

Supplementary Table 1

Gene	Position change	padj	Chr	Start	End	Strand	Peak Score	Distance to TSS	Nearest PromoterID	Entrez ID	Gene Alias	Gene Type
ABCA8	1.21330564	3.5841E-05	chr17	68981014	68981663	+	236	-25912	XM_005256940.4	10351	-	protein-coding
ABCC3	2.38781282	1.36E-21	chr17	50639207	50639709	+	106	4601	NM_003786.3	8714	ABC31 EST9	protein-coding
ABTB1	0.56203308	0.04233669	chr3	127696346	127696505	+	48	23119	XM_011513213.1	80325	BPOZ BTB3	protein-coding
ACSF2	0.58790084	0.04753648	chr17	50421541	50422022	+	57	-4377	NM_025149.5	80221	ACSMW AV	protein-coding
ACTA2	2.46047804	1.5937E-29	chr10	89086735	89087739	+	278	-95840	NM_001141945.2	59	ACTSA	protein-coding
ACTA2	2.46047804	1.5937E-29	chr10	88932701	88932964	+	108	19991	NM_001613.2	59	ACTSA	protein-coding
ACTA2	2.46047804	1.5937E-29	chr10	88951559	88952032	+	69	1028	NM_001613.2	59	ACTSA	protein-coding
ACTA2	2.46047804	1.5937E-29	chr10	88935324	88935660	+	66	17331	NM_001613.2	59	ACTSA	protein-coding
ACTA2	2.46047804	1.5937E-29	chr10	88934905	88935213	+	53	17764	NM_001613.2	59	ACTSA	protein-coding
ACTN2	1.25284256	1.0556E-09	chr1	236654565	236655212	+	499	-31566	NM_001278343.1	88	CMD1AA Cv	protein-coding
ACTN2	1.25284256	1.0556E-09	chr1	236668998	236669184	+	106	-17363	NM_001278343.1	88	CMD1AA Cv	protein-coding
ADCY4	0.88114877	0.00327479	chr14	24334115	24334320	+	57	854	NM_001198568.1	196883	AC4	protein-coding
ADGRA1	3.51298986	9.9394E-74	chr10	133092627	133092935	+	48	4068	XM_017016779.1	84435	GPR123	protein-coding
ADGRA2	0.62163926	0.02474505	chr8	37821587	37821929	+	86	24875	XM_011544483.2	25960	GPR124 TEH	protein-coding
ADGRA2	0.62163926	0.02474505	chr8	37781328	37781877	+	86	-15281	XM_011544482.2	25960	GPR124 TEH	protein-coding
ADGRA2	0.62163926	0.02474505	chr8	37822331	37822771	+	66	25668	XM_011544483.2	25960	GPR124 TEH	protein-coding
ADGRB3	0.82645476	0.00042845	chr6	68640169	68640456	+	53	4572	NM_001704.2	577	BAI3	protein-coding
ADGRB3	0.82645476	0.00042845	chr6	68668006	68668433	+	49	32479	NM_001704.2	577	BAI3	protein-coding
ADORA1	0.69396335	0.02079871	chr1	203153704	203153902	+	53	24889	XM_005244902.4	134	RDC7	protein-coding
AHSG	1.24339045	1.0133E-08	chr3	186613870	186614116	+	48	932	NM_001622.2	197	A2HS AHS A	protein-coding
AHSG	1.24339045	1.0133E-08	chr3	186614964	186615198	+	48	2020	NM_001622.2	197	A2HS AHS A	protein-coding
AKAP12	1.41459856	4.46E-09	chr6	151224886	151225186	+	14	-14779	XM_017011517.1	9590	AKAP250 SS	protein-coding
ALCAM	0.59826926	0.01464304	chr3	105494333	105494484	+	45	127695	NM_001243280.1	214	CD166 MEM	protein-coding
ALCAM	0.59826926	0.01464304	chr3	105366721	105366872	+	31	83	NM_001243280.1	214	CD166 MEM	protein-coding
ALCAM	0.59826926	0.01464304	chr3	103906828	103907108	+	19	-1459745	NM_001243283.1	214	CD166 MEM	protein-coding
AMACR	0.553268	0.01365082	chr5	34241572	34242148	+	369	-233745	NM_203382.2	23600	AMACRD CB	protein-coding
AMACR	0.553268	0.01365082	chr5	34240616	34241154	+	139	-232770	NM_203382.2	23600	AMACRD CB	protein-coding
AMACR	0.553268	0.01365082	chr5	34256385	34256708	+	40	-248431	NM_203382.2	23600	AMACRD CB	protein-coding
AMACR	0.553268	0.01365082	chr5	34244245	34244751	+	37	-236383	NM_203382.2	23600	AMACRD CB	protein-coding
AMOT	1.60023777	7.4138E-10	chrX	112943938	112944111	+	117	-103078	XM_011530875.2	154796	-	protein-coding
ANGPTL4	0.70776837	0.01628274	chr19	8363480	8363685	+	31	-545	NM_001039667.2	51129	ARP4 FIAF I	protein-coding
ANK3	0.81458578	0.00560589	chr10	60314217	60314736	+	452	-13936	XM_017016115.1	288	ANKYRIN-G	protein-coding
ANK3	0.81458578	0.00560589	chr10	60704439	60704871	+	222	28871	NM_001204403.1	288	ANKYRIN-G	protein-coding
ANK3	0.81458578	0.00560589	chr10	60029423	60029967	+	206	111321	NM_001149.3	288	ANKYRIN-G	protein-coding
ANK3	0.81458578	0.00560589	chr10	60446932	60447107	+	86	-57035	NM_020987.4	288	ANKYRIN-G	protein-coding
ANKRD24	0.91637137	0.00131985	chr19	4193847	4194118	+	117	-4455	XM_011527765.2	170961	-	protein-coding
ANKRD24	0.91637137	0.00131985	chr19	4186521	4186672	+	23	2362	XM_017026438.1	170961	-	protein-coding
ANKRD29	0.93182475	0.00150978	chr18	23668710	23669637	+	369	-6266	XM_017025561.1	147463	-	protein-coding
ANKRD29	0.93182475	0.00150978	chr18	23671563	23671949	+	106	-8849	XM_017025561.1	147463	-	protein-coding
ANKRD6	0.62641313	0.0102892	chr6	89436257	89436477	+	25	3145	XM_017010510.1	22881	-	protein-coding
ANTXR2	0.62120943	0.03065741	chr4	80006922	80007208	+	57	66258	NM_001145794.1	118429	CMG-2 CMG	protein-coding
ANXA2R	0.55370487	0.04832466	chr5	43039508	43041124	+	1202	29	NM_001014279.2	389289	AX2R AXIIR	protein-coding
ANXA2R	0.55370487	0.04832466	chr5	42994484	42995432	+	682	45387	NM_001014279.2	389289	AX2R AXIIR	protein-coding
ANXA2R	0.55370487	0.04832466	chr5	43064756	43065286	+	383	-24676	NM_001014279.2	389289	AX2R AXIIR	protein-coding
ANXA2R	0.55370487	0.04832466	chr5	43063082	43063628	+	341	-23010	NM_001014279.2	389289	AX2R AXIIR	protein-coding
ANXA2R	0.55370487	0.04832466	chr5	43008027	43008961	+	236	31851	NM_001014279.2	389289	AX2R AXIIR	protein-coding
ANXA2R	0.55370487	0.04832466	chr5	42950456	42950957	+	186	89639	NM_001014279.2	389289	AX2R AXIIR	protein-coding
ANXA2R	0.55370487	0.04832466	chr5	42970715	42970967	+	179	69504	NM_001014279.2	389289	AX2R AXIIR	protein-coding
ANXA2R	0.55370487	0.04832466	chr5	42949371	42950144	+	128	90588	NM_001014279.2	389289	AX2R AXIIR	protein-coding
ANXA2R	0.55370487	0.04832466	chr5	43066800	43067111	+	106	-26610	NM_001014279.2	389289	AX2R AXIIR	protein-coding
ANXA2R	0.55370487	0.04832466	chr5	43019712	43020426	+	86	20276	NM_001014279.2	389289	AX2R AXIIR	protein-coding
ANXA2R	0.55370487	0.04832466	chr5	42992858	42994214	+	86	46809	NM_001014279.2	389289	AX2R AXIIR	protein-coding
ANXA2R	0.55370487	0.04832466	chr5	43042469	43043479	+	66	-2629	NM_001014279.2	389289	AX2R AXIIR	protein-coding
ANXA2R	0.55370487	0.04832466	chr5	43066032	43066321	+	57	-25831	NM_001014279.2	389289	AX2R AXIIR	protein-coding
ANXA2R	0.55370487	0.04832466	chr5	43019089	43019325	+	45	21138	NM_001014279.2	389289	AX2R AXIIR	protein-coding
ANXA2R	0.55370487	0.04832466	chr5	43017949	43018100	+	39	22321	NM_001014279.2	389289	AX2R AXIIR	protein-coding
ANXA2R	0.55370487	0.04832466	chr5	43041549	43042080	+	39	-1469	NM_001014279.2	389289	AX2R AXIIR	protein-coding
ANXA2R	0.55370487	0.04832466	chr5	42951625	42951798	+	23	88634	NM_001014279.2	389289	AX2R AXIIR	protein-coding
APCDD1	0.72589998	2.1165E-06	chr18	10461667	10463813	+	2209	8105	XM_011525603.1	147495	B7323 DRAF	protein-coding
APCDD1	0.72589998	2.1165E-06	chr18	10476377	10477899	+	442	22503	XM_011525603.1	147495	B7323 DRAF	protein-coding
APCDD1	0.72589998	2.1165E-06	chr18	10440840	10441311	+	321	-13553	NM_153000.4	147495	B7323 DRAF	protein-coding
APCDD1	0.72589998	2.1165E-06	chr18	10472549	10473135	+	236	18207	XM_011525603.1	147495	B7323 DRAF	protein-coding
APCDD1	0.72589998	2.1165E-06	chr18	10405080	10405660	+	229	-49258	NM_153000.4	147495	B7323 DRAF	protein-coding
APCDD1	0.72589998	2.1165E-06	chr18	10460380	10460901	+	77	6005	XM_011525603.1	147495	B7323 DRAF	protein-coding
APCDD1	0.72589998	2.1165E-06	chr18	10304946	10305194	+	66	-149558	NM_153000.4	147495	B7323 DRAF	protein-coding
APCDD1	0.72589998	2.1165E-06	chr18	10213625	10213801	+	55	-240915	NM_153000.4	147495	B7323 DRAF	protein-coding
APCDD1	0.72589998	2.1165E-06	chr18	10466440	10466642	+	48	11906	XM_011525603.1	147495	B7323 DRAF	protein-coding
APCDD1	0.72589998	2.1165E-06	chr18	10454221	10454410	+	42	-313	NM_153000.4	147495	B7323 DRAF	protein-coding
APCDD1	0.72589998	2.1165E-06	chr18	10285266	10285593	+	30	-169199	NM_153000.4	147495	B7323 DRAF	protein-coding
APOH	0.69716067	0.01872752	chr17	66221034	66221690	+	422	8076	NM_000042.2	350	B2G1 B2GP	protein-coding
APOH	0.69716067	0.01872752	chr17	66233431	66233692	+	134	-4123	NM_000042.2	350	B2G1 B2GP	protein-coding
APOL4	1.11903233	7.1361E-05	chr22	36126417	36126739	+	172	78255	NM_145660.2	80832	APOL-IV APC	protein-coding

APOL4	1.11903233	7.1361E-05	chr22	36066014	36066389 +	39	138632	NM_145660.2	80832	APOL-IV APC	protein-coding
APOL4	1.11903233	7.1361E-05	chr22	35971772	35971949 +	36	232973	NM_145660.2	80832	APOL-IV APC	protein-coding
APOL4	1.11903233	7.1361E-05	chr22	36123923	36124232 +	25	80756	NM_145660.2	80832	APOL-IV APC	protein-coding
ARHGAP31	0.5633846	0.01005188	chr3	119294157	119294398 +	57	-12	XM_017006955.1	57514	AOS1 CDGA	protein-coding
ARHGEF17	0.64477953	0.00305667	chr11	73307231	73307519 +	39	-1243	NM_014786.3	9828	P164RHOGEL	protein-coding
ARHGEF17	0.64477953	0.00305667	chr11	73307994	73308149 +	31	-547	NM_014786.3	9828	P164RHOGEL	protein-coding
ARHGEF37	0.82785381	0.00740221	chr5	149559756	149560075 +	94	7866	XM_011537642.2	389337	-	protein-coding
ARHGEF37	0.82785381	0.00740221	chr5	149561811	149562158 +	57	9935	XM_011537642.2	389337	-	protein-coding
ARHGEF5	0.87993934	0.00208681	chr7	144195040	144195559 +	844	-160042	XM_017012623.1	7984	GEF5 P60 T	protein-coding
ARHGEF5	0.87993934	0.00208681	chr7	144293620	144294168 +	748	-61447	XM_017012623.1	7984	GEF5 P60 T	protein-coding
ARHGEF5	0.87993934	0.00208681	chr7	144355273	144355916 +	534	198	NM_005435.3	7984	GEF5 P60 T	protein-coding
ARHGEF5	0.87993934	0.00208681	chr7	145909885	145910300 +	109	1554696	NM_005435.3	7984	GEF5 P60 T	protein-coding
ARHGEF5	0.87993934	0.00208681	chr7	144256109	144256385 +	102	-99094	XM_017012623.1	7984	GEF5 P60 T	protein-coding
ARHGEF5	0.87993934	0.00208681	chr7	144354712	144354907 +	53	-532	XM_017012623.1	7984	GEF5 P60 T	protein-coding
ARHGEF6	1.7878102	7.5066E-11	chrX	136735679	136736108 +	287	23724	XM_011531415.2	9459	COOL2 Cool	protein-coding
ARL4C	0.67561795	0.01849582	chr2	234544613	234544873 +	128	-47690	NM_001282431.1	10123	ARL7 LAK	protein-coding
ARL4C	0.67561795	0.01849582	chr2	234619920	234620308 +	111	-123061	NM_001282431.1	10123	ARL7 LAK	protein-coding
ARRB1	0.66859453	0.00548778	chr11	75340675	75340910 +	39	10879	XM_017017752.1	408	ARB1 ARR1	protein-coding
ARSD	1.53901125	5.1367E-10	chrX	3142597	3143647 +	287	-213747	NM_009589.3	414	ASD	protein-coding
ARSD	1.53901125	5.1367E-10	chrX	2894938	2895265 +	129	34244	XM_005274514.2	414	ASD	protein-coding
ARSG	0.66047435	0.02322558	chr17	68346468	68346668 +	23	-10243	XM_011524546.2	22901	USH4	protein-coding
AZIN2	0.53812408	0.0426751	chr1	33127055	33127582 +	139	45048	XM_017000178.1	113451	ADC AZI2 A	protein-coding
BCAS1	1.04962826	5.3092E-06	chr20	53960132	53961252 +	2001	98323	XM_011529090.2	8537	AIBC1 NABC	protein-coding
BCAS1	1.04962826	5.3092E-06	chr20	53837641	53838053 +	248	221168	XM_011529090.2	8537	AIBC1 NABC	protein-coding
BCAS1	1.04962826	5.3092E-06	chr20	53940005	53940377 +	92	118824	XM_011529090.2	8537	AIBC1 NABC	protein-coding
BCAS1	1.04962826	5.3092E-06	chr20	54015574	54015768 +	76	43344	XM_011529090.2	8537	AIBC1 NABC	protein-coding
BCAS1	1.04962826	5.3092E-06	chr20	53872624	53872811 +	66	186298	XM_011529090.2	8537	AIBC1 NABC	protein-coding
BCAS1	1.04962826	5.3092E-06	chr20	53853655	53853812 +	66	205282	XM_011529090.2	8537	AIBC1 NABC	protein-coding
BCAS1	1.04962826	5.3092E-06	chr20	53915734	53915962 +	48	143167	XM_011529090.2	8537	AIBC1 NABC	protein-coding
BCAS1	1.04962826	5.3092E-06	chr20	53934641	53935045 +	32	124172	XM_011529090.2	8537	AIBC1 NABC	protein-coding
BCAS1	1.04962826	5.3092E-06	chr20	53899606	53899826 +	31	159299	XM_011529090.2	8537	AIBC1 NABC	protein-coding
BCAS1	1.04962826	5.3092E-06	chr20	54078356	54078624 +	31	-7725	NM_003657.3	8537	AIBC1 NABC	protein-coding
BCAS1	1.04962826	5.3092E-06	chr20	53917354	53917620 +	19	141528	XM_011529090.2	8537	AIBC1 NABC	protein-coding
BCHE	0.70004849	0.0003884	chr3	165796813	165797540 +	206	40289	NM_000055.2	590	BCHED CHE1	protein-coding
BCHE	0.70004849	0.0003884	chr3	165643108	165643326 +	62	194248	NM_000055.2	590	BCHED CHE1	protein-coding
BEGAIN	1.56891822	5.4314E-09	chr14	100689557	100690039 +	151	-102394	XM_011537031.1	57596	-	protein-coding
BEGAIN	1.56891822	5.4314E-09	chr14	100990888	100991039 +	70	-403559	XM_011537031.1	57596	-	protein-coding
BFSP1	0.63063079	0.00238142	chr20	17391709	17392362 +	779	139334	NM_001195.4	631	CP115 CP94	protein-coding
BFSP1	0.63063079	0.00238142	chr20	17520560	17520964 +	218	10607	NM_001195.4	631	CP115 CP94	protein-coding
BMP7	1.35888338	6.4313E-09	chr20	56957511	56957718 +	31	309037	NM_001719.2	655	OP-1	protein-coding
BOK	0.75655322	0.00882652	chr2	241572782	241573000 +	45	13869	XM_011511696.2	666	BCL2L9 BOK	protein-coding
BRINP2	1.60127259	3.959E-08	chr1	177561260	177561711 +	309	305159	XM_011509826.1	57795	DBCCR1L2 F	protein-coding
BRINP2	1.60127259	3.959E-08	chr1	177287069	177287279 +	96	30848	XM_011509826.1	57795	DBCCR1L2 F	protein-coding
BRINP2	1.60127259	3.959E-08	chr1	177080576	177080864 +	76	-90202	XM_005245379.1	57795	DBCCR1L2 F	protein-coding
BRINP2	1.60127259	3.959E-08	chr1	176904384	176904558 +	57	-266451	XM_005245379.1	57795	DBCCR1L2 F	protein-coding
BRINP2	1.60127259	3.959E-08	chr1	176990437	176990673 +	46	-180367	XM_005245379.1	57795	DBCCR1L2 F	protein-coding
BRINP2	1.60127259	3.959E-08	chr1	177462660	177463013 +	37	206510	XM_011509826.1	57795	DBCCR1L2 F	protein-coding
BRINP2	1.60127259	3.959E-08	chr1	177442761	177442940 +	22	186524	XM_011509826.1	57795	DBCCR1L2 F	protein-coding
BTBD17	0.9431392	0.00095139	chr17	74514029	74514863 +	61	-150791	XM_011524791.2	388419	BTBD17A LC	protein-coding
C2orf50	0.70632824	0.02035188	chr2	11113133	11113922 +	223	-19526	NM_182500.2	130813	-	protein-coding
C2orf50	0.70632824	0.02035188	chr2	11112728	11113014 +	39	-20182	NM_182500.2	130813	-	protein-coding
C6	0.80785867	0.0060503	chr5	41311843	41313230 +	2402	-51050	XM_011514114.2	729	-	protein-coding
C6	0.80785867	0.0060503	chr5	41277596	41278221 +	198	-16422	XM_011514114.2	729	-	protein-coding
C6	0.80785867	0.0060503	chr5	41263944	41264240 +	183	-2606	XM_011514114.2	729	-	protein-coding
C7	2.10745745	1.5801E-14	chr5	40904910	40905089 +	11	-4498	NM_000587.2	730	-	protein-coding
CABLES1	1.30773682	7.4241E-07	chr18	23089810	23090133 +	317	-44593	NM_001256438.1	91768	CABL1 CABL	protein-coding
CABLES1	1.30773682	7.4241E-07	chr18	23091320	23091685 +	49	-43062	NM_001256438.1	91768	CABL1 CABL	protein-coding
CABLES1	1.30773682	7.4241E-07	chr18	23227607	23227925 +	31	71941	NM_138375.2	91768	CABL1 CABL	protein-coding
CACNA1A	1.63884247	1.3106E-10	chr19	13618720	13619007 +	31	-112403	NM_001174080.1	773	APCA BI CA	protein-coding
CACNA1A	1.63884247	1.3106E-10	chr19	13598311	13598523 +	31	-91957	NM_001174080.1	773	APCA BI CA	protein-coding
CACNA1C	1.23130667	3.6039E-06	chr12	2378676	2379004 +	186	325555	NM_199460.3	775	CACH2 CACH	protein-coding
CACNA1C	1.23130667	3.6039E-06	chr12	2284268	2285104 +	162	231401	NM_199460.3	775	CACH2 CACH	protein-coding
CACNA1C	1.23130667	3.6039E-06	chr12	2334792	2335491 +	85	281856	NM_199460.3	775	CACH2 CACH	protein-coding
CACNA1C	1.23130667	3.6039E-06	chr12	2335813	2336085 +	23	282664	NM_199460.3	775	CACH2 CACH	protein-coding
CACNA1C	1.23130667	3.6039E-06	chr12	2357930	2358149 +	23	304754	NM_199460.3	775	CACH2 CACH	protein-coding
CACNG6	0.79192802	0.00882406	chr19	54014991	54015613 +	1097	23014	NM_031897.2	59285	-	protein-coding
CACNG6	0.79192802	0.00882406	chr19	54024175	54024390 +	66	31994	NM_031897.2	59285	-	protein-coding
CAPN5	0.8783911	0.00128567	chr11	77047793	77047994 +	30	-19052	NM_004055.4	726	ADNVN HTRA	protein-coding
CBLB	1.25337228	2.7601E-06	chr3	106620557	106621110 +	756	-751281	XM_011513257.1	868	Cbl-b Nbla0f	protein-coding
CBLB	1.25337228	2.7601E-06	chr3	106083726	106084329 +	699	-214475	XM_011513257.1	868	Cbl-b Nbla0f	protein-coding
CBLB	1.25337228	2.7601E-06	chr3	106078564	106079374 +	667	-209417	XM_011513257.1	868	Cbl-b Nbla0f	protein-coding
CBLB	1.25337228	2.7601E-06	chr3	106629413	106629816 +	227	-760062	XM_011513257.1	868	Cbl-b Nbla0f	protein-coding
CBLB	1.25337228	2.7601E-06	chr3	106206090	106207024 +	206	-337005	XM_011513257.1	868	Cbl-b Nbla0f	protein-coding
CBLB	1.25337228	2.7601E-06	chr3	106635251	106635676 +	89	-765911	XM_011513257.1	868	Cbl-b Nbla0f	protein-coding

