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Supporting Online Material for

Widespread RNA and DNA Sequence Differences in the Human Transcriptome

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This PDF file includes:

Materials and Methods
Figs. S1 to S5
Tables S1 to S10
References

Correction: The numbering of references and their citations has been corrected.

SUPPLEMENTAL ONLINE MATERIAL

Widespread RNA and DNA Sequence Differences in the Human Transcriptome

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Table of content

1. Figure 1. Flowchart of analysis	p. 2-3
2. Figure 2. Comparison of editing levels for A-to-G sites in our and Church studies	p. 4
3. Figure 3. Examples of RDD sites by Sanger Sequencing	p. 5
4. Figure 4. Comparison of the number of events per individual by SNPs and by monomorphic sites	p. 6
5. Figure 5. Editing/ RDD levels by frequency	p. 7
6. Results from comparison of RDD sites obtained from our RNA-Seq reads and those from Dermitzakis's and colleagues.	p. 8
7. Sequencing errors and coverage do not contribute to individual differences in number of RNA editing/ RDD events	p. 9
8. Material and Methods	p. 10-13
9. Table 1. Information on the 27 subjects in our study	p. 14
10. Table 2. Sequences corresponding to RDD sites translated to peptides	p. 15
11. Table 3. EST clones that contain RDD alleles	p.16-18
12. Table 4. DNA and RNA-forms of peptides at RDD sites (cancer cells)	p. 19
13. Table 5. DNA and RNA forms of peptides at RDD sites (B-cells)	p. 20-26
14. Table 6. Gene Ontology Analysis of RDD containing genes	p. 27
15. Table 7. Distribution of RDD sites across different genic regions	p. 28
16. Table 8. Primers used in Sanger sequencing	p. 29-30
17. Table 9. Detailed information on peptides from mass spec	p. 31-40
18. Table 10. Description of the 10,210 RDD sites	p. 41-147
19. References	p. 148

Supplementary Figure 1A. Flowchart of analysis

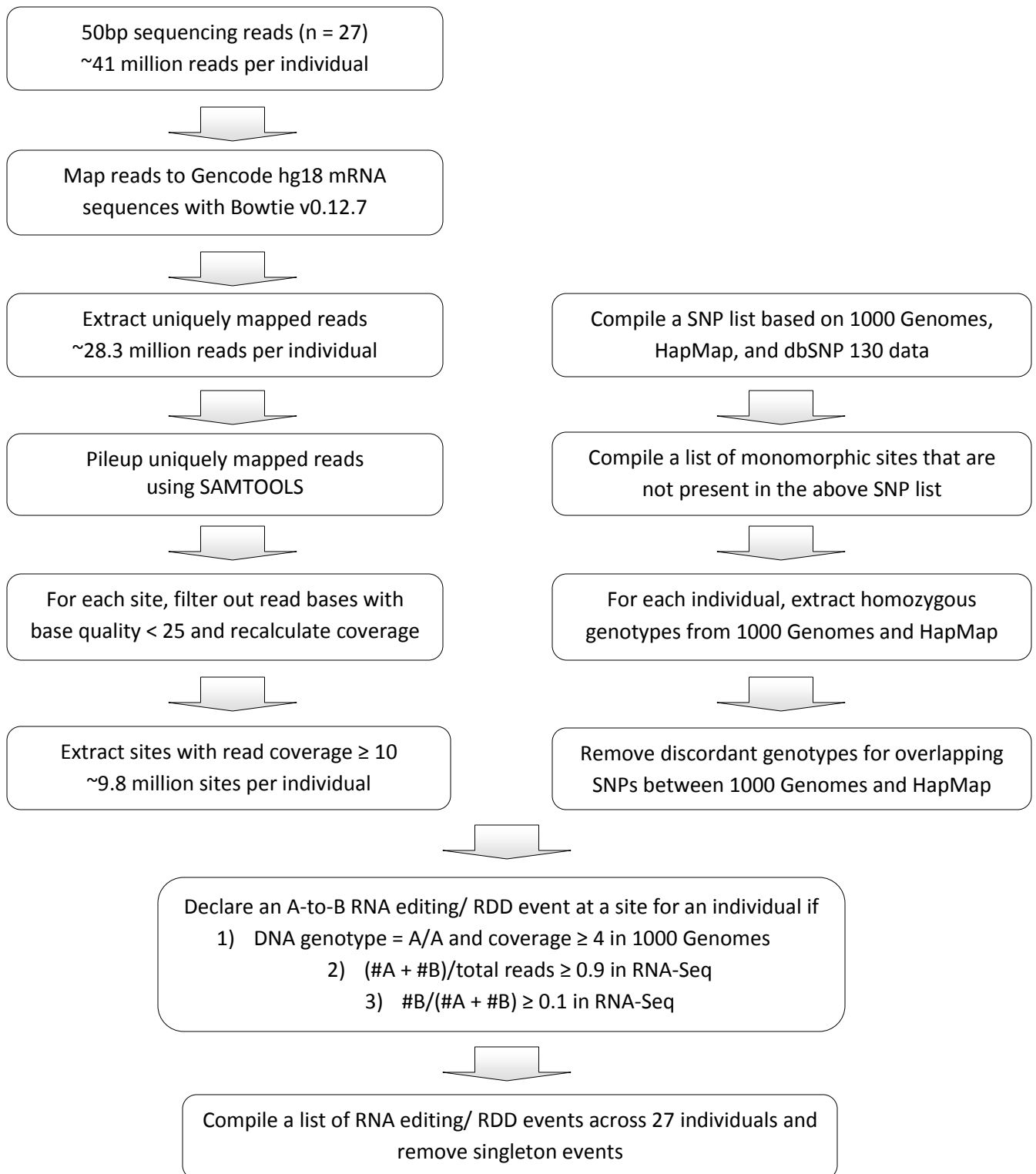


Figure 1B. Different data generated and analyses conducted in this study.

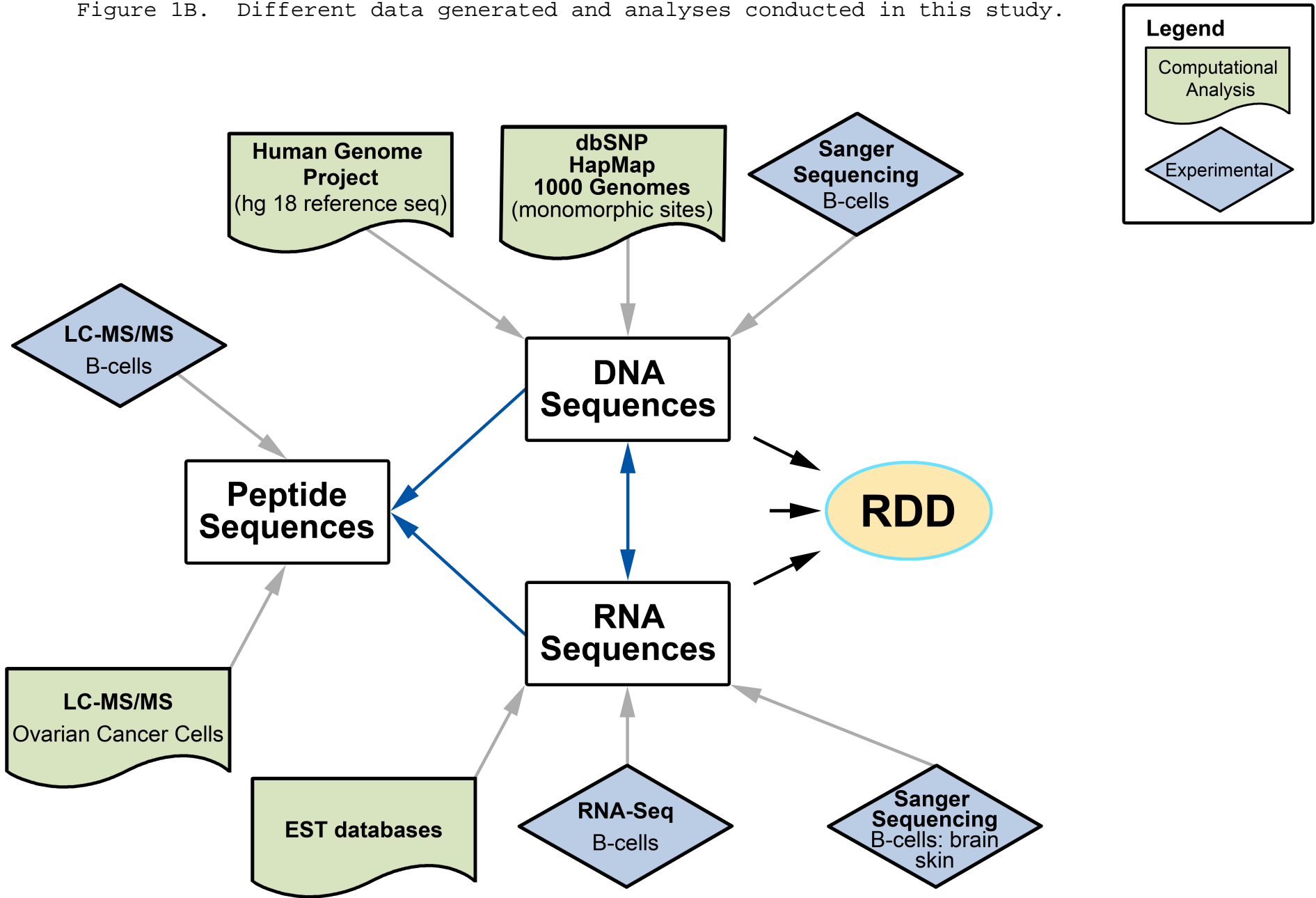
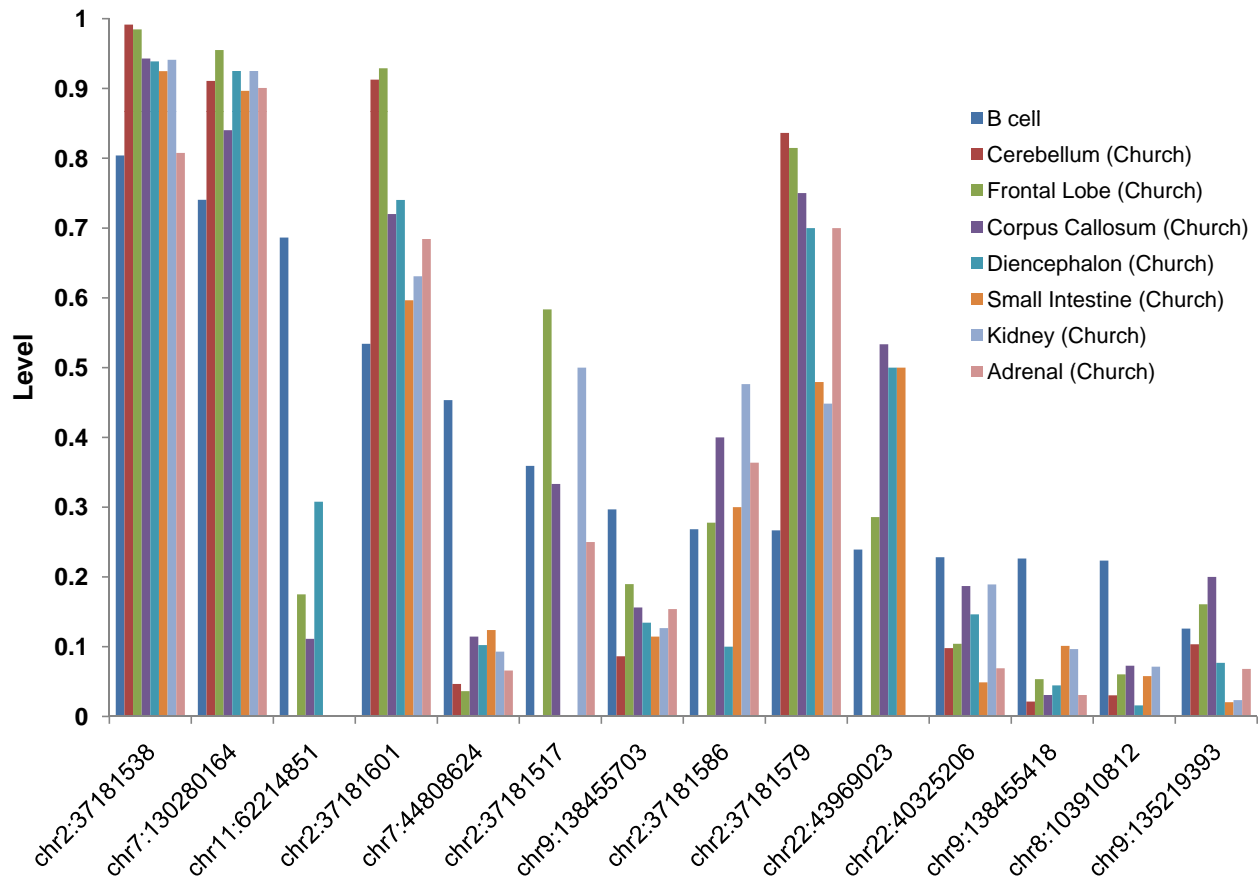


Fig. S2. Comparison of A-to-G levels in B-Cells (this study) and those in other cell types collected by G. Church's group



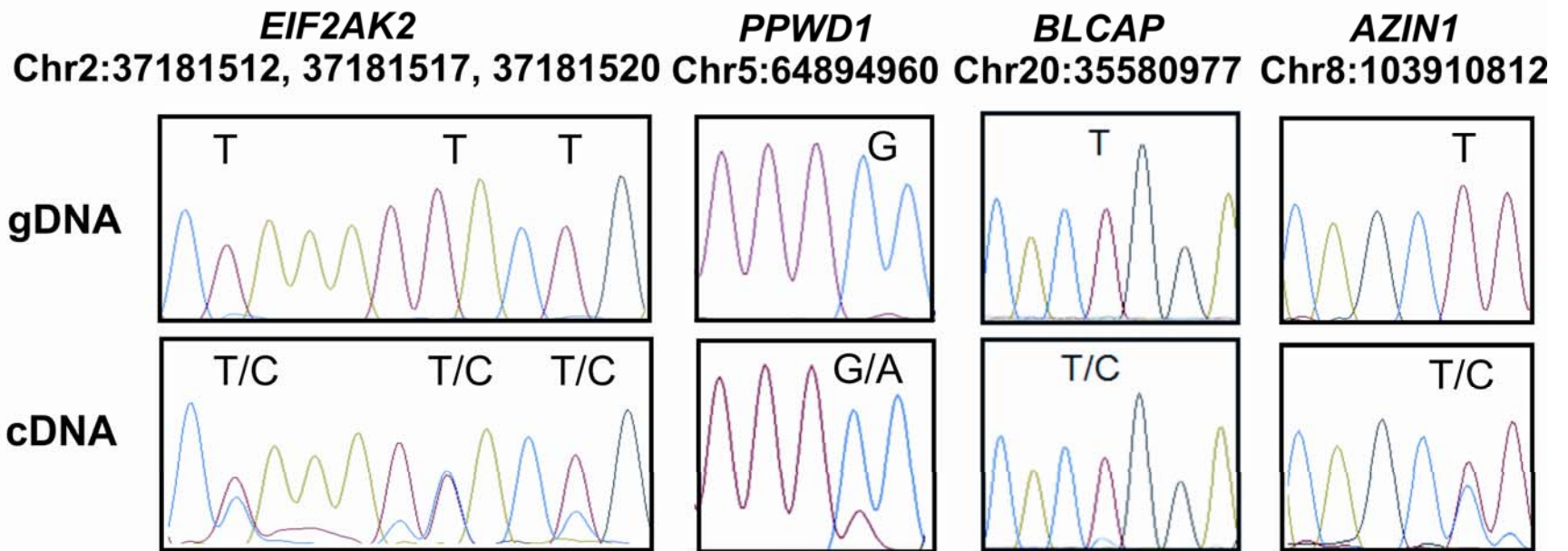


Figure S3. Examples of RDD sites by Sanger sequencing. Sequences of matched DNA and RNA sequences from cultured B-cells for four genes are shown. Each matched pair of DNA and RNA sequences was from the same individual. The reverse strand of *EIF2AK2*, *AZIN1* and *BLCAP* was sequenced. Locations of the sites are based on hg18 build of the human genome.

Fig. S4. Comparison of the number of RDD events per individual by SNPs and monomorphic sites.

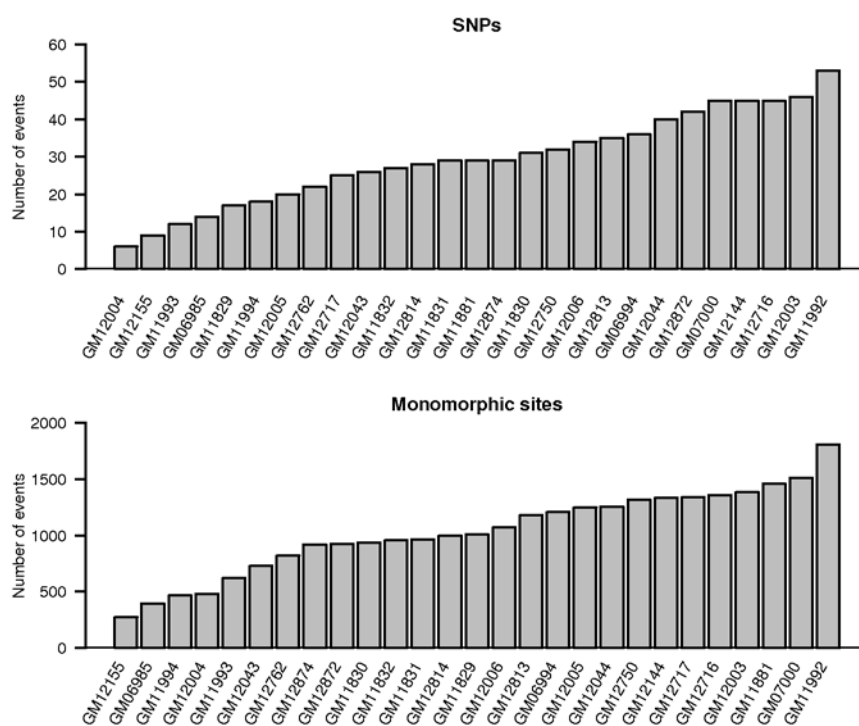
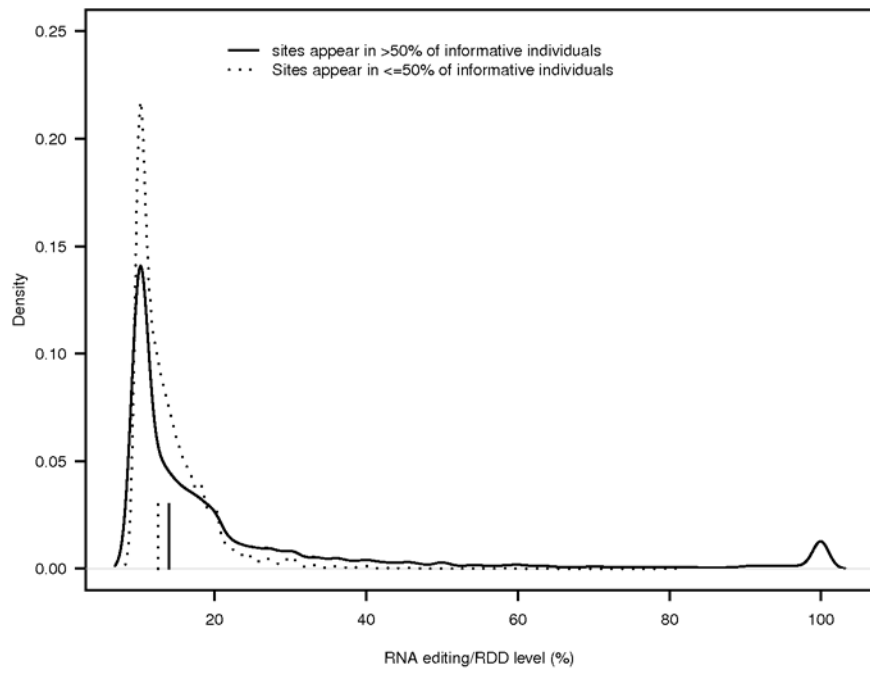


Fig. S5. Editing and RDD levels by frequency.



Comparison of our analysis using our RNA-Seq data and those previously generated (26):

Instead of aligning our sequence reads to Gencode regions of the reference human genome. We aligned the sequences to the entire reference genome. For that analysis, we required each site to be covered by 20 or more reads and a RDD site is called only if 20% or more of the reads cover a site that differs from the DNA sequence. With these criteria, among the 27 subjects, we identified 101,574 events where the RNA sequences do not match those of the corresponding DNA sequences in our 27 subjects. These events are found in 20,753 sites in the human genome and reside in 4,507 known genes.

Independently, Dermitzakis and colleagues have performed RNA-sequencing on the same set of CEPH individuals (26). This provides an opportunity to validate our findings on a genome scale. We took their RNA-Seq data and used the same analysis pipeline to identify RDD sites. They did not sequence the samples as deeply as we did (0.7 Gb vs 2 Gb per sample) so we could not compare all the sites. However, we were able to compare a large number of sites; among the 101,574 events identified in our data, 19,243 events have coverage ≥ 20 in the Dermitzakis's dataset. Among these events, 17,100 (89%) showed identical RNA-DNA differences as in our dataset. Because we applied a stringent requirement that 20% or more of the RNA-Sequencing reads has to differ from the DNA to call a site, the 89% concordance with Dermitzakis's data is likely an underestimate. The results are encouraging since the RNA-Seq data were generated by two labs independently, yet the findings are highly concordant.

Sequence errors or coverage do not contribute to individual differences in number of RDD events:

One concern with these individual differences is sequencing errors particularly for those monomorphic sites since subjects in the 1000 Genomes Project were sequenced at low depth. To eliminate such a possibility, we compared the number of events between SNPs and monomorphic sites found in each individual and observed similar patterns (Spearman correlation = 0.74, $P < 10^{-7}$; Fig. S4). We have confidence in the SNP genotypes because the genotypes from the 1000 Genomes Project were based on consensus calls using three different genotype calling algorithms¹⁹ and for SNPs that were found in the 1000 Genomes and the HapMap Projects, we considered only those with concordant genotypes. The similar patterns between SNPs and monomorphic sites provide reassuring evidence that genotyping errors are unlikely to explain the variability among individuals. Another concern with the individual variation in the number of events is that the RNAs of different individuals were sequenced at different depths. To evaluate the potential impact of sequencing depth, we fitted a linear model with the number of events as the outcome variable and the number of bases covered by 10 or more reads as independent variable and found that the number of events and sequencing depth are not dependent ($P = 0.51$), suggesting that the variability is not due to variation in coverage. Similarly, the depth of DNA sequences from 1000 Genomes cannot explain the individual differences in the number of RDD events ($P = 0.12$). These analyses suggest that the individual variation in the number of editing and RDD events has a biological basis.

MATERIALS AND METHODS

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Study samples

We used data generated by sequencing RNA from 27 cultured B-cell lines obtained from Coriell (Camden, NJ, USA). These cell lines were derived from individuals of European descent from the Utah pedigrees of the CEPH collection which have been extensively genotyped or sequenced by the International HapMap and the 1000 Genomes Projects. All individuals are unrelated. The list of individuals is shown in Table S1. The B-cells were grown to a density of 5×10^5 cells/mL in RPMI 1640 supplemented with 15% fetal bovine serum, 100 units/mL penicillin and 100 μ g/mL streptomycin, and 2 mmol/L L-glutamine.

Foreskin tissues were collected from circumcisions of 10 healthy and unrelated 3-day old newborns (anonymous donors at the Hospital of the University of Pennsylvania). Primary fibroblasts were isolated from these foreskin tissues. Briefly, the tissues were sectioned and the epidermis was removed. The remaining dermis was incubated in 1 ml of 3 mg/ml collagenase (Roche, Indianapolis, IN, USA) in HBSS buffer with calcium and magnesium (Mediatech, Manassas, VA, USA) at 37°C for 30 minutes. 1 ml of 0.5% Trypsin/EDTA (Invitrogen, Carlsbad, CA, USA) was then added and the tissue was incubated at 37°C for 10 minutes. After inactivating trypsin by adding 1 ml MEM medium (Invitrogen) with 10% fetal bovine serum (Hyclone, Logan, UT, USA), undigested tissue pieces were removed and fibroblasts were collected from suspension by centrifugation. Passage-1 fibroblasts were subsequently cultured at 37°C in 5% CO₂ in MEM medium supplemented with 10% fetal bovine serum, 2 mMmol/LL-glutamine, 100 U/mL penicillin and 100 μ g/ml streptomycin, and were passaged every 3 days.

Human brain tissues were obtained from National Disease Research Interchange. Tissues from cerebral cortex were collected during routine autopsy of cardiac-death donors within 7~12 post-mortem hours. Samples were snap-frozen and kept at -80°C until DNA/RNA extraction. All 10 subjects were Caucasians with age of 43~79 years, including both males and females.

Library preparation for Illumina sequencing and sequence alignment

RNA-Seq was performed as recommended by the manufacturer (Illumina, Hayward, CA, USA). Briefly, cells were harvested 24 hours after addition of fresh medium and total RNA was extracted using the RNeasy Mini kit with DNase treatment (Qiagen, Valencia, CA, USA). PolyA mRNA was isolated and fragmented. First strand cDNA was prepared using random hexamers. Following second strand cDNA synthesis, end repair, addition of a single A base, adaptor ligation, agarose gel isolation of ~200 bp cDNA and PCR amplification of the ~200 bp cDNA, the samples were sequenced using the Illumina 1G Genome Analyzer to a coverage of approximately 41 million 50-bp reads per sample. High quality reads were mapped to the Gencode mRNA sequences (build hg18) using program Bowtie (40) (v0.12.7). We used the default settings of Bowtie (allowing up to two mismatches) and then extracted uniquely mapped reads from the obtained SAM file.

Identification of RNA editing and RDD events

We required the RNA editing or RDD site to be homozygous in the genomic DNA. Such a site can be either a SNP with homozygous genotype or a monomorphic site (i.e, a site not in dbSNP, and not among SNPs identified by the HapMap and the 1000 Genomes Projects). If it is a SNP, we obtained the corresponding SNP genotypes from the HapMap and the 1000 Genomes Projects. For overlapping SNPs between these two projects, we required the genotypes to be

concordant. If it is a monomorphic site, we assumed all individuals are homozygous for the reference allele in the reference genome. We detected RNA editing or RDD events by comparing genotypes derived from DNA-Seq with those from RNA-Seq on the same individual.

For each individual, an event is declared at a site if 1) the number of uniquely mapped reads in RNA-Seq is ≥ 10 and the per-base sequence quality score for each of the covered base is ≥ 25 , 2) the number of uniquely mapped reads in DNA-Seq is ≥ 4 in the 1000 Genomes Project, 3) the individual's genotype at the site is homozygous, and 4) $\geq 10\%$ of the mapped reads in RNA-Seq show an allele that differs from the individual's (DNA-level) genotype. We removed all sites that overlap with segmental duplications (defined by <http://humanparalogy.gs.washington.edu/build36/build36.htm>) and repetitive sequences (defined by RepeatMasker).

EST search

We analyzed those RDD sites where the DNA sequences are monomorphic (not known as SNPs in dbSNP, HapMap or 1000 Genome projects). For each site, we used BLAST to search for sequences corresponding to the RNA-allele and 25 nucleotides up and downstream of that site in human dbEST. An EST is found to contain the RDD allele if its sequence is identical to the RNA-form of the RDD site and there is no more than 1 mismatch (except for known SNPs) to the 51-nucleotide query sequence. The EST must also map to the gene where the RDD was called (the mapping is mostly according to Unigene).

Validation with Sanger sequencing

To validate whether the sites we identified show RNA and DNA differences and to confirm the RNA editing/ RDD level, we carried out Sanger sequencing. Genomic DNA and total RNA were extracted using the Qiagen AllPrep DNA/RNA kit (with DNase treatment for total RNA) from B-cells and foreskin fibroblast. DNA and RNA from human brain tissues were extracted using Genra Puregene Tissue Kit and RNeasy Lipid Tissue Mini kit (Qiagen), respectively. RNA was converted to single stranded cDNA using TaqMan reverse transcription reagents with oligo d(T) priming (Applied Biosystems, Foster City, CA, USA). PCR products (see Supplementary Table 8 for primer sequences) encompassing putative RNA editing sites were generated from the cDNA and sequenced using BigDye Terminator Cycle Sequencing on a 3730 DNA Analyzer (Applied Biosystems). RNA editing/ RDD sites were validated by visual inspection of sequencing traces independently by at least two individuals.

Mass spectrometry

Protein Database with RDD sites: We made a protein database using Gencode mRNA sequences. For genes that display non-synonymous RDDs, protein forms predicted from both DNA sequences and RNA sequences were included. This database consists of 17,726 protein entries, among which 2,057 proteins contain RDD sites. This allows us to search for spectra of peptides encoded by the DNA and RNA forms of mRNAs simultaneously. Mass spectrometry data were searched against this database using a locally installed version of Mascot search engine (41) (Matrix Science, Boston, MA, USA). In order to evaluate the certainty of search result and false discovery rate, we included a decoy database search. The decoy database contains the reversed amino acid sequences of each protein contained in the original database, thus no true matches should be expected (43). Each dataset was searched against both the original and the

decoy databases, using the same parameters. The false discovery rate (FDR) was determined using the number of the matches from the original database (TP) and those from decoy database ($FDR = FP / (TP + FP)$).

Ovarian cancer and leukemic cells: First we mined public databases for large-scale mass spectrometry data on human cells. We found two comprehensive datasets on proteomic profiling of ovarian cancer cells (30) and leukemic cells, K562 (<https://proteomecommons.org/dataset.jsp?i=76466>). The data were downloaded from Proteome commons database. The downloaded m/z XML files were converted to Mascot compatible format using ReAdW (42). We used the following search parameters of Mascot: for the ovarian cancer cells, we used the same parameters as the original study (30): Parent ion Δ mass of 4 Da, fragment mass error of 0.4 Da, complete carbaminomethyl modification of cystein, and allow one trypsin miscleavage; for the leukemic cells: parent ion Δ mass of 0.3 Da, fragment mass error of 0.5 Da, complete carbaminomethyl modification of cystein and variable N-terminal acetylation and methionine oxidation, allowing up to one trypsin miscleavage (same as B-cells, see below). False discovery rate is <1% (determined by Mascot decoy database search).

B-cells: Cultured B-cells from 15 CEPH individuals were cultured as described above for GEL/LC-MS/MS. Equal number of cells from each individual were pooled and lysed in 20 mM Tris HCl pH 8, 137 mM NaCl, 10% glycerol, 1% Nonidet P-40 (NP-40) and 2 mM EDTA. 60 μ g of total protein was pre-fractionated and digested as described by Beer and colleagues (44). Specifically, the sample of 60 μ g of total protein was loaded onto a 12% NuPAGE Bis-Tris gel and was run until the dye reached 2 cm from the bottom of the loading well. The gel was stained with Coomassie R250 and destained using methanol and water. The entire lane of protein was sliced into 27 1-mm slices using a razor array. Gel slices were destained in 200 μ l of 200 mM ammonium bicarbonate and 50% acetonitrile for 30 minutes with shaking at 37°C and then dried in a Speedvac. This was followed by incubation in 100 μ l of 20 mM TCEP in 25 mM ammonium bicarbonate (pH 8.0) for 15 minutes at 37°C. The supernatant was discarded and 100 μ l of 40 mM iodoacetamide in 25 mM ammonium bicarbonate (pH 8.0) was added and incubated for 30 minutes at 37°C. The supernatant was again discarded and the gel slices were washed twice with 200 μ l of 25 mM ammonium bicarbonate in H₂O and once with 25 mM ammonium bicarbonate in 50% acetonitrile. The gel slices were dried and then rehydrated with 20 μ l of 0.02 μ g/ μ l modified Trypsin (Promega, Madison, WI, USA) in 40 mM ammonium bicarbonate overnight with shaking at 37°C. The supernatant was then transferred to a clean tube and the gel slices were incubated in 20 μ l of 40 mM ammonium bicarbonate for 30 min at 37°C. The supernatants were combined and 4 μ l of acetic acid was added. Extracted tryptic peptides were injected onto a nanocapillary reverse-phase column (75 μ m column terminating in a nanospray 15 μ m tip) directly coupled to a LTQ-Orbitrap mass spectrometer (Thermo Scientific, Pittsburgh, PA, USA). The MS/MS data was acquired using a top six method. Each fraction of tryptic peptides was injected and analyzed in triplicates to increase the depth of protein detection. The raw spectra files were converted to Mascot compatible format using BioWorks v 3.3.1 (Thermo Scientific, Waltham, MA, USA). We used the same protein database as in the cancer cell analysis described above. The following Mascot search parameters were applied: parent ion Δ mass of 0.3 Da, fragment mass error of 0.5 Da, complete carbaminomethyl modification of cystein and variable N-terminal acetylation and methionine oxidation, allowing up to one trypsin

miscleavage. False discovery rate is <1% (determined by Mascot decoy database search); see Table S9 for details on search results.

At FDR <1%, 38,572 unique peptides (from 3,217 proteins) were detected. Among them, 11,496 peptides are from the 659 proteins that contain one or more RDD sites although the RDD-containing peptides were not necessarily detected. Among the 659 proteins, we detected 299 and 28 peptides encoded by the DNA and RNA forms of RDDs (Table S5). As shown in Table 3 of main text, 17 pairs of peptides differ in one residue that corresponded to the RNA and DNA variants at RDD sites. A RDD site in RPL28 led to a loss of a STOP codon and resulted in a larger protein with additional amino acids. We carried out BLAST search and ensured that all 28 peptides that correspond to the RNA forms of the RDD-containing peptides are unique to the proteins of interests. For these alignments, we used “nr” to search all nonredundant sequences (which includes CDS translations+PDB+SwissProt+PIR+PRF). All 28 RDD sites correspond to monomorphic sites; by Sanger sequencing of the same aliquot of B-cells used for mass spectrometry, we validated the sequences correspond to the reference genome sequence (Table S8).

Table S1. Characteristics of RNA-seq samples and distribution of events by individual

ID	Gender	Total reads	Uniquely mapped reads	Bases \geq 10 coverage	DNA coverage	Number of events		Total
						Homozygous SNPs	Monomorphic sites	
GM06985	F	38424688	24864586	16038399	2.6	14	394	408
GM06994	M	37634150	31439915	19979779	4.6	36	1208	1244
GM07000	F	36665036	26987933	16357700	4.1	45	1512	1557
GM11829	M	37293182	28117279	16305573	6	17	1011	1028
GM11830	F	36412185	26729286	16388938	6.4	31	938	969
GM11831	M	38923882	26175492	16683852	6.4	29	965	994
GM11832	F	38657782	27779737	16629265	2.8	27	956	983
GM11881	M	49771575	29645009	15899948	5.1	29	1462	1491
GM11992	M	63260299	41104692	17703651	5.7	53	1810	1863
GM11993	F	38441615	27190601	15681535	3.7	12	621	633
GM11994	M	42390584	27741424	16702144	13.8	18	466	484
GM12003	M	36977676	29073057	17727318	5.9	46	1384	1430
GM12004	F	28390919	21836374	13369507	6.2	6	480	486
GM12005	M	45286259	25260540	11909776	6.1	20	1248	1268
GM12006	F	35506222	28101550	14554102	3.3	34	1070	1104
GM12043	M	36999366	27453229	17312508	4.2	26	728	754
GM12044	F	39839492	30992207	16088150	4.7	40	1255	1295
GM12144	M	35020229	21561396	11631101	5.5	45	1334	1379
GM12155	M	43551373	33153306	16821880	11.7	9	273	282
GM12716	M	46656852	30454296	16024579	5.9	45	1358	1403
GM12717	F	40635780	32974555	20054384	5.2	25	1339	1364
GM12750	M	45066631	31480502	17290976	4.2	32	1319	1351
GM12762	M	47651198	31766092	17761776	2.2	22	819	841
GM12813	F	45288662	34565796	18137367	3.7	35	1179	1214
GM12814	M	39024182	29109410	16700518	4.7	28	996	1024
GM12872	M	45367154	17499200	9290271	4.9	42	927	969
GM12874	M	39588081	20781628	10406285	4.9	29	919	948
Total		1108725054	763839092	429451282	144.5	795	27971	28766
Mean		41063891	28290337	15905603	5.4	29	1036	1065

Table S2. Genomic DNA sequences verified by Sanger sequencing.

Gene	RDD	Location	genomic DNA (Sanger)
CD22	TtoG	chr19:40514815	T
DFNA5	TtoA	chr7:24705225	T
ENO1	TtoC	chr1:8848125	T
FH	TtoA	chr1:239747217	T
HMGB1	TtoA	chr13:29935772	T
HMGB1	AtoC	chr13:29935469	A
ITPR3	AtoC	chr6:33755773	A
RAD50	TtoG	chr5:131979610	T
ROD1	GtoT	chr9:114026264	G
RPL32	GtoT	chr3:12852658	G
RPS25P8	AtoG	chr11:118393375	A
RPS3AP47	CtoA	chr4:152243651	C
SUPT5H	GtoT	chr19:44655806	G
TOR1AIP1	TtoC	chr1:178144365	T
TUBA1	AtoG	chr2:219823379	A

* RDD sites are those that were found as RNA forms in peptides (mass spectrometry analysis). We sequenced DNA extracted from the pooled samples of cell extracts used in the mass spectrometry analysis. Sanger sequencing verified that all the sites are monomorphic; the results agree with the sequencing data from the 1000 Genomes and Human Genome Projects (as shown in the UCSC Genome Browser for the reference genome).

