

Gene Name	Unique HCC Integrations	Unique Normal	Total Number	Locus Size (bp)	Integration Frequency
		Liver Integrations	Integrations in Gene		Normalize to Gene Size
Mir341 (Rian)	18	3	21	96	2.19E-01
AC152063.1 (Rian)	1	0	1	87	1.15E-02
Mir212	0	1	1	91	1.10E-02
Alb	68	75	143	15715	9.10E-03
Igfbp1	14	9	23	4765	4.83E-03
Gm14719	0	1	1	231	4.33E-03
7SK	1	0	1	284	3.52E-03
Afp	23	28	51	18194	2.80E-03
Gm16326	1	0	1	414	2.42E-03
AY036118	0	1	1	725	1.38E-03
Gm10800	1	0	1	755	1.32E-03
Gm11620	2	0	2	1845	1.08E-03
Olfr1113	0	1	1	981	1.02E-03
Dnajb8	0	1	1	989	1.01E-03
Olfr744	0	1	1	1105	9.05E-04
Ahsg	2	4	6	7397	8.11E-04
Gm14493	1	0	1	1238	8.08E-04
Gm15472	1	0	1	1258	7.95E-04
RNASEK	0	1	1	1719	5.82E-04
Pnmt	1	0	1	1732	5.77E-04
Tacstd2	0	1	1	1764	5.67E-04
Gm10497	0	1	1	1768	5.66E-04
Gm7284	1	0	1	1909	5.24E-04
Gm12744	1	0	1	2012	4.97E-04
C2cd4d	0	1	1	2124	4.71E-04
Tmsb4x	1	0	1	2223	4.50E-04
Adrm1	1	1	2	4802	4.16E-04
Trf	6	5	11	26444	4.16E-04
4921514A10RIK	1	0	1	2428	4.12E-04
Nkx2-1	0	2	2	4974	4.02E-04
Foxc2	0	1	1	2722	3.67E-04
Cyp2e1	3	1	4	11237	3.56E-04
Gm13421	0	1	1	2937	3.40E-04
AC139673.1	0	1	1	2987	3.35E-04
Osgin1	1	3	4	12133	3.30E-04

1700031F10Rik	0	1	1	3077	3.25E-04
Pck1	1	1	2	6226	3.21E-04
Gm12233	0	1	1	3150	3.17E-04
Gm15622	1	0	1	3252	3.08E-04
Pcdhb17	1	0	1	3269	3.06E-04
Ier5	0	1	1	3270	3.06E-04
Gm17349	1	0	1	3315	3.02E-04
Pcdhb20	0	1	1	3395	2.95E-04
Hoxb8	0	1	1	3421	2.92E-04
Barx1	0	1	1	3510	2.85E-04
Rpl35a	0	1	1	3737	2.68E-04
Rpl35a	0	1	1	3737	2.68E-04
Rpl35a	0	1	1	3737	2.68E-04
Rpl35a	0	1	1	3737	2.68E-04
Rpl35a	0	1	1	3737	2.68E-04
Rpl35a	0	1	1	3737	2.68E-04
Isl2	1	1	2	7509	2.66E-04
Plekho1	2	0	2	7573	2.64E-04
Ssr4	0	1	1	3803	2.63E-04
Serp1	0	1	1	3905	2.56E-04
Rpl31	0	1	1	4058	2.46E-04
Rpl31	0	1	1	4058	2.46E-04
Rpl31	0	1	1	4058	2.46E-04
AC128663.2	0	3	3	12207	2.46E-04
D4Wsu53e	0	1	1	4080	2.45E-04
C030014I23Rik	1	0	1	4257	2.35E-04
Gm20425	4	5	9	40100	2.24E-04
Ttr	2	0	2	9075	2.20E-04
Rnasek	0	1	1	4625	2.16E-04
Bcdin3d	1	0	1	4647	2.15E-04
Pcdhb21	1	0	1	4662	2.15E-04
Mid1ip1	1	0	1	4678	2.14E-04
Gm16933	0	1	1	4706	2.12E-04
Birc7	1	0	1	4988	2.00E-04
Llph	0	1	1	5002	2.00E-04
Llph	0	1	1	5002	2.00E-04
Llph	0	1	1	5002	2.00E-04
Itih4	2	1	3	15506	1.93E-04
Fabp1	0	1	1	5197	1.92E-04
AC152063.2 (Rian)	10	1	11	57765	1.90E-04

Bhmt	2	2	4	21071	1.90E-04
Krt1	1	0	1	5359	1.87E-04
Gm11647	1	0	1	5392	1.85E-04
Spag4	1	0	1	5443	1.84E-04
Nol3	1	0	1	5493	1.82E-04
Tha1	1	0	1	5530	1.81E-04
S1pr5	0	1	1	5532	1.81E-04
BC007180	0	1	1	5631	1.78E-04
Zfp503	0	1	1	5640	1.77E-04
Gm11721	1	0	1	5656	1.77E-04
AC117253.1	0	1	1	5686	1.76E-04
Cd8a	1	0	1	5745	1.74E-04
A330070K13Rik	0	1	1	5854	1.71E-04
Gm13822	0	1	1	5960	1.68E-04
Lect2	0	1	1	6079	1.65E-04
Cdkn2c	0	1	1	6314	1.58E-04
Polr2j	1	0	1	6317	1.58E-04
Six6	0	1	1	6371	1.57E-04
Naif1	0	1	1	6497	1.54E-04
Pex16	1	0	1	6542	1.53E-04
Dpagt1	0	1	1	6756	1.48E-04
Grb10	13	3	16	108176	1.48E-04
Lims2	3	1	4	27113	1.48E-04
Gm15230	1	0	1	6781	1.47E-04
Osr1	1	0	1	7058	1.42E-04
Fgg	0	1	1	7195	1.39E-04
Iah1	0	1	1	7214	1.39E-04
1700087M22Rik	0	1	1	7324	1.37E-04
Gm5878	1	1	2	14710	1.36E-04
Fga	0	1	1	7463	1.34E-04
Errfi1	2	0	2	14974	1.34E-04
Ctf2	1	0	1	7511	1.33E-04
Mul1	0	1	1	7595	1.32E-04
Lmod2	1	0	1	7644	1.31E-04
Tlx1	1	0	1	7708	1.30E-04
Sncb	1	0	1	7736	1.29E-04
Gbp11	3	0	3	23431	1.28E-04
Lhx1	1	0	1	8039	1.24E-04
Ctsa	1	0	1	8160	1.23E-04
Trib1	0	1	1	8201	1.22E-04

Pcsk4	1	0	1	8216	1.22E-04
Mgst1	2	0	2	16440	1.22E-04
Dnajb2	1	0	1	8340	1.20E-04
Irf1	0	1	1	8361	1.20E-04
1700021L23Rik	0	1	1	8625	1.16E-04
Ngdn	1	0	1	8682	1.15E-04
Moxd2	1	0	1	8701	1.15E-04
Paccin3	1	0	1	8726	1.15E-04
Ssr2	0	1	1	8727	1.15E-04
Rgp1	0	1	1	8773	1.14E-04
Klhl21	0	1	1	8878	1.13E-04
Herpud1	0	1	1	8940	1.12E-04
Fxyd7	0	1	1	8946	1.12E-04
Mex3a	1	0	1	9002	1.11E-04
Psg22	1	0	1	9159	1.09E-04
Fgf6	0	1	1	9177	1.09E-04
Gm14965	1	0	1	9207	1.09E-04
RP23-95K12.9	0	1	1	9226	1.08E-04
Vkorc1	0	1	1	9228	1.08E-04
Zbtb32	1	0	1	9229	1.08E-04
Amhr2	0	1	1	9264	1.08E-04
Gpx4	1	0	1	9274	1.08E-04
Rusc1	1	0	1	9383	1.07E-04
Btf3l4	0	2	2	19320	1.04E-04
Glul	1	0	1	9780	1.02E-04
Upk3bl	0	1	1	9835	1.02E-04
Zfp791	0	1	1	9991	1.00E-04
Slc25a29	0	1	1	10011	9.99E-05
Lin7c	0	1	1	10151	9.85E-05
Ifi35	0	1	1	10292	9.72E-05
G6pc	0	1	1	10343	9.67E-05
Klrg2	0	1	1	10580	9.45E-05
Kcnk6	0	1	1	10595	9.44E-05
Irs2	0	2	2	21479	9.31E-05
Cd3e	0	1	1	10848	9.22E-05
Glt8d1	0	1	1	11049	9.05E-05
C030005K06Rik	0	1	1	11115	9.00E-05
Pkd2l2	0	3	3	33367	8.99E-05
Bscl2	0	1	1	11217	8.92E-05
Smarcd1	1	0	1	11709	8.54E-05