CBLB	1.25337228	2.7601E-06	chr3	105923859	105924017	+	54	-54386 XM_011513257.1	868 Cbl-b Nbla0(protein-coding
CBLB	1.25337228	2.7601E-06	chr3	106485894	106486117	+	37	-616453 XM_011513257.1	868 Cbl-b Nbla0(protein-coding
CBLB	1.25337228	2.7601E-06	chr3	106050001	106050152	+	25	-180524 XM_011513257.1	868 Cbl-b Nbla0(protein-coding
CBWD6	0.79536447	0.00561137	chr9	43140225	43140556	+	186	-1941525 XM_017015028.1	644019 CBWD7 protein-coding
CBWD6	0.79536447	0.00561137	chr9	40992042	40992295	+	112	178255 XM_017015031.1	644019 CBWD7 protein-coding
CBWD6	0.79536447	0.00561137	chr9	43139406	43139654	+	106	-1940665 XM_017015028.1	644019 CBWD7 protein-coding
CBWD6	0.79536447	0.00561137	chr9	42323498	42323720	+	66	-1124744 XM_017015028.1	644019 CBWD7 protein-coding
CBWD6	0.79536447	0.00561137	chr9	40097996	40098156	+	48	1072347 XM_017015031.1	644019 CBWD7 protein-coding
CBWD6	0.79536447	0.00561137	chr9	40511161	40511370	+	39	659158 XM_017015031.1	644019 CBWD7 protein-coding
CCK	1.94074659	4.1514E-19	chr3	42266663	42266889	+	106	-581 NM_000729.5	885 - protein-coding
CD99	0.54390576	0.00213749	chrX	2628902	2632829	+	1495	-60268 NM_001321370.1	4267 HBA71 MIC2 protein-coding
CD99	0.54390576	0.00213749	chrX	2664638	2665587	+	544	-26021 NM_001321370.1	4267 HBA71 MIC2 protein-coding
CD99	0.54390576	0.00213749	chrX	2696657	2697160	+	248	5775 NM_001321369.1	4267 HBA71 MIC2 protein-coding
CD99	0.54390576	0.00213749	chrX	2314388	2314564	+	198	-376657 NM_001321370.1	4267 HBA71 MIC2 protein-coding
CD99	0.54390576	0.00213749	chrX	2213039	2214545	+	174	-477341 NM_001321370.1	4267 HBA71 MIC2 protein-coding
CD99	0.54390576	0.00213749	chrX	2707358	2707753	+	76	16422 NM_001321369.1	4267 HBA71 MIC2 protein-coding
CD99	0.54390576	0.00213749	chrX	2426459	2426853	+	66	-264477 NM_001321370.1	4267 HBA71 MIC2 protein-coding
CD99	0.54390576	0.00213749	chrX	2533547	2534004	+	66	-157358 NM_001321370.1	4267 HBA71 MIC2 protein-coding
CD99	0.54390576	0.00213749	chrX	2182530	2182845	+	57	-508446 NM_001321370.1	4267 HBA71 MIC2 protein-coding
CD99	0.54390576	0.00213749	chrX	2710285	2710833	+	57	19426 NM_001321369.1	4267 HBA71 MIC2 protein-coding
CD99	0.54390576	0.00213749	chrX	2253166	2253518	+	48	-437791 NM_001321370.1	4267 HBA71 MIC2 protein-coding
CD99	0.54390576	0.00213749	chrX	2325211	2325421	+	22	-365817 NM_001321370.1	4267 HBA71 MIC2 protein-coding
CDK18	2.1494929	6.6524E-21	chr1	205472380	205472646	+	117	-32043 NM_212502.2	5129 PCTAIRE PC1 protein-coding
CDK18	2.1494929	6.6524E-21	chr1	205423900	205424056	+	37	-80578 NM_212502.2	5129 PCTAIRE PC1 protein-coding
CDKN2D	0.76736006	1.6695E-05	chr19	10572422	10572584	+	53	-3524 NM_079421.2	1032 INK4D p19 protein-coding
CDON	0.53317052	0.03540797	chr11	126123634	126124034	+	150	-60499 XM_017017873.1	50937 CDO CDON1 protein-coding
CDON	0.53317052	0.03540797	chr11	126062951	126063276	+	62	179 NM_016952.4	50937 CDO CDON1 protein-coding
CDON	0.53317052	0.03540797	chr11	126050491	126050794	+	43	8822 XM_011542863.2	50937 CDO CDON1 protein-coding
CDYL	0.8993651	1.5112E-07	chr6	4852052	4852790	+	779	16323 NM_001143970.1	9425 CDYL1 protein-coding
CHRM1	0.81219188	0.00688425	chr11	63145452	63145825	+	66	-223777 XM_011544742.2	1128 HM1 M1 M protein-coding
CHRM1	0.81219188	0.00688425	chr11	63180603	63180809	+	63	-258845 XM_011544742.2	1128 HM1 M1 M protein-coding
CHST15	1.21852111	1.5669E-06	chr10	124153013	124153402	+	314	-59523 XM_011539857.1	51363 BRAG GALN protein-coding
CHST15	1.21852111	1.5669E-06	chr10	124145200	124145439	+	117	-51635 XM_011539857.1	51363 BRAG GALN protein-coding
CHST2	1.4908173	1.4429E-07	chr3	143327414	143327714	+	119	207788 NM_004267.4	9435 C6ST GST-2 protein-coding
CHST2	1.4908173	1.4429E-07	chr3	143444016	143444170	+	45	324317 NM_004267.4	9435 C6ST GST-2 protein-coding
CIB4	1.80542693	6.349E-10	chr2	26655122	26655357	+	117	-13441 XM_017003331.1	130106 KIP4 protein-coding
CLEC11A	0.66208182	0.02534245	chr19	50738155	50740158	+	1010	15808 NM_002975.2	6320 CLECSF3 LSL protein-coding
CMTM7	1.03988708	0.00052556	chr3	32422080	32422419	+	99	30404 XM_011533319.2	112616 CKLFSF7 protein-coding
COL1A2	1.53117455	3.2503E-11	chr7	94265448	94265941	+	224	-128867 NM_000089.3	1278 EDSARTH2 E protein-coding
COL1A2	1.53117455	3.2503E-11	chr7	94266181	94266522	+	61	-128210 NM_000089.3	1278 EDSARTH2 E protein-coding
COL1A2	1.53117455	3.2503E-11	chr7	94375872	94376057	+	29	-18597 NM_000089.3	1278 EDSARTH2 E protein-coding
COL1A2	1.53117455	3.2503E-11	chr7	94396187	94396399	+	14	1732 NM_000089.3	1278 EDSARTH2 E protein-coding
COL20A1	1.40457284	2.9161E-06	chr20	63326517	63327470	+	1344	33807 NM_020882.2	57642 - protein-coding
COL20A1	1.40457284	2.9161E-06	chr20	63339895	63340394	+	19	46958 NM_020882.2	57642 - protein-coding
COL4A1	1.07267499	0.00013192	chr13	110228254	110228539	+	106	78354 XM_011521048.2	1282 BSVD BSVD: protein-coding
COL4A1	1.07267499	0.00013192	chr13	110255757	110255981	+	85	50881 XM_011521048.2	1282 BSVD BSVD: protein-coding
COL4A1	1.07267499	0.00013192	chr13	110247619	110247777	+	48	59052 XM_011521048.2	1282 BSVD BSVD: protein-coding
COL4A1	1.07267499	0.00013192	chr13	110233214	110233381	+	31	73453 XM_011521048.2	1282 BSVD BSVD: protein-coding
COL4A2	0.72994474	0.00418101	chr13	110412197	110412542	+	117	105085 NM_001846.2	1284 BSVD2 ICH protein-coding
COL4A2	0.72994474	0.00418101	chr13	110320298	110320615	+	80	13172 NM_001846.2	1284 BSVD2 ICH protein-coding
COL4A2	0.72994474	0.00418101	chr13	110319890	110320085	+	29	12703 NM_001846.2	1284 BSVD2 ICH protein-coding
COL5A1	2.05906728	4.1601E-38	chr9	134712441	134712615	+	48	70723 NM_001278074.1	1289 EDSC EDSCL protein-coding
COL5A1	2.05906728	4.1601E-38	chr9	134712024	134712175	+	31	70294 NM_001278074.1	1289 EDSC EDSCL protein-coding
COL6A1	0.71715877	0.00088485	chr21	45973619	45973835	+	48	-8022 NM_001848.2	1291 BTHLM1 OP protein-coding
CORO1A	0.79201971	0.00058129	chr16	30193351	30193946	+	314	9430 XM_017022886.1	11151 CLABP CLIP1 protein-coding
CREB3L1	0.93982505	0.00022051	chr11	46242908	46243485	+	63	-34442 NM_052854.3	90993 OASIS OI16 protein-coding
CREB3L1	0.93982505	0.00022051	chr11	46295616	46295786	+	48	18040 XM_006718380.3	90993 OASIS OI16 protein-coding
CREB3L1	0.93982505	0.00022051	chr11	46239181	46239398	+	44	-38349 NM_052854.3	90993 OASIS OI16 protein-coding
CREB3L2	0.68851735	0.0165667	chr7	137898941	137899769	+	236	33633 NM_001318246.1	64764 BFB2H7 protein-coding
CREB3L2	0.68851735	0.0165667	chr7	137000464	137000687	+	57	932413 NM_001318246.1	64764 BFB2H7 protein-coding
CXCR4	1.37774266	1.5557E-06	chr2	136801774	136801947	+	48	-683705 NM_003467.2	7852 CD184 D2S2 protein-coding
CYB5D2	0.56529621	0.00399478	chr17	4143113	4143757	+	86	-39 XM_017024183.1	124936 - protein-coding
CYP4V2	0.50200457	0.00831172	chr4	186203477	186203830	+	195	11918 XM_005262935.3	285440 BCD CYP4A protein-coding
CYP4V2	0.50200457	0.00831172	chr4	186191413	186191571	+	31	-28 NM_207352.3	285440 BCD CYP4A protein-coding
DAP	0.50938731	0.04949398	chr5	10704990	10705234	+	198	56163 NM_001291963.1	1611 - protein-coding
DDIT4	0.78702331	0.0018775	chr10	72297201	72297630	+	236	23496 NM_019058.2	54541 Dig2 REDD-1 protein-coding
DDIT4	0.78702331	0.0018775	chr10	72272794	72273142	+	106	-951 NM_019058.2	54541 Dig2 REDD-1 protein-coding
DGKG	0.65634534	6.1791E-05	chr3	186247696	186248518	+	1063	114127 NM_001080744.1	1608 DAGK3 DGK protein-coding
DGKG	0.65634534	6.1791E-05	chr3	186242550	186242769	+	76	119575 NM_001080744.1	1608 DAGK3 DGK protein-coding
DISP1	0.67240683	0.02453111	chr1	223180715	223181095	+	116	237640 XM_017002612.1	84976 DISPA protein-coding
DISP1	0.67240683	0.02453111	chr1	223153467	223153618	+	48	210277 XM_017002612.1	84976 DISPA protein-coding
DISP1	0.67240683	0.02453111	chr1	223022638	223022802	+	48	79455 XM_017002612.1	84976 DISPA protein-coding
DISP1	0.67240683	0.02453111	chr1	223179412	223179568	+	30	236225 XM_017002612.1	84976 DISPA protein-coding
DISP1	0.67240683	0.02453111	chr1	222994559	222994717	+	22	51373 XM_017002612.1	84976 DISPA protein-coding