Table S3. EST clones that contain RDD alleles				
Gene	Chr	Position (bp)	EST evidence	Type
CLSTN1	1	9712103	AU152901 (teratocarcinoma),	AtoC
<i>DCP1A</i>	3	53,297,343	DA808260 (brain), BX100388 (liver spleen)	AtoC
<i>EIF4G3</i>	1	21168555	no EST found	AtoC
<i>HSP90AB1</i>	6	44,328,823	BQ355193 (head neck), BX413896 (B cells)	AtoC
<i>KDELR1</i>	19	53584669	BU543348 (prostate), CF995267 (chondrosarcoma)	AtoC
<i>LSP1</i>	11	1,870,029	AI217606 (fetal heart), AI950527 (squamous cell carcinoma)	AtoC
<i>NADK</i>	1	1674121	no EST found	AtoC
<i>NPEPPS</i>	17	43055387	CA450360 (lung), BQ575372 (chondrosarcoma)	AtoC
<i>SRM</i>	1	11037319	no EST found	AtoC
<i>TRIT1</i>	1	40082465	BF367406 (placenta)	AtoC
<i>AZIN1</i>	8	103910812*	CD359333 (testis), BF475970 (prostate)	AtoG
<i>BLCAP</i>	20	35580977#	DB116616 (thymus), DB026916 (testis)	AtoG
<i>EIF2AK2</i>	2	37181512, 37181517*, 37181520	no EST found	AtoG
<i>FLNB</i>	3	58116831*	DB275343 (uterus), DA233151 (brain)	AtoG
<i>MLEC</i>	12	119623907	no EST found	AtoG
<i>MPDU1</i>	17	7431312	CA406137 (adipose), BU527340 (epidermoid carcinoma)	AtoG
<i>PPIA</i>	7	44808624*	BM929405 (eye), BM909254 (astrocytoma)	AtoG
<i>SLC16A1</i>	1	113256882	no EST found	AtoG
<i>SURF4</i>	9	135219393	CD513428 (brain), CB159710 (liver)	AtoG
<i>UBE2J2</i>	1	1181354	no EST found	AtoG
<i>AK2</i>	1	33247070	CK725144 (bone), BQ086338 (pancreatic islet)	AtoT
<i>ANKRD10</i>	13	110344637	no EST found	AtoT
<i>B2M</i>	15	42791020	AV733993 (pheochromocytoma), CK002538 (brain)	AtoT
<i>CNBP</i>	3	130,372,812	EL955109 (eye), BJ995106 (hepatoblastoma)	AtoT
<i>COX6A1</i>	12	119362764	AI092730 (heart), AI290411 (placenta)	AtoT
<i>EEF1G</i>	11	62083794	BX393801 (neuroblastoma), BX378319 (placenta)	AtoT
<i>FBXO42</i>	1	16514300	no EST found	AtoT
<i>MALAT1</i>	11	65026864	no EST found	AtoT
<i>PPP3CB</i>	10	74876339	no EST found	AtoT
<i>RNF2</i>	1	183327390	CN265767 (ES)	AtoT
<i>GSTP1</i>	11	67,110,698	AA701043 (pineal), BP425295 (intestine)	CtoA
<i>HIGD2A</i>	5	175749358	DN999057 (bone marrow), EC557582 (prostate)	CtoA
<i>HINT1</i>	5	130522885	AA826846 (prostate)	CtoA
<i>MX1</i>	21	41,753,010	BP387195 (pancreatic islet), CA307542 (macrophage)	CtoA
<i>MYL6</i>	12	54,841,626	EC496428 (prostate), BG030232 (breast adenocarcinoma)	CtoA
<i>PDCL3</i>	2	100554512	CD103783 (skin), AW955784 (colon tumor)	CtoA
<i>RPL3</i>	22	38038834	CA305940 (macrophage), CD106758 (brain)	CtoA
<i>RPS3A</i>	4	152240239	CR991113 (T-cells), DW429987 (liver)	CtoA
<i>ST13</i>	22	39558576	no EST found	CtoA
<i>VDAC2</i>	10	76,661,042	BP197712 (adrenal), BX364042 (B cell)	CtoA
<i>ARID1A</i>	1	26971890	DB293877 (endothelial cells), DB276783 (uterus)	CtoG
<i>B2M</i>	15	42,791,002	FN155323 (breast carcinoma), DW465469 (liver)	CtoG
<i>COMT</i>	22	18,336,272	AI797179 (carcinoid), BX339791 (placenta)	CtoG
<i>CYTH2</i>	19	53673135	CN364748 (ES), BX455397 (brain)	CtoG
<i>H2AFX</i>	11	118470179	no EST found	CtoG
<i>NDUFC2</i>	11	77,468,303	DB105510 (thymus), EL950726 (eye)	CtoG
<i>RBM23</i>	14	22,440,217	BQ232763 (testis, embryonic)	CtoG
<i>RPLP1</i>	15	67532211	DW467524 (liver), CK001450 (brain)	CtoG
<i>SFRS5</i>	14	69303847	no EST found	CtoG
<i>SNRPE</i>	1	202099467	no EST found	CtoG
<i>CTBP2</i>	10	126672506	AA309267 (hepatocellular carcinoma), AW961838 (colon)	CtoT
<i>DPP7</i>	9	139,128,755	DB282304 (uterus), DB083627 (testis)	CtoT
<i>GON4L</i>	1	154020201	BI114125 (rhabdomyosarcoma), DA569196 (embryonic tissues)	CtoT
<i>NDUFS5</i>	1	39264595	DW435173 (liver), BM738465 (lymphoblast)	CtoT
<i>PRDM2</i>	1	13986214	no EST found	CtoT
<i>RPL23</i>	17	34,263,515	BP206252 (smooth muscle), CK128791 (embryonic stem cell)	CtoT
<i>SLC25A1</i>	22	17,543,578	BY798887 (eye), BX383114 (T cell)	CtoT
<i>SLC25A1</i>	22	17543578	BY798887 (eye), BX407174 (placenta)	CtoT

<i>TUBB2B</i>	6	3,169,822	no EST found	CtoT
<i>UBE2G2</i>	21	45015596	BI253788 (cervical carcinoma)	CtoT
<i>BLNK</i>	10	97,957,645	BF972964 (leiomyosarcoma), BE881159 (lung carcinoma)	GtoA
<i>CARHSP1</i>	16	8,856,270	BY995830 (mast cell), CB055134 (glioblastoma)	GtoA
<i>DUSP</i>	10	112,261,285	no EST found	GtoA
<i>FBX044</i>	1	11641457	no EST found	GtoA
<i>FIBP</i>	11	65,407,967	CD017568 (hemopoietic stem cell), CB306355 (epithelium)	GtoA
<i>GPX1</i>	3	49,369,615	BP389951 (pancreatic islet), BP294983 (macrophage)	GtoA
<i>HLA-DQB2</i>	6	32,833,537, 32,833,545, 32,833,537	no EST found	GtoA, GtoA, CtoT
<i>PFKL</i>	21	44,571,683	CT000835 (T cell), AU310615 (neuroblastoma)	GtoA
<i>RHOT1</i>	17	27,526,465	BQ345807 (nerve tumor)	GtoA
<i>TAF5L</i>	1	227805007	BF091853 (testis), AW170566 (cervix)	GtoA
<i>C17orf70</i>	17	77,117,583	AA625546 (melanocyte), AA564879 (prostate)	GtoC
<i>CCDC88B</i>	11	63873710	No EST found	GtoC
<i>CHFR</i>	12	131927447	BI262008 (lymphoma), BF736510 (bladder tumor)	GtoC
<i>CTBP2</i>	10	126717637	CD106509 (pituitary)	GtoC
<i>DDX24</i>	14	93587286	No EST found	GtoC
<i>EI24</i>	11	124957509	No EST found	GtoC
<i>HMGB1</i>	13	29934680	AU128946 (teratocarcinoma), CB267551 (adipose)	GtoC
<i>PRC1</i>	15	89326052	CN348404 (ES), BF969637 (adrenal cortex carcinoma)	GtoC
<i>PTOV1</i>	19	55055410	EL953342 (eye), EC536111 (prostate)	GtoC
<i>ZWINT</i>	10	57787551	No EST found	GtoC
<i>DHCR7</i>	11	70837047	BX383615 (T cells)	GtoT
<i>GOLGA3</i>	12	131858545	no EST found	GtoT
<i>HMG2</i>	1	26674349	BX388386 (neuroblastoma), BE091398 (breast)	GtoT
<i>HNRNPA1P2</i>	12	52962537	BM083591 (large cell carcinoma), BE882415 (leiomyosarcoma)	GtoT
<i>IRF2BP2</i>	1	232808841	BM994807 (chondrosarcoma), BE062504 (breast)	GtoT
<i>MMACHC/PRDX1</i>	1	45749309	BU934412 (pooled), BY999091 (epithelium)	GtoT
<i>PAN2</i>	12	54999230	no EST found	GtoT
<i>PGAP2</i>	11	3801714	no EST found	GtoT
<i>RBM23</i>	14	22440250	BQ232763 (testis)	GtoT
<i>STAT2</i>	12	55036254	no EST found	GtoT
<i>ARHGDIB</i>	12	14986231	AW893953 (nerve), AW513645 (granulosa tumor)	TtoA
<i>LAPTM5</i>	1	30977905	no EST found	TtoA
<i>PCBP2</i>	12	52159874	BG204392 (sarcoma), BG200284 (sarcoma)	TtoA
<i>PPP3CB</i>	10	74876340	DA791456 (brain), BP377586 (uterus)	TtoA
<i>PRPF38A</i>	1	52655038	no EST found	TtoA
<i>PSMD4</i>	1	149501330	no EST found	TtoA
<i>RAN</i>	12	129926756	BP389950 (pancreas)	TtoA
<i>RPS8</i>	1	45017000	BY998701 (epithelium), DT220983 (brain)	TtoA
<i>SRGN</i>	10	70534516	no EST found	TtoA
<i>VPS26A</i>	10	70601993	CD678067 (bone), AA093598 (heart)	TtoA
<i>AL662795</i>	6	30336961	CT000809 (T-cells), CT003894 (T-cells)	TtoC
<i>BTN2A2</i>	6	26499056	AI254396 (ovarian carcinoma), AA527650 (sarcoma)	TtoC
<i>COMMD1</i>	2	62216686	no EST found	TtoC
<i>CTPS</i>	1	41249976	no EST found	TtoC
<i>HMG2</i>	1	26674233	CB145560 (liver), BQ647981 (hepatocellular carcinoma)	TtoC
<i>MARCKSL1</i>	1	32572034	no EST found	TtoC
<i>PABPCP5</i>	8	101786358	BE181981 (head, neck)	TtoC
<i>PUM1</i>	1	31177027	no EST found	TtoC
<i>SYK</i>	9	92700130	DA829334 (placenta), BG754228 (B-cells)	TtoC
<i>TRNAU1AP</i>	1	28763847	DA923318 (intestine), CA395907 (retina)	TtoC
<i>C11orf10</i>	11	61316640	CD685627 (nasopharynx), BU960944 (mixed cell types)	TtoG
<i>CLP1</i>	11	57184884	BI856612 (mammary adenocarcinoma),	TtoG
<i>GANAB</i>	11	62156790	DC409644 (thymus), DC335243 (hippocampus)	TtoG
<i>HK1</i>	10	70831630	no EST found	TtoG
<i>MDM4</i>	1	202789468	no EST found	TtoG
<i>PRPF3</i>	1	148571780	no EST found	TtoG
<i>RPL37</i>	5	40,871,072	CF124792 (T cell), DW459229 (liver)	TtoG

<i>RPS2</i>	16	1,954,544	BU175665 (lung carcinoma), BQ672658 (epidermoid carcinoma)	TtoG
<i>SLAMF6</i>	1	158759594	CD635370 (not specified),	TtoG
<i>TPM3</i>	1	152412239	BI020350 (bone marrow), AW800178 (uterus)	TtoG
For most sites, we found multiple ESTs that contain the RNA-forms of the RDD sites, we listed two per site as examples.				
# Reported in Reidmann et al, 2008				
* Also identified by Li, Levanon et al, 2010.				
All sites listed are monomorphic sites in the genome (except DPP7) thus the genomic sequences of the ESTs should be the same as the reference sequence.				

Table S4. Mass spectrometry data in ovarian cancer cells (A) and leukemia cells (B) detected peptides encoded by DNA or RNA sequences (underlined) at multiple RDD sites.

A. Peptides detected form HOC-7 ovarian cancer cell line					
Protein	Location*	RDD	AA change	DNA form peptide	RNA form peptide
RPL28*	chr19:60590467	T-to-A	STOP-to-R	N/A	SLIGTASEPR
TUBA1	chr2:219823379	A-to-G	E-to-G	EDMAALE <u>K</u>	EDMAAL <u>G</u> K
HSPA4	chr5:132459768	T-to-G	V-to-G	TST <u>V</u> DLPIENQLLWQIDR	TST <u>G</u> DLPIENQLLWQIDR
HSP90AB1	chr6:44328823	A-to-C	T-to-P	LVSSPCCIVTSTYGW <u>I</u> ANMER	LVSSPCCIVTSTYGW <u>P</u> ANMER

B. Peptides detected form K562 leukemia cell line					
Protein	Location*	RDD	AA change	DNA form peptide	RNA form peptide
DHX15	chr4:24187092	T-to-A	Y-to-N	<u>Y</u> YDILK	<u>N</u> YDILK
ENO3	chr17:4800624	T-to-G	V-to-G	N/D	LAQSNWGGMVSHR
FABP3	chr1:31618424	T-to-A	W-to-R	N/D	MVDAFLG <u>T</u> R
HNRNPA3	chr2:177789664	T-to-C	S-to-P	N/D	GGG <u>P</u> GNFMGR
HNRNPL	chr19:44021390	C-to-A	Q-to-K	AITHLNNNFMFG <u>Q</u> K	AITHLNNNFMFG <u>K</u> K
MYH10	chr17:8357846	T-to-G	W-to-G	N/D	HWQW <u>G</u> R
RANBP2	chr2:108765620	T-to-A	I-to-K	<u>I</u> TMELFSNIVPR	<u>K</u> TMELFSNIVPR
USP34	chr2:61329192	T-to-A	Y-to-N	N/D	LDMPN <u>T</u> EDFLMGK
ZFP91	chr11:58138282	A-to-G	H-to-R	N/D	YLQHRIK

* hg 18 of human genome build. (N/A- not applicable; N/D - not detected)

Table S5.Peptides encoded by DNA or RNA sequences at the RDD sites were detected in mass spectrometry analysis of cultured B-cells.

Protein	RDD site	RDD	AA change	Detected peptide	Coded by
AP2A2	chr11:976858	T-to-G	Y-to-D	<u>D</u> LALES <u>M</u> CTLASSEFSHEAVK	RNA
AP2A2	chr11:976858	T-to-G	Y-to-D	<u>Y</u> LALES <u>M</u> CTLASSEFSHEAVK	DNA
DFNA5	chr7:24705225	T-to-A	L-to-Q	VFP <u>Q</u> LLCITLNGLCALGR	RNA
DFNA5	chr7:24705225	T-to-A	L-to-Q	VFP <u>L</u> LLCITLNGLCALGR	DNA
ENO1	chr1:8848125	T-to-C	L-to-P	EG <u>P</u> ELLK	RNA
ENO1	chr1:8848125	T-to-C	L-to-P	EG <u>L</u> ELLK	DNA
ENO3	chr17:4800624	T-to-G	V-to-G	LAQSN <u>G</u> WG <u>G</u> MVSHR	RNA
ENO3	chr17:4800624	T-to-G	V-to-G	LAQSN <u>G</u> WG <u>V</u> MVSHR	DNA
FABP3	chr1:31618424	T-to-A	W-to-R	MVDAFL <u>G</u> TR	RNA
FABP3	chr1:31618424	T-to-A	W-to-R	MVDAFL <u>T</u> WK	DNA
FH	chr1:239747217	T-to-A	I-to-K	<u>K</u> EYDTFGELK	RNA
FH	chr1:239747217	T-to-A	I-to-K	<u>I</u> EYDTFGELK	DNA
HMGB1	chr13:29935772	T-to-A	Y-to-N	MSSNAFFVQTCR	RNA
HMGB1	chr13:29935772	T-to-A	Y-to-N	MSS <u>Y</u> AFFVQTCR	DNA
NACA	chr12:55392932	G-to-A	D-to-N	<u>N</u> IELVMSQANVSR	RNA
NACA	chr12:55392932	G-to-A	D-to-N	<u>D</u> IELVMSQANVSR	DNA
NSF	chr17:42161411	T-to-C	V-to-A	LLDY <u>A</u> PIGPR	RNA
NSF	chr17:42161411	T-to-C	V-to-A	LLDY <u>V</u> PIGPR	DNA
POLR2B	chr4:57567852	T-to-A	L-to-Q	IISD <u>G</u> QK	RNA
POLR2B	chr4:57567852	T-to-A	L-to-Q	IISD <u>L</u> GK	DNA
RAD50	chr5:131979610	T-to-G	L-to-R	WRQDN <u>L</u> TLR	RNA
RAD50	chr5:131979610	T-to-G	L-to-R	WLQDN <u>L</u> TLR	DNA
RPL12	chr9:129250509	A-to-G	N-to-D	HSGD <u>I</u> T <u>F</u> DEIVNIAR	RNA
RPL12	chr9:129250509	A-to-G	N-to-D	HSGN <u>I</u> T <u>F</u> DEIVNIAR	DNA
RPL28	chr19:60590467	T-to-A	STOP-to-R	SLIGT <u>A</u> SEPR	RNA
RPL32	chr3:12852658	G-to-T	A-to-S	<u>S</u> AQLAIR	RNA
RPL32	chr3:12852658	G-to-T	A-to-S	<u>A</u> AQLAIR	DNA
RPS3AP47	chr4:152243651	C-to-A	T-to-K	EV <u>Q</u> KNDLK	RNA
RPS3AP47	chr4:152243651	C-to-A	T-to-K	EV <u>Q</u> TNDLK	DNA
SLC25A17	chr22:39520485	A-to-G	E-to-G	TTHMVLL <u>G</u> IIK	RNA
SLC25A17	chr22:39520485	A-to-G	E-to-G	SKTTHMVLL <u>E</u> IIK	DNA
TUBA1	chr2:219823379	A-to-G	E-to-G	EDMAAL <u>G</u> K	RNA
TUBA1	chr2:219823379	A-to-G	E-to-G	EDMAAL <u>E</u> K	DNA
TUBB2C	chr9:139257297	G-to-A	G-to-D	LHFFMP <u>P</u> FAPLTSR	RNA
TUBB2C	chr9:139257297	G-to-A	G-to-D	LHFFMP <u>G</u> FAPLTSR	DNA
HMGB1	chr13:29935469	A-to-C	K-to-N	TMSA <u>K</u> EN	RNA
TOR1AIP1	chr1:178144365	T-to-C	S-to-P	QPSVLSP <u>G</u> YQK	RNA
RPS25P8	chr11:118393375	A-to-G	N-to-D	EVP <u>D</u> YK	RNA
CD22	chr19:40514815	T-to-G	L-to-R	MHLL <u>G</u> PWLLLR	RNA
SUPT5H	chr19:44655806	G-to-T	Q-to-H	TPMYGSQT <u>P</u> LHDGSR	RNA
ITPR3	chr6:33755773	A-to-C	D-to-A	DGVEDHSPLMYHISLVALLAACAE <u>G</u> K	RNA
CDC2L5	chr7:40094317	A-to-G	M-to-V	QMG <u>V</u> TDDVSTIK	RNA
ASAH1	chr8:17965017	C-to-A	H-to-N	GIAAVTDIPL <u>G</u> NLIHGR	RNA
POP1	chr8:99237725	T-to-G	C-to-G	EAE <u>E</u> VMDAG <u>G</u> QESAGPER	RNA
ROD1	chr9:114026264	G-to-T	G-to-V	NLFIEA <u>V</u> CSVK	RNA
PGD	chr1:10395757	A-to-C	T-to-P	TELD <u>S</u> FLIEITANILK	DNA
CAPZA1	chr1:113011240	A-to-G	N-to-D	IQVHY <u>Y</u> EDGN <u>V</u> QLVSHK	DNA
PSMD4	chr1:149501316	G-to-A	A-to-T	LQ <u>A</u> QQDAVNIVCHSK	DNA
PSMD4	chr1:149503099	A-to-G	T-to-A	IT <u>F</u> CTGIR	DNA

PSMD4	chr1:149505434	A-to-C	T-to-P	MTISQQEFGR	DNA
RAB13	chr1:152225281	T-to-C	V-to-A	LLIGDSGVGK	DNA
TPM3	chr1:152412062	T-to-C	V-to-A	LVIIEGDLER	DNA
TPM3	chr1:152412239	T-to-G	I-to-S	MELQEIQLK	DNA
TPM3	chr1:152422191	T-to-G	V-to-G	MAGITTIEAVK	DNA
ADAR	chr1:152828520	A-to-G	E-to-G	GETVNDCHAEIISR	DNA
ARHGEF2	chr1:154188626	T-to-C	V-to-A	DLLVGPVVELLLTPR	DNA
COPA	chr1:158571656	T-to-G	H-to-Q	TTFHHEYPWILSASDDQTIR	DNA
ALDH9A1	chr1:163931204	T-to-G	V-to-G	EVNLAVQNAK	DNA
UBR4	chr1:19354011	T-to-G	I-to-S	TTLEVLQLFPINIK	DNA
KIAA0090	chr1:19418760	T-to-C	Y-to-H	EENLIPYSPDVQIHAER	DNA
AKR7A2	chr1:19505140	T-to-C	S-to-P	ALQAAYGASAPSVTSAALR	DNA
PTPRC	chr1:196970974	T-to-A	D-to-E	CPDYIIQK	DNA
SNRPE	chr1:202099460	T-to-A	I-to-K	IEGCIIGFDEYMNLVLDDAEIHSK	DNA
RAB3GAP2	chr1:218450777	T-to-C	F-to-L	FYTENGVLLLAQLLNEDPVLQLK	DNA
GALNT2	chr1:228438406	T-to-G	V-to-G	VDPATSVVITFHNEAR	DNA
RPL11	chr1:23891686	C-to-G	Q-to-E	MAQDQGEK	DNA
C1orf128	chr1:23984835	G-to-A	G-to-E	DLTGELEYATK	DNA
FAM36A	chr1:243071920	C-to-G	H-to-D	HSILYGSLSVAVAGFGHFLFTSR	DNA
KPNA6	chr1:32405361	T-to-G	V-to-G	AQIQAVIDANIFPVLIILQK	DNA
NDUFS5	chr1:39267183	T-to-C	L-to-S	IEYDDFVECLLR	DNA
MACF1	chr1:39591327	T-to-C	V-to-A	IDALLDWVTSVGSQGLLTNLPGMQLSGASLEK	DNA
MACF1	chr1:39669016	T-to-C	V-to-A	LVLDTVNEVSR	DNA
TOE1	chr1:45580673	A-to-C	T-to-P	TLFLELIR	DNA
ENO1	chr1:8844063	G-to-T	E-to-D	IEEELGSK	DNA
ENO1	chr1:8845549	T-to-A	Y-to-N	YNQLLR	DNA
ENO1	chr1:8846682	A-to-C	T-to-P	FTASAGIQVVGDDLTVTNPK	DNA
ENO1	chr1:8850693	T-to-C	V-to-A	LNVTQEKEK	DNA
ENO1	chr1:8854615	G-to-C	V-to-L	AAVPSGASTGIYEALRLR	DNA
ENO1	chr1:8857500	A-to-G	T-to-A	GNPTVEVDLFTSK	DNA
ABCD3	chr1:94736821	G-to-T	E-to-STOP	VLGELWPLFGGR	DNA
ACTR1A	chr10:104231754	T-to-C	F-to-L	TLFSNIVLSGGSTLFK	DNA
SMC3	chr10:112350812	A-to-C	T-to-P	ETEGGTVLTATTSELEANK	DNA
BMS1	chr10:42617671	T-to-G	D-to-E	VLAEDEELYGDFEDLETGDVHK	DNA
TFAM	chr10:59815388	T-to-G	C-to-W	SGAELCTGCGSR	DNA
DDX21	chr10:70398756	A-to-G	Q-to-R	DSEDNPQTLIFSATCPHWVFNVAK	DNA
VPS26A	chr10:70592265	A-to-T	T-to-S	EITGIGPSTTTTETETIAK	DNA
PPA1	chr10:71644307	T-to-G	C-to-W	HTGCCGDNDPIDVCEIGSK	DNA
AASDHPPT	chr11:105467314	T-to-A	L-to-H	LEFDLSPLNLDIGQVYK	DNA
RPS25P8	chr11:118393360	A-to-C	T-to-P	LITPAVVSER	DNA
RPS25P8	chr11:118393425	T-to-C	L-to-S	LNNLVLFDK	DNA
SAAL1	chr11:18061854	T-to-A	V-to-E	VDLPLIDSLIR	DNA
NAP1L4	chr11:2953860	T-to-C	V-to-A	LDNVPHTPSSYIETLPK	DNA
COMMD9	chr11:36254337	T-to-G	W-to-G	LVDLDWR	DNA
TUT1	chr11:62083776	C-to-G	A-to-G	EYFSWEGAFQHVKG	DNA
TUT1	chr11:62083844	G-to-T	W-to-C	GQELAFPLSPDWQVDYESYTW	DNA
TUT1	chr11:62090860	C-to-G	P-to-R	DPFAHLPK	DNA
TUT1	chr11:62090860	C-to-G	P-to-A	TPSLTCPR	DNA
GANAB	chr11:62150937	A-to-C	T-to-P	HHGPQTLYLPVTLSSIPVFQR	DNA
PPP1R14B	chr11:63770495	T-to-C	L-to-P	LNLEEWILEQLTR	DNA
IPO7	chr11:9420282	A-to-G	D-to-G	QLQDIATLADQR	DNA
ARL1	chr12:100320831	T-to-C	V-to-A	LQVGEVTTIPTIGFNVETVYK	DNA
HSP90B1	chr12:102861072	G-to-A	A-to-T	GYEVIYLTEPVDEYCIQALPEFDGK	DNA

HSP90B1	chr12:102861093	A-to-G	K-to-E	GYEVIYLTEPVDEYCIQALPEFDGKR	DNA
HSP90B1	chr12:102861718	T-to-G	S-to-A	LTESPCALVASQYGW S GNMER	DNA
RPL6P10	chr12:111328141	A-to-G	N-to-D	IDISNVK	DNA
RPL6P10	chr12:111328215	T-to-C	V-to-A	QLASGLLLVTGPLYLNR	DNA
RAB35	chr12:119026056	T-to-G	W-to-G	LQIWDTAGQER	DNA
RPLP0P3	chr12:119119095	C-to-A	S-to-Y	AFLADPSAFVAAAPVAAATTAAPAAAAAPAK	DNA
RPLP0P3	chr12:119119539	A-to-T	E-to-V	VLALSVETDYTFPLAEK	DNA
ETV6	chr12:11928688	A-to-C	D-to-A	LLWDYVYQLLS S DR	DNA
UBC	chr12:123963624	A-to-T	E-to-V	ESTLHLVLR	DNA
HNRNPA1P2	chr12:52962536	A-to-C	R-to-S	QEMASASSSQRR	DNA
STAT6	chr12:55784520	G-to-T	Q-to-H	LPIQLQALSLPLVVIVHGNQDNNAK	DNA
NCAPD2	chr12:6505902	T-to-C	I-to-T	GFVHPDPLWIPFK	DNA
RPL21	chr13:26728451	T-to-G	W-to-G	GTWVQLK	DNA
LCP1	chr13:45630661	T-to-G	S-to-A	EGICAIGGTSEQSSVGTQHSYSEEEK	DNA
KPNA3	chr13:49204900	T-to-A	L-to-Q	AQNVTL E AILQNATSDNPVVQLSAVQAAR	DNA
HSP90AA2	chr14:101617878	C-to-T	T-to-I	LGLGIDEDDPTADDTSAAVTEEMPPLGDDDTSR	DNA
HSP90AA2	chr14:101620494	A-to-C	Y-to-S	VFIMDNCEELIPEYLN F IR	DNA
HNRNPC	chr14:20771963	G-to-T	G-to-V	MIAGQVLDINLAAEPK	DNA
PSME2	chr14:23682660	A-to-T	M-to-L	AMVLDLR	DNA
PSME2	chr14:23682668	T-to-C	L-to-P	DEAAYGELR	DNA
PSME2	chr14:23683244	C-to-G	S-to-C	VEAFQTTISK	DNA
PSME2	chr14:23684195	G-to-C	C-to-S	CGFLPGNEK	DNA
GPHN	chr14:66705421	T-to-G	V-to-G	IIFALPGNPVSA V VTCNLFVVPALR	DNA
ACYP1	chr14:74599948	T-to-C	V-to-A	VQGVFFR	DNA
CYFIP1	chr15:20515200	T-to-C	L-to-P	HVQLLGR	DNA
CYFIP1	chr15:20551650	A-to-G	K-to-R	VQKHDGK	DNA
AQR	chr15:32973226	T-to-G	V-to-G	TDVAVQIISNIYHNFPEQR	DNA
FAM82A2	chr15:38817134	T-to-C	L-to-P	TATALLESPLSATVEDAL Q SFLK	DNA
MYO5A	chr15:50400922	T-to-G	V-to-G	QVLSDLAIQIYQQLVR	DNA
SLTM	chr15:56972482	A-to-G	K-to-E	KEILPFEK	DNA
PTPLAD1	chr15:63636158	T-to-A	V-to-E	QVNITVQK	DNA
ANP32A	chr15:66863951	A-to-G	N-to-S	SLDLFNCEVTNLNDYR	DNA
ANP32A	chr15:66866825	T-to-C	L-to-P	DLSTIEPLK	DNA
ANP32A	chr15:66866841	A-to-G	N-to-D	CPNLTHLNLSGNK	DNA
ANP32A	chr15:66867257	T-to-C	L-to-P	LEGLTDFELEEFLSTINVGLTSIANLPK	DNA
CTSH	chr15:77002465	T-to-G	V-to-G	VNHAVLAVGYGEK	DNA
RPS2	chr16:1952264	A-to-C	T-to-P	ATFDAISK	DNA
RPS2	chr16:1952501	T-to-C	F-to-S	GCTATLGNFAK	DNA
RPS2	chr16:1952579	C-to-T	P-to-L	GTGIVSAPVPK	DNA
RPS2	chr16:1952779	T-to-C	W-to-R	GYWGNK	DNA
RPS2	chr16:1952844	C-to-T	A-to-V	EVATAIR	DNA
RPS2	chr16:1952872	C-to-G	L-to-V	AFVAIGDYNGHVGLGVK	DNA
RPS2	chr16:1954304	A-to-T	I-to-F	SLEEIYLFSLPIK	DNA
RBBP6	chr16:24488024	T-to-C	Y-to-H	EWYEK	DNA
GTF3C1	chr16:27421714	T-to-C	V-to-A	NLIIEAVTNLR	DNA
MRPL28	chr16:357701	T-to-G	V-to-G	IYVAELIQQQLQQQALSEPAVVQK	DNA
GLG1	chr16:73198103	T-to-G	W-to-G	HTWSNNLAVLECLQDVR	DNA
PRPSAP2	chr17:18721825	A-to-C	Y-to-S	SIIGVIPYFPYSK	DNA
TMEM97	chr17:23670508	A-to-C	Y-to-S	ELYPVEFR	DNA
RPL23A	chr17:24072035	A-to-G	K-to-R	NKLDHYAIK	DNA
RPL23A	chr17:24074747	C-to-G	L-to-V	LAPDYDALDVANK	DNA
RPL19P12	chr17:34611017	G-to-C	A-to-P	LASSVLR	DNA
RPL19P12	chr17:34613861	A-to-C	H-to-P	HMYHSLYLK	DNA

RPL19P12	chr17:34613921	A-to-C	H-to-P	ILMEH <u>I</u> HK	DNA
TOP2A	chr17:35818397	T-to-G	C-to-W	AAIG <u>C</u> GIVESILNWWK	DNA
NPEPPS	chr17:43046067	A-to-G	T-to-A	HGDG <u>T</u> TLDIMLK	DNA
PNPO	chr17:43377042	T-to-A	F-to-I	FFTNFESR	DNA
PHB	chr17:44845585	T-to-C	L-to-P	FGLALAVAGGVVNSALYNVDAGHR	DNA
PHB	chr17:44845601	A-to-G	I-to-V	VFES <u>I</u> GK	DNA
NME2	chr17:46603858	A-to-G	H-to-R	NIH <u>G</u> SDSVK	DNA
NME2	chr17:46603942	C-to-A	A-to-D	SCAHDWVVE	DNA
MAP2K6	chr17:65031300	T-to-C	C-to-R	MCDFGISGYLVDSVAK	DNA
SUMO2	chr17:70688860	A-to-G	N-to-D	TENNDHINLK	DNA
PFAS	chr17:8098256	T-to-G	F-to-V	LMWLFGCPLLLDDVAR	DNA
PFAS	chr17:8109640	A-to-C	T-to-P	APGSLVISAYAVCPD <u>I</u> TATVTPDLK	DNA
RPL26	chr17:8226270	G-to-T	K-to-N	KIMSSPLSK	DNA
MYL12A	chr18:3245809	G-to-A	E-to-K	FTDEEVDELYR	DNA
MYL12B	chr18:3262970	T-to-C	M-to-T	ATSNVFAMFDQSQIQEFK	DNA
MYL12B	chr18:3267804	A-to-G	M-to-V	ELLTTMGDR	DNA
RPL17P20	chr18:45270826	T-to-A	L-to-H	NAESNAE <u>L</u> K	DNA
RPL17P20	chr18:45270875	G-to-T	A-to-S	SAEFLHMLK	DNA
RPL17P20	chr18:45271908	C-to-T	P-to-L	YSLDPENPTK	DNA
CNDP2	chr18:70331924	A-to-C	H-to-P	DVGAQILLHSHK	DNA
GCDH	chr19:12865307	T-to-G	C-to-W	GYGCAGVSSVAYGLLAR	DNA
HNRNPL	chr19:44020924	C-to-A	H-to-N	IQHPSNVLHFFNAPLEVTEENFFEICDELGVK	DNA
HNRNPL	chr19:44021073	C-to-T	S-to-F	LNVCVSK	DNA
HNRNPL	chr19:44026546	C-to-G	S-to-C	ASLNGADIYSGCCTLK	DNA
HNRNPL	chr19:44026579	A-to-T	D-to-V	NGVQAMVEFDSVQSAQR	DNA
HNRNPL	chr19:44028541	A-to-G	Q-to-R	QALVEFEDVLGACNAVNYAADNQIYIAGHPAFVNYSTSQK	DNA
HNRNPL	chr19:44029800	A-to-G	I-to-V	GLIDGVVEADLVEALQEFGPI <u>S</u> YVVVMPK	DNA
RPS16P1	chr19:44616012	T-to-G	Y-to-STOP	ALVAYYQK	DNA
HNRNPUL1	chr19:46492379	A-to-C	N-to-T	WDVLIQQATQCLNR	DNA
PAFAH1B3	chr19:47496219	A-to-G	T-to-A	ELFSPLHALNFGIGGDGTQHVLWR	DNA
OPA3	chr19:50748775	T-to-C	V-to-A	DEVGHLALALEALQAQVQAAPPQGALEELR	DNA
RPL13A	chr19:54682699	A-to-C	M-to-L	MAEVQVLVLDGR	DNA
RPL13A	chr19:54685333	A-to-G	I-to-V	CEGINISGNFYR	DNA
RPL13A	chr19:54686524	G-to-A	V-to-I	LAHEV <u>G</u> WK	DNA
PDCL3	chr2:100554512	C-to-A	H-to-N	QGIPLCALINQHLSGLAR	DNA
PDIA6	chr2:10846497	T-to-G	V-to-G	TCEEHQLCVVA <u>V</u> LPHILDTGAAGR	DNA
PDIA6	chr2:10860095	G-to-T	V-to-L	EVIQSDSLWL <u>V</u> EFYAPWCGHCQR	DNA
UGCGL1	chr2:128644385	T-to-G	V-to-G	EGETYFDVVA <u>V</u> VDPVTR	DNA
MCM6	chr2:136333433	T-to-C	S-to-P	ASSAAGLTA <u>A</u> VVR	DNA
DARS	chr2:136435478	T-to-G	V-to-G	QQQFNQALVA <u>V</u> GDHASK	DNA
MTX2	chr2:176896369	T-to-G	F-to-V	GEQILLSDNAASLAVQA <u>F</u> LQMCNLIPIK	DNA
HNRNPA3	chr2:177789516	T-to-G	V-to-G	YHTINGHNCE <u>V</u> K	DNA
HNRNPA3	chr2:177789554	G-to-C	G-to-R	QEMQSAGSQR	DNA
STAT1	chr2:191562622	T-to-G	L-to-R	LQELNYNLK	DNA
ANKRD44	chr2:197659675	T-to-A	D-to-E	LLQSSGAD <u>F</u> HK	DNA
HSPE1	chr2:198074130	A-to-G	I-to-V	GGIMLPEK	DNA
HSPE1	chr2:198076072	G-to-A	G-to-D	VLLPEYGGTK	DNA
BZW1	chr2:201391338	T-to-C	S-to-P	ELQE <u>Q</u> MSR	DNA
EEF1B2	chr2:206733586	T-to-G	V-to-G	SYIEGYVPSQADV <u>V</u> FEAVSSPPPADLCHALR	DNA
TUBA1	chr2:219823379	A-to-G	E-to-G	EDMAA <u>L</u> EK	DNA
TUBA1	chr2:219823647	A-to-G	S-to-G	SIQFVDWCPTGFK	DNA
TUBA1	chr2:219823757	T-to-G	V-to-G	AYHEQLSVAEITNACFEPANQMVK	DNA
DNPEP	chr2:219960095	T-to-G	V-to-G	E <u>A</u> VQTAAK	DNA

SP100	chr2:231016021	T-to-C	L-to-P	TFFPLEGLR	DNA
PTMA	chr2:232285464	T-to-G	D-to-E	AAEDDEDVDTK	DNA
COPS8	chr2:237663350	T-to-C	V-to-A	DFPGIYTTINAHQWSETVQPIMEALR	DNA
LRPPRC	chr2:44055355	A-to-G	D-to-G	DLLQIIFFSK	DNA
PSME4	chr2:53999792	T-to-G	L-to-STOP	GEPVTNLVPSMVSLEETK	DNA
SPTBN1	chr2:54730317	T-to-G	V-to-G	VDTVNHLADELINSGHSDAATIAEWK	DNA
XPO1	chr2:61582645	T-to-C	I-to-T	LNMI L VQILK	DNA
RAB1A	chr2:65178665	G-to-A	V-to-M	FADDTYTESYISTIGVDFK	DNA
ACTR2	chr2:65327306	A-to-G	T-to-A	LNIDTR	DNA
SNRNP200	chr2:96307286	G-to-A	E-to-K	MQLSAELQSDTEEILSK	DNA
FKBP1A	chr20:1304142	T-to-G	V-to-G	GWEEGVAQMSVGQR	DNA
FKBP1A	chr20:1304230	A-to-G	K-to-E	GQTCVVHYTGMLDGGK	DNA
RRBP1	chr20:17565286	T-to-G	V-to-G	EQEITAVQAR	DNA
SEC23B	chr20:18461350	G-to-A	V-to-I	IAGAIGPCVSLNVK	DNA
ATP5E	chr20:57038877	A-to-C	Y-to-S	QAGLSYIR	DNA
GART	chr21:33822510	T-to-A	V-to-E	FGDPECQVILPLLK	DNA
MX1	chr21:41733614	T-to-G	V-to-G	VAVGNQPADIGYK	DNA
MYH9	chr22:35028580	T-to-G	W-to-G	NWQWWR	DNA
UNC84B	chr22:37467521	A-to-T	E-to-V	IQEELSALR	DNA
ST13	chr22:39558575	T-to-G	C-to-G	LLGHWEEAAHDLALACK	DNA
ST13	chr22:39561567	C-to-A	A-to-D	AIEINPDSAQPYK	DNA
ST13	chr22:39561775	A-to-G	I-to-V	LAILYAK	DNA
ST13	chr22:39566612	G-to-C	D-to-H	EGVIEPDTDAPQEMGDENAEITEEMMDQANDK	DNA
RANGAP1	chr22:39982752	T-to-G	V-to-G	QVEVINFGDCLVR	DNA
CCDC58	chr3:123569761	T-to-G	N-to-K	NLDDLTK	DNA
RPL32	chr3:12852705	T-to-C	I-to-T	SYCAEIAHNVSSK	DNA
CNBP	chr3:130372980	T-to-G	D-to-E	DCDLQEDACYNCGR	DNA
NUP210	chr3:13370113	A-to-C	T-to-P	LHGLQAILVHEASGTTAITATATGYQESHSSAR	DNA
SR140	chr3:144228695	T-to-C	L-to-P	NLLALIHR	DNA
RPSA	chr3:39425116	A-to-C	N-to-T	SDGIYIINLK	DNA
RPSA	chr3:39425192	T-to-A	S-to-R	AIVAIENPADVSVISSR	DNA
RPSA	chr3:39427358	T-to-A	L-to-H	LLVVTDPR	DNA
RPL14	chr3:40474416	T-to-G	V-to-G	VAYVSFGPHAGK	DNA
RPL14	chr3:40475194	A-to-G	M-to-V	CMQLTDFILK	DNA
LARP7	chr4:113793691	G-to-T	A-to-S	DTLAAISEVLYVDLLEGDTECHAR	DNA
MAD2L1	chr4:121206413	A-to-G	I-to-V	GSAEIVAEFFSFGINSILYQR	DNA
RPS3AP47	chr4:152243597	A-to-C	Q-to-P	TSYAQHQQVR	DNA
SEPT11	chr4:78152073	T-to-C	V-to-A	SLDLVTMK	DNA
COPS4	chr4:84206687	C-to-T	T-to-I	LYNNITFEELGALLEIPAAK	DNA
HSPA4	chr5:132459768	T-to-G	V-to-G	TSTVDLPIENQLLWQIDR	DNA
SKP1	chr5:133524650	G-to-A	R-to-Q	RTDDIPVWDQEFLK	DNA
DDX46	chr5:134190554	T-to-G	V-to-G	IYLAIESANELAVQK	DNA
LARS	chr5:145489883	T-to-G	V-to-G	ELAVEGMHR	DNA
NPM1	chr5:170747595	G-to-T	R-to-M	MEDSMDMDMSPLRPQNYLFGCELK	DNA
NPM1	chr5:170751002	T-to-C	L-to-P	VTLATLK	DNA
NPM1	chr5:170751328	G-to-T	G-to-V	MSVQPTVSLGGFEITPPVVLK	DNA
NPM1	chr5:170770139	A-to-G	I-to-V	MTDQEAIQDLWQWR	DNA
GNB2L1	chr5:180597737	T-to-G	C-to-G	YWLCAATGPSIK	DNA
AP3B1	chr5:77460856	T-to-C	L-to-P	LLTQYILNLGK	DNA
GLRX	chr5:95178004	C-to-G	T-to-R	DCIGGCSDLVSLQQSGELLTR	DNA
SOD2	chr6:160023556	T-to-C	W-to-R	AIWNVINWENVTER	DNA
GNL1	chr6:30630380	T-to-G	V-to-G	VLEMSDIVLLITDIR	DNA
HLA-B	chr6:31431282	C-to-A	A-to-D	CWALGFYPAEITLTWQR	DNA