Gm11944	0	1	1	11727	8.53E-05
Pithd1	1	0	1	11805	8.47E-05
Gzf1	1	0	1	11927	8.38E-05
Tma16	1	0	1	12201	8.20E-05
Timm17a	0	1	1	12247	8.17E-05
Twf2	0	1	1	12280	8.14E-05
Cox6c	0	1	1	12361	8.09E-05
9630028B13Rik	1	0	1	12463	8.02E-05
D330050G23Rik	0	1	1	12640	7.91E-05
Zfp783	1	0	1	12743	7.85E-05
4933402J07Rik	2	0	2	25572	7.82E-05
Egfl7	1	0	1	13107	7.63E-05
AC107704.2	0	1	1	13177	7.59E-05
Scd2	1	0	1	13189	7.58E-05
Scd1	1	0	1	13259	7.54E-05
Plac1l	1	0	1	13281	7.53E-05
Bzw1	1	0	1	13413	7.46E-05
Pipox	1	0	1	13482	7.42E-05
Htra4	0	1	1	13512	7.40E-05
Gfap	0	1	1	13577	7.37E-05
Cga	1	0	1	13592	7.36E-05
Pms2	0	2	2	27346	7.31E-05
Rhbdd2	0	1	1	13831	7.23E-05
Cstad	1	0	1	13904	7.19E-05
Ptpn18	1	0	1	14030	7.13E-05
Gm11932	1	0	1	14075	7.10E-05
Slc25a38	0	1	1	14131	7.08E-05
Pdcd6	0	1	1	14206	7.04E-05
Acta2	0	1	1	14247	7.02E-05
Pzp	2	1	3	43154	6.95E-05
Gm20499	0	1	1	14425	6.93E-05
Six4	1	0	1	14429	6.93E-05
Sdsl	0	1	1	14625	6.84E-05
Klf5	1	0	1	14715	6.80E-05
Mfap1a	1	0	1	14755	6.78E-05
Mfap1a	1	0	1	14755	6.78E-05
Mfap1a	1	0	1	14755	6.78E-05
Eef1d	1	0	1	14761	6.77E-05
Serpina10	0	1	1	14770	6.77E-05
Clcn2	0	1	1	14783	6.76E-05

Skp1a	1	0	1	14864	6.73E-05
Tmem218	0	1	1	14878	6.72E-05
Dnase1l3	2	0	2	30041	6.66E-05
Tfap4	0	1	1	15060	6.64E-05
Lrrtm1	0	1	1	15103	6.62E-05
Pex26	0	1	1	15171	6.59E-05
Tmem38a	1	0	1	15180	6.59E-05
Pigx	0	1	1	15319	6.53E-05
Gm10658	1	0	1	15337	6.52E-05
Cyp4a10	0	1	1	15386	6.50E-05
4930564G21Rik	0	1	1	15637	6.40E-05
Crot	1	1	2	31292	6.39E-05
Unc45a	1	0	1	15714	6.36E-05
Lass1	1	0	1	15801	6.33E-05
Gdf1	1	0	1	15818	6.32E-05
Ppp1r10	1	0	1	15848	6.31E-05
Gm14554	0	1	1	15872	6.30E-05
Spo11	1	0	1	15877	6.30E-05
Rasgrp2	1	0	1	15877	6.30E-05
Ubqln4	0	1	1	16010	6.25E-05
Flywch1	1	0	1	16169	6.18E-05
Timm44	1	0	1	16183	6.18E-05
Lamp1	1	0	1	16204	6.17E-05
Lsm6	0	1	1	16276	6.14E-05
Proc	0	1	1	16442	6.08E-05
Dffa	1	0	1	16502	6.06E-05
Acat3	0	1	1	16570	6.04E-05
Iigp1	1	0	1	16599	6.02E-05
Clptm1l	0	1	1	16638	6.01E-05
Amdhd1	0	1	1	16696	5.99E-05
Gm15418	0	1	1	16749	5.97E-05
A130030D18Rik	0	1	1	16831	5.94E-05
Tnfrsf10b	0	1	1	16932	5.91E-05
Zfp92	0	1	1	17290	5.78E-05
Wdr34	0	1	1	17336	5.77E-05
Elf4	1	2	3	52087	5.76E-05
Zfp9	1	0	1	17371	5.76E-05
Sidt2	0	1	1	17391	5.75E-05
Tomm34	1	0	1	17630	5.67E-05
Ckap2	0	1	1	17668	5.66E-05

Cd97	1	0	1	18076	5.53E-05
D1Ertd622e	0	1	1	18172	5.50E-05
Six3	1	0	1	18206	5.49E-05
Ei24	1	0	1	18235	5.48E-05
Agbl5	1	0	1	18272	5.47E-05
Ciapi1	0	1	1	18541	5.39E-05
Otud3	1	0	1	18567	5.39E-05
AC163993.1	0	1	1	18838	5.31E-05
Mgat1	0	1	1	18840	5.31E-05
Chadl	0	1	1	18992	5.27E-05
9330159F19Rik	1	0	1	19137	5.23E-05
Csf1	1	0	1	19422	5.15E-05
Srr	0	1	1	19590	5.10E-05
Pcmt2	1	0	1	19608	5.10E-05
Aagab	1	1	2	39235	5.10E-05
Pitx2	0	1	1	19714	5.07E-05
Mtss1l	0	1	1	19925	5.02E-05
Ttll12	1	0	1	20039	4.99E-05
Ttc5	0	1	1	20104	4.97E-05
Papd5	2	1	3	60510	4.96E-05
Gm10974	0	1	1	20405	4.90E-05
Hnrnpd	1	0	1	20513	4.87E-05
Tyw3	0	1	1	20585	4.86E-05
Xlr	1	0	1	20589	4.86E-05
Neat1	1	0	1	20771	4.81E-05
Map2k3	1	0	1	20779	4.81E-05
Def6	1	0	1	20831	4.80E-05
9330154K18Rik	0	1	1	20863	4.79E-05
Jag2	0	1	1	20906	4.78E-05
Smyd2	1	1	2	41872	4.78E-05
Tbc1d25	0	1	1	21710	4.61E-05
Lrrc41	1	0	1	21775	4.59E-05
Ppp1r36	0	1	1	21875	4.57E-05
Nr5a1	1	0	1	21887	4.57E-05
Cdkl1	1	1	2	43860	4.56E-05
Lipg	0	1	1	21942	4.56E-05
Thumpd3	1	0	1	22049	4.54E-05
Erbp3	0	1	1	22130	4.52E-05
Sbk1	0	1	1	22381	4.47E-05
Manea	0	1	1	22386	4.47E-05

Them4	0	1	1	22452	4.45E-05
Wnt9b	1	0	1	22458	4.45E-05
Rab11a	1	0	1	22460	4.45E-05
Parl	0	1	1	22568	4.43E-05
Tnfrsf13b	1	0	1	22618	4.42E-05
Nus1	0	1	1	22646	4.42E-05
AC127355.1	0	1	1	22718	4.40E-05
Yipf1	1	1	2	45461	4.40E-05
Srek1	1	0	1	22890	4.37E-05
Ccdc152	0	1	1	22900	4.37E-05
2210417K05Rik	0	1	1	23112	4.33E-05
Morf4l1	0	1	1	23150	4.32E-05
Morf4l1	0	1	1	23150	4.32E-05
Arhgef16	1	0	1	23191	4.31E-05
Tyk2	1	0	1	23278	4.30E-05
Nipal1	0	1	1	23283	4.29E-05
Slc35f2	0	2	2	46627	4.29E-05
Ltf	1	0	1	23475	4.26E-05
Srebf1	0	1	1	23493	4.26E-05
Rbp1	0	1	1	23591	4.24E-05
Gpld1	1	1	2	47602	4.20E-05
Bcl6	0	1	1	23801	4.20E-05
Tmpo	1	0	1	24012	4.16E-05
Mtmr4	0	1	1	24141	4.14E-05
Kng1	1	0	1	24204	4.13E-05
Sh3yl1	1	1	2	48495	4.12E-05
Hbp1	1	0	1	24282	4.12E-05
Srsf12	1	0	1	24350	4.11E-05
Bst1	0	1	1	24362	4.10E-05
Haus8	0	1	1	24374	4.10E-05
L3mbtl2	0	1	1	24427	4.09E-05
Phldb1	0	2	2	48895	4.09E-05
Zfp787	0	1	1	24483	4.08E-05
Atp5c1	0	1	1	24495	4.08E-05
Fam123b	1	0	1	24555	4.07E-05
Slc17a6	0	2	2	49296	4.06E-05
Celsr2	1	0	1	24702	4.05E-05
Gsta3	1	0	1	24773	4.04E-05
Mical3	2	1	3	74369	4.03E-05
Cyth4	1	0	1	24973	4.00E-05