DKK3	1.11680091	0.00010298	chr11	12066944	12067211	+	57	-57707	NM_013253.4	27122	REIC RIG	protein-coding
DPEP1	4.38314978	7.9576E-63	chr16	89616209	89617547	+	2518	10	XM_005256286.3	1800	MBD1 MDP	protein-coding
DPEP1	4.38314978	7.9576E-63	chr16	89634459	89635271	+	978	12582	XM_011522925.2	1800	MBD1 MDP	protein-coding
DPEP1	4.38314978	7.9576E-63	chr16	89602528	89602718	+	57	-10685	NM_001128141.2	1800	MBD1 MDP	protein-coding
DPEP1	4.38314978	7.9576E-63	chr16	89618509	89618888	+	39	1830	XM_005256286.3	1800	MBD1 MDP	protein-coding
DPEP1	4.38314978	7.9576E-63	chr16	89617861	89618335	+	39	1230	XM_005256286.3	1800	MBD1 MDP	protein-coding
DTX4	0.87787069	0.00131908	chr11	59200305	59200460	+	20	27514	XM_006718483.3	23220	RNF155	protein-coding
DUSP26	1.62012059	3.2058E-15	chr8	34191372	34192430	+	1277	-591795	NM_024025.2	78986	DSP-4 DUSP	protein-coding
DUSP26	1.62012059	3.2058E-15	chr8	33614992	33615434	+	328	-15107	NM_024025.2	78986	DSP-4 DUSP	protein-coding
DUSP26	1.62012059	3.2058E-15	chr8	34065352	34065980	+	261	-465560	NM_024025.2	78986	DSP-4 DUSP	protein-coding
DUSP26	1.62012059	3.2058E-15	chr8	33847396	33847645	+	96	-247414	NM_024025.2	78986	DSP-4 DUSP	protein-coding
DUSP26	1.62012059	3.2058E-15	chr8	34190241	34190712	+	38	-590370	NM_024025.2	78986	DSP-4 DUSP	protein-coding
EDNRA	0.56827583	0.02886367	chr4	147420697	147422037	+	2352	-59550	NM_001957.3	1909	ET-A ETA E	protein-coding
EDNRA	0.56827583	0.02886367	chr4	147334284	147335052	+	355	-146249	NM_001957.3	1909	ET-A ETA E	protein-coding
EDNRA	0.56827583	0.02886367	chr4	147335191	147335516	+	134	-145564	NM_001957.3	1909	ET-A ETA E	protein-coding
EDNRA	0.56827583	0.02886367	chr4	147336324	147336584	+	65	-144463	NM_001957.3	1909	ET-A ETA E	protein-coding
EDNRA	0.56827583	0.02886367	chr4	147312479	147312774	+	48	-168291	NM_001957.3	1909	ET-A ETA E	protein-coding
EDNRA	0.56827583	0.02886367	chr4	147498071	147498497	+	39	17367	NM_001166055.1	1909	ET-A ETA E	protein-coding
EFCAB12	0.77398341	0.0089643	chr3	129399216	129400154	+	1562	13813	XM_011513298.1	90288	C3orf25	protein-coding
EFNB3	0.75951928	0.00023359	chr17	7717260	7717458	+	57	12157	NM_001406.3	1949	EFL6 EPLG8	protein-coding
EHD3	0.78382549	0.00275226	chr2	31377960	31378272	+	278	123198	XM_011532806.2	30845	PAST3	protein-coding
EHD3	0.78382549	0.00275226	chr2	31287835	31288016	+	76	33007	XM_011532806.2	30845	PAST3	protein-coding
ESRRB	1.13794995	1.0438E-05	chr14	76313639	76314184	+	86	-57436	NM_004452.3	2103	DFNB35 ERF	protein-coding
ESRRB	1.13794995	1.0438E-05	chr14	76516987	76517211	+	57	112750	XM_017021085.1	2103	DFNB35 ERF	protein-coding
ESRRB	1.13794995	1.0438E-05	chr14	76518377	76518697	+	57	114188	XM_017021085.1	2103	DFNB35 ERF	protein-coding
ESRRB	1.13794995	1.0438E-05	chr14	76429721	76430116	+	57	25569	XM_017021085.1	2103	DFNB35 ERF	protein-coding
ESRRB	1.13794995	1.0438E-05	chr14	76447121	76447363	+	48	42893	XM_017021085.1	2103	DFNB35 ERF	protein-coding
ETV5	0.69821591	0.0091027	chr3	186097776	186098123	+	71	11163	NM_004454.2	2119	ERM	protein-coding
ETV5	0.69821591	0.0091027	chr3	186183046	186183227	+	66	-74024	NM_004454.2	2119	ERM	protein-coding
ETV5	0.69821591	0.0091027	chr3	186099271	186099478	+	48	9738	NM_004454.2	2119	ERM	protein-coding
ETV5	0.69821591	0.0091027	chr3	186100528	186100686	+	39	8505	NM_004454.2	2119	ERM	protein-coding
ETV5	0.69821591	0.0091027	chr3	186104003	186104187	+	16	5017	NM_004454.2	2119	ERM	protein-coding
EVL3	0.52239735	0.01616173	chr19	7799652	7799803	+	31	-30548	NM_145245.4	115704	-	protein-coding
EXD3	0.74263425	0.01038836	chr9	137355324	137355830	+	816	1720	XM_011518814.1	54932	mut-7	protein-coding
FABP3	0.8635989	0.00314179	chr1	31469777	31469956	+	57	-96248	XM_011541007.2	2170	FABP11 H-F	protein-coding
FANK1	1.40006359	6.0358E-07	chr10	126135918	126136213	+	139	140556	XM_017016926.1	92565	HSD13	protein-coding
FARS2	0.56117278	0.04348711	chr6	5581626	5582467	+	310	320695	XM_011514247.2	10667	COXP14 FA	protein-coding
FARS2	0.56117278	0.04348711	chr6	5632383	5632941	+	291	371311	XM_011514247.2	10667	COXP14 FA	protein-coding
FARS2	0.56117278	0.04348711	chr6	5600745	5601114	+	128	339578	XM_011514247.2	10667	COXP14 FA	protein-coding
FARS2	0.56117278	0.04348711	chr6	5497984	5498190	+	61	236736	XM_011514247.2	10667	COXP14 FA	protein-coding
FAS	0.79313672	0.00520553	chr10	88986039	88987707	+	2315	115	XM_011539766.2	355	ALPS1A APC	protein-coding
FAS	0.79313672	0.00520553	chr10	88989916	88990322	+	184	-440	NM_001320619.1	355	ALPS1A APC	protein-coding
FAS	0.79313672	0.00520553	chr10	88985703	88985925	+	28	-944	XM_011539766.2	355	ALPS1A APC	protein-coding
FBLN5	1.17214177	9.2805E-09	chr14	91919233	91919515	+	139	27661	XM_005267267.3	10516	ADCL2 ARCL	protein-coding
FBXL7	0.50952651	0.02015883	chr5	15917567	15917819	+	162	301710	XM_011513998.1	23194	FBL6 FBL7	protein-coding
FBXO32	0.74841773	0.00823914	chr8	123611827	123612718	+	426	-71019	NM_001242463.1	114907	Fbx32 MAF	protein-coding
FCHSD2	1.18023264	1.3775E-06	chr11	73142373	73142596	+	57	-386	NM_014824.2	9873	NWK NWK1	protein-coding
FGFBP2	2.40913979	7.5438E-17	chr4	15856166	15856509	+	291	106899	NM_031950.3	83888	HBP17RP KS	protein-coding
FGFBP2	2.40913979	7.5438E-17	chr4	15884709	15884934	+	86	78415	NM_031950.3	83888	HBP17RP KS	protein-coding
FGFBP2	2.40913979	7.5438E-17	chr4	15978943	15979116	+	53	-15793	NM_031950.3	83888	HBP17RP KS	protein-coding
FGFR1	0.50504627	0.0103752	chr8	38525842	38526027	+	86	-57100	NM_023110.2	2260	BFGFR CD3	protein-coding
FGFR1	0.50504627	0.0103752	chr8	38527994	38528500	+	57	-59413	NM_023110.2	2260	BFGFR CD3	protein-coding
FKBP9	0.67777422	3.4559E-05	chr7	32980254	32980426	+	57	866	NM_001284343.1	11328	FKBP60 FKB	protein-coding
FLRT2	1.04386005	1.1773E-05	chr14	86512863	86514092	+	1479	926015	XM_017021131.1	23768	-	protein-coding
FLRT2	1.04386005	1.1773E-05	chr14	86071625	86072066	+	1064	484383	XM_017021131.1	23768	-	protein-coding
FLRT2	1.04386005	1.1773E-05	chr14	86465564	86465990	+	803	878315	XM_017021131.1	23768	-	protein-coding
FLRT2	1.04386005	1.1773E-05	chr14	86665799	86666702	+	726	1078788	XM_017021131.1	23768	-	protein-coding
FLRT2	1.04386005	1.1773E-05	chr14	86668488	86668813	+	348	1081188	XM_017021131.1	23768	-	protein-coding
FLRT2	1.04386005	1.1773E-05	chr14	86327570	86328127	+	284	740386	XM_017021131.1	23768	-	protein-coding
FLRT2	1.04386005	1.1773E-05	chr14	86465090	86465417	+	168	877791	XM_017021131.1	23768	-	protein-coding
FLRT2	1.04386005	1.1773E-05	chr14	86331328	86331799	+	148	744101	XM_017021131.1	23768	-	protein-coding
FLRT2	1.04386005	1.1773E-05	chr14	85587108	85587351	+	113	-233	XM_017021130.1	23768	-	protein-coding
FLRT2	1.04386005	1.1773E-05	chr14	86142025	86142370	+	104	554735	XM_017021131.1	23768	-	protein-coding
FLRT2	1.04386005	1.1773E-05	chr14	86419179	86419543	+	96	831899	XM_017021131.1	23768	-	protein-coding
FLRT2	1.04386005	1.1773E-05	chr14	86072208	86072889	+	61	485086	XM_017021131.1	23768	-	protein-coding
FLRT2	1.04386005	1.1773E-05	chr14	86787942	86788099	+	45	1200558	XM_017021131.1	23768	-	protein-coding
FOXO3	0.50337817	0.04114003	chr6	108562680	108562947	+	151	804	XM_011535626.1	2309	AF6q21 FKH	protein-coding
FOXO3	0.50337817	0.04114003	chr6	108560105	108560329	+	57	394	NM_201559.2	2309	AF6q21 FKH	protein-coding
FRK	0.64732968	0.00596968	chr6	115932438	115932986	+	186	128406	NM_002031.2	2444	GTK PTK5 R	protein-coding
FRK	0.64732968	0.00596968	chr6	115311335	115311550	+	96	749316	NM_002031.2	2444	GTK PTK5 R	protein-coding
FRK	0.64732968	0.00596968	chr6	115969635	115969799	+	48	91041	NM_002031.2	2444	GTK PTK5 R	protein-coding
FUCA1	1.04520949	1.6548E-08	chr1	23899885	23900189	+	37	-31668	NM_000147.4	2517	FUCA	protein-coding
FUCA1	1.04520949	1.6548E-08	chr1	23869175	23869333	+	23	-885	NM_000147.4	2517	FUCA	protein-coding
FUCA1	1.04520949	1.6548E-08	chr1	23868403	23868590	+	22	-127	NM_000147.4	2517	FUCA	protein-coding

FYN	0.73412077	0.00553801	chr6	111950055	111950314	+	86	-76732	NM_002037.5	2534	SLK SYN p5	protein-coding
FZD8	0.59246934	0.04503946	chr10	36635925	36637175	+	1678	-995116	NM_031866.2	8325	FZ-8 hFZ8	protein-coding
FZD8	0.59246934	0.04503946	chr10	35595083	35595788	+	910	45999	NM_031866.2	8325	FZ-8 hFZ8	protein-coding
FZD8	0.59246934	0.04503946	chr10	36725563	36726146	+	384	-1084420	NM_031866.2	8325	FZ-8 hFZ8	protein-coding
FZD8	0.59246934	0.04503946	chr10	36634773	36635455	+	213	-993680	NM_031866.2	8325	FZ-8 hFZ8	protein-coding
FZD8	0.59246934	0.04503946	chr10	36423866	36424344	+	186	-782671	NM_031866.2	8325	FZ-8 hFZ8	protein-coding
FZD8	0.59246934	0.04503946	chr10	35652068	35652471	+	92	-10835	NM_031866.2	8325	FZ-8 hFZ8	protein-coding
FZD8	0.59246934	0.04503946	chr10	35630713	35631024	+	66	10566	NM_031866.2	8325	FZ-8 hFZ8	protein-coding
FZD8	0.59246934	0.04503946	chr10	36573277	36573485	+	65	-931947	NM_031866.2	8325	FZ-8 hFZ8	protein-coding
FZD8	0.59246934	0.04503946	chr10	36424647	36424931	+	59	-783355	NM_031866.2	8325	FZ-8 hFZ8	protein-coding
FZD8	0.59246934	0.04503946	chr10	36449495	36449663	+	48	-808145	NM_031866.2	8325	FZ-8 hFZ8	protein-coding
FZD8	0.59246934	0.04503946	chr10	36538908	36539075	+	29	-897557	NM_031866.2	8325	FZ-8 hFZ8	protein-coding
FZD8	0.59246934	0.04503946	chr10	36635674	36635828	+	22	-994317	NM_031866.2	8325	FZ-8 hFZ8	protein-coding
GDNF	0.99808833	4.9721E-06	chr5	37721321	37722083	+	312	113120	NM_001278098.1	2668	ATF ATF1 A	protein-coding
GDNF	0.99808833	4.9721E-06	chr5	37663743	37663894	+	37	171004	NM_001278098.1	2668	ATF ATF1 A	protein-coding
GDNF	0.99808833	4.9721E-06	chr5	37837252	37837611	+	22	-1604	NM_001190469.1	2668	ATF ATF1 A	protein-coding
GPD2	0.9627399	0.00065594	chr2	154620616	154621435	+	559	-1814265	XM_011510977.2	2820	GDH2 GPDN	protein-coding
GPD2	0.9627399	0.00065594	chr2	156334611	156334830	+	106	-100570	XM_011510977.2	2820	GDH2 GPDN	protein-coding
GPD2	0.9627399	0.00065594	chr2	156332705	156332986	+	57	-102445	XM_011510977.2	2820	GDH2 GPDN	protein-coding
GPD2	0.9627399	0.00065594	chr2	155209686	155210029	+	54	-1225433	XM_011510977.2	2820	GDH2 GPDN	protein-coding
GPD2	0.9627399	0.00065594	chr2	156401243	156401516	+	32	-33911	XM_011510977.2	2820	GDH2 GPDN	protein-coding
GPD2	0.9627399	0.00065594	chr2	156400897	156401147	+	31	-34268	XM_011510977.2	2820	GDH2 GPDN	protein-coding
GPR17	1.57909826	1.6741E-12	chr2	127649022	127649369	+	162	-79	XM_017003833.1	2840	-	protein-coding
GRIN2C	0.87448318	0.00316268	chr17	74823096	74823398	+	106	33265	XM_011524692.2	2905	GluN2C NM	protein-coding
GTF2IRD2	0.67179954	0.00641077	chr7	75092315	75092576	+	48	-111	NM_001003795.2	389524	GTF2IRD2 G	protein-coding
GTF2IRD2B	0.67179954	0.00641077	chr7	75092967	75093224	+	23	539	NM_001003795.2	389524	GTF2IRD2 G	protein-coding
GYG2	1.12236886	4.8371E-06	chrX	2816863	2817714	+	1202	-11424	XM_017029929.1	8908	GN-2 GN2	protein-coding
GYG2	1.12236886	4.8371E-06	chrX	2804885	2805264	+	106	-23638	XM_017029929.1	8908	GN-2 GN2	protein-coding
GYG2	1.12236886	4.8371E-06	chrX	2812346	2812816	+	80	-16131	XM_017029929.1	8908	GN-2 GN2	protein-coding
H6PD	0.52653002	0.03794594	chr1	9253136	9253337	+	14	7999	XM_017002866.1	9563	CORTRD1 G	protein-coding
HACD1	0.50076936	0.0151179	chr10	17562646	17562797	+	39	54652	XM_005252641.4	9200	CAP PTPLA	protein-coding
HHIPL2	0.64060128	0.03369848	chr1	222455501	222455669	+	57	92462	XM_011509986.1	79802	KIAA1822L	protein-coding
HIST1H2BD	0.76183782	0.00097417	chr6	26158373	26158649	+	48	390	NM_021063.3	3017	H2B.1B H2B	protein-coding
HIST1H2BD	0.76183782	0.00097417	chr6	26157237	26158158	+	37	-288	XM_005249039.3	3017	H2B.1B H2B	protein-coding
HIST2H2BE	0.53059061	0.0182324	chr1	149832333	149832848	+	128	54092	NM_003528.2	8349	GL105 H2B	protein-coding
HIST2H2BE	0.53059061	0.0182324	chr1	149712443	149712664	+	117	174129	NM_003528.2	8349	GL105 H2B	protein-coding
HIST2H2BE	0.53059061	0.0182324	chr1	149860946	149861436	+	57	25491	NM_003528.2	8349	GL105 H2B	protein-coding
HIST2H2BE	0.53059061	0.0182324	chr1	149842650	149842962	+	48	43876	NM_003528.2	8349	GL105 H2B	protein-coding
HIST2H2BE	0.53059061	0.0182324	chr1	149852578	149852752	+	31	34017	NM_003528.2	8349	GL105 H2B	protein-coding
HOMER3	0.73548079	0.01002439	chr19	18985291	18985643	+	96	-44209	XM_006722943.1	9454	HOMER-3 V	protein-coding
HS3ST2	3.92159034	1.3561E-46	chr16	22818773	22819235	+	198	4465	NM_006043.1	9956	3OST2 3OST	protein-coding
HS3ST4	0.71620557	8.7086E-05	chr16	25799692	25800525	+	1395	108082	NM_006040.2	9951	3-OST-4 3OS	protein-coding
HS3ST4	0.71620557	8.7086E-05	chr16	25819522	25819879	+	248	127674	NM_006040.2	9951	3-OST-4 3OS	protein-coding
HS3ST4	0.71620557	8.7086E-05	chr16	26371491	26371779	+	106	679609	NM_006040.2	9951	3-OST-4 3OS	protein-coding
HS3ST4	0.71620557	8.7086E-05	chr16	25789320	25789556	+	89	97412	NM_006040.2	9951	3-OST-4 3OS	protein-coding
HS3ST4	0.71620557	8.7086E-05	chr16	25750900	25751086	+	49	58967	NM_006040.2	9951	3-OST-4 3OS	protein-coding
HS3ST4	0.71620557	8.7086E-05	chr16	26070999	26071150	+	19	379048	NM_006040.2	9951	3-OST-4 3OS	protein-coding
HS3ST4	0.71620557	8.7086E-05	chr16	25812415	25812664	+	14	120513	NM_006040.2	9951	3-OST-4 3OS	protein-coding
ICAM2	1.07758619	0.0003376	chr17	64014282	64014820	+	172	6083	NM_001099788.1	3384	CD102	protein-coding
IDNK	1.13450794	1.8691E-05	chr9	83622541	83623638	+	795	40	NM_001256915.1	414328	C9orf103 bA	protein-coding
IDNK	1.13450794	1.8691E-05	chr9	83665506	83666470	+	756	39359	XM_017014724.1	414328	C9orf103 bA	protein-coding
IDNK	1.13450794	1.8691E-05	chr9	83646428	83647121	+	559	20145	XM_017014724.1	414328	C9orf103 bA	protein-coding
IDNK	1.13450794	1.8691E-05	chr9	83620925	83621141	+	37	-1291	XM_017014722.1	414328	C9orf103 bA	protein-coding
IFI44L	1.44826419	3.3853E-09	chr1	78577422	78577770	+	113	-42786	NM_006820.3	10964	C1orf29 GS3	protein-coding
IGFBP2	0.79194016	0.00078463	chr2	216619392	216619977	+	369	-13144	NM_001313993.1	3485	IBP2 IGF-BP	protein-coding
IGFBP2	0.79194016	0.00078463	chr2	216596165	216596585	+	168	-36453	NM_001313993.1	3485	IBP2 IGF-BP	protein-coding
IGFBP2	0.79194016	0.00078463	chr2	216597166	216597489	+	153	-35501	NM_001313993.1	3485	IBP2 IGF-BP	protein-coding
IGFBP5	0.65951523	0.00728995	chr2	217223448	217223704	+	102	-528027	NM_000599.3	3488	IBP5	protein-coding
IKZF1	1.73648791	1.4434E-12	chr7	50342770	50343140	+	355	23907	NM_001220767.2	10320	CVID13 Hs.5	protein-coding
IKZF1	1.73648791	1.4434E-12	chr7	50242186	50242356	+	45	-61182	XM_011515078.2	10320	CVID13 Hs.5	protein-coding
IL16	0.5980185	0.01776814	chr15	81296766	81296956	+	14	-52	NM_004513.5	3603	LCF NIL16 P	protein-coding
INPP4B	0.71391873	0.00035874	chr4	142405142	142406047	+	426	-97471	XM_017008797.1	8821	-	protein-coding
INPP4B	0.71391873	0.00035874	chr4	142423980	142424299	+	172	-116016	XM_017008797.1	8821	-	protein-coding
INPP4B	0.71391873	0.00035874	chr4	141802382	141802625	+	30	503323	XM_005263323.3	8821	-	protein-coding
INSR	0.67713843	0.01445434	chr19	7197677	7197928	+	57	96500	NM_001079817.2	3643	CD220 HHF5	protein-coding
IRX3	1.49069249	3.98E-17	chr16	54474895	54475538	+	1149	-188444	XM_005256139.3	79191	IRX-1 IRXB1	protein-coding
IRX3	1.49069249	3.98E-17	chr16	54455203	54455932	+	499	-168795	XM_005256139.3	79191	IRX-1 IRXB1	protein-coding
IRX3	1.49069249	3.98E-17	chr16	54456398	54456734	+	328	-169794	XM_005256139.3	79191	IRX-1 IRXB1	protein-coding
IRX3	1.49069249	3.98E-17	chr16	54050454	54051026	+	66	235726	NM_024336.2	79191	IRX-1 IRXB1	protein-coding
ITGA4	0.59481333	0.02719687	chr2	181411101	181411401	+	86	-45641	NM_001316312.1	3676	CD49D IA4	protein-coding
ITGA9	0.79791383	0.00161376	chr3	37511975	37512126	+	57	59728	NM_002207.2	3680	ALPHA-RLC I	protein-coding
ITGA9	0.79791383	0.00161376	chr3	37493161	37493317	+	48	40917	NM_002207.2	3680	ALPHA-RLC I	protein-coding
ITGAM	0.83963945	0.00167525	chr16	31262163	31262493	+	198	2353	XM_006721045.1	3684	CD11B CR3A	protein-coding
KANK2	0.50258172	0.00076859	chr19	11210469	11210752	+	128	-13043	NM_001136191.2	25959	ANKRD25 M	protein-coding

