71059	2.29857	0.0267	yes
XLOC_009128	XLOC_009128	Epas1	chr17:87153203-87232750	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.56094	12.2429	2.25721	3.02168	0.00435	yes
XLOC_009150	XLOC_009150	4930470H14Rik	chr17:4044657-4082995	AAdko-FF-TTep	AAwt-FF-TTep	OK	7.21873	23.555	1.70622	2.16475	0.04015	yes
XLOC_009161	XLOC_009161	Ezr	chr17:6942479-6987129	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.16291	23.9369	1.95755	2.59518	0.0112	yes
XLOC_009208	XLOC_009208	Psemb1	chr17:15612684-15635240	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.85166	26.0072	1.92439	2.25932	0.0409	yes
XLOC_009211	XLOC_009211	Rgmb	chr17:15941623-15966139	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.72372	12.4704	2.19485	2.38418	0.0189	yes
XLOC_009285	XLOC_009285	Hn1l	chr17:25079414-25097568	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.14633	13.7678	1.73139	2.23069	0.03475	yes
XLOC_009309	XLOC_009309	Pigq	chr17:26063368-26078907	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.22309	15.3805	1.86473	2.3554	0.026	yes
XLOC_009329	XLOC_009329	Rps10	chr17:27767373-27772187	AAdko-FF-TTep	AAwt-FF-TTep	OK	43.6653	130.708	1.58179	2.10241	0.0433	yes
XLOC_009358	XLOC_009358	Rsph1	chr17:31391964-31414301	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.15135	25.1402	2.99596	3.51561	0.00415	yes
XLOC_009446	XLOC_009446	Tubb5	chr17:35970864-35975246	AAdko-FF-TTep	AAwt-FF-TTep	OK	10.8055	34.8742	1.6904	2.18387	0.03665	yes
XLOC_009527	XLOC_009527	Hsp90ab1	chr17:45704726-45710210	AAdko-FF-TTep	AAwt-FF-TTep	OK	27.9603	135.73	2.27929	2.24676	0.02885	yes
XLOC_009606	XLOC_009606	Vmac	chr17:56853354-56857122	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.44745	16.5472	1.89554	2.31682	0.0314	yes

XLOC_009632	XLOC_009632	Vapa	chr17:65929392-65962895	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.73394	29.8686	2.14911	2.88152	0.00555	yes
XLOC_009638	XLOC_009638	Ndufv2	chr17:66428134-66450831	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.11873	12.6228	2.57476	2.89684	0.013	yes
XLOC_009677	XLOC_009677	Hnrpll	chr17:80428826-80461674	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.33036	13.7996	2.566	2.90009	0.00915	yes
XLOC_009759	XLOC_009759	Wac	chr18:7868855-7929025	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.969344	11.6768	3.5905	4.57091	0.00035	yes
XLOC_009800	XLOC_009800	Galnt1	chr18:24363844-24445317	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.94291	14.2915	2.27984	3.09307	0.00565	yes
XLOC_009836	XLOC_009836	Matr3	chr18:35721811-35751699	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.21982	15.1967	2.77524	3.69018	0.00135	yes
XLOC_009839	XLOC_009839	Ube2d2a	chr18:35931212-35966826	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.92865	15.1553	2.37151	3.07816	0.0055	yes
XLOC_009922	XLOC_009922	Zfp474	chr18:52775568-52799484	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.16973	12.16	2.48655	2.78218	0.01645	yes
XLOC_009961	XLOC_009961	Csnk1a1	chr18:61714895-61749719	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.9575	38.9142	2.97261	3.72976	0.0007	yes
XLOC_010033	XLOC_010033	Cyb5	chr18:85020805-85049255	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.61781	28.0647	2.32068	2.55715	0.0277	yes
XLOC_010107	XLOC_010107	Nme5	chr18:34722290-34738760	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.93719	22.336	3.52733	3.53114	0.00625	yes
XLOC_010117	XLOC_010117	Slc23a1	chr18:35758320-35789784	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.740536	11.6844	3.97987	3.46776	0.0165	yes
XLOC_010170	XLOC_010170	Tmed7	chr18:46745581-46757189	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.33356	15.9567	2.77356	3.73229	0.00065	yes
XLOC_010222	XLOC_010222	Lman1	chr18:66140392-66162353	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.15213	11.923	2.46991	3.1355	0.0037	yes
XLOC_010242	XLOC_010242	Smad4	chr18:73798666-73863395	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.40733	12.7534	2.40537	3.14446	0.0037	yes
XLOC_010423	XLOC_010423	Ddb1	chr19:10680114-10704311	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.88865	13.4147	1.78647	2.39522	0.02065	yes
XLOC_010489	XLOC_010489	Rfk	chr19:17468532-17475839	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.50014	19.4773	3.69862	4.47997	0.0005	yes
XLOC_010497	XLOC_010497	Zfand5	chr19:21346609-21361330	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.54895	15.3343	2.58879	2.26432	0.02995	yes
XLOC_010525	XLOC_010525	Jak2	chr19:29326317-29387570	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.58912	12.7107	2.99973	4.03242	0.0002	yes
XLOC_010554	XLOC_010554	Tnks2	chr19:36908721-36967967	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.43411	15.3883	2.66037	3.55698	0.0012	yes
XLOC_010655	XLOC_010655	Pdcd4	chr19:53966720-54107768	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.99729	21.0707	2.39814	2.24111	0.03575	yes
XLOC_010681	XLOC_010681	Eno4	chr19:59017914-59045911	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.29833	12.7412	3.29477	3.42464	0.01065	yes
XLOC_010686	XLOC_010686	E330013P04Rik	chr19:60220521-60238494	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.02272	16.1617	3.9821	4.79737	0.0002	yes
XLOC_010779	XLOC_010779	Stip1	chr19:7095185-7114516	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.02698	25.6008	3.08024	4.02305	0.0005	yes
XLOC_010786	XLOC_010786	Rtn3	chr19:7492114-7557781	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.80603	39.532	2.53814	3.01637	0.00435	yes
XLOC_010813	XLOC_010813	Ppp1r32	chr19:10548746-10557387	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.16927	23.608	3.444	3.61275	0.00925	yes
XLOC_010882	XLOC_010882	Anxa1	chr19:20447923-20465161	AAdko-FF-TTep	AAwt-FF-TTep	OK	17.2814	62.534	1.85542	2.41183	0.01935	yes
XLOC_010906	XLOC_010906	Ak3	chr19:29095321-29123219	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.43215	18.3693	2.05122	2.67559	0.0089	yes
XLOC_010956	XLOC_010956	Tctn3	chr19:40668120-40686727	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.25546	24.8216	1.98841	2.3937	0.0187	yes
XLOC_010960	XLOC_010960	Tm9sf3	chr19:41285331-41338494	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.41909	20.1554	2.18934	2.7264	0.0115	yes
XLOC_010974	XLOC_010974	Pyroxd2	chr19:42800347-42827265	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.45576	17.6653	1.98718	2.60331	0.01515	yes
XLOC_011054	XLOC_011054	Prdx3	chr19:60939968-60950441	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.32917	17.5695	2.02091	2.26586	0.0366	yes
XLOC_011089	XLOC_011089	Fam107b	chr2:3630729-3699413	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.03974	21.2534	2.39536	3.24498	0.00265	yes
XLOC_011100	XLOC_011100	Usp6nl	chr2:6243802-6364866	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.907307	12.0198	3.72768	4.00505	0.00045	yes
XLOC_011154	XLOC_011154	Vim	chr2:13495937-13504453	AAdko-FF-TTep	AAwt-FF-TTep	OK	18.6676	70.2556	1.91208	2.43671	0.01905	yes
XLOC_011238	XLOC_011238	Cacfd1	chr2:26865445-26876609	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.56449	12.401	2.27371	1.81087	0.0434	yes
XLOC_011250	XLOC_011250	Ak8	chr2:28555680-28668685	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.36701	14.9987	3.45575	2.97096	0.0438	yes
XLOC_011264	XLOC_011264	Sptan1	chr2:29821079-29886970	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.88835	12.7321	2.14015	2.76543	0.00855	yes
XLOC_011265	XLOC_011265	Set	chr2:29917515-29928097	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.83832	12.6698	2.78494	3.44829	0.00325	yes
XLOC_011268	XLOC_011268	Endog	chr2:30018131-30033979	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.4044	15.8645	3.49778	2.25492	0.0078	yes
XLOC_011299	XLOC_011299	Fam102a	chr2:32390878-32425270	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.30249	12.1147	2.39549	3.0156	0.00655	yes
XLOC_011316	XLOC_011316	Hspa5	chr2:34627609-34632049	AAdko-FF-TTep	AAwt-FF-TTep	OK	16.5014	67.9187	2.04122	2.14899	0.04325	yes
XLOC_011319	XLOC_011319	Gsn	chr2:35111878-35163422	AAdko-FF-TTep	AAwt-FF-TTep	OK	13.4319	48.3737	1.84856	2.33672	0.02485	yes