Gm2245	1	1	2	49963	4.00E-05
Elk4	0	1	1	25006	4.00E-05
Bcl9	1	0	1	25185	3.97E-05
Ulk1	1	0	1	25610	3.90E-05
Palb2	1	0	1	25685	3.89E-05
Gm12592	0	1	1	25753	3.88E-05
4632428N05Rik	0	1	1	25834	3.87E-05
Nucks1	1	0	1	25864	3.87E-05
Brd8	1	0	1	25987	3.85E-05
Havcr2	1	0	1	26321	3.80E-05
Cryz	0	1	1	26472	3.78E-05
Fam105a	0	1	1	26472	3.78E-05
Eif4e2	0	1	1	26575	3.76E-05
Szrd1	1	0	1	26775	3.73E-05
AC119212.1	1	0	1	26818	3.73E-05
Slc36a3	0	1	1	26894	3.72E-05
Ehd3	0	1	1	27253	3.67E-05
Aida	0	1	1	27442	3.64E-05
Slc6a14	1	0	1	27460	3.64E-05
Btd	0	1	1	27552	3.63E-05
Gtf2h1	0	1	1	27698	3.61E-05
Cul5	1	1	2	55433	3.61E-05
Trim62	0	1	1	27749	3.60E-05
Pi4k2b	1	0	1	27758	3.60E-05
Ccdc125	0	1	1	27760	3.60E-05
Cr1l	0	1	1	27782	3.60E-05
Cyp46a1	0	1	1	27855	3.59E-05
Mep1b	1	0	1	27856	3.59E-05
Tnni1	1	0	1	27925	3.58E-05
Rasa4	1	0	1	27945	3.58E-05
Myf1ip	0	1	1	27953	3.58E-05
Rdh10	1	0	1	27961	3.58E-05
Dhcr24	1	0	1	28076	3.56E-05
Spata18	1	0	1	28105	3.56E-05
Bora	0	1	1	28111	3.56E-05
Kpnb1	1	0	1	28168	3.55E-05
Tpm3	0	1	1	28254	3.54E-05
Smad7	0	1	1	28407	3.52E-05
CT033755.1	0	1	1	28411	3.52E-05
Txndc5	1	0	1	28552	3.50E-05

Slc30a6	0	1	1	28622	3.49E-05
Ddx11	1	0	1	28648	3.49E-05
Ube2d3	0	1	1	28882	3.46E-05
Gm17135	1	1	2	58415	3.42E-05
Adck4	0	1	1	29230	3.42E-05
Rfwd3	1	0	1	29279	3.42E-05
Pkn1	1	0	1	29418	3.40E-05
Pcbp2	1	0	1	29428	3.40E-05
Cirh1a	1	0	1	29454	3.40E-05
Stard10	0	1	1	29541	3.39E-05
Cda	1	0	1	29569	3.38E-05
Hip1r	1	0	1	29584	3.38E-05
Mef2d	1	0	1	29715	3.37E-05
Stk17b	1	0	1	29719	3.36E-05
4930556N13Rik	0	1	1	29792	3.36E-05
Tfap2b	1	0	1	29821	3.35E-05
Snx9	0	3	3	89706	3.34E-05
Sgol2	1	0	1	29929	3.34E-05
Tpcn2	0	1	1	30005	3.33E-05
Ncaph	0	1	1	30146	3.32E-05
Slc25a33	1	0	1	30242	3.31E-05
Cd160	1	0	1	30589	3.27E-05
Ncapg	1	0	1	30623	3.27E-05
Trpm4	0	1	1	30626	3.27E-05
Rpap3	0	1	1	30718	3.26E-05
Clca1	0	1	1	31301	3.19E-05
Oplah	1	0	1	31419	3.18E-05
Dnajb4	1	0	1	31769	3.15E-05
Snta1	0	1	1	31787	3.15E-05
Prmt10	0	1	1	31942	3.13E-05
Zfhx2	0	1	1	32063	3.12E-05
Arhgap27	1	0	1	32196	3.11E-05
Ddx42	1	0	1	32214	3.10E-05
Slc4a7	1	2	3	96919	3.10E-05
Dbx2	0	1	1	32398	3.09E-05
Ythdc1	1	0	1	32439	3.08E-05
Ston1	0	2	2	64903	3.08E-05
Scube3	1	0	1	32537	3.07E-05
Pvrl2	0	1	1	32930	3.04E-05
Tmx3	0	1	1	33114	3.02E-05

Stk30	1	0	1	33142	3.02E-05
Vmn2r17	0	1	1	33375	3.00E-05
Sap30bp	1	0	1	33444	2.99E-05
Sap30bp	1	0	1	33444	2.99E-05
Tmem39a	0	1	1	33465	2.99E-05
Trmt13	0	1	1	33495	2.99E-05
BC046331	1	0	1	33539	2.98E-05
Kras	0	1	1	33541	2.98E-05
Zfp143	1	0	1	33691	2.97E-05
Anapc5	0	1	1	33871	2.95E-05
Cyp3a59	1	0	1	34028	2.94E-05
P4ha3	0	1	1	34180	2.93E-05
3110099E03Rik	1	0	1	34232	2.92E-05
Dhx8	0	1	1	34440	2.90E-05
2700097O09Rik	0	1	1	34450	2.90E-05
Afm	0	1	1	34612	2.89E-05
Gm13261	0	1	1	34759	2.88E-05
Csnk1a1	1	0	1	34788	2.87E-05
Nfic	0	1	1	34820	2.87E-05
Tmco3	1	0	1	34912	2.86E-05
Sin3b	1	0	1	34916	2.86E-05
Slc47a1	1	0	1	34945	2.86E-05
Ubxn4	0	1	1	35197	2.84E-05
Dync1li1	0	1	1	35513	2.82E-05
D6Wsu163e	0	1	1	35739	2.80E-05
Ppm1d	1	0	1	35823	2.79E-05
Sass6	0	1	1	35977	2.78E-05
Gpa33	0	1	1	36273	2.76E-05
Clpx	1	0	1	36399	2.75E-05
Xylb	0	1	1	36417	2.75E-05
5031414D18Rik	0	1	1	36506	2.74E-05
lws1	1	0	1	36598	2.73E-05
Bdh1	1	0	1	36622	2.73E-05
1700084C06Rik	1	0	1	36639	2.73E-05
Recql	0	1	1	36746	2.72E-05
Dbt	0	1	1	36907	2.71E-05
Slc25a25	0	1	1	36959	2.71E-05
Dhx36	0	1	1	36966	2.71E-05
Polr3g	1	0	1	37171	2.69E-05
Ctse	1	0	1	37198	2.69E-05