KANK2	0.50258172	0.00076859	chr19	11209466	11210365	+	128	-12348	NM_001136191.2	25959	ANKRD25	M	protein-coding	
KANK3	0.8136441	0.00024156	chr19	8349634	8350078	+	236	-6594	NM_198471.2	256949	ANKRD47		protein-coding	
KCNE3	0.78894917	0.00242961	chr11	74468353	74469230	+	664	-1062	XM_017017052.1	10008	BRGDA6	HO	protein-coding	
KCNE3	0.78894917	0.00242961	chr11	74449388	74449889	+	45	13217	XM_017017049.1	10008	BRGDA6	HO	protein-coding	
KCNE3	0.78894917	0.00242961	chr11	74470636	74470881	+	22	-3029	XM_017017052.1	10008	BRGDA6	HO	protein-coding	
KCNK15	2.25021319	4.1287E-15	chr20	44720864	44721394	+	48	24476	XM_017028003.1	60598	K2p15.1	KCf	protein-coding	
KCNK3	2.5981196	6.8306E-23	chr2	26670411	26670709	+	174	-22153	NM_002246.2	3777	K2p3.1	OAT	protein-coding	
KCNMB4	1.01634209	0.00036763	chr12	70730853	70731094	+	41	364691	NM_014505.5	27345	-		protein-coding	
KCNQ5	0.60171382	0.03939492	chr6	72421359	72421789	+	396	-200269	NM_001160133.1	56479	Kv7.5	MRD4	protein-coding	
KCNQ5	0.60171382	0.03939492	chr6	72581041	72581253	+	69	-40696	NM_001160133.1	56479	Kv7.5	MRD4	protein-coding	
KCNQ5	0.60171382	0.03939492	chr6	72500096	72500261	+	53	-121665	NM_001160133.1	56479	Kv7.5	MRD4	protein-coding	
KCNQ5	0.60171382	0.03939492	chr6	72911563	72911778	+	44	289827	NM_001160132.1	56479	Kv7.5	MRD4	protein-coding	
KCNQ5	0.60171382	0.03939492	chr6	72640392	72640655	+	25	18680	NM_001160132.1	56479	Kv7.5	MRD4	protein-coding	
KCNQ5	0.60171382	0.03939492	chr6	72092413	72092564	+	16	-529355	NM_001160133.1	56479	Kv7.5	MRD4	protein-coding	
KDM5B	0.552328	0.01284764	chr1	202762104	202762309	+	45	45082	XM_011509092.2	10765	CT31	JARID1	protein-coding	
KLKB1	0.76615175	0.01123413	chr4	186446385	186447478	+	440	208619	XM_017008184.1	3818	KLK3	PKK	Pt	protein-coding
KLKB1	0.76615175	0.01123413	chr4	186475042	186475547	+	383	236982	XM_017008184.1	3818	KLK3	PKK	Pt	protein-coding
KLKB1	0.76615175	0.01123413	chr4	186204160	186204517	+	57	-11376	XM_017008181.1	3818	KLK3	PKK	Pt	protein-coding
LAMA3	0.87993436	0.0026431	chr18	23740181	23740523	+	53	50909	XM_011525978.2	3909	BM600	E17	protein-coding	
LAMA3	0.87993436	0.0026431	chr18	23701590	23701964	+	45	12334	XM_011525978.2	3909	BM600	E17	protein-coding	
LDLRAD4	0.87696513	0.00156387	chr18	13672513	13676741	+	2549	32869	NM_001276251.1	753	C18orf1		protein-coding	
LDLRAD4	0.87696513	0.00156387	chr18	13464848	13465159	+	139	-15257	XM_017025969.1	753	C18orf1		protein-coding	
LDLRAD4	0.87696513	0.00156387	chr18	13664876	13665114	+	39	23237	NM_001276251.1	753	C18orf1		protein-coding	
LFNG	0.52902229	0.04199953	chr7	2471523	2471807	+	128	-40864	NM_001166355.1	3955	SCDO3		protein-coding	
LGALS3	1.02888558	8.1325E-06	chr14	55107819	55107981	+	57	-21317	NM_001177388.1	3958	CBP35	GAL3	protein-coding	
LGALS3	1.02888558	8.1325E-06	chr14	55108410	55108642	+	31	-20691	NM_001177388.1	3958	CBP35	GAL3	protein-coding	
LGALS3	1.02888558	8.1325E-06	chr14	55102224	55102510	+	29	-26850	NM_001177388.1	3958	CBP35	GAL3	protein-coding	
LIN7A	0.80095514	0.00068777	chr12	80607112	80608203	+	439	330252	XM_011538928.2	8825	LIN-7A	LIN7	protein-coding	
LIN7A	0.80095514	0.00068777	chr12	80605818	80606179	+	181	331911	XM_011538928.2	8825	LIN-7A	LIN7	protein-coding	
LIN7A	0.80095514	0.00068777	chr12	80599134	80599507	+	110	338589	XM_011538928.2	8825	LIN-7A	LIN7	protein-coding	
LIN7A	0.80095514	0.00068777	chr12	80841222	80841431	+	98	96583	XM_011538928.2	8825	LIN-7A	LIN7	protein-coding	
LIN7A	0.80095514	0.00068777	chr12	80847064	80847345	+	77	90705	XM_011538928.2	8825	LIN-7A	LIN7	protein-coding	
LIN7A	0.80095514	0.00068777	chr12	80551939	80552137	+	72	385871	XM_011538928.2	8825	LIN-7A	LIN7	protein-coding	
LIN7A	0.80095514	0.00068777	chr12	80580345	80580549	+	44	357462	XM_011538928.2	8825	LIN-7A	LIN7	protein-coding	
LMOD1	2.56680084	3.6522E-21	chr1	201924378	201924829	+	86	21985	NM_012134.2	25802	1D 64kd	D1	protein-coding	
LNPEP	0.63093359	0.01625025	chr5	96934996	96936108	+	66	-90	NM_005575.2	4012	CAP	IRAP	P	protein-coding
OC107984104	0.65579707	0.02243154	chr20	1850232	1851289	+	944	-6722	XM_017028189.1	107984104	-		protein-coding	
OC107984104	0.65579707	0.02243154	chr20	1802888	1803043	+	39	41073	XM_017028191.1	107984104	-		protein-coding	
OC10798676	1.21656343	2.7033E-05	chr7	5634289	5634544	+	39	-15181	XM_017012909.1	107986762	-		protein-coding	
OC10798728	1.63694438	1.2548E-13	chr20	62739974	62740721	+	198	-22140	XM_017028199.1	107987285	-		protein-coding	
OC10798728	1.63694438	1.2548E-13	chr20	62735391	62735583	+	66	-17280	XM_017028199.1	107987285	-		protein-coding	
OC10798728	1.63694438	1.2548E-13	chr20	62734902	62735185	+	37	-16836	XM_017028199.1	107987285	-		protein-coding	
LPAR1	0.67931315	3.1647E-05	chr9	110977245	110978218	+	898	22085	XM_017014404.1	1902	EDG2	GPR2	protein-coding	
LPAR1	0.67931315	3.1647E-05	chr9	110892295	110893037	+	761	107150	XM_017014404.1	1902	EDG2	GPR2	protein-coding	
LPAR1	0.67931315	3.1647E-05	chr9	110777157	110777430	+	151	222523	XM_017014404.1	1902	EDG2	GPR2	protein-coding	
LPAR1	0.67931315	3.1647E-05	chr9	110891673	110892053	+	141	107953	XM_017014404.1	1902	EDG2	GPR2	protein-coding	
LPAR1	0.67931315	3.1647E-05	chr9	110995162	110995920	+	78	4275	XM_017014404.1	1902	EDG2	GPR2	protein-coding	
LPAR1	0.67931315	3.1647E-05	chr9	110932926	110933273	+	22	66717	XM_017014404.1	1902	EDG2	GPR2	protein-coding	
LRFN5	0.74856848	0.01059949	chr14	41807832	41809127	+	2300	80781	XM_017021048.1	145581	C14orf146	F	protein-coding	
LRFN5	0.74856848	0.01059949	chr14	42056595	42056998	+	369	329098	XM_017021048.1	145581	C14orf146	F	protein-coding	
LRFN5	0.74856848	0.01059949	chr14	41873266	41873609	+	194	145739	XM_017021048.1	145581	C14orf146	F	protein-coding	
LRFN5	0.74856848	0.01059949	chr14	41609896	41610161	+	151	2467	NM_152447.3	145581	C14orf146	F	protein-coding	
LRFN5	0.74856848	0.01059949	chr14	43019707	43020137	+	150	1292224	XM_017021048.1	145581	C14orf146	F	protein-coding	
LRFN5	0.74856848	0.01059949	chr14	42299631	42300147	+	125	572191	XM_017021048.1	145581	C14orf146	F	protein-coding	
LRFN5	0.74856848	0.01059949	chr14	42193210	42193401	+	90	465607	XM_017021048.1	145581	C14orf146	F	protein-coding	
LRFN5	0.74856848	0.01059949	chr14	41623816	41624003	+	82	16348	NM_152447.3	145581	C14orf146	F	protein-coding	
LRFN5	0.74856848	0.01059949	chr14	42734922	42735166	+	81	1007346	XM_017021048.1	145581	C14orf146	F	protein-coding	
LRFN5	0.74856848	0.01059949	chr14	42499196	42499398	+	51	771599	XM_017021048.1	145581	C14orf146	F	protein-coding	
LRFN5	0.74856848	0.01059949	chr14	41899525	41899683	+	49	171906	XM_017021048.1	145581	C14orf146	F	protein-coding	
LRFN5	0.74856848	0.01059949	chr14	42884224	42884423	+	40	1156625	XM_017021048.1	145581	C14orf146	F	protein-coding	
LRFN5	0.74856848	0.01059949	chr14	41873746	41874015	+	27	146182	XM_017021048.1	145581	C14orf146	F	protein-coding	
LRFN5	0.74856848	0.01059949	chr14	42316732	42316966	+	23	589151	XM_017021048.1	145581	C14orf146	F	protein-coding	
LRFN5	0.74856848	0.01059949	chr14	41607046	41607252	+	23	-412	NM_152447.3	145581	C14orf146	F	protein-coding	
LRRC27	0.57535356	0.03342743	chr10	132364680	132364909	+	130	27685	XM_011540210.2	80313	-		protein-coding	
LRRC27	0.57535356	0.03342743	chr10	132364300	132364565	+	87	27323	XM_011540210.2	80313	-		protein-coding	
MAP7D2	2.63603029	1.0313E-52	chrX	20059481	20059958	+	328	56887	XM_011545485.1	256714	-		protein-coding	
MBD3L3	0.70418452	0.01871647	chr19	7028572	7028754	+	31	29971	NM_001164425.1	653657	-		protein-coding	
MBOAT2	0.96463908	5.15E-06	chr2	9054978	9056480	+	2533	-51979	NM_138799.3	129642	LPAAT	LPCA	protein-coding	
MBOAT2	0.96463908	5.15E-06	chr2	9071317	9072102	+	314	-67959	NM_138799.3	129642	LPAAT	LPCA	protein-coding	
MBOAT2	0.96463908	5.15E-06	chr2	9010965	9011212	+	86	-7338	NM_138799.3	129642	LPAAT	LPCA	protein-coding	
MDFI	0.61888182	0.00116023	chr6	41643053	41643875	+	559	4485	XM_017010867.1	4188	I-MF	I-mfa	protein-coding	
MDFI	0.61888182	0.00116023	chr6	41640055	41640317	+	57	1207	XM_017010867.1	4188	I-MF	I-mfa	protein-coding	
MDFI	0.61888182	0.00116023	chr6	41644633	41644873	+	48	5774	XM_017010867.1	4188	I-MF	I-mfa	protein-coding	
MDGA1	1.36194242	4.6397E-08	chr6	37619244	37619395	+	22	77615	XM_006715056.3	266727	GPIM	MAMI	protein-coding	