XLOC_011424	XLOC_011424	Itga6	chr2:71625000-71696441	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.49963	17.7405	2.82726	3.71269	0.0006	yes
XLOC_011444	XLOC_011444	Hnrnpa3	chr2:75497315-75507464	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.00549	28.2465	2.49649	2.90577	0.0082	yes
XLOC_011463	XLOC_011463	Itgav	chr2:83564553-83647073	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.46292	15.2014	2.13415	2.67422	0.01245	yes
XLOC_011622	XLOC_011622	Lgr4	chr2:109757803-109854414	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.53748	20.2272	2.15633	2.80458	0.00765	yes
XLOC_011710	XLOC_011710	B2m	chr2:121945843-122011925	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.33564	25.891	2.57813	3.04084	0.0088	yes
XLOC_011781	XLOC_011781	Prnp	chr2:131735663-131764167	AAdko-FF-TTep	AAwt-FF-TTep	OK	9.9456	40.0972	2.01137	2.66564	0.0095	yes
XLOC_011807	XLOC_011807	Dstn	chr2:143741066-143769060	AAdko-FF-TTep	AAwt-FF-TTep	OK	13.3443	50.4109	1.91751	2.49067	0.01265	yes
XLOC_011814	XLOC_011814	Sec23b	chr2:144381964-144416489	AAdko-FF-TTep	AAwt-FF-TTep	OK	7.16411	25.5607	1.83507	2.46574	0.0147	yes
XLOC_011851	XLOC_011851	Pygb	chr2:150612531-150657484	AAdko-FF-TTep	AAwt-FF-TTep	OK	8.59465	34.3782	1.99998	2.45992	0.01955	yes
XLOC_011865	XLOC_011865	Csnk2a1	chr2:152052575-152107587	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.4373	14.1223	2.03862	2.72116	0.0103	yes
XLOC_011868	XLOC_011868	6820408C15Rik	chr2:152241322-152270064	AAdko-FF-TTep	AAwt-FF-TTep	OK	0	14.1252	Inf	NA	0.00005	yes
XLOC_011884	XLOC_011884	Tm9sf4	chr2:152987036-153036199	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.20767	13.9428	2.11992	2.78065	0.009	yes
XLOC_011909	XLOC_011909	Raly	chr2:154616845-154692997	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.92286	19.4995	1.98587	2.27386	0.02575	yes
XLOC_011944	XLOC_011944	Shhg11	chr2:158201373-158211881	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.40356	13.4841	1.61452	2.05998	0.0464	yes
XLOC_011960	XLOC_011960	Srsf6	chr2:162757243-162762856	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.60495	16.817	1.86866	2.46266	0.0196	yes
XLOC_011963	XLOC_011963	lft52	chr2:162843207-162871871	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.46688	13.3895	2.44034	3.01691	0.0071	yes
XLOC_011983	XLOC_011983	Dbndd2	chr2:164311639-164318823	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.1851	22.104	2.09186	2.68325	0.01315	yes
XLOC_011984	XLOC_011984	Pigt	chr2:164323024-164333801	AAdko-FF-TTep	AAwt-FF-TTep	OK	16.2611	52.5884	1.69332	2.19629	0.03055	yes
XLOC_012070	XLOC_012070	Lsm14b	chr2:179759691-179770166	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.75912	12.9599	2.88113	3.16753	0.01255	yes
XLOC_012127	XLOC_012127	Atp5c1	chr2:9977658-10002137	AAdko-FF-TTep	AAwt-FF-TTep	OK	8.98844	27.1439	1.59448	2.05134	0.04705	yes
XLOC_012153	XLOC_012153	Enkur	chr2:21102357-21126992	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.82833	15.8357	3.11458	3.54084	0.0033	yes
XLOC_012159	XLOC_012159	Pax8	chr2:24276079-24331086	AAdko-FF-TTep	AAwt-FF-TTep	OK	10.5465	39.6612	1.91096	2.31287	0.0273	yes
XLOC_012168	XLOC_012168	Tubb4b	chr2:25074264-25080222	AAdko-FF-TTep	AAwt-FF-TTep	OK	30.2615	136.692	2.17538	2.55934	0.0137	yes
XLOC_012199	XLOC_012199	4932418E24Rik	chr2:26127166-26155710	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.53474	23.205	3.19453	3.72161	0.0018	yes
XLOC_012224	XLOC_012224	1700007K13Rik	chr2:28317520-28321854	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.54326	38.3007	2.78856	3.30961	0.0044	yes
XLOC_012231	XLOC_012231	1700101E01Rik	chr2:28782473-28910586	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.4336	19.9196	3.79648	2.83869	0.011	yes
XLOC_012249	XLOC_012249	BC005624	chr2:30828352-30837461	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.21382	19.5816	2.60714	3.04968	0.0066	yes
XLOC_012256	XLOC_012256	Swi5	chr2:32134335-32143588	AAdko-FF-TTep	AAwt-FF-TTep	OK	10.7562	37.4688	1.80052	2.31452	0.0302	yes
XLOC_012286	XLOC_012286	Rab14	chr2:35035724-35056640	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.38599	14.0733	2.5603	3.38348	0.0024	yes
XLOC_012394	XLOC_012394	Nfe2l2	chr2:75513575-75542698	AAdko-FF-TTep	AAwt-FF-TTep	OK	7.80734	29.558	1.92064	2.49927	0.0203	yes
XLOC_012395	XLOC_012395	Ttc30b	chr2:75773906-75776519	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.37153	19.7508	2.55044	3.3408	0.00235	yes
XLOC_012411	XLOC_012411	Nckap1	chr2:80340679-80421381	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.35652	13.0402	2.46824	3.34185	0.00215	yes
XLOC_012435	XLOC_012435	4833423E24Rik	chr2:85324248-85359092	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.78672	18.0637	2.25407	2.86159	0.01025	yes
XLOC_012618	XLOC_012618	Ehf	chr2:103103589-103143353	AAdko-FF-TTep	AAwt-FF-TTep	OK	7.08945	31.2611	2.14062	2.43349	0.02435	yes
XLOC_012622	XLOC_012622	Caprin1	chr2:103602904-103638039	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.53193	14.9981	2.56647	3.30492	0.00365	yes
XLOC_012633	XLOC_012633	Rcn1	chr2:105226104-105239476	AAdko-FF-TTep	AAwt-FF-TTep	OK	15.4089	51.2233	1.73303	2.07401	0.0413	yes
XLOC_012643	XLOC_012643	Bbox1	chr2:110105239-110145882	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.06154	15.2344	3.8431	3.64083	0.01275	yes
XLOC_012750	XLOC_012750	Hdc	chr2:126419403-126444401	AAdko-FF-TTep	AAwt-FF-TTep	OK	21.9584	81.8765	1.89868	2.24922	0.03275	yes
XLOC_012795	XLOC_012795	Spef1	chr2:130995996-131000743	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.53889	12.7714	3.05295	2.56853	0.03145	yes
XLOC_012806	XLOC_012806	Gpcpd1	chr2:132354818-132403984	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.93243	13.5159	2.80618	3.69883	0.0012	yes
XLOC_012909	XLOC_012909	Rbm39	chr2:155972974-156005976	AAdko-FF-TTep	AAwt-FF-TTep	OK	7.54978	49.5709	2.71499	3.36959	0.0019	yes
XLOC_012911	XLOC_012911	2900097C17Rik	chr2:156213798-156218715	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.01089	21.7742	2.11948	2.69546	0.01245	yes
XLOC_012941	XLOC_012941	Serinc3	chr2:163449008-163471536	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.76642	20.4911	1.82925	2.41651	0.01535	yes