Cyp2b9	0	1	1	37251	2.68E-05
Bai2	1	0	1	37764	2.65E-05
Terf1	0	1	1	37771	2.65E-05
Moap1	1	0	1	37836	2.64E-05
Moap1	1	0	1	37836	2.64E-05
Dupd1	0	1	1	37995	2.63E-05
AC120136.1	0	1	1	38405	2.60E-05
Gldc	2	0	2	76970	2.60E-05
Txnrd1	1	0	1	38519	2.60E-05
Ranbp3	0	1	1	38545	2.59E-05
Dnajc10	0	1	1	38578	2.59E-05
Cfi	0	1	1	38590	2.59E-05
Copb1	1	0	1	39122	2.56E-05
4930556J24Rik	1	0	1	39238	2.55E-05
1500003O03Rik	0	1	1	39331	2.54E-05
1500003O03Rik	0	1	1	39331	2.54E-05
Themis3	0	1	1	39370	2.54E-05
Drg1	1	1	2	79056	2.53E-05
Rab11fip5	0	1	1	39672	2.52E-05
Lasp1	1	0	1	39765	2.51E-05
Copa	1	0	1	39802	2.51E-05
Mis18bp1	1	0	1	39871	2.51E-05
Tcea1	0	1	1	40096	2.49E-05
Hells	0	1	1	40137	2.49E-05
4933403F05Rik	1	0	1	40147	2.49E-05
Rab11fip3	1	1	2	80374	2.49E-05
A1cf	0	2	2	80646	2.48E-05
Ptges	1	0	1	40393	2.48E-05
Rps6ka1	1	0	1	40508	2.47E-05
lqce	0	1	1	40552	2.47E-05
Pitpna	1	0	1	40708	2.46E-05
Plg	1	0	1	40776	2.45E-05
41705	0	1	1	40790	2.45E-05
Fhl2	0	1	1	40888	2.45E-05
Zfp133-ps	0	1	1	40988	2.44E-05
Cpb2	1	0	1	41265	2.42E-05
Fermt1	1	0	1	41518	2.41E-05
Ccdc123	0	1	1	41655	2.40E-05
Fyb	1	1	2	83443	2.40E-05
Ccdc13	1	0	1	41835	2.39E-05

Nprl3	0	1	1	42080	2.38E-05
Nup107	1	0	1	42082	2.38E-05
Eif4enif1	1	0	1	42197	2.37E-05
Stat1	1	0	1	42428	2.36E-05
Chka	0	1	1	42597	2.35E-05
Tmem184b	0	1	1	42620	2.35E-05
Cars	1	0	1	42861	2.33E-05
Heatr1	0	1	1	43280	2.31E-05
Nab1	0	1	1	43386	2.30E-05
Dcaf17	0	1	1	43815	2.28E-05
Pou2f3	1	1	2	87742	2.28E-05
Mfap3l	0	1	1	43903	2.28E-05
Tfpi	1	0	1	43921	2.28E-05
Ccdc68	1	0	1	44059	2.27E-05
Lgi1	0	1	1	44158	2.26E-05
Pkd2l1	1	0	1	44806	2.23E-05
Cldn14	1	1	2	89807	2.23E-05
Tdeanc2	1	0	1	44962	2.22E-05
Ccdc53	1	0	1	45056	2.22E-05
Grhl1	1	0	1	45105	2.22E-05
BC057022	0	1	1	45205	2.21E-05
Gtf2e2	1	0	1	45260	2.21E-05
Dcun1d1	1	0	1	45341	2.21E-05
2510009E07Rik	0	1	1	45621	2.19E-05
Ubr4	3	0	3	136980	2.19E-05
Dlec1	1	0	1	45769	2.18E-05
Secisbp2l	0	1	1	45885	2.18E-05
Cdh3	1	0	1	45996	2.17E-05
Ppl	1	0	1	46191	2.16E-05
Tsc22d1	1	1	2	92805	2.16E-05
Arih2	1	0	1	46439	2.15E-05
Slc20a2	0	2	2	92908	2.15E-05
Gmps	0	1	1	46474	2.15E-05
Sidt1	0	2	2	93017	2.15E-05
Npl	1	0	1	46699	2.14E-05
Pdia5	1	1	2	93561	2.14E-05
Gm15623	0	1	1	46819	2.14E-05
Usp33	0	1	1	47135	2.12E-05
Pde4a	0	1	1	47535	2.10E-05
Ptchd2	0	1	1	47702	2.10E-05

Prokr2	1	0	1	47715	2.10E-05
Sgsm2	0	1	1	47800	2.09E-05
Tnfrsf8	1	0	1	48028	2.08E-05
Snx4	1	0	1	48107	2.08E-05
Gm12724	1	0	1	48811	2.05E-05
Snx8	0	1	1	48948	2.04E-05
Prex1	0	3	3	147491	2.03E-05
Fxr1	0	1	1	49264	2.03E-05
Golga1	1	0	1	49281	2.03E-05
Pxn	1	0	1	49312	2.03E-05
Eci2	1	0	1	49347	2.03E-05
Lin9	1	0	1	49369	2.03E-05
Dpp8	0	1	1	50193	1.99E-05
L3mbtl3	2	0	2	100718	1.99E-05
Ass1	1	0	1	50466	1.98E-05
Paxip1	1	0	1	50673	1.97E-05
Tada2a	1	0	1	50681	1.97E-05
Plcx2	0	1	1	50956	1.96E-05
Car5b	0	1	1	51176	1.95E-05
Gm12147	0	1	1	51298	1.95E-05
Ece1	1	1	2	102993	1.94E-05
Cdc40	0	1	1	51518	1.94E-05
Dcps	0	1	1	51654	1.94E-05
Agbl2	1	0	1	51711	1.93E-05
Arhgap5	1	0	1	51776	1.93E-05
Btbd16	1	0	1	51829	1.93E-05
Fam176a	1	0	1	52057	1.92E-05
Ptpn22	1	0	1	52453	1.91E-05
Txnrd2	1	0	1	52657	1.90E-05
Dnmt1	1	0	1	52683	1.90E-05
RspH10b2	1	0	1	52685	1.90E-05
Slc12a7	0	1	1	53047	1.89E-05
Sel1l3	1	1	2	106369	1.88E-05
Cry1	0	1	1	53353	1.87E-05
Src	0	1	1	53419	1.87E-05
Neto1	1	1	2	106946	1.87E-05
Ocr1	1	0	1	53482	1.87E-05
Fam116a	0	1	1	53817	1.86E-05
Abcc6	1	0	1	53923	1.85E-05
AC165259.1	0	1	1	54089	1.85E-05

Enthd1	1	1	2	108231	1.85E-05
Cps1	2	0	2	108234	1.85E-05
RP23-377G8.1	1	0	1	54317	1.84E-05
Cnot10	0	1	1	54323	1.84E-05
Styk1	0	1	1	54454	1.84E-05
Sec31a	0	1	1	54585	1.83E-05
Cmtm8	0	1	1	54808	1.82E-05
Cyld	0	1	1	54918	1.82E-05
Rnf182	1	0	1	55236	1.81E-05
Fam20c	0	1	1	55564	1.80E-05
Aebp2	0	1	1	56024	1.78E-05
Usp49	0	1	1	56049	1.78E-05
AC133083.1	1	0	1	56198	1.78E-05
Aftph	1	0	1	56506	1.77E-05
Piwil2	0	1	1	56615	1.77E-05
Xpnpep3	0	1	1	56670	1.76E-05
Dennd5b	1	1	2	113610	1.76E-05
B3gntl1	1	0	1	56957	1.76E-05
Mapk14	0	1	1	57063	1.75E-05
Slco1b2	0	1	1	57129	1.75E-05
Sbno1	0	1	1	57213	1.75E-05
Ccdc21	1	0	1	57255	1.75E-05
Nploc4	0	1	1	57339	1.74E-05
Ctdspl2	1	0	1	57642	1.73E-05
Ttc18	1	0	1	58037	1.72E-05
Rhpn2	1	0	1	58111	1.72E-05
Triobp	1	0	1	58144	1.72E-05
Osbpl11	0	1	1	58241	1.72E-05
Bin1	0	1	1	58520	1.71E-05
Rprd2	0	1	1	59081	1.69E-05
Ppp4r1	1	0	1	59354	1.68E-05
Ankrd26	0	1	1	59693	1.68E-05
Lars	0	1	1	59773	1.67E-05
Pof1b	0	1	1	60221	1.66E-05
Eif2ak3	1	0	1	60731	1.65E-05
Ipo8	0	1	1	60785	1.65E-05
Msr1	1	0	1	60979	1.64E-05
Wdtdc1	0	1	1	61023	1.64E-05
mmu-mir-29b-2	0	1	1	61534	1.63E-05
Srl	0	1	1	61601	1.62E-05