MDK	0.62986847	0.03342883	chr11	46392686	46392986	+	57	11097 XM_017017764.1	4192 ARAP MK N protein-coding
MDK	0.62986847	0.03342883	chr11	46389538	46389788	+	23	7924 XM_017017764.1	4192 ARAP MK N protein-coding
MEF2C	0.9666693	0.00102327	chr5	88675649	88676159	+	328	148023 NM_001193349.1	4208 C5DELq14.3 protein-coding
MEF2C	0.9666693	0.00102327	chr5	88979182	88979692	+	245	-75332 NM_001131005.2	4208 C5DELq14.3 protein-coding
MMP3	0.92495811	1.7224E-06	chr11	102929893	102931352	+	1558	-86933 NM_002422.4	4314 CHDS6 MMF protein-coding
MMP3	0.92495811	1.7224E-06	chr11	102921696	102922405	+	749	-78361 NM_002422.4	4314 CHDS6 MMF protein-coding
MMP3	0.92495811	1.7224E-06	chr11	102846627	102846841	+	85	-3045 NM_002422.4	4314 CHDS6 MMF protein-coding
MMP3	0.92495811	1.7224E-06	chr11	102941053	102941216	+	19	-97445 NM_002422.4	4314 CHDS6 MMF protein-coding
MPP7	0.96583819	0.00063247	chr10	28333455	28333673	+	39	-30498 NM_001318170.1	143098 - protein-coding
MRC2	0.66475585	0.01083884	chr17	62633682	62634042	+	66	6192 XM_011525543.2	9902 CD280 CLEC; protein-coding
MSI1	1.90118634	1.9884E-10	chr12	120389665	120389878	+	106	-20591 NM_002442.3	4440 - protein-coding
MSRB2	0.85585505	0.00305487	chr10	23156643	23157147	+	383	61331 XM_011519426.2	22921 CBS-1 CBS1 protein-coding
MSRB2	0.85585505	0.00305487	chr10	23100368	23100559	+	48	4899 XM_011519426.2	22921 CBS-1 CBS1 protein-coding
MYADM	0.53520549	0.00215055	chr19	53851804	53852031	+	57	-13667 NM_001290193.1	91663 ST protein-coding
MYBL1	1.02726936	0.0003749	chr8	66555841	66556380	+	85	56680 XM_017013458.1	4603 A-MYB AMY protein-coding
MYBL1	1.02726936	0.0003749	chr8	66545714	66546094	+	66	66886 XM_017013458.1	4603 A-MYB AMY protein-coding
MYBL1	1.02726936	0.0003749	chr8	66560797	66561031	+	20	51876 XM_017013458.1	4603 A-MYB AMY protein-coding
MYO18B	1.11267673	0.00018422	chr22	25926950	25927159	+	86	141602 XM_017029016.1	84700 KFS4 protein-coding
NAV1	0.75696531	0.00132614	chr1	201597569	201597956	+	236	-50560 NM_020443.4	89796 POMFIL3 ST protein-coding
NAV1	0.75696531	0.00132614	chr1	201636354	201636525	+	31	-11883 NM_020443.4	89796 POMFIL3 ST protein-coding
NDFIP2	0.92955638	0.00137468	chr13	79802335	79802991	+	574	321539 NM_001161407.1	54602 N4WBP5A protein-coding
NDFIP2	0.92955638	0.00137468	chr13	79901246	79901560	+	172	420279 NM_001161407.1	54602 N4WBP5A protein-coding
NDFIP2	0.92955638	0.00137468	chr13	79806756	79807202	+	130	325855 NM_001161407.1	54602 N4WBP5A protein-coding
NDFIP2	0.92955638	0.00137468	chr13	79750253	79750625	+	129	269315 NM_001161407.1	54602 N4WBP5A protein-coding
NDFIP2	0.92955638	0.00137468	chr13	79805326	79805588	+	90	324333 NM_001161407.1	54602 N4WBP5A protein-coding
NDFIP2	0.92955638	0.00137468	chr13	79799188	79799360	+	71	318150 NM_001161407.1	54602 N4WBP5A protein-coding
NDFIP2	0.92955638	0.00137468	chr13	79659189	79659529	+	54	178235 NM_001161407.1	54602 N4WBP5A protein-coding
NDFIP2	0.92955638	0.00137468	chr13	79710262	79710822	+	45	229418 NM_001161407.1	54602 N4WBP5A protein-coding
NDFIP2	0.92955638	0.00137468	chr13	79898115	79898320	+	41	417093 NM_001161407.1	54602 N4WBP5A protein-coding
NECTIN3	1.01531702	0.00048131	chr3	110413810	110414189	+	106	-657760 NM_015480.2	25945 CD113 CDW protein-coding
NECTIN3	1.01531702	0.00048131	chr3	110526849	110527231	+	90	-544719 NM_015480.2	25945 CD113 CDW protein-coding
NECTIN3	1.01531702	0.00048131	chr3	110420213	110420466	+	77	-651420 NM_015480.2	25945 CD113 CDW protein-coding
NECTIN3	1.01531702	0.00048131	chr3	110995506	110995751	+	45	-76131 NM_015480.2	25945 CD113 CDW protein-coding
NECTIN3	1.01531702	0.00048131	chr3	110656590	110656844	+	39	-415042 NM_015480.2	25945 CD113 CDW protein-coding
NECTIN3	1.01531702	0.00048131	chr3	109929887	109930148	+	39	-1141742 NM_015480.2	25945 CD113 CDW protein-coding
NEURL1	0.69938944	0.00976782	chr10	103542973	103543124	+	19	-12202 XM_005270269.3	9148 NEUR1 NEU protein-coding
NOS1	1.05369674	0.00010981	chr12	117328623	117328784	+	48	-19293 NM_001204214.1	4842 IHPS1 N-NO protein-coding
NOS1	1.05369674	0.00010981	chr12	117261439	117261590	+	29	43538 NM_001204213.1	4842 IHPS1 N-NO protein-coding
NOS1	1.05369674	0.00010981	chr12	117322247	117322431	+	23	-12929 NM_001204214.1	4842 IHPS1 N-NO protein-coding
NOVA1	0.60230114	0.04256589	chr14	28140483	28140779	+	139	-1542877 NM_006491.2	4857 Nova-1 protein-coding
NOVA1	0.60230114	0.04256589	chr14	26776369	26776595	+	75	-178728 NM_006491.2	4857 Nova-1 protein-coding
NRPE	0.69687748	0.01225703	chr5	112160683	112160906	+	128	-183863 NM_001142475.1	9315 C5orf13 D45 protein-coding
NRN1	0.96829583	0.00066703	chr6	6538383	6538912	+	355	-531042 NM_001278710.1	51299 NRN dj380B protein-coding
NRN1	0.96829583	0.00066703	chr6	6246437	6246915	+	239	-239071 NM_001278710.1	51299 NRN dj380B protein-coding
NRN1	0.96829583	0.00066703	chr6	5671169	5671576	+	156	332672 NM_001278711.1	51299 NRN dj380B protein-coding
NRN1	0.96829583	0.00066703	chr6	6256933	6257398	+	151	-249560 NM_001278710.1	51299 NRN dj380B protein-coding
NRN1	0.96829583	0.00066703	chr6	6386118	6386437	+	129	-378672 NM_001278710.1	51299 NRN dj380B protein-coding
NRN1	0.96829583	0.00066703	chr6	5699126	5699462	+	56	304750 NM_001278711.1	51299 NRN dj380B protein-coding
NRN1	0.96829583	0.00066703	chr6	5695195	5695612	+	48	308641 NM_001278711.1	51299 NRN dj380B protein-coding
NRN1	0.96829583	0.00066703	chr6	6023011	6023282	+	31	-15541 NM_001278710.1	51299 NRN dj380B protein-coding
NRN1	0.96829583	0.00066703	chr6	6386564	6386792	+	30	-379073 NM_001278710.1	51299 NRN dj380B protein-coding
NRN1	0.96829583	0.00066703	chr6	5999631	5999821	+	23	4318 NM_001278711.1	51299 NRN dj380B protein-coding
NRP1	0.87393255	0.00016711	chr10	33930694	33931367	+	574	-596125 NM_001244972.1	8829 BDCA4 CD3C protein-coding
NRP1	0.87393255	0.00016711	chr10	33313769	33314071	+	328	20759 XM_011519755.2	8829 BDCA4 CD3C protein-coding
NRP1	0.87393255	0.00016711	chr10	33314782	33315339	+	287	19619 XM_011519755.2	8829 BDCA4 CD3C protein-coding
NRP1	0.87393255	0.00016711	chr10	33732751	33733127	+	236	-398034 NM_001244972.1	8829 BDCA4 CD3C protein-coding
NRP1	0.87393255	0.00016711	chr10	33164161	33164570	+	188	170314 XM_011519755.2	8829 BDCA4 CD3C protein-coding
NRP1	0.87393255	0.00016711	chr10	33273310	33273609	+	136	61220 XM_011519755.2	8829 BDCA4 CD3C protein-coding
NRP1	0.87393255	0.00016711	chr10	33334888	33335185	+	86	-131 NM_001244972.1	8829 BDCA4 CD3C protein-coding
NRP1	0.87393255	0.00016711	chr10	33917445	33917786	+	66	-582710 NM_001244972.1	8829 BDCA4 CD3C protein-coding
NRP1	0.87393255	0.00016711	chr10	33330606	33330816	+	53	3968 XM_011519755.2	8829 BDCA4 CD3C protein-coding
NRP1	0.87393255	0.00016711	chr10	33193469	33193634	+	48	141128 XM_011519755.2	8829 BDCA4 CD3C protein-coding
NRP1	0.87393255	0.00016711	chr10	33229714	33229951	+	36	104847 XM_011519755.2	8829 BDCA4 CD3C protein-coding
NRP1	0.87393255	0.00016711	chr10	33325912	33326286	+	33	8580 XM_011519755.2	8829 BDCA4 CD3C protein-coding
NRP1	0.87393255	0.00016711	chr10	33157194	33157377	+	30	177394 XM_011519755.2	8829 BDCA4 CD3C protein-coding
NRP1	0.87393255	0.00016711	chr10	33733311	33733491	+	23	-398496 NM_001244972.1	8829 BDCA4 CD3C protein-coding
NTSE	0.62208069	0.02772462	chr6	85464197	85464559	+	261	14794 NM_002526.3	4907 CALJA CD73 protein-coding
NTSE	0.62208069	0.02772462	chr6	85403699	85404001	+	66	-45734 NM_001204813.1	4907 CALJA CD73 protein-coding
NTRK1	0.89348036	0.00227165	chr1	156868925	156869202	+	151	8184 NM_002529.3	4914 MTC TRK TF protein-coding
NUDT4	0.51340527	0.00924511	chr12	93202379	93203611	+	1202	-174928 NM_019094.5	11163 DIPP-2B DIP protein-coding
NUDT4	0.51340527	0.00924511	chr12	93318930	93319129	+	31	-58894 NM_019094.5	11163 DIPP-2B DIP protein-coding
NUDT4	0.51340527	0.00924511	chr12	93377100	93377376	+	22	-685 NM_019094.5	11163 DIPP-2B DIP protein-coding
NXNL2	1.04449432	5.2124E-05	chr9	88583905	88584979	+	1691	49341 NM_145283.2	158046 C9orf121 RC protein-coding
NXNL2	1.04449432	5.2124E-05	chr9	88532101	88532580	+	76	-2748 XM_011518276.2	158046 C9orf121 RC protein-coding

NXNL2	1.04449432	5.2124E-05	chr9	88746504	88746759 +	23	211530 NM_145283.2	158046 C9orf121 RC protein-coding
OLFM1	0.85241041	6.3821E-07	chr9	135156508	135158188 +	1029	69680 NM_001282611.1	10439 AMY NOE1 protein-coding
OLFM1	0.85241041	6.3821E-07	chr9	135196083	135196970 +	383	108858 NM_001282611.1	10439 AMY NOE1 protein-coding
OLFM1	0.85241041	6.3821E-07	chr9	134992217	134992611 +	139	-82829 NM_014279.4	10439 AMY NOE1 protein-coding
OLFM1	0.85241041	6.3821E-07	chr9	135124381	135124793 +	108	36919 NM_001282611.1	10439 AMY NOE1 protein-coding
OLFM1	0.85241041	6.3821E-07	chr9	135094840	135095258 +	57	4381 NM_001282611.1	10439 AMY NOE1 protein-coding
OLFM1	0.85241041	6.3821E-07	chr9	135086278	135086493 +	39	-875 NM_001282612.1	10439 AMY NOE1 protein-coding
OLFM2	1.52783123	9.9702E-29	chr19	9944740	9945936 +	1202	-8786 NM_058164.3	93145 NOE2 NOEL protein-coding
OLFM2	1.52783123	9.9702E-29	chr19	9901063	9901305 +	210	12521 NM_001304347.1	93145 NOE2 NOEL protein-coding
OLFM2	1.52783123	9.9702E-29	chr19	9934327	9934524 +	48	2127 NM_058164.3	93145 NOE2 NOEL protein-coding
OPCML	1.4503717	4.2434E-07	chr11	133015065	133015918 +	1599	-71723 NM_001319105.1	4978 IGLON1 OB protein-coding
OPCML	1.4503717	4.2434E-07	chr11	132685283	132685664 +	148	258164 NM_001319103.1	4978 IGLON1 OB protein-coding
OPCML	1.4503717	4.2434E-07	chr11	132674257	132674488 +	139	269265 NM_001319103.1	4978 IGLON1 OB protein-coding
OPCML	1.4503717	4.2434E-07	chr11	132902213	132902431 +	57	41381 NM_001319103.1	4978 IGLON1 OB protein-coding
OPCML	1.4503717	4.2434E-07	chr11	132840457	132840772 +	45	103023 NM_001319103.1	4978 IGLON1 OB protein-coding
OSTC	0.62025557	0.00022854	chr4	108674320	108675035 +	253	24092 NM_001267818.1	58505 DC2 protein-coding
OSTC	0.62025557	0.00022854	chr4	108644324	108644629 +	66	-6109 NM_021227.3	58505 DC2 protein-coding
PADI2	1.05947892	0.00025195	chr1	17128252	17128917 +	423	-9137 NM_007365.2	11240 PAD-H19 PA protein-coding
PADI3	1.4801841	1.6573E-09	chr1	17234869	17235582 +	605	-13854 XM_011541572.2	51702 PAD3 PDI3 protein-coding
PADI3	1.4801841	1.6573E-09	chr1	17236702	17237249 +	106	-12104 XM_011541572.2	51702 PAD3 PDI3 protein-coding
PBX1	1.18183927	1.2459E-13	chr1	164154701	164155776 +	419	-404122 XM_011509592.1	5087 CAKUHED protein-coding
PBX1	1.18183927	1.2459E-13	chr1	164663101	164663366 +	128	103826 XM_005245229.3	5087 CAKUHED protein-coding
PBX1	1.18183927	1.2459E-13	chr1	164870168	164870371 +	66	310862 XM_005245229.3	5087 CAKUHED protein-coding
PCDH11X	1.15278567	1.5645E-09	chrX	92838877	92839646 +	1149	1003784 XM_017029419.1	27328 PCDH-X PCD protein-coding
PCDH11X	1.15278567	1.5645E-09	chrX	92077171	92077911 +	593	242064 XM_017029419.1	27328 PCDH-X PCD protein-coding
PCDH11X	1.15278567	1.5645E-09	chrX	92147772	92148088 +	139	312453 XM_017029419.1	27328 PCDH-X PCD protein-coding
PCDH11X	1.15278567	1.5645E-09	chrX	91802830	91803107 +	67	23593 XM_011530910.1	27328 PCDH-X PCD protein-coding
PCDH11X	1.15278567	1.5645E-09	chrX	91222588	91222858 +	66	-556587 XM_011530912.2	27328 PCDH-X PCD protein-coding
PCDH18	0.64965712	0.02857048	chr4	137635395	137636016 +	75	-103175 XM_017008311.1	54510 PCDH68L protein-coding
PCDH18	0.64965712	0.02857048	chr4	136479330	136479510 +	66	1053078 NM_019035.4	54510 PCDH68L protein-coding
PCDH18	0.64965712	0.02857048	chr4	137664017	137664592 +	63	-131774 XM_017008311.1	54510 PCDH68L protein-coding
PCDH18	0.64965712	0.02857048	chr4	136680360	136680591 +	37	852023 NM_019035.4	54510 PCDH68L protein-coding
PCYT1B	0.89932322	0.00132629	chrX	24670014	24670241 +	86	2735 NM_001163264.1	9468 CCTB CTB protein-coding
PDGFA	0.69634629	0.01865592	chr7	362119	362797 +	275	155446 XM_011515419.2	5154 PDGF-A PDC protein-coding
PHYH	0.57356261	0.02793797	chr10	13302007	13302162 +	45	-1954 NM_001323082.1	5264 LN1 LNAP1 protein-coding
PIK3C2B	0.72097669	0.0001529	chr1	204453181	204453416 +	166	15933 XM_017001475.1	5287 C2-PI3K protein-coding
PIK3C3	0.80262994	0.00252283	chr18	42274988	42276897 +	2179	320744 NM_002647.3	5289 VPS34 Vps3 protein-coding
PIK3C3	0.80262994	0.00252283	chr18	41936535	41937169 +	477	-18344 XM_011526031.2	5289 VPS34 Vps3 protein-coding
PIK3C3	0.80262994	0.00252283	chr18	42310944	42311307 +	86	355927 NM_002647.3	5289 VPS34 Vps3 protein-coding
PIK3C3	0.80262994	0.00252283	chr18	42114048	42114237 +	72	158944 NM_002647.3	5289 VPS34 Vps3 protein-coding
PIK3C3	0.80262994	0.00252283	chr18	39668184	39668503 +	35	-2286853 XM_011526031.2	5289 VPS34 Vps3 protein-coding
PIK3C3	0.80262994	0.00252283	chr18	39561291	39561460 +	22	-2393821 XM_011526031.2	5289 VPS34 Vps3 protein-coding
PIK3CG	0.59000992	0.02923	chr7	106864822	106865626 +	1326	-54 NM_001282427.1	5294 PI3CG PI3K protein-coding
PINK1	0.78944821	6.6953E-06	chr1	20625976	20626244 +	341	-7345 NM_032409.2	65018 BRPK PARK4 protein-coding
PLA2G4C	0.60401003	0.0150649	chr19	48090361	48090565 +	57	20389 NM_001159323.1	8605 CPLA2-gamn protein-coding
PLA2G4C	0.60401003	0.0150649	chr19	48029763	48029918 +	57	81012 NM_001159323.1	8605 CPLA2-gamn protein-coding
PLA2G4C	0.60401003	0.0150649	chr19	48023091	48023275 +	23	87669 NM_001159323.1	8605 CPLA2-gamn protein-coding
PLA2G4C	0.60401003	0.0150649	chr19	47950081	47950278 +	13	176673 NM_001159323.1	8605 CPLA2-gamn protein-coding
PLCG2	0.93238417	0.00016967	chr16	81730386	81730604 +	39	-48763 NM_002661.4	5336 APLAID FCA protein-coding
PLCG2	0.93238417	0.00016967	chr16	81798970	81799168 +	23	19811 NM_002661.4	5336 APLAID FCA protein-coding
PLXDC2	1.01073668	3.3716E-07	chr10	20146057	20146696 +	2400	329933 NM_032812.8	84898 TEM7R protein-coding
PLXDC2	1.01073668	3.3716E-07	chr10	20013619	20014957 +	2318	197845 NM_032812.8	84898 TEM7R protein-coding
PLXDC2	1.01073668	3.3716E-07	chr10	20161622	20162670 +	1819	345703 NM_032812.8	84898 TEM7R protein-coding
PLXDC2	1.01073668	3.3716E-07	chr10	19931628	19932127 +	726	115434 NM_032812.8	84898 TEM7R protein-coding
PLXDC2	1.01073668	3.3716E-07	chr10	19785348	19785929 +	271	-30577 XM_011519750.2	84898 TEM7R protein-coding
PLXDC2	1.01073668	3.3716E-07	chr10	19498515	19500012 +	206	-316952 XM_011519750.2	84898 TEM7R protein-coding
PLXDC2	1.01073668	3.3716E-07	chr10	19816204	19816783 +	129	50 NM_032812.8	84898 TEM7R protein-coding
PLXDC2	1.01073668	3.3716E-07	chr10	19819498	19819724 +	98	3168 NM_032812.8	84898 TEM7R protein-coding
PLXDC2	1.01073668	3.3716E-07	chr10	19820437	19820604 +	86	4077 NM_032812.8	84898 TEM7R protein-coding
PLXDC2	1.01073668	3.3716E-07	chr10	20228528	20228772 +	84	412207 NM_032812.8	84898 TEM7R protein-coding
PLXDC2	1.01073668	3.3716E-07	chr10	19320497	19320900 +	70	-495517 XM_011519750.2	84898 TEM7R protein-coding
PLXDC2	1.01073668	3.3716E-07	chr10	20233375	20233696 +	67	417092 NM_032812.8	84898 TEM7R protein-coding
PLXDC2	1.01073668	3.3716E-07	chr10	19719479	19719630 +	54	-96661 XM_011519750.2	84898 TEM7R protein-coding
PLXDC2	1.01073668	3.3716E-07	chr10	19812490	19812850 +	32	-3545 XM_011519750.2	84898 TEM7R protein-coding
PLXDC2	1.01073668	3.3716E-07	chr10	19256470	19256691 +	28	-559635 XM_011519750.2	84898 TEM7R protein-coding
PLXDC2	1.01073668	3.3716E-07	chr10	20158084	20158354 +	25	341776 NM_032812.8	84898 TEM7R protein-coding
PPP1R3B	0.83332345	0.00049266	chr8	9347212	9347907 +	440	-195917 NM_001201329.1	79660 GL PPP1R4 protein-coding
PPP1R3B	0.83332345	0.00049266	chr8	9190602	9191189 +	261	-39253 NM_001201329.1	79660 GL PPP1R4 protein-coding
PPP1R3B	0.83332345	0.00049266	chr8	9088511	9088890 +	106	61955 XM_006716253.3	79660 GL PPP1R4 protein-coding
PPP1R3B	0.83332345	0.00049266	chr8	9189609	9189837 +	86	-38081 NM_001201329.1	79660 GL PPP1R4 protein-coding
PPP1R3B	0.83332345	0.00049266	chr8	9082154	9082526 +	69	68315 XM_006716253.3	79660 GL PPP1R4 protein-coding
PPP1R3G	2.8063057	9.7912E-20	chr6	5053041	5053348 +	47	-32292 NM_001145115.2	648791 - protein-coding
PRELP	0.68894386	0.02183527	chr1	203453663	203453925 +	117	-21961 NM_201348.1	5549 MST161 MS protein-coding
PRELP	0.68894386	0.02183527	chr1	203548168	203548343 +	76	72500 NM_002725.3	5549 MST161 MS protein-coding