HLA-DRB1	chr6:32660050	A-to-C	N-to-H	YFYNQEESVR	DNA
HLA-DQA1	chr6:32717985	A-to-C	D-to-A	VEHWGLDQPLLK	DNA
HLA-DQB2	chr6:32833615	A-to-T	S-to-C	AQSESAQSK	DNA
PSMB9	chr6:32933029	T-to-G	V-to-G	VSAGEAVVNR	DNA
HLA-DPB1	chr6:33156435	C-to-G	L-to-V	ATPENYL F QGR	DNA
RPS10	chr6:34500537	A-to-G	Y-to-C	HFYWYLTNEGIQYLR	DNA
RPS10	chr6:34500556	T-to-C	W-to-R	EQFAWR	DNA
RPL10A	chr6:35545940	A-to-G	K-to-R	KYDAFLASESLIK	DNA
RPL10A	chr6:35546351	T-to-A	V-to-E	VLCLAVAVGHVK	DNA
FKBP5	chr6:35718537	A-to-C	T-to-P	NNEESPTATVAEQGEDITSK	DNA
HSP90AB1	chr6:44325092	G-to-C	A-to-P	ELISNASD A LDK	DNA
HSP90AB1	chr6:44325107	C-to-T	R-to-C	IRYESLTDPSK	DNA
HSP90AB1	chr6:44325129	C-to-T	P-to-L	YESLTDPSK	DNA
HSP90AB1	chr6:44325203	G-to-A	V-to-I	TLTLVDTGIGMTK	DNA
HSP90AB1	chr6:44325250	G-to-T	L-to-F	ADLINN L G T IAK	DNA
HSP90AB1	chr6:44325508	A-to-T	E-to-V	HNDDEQYAWESSAGGSFTVR	DNA
HSP90AB1	chr6:44325751	G-to-A	R-to-K	ADHGEP I GRG T K	DNA
HSP90AB1	chr6:44325769	T-to-C	L-to-P	VILHLK	DNA
HSP90AB1	chr6:44325841	A-to-T	Q-to-L	HSQFIGYPITLYLEK	DNA
HSP90AB1	chr6:44326193	A-to-T	Q-to-L	YIDQEELNK	DNA
HSP90AB1	chr6:44326846	G-to-T	K-to-N	APFDLFEN K K	DNA
HSP90AB1	chr6:44326906	T-to-G	D-to-E	VFIMDSCDEL I PEYLN F IR	DNA
HSP90AB1	chr6:44327720	G-to-T	S-to-I	SIYYITGESK	DNA
HSP90AB1	chr6:44327730	G-to-T	Q-to-H	EQVANS A FAFVER	DNA
HSP90AB1	chr6:44327783	T-to-C	V-to-A	GFEV V YMTEPID E YCVQQLK	DNA
HSP90AB1	chr6:44327939	T-to-C	L-to-P	FEN L CK	DNA
HSP90AB1	chr6:44328822	G-to-C	W-to-C	LVSSPCCIVTSTY G WTANMER	DNA
HSP90AB1	chr6:44328865	G-to-A	D-to-N	DNSTMG Y MMAK	DNA
HSP90AB1	chr6:44328998	T-to-A	L-to-Q	DLV V LLFETALLSSGFSLEDPQTHSNR	DNA
PBEF1	chr7:105700327	A-to-G	H-to-R	YDGHLP I IEIK	DNA
ATP6V1F	chr7:128290349	T-to-C	F-to-S	DTTINEIEDTFR	DNA
ATP6V1F	chr7:128292697	C-to-G	I-to-M	DDIG I LINQYIAEMVR	DNA
AKR1B1	chr7:133786993	A-to-C	Y-to-S	VAIDVGYR	DNA
NUP205	chr7:134923150	A-to-C	E-to-A	DLEHLM L LIGELYK	DNA
HIBADH	chr7:27532390	T-to-C	F-to-L	DFSSV F QFLR	DNA
HIBADH	chr7:27655708	T-to-C	M-to-T	TPVGF I GLGNMG N PMAK	DNA
CDC2L5	chr7:39993857	T-to-C	L-to-P	SSLAAELNK	DNA
PPIA	chr7:44805563	G-to-A	G-to-S	GSCFHR	DNA
PPIA	chr7:44805604	G-to-C	Q-to-H	IIPGFMCQGGDFTR	DNA
PPIA	chr7:44805960	T-to-A	N-to-K	HTGPGILSMANAGPNTNGSQFFICTAK	DNA
ARPC1B	chr7:98784468	G-to-C	W-to-C	STVLSLDWHPNNVLLAAGSCDFK	DNA
PABPCP5	chr8:101786343	C-to-G	S-to-STOP	ITGM L LEIDNSELLHMLE S PE S LR	DNA
PABPCP5	chr8:101791093	T-to-A	C-to-S	GFGFV C FSSPEEATK	DNA
PABPCP5	chr8:101793816	G-to-A	E-to-K	NLDDGIDDER	DNA
PABPCP5	chr8:101794519	G-to-T	S-to-I	GFGFV S FER	DNA
PABPCP5	chr8:101796895	A-to-T	E-to-V	NFGEDM D DER	DNA
PRKDC	chr8:48857348	T-to-G	L-to-R	LGLIEW L ENTVTLK	DNA
PRKDC	chr8:48896783	A-to-C	T-to-P	SLEYC S TASIDSENPPDLNK	DNA
PRKDC	chr8:48915208	T-to-C	V-to-A	ELLN P V V EFVSH P STTCR	DNA
RPL7	chr8:74365987	G-to-A	G-to-E	YGIICMED L IHEIYTVGK	DNA
RPL7	chr8:74366353	G-to-T	A-to-S	IALTDN A LIAR	DNA
RPL7	chr8:74367110	C-to-T	R-to-STOP	TEIRMAR	DNA

RPL7	chr8:74367545	A-to-T	K-to-M	EVP <u>A</u> VPETL <u>K</u> K	DNA
FABP5	chr8:82358158	G-to-T	V-to-L	ELG <u>V</u> GIALR	DNA
RPL12	chr9:129251783	T-to-G	I-to-S	VGDD <u>I</u> AK	DNA
RPL12	chr9:129252841	C-to-A	P-to-H	IGPLGLSPK	DNA
SET	chr9:130493960	T-to-A	L-to-H	<u>L</u> NEQASEEILK	DNA
SET	chr9:130494020	A-to-G	Q-to-R	Q <u>P</u> FFQK	DNA
SET	chr9:130494828	A-to-G	E-to-G	VEVTE <u>F</u> EDIK	DNA
RPL7A	chr9:135205706	A-to-T	N-to-Y	NFGIGQDIQPK	DNA
RPL7A	chr9:135206928	T-to-C	V-to-A	AGVNT <u>V</u> TTLVENK	DNA
RPL7A	chr9:135206953	A-to-C	K-to-N	<u>K</u> AQLVVIAHDVDPIELVVFLPALCR	DNA
RPL7A	chr9:135206954	G-to-T	A-to-S	<u>A</u> QLVVIAHDVDPIELVVFLPALCR	DNA
RPL7A	chr9:135207313	T-to-C	V-to-A	MG <u>V</u> PYCIK	DNA
TUBB2C	chr9:139257264	T-to-C	V-to-A	LAVNM <u>V</u> PFPR	DNA
NUDT2	chr9:34333284	A-to-G	E-to-G	TVIYWLA <u>E</u> VK	DNA
ANP32B	chr9:99800767	A-to-C	T-to-P	DIST <u>L</u> EPLK	DNA

Table S6. Most significant Gene Ontology Enrichments for Genes that Have RDD Sites

GO Group (Molecular Function)	Examples	p
3'-5' DNA helicase activity	BLM, ERCC3, RECQL, RECQL4, WRN	0
protein binding	ACBD3, AKT2, DENND4A, IL15, MLX	1×10^{-79}
catalytic activity	ACLY, CASP3, DHDDS, KDM2A, XRN1	3×10^{-37}
RNA binding	APTX, BARD1, EIF1, RBM4, RNASEN	5×10^{-37}
nucleotide binding	CDK2, CHD1, DARS, PIF1, U2AF1	4×10^{-31}
ATP binding	ASS1, ATP11A, CEHK1, GART, KIF11	1×10^{-22}

Table S7. Distribution of RDD sites across different genic regions by type.

Type	5' UTR		Coding exon		3' UTR		Mixed*		Splice		3' poly A		Total
	No. of sites	%	No. of sites	%	No. of sites	%	No. of sites	%	No. of sites	%	No. of sites	%	
A-to-C	23	3.8	334	55.5	153	25.4	92	15.3	20	3.3	4	0.7	602
A-to-G	44	1.9	984	42.3	1028	44.2	272	11.7	97	4.2	174	7.5	2328
A-to-T	26	7.2	148	41.2	104	29.0	81	22.6	17	4.7	7	1.9	359
C-to-A	11	2.1	208	39.8	220	42.1	84	16.1	17	4.7	77	14.7	523
C-to-G	17	5.8	159	53.9	79	26.8	40	13.6	25	8.5	10	3.4	295
C-to-T	56	14.9	178	47.2	78	20.7	65	17.2	3	0.8	4	1.1	377
G-to-A	15	2.0	342	44.9	292	38.3	113	14.8	46	6.0	73	9.6	762
G-to-C	27	11.2	114	47.1	56	23.1	45	18.6	14	5.8	2	0.8	242
G-to-T	43	10.8	192	48.0	110	27.5	55	13.8	24	6.0	3	0.8	400
T-to-A	16	1.5	398	36.8	550	50.8	118	10.9	35	3.2	90	8.3	1082
T-to-C	58	2.5	953	41.8	951	41.7	316	13.9	33	1.4	142	6.2	2278
T-to-G	50	5.2	443	46.0	356	37.0	113	11.7	39	4.1	25	2.6	962

Splice are sites 2 nt within exon borders; Poly(A) are sites within 30 nt 3' of AAUAAA sites

* Mixed means in some isoforms the sites are in coding exons and in other isoforms they are in UTRs.

Percentages are calculated within each RDD type.

Table S8. Primers used for amplifying and sequencing RDD sites

Primer Name	RDD sites	Primer Sequence
<i>DPP7-F</i>	Chr9:139128755	5'-CAGGAGCGCTTCTCCAGC-3'
<i>DPP7-R</i>	Chr9:139128755	5'-CCGACACCAGGAAGCGC-3'
<i>HLA-DQB2-F1</i>	Chr6:32833537	5'-CCTAGGGTGGTCAGACTGGA-3'
<i>HLA-DQB2-R1</i>	Chr6:32833537	5'-TTGGGTTCCCTCACCTTTCTG-3'
<i>HLA-DQB2-F2</i>	Chr6:32833545	5'-CCTAGGGTGGTCAGACTGGA-3'
<i>HLA-DQB2-R2</i>	Chr6:32833545	5'-TTGGGTTCCCTCACCTTTCTG-3'
<i>HLA-DQB2-F3</i>	Chr6:32833550	5'-CCTAGGGTGGTCAGACTGGA-3'
<i>HLA-DQB2-R3</i>	Chr6:32833550	5'-TTGGGTTCCCTCACCTTTCTG-3'
<i>EIF2AK2-F</i>	Chr2:37181512	5'-CCCCAAGAGCCACATGTATT-3'
	Chr2:37181517	
	Chr2:37181520	
<i>EIF2AK2-R</i>	Chr2:37181512	5'- CCTCAAGCTCACTGTCACCA -3'
	Chr2:37181517	
	Chr2:37181520	
<i>AZIN1-F</i>	Chr8:103910812	5'-TACAAGGAAGATGAGCCTCTG-3'
<i>AZIN1-R</i>	Chr8:103910812	5'-AATAAATGGCTGGCCTCTGA-3'
<i>BLCAP-F</i>	Chr20:35580977	5'-CCCGGCAGAGATCATGTATT-3'
<i>BLCAP-R</i>	Chr20:35580977	5'-AACAGTTTCCCCAGCAGCTA-3'
<i>PPWD1-F</i>	Chr5:64894960	5'-AGCGATTTTCAGCAGAGACG-3'
<i>PPWD1-R</i>	Chr5:64894960	5'-TTCCTCTTCTTGCCAGTGT-3'
<i>NDUFC2-F</i>	Chr11:77468303	5'- ACCAGGCCTCAAGTGGAAAC-3'
<i>NDUFC2-R</i>	Chr11:77468303	5'- AGCCGTCGCGATCGG-3'

Table S8B: Primers used for validating the DNA sequences of RDD sites found in peptides

Primer Name	RDD sites	Primer Sequence
<i>CD22_F</i>	Chr19:40514815	5'-CCCTGCTCAGGCTTGCACCC-3'
<i>CD22_R</i>	Chr19:40514815	5'-GCTGCCCCACCCTACCCTA-3'
<i>DFNA5_F</i>	Chr7:24705225	5'-AGGTTTGGGATTGTGCAGCGCT-3'
<i>DFNA5_R</i>	Chr7:24705225	5'-AGCCTTGGCCAGTAACACGTA-3'
<i>ENO1_F</i>	Chr1: 8848125	5'-ACAGTCCCTGTGTAGCAGCTGT-3'
<i>ENO1_R</i>	Chr1: 8848125	5'-GTCAGCCAGCTGGTCAGGCG-3'
<i>FH_F</i>	Chr1:239747217	5'-AGGCAAGCCAAAATTCCTCCGGA-3'
<i>FH_R</i>	Chr1:239747217	5'-GCCAACATTTCCACAAATGCCACT-3'
<i>HMGB1_F1</i>	Chr13:29935772	5'-GGAGATCCTAAGAAGCCGAGAGGCA-3'
<i>HMGB1_R1</i>	Chr13:29935772	5'-AGCGTCCCCTACGAGAATGCCA-3'
<i>HMGB1_F2</i>	Chr13:29935469	5'-TGGCATTCTCGTAGTGGGACGCT-3'
<i>HMGB1_R2</i>	Chr13:29935469	5'-ACGGAGGCCTCTGGGTGCA-3'
<i>ITPR3_F</i>	Chr6:33755773	5'-GTGTGACACGTGCCCCCTCC-3'
<i>ITPR3_R</i>	Chr6:33755773	5'-TGTCCTGGCCTCCGGTTC-3'

<i>RAD50_F</i>	Chr5:131979610	5'-GCACTTGCTGTCACCAAGTTGCC-3'
<i>RAD50_R</i>	Chr5:131979610	5'-TCTGTGCAGCAGGCTAGCAGA-3'
<i>ROD1_F</i>	Chr9:114026264	5'-TGCGGCCAGGTAGTTGACTC-3'
<i>ROD1_R</i>	Chr9:114026264	5'-AGCGCCATTTTGCATCTTTCCTG-3'
<i>RPL32_F</i>	Chr3:12852658	5'-TGGTGCTGGGACTCATTGCCT-3'
<i>RPL32_R</i>	Chr3:12852658	5'-TCTTCACTGCGCAGCCTGGC-3'
<i>RPS25P8_F</i>	Chr11:118393375	5'-AGGGAAAGGGTGCTTCTGCCA-3'
<i>RPS25P8_R</i>	Chr11:118393375	5'-GAGCTCCTGAAGGGCTGCC-3'
<i>RPS3AP47_F</i>	Chr4:152243651	5'-TGCTTCGTCTGTTCTGTGTTGGTT-3'
<i>RPS3AP47_R</i>	Chr4:152243651	5'-CAAGGTTGTGTTGTGTGAGGAAGCA-3'
<i>SUPT5H_F</i>	Chr19:44655806	5'-TGGCTCCCAGACGCCCATGT-3'
<i>SUPT5H_R</i>	Chr19:44655806	5'-TCACCGTGACGGCGTGTGG-3'
<i>TOR1AIP1_F</i>	Chr1:178144365	5'-ACCTGCTTTGCTGTAGGAAGTGGT-3'
<i>TOR1AIP1_R</i>	Chr1:178144365	5'-TGGGGCCCATTCCTGGGGAG-3'
<i>TUBA1_F</i>	Chr2:219823379	5'-GCTGAGCAACACGACCGCCA-3'
<i>TUBA1_R</i>	Chr2:219823379	5'-GCAGCAGCAGCATGAAGGGGA-3'

Table S9: Detailed mass spectrometry data of peptides shown in Table 3 and Figure 2.

Protein	Position (bp)	RDD	AA change	Detected peptide *	Coded by	Freq of detection	Charge	Δ Mass (Da)	Peptide Score
AP2A2	chr11:976858	TtoG	YtoD	YLALESMTLASSEF SHEAVK	DNA	7	3	0.0064	15.91
AP2A2	chr11:976858	TtoG	YtoD	YLALESMTLASSEF SHEAVK	DNA	7	3	0.0064	15.91
AP2A2	chr11:976858	TtoG	YtoD	YLALESMTLASSEF SHEAVK	DNA	7	3	0.0047	11.27
AP2A2	chr11:976858	TtoG	YtoD	YLALESMTLASSEF SHEAVK	DNA	7	3	0.0047	11.27
AP2A2	chr11:976858	TtoG	YtoD	YLALESMTLASSEF SHEAVK	DNA	7	3	0.0047	11.27
AP2A2	chr11:976858	TtoG	YtoD	YLALESMTLASSEF SHEAVK	DNA	7	3	0.0032	16.27
AP2A2	chr11:976858	TtoG	YtoD	YLALESMTLASSEF SHEAVK	DNA	7	3	0.0032	16.27
AP2A2	chr11:976858	TtoG	YtoD	DLALESMTLASSEF SHEAVK	RNA	2	4	-0.0562	5.07
AP2A2	chr11:976858	TtoG	YtoD	DLALESMTLASSEF SHEAVK	RNA	2	4	-0.0562	5.07
DFNA5	chr7:24705225	TtoA	LtoQ	VFPLLLCITLNLGAL GR	DNA	2	2	0.0027	40.61
DFNA5	chr7:24705225	TtoA	LtoQ	VFPLLLCITLNLGAL GR	DNA	2	2	0.0027	40.61
DFNA5	chr7:24705225	TtoA	LtoQ	VFPQLLCITLNLGAL LGR	RNA	1	2	0.0671	1.72
ENO1	chr1:8848125	TtoC	LtoP	EGLELLK	DNA	16	2	0.0008	24.95
ENO1	chr1:8848125	TtoC	LtoP	EGLELLK	DNA	16	2	0.0010	24.17
ENO1	chr1:8848125	TtoC	LtoP	EGLELLK	DNA	16	2	0.0013	21.31
ENO1	chr1:8848125	TtoC	LtoP	EGLELLK	DNA	16	2	0.0016	28.48
ENO1	chr1:8848125	TtoC	LtoP	EGLELLK	DNA	16	2	0.0018	21.57
ENO1	chr1:8848125	TtoC	LtoP	EGLELLK	DNA	16	2	0.0146	21.87
ENO1	chr1:8848125	TtoC	LtoP	EGLELLK	DNA	16	2	0.0011	37.27
ENO1	chr1:8848125	TtoC	LtoP	EGLELLK	DNA	16	2	0.0016	26.83
ENO1	chr1:8848125	TtoC	LtoP	EGLELLK	DNA	16	2	0.0145	23.26
ENO1	chr1:8848125	TtoC	LtoP	EGLELLK	DNA	16	2	0.0000	12.69
ENO1	chr1:8848125	TtoC	LtoP	EGLELLK	DNA	16	2	0.0009	26.51
ENO1	chr1:8848125	TtoC	LtoP	EGLELLK	DNA	16	2	0.0011	23.68
ENO1	chr1:8848125	TtoC	LtoP	EGLELLK	DNA	16	2	0.0013	22.95
ENO1	chr1:8848125	TtoC	LtoP	EGLELLK	DNA	16	2	0.0020	17.85
ENO1	chr1:8848125	TtoC	LtoP	EGLELLK	DNA	16	2	0.0150	24.41
ENO1	chr1:8848125	TtoC	LtoP	EGLELLK	DNA	16	2	0.0153	28.15
ENO1	chr1:8848125	TtoC	LtoP	EGPELLK	RNA	1	2	0.0740	26.10
ENO3	chr17:4800624	TtoG	VtoG	LAQSNWGVMSH R	DNA	3	3	0.0012	5.82
ENO3	chr17:4800624	TtoG	VtoG	LAQSNWGVMSH R	DNA	3	2	0.0617	2.48
ENO3	chr17:4800624	TtoG	VtoG	LAQSNWGVMSH R	DNA	3	2	0.0630	1.86
ENO3	chr17:4800624	TtoG	VtoG	LAQSNWGGMVSH R	RNA	4	3	0.0124	11.72
ENO3	chr17:4800624	TtoG	VtoG	LAQSNWGGMVSH R	RNA	4	3	-0.0034	13.17
ENO3	chr17:4800624	TtoG	VtoG	LAQSNWGGMVSH R	RNA	4	3	0.0110	17.19
ENO3	chr17:4800624	TtoG	VtoG	LAQSNWGGMVSH R	RNA	4	3	0.0129	15.35
FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTWK	DNA	2	2	-0.0041	8.99

Table S9

FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTWK	DNA	2	2	0.0042	4.38
FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTR	RNA	24	2	0.0174	12.17
FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTR	RNA	24	2	0.0174	13.98
FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTR	RNA	24	2	0.0174	18.20
FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTR	RNA	24	2	0.0174	7.57
FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTR	RNA	24	2	0.0175	13.79
FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTR	RNA	24	2	0.0176	15.15
FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTR	RNA	24	2	0.0170	10.60
FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTR	RNA	24	2	0.0171	11.68
FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTR	RNA	24	2	0.0172	15.21
FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTR	RNA	24	2	0.0172	9.41
FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTR	RNA	24	2	0.0172	9.73
FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTR	RNA	24	2	0.0173	20.00
FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTR	RNA	24	2	0.0173	11.46
FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTR	RNA	24	2	0.0174	11.87
FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTR	RNA	24	2	0.0175	17.41
FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTR	RNA	24	2	0.0170	13.92
FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTR	RNA	24	2	0.0170	11.72
FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTR	RNA	24	2	0.0171	10.48
FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTR	RNA	24	2	0.0172	8.12
FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTR	RNA	24	2	0.0172	7.84
FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTR	RNA	24	2	0.0173	9.94
FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTR	RNA	24	2	0.0173	9.12
FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTR	RNA	24	2	0.0173	11.33
FABP3	chr1:31618424	TtoA	WtoR	MVDAFLGTR	RNA	24	2	0.0174	12.07
FH	chr1:239747217	TtoA	ltoK	IEYDTFGELK	DNA	3	2	0.0018	23.88
FH	chr1:239747217	TtoA	ltoK	IEYDTFGELK	DNA	3	2	0.0017	20.71
FH	chr1:239747217	TtoA	ltoK	IEYDTFGELK	DNA	3	2	0.0018	19.77
FH	chr1:239747217	TtoA	ltoK	KEYDTFGELK	RNA	1	3	-0.0794	4.41
HMGB1	chr13:29935772	TtoA	YtoN	MSSYAFFVQTCR	DNA	24	2	0.0040	42.74
HMGB1	chr13:29935772	TtoA	YtoN	MSSYAFFVQTCR	DNA	24	2	0.0046	44.19
HMGB1	chr13:29935772	TtoA	YtoN	MSSYAFFVQTCR	DNA	24	2	0.0043	61.30
HMGB1	chr13:29935772	TtoA	YtoN	MSSYAFFVQTCR	DNA	24	2	0.0059	83.92
HMGB1	chr13:29935772	TtoA	YtoN	MSSYAFFVQTCR	DNA	24	2	0.0040	42.74
HMGB1	chr13:29935772	TtoA	YtoN	MSSYAFFVQTCR	DNA	24	2	0.0046	44.19
HMGB1	chr13:29935772	TtoA	YtoN	MSSYAFFVQTCR	DNA	24	2	0.0043	61.30
HMGB1	chr13:29935772	TtoA	YtoN	MSSYAFFVQTCR	DNA	24	2	0.0059	83.92
HMGB1	chr13:29935772	TtoA	YtoN	MSSYAFFVQTCR	DNA	24	2	0.0040	57.69
HMGB1	chr13:29935772	TtoA	YtoN	MSSYAFFVQTCR	DNA	24	2	0.0043	43.15
HMGB1	chr13:29935772	TtoA	YtoN	MSSYAFFVQTCR	DNA	24	2	0.0037	89.34
HMGB1	chr13:29935772	TtoA	YtoN	MSSYAFFVQTCR	DNA	24	2	0.0040	57.69
HMGB1	chr13:29935772	TtoA	YtoN	MSSYAFFVQTCR	DNA	24	2	0.0043	43.15
HMGB1	chr13:29935772	TtoA	YtoN	MSSYAFFVQTCR	DNA	24	2	0.0037	89.34
HMGB1	chr13:29935772	TtoA	YtoN	MSSYAFFVQTCR	DNA	24	2	0.0036	57.77
HMGB1	chr13:29935772	TtoA	YtoN	MSSYAFFVQTCR	DNA	24	2	0.0040	57.65
HMGB1	chr13:29935772	TtoA	YtoN	MSSYAFFVQTCR	DNA	24	2	0.0031	83.97
HMGB1	chr13:29935772	TtoA	YtoN	MSSYAFFVQTCR	DNA	24	2	0.0042	65.97
HMGB1	chr13:29935772	TtoA	YtoN	MSSYAFFVQTCR	DNA	24	2	0.0047	79.01

Table S9

HMGB1	chr13:29935772	TtoA	YtoN	MSSYAFFVQTCR	DNA	24	2	0.0036	57.77
HMGB1	chr13:29935772	TtoA	YtoN	MSSYAFFVQTCR	DNA	24	2	0.0040	57.65
HMGB1	chr13:29935772	TtoA	YtoN	MSSYAFFVQTCR	DNA	24	2	0.0031	83.97
HMGB1	chr13:29935772	TtoA	YtoN	MSSYAFFVQTCR	DNA	24	2	0.0042	65.97
HMGB1	chr13:29935772	TtoA	YtoN	MSSYAFFVQTCR	DNA	24	2	0.0047	79.01
HMGB1	chr13:29935772	TtoA	YtoN	MSSNAFFVQTCR	RNA	2	2	0.1614	7.61
HMGB1	chr13:29935772	TtoA	YtoN	MSSNAFFVQTCR	RNA	2	2	0.1616	8.23
NACA	chr12:55392932	GtoA	DtoN	DIELVMSQANVSR	DNA	6	2	0.0031	43.35
NACA	chr12:55392932	GtoA	DtoN	DIELVMSQANVSR	DNA	6	2	0.0047	47.45
NACA	chr12:55392932	GtoA	DtoN	DIELVMSQANVSR	DNA	6	2	0.0032	45.96
NACA	chr12:55392932	GtoA	DtoN	DIELVMSQANVSR	DNA	6	2	0.0048	58.89
NACA	chr12:55392932	GtoA	DtoN	DIELVMSQANVSR	DNA	6	2	0.0042	67.68
NACA	chr12:55392932	GtoA	DtoN	DIELVMSQANVSR	DNA	6	2	0.0043	50.81
NACA	chr12:55392932	GtoA	DtoN	NIELVMSQANVSR	RNA	1	3	-0.0562	4.50
NSF	chr17:42161411	TtoC	VtoA	LLDYVPIGPR	DNA	2	2	0.0020	20.63
NSF	chr17:42161411	TtoC	VtoA	LLDYVPIGPR	DNA	2	2	0.0020	13.99
NSF	chr17:42161411	TtoC	VtoA	LLDYAPIGPR	RNA	1	2	-0.0410	7.45
POLR2B	chr4:57567852	TtoA	LtoQ	IISDGLK	DNA	3	2	-0.0462	20.03
POLR2B	chr4:57567852	TtoA	LtoQ	IISDGLK	DNA	3	2	-0.0360	29.85
POLR2B	chr4:57567852	TtoA	LtoQ	IISDGLK	DNA	3	2	0.0122	15.88
POLR2B	chr4:57567852	TtoA	LtoQ	IISDGQK	RNA	1	2	-0.0001	21.47
RAD50	chr5:131979610	TtoG	LtoR	WLQDNLTR	DNA	8	2	-0.1251	6.06
RAD50	chr5:131979610	TtoG	LtoR	WLQDNLTR	DNA	8	2	0.0001	27.35
RAD50	chr5:131979610	TtoG	LtoR	WLQDNLTR	DNA	8	2	-0.1251	6.06
RAD50	chr5:131979610	TtoG	LtoR	WLQDNLTR	DNA	8	2	0.0001	27.35
RAD50	chr5:131979610	TtoG	LtoR	WLQDNLTR	DNA	8	2	0.0003	23.67
RAD50	chr5:131979610	TtoG	LtoR	WLQDNLTR	DNA	8	2	0.0003	23.67
RAD50	chr5:131979610	TtoG	LtoR	WLQDNLTR	DNA	8	2	0.0018	28.75
RAD50	chr5:131979610	TtoG	LtoR	WLQDNLTR	DNA	8	2	0.0018	28.75
RAD50	chr5:131979610	TtoG	LtoR	WRQDNLTR	RNA	2	3	-0.0350	6.09
RAD50	chr5:131979610	TtoG	LtoR	WRQDNLTR	RNA	2	3	-0.0350	6.09
RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	3	-0.0003	15.12
RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	3	-0.0001	43.51
RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	3	0.0006	28.61
RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	3	0.0014	33.99
RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	3	0.0025	21.98
RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	2	0.0034	57.68
RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	3	0.0045	41.66
RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	3	0.0056	45.13
RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	2	0.0083	100.26
RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	3	0.0005	23.90
RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	3	0.0010	46.97
RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	3	0.0012	30.62
RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	3	0.0014	23.12
RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	3	0.0025	37.96
RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	3	0.0030	38.56
RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	2	0.0064	94.90
RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	3	0.0067	15.42

Table S9

RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	3	-0.0010	27.48
RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	3	0.0012	34.27
RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	3	0.0021	30.70
RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	3	0.0026	43.71
RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	3	0.0028	38.46
RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	3	0.0030	50.66
RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	3	0.0045	45.89
RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	2	0.0050	50.20
RPL12	chr9:129250509	AtoG	NtoD	HSGNITFDEIVNIAR	DNA	26	2	0.0052	105.35
RPL12	chr9:129250509	AtoG	NtoD	HSGDITFDEIVNIAR	RNA	3	2	-0.1040	35.41
RPL12	chr9:129250509	AtoG	NtoD	HSGDITFDEIVNIAR	RNA	3	2	-0.1073	36.25
RPL12	chr9:129250509	AtoG	NtoD	HSGDITFDEIVNIAR	RNA	3	2	-0.1070	32.51
RPL28	chr19:60590467	TtoA	STOPto R	VFLRSLIGTASEPR	RNA	1	2	-0.0767	5.25
RPL28	chr19:60590467	TtoA	STOPto R	SLIGTASEPR	RNA	4	2	0.0245	23.02
RPL28	chr19:60590467	TtoA	STOPto R	SLIGTASEPR	RNA	4	2	-0.0354	22.23
RPL32	chr3:12852658	GtoT	AtoS	AAQLAIR	DNA	5	2	0.0014	32.24
RPL32	chr3:12852658	GtoT	AtoS	AAQLAIR	DNA	5	2	0.0018	26.72
RPL32	chr3:12852658	GtoT	AtoS	AAQLAIR	DNA	5	2	0.0015	32.83
RPL32	chr3:12852658	GtoT	AtoS	AAQLAIR	DNA	5	2	0.0010	47.84
RPL32	chr3:12852658	GtoT	AtoS	AAQLAIR	DNA	5	2	0.0014	33.36
RPL32	chr3:12852658	GtoT	AtoS	SAQLAIR	RNA	1	2	0.0009	19.13
RPS3AP47	chr4:152243651	CtoA	TtoK	EVQTNDLK	DNA	11	2	-0.0003	33.97
RPS3AP47	chr4:152243651	CtoA	TtoK	EVQTNDLK	DNA	11	2	-0.0002	20.38
RPS3AP47	chr4:152243651	CtoA	TtoK	EVQTNDLK	DNA	11	2	-0.0001	31.40
RPS3AP47	chr4:152243651	CtoA	TtoK	EVQTNDLK	DNA	11	2	-0.0001	32.71
RPS3AP47	chr4:152243651	CtoA	TtoK	EVQTNDLK	DNA	11	2	0.0001	16.14
RPS3AP47	chr4:152243651	CtoA	TtoK	EVQTNDLK	DNA	11	2	0.0003	20.72
RPS3AP47	chr4:152243651	CtoA	TtoK	EVQTNDLK	DNA	11	2	-0.0004	14.24
RPS3AP47	chr4:152243651	CtoA	TtoK	EVQTNDLK	DNA	11	2	0.0000	20.77
RPS3AP47	chr4:152243651	CtoA	TtoK	EVQTNDLK	DNA	11	2	0.0001	13.82
RPS3AP47	chr4:152243651	CtoA	TtoK	EVQTNDLK	DNA	11	2	0.0004	23.41
RPS3AP47	chr4:152243651	CtoA	TtoK	EVQTNDLK	DNA	11	2	0.0007	29.62
RPS3AP47	chr4:152243651	CtoA	TtoK	EVQKNDLK	RNA	2	2	-0.0429	30.42
RPS3AP47	chr4:152243651	CtoA	TtoK	EVQKNDLK	RNA	2	2	-0.0428	27.67
SLC25A17	chr22:39520485	AtoG	EtoG	TTHMVLLLEIK	DNA	1	2	-0.1446	4.39
SLC25A17	chr22:39520485	AtoG	EtoG	TTHMVLLGLIIK	RNA	1	3	-0.0491	4.88
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	-0.0009	19.07
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	0.0006	34.48
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	0.0010	16.39
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	0.0015	31.54
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	0.0016	25.77
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	0.0017	21.77
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	-0.0001	17.69
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	0.0016	14.22
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	-0.0008	17.63
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	-0.0008	15.42
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	-0.0006	10.52

Table S9

TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	-0.0006	27.05
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	0.0001	12.06
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	0.0011	32.08
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	0.0014	26.04
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	0.0016	14.62
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	0.0017	18.75
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	0.0025	17.33
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	0.0026	20.57
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	0.0343	8.59
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	-0.0005	15.28
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	0.0001	9.12
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	0.0002	15.16
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	0.0008	15.09
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	0.0001	16.37
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	0.0012	30.28
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	0.0014	12.93
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	0.0016	26.93
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	0.0023	21.24
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	0.0002	13.90
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALEK	DNA	31	2	0.0018	17.39
TUBA1	chr2:219823379	AtoG	EtoG	EDMAALGK	RNA	1	3	0.1032	6.42
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	-0.0021	8.77
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	-0.0010	15.43
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	-0.0008	28.10
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	-0.0004	25.33
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0001	36.31
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0001	20.09
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0003	24.32
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0009	11.26
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0012	19.92
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0016	20.93
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0025	18.10
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0025	27.80
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0029	29.80
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0031	19.29
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0031	23.79
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0032	25.65
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0040	52.24
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0045	48.60
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0053	31.54
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0061	27.78
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0064	29.09
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0066	36.45
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	-0.0827	14.94
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	-0.0810	10.33
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0013	25.53
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0026	23.66
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0028	15.57

Table S9

TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0031	16.30
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0037	27.26
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0041	32.68
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0057	35.72
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0065	14.30
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0076	23.60
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0086	14.87
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	-0.0021	8.77
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	-0.0010	15.43
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	-0.0008	28.10
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	-0.0004	25.33
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0001	36.31
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0001	20.09
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0003	24.32
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0009	11.26
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0012	19.92
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0016	20.93
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0025	18.10
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0025	27.80
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0029	29.80
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0031	19.29
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0031	23.79
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0032	25.65
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0040	52.24
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0045	48.60
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0053	31.54
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0061	27.78
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0064	29.09
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0066	36.45
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	-0.0827	14.94
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	-0.0810	10.33
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0013	25.53
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0026	23.66
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0028	15.57
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0031	16.30
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0037	27.26
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0041	32.68
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0057	35.72
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0065	14.30
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0076	23.60
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0086	14.87
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	-0.0021	8.77
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	-0.0010	15.43
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	-0.0008	28.10
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	-0.0004	25.33
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0001	36.31
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0001	20.09
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0003	24.32

Table S9

TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0009	11.26
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0012	19.92
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0016	20.93
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0025	18.10
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0025	27.80
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0029	29.80
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0031	19.29
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0031	23.79
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0032	25.65
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0040	52.24
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0045	48.60
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0053	31.54
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0061	27.78
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0064	29.09
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0066	36.45
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	-0.0827	14.94
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	-0.0810	10.33
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0013	25.53
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0026	23.66
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0028	15.57
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0031	16.30
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0037	27.26
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0041	32.68
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0057	35.72
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0065	14.30
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0076	23.60
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0086	14.87
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	-0.0019	8.51
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	-0.0001	34.53
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0001	19.88
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0003	42.44
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0003	21.49
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0003	17.09
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0005	33.72
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0009	9.93
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0009	15.96
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0029	31.30
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0031	29.52
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0036	45.03
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0036	47.38
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0042	15.52
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0046	19.45
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0052	16.97
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0052	29.06
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0055	31.75
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0057	20.63
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0057	34.92
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0067	27.46

Table S9

TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0075	32.30
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	-0.0811	9.40
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0022	21.11
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0033	24.38
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0036	50.49
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0036	20.62
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0037	12.31
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0039	22.61
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0039	34.30
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0052	27.70
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0299	14.64
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	-0.0019	8.51
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	-0.0001	34.53
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0001	19.88
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0003	42.44
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0003	21.49
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0003	17.09
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0005	33.72
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0009	9.93
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0009	15.96
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0029	31.30
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0031	29.52
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0036	45.03
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0036	47.38
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0042	15.52
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0046	19.45
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0052	16.97
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0052	29.06
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0055	31.75
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0057	20.63
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0057	34.92
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0067	27.46
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0075	32.30
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	-0.0811	9.40
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0022	21.11
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0033	24.38
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0036	50.49
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0036	20.62
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0037	12.31
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0039	22.61
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0039	34.30
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0052	27.70
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0299	14.64
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	-0.0019	8.51
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	-0.0001	34.53
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0001	19.88
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0003	42.44
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0003	21.49

Table S9

TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0003	17.09
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0005	33.72
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0009	9.93
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0009	15.96
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0029	31.30
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0031	29.52
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0036	45.03
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0036	47.38
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0042	15.52
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0046	19.45
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0052	16.97
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0052	29.06
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0055	31.75
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0057	20.63
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0057	34.92
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0067	27.46
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0075	32.30
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	-0.0811	9.40
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0022	21.11
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0033	24.38
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0036	50.49
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0036	20.62
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0037	12.31
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0039	22.61
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0039	34.30
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0052	27.70
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0299	14.64
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	-0.0013	23.13
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	-0.0002	43.30
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	-0.0002	19.85
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0001	41.03
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0003	16.09
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0005	26.95
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0007	44.30
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0007	32.25
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0009	27.28
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0018	16.56
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0020	16.41
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0025	23.94
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0027	21.94
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0027	13.67
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0035	14.46
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0036	59.52
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0047	34.07
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0047	27.94
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0048	49.04
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0049	33.06
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0057	34.01

Table S9

TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0068	27.76
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0072	30.54
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0075	24.86
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	-0.0815	12.31
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0022	21.58
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0030	21.24
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0030	12.17
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0031	21.96
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0037	24.23
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0058	47.62
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0095	12.66
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0314	26.62
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	-0.0013	23.13
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	-0.0002	43.30
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	-0.0002	19.85
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0001	41.03
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0003	16.09
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0005	26.95
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0007	44.30
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0007	32.25
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0009	27.28
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0018	16.56
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0020	16.41
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0025	23.94
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0027	21.94
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0027	13.67
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0035	14.46
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0036	59.52
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0047	34.07
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0047	27.94
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0048	49.04
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0049	33.06
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0057	34.01
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0068	27.76
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0072	30.54
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0075	24.86
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	-0.0815	12.31
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0022	21.58
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0030	21.24
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0030	12.17
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0031	21.96
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0037	24.23
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0058	47.62
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	3	0.0095	12.66
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPGFAPLTSR	DNA	264	2	0.0314	26.62
TUBB2C	chr9:139257297	GtoA	GtoD	LHFFMPDFAPLTSR	RNA	1	3	0.0224	12.97

* When multiple peptides are matched to the same spectra, only the best matched peptides were retained.