Sfi1	0	1	1	61614	1.62E-05
AC112962.1	1	0	1	61616	1.62E-05
Ctage5	1	0	1	61864	1.62E-05
Gm15477	0	1	1	61948	1.61E-05
Uba6	0	1	1	62084	1.61E-05
Fam169a	1	0	1	62235	1.61E-05
Aplp2	1	0	1	62259	1.61E-05
Gm12146	0	1	1	62361	1.60E-05
Rai2	0	1	1	62428	1.60E-05
Map3k1	1	0	1	62566	1.60E-05
H2afy	0	1	1	62743	1.59E-05
Plekha2	1	0	1	63051	1.59E-05
Abca8b	1	0	1	63656	1.57E-05
4930419G24Rik	1	0	1	63831	1.57E-05
Kctd18	1	0	1	63856	1.57E-05
Scarb1	0	1	1	64008	1.56E-05
Lyzl4	1	0	1	64254	1.56E-05
Zfand6	0	1	1	64308	1.56E-05
Rpap2	0	1	1	64466	1.55E-05
AC122546.1	1	0	1	64499	1.55E-05
Arap1	0	1	1	64520	1.55E-05
Abca1	0	2	2	129109	1.55E-05
Uso1	1	0	1	64857	1.54E-05
Itpr3	1	0	1	64920	1.54E-05
Limk2	1	0	1	64934	1.54E-05
Bzw2	0	1	1	64980	1.54E-05
Acsl1	0	1	1	65011	1.54E-05
Ddx31	0	1	1	65166	1.53E-05
Lemd1	1	0	1	65946	1.52E-05
Zfand4	1	0	1	66077	1.51E-05
4430402I18Rik	1	0	1	66533	1.50E-05
Elfn1	0	1	1	66769	1.50E-05
Mfsd7c	1	0	1	67047	1.49E-05
Mccc2	1	0	1	67107	1.49E-05
Ppm1b	0	1	1	67251	1.49E-05
Tnrc18	0	1	1	67283	1.49E-05
Adam9	1	0	1	67312	1.49E-05
Fn1	1	0	1	67649	1.48E-05
Ddah1	2	0	2	135603	1.47E-05
Ptpn9	1	0	1	67838	1.47E-05



Lifr	1	0	1	67931	1.47E-05
Mgat5b	1	0	1	68086	1.47E-05
Arid4b	1	1	2	136372	1.47E-05
Slc13a3	0	1	1	68203	1.47E-05
Pds5b	1	1	2	136952	1.46E-05
0610010F05Rik	1	0	1	68679	1.46E-05
Rassf5	0	1	1	68849	1.45E-05
Smad6	0	1	1	68984	1.45E-05
Ptpn12	0	1	1	69267	1.44E-05
D17Wsu92e	1	0	1	69327	1.44E-05
Gls	0	1	1	69785	1.43E-05
Dzip3	0	1	1	69934	1.43E-05
Nrap	0	1	1	70003	1.43E-05
Kremen1	1	0	1	70007	1.43E-05
Alg14	0	1	1	70195	1.42E-05
Vtcn1	0	1	1	70221	1.42E-05
Lrrc8b	1	0	1	70415	1.42E-05
Spen	0	1	1	70708	1.41E-05
Farsb	0	1	1	70902	1.41E-05
Atl1	0	1	1	70981	1.41E-05
4922505G16Rik	0	1	1	71000	1.41E-05
Eif4g3	2	1	3	215487	1.39E-05
AC158992.1	0	1	1	72106	1.39E-05
Gm20517	0	1	1	72273	1.38E-05
Acsl4	1	0	1	72543	1.38E-05
Cd99l2	0	1	1	72790	1.37E-05
Myo5c	1	0	1	73438	1.36E-05
Fndc3b	2	2	4	294278	1.36E-05
Boc	1	0	1	73853	1.35E-05
Wipf3	0	1	1	74166	1.35E-05
Ylpm1	0	1	1	74195	1.35E-05
Slc6a6	0	1	1	74997	1.33E-05
Rnf150	1	2	3	227916	1.32E-05
Efr3b	1	0	1	76362	1.31E-05
Clip4	0	1	1	76405	1.31E-05
Slc1a3	1	0	1	76641	1.30E-05
Dixdc1	1	0	1	76766	1.30E-05
Ppfia1	0	1	1	76975	1.30E-05
2900026A02Rik	0	1	1	77029	1.30E-05
Camsap2	1	0	1	77982	1.28E-05

Jakmip2	2	0	2	156366	1.28E-05
Cc2d2a	0	1	1	78594	1.27E-05
Igf1	0	1	1	78778	1.27E-05
Slc1a1	0	1	1	78912	1.27E-05
Pla2g4e	0	1	1	78924	1.27E-05
Lypla1	0	1	1	78983	1.27E-05
Ttc23	0	1	1	79167	1.26E-05
Rnf130	1	0	1	79413	1.26E-05
BC031353	1	0	1	79416	1.26E-05
Gdpd5	1	0	1	79435	1.26E-05
Lcor	1	0	1	79602	1.26E-05
Epc1	1	0	1	80158	1.25E-05
Tmem245	0	1	1	80515	1.24E-05
Neurl1a	1	0	1	80621	1.24E-05
Ubap2	0	1	1	80832	1.24E-05
Myh9	1	0	1	81589	1.23E-05
Nr2c2	0	1	1	81668	1.22E-05
Ubr2	1	0	1	82241	1.22E-05
Dera	0	1	1	83350	1.20E-05
Raver2	1	0	1	83388	1.20E-05
Cyp39a1	0	1	1	84007	1.19E-05
Trpm7	0	1	1	84666	1.18E-05
Kidins220	1	0	1	84766	1.18E-05
Inpp5f	0	1	1	85098	1.18E-05
Ccdc162	1	1	2	170455	1.17E-05
Nfat5	1	0	1	86048	1.16E-05
Hhat	1	2	3	258386	1.16E-05
Ppp2r2c	1	0	1	86566	1.16E-05
Spats2	0	1	1	86629	1.15E-05
Kcnab2	0	1	1	87130	1.15E-05
Pstpip2	1	0	1	87463	1.14E-05
Cldn10	1	0	1	87619	1.14E-05
Ikzf1	0	1	1	87924	1.14E-05
Cblb	0	2	2	176499	1.13E-05
Mpp6	0	1	1	88358	1.13E-05
Eps8	1	1	2	177632	1.13E-05
Herc3	0	1	1	88934	1.12E-05
Dym	2	1	3	268195	1.12E-05
Hsf2bp	0	1	1	89740	1.11E-05
Pde9a	1	0	1	90077	1.11E-05

Pax5	1	1	2	180302	1.11E-05
1110003E01Rik	0	1	1	90341	1.11E-05
Fgf1	0	1	1	90732	1.10E-05
Mmd	1	0	1	90906	1.10E-05
Il1r1	0	1	1	91119	1.10E-05
Dgkd	0	1	1	91203	1.10E-05
Spnb4	0	1	1	91304	1.10E-05
Ankrd11	1	0	1	91457	1.09E-05
Tgfbr3	1	1	2	183060	1.09E-05
Prep	0	1	1	91792	1.09E-05
Abhd2	0	1	1	92308	1.08E-05
Clock	0	1	1	92372	1.08E-05
Sema4d	0	1	1	92502	1.08E-05
Acot7	0	1	1	93722	1.07E-05
Gcap14	1	0	1	93829	1.07E-05
Ckap5	0	1	1	93903	1.06E-05
Itpkb	0	1	1	94318	1.06E-05
Zfp516	0	1	1	94436	1.06E-05
Ccnd3	1	0	1	94633	1.06E-05
Traf5	0	1	1	95130	1.05E-05
Rab30	0	1	1	95515	1.05E-05
Lhpp	0	1	1	95783	1.04E-05
Cpne8	1	1	2	191951	1.04E-05
Tiam1	0	2	2	192970	1.04E-05
Lgr4	1	0	1	96611	1.04E-05
Rgs17	0	1	1	96738	1.03E-05
Lima1	0	1	1	96959	1.03E-05
Ppp2r5c	0	1	1	97323	1.03E-05
Stard13	1	1	2	196209	1.02E-05
Dmrt1	0	1	1	98712	1.01E-05
Dst	0	3	3	296826	1.01E-05
Slc44a5	1	2	3	298287	1.01E-05
RP24-67K5.1	1	0	1	100090	9.99E-06
Nin	0	1	1	100491	9.95E-06
Smurf2	0	1	1	100650	9.94E-06
Wwp1	1	0	1	100691	9.93E-06
Dcaf5	0	1	1	100755	9.93E-06
3110082I17Rik	0	1	1	100764	9.92E-06
Frmpd1	0	1	1	101062	9.89E-06
Lims1	1	0	1	101226	9.88E-06