XLOC_012955	XLOC_012955	Sdc4	chr2:164249746-164268688	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.23695	16.5606	1.96666	2.4604	0.0231	yes
XLOC_012982	XLOC_012982	Sulf2	chr2:165899398-165981183	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.94386	15.1231	1.93908	2.59063	0.0138	yes
XLOC_013125	XLOC_013125	Zc2hc1a	chr3:7503425-7554992	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.73488	18.0279	3.37732	4.54515	0.00065	yes
XLOC_013205	XLOC_013205	Hspa4l	chr3:40549272-40597866	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.901334	19.8248	4.4591	5.25667	0.00005	yes
XLOC_013240	XLOC_013240	2810407C02Rik	chr3:58380579-58397466	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.5069	17.2935	2.78625	3.74824	0.00045	yes
XLOC_013263	XLOC_013263	Mlf1	chr3:67178018-67203922	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.65155	28.9423	2.9866	3.60215	0.00305	yes
XLOC_013321	XLOC_013321	Cct3	chr3:88101056-88125688	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.97057	19.634	2.72454	3.42041	0.00285	yes
XLOC_013353	XLOC_013353	1700094D03Rik	chr3:89866717-89872269	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.6481	17.975	3.44712	4.49323	0.0007	yes
XLOC_013366	XLOC_013366	S100a16	chr3:90341176-90347073	AAdko-FF-TTep	AAwt-FF-TTep	OK	9.46742	35.9366	1.92441	2.44791	0.0238	yes
XLOC_013430	XLOC_013430	Golph3l	chr3:95392855-95423234	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.49391	11.8814	2.25223	2.85297	0.0074	yes
XLOC_013447	XLOC_013447	Hist2h2bb	chr3:96073622-96074115	AAdko-FF-TTep	AAwt-FF-TTep	OK	0	13.6481	Inf	NA	0.03025	yes
XLOC_013561	XLOC_013561	1810037I17Rik	chr3:122627314-122629112	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.38656	14.2009	2.57298	2.44844	0.03995	yes
XLOC_013582	XLOC_013582	Pla2g12a	chr3:129581539-129603121	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.88266	14.2896	1.87985	2.11752	0.04395	yes
XLOC_013599	XLOC_013599	Ube2d3	chr3:135099186-135131129	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.28625	26.4243	3.53081	4.67326	0.0001	yes
XLOC_013626	XLOC_013626	Gtf2b	chr3:142428210-142446569	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.83851	12.9295	2.81405	2.89259	0.0158	yes
XLOC_013677	XLOC_013677	Tpd52	chr3:8929435-9004515	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.85813	17.1657	2.58638	3.31084	0.00225	yes
XLOC_013713	XLOC_013713	Mecom	chr3:29850217-30408639	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.04314	12.8276	3.62025	1.8025	0.01925	yes
XLOC_013774	XLOC_013774	Tm4sf1	chr3:57090985-57105930	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.46817	74.2378	4.41991	5.45854	0.00005	yes
XLOC_013780	XLOC_013780	Serp1	chr3:58325892-58361423	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.83346	13.5304	2.25557	2.3293	0.0329	yes
XLOC_013805	XLOC_013805	Ssr3	chr3:65183578-65196475	AAdko-FF-TTep	AAwt-FF-TTep	OK	9.81651	42.1465	2.10213	2.62546	0.01285	yes
XLOC_013912	XLOC_013912	Creb3l4	chr3:90040743-90047434	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.96885	17.5572	2.56409	3.08515	0.0066	yes
XLOC_014030	XLOC_014030	Olfml3	chr3:103539316-103541924	AAdko-FF-TTep	AAwt-FF-TTep	OK	24.7094	4.4214	-2.48248	-2.40047	0.0437	yes
XLOC_014031	XLOC_014031	Hipk1	chr3:103543737-103595474	AAdko-FF-TTep	AAwt-FF-TTep	OK	8.95026	54.5363	2.60722	2.35767	0.0191	yes
XLOC_014046	XLOC_014046	Pifo	chr3:105799874-105817564	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.60818	38.0628	3.39904	3.83117	0.002	yes
XLOC_014061	XLOC_014061	Ahcyl1	chr3:107466037-107499466	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.12941	13.6767	1.72772	2.31463	0.02885	yes
XLOC_014079	XLOC_014079	5330417C22Rik	chr3:108258623-108339440	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.85981	12.7506	1.72396	2.10502	0.03655	yes
XLOC_014101	XLOC_014101	Cdc14a	chr3:115975470-116126950	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.715327	14.0487	4.29569	5.37622	0.0001	yes
XLOC_014172	XLOC_014172	Pdlim5	chr3:141902548-142058660	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.87064	14.7203	2.35836	3.03848	0.0007	yes
XLOC_014347	XLOC_014347	Sdcbp	chr4:6292826-6323269	AAdko-FF-TTep	AAwt-FF-TTep	OK	8.70858	38.6798	2.15107	2.83358	0.00675	yes
XLOC_014349	XLOC_014349	Rab2a	chr4:8462790-8534849	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.98851	22.2308	2.47864	3.30224	0.003	yes
XLOC_014356	XLOC_014356	Trp53inp1	chr4:11083587-11101524	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.59495	14.9948	2.53068	3.37579	0.00155	yes
XLOC_014369	XLOC_014369	Tmem64	chr4:15192966-15213900	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.63676	14.0275	2.41142	3.24771	0.00155	yes
XLOC_014370	XLOC_014370	Calb1	chr4:15808410-15833856	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.2513	23.9794	2.88271	3.8184	0.00065	yes
XLOC_014413	XLOC_014413	Chmp5	chr4:40895585-40912335	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.58008	15.2813	2.0937	2.5229	0.0217	yes
XLOC_014518	XLOC_014518	Slc31a1	chr4:62021734-62052803	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.72573	13.3642	2.29366	3.06606	0.00315	yes
XLOC_014581	XLOC_014581	Ift74	chr4:94281210-94359924	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.262298	19.0624	6.18338	5.98215	0.0139	yes
XLOC_014625	XLOC_014625	Ssbp3	chr4:106584074-106722299	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.01621	23.8697	2.25051	2.89334	0.0043	yes
XLOC_014628	XLOC_014628	Tmem59	chr4:106851234-106873601	AAdko-FF-TTep	AAwt-FF-TTep	OK	11.9034	37.3159	1.64842	2.18007	0.0352	yes
XLOC_014651	XLOC_014651	Ttc39a	chr4:109079704-109117350	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.11877	18.2149	3.10382	3.78685	0.0021	yes
XLOC_014689	XLOC_014689	Prdx1	chr4:116357569-116372605	AAdko-FF-TTep	AAwt-FF-TTep	OK	21.4753	92.2352	2.10264	2.62613	0.0112	yes
XLOC_014740	XLOC_014740	Mycbp	chr4:123582255-123590364	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.82637	12.4932	2.77409	3.15226	0.0098	yes
XLOC_014759	XLOC_014759	Oscp1	chr4:125735808-125767411	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.80813	13.0916	2.22095	2.70072	0.0157	yes
XLOC_014788	XLOC_014788	Ptp4a2	chr4:129497722-129527247	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.35104	12.8636	2.45193	3.24066	0.0028	yes

XLOC_014844	XLOC_014844	Srsf10	chr4:135412006-135425814	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.95135	16.2654	4.09569	4.98404	0.00065	yes
XLOC_014885	XLOC_014885	Rcc2	chr4:140257387-140279135	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.10605	16.0248	2.36715	2.66131	0.01385	yes
XLOC_014989	XLOC_014989	2010015L04Rik	chr4:154783298-154817219	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.32834	16.6063	2.31886	2.89613	0.0077	yes
XLOC_014995	XLOC_014995	Nadk	chr4:154936500-154965110	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.84781	11.8767	2.06022	2.46533	0.0244	yes
XLOC_015026	XLOC_015026	Penk	chr4:4060682-4065961	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.29676	15.6321	2.76684	2.72886	0.02065	yes
XLOC_015070	XLOC_015070	Pnrc1	chr4:33332397-33335762	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.66579	23.9329	1.84415	2.44385	0.01845	yes
XLOC_015091	XLOC_015091	B4galt1	chr4:40751614-40801570	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.32363	19.5454	1.62801	2.17213	0.03345	yes
XLOC_015101	XLOC_015101	1110017D15Rik	chr4:41452041-41464366	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.65936	32.7489	2.29799	1.74347	0.0395	yes
XLOC_015119	XLOC_015119	Vcp	chr4:42992835-43013379	AAdko-FF-TTep	AAwt-FF-TTep	OK	11.5748	36.7359	1.66621	2.05637	0.0438	yes
XLOC_015133	XLOC_015133	Spag8	chr4:43664200-43666424	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.54973	17.7686	2.80091	2.54858	0.0318	yes
XLOC_015189	XLOC_015189	Epb4.1l4b	chr4:57074597-57156028	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.46205	18.6529	2.06362	2.7712	0.00645	yes
XLOC_015202	XLOC_015202	Ptbp3	chr4:59484739-59562236	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.21472	13.4339	2.06311	2.6757	0.01	yes
XLOC_015228	XLOC_015228	Alad	chr4:62165808-62181097	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.95834	13.7613	1.79765	2.4252	0.0228	yes
XLOC_015267	XLOC_015267	Rps6	chr4:86500002-86503271	AAdko-FF-TTep	AAwt-FF-TTep	OK	41.9489	178.952	2.09287	2.22237	0.0322	yes
XLOC_015281	XLOC_015281	Klh9	chr4:88364195-88368412	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.02438	12.3311	2.02758	2.71189	0.00995	yes
XLOC_015317	XLOC_015317	Wdr78	chr4:102710669-102786989	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.574661	13.271	4.52942	4.3927	0.0069	yes
XLOC_015335	XLOC_015335	Scp2	chr4:107716434-107791152	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.49903	18.4166	1.74376	2.32181	0.0228	yes
XLOC_015397	XLOC_015397	Ptprf	chr4:117880817-117964002	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.39566	13.2861	1.96816	2.58454	0.0127	yes
XLOC_015417	XLOC_015417	Ccdc30	chr4:118995497-119088126	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.959336	14.6341	3.93116	1.45523	0.0249	yes
XLOC_015453	XLOC_015453	Dnali1	chr4:124707257-124742901	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.0523	34.0432	2.75235	3.18988	0.0034	yes
XLOC_015512	XLOC_015512	Snhg3	chr4:131907847-131909601	AAdko-FF-TTep	AAwt-FF-TTep	OK	55.1886	200.179	1.85885	2.24184	0.026	yes
XLOC_015528	XLOC_015528	Nudc	chr4:133088456-133101942	AAdko-FF-TTep	AAwt-FF-TTep	OK	8.49537	31.9945	1.91308	2.51786	0.01685	yes
XLOC_015534	XLOC_015534	Hmg2	chr4:133520653-133523906	AAdko-FF-TTep	AAwt-FF-TTep	OK	13.6863	45.9957	1.74877	2.30975	0.032	yes
XLOC_015560	XLOC_015560	Pnrc2	chr4:135426840-135429761	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.65128	13.1313	2.30825	2.87156	0.01	yes
XLOC_015573	XLOC_015573	Cdc42	chr4:136875610-136913674	AAdko-FF-TTep	AAwt-FF-TTep	OK	10.2373	39.3217	1.94149	2.57264	0.014	yes
XLOC_015582	XLOC_015582	Ubxn10	chr4:138274440-138281166	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.04817	32.824	3.01941	3.88052	0.00115	yes
XLOC_015620	XLOC_015620	Kazn	chr4:141658304-141795363	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.35105	20.4142	3.1182	3.18385	0.00135	yes
XLOC_015622	XLOC_015622	Pdpn	chr4:142857324-142889410	AAdko-FF-TTep	AAwt-FF-TTep	OK	9.75755	39.7819	2.02752	2.69015	0.00885	yes
XLOC_015720	XLOC_015720	Ttll10	chr4:155406047-155424926	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.20388	16.3874	2.3547	2.79084	0.01435	yes
XLOC_015799	XLOC_015799	Sri	chr5:8046079-8069245	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.13084	12.3642	3.4507	3.89225	0.00265	yes
XLOC_015828	XLOC_015828	Fgl2	chr5:20798666-20930495	AAdko-FF-TTep	AAwt-FF-TTep	OK	12.3965	69.2163	2.48118	2.27867	0.03435	yes
XLOC_015874	XLOC_015874	Ccdc164	chr5:30607913-30668993	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.997821	13.1811	3.72355	4.11644	0.004	yes
XLOC_015880	XLOC_015880	Mapre3	chr5:31116657-31168479	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.61827	13.1625	3.02391	3.38827	0.00485	yes
XLOC_015908	XLOC_015908	Maea	chr5:33678220-33715943	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.70637	16.055	1.77034	2.23648	0.0379	yes
XLOC_015955	XLOC_015955	Lap3	chr5:45884612-45903930	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.71392	14.706	1.98538	2.12979	0.019	yes
XLOC_015983	XLOC_015983	Klf3	chr5:65194391-65222819	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.70266	16.1219	1.77747	2.20681	0.03295	yes
XLOC_016009	XLOC_016009	Ociad1	chr5:73684032-73705316	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.506	20.9665	2.58018	3.03906	0.00365	yes
XLOC_016012	XLOC_016012	Spata18	chr5:74042610-74075882	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.71945	37.9815	3.35214	3.16457	0.00275	yes
XLOC_016057	XLOC_016057	Slc4a4	chr5:89316284-89668681	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.22591	17.3407	2.42638	3.05952	0.0052	yes
XLOC_016081	XLOC_016081	Fam47e	chr5:92984050-93020310	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.98747	16.5705	2.05507	2.4477	0.0156	yes
XLOC_016138	XLOC_016138	Rpl5	chr5:108329546-108416096	AAdko-FF-TTep	AAwt-FF-TTep	OK	15.0522	75.4729	2.32598	2.79986	0.00535	yes
XLOC_016189	XLOC_016189	Ankrd13a	chr5:115225148-115255829	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.68294	11.8835	1.69002	2.24682	0.0301	yes
XLOC_016241	XLOC_016241	Ppp1cc	chr5:122608287-122625278	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.26829	12.3936	1.92299	2.33437	0.03125	yes