Table S10. Information on 10,210 exonic RDD sites										
site	gene	location in gene	nonsynonymous amino acid change	strand	type	min level	max level	no. of informative individuals	no. of RDD	coverage range
chr15:65281199	AAGAB	UTR3		-	TtoC	0.1034	0.1212	7	2	[29,34]
chr2:69546830	AAK1	coding_exon		-	TtoC	0.1	0.1176	2	2	[10,17]
chr11:105467314	AASDHPPT	coding_exon	ENST00000278618:LtoH;	+	TtoA	0.1111	0.15	7	2	[10,22]
chr11:105473792	AASDHPPT	UTR3		+	AtoG	0.1212	0.1579	5	2	[19,33]
chr17:64759484	ABCA5	coding_exon	ENST00000320086:Rto*;ENST00000392676:Rto*;ENST00000392677:Rto*;	-	AtoT	0.1667	0.1667	5	2	[12,18]
chr17:64758216	ABCA5	coding_exon		-	TtoC	0.1	0.1111	6	2	[10,19]
chr17:64772579	ABCA5	coding_exon		-	AtoG	0.1	0.2	2	2	[10,10]
chr1:227732777	ABCB10	coding_exon	ENST00000344517:EtoD;	-	GtoT	0.1	0.1818	2	2	[10,11]
chr1:227743063	ABCB10	coding_exon		-	TtoC	0.1	0.1	2	2	[10,10]
chr2:219783953	ABCB6	mixed		-	AtoG	0.1538	0.1818	3	2	[11,13]
chr13:94522008	ABCC4	coding_exon	ENST00000376887:VtoA;ENST00000412704:VtoA;	-	TtoC	0.1	0.1176	3	2	[10,17]
chr13:94628026	ABCC4	coding_exon	ENST00000376887:VtoA;ENST00000412704:VtoA;ENST00000431522:VtoV;	-	AtoG	0.1	0.1	2	2	[10,10]
chr13:94611475	ABCC4	coding_exon		-	TtoC	0.1	0.3636	4	4	[10,17]
chr13:94470328	ABCC4	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr1:94736821	ABCD3	coding_exon	ENST00000370214:Eto*;ENST00000394233:Eto*;ENST00000454898:Eto*;	+	GtoT	0.1	0.1	2	2	[10,10]
chr14:73829263	ABCD4	coding_exon	ENST00000356924:VtoV;	-	AtoG	0.1	0.1053	4	3	[10,19]
chr6:30666455	ABCF1	coding_exon	ENST00000326195:*toG;ENST00000376545:*toG;ENST00000396515:*toG;ENST00000396515:*toG;	+	TtoG	0.1042	0.2143	6	3	[14,48]
chr6:30666459	ABCF1	UTR3		+	CtoG	0.1176	0.75	8	6	[12,51]
chr6:30667067	ABCF1	UTR3		+	GtoA	0.1429	0.1739	4	2	[21,23]
chr6:30667068	ABCF1	UTR3		+	AtoC	0.1667	0.1875	5	2	[12,33]
chr6:30667069	ABCF1	UTR3		+	CtoA	0.1111	0.1765	16	6	[16,25]
chr3:113188564	ABHD10	coding_exon		+	AtoG	0.1034	0.2727	6	2	[11,31]
chr15:87544259	ABHD2	UTR3		+	AtoT	0.1	0.2	2	2	[10,10]
chr15:87544475	ABHD2	UTR3		+	CtoT	0.1	0.1	3	2	[10,10]
chr19:17266526	ABHD8	coding_exon	ENST00000247706:VtoD;	-	TtoA	0.1	0.1053	2	2	[10,19]
chr10:27080699	ABI1	coding_exon		-	AtoC	0.125	0.1333	4	2	[15,16]
chr10:27076915	ABI1	UTR3		-	CtoA	0.125	0.5	4	3	[10,24]
chr10:27076916	ABI1	UTR3		-	GtoA	0.1786	0.5455	3	3	[11,28]
chr2:204000148	ABI2	coding_exon	ENST00000261016:VtoA;ENST00000261017:VtoA;ENST00000261018:VtoA;ENST00000261019:VtoA;	+	TtoC	0.1176	0.1818	5	2	[17,22]
chr17:44649031	ABI3	coding_exon	ENST00000225941:VtoG;ENST00000419580:VtoG;	+	TtoG	0.125	0.1667	2	2	[12,16]
chr9:132740222	ABL1	coding_exon	ENST00000318560:LtoP;ENST00000372348:LtoP;	+	TtoC	0.1	0.1053	4	2	[10,19]
chr9:132751920	ABL1	UTR3		+	TtoA	0.1	0.1429	4	3	[10,15]
chr10:116181193	ABLIM1	UTR3		-	TtoC	0.1	0.1	3	2	[10,10]
chr10:116181687	ABLIM1	UTR3		-	TtoG	0.1176	0.2	5	2	[10,17]
chr10:116182367	ABLIM1	UTR3		-	TtoC	0.1071	0.1429	3	2	[14,28]
chr6:26707284	ABT1	UTR3		+	TtoC	0.1	0.1111	6	2	[10,18]
chr3:128882122	ABTB1	mixed		+	TtoC	0.1	0.1538	2	2	[10,13]
chr16:30501419	AC002310.1	mixed		+	AtoG	0.1538	0.1667	3	2	[12,13]
chr4:107236216	AC004053.1	coding_exon	ENST00000273980:NtoD;ENST00000361687:NtoD;ENST00000394706:NtoD;ENST00000394707:NtoD;	-	AtoG	0.1	0.1	2	2	[10,10]
chr5:132057267	AC004237.1	mixed		+	TtoC	0.1	0.2	5	2	[10,10]
chr19:2222437	AC004490.1	mixed		-	CtoG	0.1379	0.6897	8	8	[13,90]
chr19:2222438	AC004490.1	mixed		-	GtoA	0.2787	0.8571	8	8	[16,105]
chr19:2222443	AC004490.1	mixed		-	CtoA	0.125	0.3529	9	8	[17,89]
chr19:2222444	AC004490.1	mixed		-	TtoG	0.102	0.2667	8	5	[15,104]
chr7:26379209	AC004540.2	mixed		-	AtoG	0.1	0.1	3	2	[10,10]
chr22:30052353	AC005003.1	mixed		+	AtoG	0.1111	0.1304	3	2	[18,23]
chr7:20145716	AC005062.2	mixed		-	GtoA	0.1	0.125	4	2	[10,16]
chr7:30556922	AC005154.3	mixed		+	TtoC	0.1	0.2105	3	2	[10,19]
chr19:45016939	AC005393.1	UTR3		-	TtoC	0.1034	0.2564	18	17	[23,220]
chr19:2462261	AC005512.3	mixed		+	AtoC	0.1818	0.2	3	2	[10,11]
chr17:23965631	AC005726.9	mixed		+	TtoC	0.1053	0.3	7	6	[10,38]
chr19:2377561	AC005756.1	mixed		+	TtoC	0.1	0.2857	4	4	[10,14]
chr19:2377562	AC005756.1	mixed		+	CtoT	0.125	0.4545	10	10	[11,20]
chr19:2428671	AC005756.1	mixed		+	TtoC	0.2632	0.4444	6	3	[18,25]
chr19:2428672	AC005756.1	mixed		+	CtoT	0.125	0.1923	3	2	[16,26]
chr17:46151975	AC005921.2	coding_exon	ENST00000449192:GtoE;	-	GtoA	0.1	0.1	2	2	[10,10]
chr17:46183303	AC005921.3	UTR3		+	TtoC	0.1071	0.2	13	8	[10,37]
chr17:46184267	AC005921.3	UTR3		+	TtoC	0.1	0.1111	6	4	[10,20]
chr17:46184649	AC005921.3	UTR3		+	TtoC	0.1	0.1818	2	2	[10,11]
chr17:46184653	AC005921.3	UTR3		+	AtoG	0.1	0.1923	14	6	[20,44]
chr2:39534955	AC007246.1	mixed		+	AtoT	0.1	0.1	2	2	[10,10]
chr2:37284893	AC007390.3	UTR3		+	AtoG	0.15	0.1818	4	2	[20,22]
chr7:91925857	AC007566.2	mixed		+	AtoG	0.1034	0.1111	6	2	[27,29]
chr5:140980642	AC008781.3	mixed		+	AtoG	0.125	0.7143	2	2	[14,17]
chr19:42545457	AC008806.1	coding_exon	ENST00000324411:GtoE;ENST00000392153:GtoE;	+	GtoA	0.1	0.1176	3	3	[10,17]
chr16:85122790	AC009108.2	mixed		-	TtoG	0.1	0.1	3	2	[10,10]
chr16:29729960	AC009133.1	coding_exon		-	AtoT	0.1053	0.1667	5	2	[18,20]
chr16:29729987	AC009133.1	coding_exon		-	AtoT	0.4	0.5833	2	2	[11,12]
chr16:29729988	AC009133.1	coding_exon		-	AtoT	0.1667	0.6	2	2	[10,12]
chr16:75790975	AC009139.1	coding_exon		+	TtoC	0.1053	0.2963	19	14	[11,31]
chr16:75791335	AC009139.1	coding_exon		+	AtoC	0.1	0.1818	3	2	[10,11]
chr2:95559577	AC009237.15	mixed		+	TtoC	0.6667	0.9565	4	4	[11,23]
chr2:95559595	AC009237.15	mixed		+	TtoA	0.8636	1	14	14	[10,38]
chr2:84986290	AC010087.3	mixed		-	AtoC	0.1429	0.2143	3	2	[14,14]
chr2:84987302	AC010087.3	mixed		-	AtoG	0.1009	0.1094	4	2	[66,110]
chr2:84987306	AC010087.3	mixed		-	TtoC	0.1765	0.4	13	12	[15,51]
chr19:56013359	AC010325.3	UTR5		+	GtoA	0.1176	0.1481	2	2	[17,28]
chr19:12639888	AC010422.1	UTR5		+	AtoG	0.1176	0.125	4	2	[16,18]
chr19:12639890	AC010422.1	UTR5		+	AtoG	0.1176	0.1765	5	3	[17,20]
chr19:12639910	AC010422.1	UTR5		+	AtoG	0.1111	0.1562	10	2	[18,33]
chr5:532527	AC010442.1	mixed		+	AtoC	0.1	0.1	2	2	[10,10]
chr16:85893971	AC010531.3	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr16:11838711	AC010654.1	coding_exon	ENST00000426336:MtoI;	+	GtoT	0.2727	0.4615	2	2	[12,13]
chr10:103576230	AC010789.3	mixed		+	AtoC	0.1111	0.1667	2	2	[10,12]
chr2:26472064	AC010896.1	UTR3		+	CtoT	0.5263	0.7222	3	2	[18,19]
chr7:150404437	AC010973.2	mixed		-	AtoT	0.1111	0.1667	4	2	[10,12]
chr19:6162781	AC011471.1	mixed		-	GtoA	0.1	0.1818	2	2	[10,11]
chr19:19764636	AC011477.2	UTR3		-	TtoC	0.1	0.5	9	8	[10,25]
chr19:19764653	AC011477.2	UTR3		-	AtoG	0.2727	0.75	6	5	[11,21]
chr2:198279813	AC011997.1	coding_exon		+	TtoC	0.125	0.2727	3	2	[11,16]
chr15:48805810	AC012100.1	coding_exon		-	GtoA	0.1176	0.1379	4	2	[17,29]

chr15:48805813	AC012100.1	coding_exon		-	AtoG	0.1111	0.1212	4	2	[18,33]
chr12:97531790	AC013283.1	mixed		-	TtoC	0.1	0.1	3	2	[10,11]
chr17:53422008	AC015813.1	coding_exon	ENST00000414925:VtoL;	-	GtoT	0.2	0.2222	2	2	[10,20]
chr17:53422007	AC015813.1	coding_exon	ENST00000414925:VtoE;	-	TtoA	0.1667	0.2	2	2	[10,18]
chr3:151941692	AC016142.1	mixed		+	AtoG	0.1333	0.2	7	4	[16,30]
chr19:63787013	AC016629.3	UTR5		+	CtoT	0.1	0.1	2	2	[10,10]
chr17:43360315	AC018521.1	mixed		-	AtoG	0.1	0.1111	2	2	[10,18]
chr2:122201354	AC018737.4	mixed		+	AtoT	0.125	0.1667	3	2	[12,17]
chr19:56899506	AC018755.7	coding_exon	ENST00000417847:LtoP;	+	TtoC	0.1	0.1111	2	2	[10,18]
chr2:175134050	AC018890.2	mixed		+	AtoT	0.1	0.1333	4	2	[10,15]
chr2:175134052	AC018890.2	mixed		+	TtoC	0.1304	0.1538	7	2	[13,23]
chr2:33641492	AC020594.2	mixed		-	TtoA	0.1	0.2941	5	3	[10,17]
chr2:33641569	AC020594.2	mixed		-	AtoG	0.1154	0.5833	7	5	[12,26]
chr16:4807611	AC020663.1	coding_exon	ENST00000321919:TtoA;ENST00000381983:TtoA;ENST00000436648:TtoA;ENST00000321919:MtoT;	-	AtoG	0.1053	0.1111	3	2	[18,38]
chr16:4837266	AC020663.1	coding_exon	ENST00000321919:MtoT;ENST00000381983:MtoT;ENST00000436648:MtoT;ENST00000321919:TtoA;ENST00000381983:TtoA;ENST00000436648:TtoA;ENST00000321919:MtoT;	-	TtoC	0.15	0.1818	3	3	[11,20]
chr16:4837265	AC020663.1	coding_exon	ENST00000321919:MtoI;ENST00000381983:MtoI;ENST00000436648:MtoI;ENST00000321919:TtoA;ENST00000381983:TtoA;ENST00000436648:TtoA;ENST00000321919:MtoI;	-	GtoT	0.125	0.1429	3	2	[24,28]
chr16:4835123	AC020663.1	coding_exon		-	TtoC	0.1481	0.1818	4	2	[11,27]
chr5:148854163	AC021078.3	mixed		-	AtoG	0.1818	0.2105	5	2	[11,20]
chr5:14885469	AC021078.3	mixed		-	AtoC	0.1	0.1538	3	2	[10,13]
chr17:73617397	AC021593.2	mixed		-	CtoG	0.1	0.1	2	2	[10,10]
chr10:75243755	AC022400.4	mixed		+	AtoG	0.1	0.1429	3	2	[10,14]
chr12:54513584	AC023055.2	coding_exon	ENST00000379625:HtoR;	+	AtoG	0.1	0.1818	2	2	[10,11]
chr15:81598476	AC024270.1	UTR3		-	TtoA	0.1	0.1538	2	2	[10,13]
chr19:11323733	AC024575.3	mixed		+	AtoG	0.1	0.2143	3	2	[10,14]
chr5:32265517	AC025181.1	mixed		-	TtoC	0.1	0.1	3	2	[10,10]
chr12:63376543	AC025262.1	mixed		-	AtoT	0.125	0.2143	2	2	[14,16]
chr17:6853865	AC027763.1	coding_exon	ENST00000399540:LtoP;ENST00000399541:LtoP;	-	TtoC	0.1	0.1538	2	2	[10,13]
chr3:195843153	AC046143.1	mixed		+	AtoT	0.1	0.1	3	2	[10,10]
chr3:195843909	AC046143.1	mixed		+	TtoG	0.3889	0.7	2	2	[18,20]
chr17:5377951	AC055839.1	coding_exon	ENST00000262467:RtoS;ENST00000269280:RtoS;ENST00000345221:RtoS;ENST00000262467:TtoA;ENST00000269280:TtoA;ENST00000345221:TtoA;ENST00000262467:MtoT;ENST00000269280:MtoT;ENST00000345221:MtoT;	-	AtoT	0.1	0.1	2	2	[10,10]
chr7:130280164	AC058791.1	mixed		-	AtoG	0.4	0.9286	5	5	[11,18]
chr7:130280166	AC058791.1	mixed		-	AtoG	0.4167	0.7	5	4	[10,21]
chr17:3856523	AC067815.1	mixed		+	TtoG	0.381	0.625	2	2	[21,24]
chr17:3856959	AC067815.1	mixed		+	TtoG	0.1	0.1818	3	3	[10,20]
chr8:144716364	AC067930.1	mixed		+	AtoG	0.1176	0.1667	3	2	[12,17]
chr8:144733380	AC067930.1	mixed		+	TtoA	0.1	0.1905	11	6	[44,133]
chr8:61696667	AC068389.1	mixed		-	CtoT	0.1	0.1818	4	2	[10,11]
chr8:61696761	AC068389.1	mixed		-	TtoC	0.1	0.1	3	2	[10,10]
chr8:61696958	AC068389.1	mixed		-	AtoT	0.1	0.1667	4	3	[10,13]
chr2:74039548	AC073046.3	mixed		-	AtoG	0.125	0.1333	5	2	[15,16]
chr7:149770570	AC073111.1	mixed		+	AtoG	0.2727	0.4	3	2	[10,11]
chr7:149774909	AC073111.1	mixed		+	CtoG	0.1	0.2	2	2	[10,10]
chr7:149774910	AC073111.1	mixed		+	TtoG	0.1667	0.25	4	3	[11,13]
chr7:115685336	AC073130.3	mixed		-	AtoG	0.1	0.1538	4	2	[10,13]
chr7:115685340	AC073130.3	mixed		-	TtoC	0.1562	0.25	8	2	[12,32]
chr7:115685341	AC073130.3	mixed		-	AtoT	0.1	0.1053	4	3	[10,20]
chr7:115685837	AC073130.3	mixed		-	TtoC	0.1	0.2	5	2	[10,10]
chr2:233155899	AC073254.1	mixed		-	TtoC	0.1	0.1	2	2	[10,10]
chr2:224540123	AC073641.1	mixed		-	TtoC	0.1	0.125	3	2	[10,16]
chr2:64310188	AC074289.1	mixed		+	TtoC	0.125	0.125	2	2	[16,16]
chr2:64332175	AC074289.1	mixed		+	TtoA	0.1	0.1	3	2	[11,20]
chr2:64332474	AC074289.1	mixed		+	TtoC	0.1	0.1765	4	2	[10,17]
chr8:26284299	AC079097.1	mixed		-	CtoA	0.1053	0.1111	2	2	[18,19]
chr7:129562544	AC087071.2	mixed		+	TtoC	0.1053	0.1538	6	2	[13,19]
chr17:25599580	AC087644.3	mixed		+	AtoC	0.1316	0.8333	5	5	[17,43]
chr17:25599950	AC087644.3	mixed		+	AtoG	0.1304	0.1818	8	3	[12,23]
chr17:4119467	AC087742.2	UTR3		-	TtoA	0.1667	0.2308	2	2	[13,13]
chr17:4120227	AC087742.2	UTR3		-	AtoG	0.1	0.1053	5	2	[10,19]
chr17:4122316	AC087742.2	UTR3		-	TtoA	0.1071	0.2353	6	2	[17,29]
chr17:27493841	AC090616.1	coding_exon	ENST00000398832:RtoC;	-	CtoT	0.3077	0.3333	2	2	[12,13]
chr18:19952164	AC090772.3	mixed		+	TtoC	0.1071	0.1724	5	3	[14,29]
chr3:14959512	AC090937.1	mixed		-	TtoC	0.1	0.1	2	2	[10,10]
chr17:40111151	AC091152.2	mixed		+	GtoA	0.1	0.1	2	2	[10,10]
chr17:40122478	AC091152.2	mixed		+	AtoG	0.1	0.1111	6	2	[10,18]
chr5:3561952	AC091947.1	mixed		+	CtoG	0.175	0.1818	2	2	[11,81]
chr5:3561954	AC091947.1	mixed		+	TtoG	0.381	0.4762	2	2	[21,22]
chr3:52302157	AC092045.1	mixed		-	TtoC	0.1667	0.1818	3	2	[11,12]
chr3:42653839	AC092047.3	mixed		-	TtoC	0.12	0.1818	2	2	[11,25]
chr3:42659887	AC092047.3	mixed		-	AtoT	0.1034	0.1538	7	3	[14,30]
chr3:42659888	AC092047.3	mixed		-	GtoC	0.1304	0.1481	7	4	[14,28]
chr3:42660398	AC092047.3	mixed		-	CtoG	0.1	0.2857	14	13	[10,28]
chr3:42662477	AC092047.3	mixed		-	AtoG	0.1053	0.3333	10	5	[13,38]
chr3:42662881	AC092047.3	mixed		-	CtoT	0.1176	0.1176	5	2	[17,17]
chr3:42664984	AC092047.3	mixed		-	AtoT	0.2222	0.3333	2	2	[10,12]
chr16:88563788	AC092143.3	UTR3		-	TtoC	0.1	0.1818	2	2	[10,11]
chr4:25358215	AC092436.2	mixed		-	TtoC	0.1364	0.2	2	2	[15,22]
chr4:25458292	AC092436.2	mixed		-	GtoA	0.1	0.1	2	2	[10,10]
chr7:99870895	AC092849.1	mixed		+	TtoC	0.1	0.1364	3	2	[10,23]
chr7:99870896	AC092849.1	mixed		+	AtoC	0.1	0.1	4	2	[10,11]
chr19:44866563	AC093063.1	mixed		+	CtoG	0.1154	0.1818	4	2	[11,26]
chr19:44866566	AC093063.1	mixed		+	AtoC	0.1	0.125	4	3	[10,25]
chr19:44866610	AC093063.1	mixed		+	GtoA	0.1	0.3077	10	7	[11,26]
chr4:6728095	AC093323.1	mixed		+	CtoA	0.1	0.1	2	2	[10,10]
chr2:87905683	AC093616.2	mixed		-	GtoA	1	1	2	2	[13,19]
chr2:87905718	AC093616.2	mixed		-	CtoT	0.9	0.9375	3	3	[11,16]
chr2:87905719	AC093616.2	mixed		-	AtoG	0.9907	1	15	15	[125,756]
chr2:87905737	AC093616.2	mixed		-	CtoT	0.9984	1	11	11	[1350,6860]
chr2:87905784	AC093616.2	mixed		-	AtoG	0.9957	1	6	6	[71,482]
chr4:142367449	AC096733.1	mixed		-	AtoG	0.1	0.1053	4	2	[10,19]
chr3:45697205	AC098476.2	mixed		-	TtoC	0.1	0.1765	11	6	[20,80]
chr2:217055919	AC098820.1	mixed		-	AtoG	0.1053	0.1818	2	2	[11,19]
chr16:80287688	AC099524.1	mixed		+	TtoC	0.1	0.1053	2	2	[10,19]
chr16:80300943	AC099524.1	mixed		+	GtoA	0.1	0.1	5	2	[10,20]
chr4:185508424	AC103540.1	mixed		-	AtoC	0.1	0.1538	2	2	[20,26]
chr18:17463188	AC106037.2	UTR3		+	TtoC	0.1	0.1111	7	4	[10,47]
chr18:17463193	AC106037.2	UTR3		+	CtoA	0.1	0.3077	10	7	[10,21]

chr18:17463195	AC106037.2	UTR3		+	GtoA	0.1429	0.1667	4	2	[12,14]
chr15:75258551	AC107883.1	coding_exon	ENST00000312493:WtoR;	-	TtoC	0.1	0.1	2	2	[10,10]
chr4:7709957	AC110615.2	coding_exon		+	TtoC	0.1333	0.25	6	2	[12,16]
chr4:77097535	AC110615.2	coding_exon		+	CtoT	0.1	0.1667	7	4	[10,23]
chr4:76190508	AC110760.2	UTR3		+	TtoA	0.1	0.1875	3	3	[10,16]
chr5:162804038	AC112205.1	mixed		-	GtoA	0.1	0.1111	3	2	[20,27]
chr5:162804481	AC112205.1	mixed		-	AtoT	0.1	0.125	2	2	[10,33]
chr3:162629704	AC112491.2	mixed		+	TtoG	1	1	3	3	[10,16]
chr3:162629705	AC112491.2	mixed		+	GtoA	0.8571	1	2	2	[13,14]
chr5:1129254	AC116351.1	mixed		+	AtoT	0.1	0.2	3	2	[10,10]
chr3:187677294	AC117414.2	mixed		+	AtoC	0.1053	0.3	2	2	[10,19]
chr3:187677343	AC117414.2	mixed		+	AtoG	0.1	0.1	2	2	[10,10]
chr3:187677501	AC117414.2	mixed		+	TtoC	0.1	0.1	4	2	[10,10]
chr1:203949187	AC119673.2	mixed		+	AtoG	0.1212	0.5625	17	15	[15,58]
chr1:203949201	AC119673.2	mixed		+	AtoG	0.1333	0.5	14	11	[12,53]
chr1:203949319	AC119673.2	mixed		+	GtoA	0.1	0.4211	18	10	[26,96]
chr1:203949343	AC119673.2	mixed		+	AtoG	0.1	0.4211	14	10	[12,61]
chr1:203949414	AC119673.2	mixed		+	AtoT	0.1176	0.3636	5	4	[11,23]
chr1:203949445	AC119673.2	mixed		+	AtoG	0.12	0.2593	13	9	[13,63]
chr1:203949497	AC119673.2	mixed		+	CtoT	0.1154	0.283	15	9	[26,100]
chr1:203949498	AC119673.2	mixed		+	AtoG	0.1154	0.2642	15	8	[26,102]
chr17:76003629	AC120024.1	mixed		+	CtoA	0.1	0.2	2	2	[10,10]
chr8:71649147	AC120194.1	coding_exon		+	TtoC	0.1429	0.1429	2	2	[14,14]
chr8:71648714	AC120194.1	UTR5		+	AtoG	0.1	0.1667	2	2	[10,12]
chr17:77580261	AC129510.2	mixed		+	GtoC	0.1333	0.1429	5	2	[14,15]
chr17:77603536	AC129510.2	mixed		+	AtoG	0.1333	0.1818	4	2	[11,15]
chr17:77608628	AC129510.2	mixed		+	TtoC	0.125	0.2	10	4	[11,26]
chr17:77629508	AC129510.2	mixed		+	AtoG	0.1333	0.1538	3	2	[13,15]
chr5:138751156	AC135457.2	coding_exon	ENST00000400233:TtoA;	-	AtoG	0.1818	0.4545	6	6	[11,13]
chr3:48997813	AC137630.3	mixed		-	TtoC	0.1	0.125	6	3	[10,16]
chr5:176879452	AC145098.2	UTR3		-	CtoT	0.1	0.1	2	2	[10,10]
chr5:68696702	AC145132.3	coding_exon		-	TtoC	0.1053	0.1176	2	2	[17,57]
chr3:38139231	ACAA1	UTR3		-	AtoG	0.1154	0.1538	4	2	[13,26]
chr17:32556803	ACACA	coding_exon		-	CtoT	0.1071	0.1667	5	3	[14,28]
chr12:110676068	ACAD10	coding_exon	ENST00000313698:RtoI;ENST00000455480:RtoI;	+	GtoT	0.1	0.1	2	2	[10,10]
chr11:133640027	ACAD8	coding_exon	ENST00000281182:MtoK;ENST00000374752:MtoK;	+	TtoA	0.1	0.1	2	2	[10,10]
chr11:133631698	ACAD8	coding_exon		+	CtoA	0.1	0.1176	2	2	[10,17]
chr1:76001009	ACADM	coding_exon		+	TtoA	0.1	0.1053	4	2	[11,19]
chr10:124800620	ACADSB	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr17:7069280	ACADVL	UTR3		+	TtoC	0.1129	0.1324	11	4	[43,207]
chr17:7069305	ACADVL	UTR3		+	AtoG	0.1333	0.5	4	2	[10,15]
chr3:196477495	ACAP2	UTR3		-	TtoA	0.1	0.1538	4	2	[10,14]
chr3:19647584	ACAP2	UTR3		-	GtoA	0.1	0.1538	5	2	[10,13]
chr1:1227231	ACAP3	coding_exon	ENST00000353662:Etog;ENST00000354700:Etog;	-	AtoG	0.1429	0.2	3	2	[10,14]
chr1:1217738	ACAP3	UTR3		-	TtoG	0.2727	0.7273	5	3	[11,15]
chr1:224419150	ACBD3	coding_exon	ENST00000366812:StoP;	-	TtoC	0.1	0.1429	4	2	[14,20]
chr16:66249447	ACD	coding_exon		-	GtoA	0.1333	0.1667	3	2	[15,18]
chr14:22606709	ACIN1	coding_exon		-	CtoG	0.1	0.1818	2	2	[10,12]
chr14:22606941	ACIN1	coding_exon		-	CtoG	0.1	0.1333	2	2	[10,15]
chr14:22607009	ACIN1	coding_exon		-	GtoT	0.1	0.2	3	2	[10,10]
chr14:22618623	ACIN1	coding_exon		-	TtoA	0.125	0.56	5	4	[11,32]
chr17:37323678	ACLY	mixed		-	CtoG	0.1379	0.4	8	8	[21,45]
chr17:37328659	ACLY	mixed		-	GtoC	0.1159	0.1474	4	3	[43,95]
chr17:37328747	ACLY	mixed		-	CtoT	0.1429	0.1667	3	2	[12,14]
chr17:37277166	ACLY	UTR3		-	AtoG	0.1	0.1818	4	3	[10,12]
chr9:32415977	ACO1	coding_exon	ENST00000309951:StoP;ENST00000379923:StoP;	+	TtoC	0.1	0.1	2	2	[10,10]
chr4:8458606	ACOX3	coding_exon	ENST00000356406:LtoP;ENST00000413009:LtoP;	-	TtoC	0.1	0.1667	3	2	[10,12]
chr4:8458615	ACOX3	coding_exon	ENST00000356406:GtoE;ENST00000413009:GtoE;	-	GtoA	0.1	0.1111	2	2	[10,18]
chr4:8419327	ACOX3	UTR3		-	TtoG	0.1	0.1	4	2	[10,10]
chr16:87739215	ACSF3	coding_exon	ENST00000317447:RtoQ;ENST00000393145:Etog;ENST00000406948:RtoQ;	+	GtoA	0.1538	0.3158	2	2	[13,19]
chr2:223501852	ACSL3	coding_exon		+	AtoG	0.1053	0.125	3	2	[17,20]
chr10:114154526	ACSL5	coding_exon	ENST00000354273:VtoA;ENST00000354655:VtoA;ENST00000356116:VtoA;ENST00000354273:TtoR;ENST00000354655:TtoR;ENST00000356116:TtoR;ENST00000354273:VtoG;ENST00000354655:VtoG;ENST00000356116:VtoG;	+	TtoC	0.125	0.125	4	2	[16,24]
chr10:114166655	ACSL5	coding_exon	ENST00000354273:TtoR;ENST00000354655:TtoR;ENST00000356116:TtoR;ENST00000354273:VtoG;ENST00000354655:VtoG;ENST00000356116:VtoG;	+	CtoG	0.1	0.1	5	2	[10,30]
chr10:114177155	ACSL5	UTR3		+	AtoG	0.1	0.1333	2	2	[10,15]
chr16:20715219	ACSM3	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr20:24952179	ACSS1	coding_exon	ENST00000323482:TtoP;ENST00000432802:TtoP;	-	AtoC	0.1	0.1	3	2	[10,10]
chr3:18077190	ACTL6A	coding_exon		+	AtoG	0.1	0.1	3	2	[10,10]
chr3:180788554	ACTL6A	UTR3		+	TtoC	0.1071	0.1163	4	2	[28,43]
chr3:180788813	ACTL6A	UTR3		+	AtoC	0.1	0.1	2	2	[10,10]
chr19:43913012	ACTN4	UTR3		+	TtoA	0.1	0.1818	5	3	[10,11]
chr10:104231754	ACTR1A	coding_exon	ENST00000369905:FtoL;ENST00000446605:FtoL;	-	TtoC	0.1	0.1	3	2	[10,10]
chr2:65327269	ACTR2	coding_exon	ENST00000260641:Wto*;ENST00000377982:Wto*;	+	GtoA	0.1	0.2143	2	2	[10,14]
chr2:65327306	ACTR2	coding_exon	ENST00000260641:TtoA;ENST00000377982:TtoA;	+	AtoG	0.1	0.2	4	2	[10,10]
chr2:65327332	ACTR2	coding_exon		+	AtoG	0.1	0.1	3	2	[10,10]
chr2:65341935	ACTR2	coding_exon		+	AtoG	0.1081	0.1279	8	2	[38,91]
chr2:114432187	ACTR3	UTR3		+	AtoG	0.1154	0.1389	6	3	[25,37]
chr2:114432289	ACTR3	UTR3		+	AtoG	0.1364	0.1818	4	3	[12,22]
chr2:114432291	ACTR3	UTR3		+	AtoG	0.1	0.1364	6	3	[16,22]
chr3:53883381	ACTR8	coding_exon	ENST00000335754:LtoQ;ENST00000482349:LtoQ;	-	TtoA	0.1111	0.1667	4	2	[18,19]
chr3:53879133	ACTR8	coding_exon		-	AtoG	0.1176	0.1538	2	2	[13,17]
chr14:74599948	ACYP1	coding_exon	ENST00000238618:VtoA;ENST00000357971:VtoA;	-	TtoC	0.1818	0.2105	6	2	[11,21]
chr19:40913114	AD000671.1	coding_exon	ENST00000222270:LtoP;ENST00000396924:LtoP;ENST00000420124:LtoP;	+	TtoC	0.1429	0.1667	5	2	[12,14]
chr19:40903023	AD000671.1	coding_exon	ENST00000222270:KtoE;ENST00000341701:KtoE;ENST00000396924:KtoE;ENST00000420124:KtoE;	+	AtoG	0.1538	0.1818	4	2	[12,13]
chr19:40916339	AD000671.1	coding_exon	ENST00000222270:FtoV;ENST00000396924:FtoV;ENST00000420124:FtoV;	+	TtoG	0.1	0.2143	3	3	[10,14]
chr20:42684981	ADA	coding_exon	ENST00000372874:VtoG;	-	TtoG	0.1333	0.1449	3	2	[15,138]
chr15:56691422	ADAM10	coding_exon		-	TtoC	0.1167	0.1429	6	3	[14,60]
chr15:56676394	ADAM10	UTR3		-	AtoG	0.1	0.2	6	3	[10,16]
chr2:9548681	ADAM17	coding_exon	ENST00000310823:StoR;	-	TtoG	0.1	0.1818	2	2	[10,11]
chr5:156923971	ADAM19	coding_exon	ENST00000257527:LtoP;ENST00000394020:LtoP;ENST00000430702:LtoP;ENST00000394020:VtoA;ENST00000394020:WtoA;	-	TtoC	0.1	0.1053	4	2	[10,19]
chr2:207190895	ADAM23	UTR3		+	AtoG	0.1	0.1111	3	2	[10,18]
chr8:39080569	ADAM9	UTR3		+	CtoA	0.1	0.1	2	2	[10,10]
chr1:152828520	ADAR	coding_exon	ENST00000292205:Etog;ENST00000368471:Etog;ENST00000368474:Etog;ENST00000368471:VtoA;ENST00000368471:WtoA;	-	AtoG	0.1	0.1667	2	2	[10,12]
chr1:152821193	ADAR	UTR3		-	TtoA	0.1538	0.2308	5	4	[11,15]
chr1:152821194	ADAR	UTR3		-	AtoG	0.1176	0.3	10	8	[10,23]
chr1:152821196	ADAR	UTR3		-	TtoC	0.1124	0.3571	11	8	[11,92]
chr1:152821482	ADAR	UTR3		-	TtoC	0.1	0.1184	8	2	[77,123]