Tox3	0	1	1	101304	9.87E-06
Ccdc41	0	1	1	101547	9.85E-06
Clmn	1	0	1	101963	9.81E-06
Col6a5	1	0	1	101976	9.81E-06
Zfp608	1	0	1	102136	9.79E-06
Cmip	0	2	2	204485	9.78E-06
Ppargc1b	1	0	1	102296	9.78E-06
Uggt1	0	1	1	102776	9.73E-06
Uggt1	0	1	1	102776	9.73E-06
Rin2	0	1	1	102883	9.72E-06
Itih5	1	0	1	102959	9.71E-06
Synj2	1	0	1	103011	9.71E-06
Zmiz1	1	1	2	207559	9.64E-06
2610017I09Rik	1	0	1	104055	9.61E-06
Wac	0	1	1	104716	9.55E-06
Wac	0	1	1	104716	9.55E-06
Glg1	0	1	1	104796	9.54E-06
Cecr2	1	0	1	104822	9.54E-06
Gng2	1	0	1	105069	9.52E-06
Elovl6	0	1	1	106110	9.42E-06
Lrrc20	0	1	1	106394	9.40E-06
Cables1	0	1	1	106408	9.40E-06
Atp8b5	0	1	1	106675	9.37E-06
Nfkb1	0	1	1	106893	9.36E-06
Add3	1	0	1	106955	9.35E-06
Sorbs1	1	0	1	107219	9.33E-06
Sfmbt1	0	1	1	107865	9.27E-06
Mtor	1	0	1	109073	9.17E-06
Tnrc6c	1	0	1	109151	9.16E-06
Fgd6	0	1	1	109339	9.15E-06
Klhl3	0	1	1	109372	9.14E-06
Hs3st2	0	1	1	109473	9.13E-06
Neddd4l	2	1	3	330071	9.09E-06
Met	0	1	1	110181	9.08E-06
Plekhh2	1	0	1	110248	9.07E-06
Drosha	0	1	1	110476	9.05E-06
Rasa3	1	0	1	110654	9.04E-06
Hk1	0	1	1	111054	9.00E-06
Atp11a	1	0	1	111715	8.95E-06
Atp10b	0	1	1	112409	8.90E-06

Ablim3	0	1	1	112458	8.89E-06
Jak1	0	1	1	112916	8.86E-06
Ppargc1a	1	0	1	113477	8.81E-06
Dapk2	1	0	1	114020	8.77E-06
Galnt2	1	0	1	114334	8.75E-06
Gm14697	1	0	1	115564	8.65E-06
Fam193a	1	0	1	116524	8.58E-06
AU040320	0	1	1	116527	8.58E-06
lqck	0	1	1	116893	8.55E-06
2210408F21Rik	0	1	1	117054	8.54E-06
Taf4b	0	1	1	117115	8.54E-06
Etv6	1	1	2	234459	8.53E-06
Kdm6a	1	0	1	117362	8.52E-06
Coro2b	0	1	1	117553	8.51E-06
Sgk1	1	0	1	117720	8.49E-06
Wdfy3	1	1	2	236966	8.44E-06
Shroom4	1	1	2	237595	8.42E-06
Lgr6	0	1	1	118929	8.41E-06
Fli1	0	1	1	119182	8.39E-06
Btbd9	1	2	3	360764	8.32E-06
Ebf3	1	0	1	120773	8.28E-06
Rnf216	0	1	1	122128	8.19E-06
Gm17106	0	1	1	122748	8.15E-06
Usp6nl	1	0	1	123724	8.08E-06
Atrn	1	0	1	123839	8.08E-06
Scmh1	1	0	1	124906	8.01E-06
Dyrk1a	0	1	1	125508	7.97E-06
Tom1l2	0	1	1	126192	7.92E-06
Adra1b	1	0	1	126605	7.90E-06
Uvrags	1	1	2	254402	7.86E-06
Atxn10	0	1	1	127456	7.85E-06
Tnfaip8	0	1	1	127747	7.83E-06
Ank	1	0	1	128233	7.80E-06
Mbnl1	0	1	1	128497	7.78E-06
Oxct1	1	0	1	128962	7.75E-06
Entpd1	1	0	1	129237	7.74E-06
Eml4	0	1	1	129431	7.73E-06
Spag9	0	1	1	129995	7.69E-06
Nt5dc1	0	1	1	130265	7.68E-06
Evi5	1	0	1	130313	7.67E-06

Pou6f2	0	2	2	260941	7.66E-06
Chn2	2	0	2	262257	7.63E-06
Fam49b	1	0	1	131352	7.61E-06
Adk	3	0	3	395995	7.58E-06
Lrrc8d	1	0	1	132468	7.55E-06
Ksr1	1	0	1	132968	7.52E-06
Adcy9	0	1	1	132970	7.52E-06
Gpd2	1	0	1	133085	7.51E-06
Mtap7	1	0	1	133119	7.51E-06
Vps53	0	1	1	133422	7.50E-06
Sgms1	1	1	2	266988	7.49E-06
Flnb	0	1	1	133632	7.48E-06
Pax6os1	1	0	1	134251	7.45E-06
Tnni3k	0	2	2	269106	7.43E-06
Map3k15	0	1	1	134919	7.41E-06
Syt16	0	2	2	270156	7.40E-06
Ralgps2	1	0	1	135461	7.38E-06
Abca4	1	0	1	135619	7.37E-06
Gpatch2	1	0	1	136197	7.34E-06
Col4a2	0	1	1	136483	7.33E-06
Tnks	0	1	1	136512	7.33E-06
Lipc	0	1	1	136680	7.32E-06
Zfp462	0	1	1	138516	7.22E-06
Ankrd17	1	0	1	138996	7.19E-06
Pacs1	0	1	1	139432	7.17E-06
Pkhd1l1	1	0	1	139591	7.16E-06
Tmem241	0	1	1	140178	7.13E-06
Mapre2	1	0	1	141529	7.07E-06
Mef2a	0	1	1	141696	7.06E-06
Wwc1	0	1	1	142128	7.04E-06
Mdga1	1	0	1	142132	7.04E-06
Obecn	0	1	1	142147	7.03E-06
Mtus1	1	0	1	142813	7.00E-06
Kdm2b	0	1	1	144413	6.92E-06
Zhx2	0	1	1	145169	6.89E-06
Cntn1	0	2	2	290803	6.88E-06
Tmem131	0	1	1	147337	6.79E-06
Gm4117	1	0	1	147707	6.77E-06
Dok5	1	0	1	147963	6.76E-06
Il1rap	1	0	1	148414	6.74E-06

Ptpn14	1	0	1	148428	6.74E-06
Cttnbp2	0	1	1	148861	6.72E-06
Klhl29	1	1	2	298211	6.71E-06
Ubash3b	1	0	1	150600	6.64E-06
Dlgap4	0	1	1	150659	6.64E-06
Adamts18	1	0	1	151490	6.60E-06
Srrm4	0	1	1	152546	6.56E-06
Plxnc1	0	1	1	153713	6.51E-06
Man2a1	1	0	1	154375	6.48E-06
Vwc2	0	1	1	154709	6.46E-06
Taok3	0	1	1	155091	6.45E-06
Dgkh	1	0	1	155481	6.43E-06
2010111I01Rik	2	0	2	311163	6.43E-06
Rbm47	0	1	1	156569	6.39E-06
Ube2cbp	1	0	1	157717	6.34E-06
2610035D17Rik	1	0	1	157944	6.33E-06
Spata5	0	1	1	159201	6.28E-06
Vwc2l	0	1	1	159683	6.26E-06
Kcnh1	1	1	2	319376	6.26E-06
Kcnq1	1	1	2	319789	6.25E-06
Loxhd1	0	1	1	160384	6.24E-06
Srbd1	1	0	1	160511	6.23E-06
Arhgap28	0	1	1	161408	6.20E-06
Lrrk1	0	1	1	161439	6.19E-06
Fbxl13	1	0	1	161759	6.18E-06
Ncor2	1	0	1	162067	6.17E-06
Chd6	1	0	1	162098	6.17E-06
Aff3	2	1	3	487630	6.15E-06
Filip1	0	1	1	162754	6.14E-06
Mef2c	0	1	1	163046	6.13E-06
March3	0	1	1	163833	6.10E-06
Fbxw7	1	0	1	163931	6.10E-06
Vps13a	0	1	1	164060	6.10E-06
Parva	1	0	1	164188	6.09E-06
Gm12132	1	1	2	329638	6.07E-06
Vav2	0	1	1	164930	6.06E-06
Osbpl10	1	0	1	164945	6.06E-06
Egfr	0	1	1	165956	6.03E-06
Gadl1	0	1	1	166722	6.00E-06
Stab2	0	1	1	166828	5.99E-06