XLOC_016271	XLOC_016271	Tmed2	chr5:124990799-125000512	AAdko-FF-TTep	AAwt-FF-TTep	OK	12.0515	41.1195	1.77061	2.3137	0.022	yes
XLOC_016288	XLOC_016288	Ran	chr5:129526030-129530196	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.27422	14.4439	2.66702	3.18596	0.00615	yes
XLOC_016293	XLOC_016293	Gbas	chr5:130230949-130264201	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.32083	12.9344	2.4785	3.02614	0.0076	yes
XLOC_016294	XLOC_016294	Cct6a	chr5:130293260-130322231	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.62411	21.2227	2.54991	3.28039	0.00345	yes
XLOC_016310	XLOC_016310	Rfc2	chr5:135058559-135074198	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.21218	15.9525	1.92114	2.25148	0.03625	yes
XLOC_016440	XLOC_016440	Pan3	chr5:148241444-148360077	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.90977	14.2542	2.29241	3.03392	0.0052	yes
XLOC_016493	XLOC_016493	Napepld	chr5:21168720-21207163	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.02096	11.9395	2.56263	3.37165	0.00275	yes
XLOC_016506	XLOC_016506	Tomm7	chr5:23344761-23349963	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.1721	23.7015	1.94114	2.28391	0.0372	yes
XLOC_016573	XLOC_016573	Lrpap1	chr5:35434154-35448346	AAdko-FF-TTep	AAwt-FF-TTep	OK	10.4875	35.5445	1.76096	2.2657	0.031	yes
XLOC_016587	XLOC_016587	Wfs1	chr5:37357342-37380221	AAdko-FF-TTep	AAwt-FF-TTep	OK	8.15716	26.2389	1.68557	2.23915	0.0252	yes
XLOC_016603	XLOC_016603	Fbxl5	chr5:44135856-44173388	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.7118	13.0369	2.26527	2.8895	0.00845	yes
XLOC_016605	XLOC_016605	Prom1	chr5:44384860-44492975	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.40783	15.4833	1.81257	2.36988	0.0128	yes
XLOC_016678	XLOC_016678	Hopx	chr5:77516010-77544148	AAdko-FF-TTep	AAwt-FF-TTep	OK	0	11.9298	Inf	NA	0.0015	yes
XLOC_016722	XLOC_016722	G3bp2	chr5:92481171-92512761	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.23369	16.5227	1.96446	2.58887	0.0135	yes
XLOC_016725	XLOC_016725	Naaa	chr5:92686685-92707207	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.85595	21.764	2.9299	3.84187	0.00095	yes
XLOC_016731	XLOC_016731	Scarb2	chr5:92870364-92934662	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.30086	16.9123	1.67378	2.06065	0.04305	yes
XLOC_016859	XLOC_016859	Rnf10	chr5:115691778-115722904	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.33706	20.1667	1.67009	2.18731	0.03815	yes
XLOC_016908	XLOC_016908	Atp2a2	chr5:122903521-122952234	AAdko-FF-TTep	AAwt-FF-TTep	OK	8.05215	44.9063	2.47947	2.94566	0.0118	yes
XLOC_016957	XLOC_016957	Gtf2i	chr5:134713703-134790616	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.62519	18.065	1.96561	2.57335	0.0157	yes
XLOC_017094	XLOC_017094	Hmgb1	chr5:149858803-149864613	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.83782	29.584	2.34132	3.10889	0.00465	yes
XLOC_017182	XLOC_017182	Tes	chr6:17015148-17055825	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.76621	15.0353	2.44237	3.0764	0.0068	yes
XLOC_017188	XLOC_017188	Cftr	chr6:18120652-18272769	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.32966	13.1101	2.49249	3.1868	0.00265	yes
XLOC_017324	XLOC_017324	Atp6v0e2	chr6:48487567-48491799	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.3455	20.559	2.61948	2.88726	0.01585	yes
XLOC_017337	XLOC_017337	Abp1	chr6:48845253-48859186	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.52454	16.1848	1.8388	2.31504	0.02565	yes
XLOC_017351	XLOC_017351	Cbx3	chr6:51420614-51433703	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.08097	14.0606	2.1902	2.69275	0.01675	yes
XLOC_017411	XLOC_017411	Gng12	chr6:66846390-66971355	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.56473	18.3764	2.00925	2.52251	0.0156	yes
XLOC_017417	XLOC_017417	Krcc1	chr6:71222012-71235313	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.65023	11.6201	2.81588	3.32911	0.00515	yes
XLOC_017434	XLOC_017434	Suclg1	chr6:73198498-73226901	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.36246	21.6557	1.76709	2.1709	0.03795	yes
XLOC_017498	XLOC_017498	Mgll	chr6:88674405-88778354	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.4455	13.8544	2.50215	2.51937	0.00335	yes
XLOC_017595	XLOC_017595	Hnrnpf	chr6:117850357-117875640	AAdko-FF-TTep	AAwt-FF-TTep	OK	8.67742	37.8295	2.12417	2.21	0.0104	yes
XLOC_017653	XLOC_017653	Chd4	chr6:125046180-125080519	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.55064	16.3651	2.20447	2.86876	0.00585	yes
XLOC_017681	XLOC_017681	Clec2d	chr6:129130632-129136553	AAdko-FF-TTep	AAwt-FF-TTep	OK	8.05821	34.7544	2.10866	2.80122	0.008	yes
XLOC_017727	XLOC_017727	Mgst1	chr6:138089057-138105273	AAdko-FF-TTep	AAwt-FF-TTep	OK	19.8779	63.9097	1.68487	2.24902	0.02975	yes
XLOC_017743	XLOC_017743	Etnk1	chr6:143115749-143157066	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.87243	24.4999	2.66146	2.8459	0.0063	yes
XLOC_017769	XLOC_017769	Mettl20	chr6:149090034-149099692	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.94205	15.6473	3.01025	2.91543	0.0054	yes
XLOC_017782	XLOC_017782	Pon2	chr6:5214623-5248373	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.70285	13.0027	2.26625	2.78593	0.0114	yes
XLOC_017839	XLOC_017839	Ube2h	chr6:30161288-30254539	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.03101	11.9186	1.97534	2.67827	0.0128	yes
XLOC_017860	XLOC_017860	Mtpn	chr6:35458823-35489888	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.77862	18.6945	3.39379	4.479	0.00055	yes
XLOC_017875	XLOC_017875	Mkrn1	chr6:39347819-39370368	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.25388	15.1704	2.75078	3.37808	0.00435	yes
XLOC_017935	XLOC_017935	Hnrnpa2b1	chr6:51409442-51419993	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.64691	49.399	2.89372	3.11205	0.00295	yes
XLOC_017951	XLOC_017951	Hibadh	chr6:52496223-52590294	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.46272	15.2702	1.77472	2.19271	0.0383	yes
XLOC_017956	XLOC_017956	Scrn1	chr6:54455892-54516453	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.3193	16.5148	1.93489	2.28655	0.02465	yes
XLOC_017989	XLOC_017989	Hpgds	chr6:65067187-65095256	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.52476	18.9853	3.63824	4.30994	0.00015	yes