chr1:152821575	ADAR	UTR3		-	TtoC	0.1532	0.2113	8	7	[50,124]
chr2:145468859	ADARB1	mixed		+	Atog	0.1136	0.375	4	4	[13,44]
chr7:140025491	ADCK2	coding_exon	ENST00000072869:VtoA;ENST00000476491:VtoA;	+	TtoC	0.1	0.2143	4	2	[10,14]
chr8:145586753	ADCK5	coding_exon	ENST00000308860:EtoG;	+	Atog	0.1	0.1	2	2	[10,10]
chr7:45726932	ADCY1	UTR3		+	TtoC	0.1111	0.125	3	2	[16,18]
chr2:24896573	ADCY3	coding_exon		-	TtoC	0.1	0.2727	3	2	[11,20]
chr16:48908477	ADCY7	UTR3		+	TtoG	0.1	0.1176	4	2	[10,17]
chr4:2901430	ADD1	UTR3		+	Atog	0.1	0.1212	3	2	[10,36]
chr4:2901586	ADD1	UTR3		+	Atog	0.1	0.4	5	2	[10,10]
chr10:111872030	ADD3	coding_exon	ENST00000277900:LtoP;ENST00000356080:LtoP;ENST00000360162:LtoP;	+	TtoC	0.1	0.1111	3	2	[10,18]
chr10:111882057	ADD3	coding_exon		+	TtoA	0.1	0.1	2	2	[10,10]
chr9:19111163	ADFP	coding_exon	ENST00000276914:itoV;ENST00000411567:itoV;	-	Atog	0.1	0.3636	3	2	[10,11]
chr9:19105859	ADFP	UTR3		-	CtoA	0.1	0.1053	2	2	[19,20]
chr12:1765794	ADIPOR2	UTR3		+	TtoA	0.1	0.2	5	2	[10,11]
chr12:1767644	ADIPOR2	UTR3		+	Atoc	0.1333	0.16	2	2	[15,25]
chr20:48942124	ADNP	coding_exon	ENST00000349014:LtoQ;ENST00000371602:LtoQ;ENST00000396029:LtoQ;ENST00000396029:LtoQ;	-	TtoA	0.1034	0.125	4	2	[16,30]
chr20:48940971	ADNP	UTR3		-	TtoC	0.1	0.1111	2	2	[10,18]
chr20:48941177	ADNP	UTR3		-	TtoG	0.1	0.1429	3	3	[14,30]
chr18:75995931	ADNP2	coding_exon		+	TtoG	0.1	0.1	2	2	[10,10]
chr18:75998586	ADNP2	UTR3		+	TtoC	0.1	0.2	4	2	[10,10]
chr10:64237015	ADO	mixed		+	TtoA	0.1	0.1053	3	2	[10,19]
chr15:70835026	ADPGK	coding_exon	ENST00000311669:itoT;ENST00000331065:itoT;ENST00000443764:itoT;ENST00000443764:itoT;	-	TtoC	0.1	0.1333	3	2	[15,20]
chr15:70831744	ADPGK	coding_exon		-	TtoC	0.1176	0.1429	2	2	[11,22]
chr15:70835705	ADPGK	coding_exon		-	CtoT	0.1111	0.4762	11	10	[23,57]
chr3:120783813	ADPRH	coding_exon	ENST00000357003:QtoR;ENST00000465513:QtoR;ENST00000478399:QtoR;ENST00000478399:QtoR;	+	Atog	0.1176	0.1304	4	2	[18,23]
chr3:120790478	ADPRH	UTR3		+	TtoC	0.1	0.1176	6	2	[10,17]
chr1:36329956	ADPRHL2	coding_exon		+	TtoG	0.1	0.1	3	2	[10,20]
chr1:36331905	ADPRHL2	UTR3		+	TtoG	0.1	0.1053	2	2	[19,20]
chr1:36332031	ADPRHL2	UTR3		+	TtoA	0.1154	0.1351	8	3	[26,49]
chr11:66810602	ADRBK1	UTR3		+	GtoA	0.1333	0.1667	2	2	[13,15]
chr22:39092511	ADSL	UTR3		+	TtoC	0.125	0.2	11	3	[10,19]
chr22:39092517	ADSL	UTR3		+	Atog	0.1	0.2	5	2	[10,20]
chr1:242654293	ADSS	coding_exon		-	Atoc	0.1	0.2	4	2	[10,10]
chr1:242639394	ADSS	UTR3		-	TtoC	0.1538	0.2	8	2	[11,13]
chr15:86975892	AEN	UTR3		+	CtoA	0.1	0.1429	3	2	[10,14]
chr15:86976515	AEN	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr19:3004163	AES	UTR3		-	TtoA	0.1389	0.2258	4	2	[31,38]
chr10:116049995	AFAP1L2	coding_exon		-	CtoG	0.4118	0.5217	2	2	[23,34]
chr4:88275887	AFF1	UTR3		+	Atog	0.1	0.1	3	2	[10,10]
chr4:88278944	AFF1	UTR3		+	TtoG	0.1	0.1	5	2	[10,10]
chr5:132239473	AFF4	UTR3		-	TtoG	0.1	0.1	3	2	[10,10]
chr5:132239872	AFF4	UTR3		-	TtoC	0.1	0.1	5	2	[10,10]
chr5:132240042	AFF4	UTR3		-	Atot	0.1	0.1	2	2	[10,10]
chr5:132240104	AFF4	UTR3		-	TtoG	0.1	0.1	3	2	[10,10]
chr16:88589724	AFG3L1	mixed		+	GtoA	0.1	0.1	3	2	[10,10]
chr18:12361660	AFG3L2	coding_exon	ENST00000269143:Atot;	-	GtoA	0.1	0.1053	2	2	[19,20]
chr4:178592608	AGA	mixed		-	CtoA	0.1	0.1176	2	2	[10,17]
chr7:150472033	AGAP3	UTR3		+	TtoG	0.1	0.1111	2	2	[10,27]
chr2:27135600	AGBL5	coding_exon	ENST00000323064:RtoQ;ENST00000359582:RtoQ;ENST00000360131:RtoQ;	+	GtoA	0.1071	0.1667	3	2	[12,28]
chr2:27131526	AGBL5	coding_exon	ENST00000323064:LtoP;ENST00000359582:LtoP;ENST00000360131:LtoP;	+	TtoC	0.1	0.1176	2	2	[10,17]
chr2:228128004	AGFG1	UTR3		+	Atot	0.1	0.1875	4	3	[10,19]
chr7:99997858	AGFG2	mixed		+	Atoc	0.1	0.1	3	2	[10,20]
chr7:100001448	AGFG2	UTR3		+	CtoT	0.1	0.2308	4	3	[10,13]
chr5:76394753	AGGF1	coding_exon	ENST00000312916:FtoI;	+	TtoA	0.1	0.1	2	2	[10,10]
chr1:100119813	AGL	coding_exon		+	Atog	0.1	0.1429	2	2	[10,14]
chr6:32244190	AGPAT1	UTR3		-	TtoG	0.1053	0.1429	6	2	[19,21]
chr9:138691697	AGPAT2	coding_exon	ENST00000371694:MtoI;ENST00000371696:MtoI;	-	GtoC	0.1333	0.1818	3	2	[11,15]
chr21:44228288	AGPAT3	mixed		+	GtoA	0.1	0.1053	6	3	[19,30]
chr21:44228979	AGPAT3	mixed		+	TtoA	0.1	0.1667	3	2	[10,12]
chr21:44230482	AGPAT3	UTR3		+	TtoG	0.1	0.1	2	2	[10,20]
chr8:6602599	AGPAT5	UTR3		+	TtoC	0.1081	0.1364	8	3	[22,38]
chr8:41598580	AGPAT6	UTR3		+	TtoG	0.2222	0.3333	2	2	[10,13]
chr2:17811139	AGPS	coding_exon	ENST00000264167:NtoK;ENST00000409888:NtoK;	+	TtoA	0.1	0.125	3	2	[10,16]
chr2:178111717	AGPS	UTR3		+	TtoA	0.1	0.2	3	2	[10,10]
chr2:178113838	AGPS	UTR3		+	TtoG	0.1	0.1	3	2	[10,10]
chr1:972134	AGRN	mixed		+	TtoC	0.1	0.1	2	2	[10,20]
chr9:87383670	AGTPBP1	mixed		-	TtoC	0.1	0.1667	3	2	[10,12]
chr1:11732990	AGTRAP	UTR3		+	GtoT	0.1	0.1667	3	2	[10,12]
chr5:177589635	AGXT2L2	coding_exon	ENST00000308158:YtoD;	-	TtoG	0.1	0.1	2	2	[10,10]
chr5:177570614	AGXT2L2	UTR3		-	TtoC	0.1	0.12	2	2	[20,26]
chr5:177570769	AGXT2L2	UTR3		-	TtoC	0.1538	0.2	7	2	[10,42]
chr1:110363250	AHCYL1	coding_exon	ENST00000359172:TtoP;ENST00000369799:TtoP;	+	Atoc	0.1111	0.1667	6	5	[17,37]
chr1:110366071	AHCYL1	UTR3		+	CtoA	0.12	0.1333	5	3	[15,25]
chr1:110367851	AHCYL1	UTR3		+	Atog	0.125	0.2	5	2	[10,16]
chr11:62042741	AHNAK	coding_exon	ENST00000244934:GtoR;ENST00000378024:GtoR;	-	GtoC	0.4	0.5217	2	2	[10,23]
chr7:17346365	AHR	coding_exon		+	Atog	0.1333	0.1429	5	3	[14,21]
chr7:17350458	AHR	UTR3		+	TtoC	0.1	0.2222	8	2	[10,10]
chr2:61267089	AHSA2	coding_exon	ENST00000357022:TtoR;ENST00000389584:TtoR;ENST00000394457:TtoR;ENST00000394457:TtoR;	+	CtoG	0.1	0.2222	7	3	[10,18]
chr2:61267085	AHSA2	coding_exon	ENST00000357022:LtoV;ENST00000389584:LtoV;ENST00000394457:LtoV;ENST00000394457:LtoV;	+	TtoG	0.1	0.4118	11	8	[11,38]
chr2:61266254	AHSA2	coding_exon	ENST00000357022:KtoN;ENST00000389584:KtoN;ENST00000394457:KtoN;ENST00000394457:KtoN;	+	GtoT	0.1	0.2	9	7	[15,20]
chr2:61266255	AHSA2	coding_exon	ENST00000357022:EtoQ;ENST00000389584:EtoQ;ENST00000394457:EtoQ;ENST00000394457:EtoQ;	+	GtoC	0.1	0.2105	11	6	[16,21]
chr2:61258727	AHSA2	mixed		+	TtoG	0.1	0.1	3	2	[10,10]
chr12:8646440	AICDA	UTR3		-	Atog	0.1	0.1667	7	6	[10,29]
chr6:143703017	AIG1	UTR3		+	Atog	0.1	0.1333	5	2	[10,15]
chr6:107116016	AIM1	coding_exon	ENST00000285105:VtoA;ENST00000369066:VtoA;	+	TtoC	0.14	0.1429	2	2	[21,51]
chr6:107115461	AIM1	coding_exon	ENST00000285105:CtoW;ENST00000369066:CtoW;	+	TtoG	0.125	0.1905	4	2	[16,21]
chr6:107113062	AIM1	coding_exon		+	TtoA	0.125	0.15	2	2	[16,20]
chr6:107123530	AIM1	UTR3		+	Atot	0.125	0.1951	2	2	[16,41]
chr6:107123531	AIM1	UTR3		+	CtoT	0.1111	0.15	2	2	[18,40]
chr6:107124403	AIM1	UTR3		+	Atot	0.1026	0.1111	2	2	[36,39]
chr1:157302593	AIM2	coding_exon	ENST00000368130:TtoA;	-	Atog	0.1	0.1	2	2	[10,10]
chr1:157313073	AIM2	UTR5		-	TtoC	0.1	0.1	3	2	[10,10]
chr1:33251282	AK2	mixed		-	TtoA	0.1538	0.1579	10	2	[13,20]
chr1:33251288	AK2	mixed		-	TtoC	0.1	0.1333	4	2	[15,20]
chr17:52553339	AKAP1	UTR3		+	TtoC	0.1	0.1538	2	2	[10,13]
chr17:19801956	AKAP10	coding_exon		-	TtoA	0.1818	0.2	2	2	[10,11]

chr17:19801962	AKAP10	coding_exon		-	TtoC	0.1	0.1667	2	2	[10,12]
chr17:19749580	AKAP10	UTR3		-	AtoG	0.1333	0.1429	3	2	[14,15]
chr13:41791279	AKAP11	coding_exon	ENST00000025301:VtoE;	+	TtoA	0.1	0.1	2	2	[10,11]
chr13:41773350	AKAP11	coding_exon	ENST00000025301:TtoK;	+	CtoA	0.1	0.1	3	2	[10,10]
chr13:41780624	AKAP11	coding_exon	ENST00000025301:StoP;	+	TtoC	0.1	0.1111	4	2	[10,18]
chr13:41789733	AKAP11	coding_exon	ENST00000025301:QtoR;	+	AtoG	0.1053	0.1389	5	2	[19,37]
chr13:41785184	AKAP11	coding_exon	ENST00000025301:NtoD;	+	AtoG	0.4286	0.6364	3	3	[11,15]
chr15:83929949	AKAP13	coding_exon	ENST00000361243:VtoG;ENST00000394518:VtoG;	+	TtoG	0.1	0.1818	2	2	[10,11]
chr15:84061587	AKAP13	coding_exon	ENST00000361243:LtoQ;ENST00000394510:LtoQ;ENST00000394518:LtoQ;	+	TtoA	0.1	0.1667	3	2	[10,12]
chr15:84008801	AKAP13	coding_exon	ENST00000361243:FtoL;ENST00000394518:FtoL;	+	CtoG	0.1	0.2143	6	2	[10,14]
chr15:84008799	AKAP13	coding_exon	ENST00000361243:FtoI;ENST00000394518:FtoI;	+	TtoA	0.1	0.2667	9	3	[10,23]
chr15:84029108	AKAP13	coding_exon		+	AtoG	0.1	0.1818	8	3	[10,11]
chr15:84091269	AKAP13	UTR3		+	TtoC	0.1	0.1667	7	3	[10,12]
chr15:84091617	AKAP13	UTR3		+	AtoT	0.1	0.1765	2	2	[10,18]
chr9:111971083	AKAP2	UTR3		+	TtoC	0.1	0.2	13	7	[18,78]
chr9:111971512	AKAP2	UTR3		+	AtoG	0.1091	0.2778	7	3	[19,57]
chr7:91508102	AKAP9	coding_exon	ENST00000356239:StoG;	+	AtoG	0.1	0.1333	2	2	[10,15]
chr9:116145871	AKNA	coding_exon	ENST00000223791:VtoA;ENST00000307564:VtoA;ENST00000374075:VtoA;ENST00000223791:HtoR;ENST00000307564:HtoR;ENST00000374075:HtoR;ENST00000223791:VtoG;ENST00000307564:VtoG;ENST00000374075:VtoG;	-	TtoC	0.1429	0.1818	5	2	[11,35]
chr9:116153095	AKNA	coding_exon	ENST00000223791:HtoR;ENST00000307564:HtoR;ENST00000374075:HtoR;ENST00000223791:VtoG;ENST00000307564:VtoG;ENST00000374075:VtoG;	-	AtoG	0.1034	0.125	3	2	[17,31]
chr9:116138289	AKNA	UTR3		-	AtoG	0.1	0.1176	2	2	[17,30]
chr1:45808304	AKR1A1	UTR3		+	AtoG	0.1	0.125	5	2	[10,16]
chr7:133786993	AKR1B1	coding_exon	ENST00000285930:YtoS;ENST00000458165:YtoS;	-	AtoC	0.1	0.1053	2	2	[20,96]
chr1:19505140	AKR7A2	coding_exon	ENST00000235835:StoP;ENST00000424403:StoP;	-	TtoC	0.1034	0.1875	2	2	[16,29]
chr1:19506136	AKR7A2	coding_exon	ENST00000235835:KtoN;ENST00000424403:KtoN;	-	AtoC	0.1	0.1	3	2	[10,20]
chr1:19503359	AKR7A2	coding_exon	ENST00000235835:FtoV;ENST00000424403:FtoV;	-	TtoG	0.1	0.1667	3	2	[10,12]
chr19:55073308	AKT1S1	UTR5		-	TtoA	0.1064	0.1346	2	2	[47,52]
chr19:45430088	AKT2	UTR3		-	AtoG	0.1	0.1053	7	3	[10,20]
chr1:33247069	AL020995.2	mixed		+	CtoT	0.125	0.3077	4	3	[13,18]
chr1:33247070	AL020995.2	mixed		+	AtoT	0.3	0.6	5	5	[11,26]
chr1:33247074	AL020995.2	mixed		+	AtoG	0.1053	0.28	8	3	[19,25]
chr1:33248138	AL020995.2	mixed		+	GtoC	0.1034	0.1111	9	2	[27,29]
chr1:33248139	AL020995.2	mixed		+	GtoT	0.1026	0.125	10	4	[26,39]
chr1:33248466	AL020995.2	mixed		+	TtoC	1	1	2	2	[142,143]
chr1:23960583	AL031295.1	mixed		-	GtoT	0.1	0.1667	2	2	[10,12]
chr1:23282721	AL031428.1	mixed		-	CtoT	0.2	0.2667	2	2	[10,15]
chr1:23284878	AL031428.1	mixed		-	TtoG	0.1	0.1	3	2	[10,11]
chr20:256273	AL034548.1	mixed		-	AtoT	0.1	0.1111	4	2	[10,18]
chr20:256428	AL034548.1	mixed		-	TtoC	0.1	0.1	3	2	[10,10]
chr20:39163316	AL035652.3	mixed		-	TtoC	0.1136	0.125	2	2	[16,45]
chr22:39902358	AL035658.2	mixed		-	GtoA	0.1	0.1	2	2	[10,10]
chr14:53963696	AL049778.1	mixed		-	TtoG	0.1	0.1176	3	2	[10,17]
chr6:137560512	AL050337.1	coding_exon	ENST00000412130:QtoH;	+	AtoC	0.1	0.125	6	2	[10,16]
chr11:32075413	AL078612.4	mixed		-	TtoG	0.1	0.2667	3	3	[15,40]
chr11:32076646	AL078612.4	mixed		-	AtoG	0.1429	0.3333	5	3	[18,37]
chr11:32081587	AL078612.4	mixed		-	TtoC	0.125	0.2941	3	2	[17,40]
chr14:102465909	AL117209.1	UTR3		-	GtoA	0.1	0.1176	2	2	[10,17]
chr20:32764495	AL118520.1	mixed		-	AtoG	0.1	0.1	3	2	[10,10]
chr20:33542040	AL121586.5	mixed		-	CtoG	0.1905	0.2	2	2	[10,21]
chr20:33542041	AL121586.5	mixed		-	GtoT	0.1818	0.2	2	2	[11,20]
chr20:30286905	AL121897.2	mixed		+	TtoC	0.125	0.1667	6	2	[12,16]
chr20:18497935	AL121900.5	mixed		+	AtoG	0.1136	0.1494	5	2	[44,91]
chr1:158915221	AL121985.1	mixed		+	TtoC	0.1	0.1429	3	2	[10,31]
chr10:64235418	AL133417.1	mixed		-	AtoC	0.1	0.1	3	2	[10,10]
chr14:101884411	AL137229.4	UTR3		-	TtoC	0.1	0.1429	3	2	[10,21]
chr1:148547408	AL138795.5	mixed		-	CtoT	0.1053	0.2	2	2	[10,19]
chr1:158782897	AL138930.2	mixed		+	TtoC	0.1429	0.1667	3	2	[12,14]
chr14:27804555	AL139023.1	mixed		+	CtoT	1	1	8	8	[10,25]
chr14:27804604	AL139023.1	mixed		+	CtoT	1	1	14	14	[16,55]
chr14:27804662	AL139023.1	mixed		+	CtoT	1	1	6	6	[23,57]
chr14:27804672	AL139023.1	mixed		+	GtoA	0.2319	1	3	3	[24,69]
chr14:27804687	AL139023.1	mixed		+	GtoC	1	1	5	5	[36,82]
chr14:27804753	AL139023.1	mixed		+	GtoC	1	1	12	12	[33,136]
chr14:27804768	AL139023.1	mixed		+	GtoA	0.9	1	12	12	[11,58]
chr14:27804783	AL139023.1	mixed		+	GtoC	1	1	13	13	[15,39]
chr14:27804810	AL139023.1	mixed		+	CtoT	1	1	18	18	[15,76]
chr14:27804827	AL139023.1	mixed		+	CtoT	0.975	1	11	11	[17,95]
chr10:22658507	AL157831.5	mixed		-	TtoA	0.1	0.1154	3	2	[10,26]
chr10:22659930	AL157831.5	mixed		-	AtoG	0.1	0.125	2	2	[10,16]
chr13:20750240	AL158032.5	mixed		+	TtoA	0.92	1	12	12	[10,95]
chr9:5068376	AL161450.19	mixed		-	TtoC	0.1	0.1	2	2	[10,10]
chr1:151884755	AL162258.1	mixed		-	TtoC	0.1	0.1818	2	2	[10,11]
chr9:95345441	AL353629.3	mixed		+	TtoG	0.1	0.125	3	2	[20,40]
chr10:44818789	AL353801.1	mixed		-	AtoG	0.1	0.1	4	2	[10,20]
chr9:130344178	AL356481.4	mixed		-	AtoC	0.1176	0.3	3	2	[11,17]
chr6:354831	AL357054.1	mixed		+	CtoA	0.4375	0.5	3	2	[12,16]
chr6:356309	AL357054.1	mixed		+	CtoA	0.9965	1	20	20	[220,571]
chr6:430523	AL357054.1	mixed		+	AtoG	0.1	0.1	2	2	[10,10]
chr6:509128	AL357054.1	mixed		+	AtoT	0.1	0.1818	5	2	[10,12]
chr6:574853	AL357054.1	mixed		+	AtoC	0.1	0.1	2	2	[10,10]
chr6:28201381	AL358933.2	UTR3		-	GtoC	0.4	0.9	8	8	[10,20]
chr9:130533046	AL441992.3	mixed		+	CtoT	0.1667	0.1818	2	2	[11,12]
chr1:43942783	AL451062.1	mixed		-	AtoT	0.1	0.1818	2	2	[10,11]
chr9:37077230	AL512604.2	mixed		+	TtoC	0.1	0.1739	6	3	[10,23]
chr9:37078475	AL512604.2	mixed		+	GtoA	0.25	0.5	3	3	[16,76]
chr9:37078811	AL512604.2	mixed		+	TtoG	0.1429	0.2143	5	2	[14,14]
chr9:37078813	AL512604.2	mixed		+	AtoT	0.1429	0.1538	5	2	[13,14]
chr9:37078878	AL512604.2	mixed		+	AtoG	0.12	0.2667	3	2	[15,25]
chr9:37079031	AL512604.2	mixed		+	CtoT	0.1	0.3077	3	2	[10,13]
chr1:159395260	AL590714.2	mixed		-	AtoT	0.1818	0.2	4	2	[10,23]
chr1:224100804	AL591895.1	mixed		-	AtoG	0.1579	0.2	3	2	[11,19]
chr1:46913700	AL593856.3	mixed		+	AtoG	0.1176	0.1429	7	3	[14,28]
chr1:46915308	AL593856.3	mixed		+	CtoT	0.1	0.1538	10	4	[13,20]
chr1:225685300	AL606462.3	mixed		+	GtoA	0.9615	1	17	17	[10,43]
chr1:225685344	AL606462.3	mixed		+	CtoA	0.1	0.1538	3	3	[10,23]
chr1:225685345	AL606462.3	mixed		+	AtoT	0.1	0.1458	6	2	[10,49]
chr1:202639506	AL606489.3	mixed		+	AtoC	0.1333	0.2	2	2	[10,15]

chr1:202639507	ALG06489.3	mixed		+	AtoT	0.1538	0.1818	2	2	[11,13]
chr1:202640808	ALG06489.3	mixed		+	GtoT	0.1	0.1	2	2	[10,10]
chr1:202641827	ALG06489.3	mixed		+	AtoT	0.1	0.1	2	2	[10,10]
chr1:202645728	ALG06489.3	mixed		+	TtoC	0.1	0.1	2	2	[10,10]
chr1:202646998	ALG06489.3	mixed		+	CtoA	0.1	0.1	2	2	[11,11]
chr1:202660460	ALG06489.3	mixed		+	AtoG	0.1	0.1	2	2	[10,10]
chr1:15926588	ALG06758.1	mixed		-	AtoG	0.1	0.2	2	2	[10,10]
chr1:15933812	ALG06758.1	mixed		-	AtoG	0.1111	0.1667	12	3	[17,27]
chr6:32736410	AL662789.4	mixed		-	TtoC	0.2308	0.5	2	2	[13,14]
chr6:32737723	AL662789.4	mixed		-	GtoT	0.1	0.25	4	3	[12,20]
chr6:32737725	AL662789.4	mixed		-	TtoC	0.1579	0.1818	4	2	[11,19]
chr6:32737727	AL662789.4	mixed		-	AtoT	0.1	0.1818	2	2	[10,12]
chr6:30335478	AL662795.1	mixed		+	GtoT	0.6364	0.9333	4	4	[10,29]
chr6:30336358	AL662795.1	mixed		+	AtoG	0.3571	0.9245	4	4	[14,83]
chr6:30336961	AL662795.1	mixed		+	TtoC	0.2632	0.9565	4	4	[19,91]
chr6:30336971	AL662795.1	mixed		+	GtoA	0.1667	0.5	5	5	[10,16]
chr6:30336985	AL662795.1	mixed		+	GtoC	0.2	0.3636	2	2	[10,11]
chr6:30337185	AL662795.1	mixed		+	TtoC	0.1	0.9615	8	8	[10,72]
chr6:30337201	AL662795.1	mixed		+	TtoC	0.8269	0.9838	9	9	[71,495]
chr6:30337213	AL662795.1	mixed		+	AtoG	0.1667	0.9845	10	10	[41,589]
chr6:30337235	AL662795.1	mixed		+	GtoA	0.1429	0.2424	3	2	[14,33]
chr6:30337346	AL662795.1	mixed		+	CtoA	0.1	0.4375	7	5	[10,50]
chr6:30337347	AL662795.1	mixed		+	GtoA	0.1	0.8667	9	8	[10,187]
chr6:30337353	AL662795.1	mixed		+	TtoC	0.1667	0.9868	12	12	[13,116]
chr6:30337384	AL662795.1	mixed		+	GtoA	0.1333	0.3333	5	4	[10,30]
chr6:30337386	AL662795.1	mixed		+	TtoC	0.1765	0.2	3	2	[11,17]
chr6:30780408	AL662797.2	mixed		+	TtoC	0.1	0.1176	2	2	[10,17]
chr1:20942196	AL663074.1	mixed		+	CtoT	0.1	0.25	7	2	[10,12]
chr6:32921691	AL669918.1	mixed		+	TtoC	0.1	0.1071	9	2	[28,40]
chr6:32630486	AL713966.1	mixed		-	TtoC	0.1111	0.125	2	2	[10,24]
chr6:32630527	AL713966.1	mixed		-	GtoA	0.2418	0.867	2	2	[183,189]
chr6:32630530	AL713966.1	mixed		-	GtoT	0.1017	0.1282	6	2	[41,59]
chr6:32630557	AL713966.1	mixed		-	AtoG	0.1	0.1739	2	2	[11,23]
chr6:32630680	AL713966.1	mixed		-	TtoG	0.96	0.9767	2	2	[25,43]
chr6:32630700	AL713966.1	mixed		-	GtoT	0.1009	0.1453	4	2	[234,545]
chr6:32630718	AL713966.1	mixed		-	AtoG	0.9811	1	4	4	[53,358]
chr6:32630724	AL713966.1	mixed		-	CtoT	1	1	2	2	[81,88]
chr21:45172621	AL844908.1	mixed		+	CtoA	0.1	0.1	2	2	[10,10]
chr1:38038070	AL929472.1	mixed		-	AtoG	0.1	0.2308	2	2	[10,14]
chr9:115192920	ALAD	coding_exon	ENST00000277315:YtoN;ENST00000374173:YtoN;ENST00000409155:YtoN;	-	TtoA	0.125	0.1818	4	2	[11,16]
chr9:115189164	ALAD	UTR3		-	TtoA	0.1538	0.1667	5	2	[12,13]
chr9:115189168	ALAD	UTR3		-	TtoC	0.1538	0.2	4	2	[10,13]
chr9:115189169	ALAD	UTR3		-	GtoT	0.1333	0.1818	3	2	[11,15]
chr3:106754077	ALCAM	coding_exon	ENST00000306107:LtoR;ENST00000389926:LtoR;ENST00000389927:LtoR;ENST00000389928:LtoR;	+	TtoG	0.1	0.125	4	2	[10,16]
chr3:10677404	ALCAM	UTR3		-	TtoC	0.1	0.1818	2	2	[10,11]
chr19:54659731	ALDH16A1	coding_exon	ENST00000293350:TtoP;ENST00000455361:TtoP;	+	AtoC	0.1	0.1	2	2	[10,10]
chr10:97361033	ALDH18A1	coding_exon	ENST00000371221:StoA;ENST00000371224:StoA;	-	TtoG	0.1053	0.1154	2	2	[26,40]
chr10:97355780	ALDH18A1	UTR3		-	TtoC	0.1053	0.1111	7	2	[18,19]
chr9:38387268	ALDH1B1	coding_exon	ENST00000377698:VtoA;	+	TtoC	0.1212	0.1667	5	3	[12,34]
chr12:110714311	ALDH2	coding_exon	ENST00000261733:GtoR;ENST00000416293:GtoR;	+	GtoA	0.1	0.1111	2	2	[10,18]
chr6:24636277	ALDH5A1	coding_exon	ENST00000348925:GtoE;ENST00000357578:GtoE;ENST00000491546:GtoE;	+	GtoA	0.1053	0.1111	3	2	[18,19]
chr1:163931204	ALDH9A1	coding_exon	ENST00000354775:VtoG;	-	TtoG	0.1	0.1333	2	2	[10,15]
chr16:29989236	ALDOA	UTR3		+	AtoG	0.117	0.1189	7	2	[101,150]
chr16:29989237	ALDOA	UTR3		+	GtoA	0.5165	0.8511	14	14	[47,194]
chr16:29989238	ALDOA	UTR3		+	TtoA	0.5	0.6667	3	3	[11,17]
chr17:23924270	ALDOC	UTR3		-	AtoG	0.1	0.15	6	4	[10,28]
chr14:77210115	ALKBH1	coding_exon		-	TtoG	0.1	0.1	2	2	[10,10]
chr12:108010630	ALKBH2	coding_exon	ENST00000343075:IttoV;ENST00000429722:IttoV;ENST00000435370:IttoV;	-	AtoG	0.1176	0.125	2	2	[16,17]
chr12:108010584	ALKBH2	coding_exon	ENST00000343075:HtoR;ENST00000429722:HtoR;ENST00000435370:HtoR;ENST00000435370:HtoR;	-	AtoG	0.1	0.1053	7	2	[10,19]
chr7:101885422	ALKBH4	coding_exon		-	CtoG	0.1	0.1	3	2	[10,10]
chr7:101884654	ALKBH4	UTR3		-	GtoA	0.1	0.1	2	2	[10,10]
chr17:18053854	ALKBH5	UTR3		+	TtoC	0.1091	0.1429	10	3	[56,126]
chr11:106880962	ALKBH8	mixed		-	GtoA	0.1	0.1	2	2	[10,10]
chr4:113571881	ALPK1	coding_exon	ENST00000177648:StoG;ENST00000458497:StoG;	+	AtoG	0.1	0.25	3	2	[10,16]
chr4:113581570	ALPK1	coding_exon	ENST00000177648:QtoR;ENST00000458497:QtoR;	+	AtoG	0.1	0.125	2	2	[10,16]
chr4:113572115	ALPK1	coding_exon	ENST00000177648:NtoD;ENST00000458497:NtoD;	+	AtoG	0.1	0.1667	2	2	[10,12]
chr4:113572817	ALPK1	coding_exon	ENST00000177648:NtoD;ENST00000458497:NtoD;	+	AtoG	0.1	0.1053	2	2	[10,19]
chr4:113566354	ALPK1	coding_exon	ENST00000177648:LtoP;ENST00000458497:LtoP;	+	TtoC	0.1	0.1176	3	2	[10,17]
chr4:113581710	ALPK1	coding_exon	ENST00000177648:CtoG;ENST00000458497:CtoG;	+	TtoG	0.1	0.1667	5	3	[10,13]
chr4:113571103	ALPK1	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr2:202199066	ALS2CR4	coding_exon	ENST00000396902:LtoI;ENST00000396905:LtoI;ENST00000409099:LtoI;ENST00000409100:LtoI;	-	CtoA	0.1	0.1	2	2	[10,10]
chr11:46520669	AMBRA1	coding_exon	ENST00000298834:StoP;ENST00000314823:StoP;ENST00000314845:StoP;ENST00000314846:StoP;	-	TtoC	0.1	0.15	2	2	[10,20]
chr11:46396045	AMBRA1	coding_exon	ENST00000298834:RtoQ;ENST00000314823:RtoQ;ENST00000314845:RtoQ;ENST00000314846:RtoQ;	-	GtoA	0.1	0.1	2	2	[10,10]
chr11:46396043	AMBRA1	coding_exon	ENST00000298834:PtoA;ENST00000314823:PtoA;ENST00000314845:PtoA;ENST00000314846:PtoA;	-	CtoG	0.1	0.1	2	2	[10,10]
chr16:54954210	AMFR	mixed		-	TtoG	0.1	0.1053	5	2	[10,19]
chr16:54953428	AMFR	UTR3		-	TtoG	0.1053	0.2308	9	6	[10,20]
chr2:128336224	AMMECR1L	UTR3		-	TtoA	0.1	0.1667	2	2	[12,22]
chr2:128337474	AMMECR1L	UTR3		-	GtoT	0.1	0.1667	2	2	[12,20]
chr2:128337724	AMMECR1L	UTR3		-	AtoT	0.1	0.1	2	2	[10,10]
chr11:10473084	AMPD3	coding_exon	ENST00000256183:StoR;ENST00000396553:StoR;ENST00000431080:StoR;ENST00000431081:StoR;	+	TtoG	0.1	0.1333	2	2	[10,15]
chr11:10475011	AMPD3	coding_exon	ENST00000256183:AttoR;ENST00000396553:AttoR;ENST00000431080:AttoR;ENST00000431081:AttoR;	+	GtoA	0.1	0.1	2	2	[10,10]
chr17:77451416	ANAPC11	UTR3		+	AtoG	0.1	0.1429	2	2	[10,14]
chr4:25005570	ANAPC4	coding_exon	ENST00000315368:StoT;	+	TtoA	0.1	0.1	2	2	[10,10]
chr14:76342725	ANGEL1	coding_exon		-	AtoG	0.1	0.2	2	2	[10,10]
chr17:4020759	ANKFY1	coding_exon		-	GtoA	0.1	0.1	3	2	[10,10]
chr17:4031414	ANKFY1	coding_exon		-	CtoG	0.1	0.1	2	2	[10,10]
chr17:4014320	ANKFY1	UTR3		-	AtoG	0.1	0.1429	3	3	[10,14]
chr17:4014416	ANKFY1	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr17:4015175	ANKFY1	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr17:4015839	ANKFY1	UTR3		-	GtoA	0.1	0.1	2	2	[10,10]
chr5:14763154	ANKH	UTR3		-	TtoG	0.12	0.2	3	2	[10,25]
chr5:139888199	ANKHD1	coding_exon		+	TtoA	0.1	0.125	10	2	[11,24]
chr5:139832072	ANKHD1	mixed		+	TtoC	0.1	0.1053	5	2	[10,19]
chr5:139857026	ANKHD1	mixed		+	AtoG	0.1	0.1	4	2	[10,10]
chr5:139899251	ANKHD1	mixed		+	AtoG	0.125	0.2	2	2	[10,17]
chr7:91853839	ANKIB1	coding_exon		+	TtoC	0.1	0.125	3	2	[10,16]