Fam107b	1	0	1	168385	5.94E-06
Itpr1	0	2	2	337992	5.92E-06
Dock3	0	2	2	339076	5.90E-06
Ccdc109a	0	1	1	169709	5.89E-06
Scn1a	1	0	1	170060	5.88E-06
Rere	0	2	2	340321	5.88E-06
Adamts9	0	1	1	170794	5.86E-06
Myrip	0	1	1	170906	5.85E-06
Man1a	1	0	1	171009	5.85E-06
Atp10a	1	0	1	171225	5.84E-06
Dab2ip	1	0	1	172729	5.79E-06
Nfia	2	0	2	346141	5.78E-06
Sv2c	0	1	1	173135	5.78E-06
Ptpn13	1	0	1	173168	5.77E-06
Smarca2	1	0	1	173207	5.77E-06
Tmcc1	0	1	1	174869	5.72E-06
Scn8a	0	1	1	175247	5.71E-06
Ror2	0	1	1	176813	5.66E-06
Setbp1	0	2	2	359012	5.57E-06
Ttc29	0	1	1	181030	5.52E-06
Zbtb16	0	1	1	181635	5.51E-06
Slc44a1	0	1	1	182066	5.49E-06
Tspan9	0	1	1	182199	5.49E-06
Zbp	0	1	1	182783	5.47E-06
Zfp704	0	1	1	183075	5.46E-06
Arid5b	1	0	1	183134	5.46E-06
A230006K03Rik	0	1	1	183726	5.44E-06
Hivep2	0	1	1	184998	5.41E-06
Sipa1l3	1	0	1	185083	5.40E-06
Cwc27	0	1	1	186003	5.38E-06
Osbp1a	1	0	1	186528	5.36E-06
Hcn1	2	0	2	374323	5.34E-06
Tcerg1l	1	0	1	188757	5.30E-06
Dgkg	0	1	1	188761	5.30E-06
Frmd3	1	0	1	188773	5.30E-06
Inpp5a	1	0	1	190544	5.25E-06
Apba1	1	0	1	190722	5.24E-06
Myo10	0	1	1	191149	5.23E-06
Ntn1	1	0	1	191460	5.22E-06
Tmem163	1	0	1	191551	5.22E-06



Tbc1d1	0	1	1	192036	5.21E-06
Tbc1d1	0	1	1	192036	5.21E-06
Pex5l	1	0	1	193840	5.16E-06
Pld1	1	0	1	194668	5.14E-06
Myo3b	1	1	2	390073	5.13E-06
1700011I03Rik	0	1	1	197286	5.07E-06
Kank1	1	0	1	197522	5.06E-06
Necab1	0	1	1	197550	5.06E-06
Sntg2	0	1	1	198894	5.03E-06
Foxp1	2	1	3	597384	5.02E-06
Clec16a	1	0	1	199540	5.01E-06
Glis1	0	1	1	200471	4.99E-06
Antxr1	1	0	1	201922	4.95E-06
Bri3	1	0	1	202321	4.94E-06
St3gal3	0	1	1	202761	4.93E-06
Nr6a1	1	0	1	204319	4.89E-06
Med13l	1	0	1	204717	4.88E-06
Lmo7	1	0	1	204754	4.88E-06
Alcam	0	1	1	205079	4.88E-06
Abr	1	0	1	205581	4.86E-06
Unc13b	0	1	1	205919	4.86E-06
Tnik	2	0	2	412645	4.85E-06
Rap1gap2	0	1	1	206831	4.83E-06
Ap3b1	1	0	1	207357	4.82E-06
Gabrb2	1	0	1	209272	4.78E-06
Rbfox3	1	1	2	421836	4.74E-06
Abi3bp	0	1	1	212283	4.71E-06
AL731670.1	0	1	1	212567	4.70E-06
Rbms1	0	1	1	213000	4.69E-06
Prim2	0	1	1	215976	4.63E-06
Mapkap1	1	0	1	218180	4.58E-06
Gli2	0	1	1	219488	4.56E-06
Plxna4	1	1	2	442267	4.52E-06
Chl1	0	1	1	222160	4.50E-06
Samd4	1	0	1	222964	4.49E-06
Abcc4	1	0	1	223528	4.47E-06
Sfmbt2	0	1	1	224744	4.45E-06
Rnf220	0	1	1	225590	4.43E-06
Wdfy4	0	1	1	225962	4.43E-06
Gab2	1	0	1	227190	4.40E-06

Nsmce2	0	1	1	227486	4.40E-06
Pdzrn3	0	1	1	228289	4.38E-06
Ttll11	1	0	1	228673	4.37E-06
Mctp2	0	1	1	228764	4.37E-06
Tnrc6b	1	0	1	229768	4.35E-06
Sema3e	0	1	1	231414	4.32E-06
Reps2	0	1	1	231696	4.32E-06
Mgmt	0	1	1	233577	4.28E-06
Tanc1	1	0	1	234108	4.27E-06
Htr2c	1	0	1	234765	4.26E-06
Ldlrad3	1	0	1	236183	4.23E-06
Bicc1	1	0	1	236869	4.22E-06
Greb1l	1	0	1	237758	4.21E-06
Fry	0	1	1	237823	4.20E-06
Akt3	0	1	1	238131	4.20E-06
Stx8	1	0	1	240956	4.15E-06
Nf1	0	1	1	241920	4.13E-06
Ssh2	1	0	1	243934	4.10E-06
Dtna	0	1	1	244300	4.09E-06
Sucg2	1	0	1	244704	4.09E-06
Rora	2	1	3	734461	4.08E-06
Eya4	0	1	1	245728	4.07E-06
Ank3	1	1	2	493215	4.06E-06
Camk2d	1	0	1	248612	4.02E-06
Rgl1	1	0	1	249593	4.01E-06
Car10	1	1	2	503722	3.97E-06
Gnaq	0	1	1	254633	3.93E-06
Pcdha10	0	1	1	257373	3.89E-06
Pcdha10	0	1	1	257373	3.89E-06
Pcdha10	0	1	1	257373	3.89E-06
Pcdha10	0	1	1	257373	3.89E-06
Pcdha10	0	1	1	257373	3.89E-06
Pcdha10	0	1	1	257373	3.89E-06
Pcdha10	0	1	1	257373	3.89E-06
Pcdha10	0	1	1	257373	3.89E-06
Pcdha10	0	1	1	257373	3.89E-06
Wdr17	0	1	1	258130	3.87E-06
Arhgap26	2	1	3	774751	3.87E-06
Zdhhc14	0	1	1	261292	3.83E-06
Frmd5	0	1	1	261559	3.82E-06

Socs6	0	1	1	262258	3.81E-06
Tmem135	0	1	1	264500	3.78E-06
Ghr	1	0	1	265733	3.76E-06
Phactr2	0	1	1	266680	3.75E-06
Gli3	1	0	1	266792	3.75E-06
Mtap2	0	1	1	267311	3.74E-06
Arhgap10	0	1	1	267542	3.74E-06
Tcf12	1	0	1	267568	3.74E-06
Ppp3ca	1	0	1	267604	3.74E-06
Acaca	0	1	1	271980	3.68E-06
Acaca	0	1	1	271980	3.68E-06
Btbd11	1	0	1	273479	3.66E-06
Thada	1	0	1	276141	3.62E-06
Rapgef4	1	0	1	276235	3.62E-06
C130026I21Rik	0	1	1	277877	3.60E-06
Enox2	0	1	1	278553	3.59E-06
Tmem108	0	1	1	278902	3.59E-06
Lrba	2	0	2	558004	3.58E-06
4930529M08Rik	1	0	1	280256	3.57E-06
Dab1	2	2	4	1125486	3.55E-06
Ablim1	1	0	1	282187	3.54E-06
Cog5	1	0	1	282762	3.54E-06
Smyd3	1	1	2	566082	3.53E-06
Fgf12	1	0	1	285108	3.51E-06
Stau2	0	1	1	291439	3.43E-06
Col23a1	1	0	1	293999	3.40E-06
Gm10649	0	1	1	295396	3.39E-06
Dclk1	0	1	1	296539	3.37E-06
AW554918	0	1	1	298323	3.35E-06
Sorcs3	2	0	2	599481	3.34E-06
Pam	1	0	1	300533	3.33E-06
Mapk10	1	0	1	303387	3.30E-06
Rgnef	0	1	1	307571	3.25E-06
Dnahc7a	0	1	1	309783	3.23E-06
Adamts17	0	1	1	312891	3.20E-06
Pld5	0	1	1	313007	3.19E-06
Camta1	0	3	3	944555	3.18E-06
BC057079	1	0	1	316383	3.16E-06
Runx2	0	1	1	318811	3.14E-06
AL935177.3	1	0	1	319633	3.13E-06