XLOC_017997	XLOC_017997	Gadd45a	chr6:66985089-67030646	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.03127	21.3936	2.40787	2.85063	0.0118	yes
XLOC_018020	XLOC_018020	Tgoln1	chr6:72558414-72566994	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.93864	18.428	1.89971	2.38103	0.02335	yes
XLOC_018089	XLOC_018089	Cnbp	chr6:87792608-87801100	AAdko-FF-TTep	AAwt-FF-TTep	OK	7.28923	32.7378	2.16712	2.83513	0.00985	yes
XLOC_018160	XLOC_018160	Sec13	chr6:113678045-113690675	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.65699	15.4841	2.08206	2.2611	0.044	yes
XLOC_018164	XLOC_018164	Timp4	chr6:115084919-115232644	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.15042	38.6776	4.16881	3.76374	0.01495	yes
XLOC_018170	XLOC_018170	Efcab12	chr6:115760746-115788525	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.810239	13.2243	4.0287	3.34799	0.00545	yes
XLOC_018190	XLOC_018190	Adipor2	chr6:119303167-119367501	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.90431	16.9065	2.54131	3.34223	0.00265	yes
XLOC_018199	XLOC_018199	Atp6v1e1	chr6:120745261-120772703	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.57897	24.3463	2.4106	3.07928	0.0062	yes
XLOC_018206	XLOC_018206	Apobec1	chr6:122527809-122552462	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.84235	18.9314	2.30072	3.05921	0.0049	yes
XLOC_018208	XLOC_018208	Slc2a3	chr6:122677826-122692763	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.05689	20.335	2.32552	3.07084	0.0047	yes
XLOC_018228	XLOC_018228	Lrrc23	chr6:124719880-124729736	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.42154	16.0659	2.23128	2.38983	0.02115	yes
XLOC_018260	XLOC_018260	Tulp3	chr6:128271178-128305869	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.74216	12.6861	2.20986	2.80469	0.00995	yes
XLOC_018364	XLOC_018364	Bcat1	chr6:144942354-145024677	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.09961	15.8264	1.94877	2.44455	0.01735	yes
XLOC_018380	XLOC_018380	Caprin2	chr6:148791013-148844694	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.08987	11.6985	2.48483	2.44741	0.0159	yes
XLOC_018381	XLOC_018381	Fam60a	chr6:148869580-148894954	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.07774	14.496	2.80257	3.58341	0.00245	yes
XLOC_018733	XLOC_018733	Akt2	chr7:28376578-28424472	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.65275	15.1915	1.70711	2.191	0.03925	yes
XLOC_018797	XLOC_018797	Dmkn	chr7:31548774-31566085	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.00377	24.904	2.05244	1.98328	0.0486	yes
XLOC_018925	XLOC_018925	Ccdc114	chr7:53179600-53204847	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.99833	17.0718	2.50938	2.6926	0.019	yes
XLOC_019020	XLOC_019020	Fam103a1	chr7:88907838-88914376	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.75487	12.0067	2.77441	2.94223	0.0132	yes
XLOC_019067	XLOC_019067	Kctd14	chr7:104599843-104609214	AAdko-FF-TTep	AAwt-FF-TTep	OK	18.5986	58.4258	1.65141	2.02639	0.0496	yes
XLOC_019088	XLOC_019088	Kcne3	chr7:107325179-107333582	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.53644	39.1858	3.1107	3.54761	0.00195	yes
XLOC_019089	XLOC_019089	Pgm2l1	chr7:107376116-107427382	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.12372	18.5677	3.12813	3.6973	0.00045	yes
XLOC_019100	XLOC_019100	Arap1	chr7:108496582-108561100	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.9155	13.443	1.77958	2.19039	0.03195	yes
XLOC_019239	XLOC_019239	Parva	chr7:119571219-119735202	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.01416	11.8622	1.5632	2.07092	0.0483	yes
XLOC_019272	XLOC_019272	Vwa3a	chr7:127883070-127949054	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.85469	14.091	4.04323	4.7863	0.0006	yes
XLOC_019424	XLOC_019424	Ifitm1	chr7:148153327-148155726	AAdko-FF-TTep	AAwt-FF-TTep	OK	11.6355	94.8525	3.02716	3.33937	0.00355	yes
XLOC_019572	XLOC_019572	Chmp2a	chr7:13617354-13620126	AAdko-FF-TTep	AAwt-FF-TTep	OK	8.9883	31.9899	1.8315	2.36424	0.02365	yes
XLOC_019740	XLOC_019740	Hnrnpul1	chr7:26506185-26539942	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.26368	15.438	1.85631	2.00752	0.0414	yes
XLOC_019761	XLOC_019761	Psmc4	chr7:28826720-28835111	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.5936	13.3546	3.06698	2.86721	0.0253	yes
XLOC_020177	XLOC_020177	Lrrc51	chr7:109061501-109082371	AAdko-FF-TTep	AAwt-FF-TTep	OK	8.27155	37.4094	2.17717	2.41709	0.02035	yes
XLOC_020328	XLOC_020328	St5	chr7:116667220-116760661	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.5862	12.674	1.82134	2.31143	0.02465	yes
XLOC_020329	XLOC_020329	BC051019	chr7:116847250-116867285	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.52537	15.2194	2.11006	2.1606	0.04785	yes
XLOC_020341	XLOC_020341	Eif4g2	chr7:118211498-118226544	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.88859	45.186	2.7136	2.43839	0.02425	yes
XLOC_020349	XLOC_020349	Copb1	chr7:121359072-121398194	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.55634	16.5313	1.573	2.06145	0.047	yes
XLOC_020350	XLOC_020350	Psmc1	chr7:121408063-121419630	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.41873	15.5826	2.1884	2.45354	0.0263	yes
XLOC_020357	XLOC_020357	Rps13	chr7:123475020-123477704	AAdko-FF-TTep	AAwt-FF-TTep	OK	37.9516	139.199	1.87491	2.47752	0.0202	yes
XLOC_020366	XLOC_020366	Gde1	chr7:125832071-125849252	AAdko-FF-TTep	AAwt-FF-TTep	OK	7.86661	26.2582	1.73895	2.29837	0.02435	yes
XLOC_020417	XLOC_020417	Eif3c	chr7:133690424-133709880	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.65812	22.9697	3.11126	4.15384	0.00075	yes
XLOC_020512	XLOC_020512	6430531B16Rik,Ad	chr7:147158201-147178399	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.88773	71.2776	3.59767	4.06684	0.0003	yes
XLOC_020578	XLOC_020578	Nap1l4	chr7:150699483-150735093	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.57946	15.7376	2.60908	3.30356	0.0043	yes
XLOC_020583	XLOC_020583	Osbpl5	chr7:150874666-150927868	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.86574	11.6423	2.64156	3.06077	0.00735	yes
XLOC_020587	XLOC_020587	Cttn	chr7:151621628-151656840	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.2225	19.2582	1.62991	2.15899	0.033	yes
XLOC_020590	XLOC_020590	Ano1	chr7:151774453-151924497	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.33153	19.1964	2.14789	2.84358	0.0062	yes