chr7:91867416	ANKB1	UTR3		+	AtoC	0.1	0.1111	3	2	[10,18]
chr12:131837446	ANKL2	coding_exon	ENST00000337516:StoP;ENST00000357997:StoP;	-	TtoC	0.1053	0.1333	5	3	[15,19]
chr12:131812951	ANKL2	UTR3		-	TtoA	0.125	0.1333	7	2	[15,24]
chr5:72887166	ANKRA2	coding_exon	ENST00000296785:EtaG;	-	AtoG	0.1	0.1	3	2	[10,20]
chr13:110343528	ANKRD10	coding_exon	ENST00000267339:LtoP;	-	TtoC	0.125	0.1351	4	2	[16,37]
chr13:110356382	ANKRD10	coding_exon	ENST00000267339:DtoN;ENST00000310847:EtaG;ENST00000375758:DtoN;	-	GtoA	0.1429	0.1765	7	3	[14,20]
chr13:110356381	ANKRD10	coding_exon	ENST00000267339:DtoG;ENST00000310847:EtaG;ENST00000375758:DtoG;	-	AtoG	0.1111	0.2778	12	10	[14,26]
chr13:110330460	ANKRD10	coding_exon	ENST00000267339:DtoG;	-	AtoG	0.1	0.1111	5	2	[10,18]
chr13:110343611	ANKRD10	coding_exon	ENST00000267339:DtoE;ENST00000310847:PtoA;	-	CtoG	0.1154	0.1739	15	8	[12,37]
chr13:110344637	ANKRD10	coding_exon		-	AtoT	0.1818	0.6364	4	4	[10,15]
chr13:110344640	ANKRD10	coding_exon		-	CtoT	0.1176	0.4375	9	7	[14,29]
chr13:110329705	ANKRD10	UTR3		-	TtoC	0.1	0.1333	2	2	[10,15]
chr16:87877303	ANKRD11	coding_exon	ENST00000301030:KtoE;	-	AtoG	0.1	0.1429	5	2	[10,14]
chr16:87880093	ANKRD11	coding_exon		-	GtoT	0.125	0.2308	9	6	[20,33]
chr16:87910986	ANKRD11	UTR5		-	AtoC	0.1	0.2162	13	10	[10,37]
chr18:9246257	ANKRD12	coding_exon	ENST00000262126:LtoV;ENST00000383440:LtoV;	+	TtoG	0.1	0.1429	3	2	[14,20]
chr18:9246208	ANKRD12	coding_exon	ENST00000262126:KtoE;ENST00000383440:KtoE;	+	AtoG	0.1034	0.1429	6	3	[14,30]
chr18:9246268	ANKRD12	coding_exon	ENST00000262126:EtaD;ENST00000383440:EtaD;	+	AtoT	0.1	0.1429	2	2	[10,14]
chr12:108952891	ANKRD13A	coding_exon	ENST00000261739:CtoW;ENST00000334689:VtoG;	+	TtoG	0.1	0.1	2	2	[10,10]
chr12:108950703	ANKRD13A	mixed		+	CtoA	0.1	0.1176	3	2	[10,17]
chr12:108951756	ANKRD13A	mixed		+	TtoC	0.1053	0.125	4	2	[16,19]
chr12:108961214	ANKRD13A	UTR3		+	TtoA	0.1053	0.2	3	3	[15,28]
chr12:108961256	ANKRD13A	UTR3		+	GtoT	0.1	0.1429	5	2	[10,14]
chr4:74209613	ANKRD17	coding_exon	ENST00000330838:TtoP;ENST00000358602:TtoP;ENST00000411811:TtoP;	-	AtoC	0.1	0.1111	2	2	[10,27]
chr4:74231850	ANKRD17	coding_exon	ENST00000330838:LtoF;ENST00000358602:LtoF;ENST00000411811:LtoF;ENST00000330838:HtoD;ENST00000358602:HtoD;ENST00000411811:HtoD;ENST00000330838:AtoV;ENST00000358602:AtoV;ENST00000411811:AtoV;ENST00000330838:MtoL;ENST00000358602:MtoL;ENST00000411811:MtoL;	-	GtoT	0.1	0.1	3	2	[10,10]
chr4:74231855	ANKRD17	coding_exon	ENST00000330838:HtoD;ENST00000358602:HtoD;ENST00000411811:HtoD;ENST00000330838:AtoV;ENST00000358602:AtoV;ENST00000411811:AtoV;ENST00000330838:MtoL;ENST00000358602:MtoL;ENST00000411811:MtoL;	-	CtoG	0.1	0.1053	2	2	[10,19]
chr4:74231971	ANKRD17	coding_exon	ENST00000330838:AtoV;ENST00000358602:AtoV;ENST00000411811:AtoV;ENST00000330838:MtoL;ENST00000358602:MtoL;ENST00000411811:MtoL;	-	CtoT	0.1	0.1	3	2	[10,10]
chr4:74160436	ANKRD17	UTR3		-	AtoG	0.1111	0.1818	8	5	[10,22]
chr4:74160549	ANKRD17	UTR3		-	TtoG	0.1	0.1176	3	2	[10,17]
chr10:27363927	ANKRD26	mixed		-	CtoT	0.1	0.1429	2	2	[10,14]
chr10:27382276	ANKRD26	mixed		-	GtoA	0.1	0.1	2	2	[10,10]
chr19:37822170	ANKRD27	coding_exon	ENST00000306065:YtoN;	-	TtoA	0.1	0.1	3	2	[10,10]
chr19:37779912	ANKRD27	UTR3		-	AtoT	0.1053	0.6154	2	2	[13,19]
chr19:37780528	ANKRD27	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr3:15728653	ANKRD28	coding_exon	ENST00000383776:StoL;ENST00000383777:StoL;ENST00000399451:StoL;ENST00000383776:StoL;ENST00000383777:StoL;ENST00000399451:StoL;	-	CtoT	0.1	0.1	2	2	[10,10]
chr3:15686465	ANKRD28	UTR3		-	CtoA	0.1	0.1	2	2	[10,10]
chr17:46127831	ANKRD40	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr17:46127837	ANKRD40	UTR3		-	AtoG	0.1	0.1667	6	2	[10,12]
chr17:46128070	ANKRD40	UTR3		-	GtoC	0.1053	0.15	4	3	[18,20]
chr2:197571326	ANKRD44	coding_exon	ENST00000328737:LtoV;ENST00000450567:LtoV;	-	TtoG	0.1	0.12	3	2	[10,25]
chr2:197659675	ANKRD44	coding_exon	ENST00000328737:DtoE;ENST00000409153:DtoE;ENST00000450567:DtoE;	-	TtoA	0.1	0.1	2	2	[10,10]
chr12:54918821	ANKRD52	UTR3		-	TtoC	0.1	0.1304	3	2	[10,23]
chr12:54921508	ANKRD52	UTR3		-	TtoG	0.1111	0.1818	4	3	[10,24]
chr6:35165575	ANKS1A	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr16:4691135	ANKS3	coding_exon	ENST00000304283:DtoV;ENST00000446014:DtoV;ENST00000450067:DtoV;	-	AtoT	0.1	0.1	2	2	[10,10]
chr9:100585840	ANKS6	coding_exon		-	TtoC	0.6	0.9167	2	2	[10,12]
chr2:219807313	ANKZF1	coding_exon		+	AtoG	0.125	0.2308	7	2	[13,16]
chr3:43593203	ANO10	coding_exon	ENST00000292246:FtoL;ENST00000396091:FtoL;ENST00000396092:FtoL;ENST00000292246:FtoL;ENST00000396091:FtoL;ENST00000396092:FtoL;	-	TtoA	0.1	0.1818	3	2	[10,11]
chr12:44109524	ANO6	mixed		+	AtoT	0.1	0.1	3	2	[10,10]
chr12:44111448	ANO6	mixed		+	TtoC	0.1	0.1538	4	2	[10,13]
chr12:44111584	ANO6	mixed		+	GtoA	0.1	0.2	3	3	[10,12]
chr11:409582	ANO9	coding_exon	ENST00000332826:DtoG;ENST00000412024:DtoG;	-	AtoG	0.1667	0.2	5	2	[10,12]
chr11:408813	ANO9	coding_exon		-	AtoG	0.1	0.1087	6	2	[10,46]
chr11:408336	ANO9	UTR3		-	GtoT	0.1	0.1	2	2	[10,10]
chr15:66863951	ANP32A	coding_exon	ENST00000358235:NtoS;ENST00000465139:NtoS;	-	AtoG	0.1	0.1	2	2	[10,10]
chr15:66866841	ANP32A	coding_exon	ENST00000358235:NtoD;ENST00000465139:NtoD;	-	AtoG	0.1351	0.4375	14	11	[14,47]
chr15:66866825	ANP32A	coding_exon	ENST00000358235:LtoP;ENST00000465139:LtoP;	-	TtoC	0.2	0.4118	9	9	[10,18]
chr15:66867257	ANP32A	coding_exon	ENST00000358235:LtoP;ENST00000465139:LtoP;	-	TtoC	0.1111	0.1818	4	2	[12,20]
chr15:66866826	ANP32A	coding_exon	ENST00000358235:LtoL;ENST00000465139:LtoL;	-	CtoA	0.1	0.1333	7	2	[10,15]
chr15:66859824	ANP32A	coding_exon	ENST00000358235:EtaK;ENST00000465139:EtaK;	-	GtoA	0.125	0.1429	4	2	[15,16]
chr15:66858357	ANP32A	UTR3		-	AtoG	0.1	0.2	2	2	[10,15]
chr15:66858358	ANP32A	UTR3		-	AtoG	0.125	0.3	8	4	[10,24]
chr15:66859049	ANP32A	UTR3		-	AtoC	0.1053	0.2143	8	5	[20,48]
chr9:99800767	ANP32B	coding_exon	ENST00000339399:TtoP;	+	AtoC	0.1	0.1176	7	2	[11,18]
chr9:99800751	ANP32B	coding_exon	ENST00000339399:KtoN;	+	AtoT	0.1071	0.1111	3	2	[18,28]
chr10:81905325	ANXA11	UTR3		-	AtoG	0.1053	0.1667	7	3	[12,19]
chr10:81905357	ANXA11	UTR3		-	TtoA	0.1042	0.125	7	2	[26,48]
chr4:122808662	ANXA5	UTR3		-	TtoC	0.1081	0.1429	6	2	[14,38]
chr4:122808829	ANXA5	UTR3		-	AtoG	0.1	0.1667	6	3	[12,20]
chr5:150460531	ANXA6	UTR3		-	TtoC	0.1429	0.1429	4	2	[14,14]
chr6:18321959	AOF1	coding_exon	ENST00000297792:LtoL;ENST00000388869:LtoL;ENST00000388870:LtoL;ENST00000297792:LtoL;ENST00000388869:LtoL;ENST00000388870:LtoL;	+	CtoA	0.1	0.1	2	2	[10,10]
chr21:33558358	AP000295.1	mixed		-	TtoC	0.1364	0.1818	5	2	[11,22]
chr21:33558677	AP000295.1	mixed		-	TtoC	0.1	0.1818	7	2	[10,11]
chr21:33558678	AP000295.1	mixed		-	AtoT	0.1	0.1429	6	3	[10,19]
chr22:22355974	AP000347.4	mixed		-	TtoC	0.1	0.1	4	2	[10,10]
chr11:65026864	AP000769.2	coding_exon	ENST00000413499:MtoL;	-	AtoT	0.2	0.6667	4	4	[11,18]
chr18:2792673	AP001011.3	UTR3		+	TtoC	0.1	0.1111	4	2	[10,19]
chr21:44404137	AP001055.1	mixed		-	GtoA	0.1	0.125	3	3	[10,17]
chr11:65869506	AP001107.1	UTR3		-	AtoG	0.1	0.1	3	2	[10,10]
chr11:65116047	AP001362.1	mixed		-	TtoC	0.1042	0.1667	7	4	[24,48]
chr11:113776699	AP002373.1	coding_exon	ENST00000375490:QtoH;	+	GtoT	0.1	0.1	2	2	[10,10]
chr11:116233829	AP006216.1	coding_exon	ENST00000292055:LtoL;ENST00000375288:LtoL;ENST00000375300:LtoL;ENST00000292055:LtoL;ENST00000375288:LtoL;ENST00000375300:LtoL;	-	CtoA	0.1	0.25	7	3	[10,16]
chr11:116249516	AP006216.1	mixed		-	TtoG	0.1	0.1667	2	2	[11,12]
chr11:116249525	AP006216.1	mixed		-	TtoG	0.1	0.1	3	2	[10,10]
chr22:28053844	AP1B1	UTR3		-	TtoA	0.1429	0.2857	10	7	[11,25]
chr16:70330666	AP1G1	mixed		-	AtoC	0.1	0.125	6	3	[16,20]
chr14:23101337	AP1G2	coding_exon	ENST00000308724:NtoS;ENST00000397120:NtoS;	-	AtoG	0.1034	0.25	8	3	[16,29]
chr14:23101015	AP1G2	coding_exon	ENST00000308724:MtoL;ENST00000397120:MtoL;	-	AtoC	0.1053	0.1333	5	4	[15,38]
chr14:23101013	AP1G2	coding_exon	ENST00000308724:MtoL;ENST00000397120:MtoL;	-	GtoC	0.1026	0.2	6	3	[20,39]
chr14:23103065	AP1G2	coding_exon		-	AtoG	0.1	0.1	2	2	[10,10]
chr14:23106368	AP1G2	UTR5		-	TtoC	0.1	0.1538	3	2	[10,27]
chr17:33005096	AP1GBP1	coding_exon	ENST00000339208:RtoT;ENST00000345615:RtoT;ENST00000346661:RtoT;ENST00000339208:RtoT;ENST00000345615:RtoT;ENST00000346661:RtoT;	-	GtoC	0.1	0.1429	2	2	[10,14]
chr17:33006038	AP1GBP1	coding_exon	ENST00000339208:LtoL;ENST00000345615:LtoL;ENST00000346661:LtoL;ENST00000339208:LtoL;ENST00000345615:LtoL;ENST00000346661:LtoL;	-	CtoA	0.1	0.1	2	2	[10,10]
chr17:33011775	AP1GBP1	coding_exon		-	TtoC	0.1111	0.1667	4	2	[13,18]
chr17:32949975	AP1GBP1	UTR3		-	AtoG	0.1	0.1875	7	5	[10,16]
chr17:32952647	AP1GBP1	UTR3		-	CtoT	0.1	0.1	2	2	[10,10]

chr7:100590958	AP1S1	UTR3		+	CtoT	0.1111	0.3	2	2	[10,36]
chr11:976858	AP2A2	coding_exon	ENST00000329626:YtoD;ENST00000332231:YtoD;ENST00000448903:YtoD;ENST00000448903:YtoD	+	TtoG	0.1	0.1818	2	2	[10,11]
chr17:31075394	AP2B1	UTR3		+	TtoC	0.1	0.1111	6	2	[18,22]
chr17:31075458	AP2B1	UTR3		+	CtoA	0.1	0.1	3	2	[10,10]
chr19:52033264	AP2S1	UTR3		-	CtoA	0.1429	0.1579	4	2	[15,19]
chr19:52033268	AP2S1	UTR3		-	CtoA	0.12	0.1875	12	5	[17,30]
chr5:77509003	AP3B1	coding_exon	ENST00000255194:VtoG;	-	TtoG	0.125	0.1818	2	2	[11,16]
chr5:77460856	AP3B1	coding_exon	ENST00000255194:LtoP;	-	TtoC	0.1	0.1053	3	2	[19,20]
chr5:77441922	AP3B1	coding_exon		-	TtoC	0.1	0.2727	5	4	[10,20]
chr10:75551850	AP3M1	UTR3		-	TtoC	0.1	0.1579	8	3	[10,22]
chr10:75553142	AP3M1	UTR3		-	CtoA	0.1	0.1	4	2	[10,10]
chr8:42145987	AP3M2	UTR3		+	TtoC	0.1111	0.1111	2	2	[18,27]
chr8:42146835	AP3M2	UTR3		+	TtoC	0.1	0.2	3	2	[10,10]
chr8:42146892	AP3M2	UTR3		+	TtoC	0.1053	0.2105	6	2	[19,19]
chr1:114248856	AP4B1	coding_exon	ENST00000256658:YtoH;ENST00000369566:YtoH;ENST00000369567:YtoH;ENST00000369567:YtoH	-	TtoC	0.1	0.1111	6	2	[10,18]
chr1:114240599	AP4B1	coding_exon		-	Atog	0.1	0.1	3	2	[10,10]
chr12:97651342	APAF1	UTR3		+	GtoT	0.1	0.2	2	2	[10,20]
chr10:26829986	APBB1P	coding_exon		+	Atoc	0.1111	0.1607	4	3	[45,56]
chr4:40590110	APBB2	coding_exon	ENST00000295974:VtoF;	-	GtoT	0.1	0.1	2	2	[10,10]
chr5:139920168	APBB3	mixed		-	CtoA	0.1	0.1	3	2	[10,10]
chr5:112204309	APC	coding_exon	ENST00000257430:StoA;ENST00000395617:StoA;ENST00000457016:StoA;	+	TtoG	0.1	0.1	2	2	[10,10]
chr3:49695922	APEH	UTR3		+	TtoA	0.12	0.2353	4	2	[18,25]
chr14:19993231	APEX1	UTR5		+	TtoG	0.1	0.1	2	2	[10,10]
chr11:43299573	API5L1	coding_exon	ENST00000378852:LtoQ;ENST00000420461:LtoQ;ENST00000455725:LtoQ;	+	TtoA	0.1064	0.1538	7	2	[13,51]
chr11:34860810	APIP	UTR3		-	Atog	0.1429	0.1818	3	2	[11,14]
chr22:37743743	APOBEC3D	coding_exon		+	Atog	0.2	0.2222	2	2	[10,10]
chr22:37743768	APOBEC3D	coding_exon		+	TtoC	0.1176	0.1304	3	2	[17,23]
chr22:37743900	APOBEC3D	coding_exon		+	Atoc	0.1	0.3158	4	3	[20,56]
chr22:37744310	APOBEC3D	coding_exon		+	Atog	0.1364	0.2727	3	2	[22,22]
chr22:37813543	APOBEC3G	UTR3		+	Atog	0.1	0.1429	4	2	[10,14]
chr22:37813668	APOBEC3G	UTR3		+	TtoA	0.1818	0.1818	2	2	[11,12]
chr22:34867591	APOL3	coding_exon	ENST00000337769:RtoH;ENST00000349314:RtoH;ENST00000397293:RtoH;ENST00000397293:RtoH	-	GtoA	0.1	0.1	2	2	[10,10]
chr22:34867577	APOL3	coding_exon	ENST00000337769:NtoD;ENST00000349314:NtoD;ENST00000397293:NtoD;ENST00000397293:NtoD	-	Atog	0.1	0.2	2	2	[10,15]
chr22:34385394	APOL6	coding_exon		+	GtoA	0.1	0.1333	3	2	[10,15]
chr17:55878791	APPBP2	UTR3		-	GtoT	0.1	0.1	3	2	[10,10]
chr17:55879596	APPBP2	UTR3		-	TtoA	0.1	0.1	3	2	[10,10]
chr9:32963135	APTX	UTR3		-	TtoC	0.1176	0.1429	3	2	[14,17]
chr15:32973226	AQR	coding_exon	ENST00000156471:VtoG;	-	TtoG	0.1429	0.1538	4	2	[13,14]
chr15:32950296	AQR	coding_exon	ENST00000156471:DtoE;	-	CtoG	0.1	0.1111	3	2	[10,18]
chr11:72073817	ARAP1	UTR3		-	CtoG	0.1	0.1176	6	4	[10,19]
chr11:117976958	ARCN1	UTR3		+	TtoC	0.1176	0.2143	4	2	[14,18]
chr11:117978671	ARCN1	UTR3		+	TtoC	0.1143	0.1818	7	3	[11,35]
chr11:117978720	ARCN1	UTR3		+	TtoG	0.1	0.1	3	2	[10,10]
chr12:47616257	ARF3	UTR3		-	CtoA	0.1	0.2	5	2	[10,10]
chr3:57532350	ARF4	UTR3		-	TtoC	0.1579	0.1852	7	2	[19,27]
chr20:61380728	ARFGAP1	coding_exon	ENST00000353546:NtoS;ENST00000370275:NtoS;ENST00000370283:NtoS;	+	Atog	0.1111	0.1333	3	2	[10,15]
chr20:61386184	ARFGAP1	mixed		+	TtoA	0.1	0.1	2	2	[10,10]
chr20:61389587	ARFGAP1	mixed		+	GtoA	0.1	0.1333	2	2	[10,15]
chr22:41543167	ARFGAP3	coding_exon	ENST00000263245:EtoG;ENST00000429508:EtoG;ENST00000437119:EtoG;	-	Atog	0.125	0.1579	4	2	[16,19]
chr22:41560237	ARFGAP3	coding_exon		-	TtoC	0.1154	0.1429	5	2	[14,27]
chr22:41523024	ARFGAP3	UTR3		-	Atog	0.1	0.1667	9	2	[12,32]
chr22:41523452	ARFGAP3	UTR3		-	TtoA	0.1111	0.1333	6	2	[16,18]
chr8:68275285	ARFGEF1	coding_exon	ENST00000262215:LtoQ;	-	TtoA	0.1	0.1364	3	2	[10,22]
chr20:47082997	ARFGEF2	coding_exon	ENST00000371917:YtoD;	+	TtoG	0.1	0.1538	3	3	[10,18]
chr20:47075362	ARFGEF2	coding_exon	ENST00000371917:StoP;	+	TtoC	0.1	0.1	2	2	[10,10]
chr20:47083439	ARFGEF2	UTR3		+	Atot	0.1	0.1	2	2	[10,10]
chr14:67187468	ARG2	UTR3		+	TtoG	0.1	0.1	2	2	[10,10]
chr14:67187662	ARG2	UTR3		+	Atot	0.1	0.1429	4	2	[10,22]
chr13:106009646	ARGLU1	coding_exon		-	TtoC	0.1111	0.1875	5	3	[16,18]
chr13:106008186	ARGLU1	mixed		-	Atog	0.1111	0.1667	6	2	[18,18]
chr13:106009155	ARGLU1	mixed		-	TtoA	0.1	0.1	2	2	[10,10]
chr15:30704682	ARHGAP11A	coding_exon	ENST00000361627:LtoV;	+	CtoG	0.1071	0.3077	9	7	[10,28]
chr15:30695027	ARHGAP11A	UTR5		+	GtoA	0.1	0.2857	4	2	[10,14]
chr16:24849983	ARHGAP17	mixed		-	Atoc	0.1111	0.1538	8	4	[13,46]
chr16:24860839	ARHGAP17	mixed		-	TtoG	0.1042	0.3	6	2	[10,49]
chr16:24838316	ARHGAP17	UTR3		-	CtoT	0.1053	0.2222	12	4	[18,28]
chr6:129970760	ARHGAP18	coding_exon	ENST00000275189:EtoG;ENST00000368149:EtoG;	-	Atog	0.1	0.1111	2	2	[10,10]
chr10:98972366	ARHGAP19	UTR3		-	Atot	0.1	0.1	2	2	[10,10]
chr10:98972972	ARHGAP19	UTR3		-	TtoC	0.1111	0.1333	8	2	[15,27]
chr10:98973151	ARHGAP19	UTR3		-	Atoc	0.1	0.1	2	2	[10,10]
chr5:142573789	ARHGAP26	coding_exon	ENST00000274498:CtoR;ENST00000378004:CtoR;	+	TtoC	0.1	0.1176	2	2	[10,17]
chr17:77418892	ARHGDI A	UTR3		-	TtoA	0.25	0.3333	2	2	[15,21]
chr12:14986217	ARHGDI B	UTR3		-	GtoA	0.1	0.2	2	2	[10,10]
chr12:14986220	ARHGDI B	UTR3		-	TtoG	0.1148	0.2353	2	2	[17,64]
chr12:14986230	ARHGDI B	UTR3		-	GtoA	0.102	0.1613	13	6	[14,53]
chr12:14986231	ARHGDI B	UTR3		-	TtoA	0.1053	0.3333	19	17	[19,191]
chr19:47084679	ARHGEF1	mixed		+	Atoc	0.1081	0.1463	7	3	[35,74]
chr19:47103405	ARHGEF1	mixed		+	Atog	0.1	0.125	2	2	[10,16]
chr11:119851422	ARHGEF12	coding_exon		+	Atog	0.1	0.1667	3	2	[10,12]
chr11:119856162	ARHGEF12	coding_exon		+	Atog	0.1667	0.1667	3	2	[12,12]
chr19:7440859	ARHGEF18	coding_exon	ENST00000319670:NtoT;ENST00000359920:NtoT;ENST00000398026:NtoT;	+	Atoc	0.125	0.25	4	3	[16,24]
chr19:7427264	ARHGEF18	coding_exon	ENST00000319670:DtoG;ENST00000359920:DtoG;ENST00000398026:DtoG;	+	Atog	0.1	0.1	3	2	[10,10]
chr1:154201546	ARHGEF2	coding_exon	ENST00000361247:Atog;ENST00000368315:Atog;ENST00000435736:Atog;	-	CtoA	0.1	0.1667	11	3	[20,54]
chr1:154188626	ARHGEF2	coding_exon	ENST00000313667:VtoA;ENST00000313695:VtoA;ENST00000361247:VtoA;ENST00000361247:VtoA	-	TtoC	0.1034	0.1429	3	2	[15,29]
chr1:154184115	ARHGEF2	UTR3		-	Atog	0.1429	0.3333	11	4	[12,21]
chr3:56738394	ARHGEF3	coding_exon	ENST00000296315:MtoV;ENST00000338458:MtoV;ENST00000413728:MtoV;ENST00000413728:MtoV	-	Atog	0.1	0.1111	3	2	[10,10]
chr3:56738480	ARHGEF3	coding_exon	ENST00000296315:EtoG;ENST00000338458:EtoG;ENST00000413728:EtoG;ENST00000413728:EtoG	-	Atog	0.1	0.1	5	2	[10,10]
chr3:56736616	ARHGEF3	UTR3		-	GtoA	0.1	0.1	2	2	[10,10]
chr13:110753996	ARHGEF7	UTR3		+	TtoC	0.1	0.1	3	2	[10,11]
chr1:26971890	ARID1A	coding_exon	ENST00000324856:StoR;ENST00000374152:StoR;ENST00000457599:StoR;	+	CtoG	0.1053	0.3333	12	9	[10,32]
chr1:26978259	ARID1A	coding_exon		+	TtoC	0.1	0.1333	8	2	[15,30]
chr1:26980160	ARID1A	UTR3		+	GtoA	0.1	0.1429	9	4	[10,21]
chr1:26980537	ARID1A	UTR3		+	GtoA	0.1111	0.2143	7	3	[13,18]
chr1:26980925	ARID1A	UTR3		+	TtoA	0.1	0.2	9	3	[10,12]
chr12:44531788	ARID2A	coding_exon		+	Atog	0.1	0.1	2	2	[10,10]
chr19:923198	ARID3A	UTR3		+	TtoA	0.125	0.1538	4	2	[13,24]

chr14:57897423	ARID4A	coding_exon	ENST00000348476:StoA;ENST00000355431:StoA;ENST00000395168:StoA;ENST00000395168:StoA	+	TtoG	0.1	0.125	2	2	[10,16]
chr1:233412689	ARID4B	coding_exon	ENST00000264183:RtoI;ENST00000349213:RtoI;ENST00000366603:RtoI;ENST00000366603:RtoI	-	GtoT	0.1053	0.125	2	2	[16,19]
chr1:233405275	ARID4B	coding_exon	ENST00000264183:KtoQ;ENST00000349213:KtoQ;ENST00000366603:KtoQ;ENST00000366603:KtoQ	-	AtoC	0.1	0.1429	2	2	[10,14]
chr1:233443951	ARID4B	coding_exon	ENST00000264183:KtoE;ENST00000366603:KtoE;ENST00000391856:KtoE;	-	AtoG	0.1	0.1053	2	2	[10,19]
chr1:233405234	ARID4B	coding_exon		-	TtoC	0.1	0.1053	5	2	[10,19]
chr15:70665406	ARIH1	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr3:48940233	ARIH2	coding_exon	ENST00000356401:LtoV;ENST00000444790:LtoV;ENST00000449376:LtoV;	+	TtoG	0.1	0.15	6	2	[10,20]
chr12:100320831	ARL1	coding_exon	ENST00000261636:VtoA;	-	TtoC	0.1053	0.1364	7	3	[19,37]
chr16:55840014	ARL2BP	coding_exon		+	AtoG	0.2	0.2857	2	2	[10,14]
chr16:55844933	ARL2BP	UTR3		+	TtoC	0.1	0.1538	3	2	[10,13]
chr10:104426489	ARL3	UTR3		-	TtoA	0.1	0.1667	5	3	[10,14]
chr12:122033401	ARL6IP4	UTR3		+	TtoG	0.1667	0.2308	8	3	[13,23]
chr3:69237880	ARL6IP5	UTR3		+	AtoG	0.1111	0.2	9	2	[10,18]
chr16:31385630	ARMC5	mixed		+	AtoG	0.1	0.1	3	2	[10,10]
chr16:31385939	ARMC5	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr19:19026082	ARMC6	coding_exon		+	CtoG	1	1	15	15	[10,64]
chr19:19029508	ARMC6	UTR3		+	TtoC	0.1	0.1053	3	2	[19,30]
chr17:70636367	ARMC7	coding_exon	ENST00000245543:GtoA;	+	GtoC	0.1	0.1333	6	4	[10,15]
chr17:70637040	ARMC7	UTR3		+	CtoA	0.1	0.1	2	2	[10,10]
chr3:139486039	ARMC8	coding_exon	ENST00000393058:QtoP;ENST00000461822:QtoP;ENST00000469044:QtoP;ENST00000469044:QtoP	+	AtoC	0.1	0.1	2	2	[10,10]
chr3:139439014	ARMC8	coding_exon	ENST00000358441:VtoG;ENST00000393058:VtoG;ENST00000461822:VtoG;ENST00000461822:VtoG	+	TtoG	0.1	0.1818	2	2	[10,11]
chr3:139423501	ARMC8	coding_exon	ENST00000358441:NtoD;ENST00000393058:NtoD;ENST00000461822:NtoD;ENST00000461822:NtoD	+	AtoG	0.1	0.1429	3	2	[10,14]
chr3:139446912	ARMC8	mixed		+	AtoG	0.1	0.1	2	2	[10,10]
chr3:139497809	ARMC8	UTR3		+	TtoC	0.1	0.1667	2	2	[10,12]
chr3:51401781	ARMET	UTR3		+	AtoG	0.2	0.25	3	2	[10,12]
chr1:149075523	ARNT	coding_exon	ENST00000322733:VtoG;ENST00000342710:VtoG;ENST00000354396:VtoG;ENST00000354396:VtoG	-	TtoG	0.1	0.1053	4	2	[10,19]
chr1:149075461	ARNT	coding_exon	ENST00000322733:StoC;ENST00000342710:StoC;ENST00000354396:StoC;ENST00000354396:StoC	-	AtoT	0.1	0.1176	2	2	[10,17]
chr7:98784468	ARPC1B	coding_exon	ENST00000432884:WtoC;	+	GtoC	0.1154	0.3333	3	2	[18,26]
chr7:98789469	ARPC1B	coding_exon	ENST00000432884:VtoL;	+	GtoC	0.1	0.4444	4	3	[10,18]
chr7:98784478	ARPC1B	coding_exon	ENST00000432884:NtoD;	+	AtoG	0.1538	0.3571	5	2	[13,14]
chr7:98780037	ARPC1B	coding_exon	ENST00000432884:LtoF;	+	CtoT	0.1765	0.2	3	3	[10,17]
chr2:218827290	ARPC2	UTR3		+	AtoG	0.1667	0.4615	8	8	[10,17]
chr12:109357131	ARPC3	UTR3		-	CtoG	0.1	0.1818	10	5	[19,33]
chr12:109357132	ARPC3	UTR3		-	GtoA	0.1053	0.1538	9	2	[38,39]
chr9:126679503	ARPC5L	UTR3		+	TtoA	0.1	0.1667	7	3	[10,19]
chr15:50636710	ARPP19	coding_exon	ENST00000249822:EtoG;	-	AtoG	0.12	0.1429	3	2	[21,26]
chr17:4565085	ARRB2	coding_exon	ENST00000269260:KtoQ;ENST00000346341:KtoQ;ENST00000381488:KtoQ;ENST00000381488:KtoQ	+	AtoC	0.1304	0.1429	5	2	[14,23]
chr9:139629514	ARRDC1	UTR3		+	TtoC	0.1	0.1364	2	2	[10,22]
chr19:17982006	ARRDC2	coding_exon	ENST00000222250:VtoA;ENST00000379656:VtoA;	+	TtoC	0.1	0.1	2	2	[10,10]
chr22:49410875	ARSA	coding_exon	ENST00000216124:QtoP;ENST00000356098:QtoP;ENST00000395619:QtoP;ENST00000395619:QtoP	-	AtoC	0.1304	0.1538	3	2	[13,23]
chr22:49413209	ARSA	UTR5		-	GtoC	1	1	3	3	[11,12]
chr1:229202821	ARV1	UTR3		+	TtoG	0.125	0.1333	6	2	[16,17]
chr1:229202823	ARV1	UTR3		+	AtoG	0.1333	0.2	3	3	[14,15]
chr8:17965017	ASAH1	coding_exon	ENST00000262097:HtoN;ENST00000314146:HtoN;ENST00000381733:HtoN;ENST00000381733:HtoN	-	CtoA	0.1	0.1333	3	2	[10,15]
chr2:239019865	ASB1	coding_exon	ENST00000264607:IttoV;ENST00000409297:IttoV;	+	AtoG	0.1	0.1	3	2	[10,10]
chr2:239024055	ASB1	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr3:57280894	ASB14	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr2:53878200	ASB3	coding_exon		-	AtoG	0.1	0.125	6	2	[10,16]
chr12:46828269	ASB8	UTR3		-	TtoA	0.1	0.1333	3	2	[10,15]
chr12:46828701	ASB8	UTR3		-	AtoT	0.1	0.1667	2	2	[10,12]
chr12:46829191	ASB8	UTR3		-	TtoG	0.1	0.125	3	2	[10,16]
chr12:46829361	ASB8	UTR3		-	CtoA	0.1	0.1053	3	2	[10,19]
chr10:73557857	ASCC1	coding_exon	ENST00000317126:NtoD;ENST00000317168:NtoD;ENST00000342444:NtoD;ENST00000342444:NtoD	-	AtoG	0.1176	0.1818	4	2	[11,17]
chr22:28560482	ASCC2	UTR5		-	AtoG	0.1	0.1429	5	2	[10,14]
chr6:101197188	ASCC3	coding_exon		-	TtoC	0.1	0.1	5	2	[10,10]
chr6:101063518	ASCC3	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr19:14092256	ASF1B	UTR3		-	AtoG	0.5	0.6522	3	3	[23,51]
chr1:153582882	ASH1L	coding_exon		-	AtoG	0.1	0.1364	3	3	[10,22]
chr8:38115783	ASH2L	UTR3		+	TtoA	0.1	0.1	2	2	[10,10]
chr8:38116351	ASH2L	UTR3		+	TtoC	0.1	0.2	2	2	[10,10]
chr7:65195375	ASL	UTR3		+	GtoA	0.1429	0.2	4	2	[10,14]
chr7:65195377	ASL	UTR3		+	GtoA	0.1667	0.5455	6	4	[11,13]
chr2:190243625	ASNSD1	coding_exon		+	AtoG	0.1	0.2	4	2	[10,10]
chr2:190243646	ASNSD1	coding_exon		+	CtoG	0.1	0.1429	3	2	[10,14]
chr22:25160141	ASPHD2	coding_exon	ENST00000215906:DtoV;ENST00000382701:DtoV;ENST00000456021:DtoV;	+	AtoT	0.1	0.1	2	2	[10,10]
chr1:195320137	ASPM	coding_exon		-	AtoG	0.1053	0.1818	3	2	[11,19]
chr1:195358268	ASPM	coding_exon		-	AtoG	0.1	0.1176	3	2	[10,18]
chr9:132345640	ASS1	coding_exon	ENST00000334909:IttoT;ENST00000352480:IttoT;ENST00000372393:IttoT;ENST00000372393:IttoT	+	TtoC	0.1429	0.3571	4	2	[14,14]
chr9:132366234	ASS1	UTR3		+	GtoC	0.1667	0.5333	4	2	[12,15]
chr9:132366253	ASS1	UTR3		+	GtoA	0.1	0.6154	2	2	[10,13]
chr9:132366326	ASS1	UTR3		+	CtoT	0.4167	0.7273	2	2	[11,12]
chr20:30488363	ASXL1	coding_exon	ENST00000306058:VtoA;ENST00000358956:VtoA;ENST00000375687:VtoA;ENST00000375687:VtoA	+	TtoC	0.1	0.1	2	2	[21,21]
chr20:30480891	ASXL1	coding_exon		+	AtoT	0.125	0.1667	7	2	[12,24]
chr20:30488815	ASXL1	UTR3		+	AtoG	0.1579	0.1818	6	2	[11,19]
chr20:30490412	ASXL1	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr20:30490637	ASXL1	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr10:89567551	ATAD1	UTR5		-	AtoG	0.1	0.1	2	2	[10,10]
chr12:49500083	ATF1	UTR3		+	TtoA	0.1	0.1429	2	2	[10,14]
chr2:175645873	ATF2	UTR3		-	AtoG	0.1	0.1	3	2	[10,10]
chr2:175646325	ATF2	UTR3		-	TtoG	0.1	0.125	5	3	[10,16]
chr1:160195348	ATF6	UTR3		+	AtoC	0.1	0.1053	2	2	[10,19]
chr1:160200268	ATF6	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr1:160200272	ATF6	UTR3		+	AtoG	0.1053	0.15	3	2	[19,20]
chr12:52193229	ATF7	UTR3		-	AtoG	0.1176	0.125	3	2	[16,17]
chr12:52193817	ATF7	UTR3		-	TtoG	0.1	0.1	2	2	[10,10]
chr12:14525246	ATF7IP	coding_exon	ENST00000261168:VtoA;	+	TtoC	0.1176	0.125	2	2	[16,17]
chr12:14542277	ATF7IP	UTR3		+	CtoA	0.1	0.1	3	2	[10,10]
chr5:115195166	ATG12	UTR3		-	TtoC	0.1304	0.1538	2	2	[13,23]
chr2:233867861	ATG16L1	UTR3		+	GtoT	0.1	0.1429	2	2	[10,14]
chr11:72211616	ATG16L2	mixed		+	GtoA	0.1	0.1176	2	2	[10,17]
chr11:64422752	ATG2A	coding_exon	ENST00000377264:StoP;ENST00000421419:StoP;	-	TtoC	0.1	0.1	2	2	[10,10]
chr11:64420533	ATG2A	coding_exon	ENST00000377262:NtoD;ENST00000377264:NtoD;ENST00000421419:NtoD;	-	AtoG	0.1	0.1	2	2	[10,20]
chr1:63057272	ATG4C	coding_exon	ENST00000317868:WtoR;ENST00000371120:WtoR;	+	TtoC	0.1	0.1429	6	2	[10,14]
chr3:11572622	ATG7	UTR3		+	CtoT	0.1	0.1111	3	2	[10,18]
chr2:219795120	ATG9A	coding_exon	ENST00000361242:TtoP;ENST00000396761:TtoP;ENST00000409422:TtoP;ENST00000409422:TtoP	-	AtoC	0.1	0.1667	3	2	[10,12]
chr2:219793854	ATG9A	coding_exon		-	TtoC	0.1	0.125	3	2	[16,20]