PRELP	0.68894386	0.02183527	chr1	203547818	203547987	+	23	72147	NM_002725.3	5549	MST161 MS	protein-coding
PROM1	0.98976805	2.1175E-05	chr4	16033124	16033495	+	66	15606	XM_006713974.3	8842	AC133 CD13	protein-coding
PROM1	0.98976805	2.1175E-05	chr4	16032568	16032796	+	45	16233	XM_006713974.3	8842	AC133 CD13	protein-coding
PSEN2	1.19293067	4.4993E-11	chr1	226844949	226845495	+	484	-25350	NM_000447.2	5664	AD3L AD4 C	protein-coding
PTGFR	1.24293458	1.8379E-06	chr1	78420609	78421196	+	547	-70072	XM_017001873.1	5737	FP	protein-coding
RABL2A	0.63566128	0.00341294	chr2	113583703	113584752	+	417	-42991	XM_017003211.1	11159	-	protein-coding
RABL2A	0.63566128	0.00341294	chr2	113604025	113604463	+	151	-22974	XM_017003211.1	11159	-	protein-coding
RALGPS2	0.86854175	0.00061963	chr1	178713039	178713222	+	66	-12017	NM_152663.4	55103	dJ595C2.1	protein-coding
RAP1GAP	0.75153074	0.00101207	chr1	21653267	21653687	+	151	-1622	NM_001145658.1	5909	RAP1GA1 R	protein-coding
RAP1GAP	0.75153074	0.00101207	chr1	21659211	21659362	+	31	-7431	NM_001145658.1	5909	RAP1GA1 R	protein-coding
RASGRF1	0.62596194	0.02121114	chr15	79163472	79163835	+	440	-72780	NM_002891.4	5923	CDC25 CDC2	protein-coding
RASGRF1	0.62596194	0.02121114	chr15	79185330	79185544	+	48	-94564	NM_002891.4	5923	CDC25 CDC2	protein-coding
RBMS3	0.9642282	0.00045248	chr3	30034061	30035335	+	1871	303806	XM_005265065.4	27303	-	protein-coding
RBMS3	0.9642282	0.00045248	chr3	29335509	29336113	+	544	54499	NM_001003793.2	27303	-	protein-coding
RBMS3	0.9642282	0.00045248	chr3	29864716	29865062	+	290	133997	XM_005265065.4	27303	-	protein-coding
RBMS3	0.9642282	0.00045248	chr3	29758496	29759231	+	151	27971	XM_005265065.4	27303	-	protein-coding
RBMS3	0.9642282	0.00045248	chr3	29280784	29281322	+	139	193	XM_017006178.1	27303	-	protein-coding
RBMS3	0.9642282	0.00045248	chr3	29557813	29558133	+	126	-140220	XM_005265063.1	27303	-	protein-coding
RBMS3	0.9642282	0.00045248	chr3	29642912	29643401	+	114	-55037	XM_005265063.1	27303	-	protein-coding
RBMS3	0.9642282	0.00045248	chr3	29064143	29064403	+	99	-216587	XM_017006181.1	27303	-	protein-coding
RBMS3	0.9642282	0.00045248	chr3	29347423	29347798	+	74	66298	NM_001003793.2	27303	-	protein-coding
RBMS3	0.9642282	0.00045248	chr3	29637052	29637279	+	73	-61028	XM_005265063.1	27303	-	protein-coding
RBMS3	0.9642282	0.00045248	chr3	30131228	30131825	+	66	400634	XM_005265065.4	27303	-	protein-coding
RBMS3	0.9642282	0.00045248	chr3	30130855	30131095	+	45	400083	XM_005265065.4	27303	-	protein-coding
RBMS3	0.9642282	0.00045248	chr3	29441046	29441253	+	43	159837	NM_001003793.2	27303	-	protein-coding
RBMS3	0.9642282	0.00045248	chr3	30007689	30007919	+	38	276912	XM_005265065.4	27303	-	protein-coding
RBMS3	0.9642282	0.00045248	chr3	29430816	29430967	+	22	149579	NM_001003793.2	27303	-	protein-coding
RBMS3	0.9642282	0.00045248	chr3	30035817	30036042	+	20	305037	XM_005265065.4	27303	-	protein-coding
RBMS3	0.9642282	0.00045248	chr3	29764667	29764866	+	19	33874	XM_005265065.4	27303	-	protein-coding
RBPMS	0.53329155	0.02831199	chr8	30394278	30394730	+	198	9998	XM_017012989.1	11030	HERMES	protein-coding
RET	1.44925405	1.0013E-12	chr10	43019300	43019744	+	229	-57547	NM_020630.4	5979	CDHF12 CDF	protein-coding
RFTN1	0.83888002	0.00398615	chr3	16481234	16481779	+	172	31405	XM_005264986.2	23180	MIG2 PIB10	protein-coding
RFTN1	0.83888002	0.00398615	chr3	16468612	16468830	+	48	44190	XM_005264986.2	23180	MIG2 PIB10	protein-coding
RFTN1	0.83888002	0.00398615	chr3	16535819	16536070	+	25	-22229	NM_015150.1	23180	MIG2 PIB10	protein-coding
RGMA	0.95870985	0.00064557	chr15	94607164	94607611	+	151	-1518173	NM_020211.2	56963	RGM	protein-coding
RGMA	0.95870985	0.00064557	chr15	94125133	94125456	+	150	-1036080	NM_020211.2	56963	RGM	protein-coding
RGMA	0.95870985	0.00064557	chr15	94070389	94070813	+	94	-981387	NM_020211.2	56963	RGM	protein-coding
RGMA	0.95870985	0.00064557	chr15	94083653	94084115	+	89	-994670	NM_020211.2	56963	RGM	protein-coding
RGMA	0.95870985	0.00064557	chr15	94322698	94322849	+	23	-1233559	NM_020211.2	56963	RGM	protein-coding
RGS10	0.7182325	0.00245289	chr10	119395479	119395674	+	57	140957	NM_002925.3	6001	-	protein-coding
RG54	0.8236476	1.7659E-05	chr1	163055130	163055846	+	151	-13118	NM_001102445.2	5999	RGPA SCZDE	protein-coding
RG54	0.8236476	1.7659E-05	chr1	163105024	163105230	+	123	33222	NM_001113380.1	5999	RGPA SCZDE	protein-coding
RG54	0.8236476	1.7659E-05	chr1	163084503	163084712	+	70	12702	NM_001113380.1	5999	RGPA SCZDE	protein-coding
RG54	0.8236476	1.7659E-05	chr1	162984794	162984964	+	53	-83727	NM_001102445.2	5999	RGPA SCZDE	protein-coding
RG55	0.58273779	0.04908912	chr1	163321674	163321997	+	274	-44	NM_001254748.1	8490	MST092 MS	protein-coding
RG55	0.58273779	0.04908912	chr1	163178622	163178990	+	127	24367	NM_001254749.1	8490	MST092 MS	protein-coding
RG55	0.58273779	0.04908912	chr1	163168095	163168390	+	116	34931	NM_001254749.1	8490	MST092 MS	protein-coding
RG55	0.58273779	0.04908912	chr1	163166583	163167227	+	94	36268	NM_001254749.1	8490	MST092 MS	protein-coding
RHCG	1.89440765	1.115E-15	chr15	89474379	89475486	+	1184	21651	NM_001321041.1	51458	C15orf6 PDR	protein-coding
RND3	0.65330306	0.02286383	chr2	150203993	150204225	+	96	283586	NM_005168.4	390	ARHE Rho8	protein-coding
RNF150	1.55058871	3.3658E-09	chr4	141082061	141082495	+	242	27644	XM_011532147.2	57484	-	protein-coding
RNF150	1.55058871	3.3658E-09	chr4	141126942	141127093	+	39	5893	XM_005263150.4	57484	-	protein-coding
RNF175	0.651078	0.00952049	chr4	153731427	153731980	+	611	-1472	XM_005262940.4	285533	-	protein-coding
RNF216	1.19374525	5.315E-15	chr7	5781696	5781923	+	23	-79	NM_207116.2	54476	CAHH TRIAD	protein-coding
RNF7	0.60877943	0.00025751	chr3	141738058	141738256	+	48	-52	NM_001201370.1	9616	CKBBP1 RO	protein-coding
RSPH1	0.69713831	0.01774328	chr21	42465083	42465474	+	151	30923	XM_005261208.2	89765	CT79 RSP44	protein-coding
RSPH1	0.69713831	0.01774328	chr21	42425036	42425756	+	128	70805	XM_005261208.2	89765	CT79 RSP44	protein-coding
RUNX3	1.14648476	4.6835E-07	chr1	25074359	25074665	+	151	-109354	XM_005246024.4	864	AML2 CBFA:	protein-coding
RUNX3	1.14648476	4.6835E-07	chr1	25022455	25022606	+	48	-57372	XM_005246024.4	864	AML2 CBFA:	protein-coding
RYBP	0.78300463	0.00081003	chr3	72280222	72280570	+	223	166227	NM_012234.6	23429	AAP1 APAP:	protein-coding
RYBP	0.78300463	0.00081003	chr3	72624763	72624971	+	128	-178244	NM_012234.6	23429	AAP1 APAP:	protein-coding
RYBP	0.78300463	0.00081003	chr3	72502278	72502461	+	106	-55746	NM_012234.6	23429	AAP1 APAP:	protein-coding
RYBP	0.78300463	0.00081003	chr3	72309768	72309958	+	48	136760	NM_012234.6	23429	AAP1 APAP:	protein-coding
RYBP	0.78300463	0.00081003	chr3	72425860	72426038	+	31	20674	NM_012234.6	23429	AAP1 APAP:	protein-coding
RYBP	0.78300463	0.00081003	chr3	72379832	72379983	+	31	66716	NM_012234.6	23429	AAP1 APAP:	protein-coding
SCN4B	0.95181666	0.00060587	chr11	118048455	118048682	+	96	96901	NM_001142349.1	6330	ATFB17 LQT	protein-coding
SCN4B	0.95181666	0.00060587	chr11	118252011	118252461	+	87	-99321	NM_001142348.1	6330	ATFB17 LQT	protein-coding
SDK1	1.33563331	2.7135E-14	chr7	3321375	3322272	+	574	20375	NM_152744.3	221935	-	protein-coding
SDK1	1.33563331	2.7135E-14	chr7	3671412	3671972	+	314	-280102	XM_011515189.1	221935	-	protein-coding
SDK1	1.33563331	2.7135E-14	chr7	4083580	4083824	+	174	-45983	NM_001079653.1	221935	-	protein-coding
SDK1	1.33563331	2.7135E-14	chr7	3747541	3747738	+	45	-204155	XM_011515189.1	221935	-	protein-coding
SDK1	1.33563331	2.7135E-14	chr7	3592057	3592208	+	39	290684	NM_152744.3	221935	-	protein-coding
SDS	0.64587718	0.03122413	chr12	113396192	113396678	+	287	7452	NM_006843.2	10993	SDH	protein-coding
SEC22A	0.66032715	0.00086122	chr3	123151567	123152296	+	1452	-49996	NM_012430.4	26984	SEC22L2	protein-coding