XLOC_020591	XLOC_020591	Ccnd1	chr7:152115835-152125830	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.39303	19.1527	1.58297	2.11285	0.04295	yes
XLOC_020762	XLOC_020762	Plat	chr8:23868215-23893320	AAdko-FF-TTep	AAwt-FF-TTep	OK	23.6021	87.9542	1.89784	2.09192	0.0401	yes
XLOC_020931	XLOC_020931	Tpm4	chr8:74659190-74677028	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.44673	17.2049	1.952	2.58282	0.013	yes
XLOC_020934	XLOC_020934	Fam32a	chr8:74743613-74750950	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.35132	15.6206	2.22065	2.64986	0.01575	yes
XLOC_020939	XLOC_020939	Nwd1	chr8:75170544-75240775	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.54156	15.362	3.3169	4.21931	0.0003	yes
XLOC_020954	XLOC_020954	Ttc29	chr8:80737240-80918225	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.681035	13.8823	4.34937	4.78117	0.003	yes
XLOC_021030	XLOC_021030	Mt3	chr8:96676506-96678048	AAdko-FF-TTep	AAwt-FF-TTep	OK	0	22.4091	Inf	NA	0.01205	yes
XLOC_021090	XLOC_021090	Lrrc36	chr8:107937521-107989454	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.400165	17.653	5.46317	3.4473	0.00485	yes
XLOC_021099	XLOC_021099	Nutf2	chr8:108384533-108404301	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.23497	13.8939	2.63612	2.54503	0.0255	yes
XLOC_021119	XLOC_021119	Cyb5b	chr8:109674560-109711370	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.98907	21.818	1.86512	2.37076	0.0265	yes
XLOC_021153	XLOC_021153	Dynlrb2	chr8:119028914-119039815	AAdko-FF-TTep	AAwt-FF-TTep	OK	16.61	70.7136	2.08994	2.64665	0.01495	yes
XLOC_021224	XLOC_021224	Tsnax	chr8:127536896-127558092	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.19835	17.7188	1.76916	2.34245	0.02685	yes
XLOC_021235	XLOC_021235	Itgb1	chr8:131209553-131257479	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.92753	14.419	1.87627	2.51786	0.01575	yes
XLOC_021312	XLOC_021312	Nek5	chr8:23183906-23235560	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.0031	14.6436	3.86773	4.13502	0.00095	yes
XLOC_021317	XLOC_021317	Vdac3	chr8:23687546-23704285	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.36298	16.5858	1.92656	2.33645	0.0242	yes
XLOC_021394	XLOC_021394	Fam149a	chr8:46422068-46468020	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.18234	14.1207	3.57809	4.14084	0.00135	yes
XLOC_021546	XLOC_021546	Nacc1	chr8:87194377-87211761	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.84101	12.8609	2.17852	2.85333	0.0082	yes
XLOC_021563	XLOC_021563	Dnaja2	chr8:88061538-88079170	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.31235	13.2838	2.52223	3.29742	0.0031	yes
XLOC_021565	XLOC_021565	Itfg1	chr8:88241455-88364848	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.85178	14.6702	2.9859	3.93731	0.0011	yes
XLOC_021583	XLOC_021583	Ces1d	chr8:95689970-95721703	AAdko-FF-TTep	AAwt-FF-TTep	OK	9.14667	26.5114	1.53529	2.0487	0.0459	yes
XLOC_021589	XLOC_021589	Gmfr	chr8:96495487-96536540	AAdko-FF-TTep	AAwt-FF-TTep	OK	8.06627	24.6041	1.60892	2.14804	0.0399	yes
XLOC_021601	XLOC_021601	Atl3	chr8:97944149-97958769	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.26367	17.7785	2.44557	2.82038	0.01215	yes
XLOC_021604	XLOC_021604	Cnot1	chr8:98243350-98345628	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.15671	18.0359	3.06397	3.78056	0.00035	yes
XLOC_021612	XLOC_021612	Cmtm4	chr8:106872092-106919707	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.71701	15.7271	1.73731	2.21162	0.03255	yes
XLOC_021808	XLOC_021808	Tmem123	chr9:7764076-7794332	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.02646	16.6488	2.45972	3.26224	0.0032	yes
XLOC_021965	XLOC_021965	Vwa5a	chr9:38525852-38550922	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.97643	19.3254	2.69885	3.64154	0.0005	yes
XLOC_022019	XLOC_022019	Ccdc153	chr9:44048759-44055389	AAdko-FF-TTep	AAwt-FF-TTep	OK	8.29696	82.9209	3.32108	4.28895	0.00055	yes
XLOC_022026	XLOC_022026	Ddx6	chr9:44411165-44448902	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.93971	14.8918	2.34077	3.09952	0.0024	yes
XLOC_022083	XLOC_022083	Dnaja4	chr9:54547365-54564124	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.61608	20.5333	2.97249	3.77457	0.00225	yes
XLOC_022195	XLOC_022195	Nedd4	chr9:72510153-72597655	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.54515	28.872	2.14117	2.39957	0.0271	yes
XLOC_022220	XLOC_022220	Elov5	chr9:77765171-77832326	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.00204	20.6216	2.36535	3.16836	0.00325	yes
XLOC_022333	XLOC_022333	Zmynd10	chr9:107449640-107453650	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.95778	22.3446	2.17216	2.59307	0.01865	yes
XLOC_022353	XLOC_022353	Rhoa	chr9:108208535-108240270	AAdko-FF-TTep	AAwt-FF-TTep	OK	10.9286	37.6674	1.78521	2.38212	0.0232	yes
XLOC_022360	XLOC_022360	Usp19	chr9:108393006-108404668	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.98284	12.9747	1.70384	2.1841	0.0291	yes
XLOC_022363	XLOC_022363	Impdh2	chr9:108462831-108467897	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.00235	13.5333	2.75675	2.71781	0.01875	yes
XLOC_022416	XLOC_022416	Osbpl10	chr9:114976396-115142384	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.78818	12.9567	2.85714	3.17735	0.00625	yes
XLOC_022427	XLOC_022427	Dlec1	chr9:119011595-119066211	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.67989	13.5222	3.0089	3.73249	0.00165	yes
XLOC_022433	XLOC_022433	Ttc21a	chr9:119846723-119878473	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.20485	19.5014	4.01666	4.53585	0.0009	yes
XLOC_022442	XLOC_022442	Rpl14	chr9:120480633-120483770	AAdko-FF-TTep	AAwt-FF-TTep	OK	29.766	107.239	1.84909	2.40803	0.0197	yes
XLOC_022486	XLOC_022486	Yap1	chr9:7932000-8004596	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.95951	17.2688	2.12477	2.85785	0.00565	yes
XLOC_022519	XLOC_022519	Olfr856-ps1	chr9:19461482-19463124	AAdko-FF-TTep	AAwt-FF-TTep	OK	7.00532	30.725	2.13289	2.79122	0.01	yes
XLOC_022559	XLOC_022559	Ccdc151	chr9:21794314-21807078	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.09497	13.2511	3.59714	3.70629	0.0061	yes
XLOC_022563	XLOC_022563	Elof1	chr9:21917432-21921612	AAdko-FF-TTep	AAwt-FF-TTep	OK	24.6092	82.0453	1.73722	2.22514	0.0299	yes

XLOC_022580	XLOC_022580	Jam3	chr9:26904968-26963006	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.32499	24.61	3.40395	4.04831	0.00165	yes
XLOC_022585	XLOC_022585	Aplp2	chr9:30942991-31066970	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.44376	19.1019	1.81104	2.33364	0.02355	yes
XLOC_022611	XLOC_022611	Stt3a	chr9:36539997-36575163	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.14226	16.7945	1.70751	2.22919	0.03195	yes
XLOC_022684	XLOC_022684	Arcn1	chr9:44550227-44575891	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.32387	14.5131	1.74696	2.33239	0.02175	yes
XLOC_022725	XLOC_022725	1110032A03Rik	chr9:50570932-50576257	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.86873	17.5336	2.61164	3.33409	0.0042	yes
XLOC_022728	XLOC_022728	4833427G06Rik	chr9:50889272-50913934	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.86409	15.347	2.42181	2.52292	0.02545	yes
XLOC_022776	XLOC_022776	Ccdc33	chr9:57876479-57966664	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.69539	13.8906	1.91031	2.4104	0.0208	yes
XLOC_022816	XLOC_022816	Rab11a	chr9:64563106-64585563	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.53699	12.1293	2.98032	3.41791	0.0045	yes
XLOC_022832	XLOC_022832	Tpm1	chr9:66870399-66897020	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.23479	20.5685	3.20223	3.19939	0.0004	yes
XLOC_022852	XLOC_022852	Gm5918	chr9:72827532-72833183	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.9192	20.9264	2.84168	2.60944	0.03195	yes
XLOC_022905	XLOC_022905	Morf411	chr9:89986506-90009658	AAdko-FF-TTep	AAwt-FF-TTep	OK	12.7985	43.4155	1.76223	2.32782	0.02035	yes
XLOC_022955	XLOC_022955	Acpp	chr9:104189921-104240052	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.96261	13.5751	2.19602	2.96741	0.00475	yes
XLOC_022965	XLOC_022965	Alas1	chr9:106135785-106150285	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.93711	15.8274	2.00721	2.61823	0.01395	yes
XLOC_022976	XLOC_022976	Manf	chr9:106789745-106794269	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.69886	21.846	1.93862	2.56791	0.01545	yes
XLOC_022982	XLOC_022982	Gnai2	chr9:107516468-107537673	AAdko-FF-TTep	AAwt-FF-TTep	OK	11.784	35.9971	1.61105	2.13158	0.0397	yes
XLOC_023272	XLOC_023272	Mid1ip1	chrX:10294490-10296828	AAdko-FF-TTep	AAwt-FF-TTep	OK	15.6134	46.0497	1.56041	2.05083	0.0492	yes
XLOC_023288	XLOC_023288	Usp9x	chrX:12648623-12750453	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.83206	11.974	2.70837	3.32932	0.0028	yes
XLOC_023289	XLOC_023289	Ddx3x	chrX:12858147-12871174	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.30765	23.7013	2.45999	3.17754	0.00325	yes
XLOC_023331	XLOC_023331	Pgrmc1	chrX:34138219-34146074	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.88886	11.6935	2.63013	3.00092	0.0093	yes
XLOC_023401	XLOC_023401	Fhl1	chrX:53984963-54046523	AAdko-FF-TTep	AAwt-FF-TTep	OK	7.71529	33.2389	2.10708	2.82223	0.00605	yes
XLOC_023465	XLOC_023465	Gdl1	chrX:71550350-71557206	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.79022	19.3879	1.51363	2.03937	0.04575	yes
XLOC_023478	XLOC_023478	Tbl1x	chrX:74756246-74908311	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.48881	11.7417	1.75084	2.20583	0.03245	yes
XLOC_023571	XLOC_023571	Sh3bgrl	chrX:106290745-106357806	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.99724	17.5714	2.13615	2.84108	0.0075	yes
XLOC_023620	XLOC_023620	Wbp5	chrX:132779618-132781678	AAdko-FF-TTep	AAwt-FF-TTep	OK	11.0737	45.3294	2.03331	2.72264	0.0086	yes
XLOC_023621	XLOC_023621	Ngfrap1	chrX:132804791-132806517	AAdko-FF-TTep	AAwt-FF-TTep	OK	15.5177	44.4118	1.51703	2.00626	0.04795	yes
XLOC_023636	XLOC_023636	Rnf128	chrX:136097878-136207684	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.61498	26.5849	2.52621	3.32514	0.0022	yes
XLOC_023638	XLOC_023638	Cldn2	chrX:136335346-136345927	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.47781	19.8329	3.00076	3.83029	0.0013	yes
XLOC_023679	XLOC_023679	Huwe1	chrX:148237555-148369961	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.00904	13.3394	2.14831	2.20335	0.02205	yes
XLOC_023715	XLOC_023715	Rbbp7	chrX:159198303-159267331	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.87505	27.06	2.47268	3.27021	0.00285	yes
XLOC_023717	XLOC_023717	Ap1s2	chrX:160346927-160371861	AAdko-FF-TTep	AAwt-FF-TTep	OK	10.7945	58.5778	2.44005	2.01699	0.03785	yes
XLOC_023779	XLOC_023779	Dynlt3	chrX:9231395-9240109	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.83894	17.2917	2.60665	3.4238	0.00165	yes
XLOC_023792	XLOC_023792	Fundc1	chrX:17133694-17149423	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.55552	11.8933	2.93468	3.29596	0.005	yes
XLOC_023854	XLOC_023854	Lamp2	chrX:35758240-35809632	AAdko-FF-TTep	AAwt-FF-TTep	OK	9.13921	39.0491	2.09515	2.46736	0.016	yes
XLOC_023878	XLOC_023878	6720401G13Rik	chrX:47908826-47988491	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.28363	12.113	1.88319	2.28707	0.01855	yes
XLOC_023952	XLOC_023952	Ids	chrX:67596244-67618260	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.81163	18.7229	3.36944	4.50859	0.00005	yes
XLOC_023963	XLOC_023963	Cetn2	chrX:70158903-70163683	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.18789	28.2249	3.68936	4.01582	0.0043	yes
XLOC_023976	XLOC_023976	Bcap31	chrX:70931521-70961514	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.54782	28.4636	2.35913	2.83248	0.01195	yes
XLOC_023977	XLOC_023977	ldh3g	chrX:71024301-71032236	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.69941	17.2748	2.2233	2.56703	0.02075	yes
XLOC_024034	XLOC_024034	Eif2s3x	chrX:91434047-91457990	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.81209	20.2445	2.07279	2.7603	0.0109	yes
XLOC_024073	XLOC_024073	Xist	chrX:100626855-100680296	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.68478	27.73	2.5654	2.35182	0.02785	yes
XLOC_024137	XLOC_024137	Morf412	chrX:133267489-133337900	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.3057	25.0803	1.99182	2.58827	0.01145	yes
XLOC_024173	XLOC_024173	Maged2	chrX:147240963-147248882	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.49825	12.7984	1.87126	2.27251	0.03195	yes
XLOC_024207	XLOC_024207	Pdha1	chrX:156426364-156576268	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.05156	18.4192	1.60583	2.09503	0.0454	yes