Dscaml1	0	1	1	322872	3.10E-06
Sh3rf3	0	1	1	325558	3.07E-06
Cadm1	1	0	1	327465	3.05E-06
Ldb2	1	0	1	327575	3.05E-06
Myo5b	1	0	1	330558	3.03E-06
Lrfn5	0	1	1	334779	2.99E-06
Prickle2	0	1	1	335254	2.98E-06
Ccdc171	1	0	1	339187	2.95E-06
Agmo	0	1	1	340562	2.94E-06
Tln2	0	1	1	342617	2.92E-06
Hydin	1	0	1	343277	2.91E-06
Dis3l2	0	1	1	346294	2.89E-06
Bach2	0	1	1	347305	2.88E-06
Pde11a	1	0	1	349634	2.86E-06
Gse1	0	1	1	350855	2.85E-06
Vwa8	1	0	1	353133	2.83E-06
Fto	0	1	1	354908	2.82E-06
Ntng1	1	0	1	355469	2.81E-06
Plcb4	1	0	1	355583	2.81E-06
Diap2	0	2	2	716093	2.79E-06
Stag1	1	0	1	360748	2.77E-06
Ksr2	0	1	1	361004	2.77E-06
Myo16	0	1	1	362170	2.76E-06
Arl15	0	1	1	362957	2.76E-06
Kcnip1	1	0	1	363814	2.75E-06
Kcnt2	0	1	1	365848	2.73E-06
Auts2	3	0	3	1106010	2.71E-06
Atp11c	1	0	1	369409	2.71E-06
B3galt1	0	1	1	374478	2.67E-06
Dlgap2	1	1	2	751816	2.66E-06
Zbtb20	1	1	2	766722	2.61E-06
Ntrk3	1	0	1	386047	2.59E-06
Pcdh15	4	0	4	1546973	2.59E-06
Palld	0	1	1	389445	2.57E-06
Cdh8	1	0	1	392001	2.55E-06
Cdh23	0	1	1	393743	2.54E-06
Kif26b	1	0	1	403731	2.48E-06
Hivep3	1	0	1	404262	2.47E-06
Gm20696	1	0	1	409314	2.44E-06
Ttc28	0	1	1	409978	2.44E-06

Grin2a	1	0	1	417212	2.40E-06
Glis3	1	0	1	421227	2.37E-06
Fstl4	0	1	1	423905	2.36E-06
Ncald	0	1	1	426396	2.35E-06
Luzp2	1	0	1	429408	2.33E-06
Snx29	1	0	1	432565	2.31E-06
Ephb1	0	1	1	432566	2.31E-06
Zcchc16	0	1	1	433505	2.31E-06
Dpyd	1	1	2	870790	2.30E-06
Pacrg	0	1	1	437300	2.29E-06
Gabrb1	0	1	1	438458	2.28E-06
Agap1	1	0	1	440472	2.27E-06
Grin2b	1	0	1	443686	2.25E-06
Tenm3	1	0	1	447009	2.24E-06
Cdh4	0	1	1	456943	2.19E-06
Ppfia2	0	1	1	463158	2.16E-06
Dok6	0	1	1	468447	2.13E-06
Caln1	0	1	1	471170	2.12E-06
Bcas3	1	0	1	472892	2.11E-06
Sox5	0	2	2	953553	2.10E-06
2210408I21Rik	1	0	1	477752	2.09E-06
Spock1	0	1	1	478293	2.09E-06
Utrn	0	1	1	479548	2.09E-06
Mageb18	1	0	1	480694	2.08E-06
Slc25a21	1	0	1	484839	2.06E-06
Sdk1	1	1	2	974097	2.05E-06
Gm20388	8	1	9	4434882	2.03E-06
Dnm3	0	1	1	495582	2.02E-06
Pgcp	1	0	1	511424	1.96E-06
Kcnd2	0	1	1	514303	1.94E-06
Elmo1	1	0	1	517847	1.93E-06
Atrnl1	0	1	1	522305	1.91E-06
Grm5	0	1	1	532364	1.88E-06
1700007B14Rik	1	0	1	535810	1.87E-06
ErbB4	0	2	2	1075874	1.86E-06
Fam19a1	1	0	1	544045	1.84E-06
Dock2	1	0	1	557078	1.80E-06
Vps13b	0	1	1	559683	1.79E-06
Park2	1	0	1	568322	1.76E-06
Ptprt	1	1	2	1139158	1.76E-06

Unc5d	0	1	1	572622	1.75E-06
Rabgap1l	1	0	1	573765	1.74E-06
Cadps2	0	1	1	576649	1.73E-06
Sox2ot	1	0	1	578182	1.73E-06
Csmd2	0	1	1	579800	1.72E-06
Clstn2	0	1	1	588787	1.70E-06
Mecom	0	1	1	596710	1.68E-06
Lpp	0	1	1	599227	1.67E-06
Mast4	1	0	1	602012	1.66E-06
Esrrg	1	0	1	606095	1.65E-06
Magi1	0	1	1	607868	1.65E-06
5730522E02Rik	0	1	1	608001	1.64E-06
Cdk14	0	1	1	616922	1.62E-06
Grip1	0	1	1	633228	1.58E-06
Il1rapl1	0	2	2	1374776	1.45E-06
Fgf14	0	1	1	699221	1.43E-06
Ush2a	0	1	1	703019	1.42E-06
Mgat4c	0	1	1	709983	1.41E-06
Exoc4	0	1	1	724895	1.38E-06
Tenm4	0	1	1	739850	1.35E-06
Fgfr2	2	2	4	2960900	1.35E-06
Negr1	1	0	1	754652	1.33E-06
Bai3	1	0	1	762232	1.31E-06
Ptprn2	0	1	1	792448	1.26E-06
Cacna2d3	1	0	1	816918	1.22E-06
Csmd1	2	0	2	1643050	1.22E-06
Dlgap1	0	1	1	852341	1.17E-06
Pcdh9	0	1	1	873221	1.15E-06
Cntnap5a	0	1	1	897271	1.11E-06
Wwox	1	0	1	913054	1.10E-06
Epha6	0	1	1	952049	1.05E-06
Cadm2	1	0	1	965488	1.04E-06
1700112E06Rik	1	0	1	1036374	9.65E-07
Cdh13	1	0	1	1041189	9.60E-07
Gpc6	0	1	1	1054233	9.49E-07
Rbms3	1	0	1	1057168	9.46E-07
Nrxn1	0	1	1	1059162	9.44E-07
Accn1	1	0	1	1088289	9.19E-07
Ctnna2	0	1	1	1098063	9.11E-07
Prkg1	1	0	1	1195585	8.36E-07

Cntn5	1	0	1	1243885	8.04E-07
Arfip1	1	0	1	1391424	7.19E-07
Grid2	0	1	1	1412407	7.08E-07
Gpc5	0	1	1	1432965	6.98E-07
Pde4d	1	0	1	1503514	6.65E-07
Pde4d	1	0	1	1503514	6.65E-07
Ctnna3	1	0	1	1573570	6.35E-07
Macrod2	0	1	1	1997658	5.01E-07
Macrod2	0	1	1	1997658	5.01E-07
Ptprd	0	1	1	2270724	4.40E-07
(x)	426	521	947		
Total	1222	1400	2622		

(x)=did not map to a gene

mean 2.71E-04

stdev 6.33E-03

median 1.60E-05