SEMA3D	0.80573812	0.005544	chr7	85078023	85078795	+	984	28337 XM_011515961.2	223117 Sema-Z2 col	protein-coding
SEMA3D	0.80573812	0.005544	chr7	84981305	84981550	+	90	125319 XM_011515961.2	223117 Sema-Z2 col	protein-coding
SEMA3D	0.80573812	0.005544	chr7	85091087	85091257	+	76	15574 XM_011515961.2	223117 Sema-Z2 col	protein-coding
SEMA3D	0.80573812	0.005544	chr7	85185725	85186030	+	48	978 XM_011515960.1	223117 Sema-Z2 col	protein-coding
SEMA5B	4.40187105	1.0038E-64	chr3	122944932	122945178	+	86	31079 NM_001256347.1	54437 SEMAG Serr	protein-coding
SEMA5B	4.40187105	1.0038E-64	chr3	122982324	122982479	+	31	-6267 NM_001256347.1	54437 SEMAG Serr	protein-coding
SEMA6A	2.41314267	2.3428E-29	chr5	116717013	116717560	+	504	-142360 NM_001300780.1	57556 HT018 SEM/	protein-coding
SEMA6A	2.41314267	2.3428E-29	chr5	116688067	116688421	+	248	-113318 NM_001300780.1	57556 HT018 SEM/	protein-coding
SEMA6A	2.41314267	2.3428E-29	chr5	116654871	116655377	+	119	-80198 NM_001300780.1	57556 HT018 SEM/	protein-coding
SEMA6A	2.41314267	2.3428E-29	chr5	116574779	116575007	+	106	33 NM_020796.4	57556 HT018 SEM/	protein-coding
SERPING1	1.98094701	1.4975E-19	chr11	57623161	57623392	+	29	25044 NM_001032295.1	710 C1IN C1INH	protein-coding
SEZ6L	2.56787885	3.2001E-22	chr22	26016708	26017568	+	1219	-152336 NM_001184775.1	23544 -	protein-coding
SEZ6L	2.56787885	3.2001E-22	chr22	26121640	26122372	+	534	-47468 NM_001184775.1	23544 -	protein-coding
SEZ6L	2.56787885	3.2001E-22	chr22	26291909	26292259	+	186	122586 XM_005261439.3	23544 -	protein-coding
SGIP1	1.08565609	6.9809E-05	chr1	66548978	66549567	+	699	15138 XM_017002521.1	84251 -	protein-coding
SH3D21	1.82864778	4.7179E-13	chr1	36300022	36300208	+	63	-6233 XM_017002345.1	79729 C1orf113	protein-coding
SH3GL3	1.01206464	0.00035658	chr15	83890514	83891094	+	359	379185 XM_017022486.1	6457 CNSA3 EEN-	protein-coding
SH3GL3	1.01206464	0.00035658	chr15	83459849	83460302	+	76	12847 NM_003027.4	6457 CNSA3 EEN-	protein-coding
SH3GL3	1.01206464	0.00035658	chr15	83848253	83848470	+	31	336742 XM_017022486.1	6457 CNSA3 EEN-	protein-coding
SH3PXD2A	0.6259297	0.00013488	chr10	103795584	103796433	+	1184	59398 NM_014631.2	9644 FISH SH3MC	protein-coding
SIGLEC15	3.41389968	4.9718E-38	chr18	45825281	45825486	+	57	-197 NM_213602.2	284266 CD33L3 HsT:	protein-coding
SIGLEC15	3.41389968	4.9718E-38	chr18	45589530	45589698	+	23	-235966 NM_213602.2	284266 CD33L3 HsT:	protein-coding
SIPA1L1	0.50113473	0.01721409	chr14	71693464	71693774	+	139	96220 XM_011536638.2	26037 E6TP1 SPAR	protein-coding
SIPA1L1	0.50113473	0.01721409	chr14	71692473	71692757	+	66	95216 XM_011536638.2	26037 E6TP1 SPAR	protein-coding
SIPA1L1	0.50113473	0.01721409	chr14	71711752	71711912	+	63	114433 XM_011536638.2	26037 E6TP1 SPAR	protein-coding
SIPA1L1	0.50113473	0.01721409	chr14	71651341	71651579	+	61	54061 XM_011536638.2	26037 E6TP1 SPAR	protein-coding
SIPA1L1	0.50113473	0.01721409	chr14	71591950	71592268	+	49	4538 NM_001284247.1	26037 E6TP1 SPAR	protein-coding
SIPA1L1	0.50113473	0.01721409	chr14	71666712	71666900	+	28	69407 XM_011536638.2	26037 E6TP1 SPAR	protein-coding
SIPA1L1	0.50113473	0.01721409	chr14	71650543	71650789	+	19	53267 XM_011536638.2	26037 E6TP1 SPAR	protein-coding
SIRPA	0.89525094	5.719E-05	chr20	1952844	1953683	+	2498	38955 XM_011529173.2	140885 BIT CD172A	protein-coding
SIRPA	0.89525094	5.719E-05	chr20	1948573	1949050	+	274	34503 XM_011529173.2	140885 BIT CD172A	protein-coding
SIRPA	0.89525094	5.719E-05	chr20	1954505	1954791	+	248	40340 XM_011529173.2	140885 BIT CD172A	protein-coding
SIRPA	0.89525094	5.719E-05	chr20	1959130	1959668	+	236	45091 XM_011529173.2	140885 BIT CD172A	protein-coding
SIRPA	0.89525094	5.719E-05	chr20	1965493	1965827	+	39	51352 XM_011529173.2	140885 BIT CD172A	protein-coding
SIRPA	0.89525094	5.719E-05	chr20	1951941	1952158	+	37	37741 XM_011529173.2	140885 BIT CD172A	protein-coding
SIRPA	0.89525094	5.719E-05	chr20	1900349	1900519	+	23	5234 XM_006723545.3	140885 BIT CD172A	protein-coding
SLC16A2	0.55219229	0.03501611	chrX	74222567	74222739	+	174	-198840 NM_006517.4	6567 AHDS DXS12	protein-coding
SLC17A7	1.3298037	3.2181E-12	chr19	49443556	49444218	+	48	-2336 NM_020309.3	57030 BNPI VGLUT1	protein-coding
SLC1A4	0.55135673	0.0474973	chr2	64987712	64988613	+	499	-283 NM_001193493.1	65009 ASCT1 SATT	protein-coding
SLC1A4	0.55135673	0.0474973	chr2	64917804	64917987	+	16	-70550 NM_001193493.1	65009 ASCT1 SATT	protein-coding
SLC35F2	0.72092536	0.01223691	chr11	107856767	107857505	+	369	2052 NM_017515.4	54733 HSNOV1	protein-coding
SLC35F2	0.72092536	0.01223691	chr11	107840334	107841139	+	151	18452 NM_017515.4	54733 HSNOV1	protein-coding
SLC35F2	0.72092536	0.01223691	chr11	107858718	107859098	+	48	280 NM_017515.4	54733 HSNOV1	protein-coding
SLC35F2	0.72092536	0.01223691	chr11	107842077	107842417	+	39	16941 NM_017515.4	54733 HSNOV1	protein-coding
SLC35F2	0.72092536	0.01223691	chr11	107859268	107859419	+	31	-155 NM_017515.4	54733 HSNOV1	protein-coding
SLC43A1	0.86957735	0.00295387	chr11	57509659	57509838	+	85	4299 XM_011545322.1	8501 LAT3 PB39	protein-coding
SLC46A3	0.83926098	0.00159927	chr13	28743766	28744491	+	174	-25115 NM_001135919.1	283537 FKSG16	protein-coding
SLC46A3	0.83926098	0.00159927	chr13	28753350	28753797	+	53	-34560 NM_001135919.1	283537 FKSG16	protein-coding
SLC46A3	0.83926098	0.00159927	chr13	29133823	29134044	+	31	-414920 NM_001135919.1	283537 FKSG16	protein-coding
SLITRK3	1.5331904	5.4245E-08	chr3	163468201	163469393	+	1108	1727205 NM_001318810.1	22865 -	protein-coding
SLITRK3	1.5331904	5.4245E-08	chr3	163611718	163612618	+	1078	1583834 NM_001318810.1	22865 -	protein-coding
SLITRK3	1.5331904	5.4245E-08	chr3	165265248	165265744	+	317	-68387 NM_001318811.1	22865 -	protein-coding
SLITRK3	1.5331904	5.4245E-08	chr3	163592208	163592538	+	35	1603629 NM_001318810.1	22865 -	protein-coding
SMR3B	1.17464726	4.2222E-05	chr4	70380520	70381025	+	117	-2306 NM_006685.3	10879 P-B PBII PR	protein-coding
SMR3B	1.17464726	4.2222E-05	chr4	70473442	70473876	+	106	90581 NM_006685.3	10879 P-B PBII PR	protein-coding
SMR3B	1.17464726	4.2222E-05	chr4	70382825	70382991	+	25	-170 NM_006685.3	10879 P-B PBII PR	protein-coding
SNTG2	2.13885565	1.3738E-21	chr2	1162734	1163961	+	2749	1201 XM_017004373.1	54221 G2SYN SYN!	protein-coding
SNTG2	2.13885565	1.3738E-21	chr2	855322	855517	+	96	-95449 NM_018968.3	54221 G2SYN SYN!	protein-coding
SOX11	1.10037419	8.537E-08	chr2	5250444	5250989	+	410	-441951 NM_003108.3	6664 MRD27	protein-coding
SOX11	1.10037419	8.537E-08	chr2	4762540	4763287	+	358	-929754 NM_003108.3	6664 MRD27	protein-coding
SOX11	1.10037419	8.537E-08	chr2	5249760	5250109	+	338	-442733 NM_003108.3	6664 MRD27	protein-coding
SOX11	1.10037419	8.537E-08	chr2	6184207	6184609	+	210	491741 NM_003108.3	6664 MRD27	protein-coding
SOX11	1.10037419	8.537E-08	chr2	5077559	5078032	+	105	-614872 NM_003108.3	6664 MRD27	protein-coding
SOX11	1.10037419	8.537E-08	chr2	5834393	5834804	+	80	141931 NM_003108.3	6664 MRD27	protein-coding
SOX11	1.10037419	8.537E-08	chr2	4745480	4745804	+	70	-947025 NM_003108.3	6664 MRD27	protein-coding
SOX11	1.10037419	8.537E-08	chr2	5695727	5696035	+	66	3214 NM_003108.3	6664 MRD27	protein-coding
SOX11	1.10037419	8.537E-08	chr2	5058031	5058184	+	54	-634560 NM_003108.3	6664 MRD27	protein-coding
SOX13	0.76936113	0.00025044	chr1	204044532	204044817	+	151	-28422 XM_005245623.2	9580 ICA12 Sox-1	protein-coding
SPEF2	1.24581045	4.5158E-06	chr5	35664539	35665390	+	380	47077 NM_144722.3	79925 CT122 KPL2	protein-coding
SPHKAP	0.77006517	0.00759524	chr2	228189804	228190050	+	274	-7928 XM_006712777.3	80309 SKIP	protein-coding
SPHKAP	0.77006517	0.00759524	chr2	228082421	228083030	+	248	98920 NM_030623.3	80309 SKIP	protein-coding
SPHKAP	0.77006517	0.00759524	chr2	228133955	228134389	+	161	47473 NM_030623.3	80309 SKIP	protein-coding
SPHKAP	0.77006517	0.00759524	chr2	228180205	228180382	+	96	1352 NM_030623.3	80309 SKIP	protein-coding
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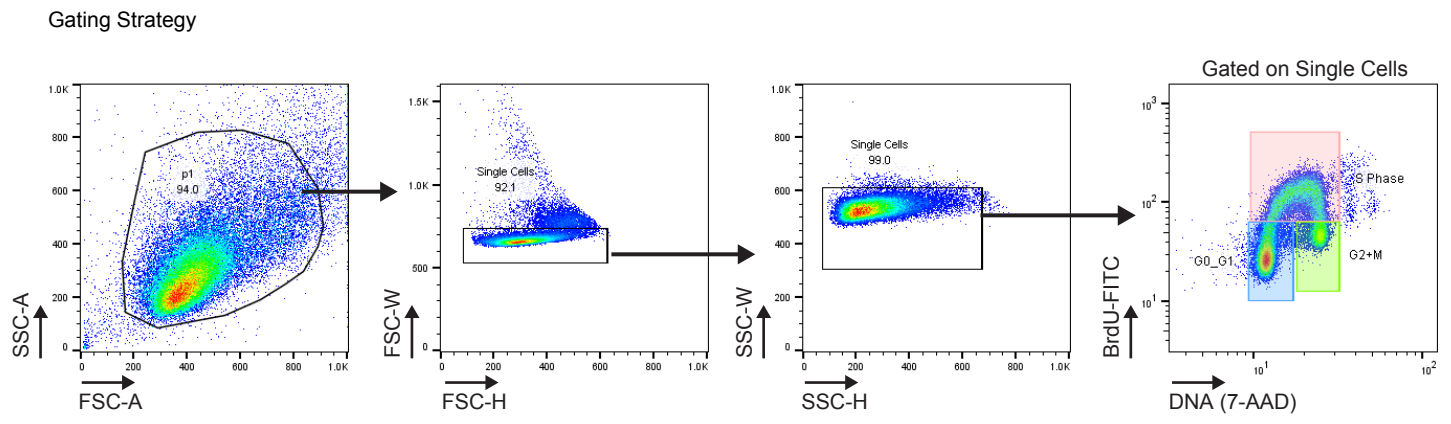
SPHKAP	0.77006517	0.00759524	chr2	228599395	228599626	+	39	-417511 XM_006712777.3	80309 SKIP	protein-coding
STAMBPL1	0.56423673	0.01088207	chr10	88882353	88882981	+	149	652 XM_011539985.1	57559 ALMalpha A	protein-coding
STAMBPL1	0.56423673	0.01088207	chr10	88883458	88883749	+	53	1588 XM_011539985.1	57559 ALMalpha A	protein-coding
STXB	0.65194778	0.03142353	chr16	31013314	31013493	+	119	-2765 NM_052874.4	112755 GEFSP9 STX	protein-coding
SULF2	1.84295589	0.90562E-10	chr20	48199175	48199406	+	23	-412661 XM_006723828.1	55959 HSULF-2	protein-coding
SULT1B1	0.88872657	0.00278087	chr4	69728470	69728916	+	229	31947 XM_005265678.3	27284 ST1B1 ST1B	protein-coding
SULT1B1	0.88872657	0.00278087	chr4	69731934	69732095	+	23	28626 XM_005265678.3	27284 ST1B1 ST1B	protein-coding
SV2B	1.7880793	2.3929E-10	chr15	91080934	91081425	+	198	-18409 NM_001323031.1	9899 HsT19680	protein-coding
SV2B	1.7880793	2.3929E-10	chr15	91536901	91537346	+	161	312011 XM_005254998.3	9899 HsT19680	protein-coding
SYNPR	1.05205024	3.9351E-06	chr3	63270601	63271322	+	1132	-7277 XM_017005732.1	132204 SPO	protein-coding
SYNPR	1.05205024	3.9351E-06	chr3	63386346	63386797	+	528	-56506 NM_144642.4	132204 SPO	protein-coding
SYNPR	1.05205024	3.9351E-06	chr3	63343725	63344134	+	186	65691 NM_001130003.1	132204 SPO	protein-coding
SYNPR	1.05205024	3.9351E-06	chr3	63408171	63408346	+	31	-34819 NM_144642.4	132204 SPO	protein-coding
TCERG1L	0.51102245	0.00647882	chr10	131332756	13133219	+	423	61242 NM_174937.3	256536 -	protein-coding
TCERG1L	0.51102245	0.00647882	chr10	131346854	131347245	+	46	-35328 NM_174937.3	256536 -	protein-coding
TCERG1L	0.51102245	0.00647882	chr10	131332291	131332678	+	30	-20763 NM_174937.3	256536 -	protein-coding
TCL1B	0.94568444	0.00096433	chr14	95738632	95739360	+	1654	52579 NM_004918.3	9623 SYN-1 TML1	protein-coding
TFAP2A	1.59141447	1.0975E-10	chr6	9795930	9796375	+	355	616222 NM_001032280.2	7020 AP-2 AP-2a	protein-coding
TFAP2A	1.59141447	1.0975E-10	chr6	10248466	10248799	+	293	163742 NM_001032280.2	7020 AP-2 AP-2a	protein-coding
TFAP2A	1.59141447	1.0975E-10	chr6	9554795	9555227	+	150	857363 NM_001032280.2	7020 AP-2 AP-2a	protein-coding
TFAP2A	1.59141447	1.0975E-10	chr6	10359682	10359916	+	96	52575 NM_001032280.2	7020 AP-2 AP-2a	protein-coding
TFAP2A	1.59141447	1.0975E-10	chr6	9456108	9456448	+	89	956096 NM_001032280.2	7020 AP-2 AP-2a	protein-coding
TFAP2A	1.59141447	1.0975E-10	chr6	9624280	9624434	+	49	768017 NM_001032280.2	7020 AP-2 AP-2a	protein-coding
TFAP2B	2.72296298	6.6819E-24	chr6	50935737	50936734	+	349	117509 NM_003221.3	7021 AP-2B AP2-f	protein-coding
TFAP2B	2.72296298	6.6819E-24	chr6	50952218	50952903	+	291	133834 NM_003221.3	7021 AP-2B AP2-f	protein-coding
TFAP2B	2.72296298	6.6819E-24	chr6	50826859	50827073	+	139	8240 NM_003221.3	7021 AP-2B AP2-f	protein-coding
TFAP2B	2.72296298	6.6819E-24	chr6	50970717	50971132	+	117	152198 NM_003221.3	7021 AP-2B AP2-f	protein-coding
TFAP2B	2.72296298	6.6819E-24	chr6	50192593	50192758	+	108	-625017 XM_017011233.1	7021 AP-2B AP2-f	protein-coding
TFAP2B	2.72296298	6.6819E-24	chr6	50832959	50833241	+	77	14374 NM_003221.3	7021 AP-2B AP2-f	protein-coding
TFAP2B	2.72296298	6.6819E-24	chr6	50953564	50953760	+	59	134936 NM_003221.3	7021 AP-2B AP2-f	protein-coding
TFAP2B	2.72296298	6.6819E-24	chr6	50699197	50699408	+	48	-118390 XM_017011233.1	7021 AP-2B AP2-f	protein-coding
TFAP2B	2.72296298	6.6819E-24	chr6	50902480	50902633	+	27	83830 NM_003221.3	7021 AP-2B AP2-f	protein-coding
TG	2.76077718	8.1516E-26	chr8	132881340	132881710	+	38	14565 NM_003235.4	7038 AITD3 TGN	protein-coding
TG	2.76077718	8.1516E-26	chr8	132893586	132893884	+	37	26775 NM_003235.4	7038 AITD3 TGN	protein-coding
TGFB3	1.06654756	1.646E-07	chr14	75981901	75982109	+	128	17 NM_003239.3	7043 ARVD ARVD	protein-coding
TGFB3	0.96562041	0.00051832	chr1	92087585	92087869	+	96	-181725 NM_001195684.1	7049 BGCAN beta	protein-coding
THBS3	0.5395641	0.02338816	chr1	155244648	155244961	+	223	-35624 XM_011509935.1	7059 TSP3	protein-coding
TIMP3	0.67231284	0.00010009	chr22	32780796	32780993	+	96	-19922 NM_000362.4	7078 HSMRK222 I	protein-coding
TK2	0.53132371	0.0057969	chr16	66025461	66025810	+	242	524190 NM_001272050.1	7084 MTDP2S2 MT	protein-coding
TK2	0.53132371	0.0057969	chr16	65942044	65942496	+	223	607555 NM_001272050.1	7084 MTDP2S2 MT	protein-coding
TK2	0.53132371	0.0057969	chr16	66270219	66270734	+	186	279349 NM_001272050.1	7084 MTDP2S2 MT	protein-coding
TK2	0.53132371	0.0057969	chr16	66207190	66207573	+	150	342444 NM_001272050.1	7084 MTDP2S2 MT	protein-coding
TK2	0.53132371	0.0057969	chr16	66205712	66205909	+	19	344015 NM_001272050.1	7084 MTDP2S2 MT	protein-coding
TLL2	1.38882503	4.2568E-06	chr10	96473777	96474165	+	86	39955 NM_012465.3	7093 -	protein-coding
TM9SF2	0.72730051	0.0002368	chr13	99471330	99472310	+	1380	-29554 NM_004800.2	9375 P76	protein-coding
TM9SF2	0.72730051	0.0002368	chr13	99437043	99437231	+	66	-64237 NM_004800.2	9375 P76	protein-coding
TM9SF2	0.72730051	0.0002368	chr13	99501287	99501450	+	48	-6 NM_004800.2	9375 P76	protein-coding
TMEM125	0.85584115	0.00509415	chr1	43274255	43274766	+	787	3701 XM_005270467.3	128218 -	protein-coding
TMEM132B	1.1434335	3.5395E-05	chr12	126100731	126101459	+	683	463481 XM_011537854.2	114795 -	protein-coding
TMEM132B	1.1434335	3.5395E-05	chr12	127074438	127075332	+	329	1437271 XM_011537854.2	114795 -	protein-coding
TMEM132B	1.1434335	3.5395E-05	chr12	125971996	125972381	+	328	334574 XM_011537854.2	114795 -	protein-coding
TMEM132B	1.1434335	3.5395E-05	chr12	127078984	127079513	+	232	1441634 XM_011537854.2	114795 -	protein-coding
TMEM132B	1.1434335	3.5395E-05	chr12	127214108	127214657	+	204	1576768 XM_011537854.2	114795 -	protein-coding
TMEM132B	1.1434335	3.5395E-05	chr12	126482616	126482773	+	66	845080 XM_011537854.2	114795 -	protein-coding
TMEM132B	1.1434335	3.5395E-05	chr12	127108710	127108865	+	57	1471173 XM_011537854.2	114795 -	protein-coding
TMEM132B	1.1434335	3.5395E-05	chr12	126966664	126966879	+	54	1329157 XM_011537854.2	114795 -	protein-coding
TMEM132B	1.1434335	3.5395E-05	chr12	126338346	126338505	+	39	700811 XM_011537854.2	114795 -	protein-coding
TMEM132B	1.1434335	3.5395E-05	chr12	126337987	126338221	+	37	700490 XM_011537854.2	114795 -	protein-coding
TMEM132B	1.1434335	3.5395E-05	chr12	127150565	127150834	+	37	1513085 XM_011537854.2	114795 -	protein-coding
TMEM132B	1.1434335	3.5395E-05	chr12	126506403	126506563	+	29	868869 XM_011537854.2	114795 -	protein-coding
TMEM132B	1.1434335	3.5395E-05	chr12	126051576	126052115	+	25	414231 XM_011537854.2	114795 -	protein-coding
TMEM200A	0.68147039	0.02444932	chr6	130600956	130601452	+	259	164087 NM_052913.2	114801 KIAA1913 T	protein-coding
TMEM200A	0.68147039	0.02444932	chr6	130602243	130602697	+	101	165353 NM_052913.2	114801 KIAA1913 T	protein-coding
TMEM200A	0.68147039	0.02444932	chr6	130431400	130431750	+	89	-5542 NM_052913.2	114801 KIAA1913 T	protein-coding
TMEM200A	0.68147039	0.02444932	chr6	130577292	130577447	+	29	140252 NM_052913.2	114801 KIAA1913 T	protein-coding
TMEM220	0.80660552	0.00718969	chr17	10773113	10773395	+	117	-42925 NM_001004313.1	388335 -	protein-coding
TMEM233	0.52499285	0.04545531	chr12	119595827	119596771	+	1009	2840 NM_001136534.1	387890 DSPB2 IFITN	protein-coding
TMEM233	0.52499285	0.04545531	chr12	119587860	119588354	+	369	-4016 XM_005253880.3	387890 DSPB2 IFITN	protein-coding
TMEM233	0.52499285	0.04545531	chr12	119625031	119625490	+	360	31801 NM_001136534.1	387890 DSPB2 IFITN	protein-coding
TMEM233	0.52499285	0.04545531	chr12	119620450	119620977	+	309	27254 NM_001136534.1	387890 DSPB2 IFITN	protein-coding
TMEM233	0.52499285	0.04545531	chr12	119589172	119589443	+	248	-2816 XM_005253880.3	387890 DSPB2 IFITN	protein-coding
TMEM233	0.52499285	0.04545531	chr12	119594322	119595038	+	66	1221 NM_001136534.1	387890 DSPB2 IFITN	protein-coding
TMEM92	1.50893249	0.3802E-07	chr17	50300743	50301126	+	139	26507 NM_153229.2	162461 -	protein-coding
TOX2	0.69084596	0.01947966	chr20	43927262	43928555	+	1617	11766 NM_001098796.1	84969 C20orf100 G	protein-coding