Table S2. The significantly dys-regulated gene transcripts as determined by RNA-Seq in oviductal smooth muscle cells of miR-dKO mice.

test_id	gene_id	gene	locus	sample_1	sample_2	status	value_1	value_2	log2.fold_c	test_stat	p_value	significant
XLOC_000404	XLOC_000404	Csrp1	chr1:137625773-137648806	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	12.5468	3.05826	-2.03653	-2.57896	0.0174	yes
XLOC_001572	XLOC_001572	Chchd10	chr10:75398317-75400479	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	9.90026	50.7761	2.35861	2.40697	0.0472	yes
XLOC_001600	XLOC_001600	Gm10318	chr10:77315603-77316533	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	45.5992	0	#NAME?	NA	0.0045	yes
XLOC_001648	XLOC_001648	Ndufs7	chr10:79712196-79719537	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	12.2513	0	#NAME?	NA	0.01325	yes
XLOC_001855	XLOC_001855	Naca	chr10:127472401-127485693	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	13.6472	3.15419	-2.11327	-2.44054	0.0198	yes
XLOC_002140	XLOC_002140	Krtap10-4	chr10:77288913-77289815	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	45.6945	0	#NAME?	NA	0.00155	yes
XLOC_002552	XLOC_002552	Xbp1	chr11:5420643-5425996	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	14.1129	3.8574	-1.87132	-2.42152	0.0209	yes
XLOC_002621	XLOC_002621	Hba-a1,Hba-a2	chr11:32183671-32184493	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	16.7012	0	#NAME?	NA	0.0003	yes
XLOC_003097	XLOC_003097	Col1a1	chr11:94797583-94813170	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	3.98035	13.4481	1.75643	2.23103	0.03115	yes
XLOC_004016	XLOC_004016	Krt19	chr11:100002125-100007233	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	19.0805	5.12892	-1.89537	-2.37938	0.0225	yes
XLOC_004871	XLOC_004871	Rpl36al	chr12:70283720-70285054	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	44.5344	8.64728	-2.3646	-2.85971	0.01175	yes
XLOC_006812	XLOC_006812	Gm10845	chr14:80260327-80268983	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	13.8538	3.15919	-2.13266	-2.40801	0.02355	yes
XLOC_007042	XLOC_007042	Ly6e	chr15:74785480-74790335	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	16.7257	3.59561	-2.21776	-2.77762	0.00495	yes
XLOC_007089	XLOC_007089	Lgals1	chr15:78757154-78760895	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	27.3629	9.23851	-1.56649	-2.05196	0.04755	yes
XLOC_007143	XLOC_007143	Rnu12	chr15:82980074-82980224	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	87.0132	0	#NAME?	NA	0.01325	yes
XLOC_007145	XLOC_007145	Tspo	chr15:83394002-83404633	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	0	12.3262	Inf	NA	0.00205	yes
XLOC_007237	XLOC_007237	Dazap2	chr15:100446092-100451192	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	17.1804	5.0778	-1.75849	-2.33321	0.02365	yes
XLOC_007340	XLOC_007340	Cox6c	chr15:35861730-35868001	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	44.6431	14.2933	-1.6431	-2.07427	0.04835	yes
XLOC_007438	XLOC_007438	2300005B03Rik	chr15:74573268-74577117	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	16.2851	0	#NAME?	NA	0.03545	yes
XLOC_007613	XLOC_007613	Odf3b,Sco2,Tymp	chr15:89186149-89209846	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	1.16944	15.7228	3.74897	1.90637	0.0112	yes
XLOC_007677	XLOC_007677	Tuba1a	chr15:98780277-98783932	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	6.31472	23.9893	1.9256	2.32953	0.0267	yes
XLOC_007736	XLOC_007736	Atp5g2	chr15:102493298-102501478	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	30.7006	5.99591	-2.35621	-2.49724	0.03145	yes
XLOC_007829	XLOC_007829	Gm5480	chr16:5007380-5008401	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	0	27.3071	Inf	NA	0.01935	yes
XLOC_008899	XLOC_008899	H2-Q4	chr17:35516419-35521737	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	13.3257	2.3932	-2.4772	-3.10042	0.00325	yes
XLOC_009147	XLOC_009147	Pisd-ps2	chr17:3064317-3084183	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	20.3275	5.26918	-1.94778	-2.28017	0.03135	yes
XLOC_009279	XLOC_009279	Snora78	chr17:24856475-24856910	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	0	133.925	Inf	NA	0.01545	yes
XLOC_009391	XLOC_009391	Rps28	chr17:33959981-33961443	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	210.989	68.7868	-1.61697	-2.04935	0.0485	yes
XLOC_009398	XLOC_009398	H2-K1	chr17:34132956-34137278	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	13.3662	3.88652	-1.78203	-2.23996	0.0346	yes
XLOC_009483	XLOC_009483	Olfir95	chr17:37347857-37348796	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	30.8273	0	#NAME?	NA	0.01325	yes
XLOC_009607	XLOC_009607	Nrtn	chr17:56890747-56896953	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	0	111.405	Inf	NA	0.00005	yes
XLOC_009707	XLOC_009707	Kcnk12	chr17:88145160-88197334	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	0	12.1556	Inf	NA	0.00125	yes
XLOC_010801	XLOC_010801	5730408K05Rik, Mir5136	chr19:8962876-8963264	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	0	43.995	Inf	NA	0.01135	yes
XLOC_011710	XLOC_011710	B2m	chr2:121945843-122011925	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	12.2998	3.48552	-1.81919	-2.24817	0.03355	yes
XLOC_012259	XLOC_012259	Lcn2	chr2:32240156-32243259	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	26.8829	4.70437	-2.51462	-3.12953	0.004	yes
XLOC_013341	XLOC_013341	Dpm3	chr3:89070473-89070999	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	44.2733	0	#NAME?	NA	0.01325	yes
XLOC_015109	XLOC_015109	Ccl27a	chr4:41707315-41721049	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	35.9914	0	#NAME?	NA	0.00025	yes
XLOC_015193	XLOC_015193	Txn1	chr4:57956244-57969283	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	13.1584	4.05596	-1.69786	-2.14829	0.04065	yes
XLOC_016536	XLOC_016536	Tyms	chr5:30384739-30400165	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	14.752	2.64574	-2.47917	-2.33415	0.04275	yes
XLOC_017441	XLOC_017441	Gm20594	chr6:79768024-79768358	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	15.9489	2.99524	-2.41271	-2.4809	0.035	yes
XLOC_017703	XLOC_017703	2700089E24Rik	chr6:133055256-133060917	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	0.338489	23.0983	6.09254	0.412421	0.00285	yes
XLOC_017796	XLOC_017796	Ndufa4	chr6:11850372-11857446	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	17.5255	3.63097	-2.27103	-2.38881	0.0392	yes
XLOC_018023	XLOC_018023	Tmsb10	chr6:72907340-72908742	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	19.6724	5.87817	-1.74274	-2.28863	0.0269	yes
XLOC_018236	XLOC_018236	Ptms	chr6:124863610-124867964	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	22.3767	6.84442	-1.70899	-2.25187	0.0315	yes
XLOC_018338	XLOC_018338	Mgp	chr6:136820955-136824326	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	13.4946	1.91519	-2.81683	-3.67354	0.00115	yes

XLOC_018573	XLOC_018573	Tmem160	chr7:17038127-17040839	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	0	26.5394	Inf	NA	0.00205	yes
XLOC_019642	XLOC_019642	Bcam	chr7:20341486-20355881	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	12.2092	3.13319	-1.96226	-2.52388	0.0198	yes
XLOC_019809	XLOC_019809	Psenen	chr7:31346884-31348203	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	13.9141	0	#NAME?	NA	0.00005	yes
XLOC_020655	XLOC_020655	A430078G23Rik	chr8:3353414-3390299	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	16.312	3.4367	-2.24684	-2.69902	0.0133	yes
XLOC_020839	XLOC_020839	Cldn22	chr8:48909835-48910829	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	0	12.0066	Inf	NA	0.00205	yes
XLOC_021000	XLOC_021000	BC056474	chr8:87604861-87606238	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	30.5975	0	#NAME?	NA	0.00005	yes
XLOC_022019	XLOC_022019	Ccdc153	chr9:44048759-44055389	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	2.31722	12.3804	2.41759	2.6138	0.01785	yes
XLOC_022354	XLOC_022354	Gpx1	chr9:108241410-108242673	AAdko-FF-TTmu	AAwt-FF-TTmu	OK	19.0348	5.56933	-1.77306	-2.22779	0.03555	yes