chr11:284418	ATHL1	coding_exon	ENST00000312105:WtoR;ENST00000409479:WtoR;ENST00000409548:WtoR;ENST00000312105:KtoR;ENST00000382625:KtoR;ENST00000409479:KtoR;ENST00000312105:GtoR;ENST00000382625:GtoR;ENST00000409479:GtoR;ENST00000409548:GtoR	+	TtoC	0.1	0.1111	2	2	[10,19]
chr11:282983	ATHL1	coding_exon	ENST00000312105:WtoR;ENST00000409479:WtoR;ENST00000409548:WtoR;ENST00000312105:KtoR;ENST00000382625:KtoR;ENST00000409479:KtoR;ENST00000312105:GtoR;ENST00000382625:GtoR;ENST00000409479:GtoR;ENST00000409548:GtoR	+	AtoG	0.1	0.25	3	2	[10,17]
chr2:215922689	ATIC	UTR3		+	GtoA	0.15	0.2857	7	2	[14,20]
chr2:215922691	ATIC	UTR3		+	TtoA	0.1111	0.1875	7	3	[17,36]
chr2:38376731	ATL2	mixed		-	TtoC	0.1	0.1	2	2	[10,10]
chr2:38375800	ATL2	UTR3		-	GtoT	0.1	0.1053	3	2	[10,19]
chr2:38375890	ATL2	UTR3		-	TtoC	0.1	0.1	3	2	[10,10]
chr11:63160279	ATL3	coding_exon		-	TtoC	0.1	0.1053	2	2	[10,19]
chr11:107744907	ATM	UTR3		+	AtoG	0.1	0.1333	2	2	[10,15]
chr16:79632524	ATMIN	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr12:6913617	ATN1	coding_exon		+	AtoC	0.1111	0.1667	3	2	[12,27]
chr12:6921558	ATN1	UTR3		+	TtoG	0.1	0.2727	5	3	[22,30]
chr5:151102585	ATOX1	UTR3		-	TtoA	0.1	0.3333	4	4	[10,12]
chr5:151102588	ATOX1	UTR3		-	TtoC	0.1	0.1818	3	2	[12,20]
chr13:112587555	ATP11A	UTR3		+	AtoG	0.1429	0.1818	3	2	[11,14]
chr3:184119240	ATP11B	UTR3		+	TtoA	0.1	0.1538	2	2	[10,13]
chr19:19619449	ATP13A1	coding_exon	ENST00000291503:StoP;ENST00000357324:StoP;	-	TtoC	0.1	0.1176	6	3	[10,18]
chr19:19617490	ATP13A1	coding_exon	ENST00000291503:NtoT;ENST00000357324:NtoT;	-	AtoC	0.1081	0.15	3	3	[14,37]
chr3:195639482	ATP13A3	coding_exon	ENST00000256031:AtoT;ENST00000310773:AtoT;ENST00000439040:AtoT;	-	GtoA	0.1	0.1	2	2	[10,10]
chr3:195639481	ATP13A3	coding_exon	ENST00000256031:AtoD;ENST00000310773:AtoD;ENST00000439040:AtoD;	-	CtoA	0.1	0.1	2	2	[10,10]
chr3:195605188	ATP13A3	UTR3		-	TtoA	0.1	0.3	2	2	[10,10]
chr1:167363146	ATP1B1	coding_exon	ENST00000367813:VtoA;ENST00000367815:VtoA;ENST00000367816:VtoA;	+	TtoC	0.1176	0.1429	3	2	[14,17]
chr12:109267075	ATP2A2	coding_exon	ENST00000308664:CtoW;ENST00000313432:CtoW;ENST00000395494:CtoW;	+	TtoG	0.1163	0.2933	6	2	[43,75]
chr12:109269372	ATP2A2	mixed		+	TtoA	0.1111	0.1667	7	2	[12,18]
chr12:109272801	ATP2A2	UTR3		+	CtoG	0.1	0.125	2	2	[10,16]
chr12:109272888	ATP2A2	UTR3		+	TtoC	0.1	0.1	3	2	[10,10]
chr17:3773921	ATP2A3	UTR3		-	GtoA	0.1	0.1818	9	5	[10,20]
chr17:3773923	ATP2A3	UTR3		-	TtoC	0.1111	0.2632	15	7	[14,44]
chr12:88542149	ATP2B1	coding_exon	ENST00000261173:VtoA;ENST00000348959:VtoA;ENST00000359142:VtoA;ENST00000261173:GtoR;ENST00000348959:GtoR;ENST00000359142:GtoR;ENST00000261173:KtoR;ENST00000348959:KtoR;ENST00000359142:KtoR;ENST00000261173:GtoT;ENST00000348959:GtoT;ENST00000359142:GtoT;ENST00000261173:KtoT;ENST00000348959:KtoT;ENST00000359142:KtoT;	-	TtoC	0.1333	0.1538	6	2	[13,15]
chr12:88537970	ATP2B1	coding_exon	ENST00000261173:VtoA;ENST00000348959:VtoA;ENST00000359142:VtoA;ENST00000261173:GtoR;ENST00000348959:GtoR;ENST00000359142:GtoR;ENST00000261173:KtoR;ENST00000348959:KtoR;ENST00000359142:KtoR;ENST00000261173:GtoT;ENST00000348959:GtoT;ENST00000359142:GtoT;ENST00000261173:KtoT;ENST00000348959:KtoT;ENST00000359142:KtoT;	-	TtoG	0.1	0.1429	3	2	[10,14]
chr12:88538023	ATP2B1	coding_exon	ENST00000261173:VtoA;ENST00000348959:VtoA;ENST00000359142:VtoA;ENST00000261173:GtoR;ENST00000348959:GtoR;ENST00000359142:GtoR;ENST00000261173:KtoR;ENST00000348959:KtoR;ENST00000359142:KtoR;ENST00000261173:GtoT;ENST00000348959:GtoT;ENST00000359142:GtoT;ENST00000261173:KtoT;ENST00000348959:KtoT;ENST00000359142:KtoT;	-	AtoG	0.1429	0.1667	2	2	[12,14]
chr12:88542103	ATP2B1	coding_exon	ENST00000261173:VtoA;ENST00000348959:VtoA;ENST00000359142:VtoA;ENST00000261173:GtoR;ENST00000348959:GtoR;ENST00000359142:GtoR;ENST00000261173:KtoR;ENST00000348959:KtoR;ENST00000359142:KtoR;ENST00000261173:GtoT;ENST00000348959:GtoT;ENST00000359142:GtoT;ENST00000261173:KtoT;ENST00000348959:KtoT;ENST00000359142:KtoT;	-	TtoA	0.1	0.1	3	2	[10,10]
chr12:88508919	ATP2B1	mixed		-	AtoG	0.1	0.1538	5	3	[10,13]
chr3:132217680	ATP2C1	coding_exon		+	AtoG	0.1	0.1	2	2	[10,10]
chr3:132203407	ATP2C1	mixed		+	TtoG	0.1	0.125	6	2	[10,16]
chr18:41918111	ATP5A1	UTR3		-	AtoG	0.1818	0.3636	4	4	[10,13]
chr19:1195818	ATP5D	UTR3		+	AtoG	0.1053	0.1304	9	4	[16,24]
chr20:57038877	ATP5E	coding_exon	ENST00000243997:YtoS;ENST00000395659:YtoS;ENST00000395663:YtoS;	-	AtoC	0.1	0.2727	3	2	[11,31]
chr20:57040692	ATP5E	coding_exon	ENST00000243997:YtoN;ENST00000395659:YtoN;ENST00000395663:YtoN;	-	TtoA	0.1562	0.2	7	3	[10,58]
chr20:57038875	ATP5E	coding_exon	ENST00000243997:ItoL;ENST00000395659:ItoL;ENST00000395663:ItoL;	-	AtoC	0.1042	0.1818	4	2	[22,49]
chr20:57038756	ATP5E	coding_exon	ENST00000243997:*toY;ENST00000395659:*toY;ENST00000395663:*toY;	-	AtoT	0.1163	0.2027	6	4	[45,116]
chr20:57038876	ATP5E	coding_exon	ENST00000243997:*toY;ENST00000395659:*toY;ENST00000395663:*toY;	-	CtoT	0.2	0.3	6	3	[15,45]
chr20:57037228	ATP5E	UTR3		-	AtoG	0.1071	0.1316	6	2	[28,38]
chr20:57037238	ATP5E	UTR3		-	AtoG	0.1094	0.125	12	2	[56,64]
chr20:57037240	ATP5E	UTR3		-	AtoG	0.119	0.2987	16	15	[31,101]
chr20:57037290	ATP5E	UTR3		-	CtoT	0.1	0.1	4	2	[50,90]
chr17:44328138	ATP5G1	UTR3		+	TtoA	0.1429	0.2	4	2	[10,14]
chr17:44328146	ATP5G1	UTR3		+	TtoC	0.1	0.1875	6	3	[10,20]
chr12:52345243	ATP5G2	UTR3		-	AtoG	0.1	0.1273	7	2	[56,60]
chr2:175751142	ATP5G3	UTR3		-	AtoG	0.1	0.2	7	3	[10,19]
chr2:175751143	ATP5G3	UTR3		-	CtoG	0.1	0.2143	9	4	[11,18]
chr2:175751145	ATP5G3	UTR3		-	GtoA	0.1	0.1053	5	2	[19,20]
chr2:17575196	ATP5G3	UTR5		-	TtoC	0.8333	1	5	5	[10,26]
chr17:70546578	ATP5H	UTR3		-	TtoC	0.1087	0.35	17	10	[13,46]
chr4:656234	ATP5I	UTR3		-	TtoA	0.1176	0.2727	7	3	[11,17]
chr21:26018729	ATP5J	mixed		-	AtoG	0.1	0.1429	6	2	[10,14]
chr7:98894811	ATP5J2	coding_exon	ENST00000292475:YtoH;ENST00000394186:YtoH;ENST00000449683:YtoH;	-	TtoC	0.1034	0.114	7	2	[119,152]
chr7:98893754	ATP5J2	UTR3		-	AtoG	0.1739	0.1905	5	2	[23,24]
chr7:98901713	ATP5J2	UTR5		-	CtoT	0.1143	0.1463	5	2	[35,41]
chr21:34197634	ATP5O	UTR3		-	AtoG	0.1	0.2	4	3	[10,10]
chr19:46629493	ATP5L	UTR3		-	AtoG	0.1053	0.1818	5	2	[11,19]
chr17:37900711	ATP6VOA1	coding_exon	ENST00000264649:PtoQ;ENST00000343619:PtoQ;ENST00000393829:PtoQ;	+	CtoA	0.1	0.1	4	2	[10,10]
chr12:122805037	ATP6VOA2	coding_exon	ENST00000330342:QtoE;	+	CtoG	0.1333	0.2308	5	4	[13,30]
chr12:122795451	ATP6VOA2	coding_exon	ENST00000330342:QtoE;	+	TtoA	0.1	0.1111	2	2	[10,19]
chr5:172394475	ATP6VOE1	UTR3		+	TtoA	0.1	0.1818	4	2	[10,11]
chr7:149207791	ATP6VOE2	mixed		+	TtoC	0.1	0.2143	2	2	[14,21]
chr3:115012358	ATP6V1A	UTR3		+	AtoG	0.1	0.1429	3	3	[10,14]
chr3:115012510	ATP6V1A	UTR3		+	TtoC	0.1	0.1	3	2	[10,10]
chr3:115013285	ATP6V1A	UTR3		+	TtoC	0.1818	0.4615	5	3	[11,14]
chr14:66875010	ATP6V1D	UTR3		-	TtoG	0.1	0.1538	3	2	[10,14]
chr22:16455263	ATP6V1E1	UTR3		-	AtoG	0.38	0.587	7	7	[50,93]
chr7:128292697	ATP6V1F	coding_exon	ENST00000249289:ItoM;ENST00000492758:ItoM;	+	CtoG	0.1	0.1	2	2	[10,20]
chr7:128290349	ATP6V1F	coding_exon	ENST00000249289:FtoS;ENST00000492758:FtoS;	+	TtoC	0.1	0.3636	3	2	[10,11]
chr7:128290341	ATP6V1F	coding_exon	ENST00000249289:FtoS;ENST00000492758:FtoS;	+	AtoG	0.2	0.2	2	2	[10,10]
chr9:116399939	ATP6V1G1	UTR3		+	TtoA	0.1	0.2	5	2	[10,30]
chr6:31624154	ATP6V1G2	mixed		-	CtoA	0.1	0.1538	2	2	[10,13]
chr8:54847116	ATP6V1H	coding_exon	ENST00000355221:StoR;ENST00000359530:StoR;ENST00000396774:StoR;ENST00000355221:QtoP;ENST00000359530:QtoP;ENST00000396774:QtoP;ENST00000355221:KtoR;ENST00000359530:KtoR;ENST00000396774:KtoR;ENST00000355221:GtoT;ENST00000359530:GtoT;ENST00000396774:GtoT;ENST00000355221:KtoT;ENST00000359530:KtoT;ENST00000396774:KtoT;	-	TtoG	0.1	0.1111	2	2	[10,18]
chr8:54916703	ATP6V1H	coding_exon	ENST00000355221:QtoP;ENST00000359530:QtoP;ENST00000396774:QtoP;ENST00000355221:KtoR;ENST00000359530:KtoR;ENST00000396774:KtoR;ENST00000355221:GtoT;ENST00000359530:GtoT;ENST00000396774:GtoT;ENST00000355221:KtoT;ENST00000359530:KtoT;ENST00000396774:KtoT;	-	AtoC	0.1333	0.1429	8	2	[15,16]
chr4:42161697	ATP8A1	coding_exon		-	AtoG	0.1053	0.1538	3	2	[13,19]
chr4:42107853	ATP8A1	UTR3		-	AtoG	0.1	0.1481	2	2	[10,27]
chr4:42108951	ATP8A1	UTR3		-	TtoA	0.1	0.1667	2	2	[10,12]
chr1:152585750	ATP8B2	coding_exon	ENST00000341831:ItoL;ENST00000368489:ItoL;	+	AtoC	0.1	0.1	4	2	[10,20]
chr1:152585378	ATP8B2	coding_exon	ENST00000341831:ItoL;ENST00000368489:ItoL;	+	GtoA	0.1	0.1111	3	2	[10,10]
chr1:152588928	ATP8B2	UTR3		+	TtoC	0.1	0.1	2	2	[10,11]
chr1:46873333	ATPAF1	UTR3		-	AtoG	0.1	0.1818	3	2	[10,11]
chr1:46873336	ATPAF1	UTR3		-	TtoC	0.1	0.1364	7	2	[10,23]
chr1:46873696	ATPAF1	UTR3		-	TtoC	0.1	0.1875	8	5	[30,54]
chr17:17865253	ATPAF2	coding_exon	ENST00000474627:LtoH;	-	TtoA	0.1	0.125	3	2	[10,16]
chr1:28435956	ATPIF1	mixed		+	CtoA	0.1	0.1	2	2	[10,10]
chr1:28437197	ATPIF1	UTR3		+	AtoC	0.1333	0.2593	3	2	[15,30]
chr3:48475813	ATRIP	coding_exon	ENST00000320211:QtoR;ENST00000346691:QtoR;ENST00000412052:QtoR;	+	AtoG	0.1	0.1	3	2	[10,10]
chr6:16411005	ATXN1	UTR3		-	AtoC	0.1	0.1	2	2	[10,10]
chr22:44618515	ATXN10	mixed		+	AtoG	0.1029	0.1176	5	2	[17,73]
chr22:44618522	ATXN10	mixed		+	TtoA	0.1	0.1176	4	2	[10,18]
chr16:70446498	ATXN1L	mixed		+	TtoC	0.1	0.1176	2	2	[10,17]
chr16:70446633	ATXN1L	mixed		+	TtoA	0.1	0.1	2	2	[10,10]

chr16:28755984	ATXN2L	UTR3		+	GtoA	0.1111	0.1905	6	3	[16,21]
chr1:109835725	ATXN7L2	coding_exon	ENST00000369869:KtoE;ENST00000369870:KtoE;	+	Atog	0.1	0.1333	2	2	[15,20]
chr17:39630550	ATXN7L3	coding_exon		-	TtoA	0.1389	0.3684	14	11	[10,72]
chr17:39630559	ATXN7L3	coding_exon		-	Atog	0.1176	0.3036	13	11	[21,81]
chr2:74607286	AUP1	UTR3		-	GtoA	0.1	0.1	3	3	[10,10]
chr20:54394923	AURKA	coding_exon	ENST00000312783:VtoA;ENST00000347343:VtoA;ENST00000371356:VtoA;ENST00000312783:RtoW;ENST00000347343:RtoW;ENST00000371356:RtoW;ENST00000312783:UtoG;ENST00000347343:UtoG;ENST00000371356:UtoG;	-	TtoC	0.1111	0.2083	5	3	[17,24]
chr20:54394903	AURKA	coding_exon	ENST00000312783:RtoW;ENST00000347343:RtoW;ENST00000371356:RtoW;ENST00000312783:UtoG;ENST00000347343:UtoG;ENST00000371356:UtoG;	-	CtoT	0.1	0.1579	5	3	[11,21]
chr20:54378954	AURKA	coding_exon		-	Atoc	0.1	0.1111	2	2	[10,18]
chr20:54381921	AURKA	coding_exon		-	Atog	0.1	0.1538	2	2	[10,13]
chr7:69869250	AUTS2	coding_exon		+	TtoC	0.1	0.1111	2	2	[10,27]
chr7:69894297	AUTS2	UTR3		+	GtoA	0.1	0.1	3	3	[10,11]
chr15:31950443	AVEN	coding_exon		-	TtoC	0.125	0.1667	3	2	[12,16]
chr15:31946053	AVEN	UTR3		-	TtoG	0.1	0.1818	3	2	[11,11]
chr7:32874426	AVL9	coding_exon		+	GtoC	0.1333	0.1667	3	2	[12,15]
chr7:32874431	AVL9	coding_exon		+	CtoT	0.1	0.1176	2	2	[10,17]
chr7:32875472	AVL9	coding_exon		+	Atog	0.1	0.1	3	2	[10,10]
chr7:32876887	AVL9	coding_exon		+	Atog	0.1538	0.3	2	2	[10,13]
chr7:33020279	AVL9	coding_exon		+	TtoC	0.1	0.1176	3	2	[10,17]
chr17:76786610	AZ11	coding_exon	ENST00000269392:LtoP;ENST00000374782:LtoP;ENST00000450824:LtoP;	-	TtoC	0.1	0.1176	2	2	[11,17]
chr8:103910812	AZIN1	coding_exon	ENST00000337198:StoG;ENST00000347770:StoG;	-	Atog	0.1226	0.3708	17	10	[20,128]
chr8:103910813	AZIN1	coding_exon		-	Atog	0.101	0.1011	5	2	[89,99]
chr15:42797611	B2M	UTR3		+	Atog	0.1026	0.2143	8	6	[14,52]
chr15:42791000	B2M	UTR5		+	GtoC	0.2353	0.3636	3	2	[11,17]
chr15:42791002	B2M	UTR5		+	CtoG	0.3571	0.9259	16	16	[10,65]
chr15:42791019	B2M	UTR5		+	GtoC	0.102	0.2035	12	4	[98,324]
chr15:42791020	B2M	UTR5		+	Atot	0.1054	0.3649	14	11	[112,582]
chr1:233680195	B3GALNT2	coding_exon		-	GtoC	0.1	0.1	4	2	[10,10]
chr2:231973401	B3GNT7	UTR3		+	GtoA	0.1	0.1053	2	2	[10,19]
chr9:33102787	B4GALT1	UTR3		-	Atog	0.1	0.1818	5	2	[10,12]
chr1:44223273	B4GALT2	coding_exon	ENST00000309519:QtoH;ENST00000356836:QtoH;ENST00000372324:QtoH;ENST00000309519:UtoG;ENST00000356836:UtoG;ENST00000372324:UtoG;	+	Atoc	0.1429	0.1905	4	2	[15,21]
chr3:120413607	B4GALT4	UTR3		-	TtoG	0.1	0.1538	2	2	[10,13]
chr5:176969532	B4GALT7	UTR3		+	TtoG	0.1176	0.1667	2	2	[12,17]
chr14:103096980	BAG5	coding_exon	ENST00000337322:ltoN;	-	TtoA	0.1	0.125	4	3	[10,16]
chr15:38543409	BAHD01	coding_exon	ENST00000339351:TtoA;ENST00000416165:TtoA;ENST00000442618:TtoA;	+	Atog	0.1	0.1176	2	2	[10,17]
chr15:38541418	BAHD01	coding_exon	ENST00000339351:ltoP;ENST00000416165:ltoP;ENST00000442618:ltoP;	+	TtoC	0.1333	0.1538	3	2	[13,15]
chr16:1339246	BAIAP3	UTR3		+	TtoC	0.1818	0.1818	3	2	[11,11]
chr16:86668321	BANP	UTR3		+	GtoT	0.1	0.1667	4	2	[10,12]
chr2:215301803	BARD1	mixed		-	CtoG	0.1	0.1	3	2	[10,10]
chr5:17329741	BASP1	coding_exon	ENST00000322611:NtoK;	+	TtoA	0.1064	0.1071	7	2	[28,48]
chr5:17329742	BASP1	coding_exon	ENST00000322611:Etok;	+	GtoA	0.129	0.1333	3	3	[15,46]
chr6:31611139	BAT1	coding_exon	ENST00000376177:RtoH;ENST00000396172:RtoH;ENST00000415382:RtoH;ENST00000376177:UtoG;ENST00000396172:UtoG;ENST00000415382:UtoG;	-	GtoA	0.119	0.2308	4	2	[52,84]
chr6:31606044	BAT1	UTR3		-	Atog	0.1053	0.1667	5	3	[12,25]
chr6:31713480	BAT2	UTR3		+	TtoC	0.125	0.1429	4	2	[16,21]
chr1:169824161	BAT2D1	coding_exon	ENST00000338920:TtoP;ENST00000345788:NtoT;ENST00000367742:TtoP;ENST00000338920:UtoG;ENST00000345788:UtoG;ENST00000367742:UtoG;	+	Atoc	0.1	0.3043	6	5	[10,24]
chr1:169827349	BAT2D1	mixed		+	GtoA	0.1053	0.1765	6	2	[17,19]
chr9:133324507	BAT2L	mixed		+	Atog	0.125	0.1667	2	2	[12,16]
chr9:133341305	BAT2L	mixed		+	TtoC	0.1	0.1429	2	2	[10,14]
chr9:133363085	BAT2L	UTR3		+	Atog	0.1111	0.1224	7	3	[18,49]
chr9:133363945	BAT2L	UTR3		+	Atog	0.1154	0.1667	2	2	[18,26]
chr9:133364703	BAT2L	UTR3		+	TtoG	0.3	0.4706	2	2	[10,17]
chr6:31714807	BAT3	UTR3		-	Atog	0.1111	0.1818	4	2	[10,11]
chr6:31714811	BAT3	UTR3		-	TtoC	0.1	0.1	4	2	[10,10]
chr1:210926502	BATF3	UTR3		-	TtoA	0.1	0.1579	6	2	[10,19]
chr19:54155954	BAX	mixed		+	TtoG	0.1349	0.1767	4	4	[108,318]
chr19:54156835	BAX	UTR3		+	CtoG	0.1	0.1667	3	2	[10,12]
chr14:34340105	BAZ1A	coding_exon	ENST00000358716:KtoE;ENST00000360310:KtoE;ENST00000382422:KtoE;	-	Atog	0.1071	0.1579	5	2	[19,29]
chr14:34293838	BAZ1A	coding_exon	ENST00000358716:ltoV;ENST00000360310:ltoV;ENST00000382422:ltoV;	-	Atog	0.125	0.1667	7	2	[12,16]
chr14:34365030	BAZ1A	coding_exon	ENST00000358716:Etog;ENST00000360310:Etog;ENST00000382422:Etog;	-	Atog	0.1333	0.1667	12	4	[12,16]
chr14:34333806	BAZ1A	coding_exon		-	TtoC	0.1	0.1026	9	2	[20,78]
chr7:72494429	BAZ1B	UTR3		-	GtoA	0.1429	0.1667	4	2	[19,28]
chr12:55297583	BAZ2A	mixed		-	Atog	0.1538	0.1667	2	2	[12,13]
chr12:55316234	BAZ2A	mixed		-	GtoA	0.1818	0.3333	3	3	[11,12]
chr12:55276872	BAZ2A	UTR3		-	TtoG	0.1111	0.3	6	2	[10,19]
chr12:55278023	BAZ2A	UTR3		-	Atog	0.1	0.1	3	2	[10,10]
chr2:159948369	BAZ2B	coding_exon	ENST00000343439:LtoP;ENST00000355831:LtoP;ENST00000392782:LtoP;ENST00000343439:UtoG;ENST00000355831:UtoG;ENST00000392782:UtoG;	-	TtoC	0.1176	0.125	4	2	[16,17]
chr3:108949517	BBX	mixed		+	TtoC	0.1667	0.1667	2	2	[12,18]
chr3:108974545	BBX	mixed		+	GtoC	0.1	0.1111	3	2	[11,18]
chr3:109007318	BBX	UTR3		+	Atog	0.1	0.1667	3	2	[10,12]
chr3:109008111	BBX	UTR3		+	TtoA	0.1	0.1	3	2	[10,10]
chr7:107023576	BCAP29	coding_exon	ENST00000005259:TtoS;ENST00000379117:TtoS;ENST00000379119:TtoS;ENST00000005259:UtoG;ENST00000379117:UtoG;ENST00000379119:UtoG;	+	Atot	0.1	0.1	2	2	[10,10]
chr16:73820739	BCAR1	UTR3		-	TtoG	0.125	0.1429	2	2	[14,16]
chr16:73820773	BCAR1	UTR3		-	Atog	0.1	0.1	3	2	[10,10]
chr12:24886323	BCAT1	coding_exon		-	Atog	0.1111	0.125	4	2	[10,17]
chr12:24855651	BCAT1	UTR3		-	Atog	0.1	0.1	3	2	[10,10]
chr12:24855752	BCAT1	UTR3		-	Atog	0.1053	0.1111	4	2	[20,36]
chr12:24860543	BCAT1	UTR3		-	Atog	0.1	0.1429	2	2	[10,14]
chr10:127531859	BCCIP	UTR3		+	Atog	0.1667	0.2	3	2	[10,12]
chr16:31031389	BCKDK	UTR3		+	CtoA	0.1333	0.2727	4	3	[10,15]
chr18:58941947	BCL2	UTR3		-	TtoA	0.125	0.1818	4	2	[11,17]
chr18:58942148	BCL2	UTR3		-	TtoC	0.1136	0.1351	9	2	[37,45]
chr18:58943301	BCL2	UTR3		-	Atot	0.1	0.1	2	2	[10,10]
chr18:58944711	BCL2	UTR3		-	TtoA	0.15	0.1538	5	2	[13,20]
chr18:58944712	BCL2	UTR3		-	TtoG	0.125	0.1538	7	3	[13,20]
chr18:58945266	BCL2	UTR3		-	TtoC	0.1111	0.125	6	2	[18,24]
chr18:58945313	BCL2	UTR3		-	CtoA	0.1	0.3	11	7	[10,27]
chr18:58945345	BCL2	UTR3		-	TtoC	0.1	0.1538	3	2	[10,13]
chr18:58946100	BCL2	UTR3		-	GtoA	0.125	0.125	4	2	[16,16]
chr18:59137683	BCL2	UTR5		-	Atog	0.1111	0.1429	3	2	[22,27]
chr15:78040528	BCL2A1	mixed		-	TtoA	0.1053	0.1429	6	3	[17,41]
chr15:78040321	BCL2A1	UTR3		-	Atog	0.1304	0.4	5	4	[11,23]
chr15:78040326	BCL2A1	UTR3		-	TtoC	0.1169	0.4	8	6	[10,77]
chr22:16590463	BCL2L13	UTR3		+	TtoC	0.1	0.1667	8	4	[20,29]
chr14:22850238	BCL2L2	UTR3		+	Atot	0.1	0.1	2	2	[10,10]
chr16:30806649	BCL7C	mixed		-	TtoG	0.1	0.1667	3	2	[10,18]
chr11:118274166	BCL9L	mixed		-	Atog	0.1333	0.2	2	2	[15,15]
chr22:21933647	BCR	coding_exon	ENST00000305877:KtoE;ENST00000359540:KtoE;	+	Atog	0.1	0.1	2	2	[10,11]

chr2:219234174	BCS1L	coding_exon	ENST00000359273:TtoS;ENST00000392109:TtoS;ENST00000392110:TtoS;ENST000	+	AtoT	0.1667	0.1818	4	2	[11,12]
chr2:219233054	BCS1L	UTR5		+	AtoG	0.1	0.1818	4	2	[10,11]
chr2:219233908	BCS1L	UTR5		+	TtoA	0.1	0.1	3	2	[10,10]
chr17:38216135	BECN1	UTR3		-	TtoC	0.1034	0.1429	6	2	[14,29]
chr16:14651163	BFAR	coding_exon	ENST00000261658:VtoG;ENST00000426842:VtoG;	+	TtoG	0.1	0.1667	9	4	[10,18]
chr16:14656426	BFAR	coding_exon	ENST00000261658:LtoW;ENST00000426842:LtoW;	+	TtoG	0.1429	0.1429	5	2	[14,14]
chr16:14656427	BFAR	coding_exon		+	GtoA	0.125	0.1333	2	2	[15,16]
chr9:94514501	BICD2	UTR3		-	TtoA	0.1	0.125	2	2	[16,20]
chr22:16596939	BID	UTR3		-	GtoA	0.1	0.1	2	2	[10,10]
chr8:22537384	BIN3	coding_exon	ENST00000276416:ltoL;	-	AtoC	0.1	0.1333	2	2	[10,15]
chr11:101738866	BIRC2	coding_exon	ENST00000227758:QtoR;	+	AtoG	0.125	0.1875	6	2	[16,16]
chr11:101753527	BIRC2	coding_exon	ENST00000227758:NtoS;	+	AtoG	0.1	0.1818	2	2	[10,11]
chr11:101724956	BIRC2	UTR5		+	AtoC	0.1	0.1	2	2	[10,10]
chr11:101713057	BIRC3	UTR3		+	CtoG	0.1	0.1429	3	2	[10,14]
chr11:101713062	BIRC3	UTR3		+	TtoC	0.1111	0.1818	2	2	[10,11]
chr11:101699446	BIRC3	UTR5		+	AtoG	0.1	0.1333	2	2	[10,15]
chr17:73732617	BIRC5	UTR3		+	TtoC	0.1	0.1429	4	2	[10,14]
chr2:32604149	BIRC6	coding_exon	ENST00000261359:NtoS;ENST00000421745:NtoS;	+	AtoG	0.1	0.1538	2	2	[10,13]
chr2:32543185	BIRC6	coding_exon		+	TtoC	0.1111	0.1538	2	2	[13,18]
chr2:32546242	BIRC6	coding_exon		+	AtoG	0.1	0.1818	2	2	[10,11]
chr2:32591549	BIRC6	coding_exon		+	TtoA	0.1	0.1	6	2	[10,10]
chr2:35580977	BLCAP	coding_exon	ENST00000414542:QtoR;	-	AtoG	0.1034	0.1875	6	5	[16,44]
chr15:89155557	BLM	coding_exon	ENST00000355112:RtoS;	+	AtoC	0.1111	0.125	5	2	[10,16]
chr15:89153444	BLM	coding_exon		+	TtoC	0.1	0.1	5	2	[10,10]
chr15:89159564	BLM	UTR3		+	AtoC	0.1	0.1	2	2	[10,10]
chr10:97957645	BLNK	coding_exon		-	GtoA	0.1068	0.165	14	7	[37,176]
chr10:97941486	BLNK	UTR3		-	TtoA	0.1333	0.2	4	3	[11,16]
chr12:54399743	BLOC1S1	UTR3		+	CtoG	0.2	0.3125	6	3	[12,20]
chr12:54399749	BLOC1S1	UTR3		+	TtoC	0.1818	0.4247	4	3	[11,77]
chr10:102030756	BLOC1S2	coding_exon	ENST00000358848:TtoA;ENST00000361832:TtoA;ENST00000370372:TtoA;ENST000	-	AtoG	0.1	0.1	3	3	[10,10]
chr19:50376597	BLOC1S3	mixed		+	AtoG	0.1	0.1	2	2	[10,10]
chr7:43813453	BLVRA	UTR3		+	TtoC	0.1364	0.1818	9	2	[11,23]
chr19:45645561	BLVRB	UTR3		-	AtoG	0.1034	0.1176	4	2	[17,29]
chr15:38171011	BMF	UTR3		-	TtoG	0.1	0.1818	3	2	[10,11]
chr14:53486382	BMP4	UTR3		-	TtoC	0.1176	0.2	2	2	[10,17]
chr10:42612512	BMS1	coding_exon	ENST00000374518:EtoG;	+	AtoG	0.1	0.1053	3	3	[10,19]
chr10:42617671	BMS1	coding_exon	ENST00000374518:DtoE;	+	TtoG	0.1	0.2143	10	5	[10,69]
chr10:42612534	BMS1	coding_exon		+	TtoG	0.2	0.2222	4	2	[10,15]
chr15:57752218	BNIP2	coding_exon	ENST00000267859:DtoG;ENST00000409352:DtoG;ENST00000415213:DtoG;	-	AtoG	0.1	0.1053	3	2	[19,20]
chr15:57742801	BNIP2	UTR3		-	TtoC	0.1	0.2	2	2	[10,10]
chr10:133636610	BNIP3	coding_exon	ENST00000368636:PtoR;	-	CtoG	0.1	0.1	2	2	[10,10]
chr4:13212472	BOD1L	coding_exon	ENST0000040738:MtoT;	-	TtoC	0.1	0.1	4	2	[10,10]
chr4:13209670	BOD1L	coding_exon	ENST0000040738:ltoK;	-	TtoA	0.1	0.1818	4	3	[10,11]
chr4:13210336	BOD1L	coding_exon	ENST0000040738:EtoG;	-	AtoG	0.1	0.1	2	2	[10,10]
chr4:13212562	BOD1L	coding_exon	ENST0000040738:DtoG;	-	AtoG	0.1	0.1	2	2	[10,10]
chr4:13211673	BOD1L	coding_exon		-	AtoG	0.1	0.1176	3	2	[10,17]
chr4:13211859	BOD1L	coding_exon		-	TtoC	0.1	0.1	2	2	[10,10]
chr2:74216147	BOLA3	UTR3		-	AtoC	0.1	0.2	2	2	[10,10]
chr2:74216150	BOLA3	UTR3		-	AtoG	0.1	0.2	7	2	[10,10]
chr7:134014547	BPGM	UTR3		+	GtoT	0.1	0.1	2	2	[10,10]
chr6:3097897	BPHL	UTR3		+	TtoC	0.1	0.2	3	2	[10,10]
chr1:218297821	BPNT1	mixed		-	TtoC	0.1	0.1	3	2	[10,10]
chr17:63338973	BPTF	coding_exon	ENST00000306378:LtoP;ENST00000321892:LtoP;ENST00000335221:LtoP;	+	TtoC	0.1	0.1111	4	2	[10,18]
chr17:63331327	BPTF	coding_exon		+	TtoG	0.1538	0.2	4	2	[13,15]
chr17:63339727	BPTF	coding_exon		+	AtoG	0.1	0.1667	2	2	[10,12]
chr7:140124301	BRAF	coding_exon		-	TtoC	0.1	0.25	2	2	[10,12]
chr12:110580934	BRAP	coding_exon	ENST00000327551:LtoV;ENST00000419234:LtoV;	-	TtoG	0.1	0.1667	3	2	[10,12]
chr12:110587859	BRAP	coding_exon	ENST00000327551:HtoP;ENST00000419234:HtoP;	-	AtoC	0.1	0.2667	7	5	[10,15]
chr17:38497514	BRCA1	coding_exon	ENST00000309486:StoI;ENST00000346315:StoI;ENST00000353540:StoI;ENST00000	-	GtoT	0.1	0.1	2	2	[10,20]
chr17:38453188	BRCA1	coding_exon	ENST00000309486:HtoP;ENST00000346315:HtoP;ENST00000351666:HtoP;ENST000	-	AtoC	0.1333	0.2	3	2	[10,15]
chr17:38451234	BRCA1	mixed		-	AtoC	0.1429	0.2857	4	4	[13,15]
chr17:38450248	BRCA1	UTR3		-	TtoG	0.1	0.1333	2	2	[10,15]
chr13:31870541	BRCA2	coding_exon		+	AtoG	0.1	0.1	2	2	[10,10]
chr6:33051844	BRD2	coding_exon	ENST00000374825:VtoA;ENST00000374831:VtoA;ENST00000395287:VtoA;ENST000	+	TtoC	0.1	0.125	3	2	[10,16]
chr6:33051159	BRD2	coding_exon	ENST00000374825:KtoN;ENST00000374831:KtoN;ENST00000395287:KtoN;ENST000	+	AtoC	0.1176	0.1765	6	2	[17,17]
chr6:33056699	BRD2	UTR3		+	CtoG	0.4545	0.5125	2	2	[155,160]
chr9:135905466	BRD3	coding_exon	ENST00000303407:TtoP;ENST00000357885:TtoP;ENST00000371834:TtoP;	-	AtoC	0.1	0.1	2	2	[10,10]
chr9:135889750	BRD3	coding_exon		-	AtoG	0.1	0.2143	3	2	[10,14]
chr16:48946222	BRD7	coding_exon	ENST00000394688:StoC;ENST00000394689:StoC;ENST00000401491:StoC;	-	CtoG	0.1154	0.1333	2	2	[15,26]
chr16:48912134	BRD7	coding_exon	ENST00000394688:LtoR;ENST00000394689:LtoR;	-	TtoG	0.1176	0.1429	8	3	[14,18]
chr16:48946217	BRD7	coding_exon	ENST00000394688:AtoS;ENST00000394689:AtoS;ENST00000401491:AtoS;	-	GtoT	0.1	0.1034	2	2	[10,29]
chr5:137520636	BRD8	mixed		-	AtoG	0.125	0.1429	5	2	[14,16]
chr5:944832	BRD9	mixed		-	AtoG	0.1	0.1333	4	2	[10,15]
chr5:944834	BRD9	mixed		-	AtoG	0.1111	0.1176	3	2	[17,18]
chr2:28374804	BRE	mixed		+	CtoA	0.1	0.125	2	2	[16,20]
chr12:124076149	BRI3BP	UTR3		+	TtoC	0.1	0.125	3	2	[10,16]
chr11:65864219	BRMS1	coding_exon	ENST00000359957:StoP;ENST00000425825:StoP;	-	TtoC	0.1	0.1176	2	2	[10,17]
chr11:65861449	BRMS1	UTR3		-	TtoC	0.1	0.1818	10	4	[10,15]
chr3:9757582	BRPF1	coding_exon	ENST00000302054:LtoP;ENST00000383829:LtoP;ENST00000424362:LtoP;ENST000	+	TtoC	0.1	0.1	2	2	[10,10]
chr3:9756542	BRPF1	coding_exon	ENST00000302054:KtoE;ENST00000383829:KtoE;ENST00000424362:KtoE;ENST000	+	AtoG	0.1	0.125	4	2	[10,16]
chr11:62214851	BSCL2	coding_exon	ENST00000278893:KtoR;	-	AtoG	0.6	0.7692	2	2	[13,40]
chr1:32603892	BSDC1	UTR3		-	TtoC	0.1	0.2	3	2	[10,10]
chr19:523628	BSG	mixed		+	GtoA	0.9954	1	8	8	[31,294]
chr19:534449	BSG	UTR3		+	TtoC	0.1146	0.1447	5	4	[51,115]
chr19:17374757	BST2	mixed		-	GtoA	0.1	0.1333	3	2	[10,15]
chr19:17374758	BST2	mixed		-	AtoG	0.1071	0.2727	11	5	[11,28]
chr10:93757951	BTAF1	coding_exon	ENST00000265990:KtoR;	+	AtoG	0.1	0.1667	5	3	[10,14]
chr10:93760833	BTAF1	coding_exon	ENST00000265990:HtoR;	+	AtoG	0.1	0.1053	3	2	[10,19]
chr10:93760849	BTAF1	coding_exon		+	TtoG	0.1333	0.1765	3	2	[15,17]
chr16:3572633	BTBD12	coding_exon	ENST00000294008:EtoG;	-	AtoG	0.1	0.1	4	2	[10,10]
chr1:201543867	BTG2	UTR3		+	AtoG	0.1053	0.3056	7	5	[15,36]
chr1:201543876	BTG2	UTR3		+	AtoG	0.1	0.2941	8	7	[13,50]
chr1:201544476	BTG2	UTR3		+	AtoG	0.1	0.15	3	2	[10,20]
chr1:201545349	BTG2	UTR3		+	AtoC	0.1111	0.1111	2	2	[10,10]
chr3:113666014	BTLA	UTR3		-	TtoG	0.1429	0.1818	3	2	[11,14]
chr3:113666639	BTLA	UTR3		-	AtoG	0.1	0.125	4	2	[10,16]