TOX2	0.69084596	0.01947966	chr20	43925740	43926592 +	454	10024	NM_001098796.1	84969	C20orf100 G	protein-coding
TOX2	0.69084596	0.01947966	chr20	43862496	43862864 +	389	-52172	NM_001098797.1	84969	C20orf100 G	protein-coding
TOX2	0.69084596	0.01947966	chr20	43939145	43939587 +	186	-6530	XM_006723884.1	84969	C20orf100 G	protein-coding
TOX2	0.69084596	0.01947966	chr20	43926676	43926852 +	57	10622	NM_001098796.1	84969	C20orf100 G	protein-coding
TOX2	0.69084596	0.01947966	chr20	43964115	43964280 +	22	-9170	XM_017028109.1	84969	C20orf100 G	protein-coding
TPRG1	0.9812574	0.00049186	chr3	189272352	189273242 +	1088	57431	XM_017006263.1	285386	FAM79B	protein-coding
TPRG1	0.9812574	0.00049186	chr3	189300274	189300719 +	254	85130	XM_017006263.1	285386	FAM79B	protein-coding
TPRG1	0.9812574	0.00049186	chr3	189292927	189293599 +	183	77897	XM_017006263.1	285386	FAM79B	protein-coding
TPRG1	0.9812574	0.00049186	chr3	189173034	189173280 +	106	1183	NM_198485.3	285386	FAM79B	protein-coding
TPRG1	0.9812574	0.00049186	chr3	189276644	189277401 +	104	61656	XM_017006263.1	285386	FAM79B	protein-coding
TPRG1	0.9812574	0.00049186	chr3	189278017	189278192 +	70	62738	XM_017006263.1	285386	FAM79B	protein-coding
TPRG1	0.9812574	0.00049186	chr3	188819994	188820169 +	58	-180693	XM_017006261.1	285386	FAM79B	protein-coding
TPRG1	0.9812574	0.00049186	chr3	189055933	189056088 +	57	-43421	XM_017006257.1	285386	FAM79B	protein-coding
TPRG1	0.9812574	0.00049186	chr3	188948126	188948278 +	48	-52572	XM_017006261.1	285386	FAM79B	protein-coding
TPRG1	0.9812574	0.00049186	chr3	189334788	189334975 +	31	119515	XM_017006263.1	285386	FAM79B	protein-coding
TPRG1	0.9812574	0.00049186	chr3	188788772	188788989 +	31	-211894	XM_017006261.1	285386	FAM79B	protein-coding
TPTE2	0.87269776	0.00028028	chr13	19189307	19190421 +	1488	248611	NM_001271850.1	93492	TPIP	protein-coding
TPTE2	0.87269776	0.00028028	chr13	19266891	19267357 +	230	171351	NM_001271850.1	93492	TPIP	protein-coding
TPTE2	0.87269776	0.00028028	chr13	18980751	18981104 +	106	457548	NM_001271850.1	93492	TPIP	protein-coding
TPTE2	0.87269776	0.00028028	chr13	19264820	19264985 +	70	173573	NM_001271850.1	93492	TPIP	protein-coding
TPTE2	0.87269776	0.00028028	chr13	18978624	18978775 +	31	459776	NM_001271850.1	93492	TPIP	protein-coding
TRIB1	1.82620645	3.2497E-17	chr8	125521131	125522414 +	2038	89563	NM_001282985.1	10221	C8FW GIG-2	protein-coding
TRIB1	1.82620645	3.2497E-17	chr8	125311152	125312019 +	748	-118736	NM_025195.3	10221	C8FW GIG-2	protein-coding
TRIB1	1.82620645	3.2497E-17	chr8	125644470	125644859 +	229	212455	NM_001282985.1	10221	C8FW GIG-2	protein-coding
TRIB1	1.82620645	3.2497E-17	chr8	125429445	125429782 +	96	-708	NM_025195.3	10221	C8FW GIG-2	protein-coding
TRIB1	1.82620645	3.2497E-17	chr8	125430096	125430413 +	96	-67	NM_025195.3	10221	C8FW GIG-2	protein-coding
TRIB1	1.82620645	3.2497E-17	chr8	125895697	125896014 +	56	463646	NM_001282985.1	10221	C8FW GIG-2	protein-coding
TRIB1	1.82620645	3.2497E-17	chr8	125309739	125309949 +	53	-120477	NM_025195.3	10221	C8FW GIG-2	protein-coding
TRIB1	1.82620645	3.2497E-17	chr8	125525453	125525604 +	39	93319	NM_001282985.1	10221	C8FW GIG-2	protein-coding
TRIM2	2.15221574	3.9508E-16	chr4	153074927	153075230 +	144	-77203	XM_017007952.1	23321	CMT2R RNF	protein-coding
TRIM2	2.15221574	3.9508E-16	chr4	153221916	153222686 +	128	17839	XM_017007955.1	23321	CMT2R RNF	protein-coding
TRIM2	2.15221574	3.9508E-16	chr4	153079906	153080277 +	94	-72190	XM_017007952.1	23321	CMT2R RNF	protein-coding
TRIM2	2.15221574	3.9508E-16	chr4	153260936	153261117 +	22	3647	XM_017007947.1	23321	CMT2R RNF	protein-coding
TSHZ3	1.23015342	8.3198E-06	chr19	31004267	31005135 +	1326	344583	NM_020856.2	57616	TSH3 ZNF53	protein-coding
TSHZ3	1.23015342	8.3198E-06	chr19	31742333	31742960 +	544	-393362	NM_020856.2	57616	TSH3 ZNF53	protein-coding
TSHZ3	1.23015342	8.3198E-06	chr19	31340205	31340479 +	92	8942	NM_020856.2	57616	TSH3 ZNF53	protein-coding
TSHZ3	1.23015342	8.3198E-06	chr19	31408536	31409232 +	80	-59600	NM_020856.2	57616	TSH3 ZNF53	protein-coding
TSHZ3	1.23015342	8.3198E-06	chr19	31224207	31224432 +	57	124965	NM_020856.2	57616	TSH3 ZNF53	protein-coding
TSHZ3	1.23015342	8.3198E-06	chr19	31013580	31013943 +	57	335523	NM_020856.2	57616	TSH3 ZNF53	protein-coding
TSKU	0.58428732	0.00051466	chr11	76806870	76807644 +	57	15505	NM_001318477.1	25987	E2IG4 LRRCL	protein-coding
TSPAN11	2.47795511	7.3636E-35	chr12	30869788	30870278 +	274	-56400	XM_011520679.2	441631	VSSW1971	protein-coding
TSPAN11	2.47795511	7.3636E-35	chr12	30902205	30902468 +	53	-24097	XM_011520679.2	441631	VSSW1971	protein-coding
TSPEAR	0.96991841	0.00027728	chr21	44741418	44742063 +	248	-30160	NM_144991.2	54084	C21orf29 DF	protein-coding
TSPEAR	0.96991841	0.00027728	chr21	44752602	44752883 +	139	-41162	NM_144991.2	54084	C21orf29 DF	protein-coding
TSPEAR	0.96991841	0.00027728	chr21	44755231	44755513 +	96	-43792	NM_144991.2	54084	C21orf29 DF	protein-coding
UBE2E3	0.76585575	0.00366036	chr2	181021084	181022106 +	559	40471	NM_001278554.1	10477	UBCH9 UbcI	protein-coding
UBE2E3	0.76585575	0.00366036	chr2	180722968	180723253 +	45	-257271	XM_017003166.1	10477	UBCH9 UbcI	protein-coding
UGT3A2	0.57639434	0.00026789	chr5	36068484	36069692 +	1452	-2167	NM_174914.3	167127	-	protein-coding
UGT3A2	0.57639434	0.00026789	chr5	36067765	36068293 +	57	-1108	NM_174914.3	167127	-	protein-coding
UGT3A2	0.57639434	0.00026789	chr5	36066927	36067641 +	45	-363	NM_174914.3	167127	-	protein-coding
UGT3A2	0.57639434	0.00026789	chr5	36073655	36073848 +	28	-2393	XM_017009150.1	167127	-	protein-coding
UGT3A2	0.57639434	0.00026789	chr5	36079187	36079347 +	23	-7909	XM_017009150.1	167127	-	protein-coding
UGT3A2	0.57639434	0.00026789	chr5	36060648	36060827 +	23	6145	XM_011513988.2	167127	-	protein-coding
UNC93B1	1.23347619	1.4128E-05	chr11	67826613	67826838 +	22	176379	XM_011545290.1	81622	IIAE1 UNC93	protein-coding
USP13	0.84593185	3.3921E-07	chr3	179745186	179746081 +	1241	44542	XM_017007427.1	8975	ISOT3 IsoT-2	protein-coding
USP13	0.84593185	3.3921E-07	chr3	179767952	179768319 +	172	67044	XM_017007427.1	8975	ISOT3 IsoT-2	protein-coding
USP13	0.84593185	3.3921E-07	chr3	179769938	179770217 +	96	68986	XM_017007427.1	8975	ISOT3 IsoT-2	protein-coding
USP13	0.84593185	3.3921E-07	chr3	179649708	179649909 +	70	-3337	NM_003940.2	8975	ISOT3 IsoT-2	protein-coding
USP13	0.84593185	3.3921E-07	chr3	179771888	179772153 +	57	70929	XM_017007427.1	8975	ISOT3 IsoT-2	protein-coding
USP13	0.84593185	3.3921E-07	chr3	179709307	179709494 +	57	8309	XM_017007427.1	8975	ISOT3 IsoT-2	protein-coding
VGFB	0.62990692	0.0337363	chr7	101165526	101165718 +	86	-51	NM_003378.3	7425	SCG7 SgVII	protein-coding
WDR66	0.69413368	0.00390902	chr12	121924588	121925047 +	139	6260	NM_144668.5	144406	CFAP251 Ca	protein-coding
WIPF1	1.06927527	0.00026469	chr2	174593574	174593940 +	86	4091	XM_011511780.2	7456	PRPL-2 WAS	protein-coding
WNT11	2.77740454	1.3564E-26	chr11	76235358	76236247 +	106	-24960	XM_011545239.2	7481	HWNT11	protein-coding
WSCD1	1.58453557	1.2088E-09	chr17	6257308	6257682 +	61	179545	XM_005256572.1	23302	-	protein-coding
ZBTB18	0.67782074	0.02098827	chr1	243969828	243970434 +	304	-78808	NM_001278196.1	10472	C2H2-171 M	protein-coding
ZCCHC24	0.91829902	0.00145566	chr10	79446089	79446240 +	39	-537	NM_153367.3	219654	C10orf56 Z3	protein-coding
ZCWPW1	0.59885995	0.04611088	chr7	100428451	100429664 +	89	182	XM_005250479.2	55063	ZCW1	protein-coding
ZFP36L1	0.54450898	0.01298399	chr14	68684782	68685205 +	318	108921	NM_001244698.1	677	BRF1 Berg3	protein-coding
ZFP36L1	0.54450898	0.01298399	chr14	68682751	68683387 +	314	110845	NM_001244698.1	677	BRF1 Berg3	protein-coding
ZFP36L1	0.54450898	0.01298399	chr14	68548230	68548540 +	128	245529	NM_001244698.1	677	BRF1 Berg3	protein-coding
ZFP36L1	0.54450898	0.01298399	chr14	68793245	68793565 +	128	509	NM_001244698.1	677	BRF1 Berg3	protein-coding
ZFP36L1	0.54450898	0.01298399	chr14	68749543	68749753 +	57	44266	NM_001244698.1	677	BRF1 Berg3	protein-coding
ZFYVE1	1.34679841	7.7839E-12	chr14	73015112	73015307 +	128	12003	NM_021260.3	53349	DFCP1 PPP1	protein-coding

ZMAT4	0.60775331	0.00613755	chr8	40936285	40937016	+	811	-38822	XM_017013836.1	79698	-	protein-coding
ZMAT4	0.60775331	0.00613755	chr8	40947230	40947639	+	242	-49606	XM_017013836.1	79698	-	protein-coding
ZMAT4	0.60775331	0.00613755	chr8	40493998	40494360	+	80	266857	XM_017013840.1	79698	-	protein-coding
ZMAT4	0.60775331	0.00613755	chr8	40932853	40933066	+	76	-35131	XM_017013836.1	79698	-	protein-coding
ZMAT4	0.60775331	0.00613755	chr8	40792321	40792635	+	66	-31442	XM_017013840.1	79698	-	protein-coding
ZNF528	0.6106768	0.04500121	chr19	52397390	52398214	+	605	-66	NM_032423.2	84436	-	protein-coding
ZNF536	0.67189675	0.0265609	chr19	30779926	30780287	+	397	264072	XM_017027543.1	9745	-	protein-coding
ZNF536	0.67189675	0.0265609	chr19	30466604	30466879	+	86	-49293	XM_017027543.1	9745	-	protein-coding
ZNF536	0.67189675	0.0265609	chr19	30450021	30450293	+	23	-65877	XM_017027543.1	9745	-	protein-coding

Supplementary Table 2

Name	sequence	Note
sgNEG	GAAGATGGGCGGGAGTCTTC	
sgNEG_2	AGTCGCTTCTCGATTATGGG	
sgCDK1	ACACAATCCCCTGTAGGATT	
sgETV6_1	AACGGACTGGCTCGACTGTG	target DBD domain of ETV6
sgETV6_2	TCGATAGCGAAAGTCCTCTT	target SAM domain of ETV6
sgEWS-FLI1_1	AGCGCCTGGCCACCTCATCG	target DBD domain of FLI1
sgEWS-FLI1_2	ACAGCTGGCGTTGGCGCTGT	target DBD domain of FLI1
sgSOX11_1	CGCGGGCGACGACTACGTGC	
sgSOX11_2	GATCTTCCTGCGTTCGATCT	
sgNTRK1_1	CTCTGTACCCCCGATCTTGA	
sgNTRK1_2	CGGCAGCCAATGAGACCGTG	
sgNT	GGACGAATCGACAAATTGTG	Non-targeting control
sgCDKN1A_P	GAACGCAGGCGAGGGACTGG	
sgTP73_P	GTGGACGCGGCCAGCTGGAG	
sgSOX11_P_1	GTGCAAAGCAGCCCGGAGGG	
sgSOX11_P_2	GGGGCTGCTTTGCAAAGATG	
sgNTRK1_P_1	GAGGCGGATCCTCGGGGAGA	
sgNTRK1_P_2	GGGGCCCCTAACAGGGGAGG	
hGAPDH_RT F	GTCTCCTCTGACTTCAACAGCG	
hGAPDH_RT R	ACCACCCTGTTGCTGTAGCCAA	
NTRK1_RT F	AACCTCACCATCGTGAAGAGT	
NTRK1_RT R	TGAAGGAGAGATTCAGGCGAC	qPCR primers
SOX11_RT_F	AGCAAGAAATGCGGCAAGC	
SOX11_RT_R	ATCCAGAAACACGCACTTGAC	



Supplementary Fig. 1. The gating strategy for the BrdU FACS assay in Fig. 2a.