Table S3. The predicted transcripts are targeted by miR-34/449 cluster as determined by SpliceR and RNAhybrid analyses in oviduct epithelium cells.

test_id	gene_id	gene	locus	sample_1	sample_2	status	value_1	value_2	log2(fold_change)	test_stat	p_value	q_value	significant
XLOC_022905	XLOC_022905	Morf4l1	chr9:89986506-90009658	AAdko-FF-TTep	AAwt-FF-TTep	OK	12.7985	43.4155	1.76223	2.32782	0.02035	0.048232	yes
XLOC_002712	XLOC_002712	Skp1a	chr11:52045496-52060360	AAdko-FF-TTep	AAwt-FF-TTep	OK	9.61012	36.8834	1.94035	2.58727	0.0136	0.035655	yes
XLOC_011851	XLOC_011851	Pygb	chr2:150612531-150657484	AAdko-FF-TTep	AAwt-FF-TTep	OK	8.59465	34.3782	1.99998	2.45992	0.01955	0.046748	yes
XLOC_012394	XLOC_012394	Nfe2l2	chr2:75513575-75542698	AAdko-FF-TTep	AAwt-FF-TTep	OK	7.80734	29.558	1.92064	2.49927	0.0203	0.048145	yes
XLOC_017727	XLOC_017727	Mgst1	chr6:138089057-138105273	AAdko-FF-TTep	AAwt-FF-TTep	OK	19.8779	63.9097	1.68487	2.24902	0.02975	0.064703	no
XLOC_006457	XLOC_006457	Rpl15	chr14:19100336-19103500	AAdko-FF-TTep	AAwt-FF-TTep	OK	9.75595	36.599	1.90745	2.52145	0.0184	0.044764	yes
XLOC_012168	XLOC_012168	Tubb4b	chr2:25074264-25080222	AAdko-FF-TTep	AAwt-FF-TTep	OK	30.2615	136.692	2.17538	2.55934	0.0137	0.035826	yes
XLOC_017337	XLOC_017337	Abp1	chr6:48845253-48859186	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.52454	16.1848	1.8388	2.31504	0.02565	0.05783	no
XLOC_007379	XLOC_007379	Enpp2	chr15:54670452-54751701	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.86259	20.9623	2.8724	3.84743	0.0008	0.004974	yes
XLOC_023621	XLOC_023621	Ngfrap1	chrX:132804791-132806517	AAdko-FF-TTep	AAwt-FF-TTep	OK	15.5177	44.4118	1.51703	2.00626	0.04795	0.093305	no
XLOC_007374	XLOC_007374	Eif3h	chr15:51618108-51697007	AAdko-FF-TTep	AAwt-FF-TTep	OK	4.94927	21.7557	2.1361	2.6898	0.01435	0.037072	yes
XLOC_017434	XLOC_017434	Suc1g1	chr6:73198498-73226901	AAdko-FF-TTep	AAwt-FF-TTep	OK	6.36246	21.6557	1.76709	2.1709	0.03795	0.077501	no
XLOC_015026	XLOC_015026	Penk	chr4:4060682-4065961	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.29676	15.6321	2.76684	2.72886	0.02065	0.048815	yes
XLOC_008117	XLOC_008117	Il10rb	chr16:91406479-91426079	AAdko-FF-TTep	AAwt-FF-TTep	OK	3.37299	11.7382	1.79912	2.15508	0.04265	0.085042	no
XLOC_022083	XLOC_022083	Dnaja4	chr9:54547365-54564124	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.61608	20.5333	2.97249	3.77457	0.00225	0.009915	yes
XLOC_001209	XLOC_001209	Adss	chr1:179693308-179726640	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.13389	12.6792	2.5709	3.25595	0.0052	0.017442	yes
XLOC_012224	XLOC_012224	1700007K13Rik	chr2:28317520-28321854	AAdko-FF-TTep	AAwt-FF-TTep	OK	5.54326	38.3007	2.78856	3.30961	0.0044	0.015587	yes
XLOC_022725	XLOC_022725	1110032A03Rik	chr9:50570932-50576257	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.86873	17.5336	2.61164	3.33409	0.0042	0.015174	yes
XLOC_003662	XLOC_003662	Dnahc9	chr11:65644825-65982053	AAdko-FF-TTep	AAwt-FF-TTep	OK	1.50284	15.7136	3.38625	4.07772	0.00045	0.003447	yes
XLOC_008748	XLOC_008748	Tekt4	chr17:25608534-25613539	AAdko-FF-TTep	AAwt-FF-TTep	OK	2.5318	11.6931	2.20742	2.31829	0.04185	0.083723	no
XLOC_020954	XLOC_020954	Ttc29	chr8:80737240-80918225	AAdko-FF-TTep	AAwt-FF-TTep	OK	0.681035	13.8823	4.34937	4.78117	0.003	0.01203	yes
XLOC_011868	XLOC_011868	6820408C15Rik	chr2:152241322-152270064	AAdko-FF-TTep	AAwt-FF-TTep	OK	0	14.1252	inf	#NAME?	5.00E-05	0.000771	yes
XLOC_013278	XLOC_013278	-	chr3:75162280-75186007	AAdko-FF-TTep	AAwt-FF-TTep	OK	0	43.51	#NAME?	NA	0.03515	0.073245	no
XLOC_011612	XLOC_011612	-	chr2:106069573-106181753	AAdko-FF-TTep	AAwt-FF-TTep	OK	0	13.7481	#NAME?	NA	0.0307	0.066097	no

Table S4. Primer sequences for real-time qPCR in this study.

Gene symbol	Forward (5' → 3')	Reverse (5' → 3')
<i>Foxj1</i>	CATCTACAAGTGGATCACGGAC	GAGCAGGCGCTCTGCGTACTG
<i>Tubb4a</i>	AACCCGGCACCATGGACTCTGT	TGCCTGCTCCGGATTGACCAAATA
<i>Ovgp1</i>	TGGACCCCTTTCTTTGTACG	TGGACAGCAGTGTTTTTCAGC
<i>Pax8</i>	ATGCCTCACAACTCGATCAGA	ACAATGCGTTGACGTACAACCTT
<i>Des</i>	ACTTGACTCAGGCAGCCAAT	ATCCTCCAGCTCCCTCATCT
<i>Krt8</i>	ATCGAGATCACCCACCTACCG	TGAAGCCAGGGCTAGTGAGT
<i>Acta2</i>	GAGGCACCACTGAACCCTAA	CATCTCCAGAGTCCAGCACA
<i>Morf4l1</i>	CCAGGCGCTCTGAAAAATCTT	CCCATTTCATCCCAACTAGAGGT
<i>Skp1a</i>	ATGCCTACGATAAAGTTGCAGAG	TCCATTCCCAAATCTTCCAGC
<i>Pygb</i>	CCGCGACTACTTCTTCGCTC	CAACCCCAACTGATAAGTGCC
<i>Nfe2l2</i>	TCTTGGAGTAAGTCGAGAAGTGT	GTTGAAACTGAGCGAAAAAGGC

<i>Mgst1</i>	CTCAGGCAGCTCATGGACAAT	GTTATCCTCTGGAATGCGGTC
<i>Rpl15</i>	ATGGGTGCATACAAGTACATCCA	CAGTCTTCGAGCTTTATCAGGC
<i>Tubb4b</i>	CACTTACCACGGAGATAGCGA	ACCTTCTGTGTAGTGCCCCTT
<i>Abp1</i>	TGGGGCTGGAGTCATCCAA	TCCCGGACAGGACTTTTTCTT
<i>Enpp2</i>	TTTGCACTATGCCAACAATCGG	GGAGGCACTTTAGTCCTGTACTT
<i>Ngfrap1</i>	CAATGTCCACCAGGAAAACGA	GGAAGTTAGGGGCAAGTCGG
<i>Eif3h</i>	ACAAGGCACTGAGGTTGTTCA	CGAAGGAGCCGTAATATGTGGA
<i>Suclg1</i>	TGGGATACGACACGGGTCTTA	CAGAAGCCGTTGCTCCTGTT
<i>Penk</i>	TGCGCTAAATGCACGTACC	TCCCAGATTTTGAAAGAAGGCAG
<i>Il10rb</i>	ACCTGCTTTCCCCAAAACGAA	TGAGAGAAGTCGCACTGAGTC
<i>Dnaja4</i>	GGTGGAGGACGGATGACTAGA	GGGCCAGTTTCTTAGTGATTCC
<i>Adss</i>	ACACGGGGTAGAGAATTTGGA	GGTAAGGGCCAACGCAGTA
<i>1700007K13Rik</i>	AGAAGACCAGCGACTACTACC	TGCTTCCGTAGGTTTGGTTAC

<i>1110032A03Rik</i>	CCAGCAAATCACTGTATTCACCA	GCTGCCATAGTGTGGGTTTCTAA
<i>Dnahc9</i>	AGGCTATGAGAGTGCCATGAA	GATCTTTTGCCTGTCCCCCTT
<i>Tekt4</i>	GGCCCCACAGTCAATAGATGT	GGGCATAAGAGTTCTGAAACCA
<i>Ttc29</i>	CTTCCCATGACTCATACAAGGC	CCCTTTGAAATTCTGTTCCAGGT
<i>6820408C15Rik</i>	ATGGCACAGAAACAAACCTCG	GGAGGCAGAGTAGATGGCTTC
<i>Gapdh</i>	AACTTTGGCATTGTGGAAGG	ACACATTGGGGGTAGGAACA