chr3:113667086	BTLA	UTR3		-	TtoC	0.125	0.1667	2	2	[12,16]
chr6:26576421	BTN2A1	mixed		+	CtoT	0.1429	0.1538	3	2	[13,14]
chr6:26499056	BTN2A2	coding_exon		+	TtoC	0.1667	0.6	5	5	[10,18]
chr6:26499169	BTN2A2	coding_exon		+	GtoA	0.1429	0.2353	4	4	[14,18]
chr6:26519784	BTN3A1	coding_exon		+	GtoA	0.1	0.1364	3	2	[10,22]
chr6:26521298	BTN3A1	mixed		+	CtoT	0.1176	0.4545	3	3	[11,17]
chr6:26521341	BTN3A1	mixed		+	TtoC	0.2	0.2308	4	3	[10,13]
chr6:26513657	BTN3A1	UTR5		+	AtoG	0.1	0.1	2	2	[10,10]
chr6:26483004	BTN3A2	UTR3		+	TtoA	0.1	0.2308	15	8	[13,48]
chr6:26485464	BTN3A2	UTR3		+	AtoC	0.1053	0.2143	7	3	[14,29]
chr10:103303344	BTRC	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr2:111112186	BUB1	coding_exon	ENST00000302759:NtoD;ENST00000409311:NtoD;	-	AtoG	0.1	0.1429	8	4	[10,28]
chr2:111140447	BUB1	coding_exon	ENST00000302759:HtoR;ENST00000409311:HtoR;	-	AtoG	0.1111	0.1667	2	2	[18,18]
chr11:116138642	BUD13	coding_exon		-	AtoG	0.1	0.1333	6	3	[10,17]
chr11:116146067	BUD13	coding_exon		-	AtoG	0.1333	0.15	2	2	[15,20]
chr5:34961342	BXDC2	coding_exon		+	TtoC	0.1	0.1667	2	2	[18,20]
chr1:84734566	BXDC5	coding_exon		+	TtoC	0.1176	0.1667	4	2	[12,17]
chr1:84735774	BXDC5	UTR3		+	AtoT	0.1	0.1333	4	2	[10,15]
chr1:84735894	BXDC5	UTR3		+	TtoA	0.1	0.1111	5	3	[10,21]
chr6:42008149	BYSL	coding_exon	ENST00000230340:DtoE;	+	TtoA	0.1	0.1053	2	2	[19,20]
chr6:42008743	BYSL	UTR3		+	AtoG	0.1111	0.2143	3	2	[14,18]
chr2:201391338	BZW1	coding_exon	ENST00000353957:StoP;ENST00000409226:StoP;ENST00000409521:StoP;ENST00000409521:StoP;	+	TtoC	0.1053	0.1429	2	2	[14,19]
chr2:201391343	BZW1	coding_exon		+	TtoC	0.1	0.1154	2	2	[10,26]
chr10:73660130	C10orf104	coding_exon	ENST00000299381:DtoG;	+	AtoG	0.1034	0.1311	12	4	[28,82]
chr10:73663032	C10orf104	UTR3		+	AtoG	0.1154	0.1395	8	2	[43,57]
chr10:121585098	C10orf119	coding_exon	ENST00000360003:Itov;ENST00000369077:Itov;	-	AtoG	0.1333	0.1707	7	5	[12,41]
chr10:121580899	C10orf119	UTR3		-	AtoG	0.1053	0.2	2	2	[10,20]
chr10:121580933	C10orf119	UTR3		-	AtoG	0.1	0.125	4	2	[10,33]
chr10:97617660	C10orf131	mixed		+	CtoA	0.2727	0.2727	3	2	[11,11]
chr10:97622470	C10orf131	mixed		+	GtoA	0.1	0.1	2	2	[10,10]
chr10:97626380	C10orf131	mixed		+	TtoA	0.1	0.1333	3	2	[10,16]
chr10:127428036	C10orf137	mixed		+	AtoG	0.1	0.1579	9	3	[10,20]
chr10:5840915	C10orf18	coding_exon	ENST00000263123:WtoR;ENST00000328090:WtoR;ENST00000380270:WtoR;ENST00000380270:WtoR;	+	TtoA	0.1	0.1	2	2	[10,10]
chr10:5830542	C10orf18	coding_exon	ENST00000263123:NtoD;ENST00000328090:NtoD;ENST00000380270:NtoD;ENST00000380270:NtoD;	+	AtoG	0.1	0.1	3	2	[10,10]
chr10:5843265	C10orf18	coding_exon	ENST00000263123:DtoE;ENST00000328090:DtoE;ENST00000380270:DtoE;ENST00000380270:DtoE;	+	TtoG	0.1	0.1	2	2	[10,10]
chr10:102739392	C10orf2	coding_exon		+	GtoT	0.1	0.2273	2	2	[10,22]
chr10:102743158	C10orf2	mixed		+	CtoA	0.1	0.1	2	2	[10,10]
chr10:102743921	C10orf2	UTR3		+	TtoC	0.1	0.2	6	2	[10,10]
chr10:104613583	C10orf32	UTR3		+	AtoC	0.1	0.2	2	2	[10,10]
chr10:95441830	C10orf4	coding_exon	ENST00000359204:LtoV;ENST00000371426:LtoV;ENST00000371430:LtoV;ENST00000371430:LtoV;	-	CtoG	0.1	0.1111	2	2	[10,18]
chr10:120431211	C10orf46	UTR3		-	AtoG	0.1667	0.1818	4	2	[11,24]
chr10:120431215	C10orf46	UTR3		-	TtoG	0.2143	0.2857	5	3	[14,18]
chr10:120432080	C10orf46	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr10:120432613	C10orf46	UTR3		-	TtoG	0.1	0.1	2	2	[10,10]
chr10:120435546	C10orf46	UTR3		-	CtoG	0.1	0.1	2	2	[10,10]
chr10:120435629	C10orf46	UTR3		-	TtoG	0.1	0.1	2	2	[10,10]
chr10:73180749	C10orf54	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr10:103751819	C10orf76	coding_exon	ENST00000370033:VtoD;	-	TtoA	0.1	0.1667	5	2	[10,12]
chr10:103595391	C10orf76	UTR3		-	TtoC	0.1	0.1154	2	2	[10,26]
chr10:103596425	C10orf76	UTR3		-	GtoT	0.1	0.1	2	2	[10,10]
chr10:103596961	C10orf76	UTR3		-	TtoA	0.1333	0.2	4	2	[10,15]
chr10:120085741	C10orf84	coding_exon		-	GtoA	0.1	0.1	2	2	[10,10]
chr10:104200072	C10orf95	UTR3		-	TtoA	0.1	0.2143	4	2	[10,14]
chr11:111259827	C11orf1	UTR3		+	TtoC	0.1	0.1667	4	2	[10,12]
chr11:61313186	C11orf10	UTR3		-	TtoA	0.1	0.1818	6	3	[10,18]
chr11:61316633	C11orf10	UTR5		-	GtoC	0.1071	0.1489	3	2	[28,50]
chr11:61316640	C11orf10	UTR5		-	TtoG	0.1538	0.2	2	2	[11,13]
chr11:64621101	C11orf2	coding_exon	ENST00000279281:RtoQ;	+	GtoA	0.1163	0.1667	3	2	[12,43]
chr11:64635749	C11orf2	UTR3		+	GtoA	0.1333	0.2308	2	2	[13,15]
chr11:30309380	C11orf46	coding_exon		+	TtoA	0.1	0.1	2	2	[10,10]
chr11:62191574	C11orf48	coding_exon	ENST00000354588:EtoK;ENST00000415855:EtoK;ENST00000431002:EtoK;	-	GtoA	0.1538	0.7273	9	9	[10,21]
chr11:62191572	C11orf48	coding_exon	ENST00000354588:EtoD;ENST00000415855:EtoD;ENST00000431002:EtoD;	-	GtoC	0.2857	0.9231	17	17	[11,34]
chr11:62189698	C11orf48	coding_exon		-	AtoG	0.1	0.1818	3	3	[10,11]
chr11:47140236	C11orf49	mixed		+	AtoC	0.1429	0.1667	6	2	[18,21]
chr11:71499978	C11orf51	UTR5		-	TtoC	0.1154	0.1613	9	3	[19,31]
chr11:71499980	C11orf51	UTR5		-	TtoG	0.125	0.1875	5	2	[16,32]
chr11:111456396	C11orf57	coding_exon	ENST00000280352:PtoQ;ENST00000393047:PtoQ;ENST00000393048:PtoQ;ENST00000393048:PtoQ;	+	CtoA	0.1	0.15	2	2	[10,20]
chr11:111460047	C11orf57	UTR3		+	GtoA	0.1	0.1	3	3	[10,10]
chr11:65440908	C11orf68	UTR3		-	TtoC	0.1	0.1333	5	3	[15,20]
chr11:60970353	C11orf79	UTR3		+	GtoT	0.1	0.1	2	2	[10,20]
chr12:151987184	C12orf10	coding_exon	ENST00000267103:LtoP;	+	TtoC	0.1	0.1	4	2	[10,20]
chr12:105891276	C12orf23	UTR3		+	TtoC	0.1	0.1304	4	2	[10,23]
chr12:109410051	C12orf24	coding_exon	ENST00000377673:Itok;	+	TtoA	0.1	0.1	8	2	[10,11]
chr12:109412386	C12orf24	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr12:110969949	C12orf30	coding_exon	ENST00000261745:StoP;ENST00000412551:StoP;	-	TtoC	0.1	0.1	3	2	[10,10]
chr12:110950603	C12orf30	UTR3		-	TtoC	0.1538	0.1818	3	2	[11,13]
chr12:2864799	C12orf32	coding_exon		+	TtoC	0.1	0.1053	7	2	[10,19]
chr12:2867463	C12orf32	coding_exon		+	TtoC	0.1071	0.1364	7	2	[22,28]
chr12:2867892	C12orf32	UTR3		+	AtoG	0.125	0.1667	6	2	[12,16]
chr12:2868384	C12orf32	UTR3		+	AtoC	0.1	0.1	3	2	[10,10]
chr12:2868700	C12orf32	UTR3		+	GtoA	0.1	0.1176	4	2	[17,20]
chr12:32036633	C12orf35	coding_exon	ENST00000312561:MtoR;ENST00000381054:MtoR;	+	TtoG	0.1	0.1538	3	2	[10,13]
chr12:47361581	C12orf41	mixed		-	AtoG	0.1	0.1	2	2	[10,10]
chr12:47333584	C12orf41	UTR3		-	TtoG	0.1	0.1111	3	3	[10,20]
chr12:119926147	C12orf43	UTR3		-	TtoG	0.1	0.1111	2	2	[10,10]
chr12:119926151	C12orf43	UTR3		-	AtoG	0.2308	0.25	2	2	[12,13]
chr12:119926152	C12orf43	UTR3		-	TtoG	0.1538	0.3077	3	3	[12,13]
chr12:50757244	C12orf44	UTR3		+	GtoC	0.1	0.1111	2	2	[10,18]
chr12:103912600	C12orf45	coding_exon	ENST00000280749:KtoR;	+	AtoG	0.1	0.3077	4	3	[10,20]
chr12:103912585	C12orf45	coding_exon	ENST00000280749:AtoE;	+	CtoA	0.125	0.1765	8	3	[13,17]
chr12:103912586	C12orf45	coding_exon		+	AtoG	0.1034	0.1667	9	3	[12,29]
chr12:102869249	C12orf73	UTR3		-	AtoG	0.1	0.1667	2	2	[10,19]
chr13:38485502	C13orf23	coding_exon		-	TtoG	0.1429	0.1667	2	2	[12,14]
chr13:38482997	C13orf23	UTR3		-	AtoG	0.1	0.1818	2	2	[10,11]
chr13:20626234	C13orf3	UTR3		-	TtoA	0.1	0.1111	3	2	[10,18]
chr13:20648659	C13orf3	UTR5		-	TtoG	0.1429	0.1538	2	2	[13,14]

chr14:89854159	C14orf102	mixed		-	TtoC	0.1	0.1111	3	2	[10,10]
chr14:75707996	C14orf118	coding_exon	ENST00000261530:VtoA;ENST00000312858:VtoA;ENST00000336993:VtoA;ENST00000336993:VtoA	+	TtoC	0.1	0.1	3	2	[10,10]
chr14:22637270	C14orf119	mixed		+	AtoG	0.1	0.1579	14	4	[17,33]
chr14:22637521	C14orf119	mixed		+	TtoC	0.1154	0.1154	5	2	[26,26]
chr14:22637526	C14orf119	mixed		+	TtoA	0.1053	0.1364	4	2	[19,22]
chr14:76980404	C14orf133	coding_exon	ENST00000327028:DtoV;ENST00000343765:DtoV;ENST00000445370:DtoV;ENST00000343765:DtoV	-	GtoT	0.1	0.1111	2	2	[10,10]
chr14:59681376	C14orf135	coding_exon		+	AtoT	0.1	0.1667	3	2	[10,12]
chr14:59628665	C14orf135	UTR5		+	TtoG	0.1	0.1	2	2	[10,10]
chr14:92739805	C14orf142	coding_exon	ENST00000306954:RtoQ;	-	GtoA	0.1	0.1	2	2	[10,10]
chr14:89467672	C14orf143	coding_exon	ENST00000316738:KtoE;	-	AtoG	0.1	0.1	2	2	[10,10]
chr14:103223300	C14orf153	coding_exon	ENST00000246489:GtoS;ENST00000334553:GtoS;ENST00000347839:GtoS;	+	GtoA	0.1053	0.1429	6	2	[19,21]
chr14:103107859	C14orf153	coding_exon		+	AtoT	0.1	0.1	6	3	[10,10]
chr14:103235225	C14orf153	coding_exon		+	CtoG	0.1	0.1429	3	2	[10,14]
chr14:103126619	C14orf153	mixed		+	GtoA	0.1	0.2	6	4	[10,12]
chr14:103221730	C14orf153	mixed		+	CtoG	0.1	0.1333	10	2	[30,30]
chr14:90725199	C14orf159	coding_exon	ENST00000256324:VtoA;ENST00000321157:VtoA;ENST00000336843:VtoA;ENST00000336843:VtoA	+	TtoC	0.1	0.1333	7	2	[10,15]
chr14:90732562	C14orf159	coding_exon	ENST00000256324:QtoR;ENST00000321157:QtoR;ENST00000336843:QtoR;ENST00000336843:QtoR	+	AtoG	0.1	0.1429	2	2	[10,14]
chr14:90706147	C14orf159	coding_exon	ENST00000256324:GtoV;ENST00000321157:GtoV;ENST00000336843:GtoV;ENST00000336843:GtoV	+	GtoT	0.1	0.1	2	2	[10,10]
chr14:90712031	C14orf159	coding_exon	ENST00000256324:GtoV;ENST00000321157:GtoV;ENST00000336843:GtoV;ENST00000336843:GtoV	+	AtoG	0.1	0.1818	2	2	[10,11]
chr14:75595465	C14orf179	coding_exon		+	AtoG	0.1	0.1	2	2	[10,10]
chr14:103448386	C14orf2	UTR3		-	TtoC	0.1333	0.1333	3	2	[15,15]
chr14:103448604	C14orf2	UTR3		-	TtoA	0.1087	0.1167	5	3	[50,61]
chr14:103448606	C14orf2	UTR3		-	AtoG	0.1111	0.1231	9	2	[38,67]
chr14:23844240	C14orf21	UTR3		+	TtoC	0.1	0.1	5	2	[10,10]
chr14:23844640	C14orf21	UTR3		+	TtoC	0.1	0.1538	4	2	[20,26]
chr14:76564279	C14orf4	mixed		-	AtoC	0.1	0.1429	2	2	[10,21]
chr14:73603336	C14orf45	mixed		+	TtoC	0.1	0.1	2	2	[10,10]
chr14:105026168	C14orf80	mixed		+	AtoC	0.1042	0.1129	5	2	[52,68]
chr14:105026169	C14orf80	mixed		+	AtoG	0.1538	0.1556	4	2	[14,45]
chr15:72981460	C15orf17	UTR3		-	CtoA	0.1	0.1818	10	4	[10,17]
chr15:72981461	C15orf17	UTR3		-	TtoC	0.2	0.2	7	2	[10,15]
chr15:72981995	C15orf17	UTR3		-	GtoT	0.1818	0.2667	8	6	[10,16]
chr15:73290916	C15orf39	UTR3		+	TtoA	0.1111	0.1364	5	2	[18,22]
chr15:87971903	C15orf42	UTR3		+	TtoA	0.1	0.125	2	2	[10,16]
chr15:63658296	C15orf44	UTR3		-	TtoC	0.1	0.2	7	3	[10,21]
chr16:1353257	C16orf28	UTR3		-	TtoG	0.1	0.1	2	2	[10,10]
chr16:76663	C16orf35	UTR3		-	GtoT	0.1	0.1333	4	2	[15,20]
chr16:76664	C16orf35	UTR3		-	GtoT	0.1	0.1176	3	2	[10,17]
chr16:66254824	C16orf48	coding_exon	ENST00000243878:StoG;ENST00000414445:StoG;	-	AtoG	0.1	0.1429	2	2	[10,14]
chr16:66255097	C16orf48	coding_exon	ENST00000243878:HtoR;ENST00000414445:HtoR;	-	AtoG	0.1	0.1	3	2	[10,10]
chr16:79588420	C16orf61	coding_exon	ENST00000219400:NtoK;	-	TtoG	0.1429	0.16	9	2	[14,25]
chr16:19535543	C16orf62	mixed		+	TtoG	0.1	0.1538	3	2	[10,13]
chr16:15867132	C16orf63	UTR3		-	TtoC	0.1667	0.1875	5	2	[16,18]
chr16:15867935	C16orf63	UTR3		-	TtoC	0.1	0.1818	4	2	[10,11]
chr16:8627111	C16orf68	coding_exon	ENST00000163678:NtoD;ENST00000381920:NtoD;	+	AtoG	0.1	0.1	2	2	[10,10]
chr16:65711576	C16orf70	coding_exon	ENST00000219139:VtoA;	+	TtoC	0.1667	0.1818	2	2	[11,12]
chr16:11352244	C16orf75	UTR3		+	TtoA	0.1	0.1	2	2	[10,10]
chr16:11352284	C16orf75	UTR3		+	AtoT	0.1	0.1818	2	2	[10,11]
chr16:56707516	C16orf80	coding_exon	ENST00000262498:LtoP;	-	TtoC	0.1	0.1429	4	2	[11,15]
chr16:87306587	C16orf84	coding_exon		+	CtoT	0.1	0.4583	2	2	[10,24]
chr16:45394058	C16orf87	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr16:19625740	C16orf88	coding_exon	ENST00000219837:GtoG;ENST00000420899:GtoG;	-	AtoG	0.1176	0.1333	2	2	[15,17]
chr16:1410021	C16orf91	mixed		-	AtoG	0.1111	0.1429	4	2	[18,22]
chr17:77945572	C17orf101	coding_exon		-	TtoC	0.1	0.1	3	2	[10,10]
chr17:26250461	C17orf42	coding_exon	ENST00000306409:DtoG;	-	AtoG	0.1	0.1667	3	2	[10,12]
chr17:16285584	C17orf45	UTR3		+	TtoC	0.1	0.1161	14	3	[61,187]
chr17:16285958	C17orf45	UTR3		+	CtoG	0.3973	0.8087	8	8	[80,377]
chr17:16286054	C17orf45	UTR3		+	TtoC	0.1	0.25	16	13	[14,258]
chr17:10550595	C17orf48	coding_exon		+	GtoC	0.1	0.1	3	2	[10,10]
chr17:39581919	C17orf53	coding_exon	ENST00000245382:QtoK;ENST00000319977:QtoK;	+	CtoA	0.1	0.1818	3	2	[10,11]
chr17:39590756	C17orf53	coding_exon		+	TtoA	0.1	0.1	2	2	[10,10]
chr17:39595170	C17orf53	UTR3		+	TtoC	0.1111	0.1176	4	2	[10,17]
chr17:7247024	C17orf61	UTR3		-	AtoG	0.1	0.3125	5	4	[10,16]
chr17:8081538	C17orf68	coding_exon		-	AtoC	0.1	0.1	2	2	[10,10]
chr17:8072554	C17orf68	mixed		-	TtoC	0.1111	0.1333	5	3	[15,18]
chr17:8072847	C17orf68	mixed		-	TtoC	0.1	0.1	3	2	[10,10]
chr17:8071883	C17orf68	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr17:8071991	C17orf68	UTR3		-	TtoA	0.1	0.1538	2	2	[10,13]
chr17:8072117	C17orf68	UTR3		-	TtoG	0.1	0.1	5	2	[10,10]
chr17:77128089	C17orf70	coding_exon	ENST00000327787:GtoD;	-	GtoT	0.1	0.1111	2	2	[10,18]
chr17:77117583	C17orf70	UTR3		-	GtoC	0.2353	0.2778	2	2	[17,19]
chr17:54645631	C17orf71	coding_exon	ENST00000300917:LtoI;	+	TtoA	0.1	0.1	4	2	[10,10]
chr17:27689088	C17orf75	coding_exon	ENST00000225805:TtoP;	-	AtoC	1	1	2	2	[17,19]
chr17:27689412	C17orf75	coding_exon	ENST00000225805:TtoK;	-	CtoA	0.1	0.1	2	2	[10,10]
chr17:27689087	C17orf75	coding_exon	ENST00000225805:TtoI;	-	CtoT	0.9167	1	4	4	[10,17]
chr17:7100906	C17orf81	coding_exon	ENST00000354429:StoT;ENST00000356683:StoT;ENST00000396627:StoT;ENST00000396627:StoT	+	GtoC	0.1569	0.6	5	3	[10,51]
chr17:7100904	C17orf81	coding_exon	ENST00000354429:DtoE;ENST00000356683:DtoE;ENST00000396627:DtoE;ENST00000396627:DtoE	+	CtoG	0.1622	0.5833	12	5	[12,55]
chr17:72600965	C17orf86	mixed		+	TtoC	0.1	0.2	3	2	[10,10]
chr17:5053058	C17orf87	mixed		-	AtoG	0.1	0.1	3	2	[10,10]
chr17:76829673	C17orf89	UTR3		+	TtoC	0.1389	0.1429	5	2	[35,36]
chr17:76829675	C17orf89	UTR3		+	CtoA	0.1	0.3636	9	5	[10,16]
chr17:34083024	C17orf96	mixed		-	TtoG	0.1538	0.2	4	2	[13,16]
chr18:32662818	C18orf10	UTR5		-	TtoA	0.1	0.1429	2	2	[10,14]
chr18:13672014	C18orf19	coding_exon	ENST00000322247:HtoQ;ENST00000402563:HtoQ;ENST00000457610:HtoQ;	-	TtoA	0.1	0.1429	3	2	[10,14]
chr18:31809042	C18orf21	coding_exon	ENST00000269194:StoP;ENST00000333234:StoP;	+	TtoC	0.1053	0.1111	2	2	[10,19]
chr18:46171502	C18orf24	coding_exon	ENST00000285116:StoP;ENST00000398452:StoP;ENST00000417656:StoP;	+	TtoC	0.15	0.1875	3	2	[17,20]
chr18:42097053	C18orf25	coding_exon	ENST00000282059:DtoN;ENST00000321319:DtoN;	+	GtoA	0.1	0.1	3	2	[10,10]
chr18:42100679	C18orf25	UTR3		+	TtoC	0.1	0.1538	3	2	[10,13]
chr18:45262205	C18orf32	UTR3		-	TtoC	0.125	0.129	6	3	[16,31]
chr18:69967078	C18orf55	coding_exon	ENST00000169551:StoP;	+	TtoC	0.1176	0.1875	4	2	[16,17]
chr19:4608604	C19orf10	UTR3		-	GtoT	0.1	0.1304	4	2	[10,23]
chr19:4608606	C19orf10	UTR3		-	GtoT	0.1053	0.1333	3	2	[15,19]
chr19:34885578	C19orf12	coding_exon	ENST00000323670:DtoN;ENST00000392278:DtoN;	-	GtoA	0.1	0.1	3	2	[10,10]
chr19:34884885	C19orf12	UTR3		-	AtoG	0.1111	0.1765	4	2	[17,27]
chr19:847508	C19orf22	UTR3		-	TtoC	0.1667	0.2	3	2	[10,12]
chr19:1425170	C19orf25	UTR3		-	TtoA	0.1	0.1	3	2	[10,10]

chr19:3574708	C19orf29	coding_exon	ENST00000221899:LtoR;ENST00000248420:LtoR;ENST00000429344:LtoR;	-	TtoG	0.1	0.1	4	2	[10,10]
chr19:3561928	C19orf29	mixed		-	TtoC	1	1	6	6	[10,30]
chr19:2049800	C19orf36	coding_exon	ENST00000300960:MtoK;ENST00000395301:MtoK;ENST00000395307:MtoK;	+	TtoA	0.1818	0.2143	4	3	[11,15]
chr19:2049801	C19orf36	coding_exon	ENST00000300960:MtoL;ENST00000395301:MtoL;ENST00000395307:MtoL;	+	GtoC	0.1	0.2667	7	4	[10,19]
chr19:2049449	C19orf36	coding_exon	ENST00000300960:KtoR;ENST00000395301:KtoR;ENST00000395307:KtoR;	+	AtoG	0.25	0.3333	3	2	[12,18]
chr19:16618378	C19orf42	UTR3		-	TtoA	0.1	0.1	3	2	[10,10]
chr19:16618710	C19orf42	UTR3		-	AtoC	0.1	0.1818	3	2	[10,11]
chr19:45526202	C19orf47	coding_exon	ENST00000357884:TtoA;ENST00000392035:TtoA;	-	AtoG	0.1176	0.2	2	2	[10,17]
chr19:13750274	C19orf53	UTR3		+	TtoC	0.1667	0.2	2	2	[10,12]
chr19:13750276	C19orf53	UTR3		+	CtoA	0.122	0.3636	3	2	[12,42]
chr19:45939634	C19orf54	UTR3		-	CtoA	0.1	0.1429	3	2	[10,14]
chr19:18561294	C19orf60	coding_exon	ENST00000358607:HtoP;ENST00000397217:HtoP;ENST00000450195:HtoP;	+	AtoC	0.1176	0.1515	2	2	[33,34]
chr19:55678411	C19orf63	UTR3		+	TtoC	0.1176	0.1852	3	2	[17,28]
chr19:55678415	C19orf63	UTR3		+	CtoA	0.1176	0.1538	5	3	[13,17]
chr2:68123546	C1D	coding_exon	ENST00000355848:NtoK;ENST0000047324:NtoK;ENST00000409302:NtoK;ENST00000409302:NtoK;	-	TtoA	0.1	0.125	2	2	[10,16]
chr2:68127938	C1D	coding_exon		-	TtoG	0.1364	0.2	9	4	[10,29]
chr1:199134141	C1orf106	mixed		+	AtoG	0.1	0.125	3	2	[16,20]
chr1:37921119	C1orf109	UTR3		-	AtoG	0.1	0.1818	3	2	[10,12]
chr1:167944268	C1orf112	mixed		+	AtoG	0.1	0.1053	4	2	[10,19]
chr1:168068196	C1orf112	mixed		+	TtoG	0.1	0.1	3	2	[10,10]
chr1:168085352	C1orf112	mixed		+	TtoA	0.1	0.2	2	2	[10,10]
chr1:16809324	C1orf112	UTR3		+	TtoG	0.1	0.1	2	2	[10,10]
chr1:36558814	C1orf113	coding_exon	ENST00000312808:QtoK;ENST00000426732:QtoK;ENST00000453908:QtoK;	+	CtoA	0.1	0.1053	3	3	[10,19]
chr1:36557633	C1orf113	mixed		+	CtoA	0.1333	0.1429	2	2	[14,15]
chr1:23984835	C1orf128	coding_exon	ENST00000246151:GtoE;ENST00000374524:GtoE;	+	GtoA	0.1111	0.1765	3	2	[17,19]
chr1:23984836	C1orf128	coding_exon		+	AtoT	0.1111	0.1765	3	2	[17,18]
chr1:23986554	C1orf128	UTR3		+	AtoC	0.1	0.1739	4	2	[20,25]
chr1:229441353	C1orf131	coding_exon	ENST00000318906:GtoV;ENST00000366648:GtoV;ENST00000366649:GtoV;ENST00000366649:GtoV;	-	GtoT	0.1	0.1	2	2	[10,10]
chr1:37732130	C1orf149	mixed		-	GtoT	0.1	0.1	2	2	[10,10]
chr1:37731574	C1orf149	UTR3		-	AtoC	0.1	0.1	3	2	[10,10]
chr1:37731875	C1orf149	UTR3		-	TtoC	0.1333	0.2	4	2	[10,15]
chr1:19825680	C1orf151	UTR3		+	TtoC	0.1	0.1818	12	7	[12,36]
chr1:19825683	C1orf151	UTR3		+	TtoC	0.1351	0.3333	13	4	[14,37]
chr1:1007113	C1orf159	UTR3		-	GtoA	0.1	0.2	2	2	[10,10]
chr1:3795711	C1orf174	UTR3		-	AtoG	0.1429	0.3	5	2	[11,14]
chr1:54980176	C1orf175	mixed		+	AtoC	0.2	0.2	3	2	[10,10]
chr1:243083617	C1orf199	mixed		-	TtoG	0.1	0.1176	7	3	[18,30]
chr1:35952436	C1orf216	mixed		-	GtoA	0.1	0.1	2	2	[10,20]
chr1:35952638	C1orf216	mixed		-	CtoA	0.1	0.1	2	2	[10,10]
chr1:28085699	C1orf38	UTR3		+	TtoC	0.1	0.1	4	2	[20,30]
chr1:152445866	C1orf43	UTR3		-	TtoC	0.1471	0.1765	4	2	[17,141]
chr1:148515664	C1orf54	coding_exon		+	TtoG	0.1111	0.1333	4	4	[15,27]
chr1:224238001	C1orf55	UTR3		-	AtoG	0.1	0.2	2	2	[10,10]
chr1:25441444	C1orf63	UTR3		-	TtoA	0.1034	0.1429	5	2	[14,29]
chr1:25441492	C1orf63	UTR3		-	GtoA	0.1	0.1111	8	3	[20,80]
chr1:25441498	C1orf63	UTR3		-	CtoA	0.1176	0.125	2	2	[16,17]
chr1:244877424	C1orf71	coding_exon	ENST00000366512:PtoL;ENST00000366513:PtoL;	+	CtoT	0.1	0.1	2	2	[10,10]
chr1:244896879	C1orf71	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr1:244897983	C1orf71	UTR3		+	TtoC	0.1176	0.1667	3	2	[12,17]
chr1:244897988	C1orf71	UTR3		+	AtoG	0.1	0.1667	3	2	[10,12]
chr12:7140279	C1RL	coding_exon	ENST00000266512:StoR;	-	CtoA	0.1	0.1	2	2	[10,10]
chr20:42131274	C20orf100	UTR3		+	AtoG	0.1	0.1818	6	4	[11,20]
chr20:54527335	C20orf106	mixed		+	TtoC	0.1	0.125	6	3	[10,17]
chr20:61047300	C20orf11	mixed		+	CtoA	0.1111	0.2308	5	2	[13,18]
chr20:61047379	C20orf11	mixed		+	CtoA	0.1111	0.1667	2	2	[10,12]
chr20:42259550	C20orf111	coding_exon		-	AtoG	0.12	0.1667	6	2	[12,25]
chr20:57954386	C20orf177	coding_exon	ENST00000358293:TtoP;ENST00000360816:TtoP;	+	AtoC	0.1	0.1	2	2	[10,10]
chr20:47339172	C20orf199	mixed		+	TtoC	0.1034	0.1923	14	6	[26,72]
chr20:47339175	C20orf199	mixed		+	AtoG	0.1429	0.2727	11	4	[11,20]
chr20:47339176	C20orf199	mixed		+	TtoA	0.1429	0.3913	4	4	[10,25]
chr20:47339177	C20orf199	mixed		+	AtoG	0.1	0.1429	2	2	[10,21]
chr20:3682184	C20orf27	UTR3		-	TtoA	0.1	0.1316	5	2	[10,39]
chr20:3752803	C20orf29	mixed		+	GtoA	0.1	0.1	2	2	[10,10]
chr20:24902342	C20orf3	coding_exon		-	GtoA	0.1053	0.1429	5	2	[14,19]
chr20:24892549	C20orf3	mixed		-	TtoC	0.1	0.12	3	2	[20,26]
chr20:13730286	C20orf7	coding_exon	ENST00000378106:LtoP;ENST00000463598:LtoP;	+	TtoC	0.1	0.1818	4	2	[10,11]
chr21:44581974	C21orf2	coding_exon	ENST00000325223:StoC;ENST00000339818:StoC;ENST00000397956:StoC;	-	AtoT	0.1	0.1	2	2	[10,10]
chr21:44576418	C21orf2	coding_exon		-	TtoG	0.1	0.1	2	2	[10,11]
chr21:44378091	C21orf33	coding_exon		+	TtoC	0.125	0.1429	2	2	[16,29]
chr21:44389598	C21orf33	UTR3		+	AtoT	0.102	0.1471	2	2	[34,49]
chr21:44389794	C21orf33	UTR3		+	AtoC	0.119	0.1818	7	3	[41,44]
chr21:44390017	C21orf33	UTR3		+	TtoG	0.1333	0.2727	2	2	[12,49]
chr21:32563972	C21orf45	coding_exon	ENST00000290130:StoP;	-	TtoC	0.1	0.2143	4	3	[10,14]
chr21:34679753	C21orf51	coding_exon		+	AtoG	0.1667	0.1667	4	2	[12,12]
chr21:46546912	C21orf58	mixed		-	TtoC	0.1667	0.3	4	2	[10,12]
chr21:46561581	C21orf58	mixed		-	AtoT	0.1	0.1	4	2	[10,10]
chr21:33053449	C21orf66	coding_exon	ENST00000290178:Lto*;ENST00000331923:Lto*;ENST00000342419:Lto*;	-	TtoA	0.1	0.1	2	2	[10,10]
chr21:33053264	C21orf66	coding_exon	ENST00000290178:KtoQ;ENST00000331923:KtoQ;ENST00000342419:KtoQ;	-	AtoC	0.1	0.3077	3	2	[10,13]
chr21:45177759	C21orf67	UTR3		-	CtoT	0.1	0.1	3	2	[10,10]
chr21:29469010	C21orf7	mixed		+	TtoC	0.1	0.1818	2	2	[10,11]
chr21:18087601	C21orf91	UTR3		-	CtoA	0.1176	0.125	2	2	[16,17]
chr22:31125746	C22orf28	coding_exon	ENST00000442204:RtoG;	-	AtoG	0.1	0.1	2	2	[10,10]
chr22:30408251	C22orf30	mixed		-	GtoA	0.1	0.2	3	2	[10,10]
chr22:30408326	C22orf30	mixed		-	AtoG	0.1	0.1333	6	2	[10,15]
chr22:30408445	C22orf30	mixed		-	TtoC	0.1	0.25	3	2	[10,12]
chr22:30408542	C22orf30	mixed		-	TtoC	0.1	0.1	2	2	[10,10]
chr22:30408588	C22orf30	mixed		-	GtoT	0.1	0.2	3	3	[10,10]
chr22:30408589	C22orf30	mixed		-	TtoG	0.1	0.1	2	2	[10,10]
chr22:30409345	C22orf30	mixed		-	CtoA	0.1	0.1	2	2	[10,10]
chr22:40809272	C22orf32	UTR3		+	AtoG	0.1111	0.1429	10	2	[18,21]
chr22:17811327	C22orf39	mixed		-	AtoG	0.1	0.1	3	2	[10,10]
chr22:43968465	C22orf9	UTR3		-	TtoC	0.1	0.1053	4	2	[10,19]
chr22:43968528	C22orf9	UTR3		-	AtoG	0.3333	0.6	4	4	[10,18]
chr22:43968953	C22orf9	UTR3		-	AtoG	0.4545	0.7692	3	3	[10,13]
chr22:43968958	C22orf9	UTR3		-	AtoG	0.3636	0.6923	3	2	[12,13]
chr22:43969023	C22orf9	UTR3		-	AtoG	0.1	0.5	11	10	[10,26]

chr11:73430852	C2CD3	mixed		-	GtoA	0.1667	0.1667	4	2	[12,12]
chr2:219745270	C2orf24	UTR3		-	TtoG	0.1176	0.1176	5	2	[17,18]
chr2:101252599	C2orf29	UTR3		+	TtoA	0.1	0.1	4	2	[10,20]
chr2:75745337	C2orf3	coding_exon	ENST00000321027:HtoR;ENST00000409857:HtoR;	-	AtoG	0.1	0.1538	2	2	[10,13]
chr2:70293015	C2orf42	mixed		-	AtoG	0.1	0.1	3	2	[10,10]
chr2:70293359	C2orf42	mixed		-	AtoG	0.1053	0.1111	2	2	[18,19]
chr2:20864698	C2orf43	mixed		-	TtoA	0.1	0.1	3	2	[10,10]
chr2:24105961	C2orf44	UTR3		-	AtoG	0.1	0.1176	2	2	[10,17]
chr2:24107295	C2orf44	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr2:200532846	C2orf47	coding_exon	ENST00000295079:KtoR;ENST00000392290:KtoR;	+	AtoG	0.1333	0.1667	3	2	[12,15]
chr2:37332800	C2orf56	mixed		+	AtoG	0.1	0.1	3	2	[10,11]
chr2:98583502	C2orf64	UTR3		-	TtoA	0.1	0.1	6	2	[10,30]
chr2:200498968	C2orf69	UTR3		+	GtoA	0.1	0.1	2	2	[10,10]
chr2:73309181	C2orf7	coding_exon	ENST00000258083:HtoP;	-	AtoC	0.1818	0.2	7	2	[11,15]
chr2:73309135	C2orf7	coding_exon		-	CtoT	0.2	0.3636	5	2	[11,15]
chr2:73310761	C2orf7	coding_exon		-	TtoC	0.1818	0.4	10	4	[10,16]
chr2:73308708	C2orf7	UTR3		-	TtoC	0.1176	0.2857	6	4	[12,17]
chr2:24866665	C2orf79	UTR3		-	GtoC	0.1538	0.1667	3	2	[12,13]
chr2:24866667	C2orf79	UTR3		-	AtoG	0.1053	0.1667	10	5	[14,21]
chr2:24866668	C2orf79	UTR3		-	CtoG	0.1111	0.12	4	2	[18,25]
chr2:233430567	C2orf82	mixed		+	TtoC	0.1111	0.2143	5	2	[14,18]
chr2:63687807	C2orf86	mixed		-	TtoC	0.1	0.2857	14	11	[10,37]
chr2:63687808	C2orf86	mixed		-	AtoT	0.1	0.2	10	7	[10,27]
chr3:10143590	C3orf10	mixed		+	TtoC	0.1111	0.1176	7	2	[18,34]
chr3:10143624	C3orf10	mixed		+	TtoC	0.1	0.1111	2	2	[10,10]
chr3:114207233	C3orf17	coding_exon	ENST00000314400:VtoD;ENST00000383675:VtoD;ENST00000393857:VtoD;ENST00000393857:VtoD;	-	TtoA	0.1	0.5	3	2	[10,16]
chr3:114206623	C3orf17	UTR3		-	TtoG	0.1	0.1429	4	2	[14,20]
chr3:114206798	C3orf17	UTR3		-	TtoC	0.1	0.1538	4	2	[11,13]
chr3:14684643	C3orf19	coding_exon		+	AtoG	0.1	0.1818	4	2	[10,11]
chr3:10108922	C3orf24	mixed		-	TtoC	0.1	0.1	4	2	[10,10]
chr3:10118022	C3orf24	mixed		-	AtoT	0.1	0.1	5	2	[10,11]
chr3:11824319	C3orf31	coding_exon	ENST00000444133:Itol;ENST00000455809:Itol;	-	AtoC	0.1	0.2	4	2	[10,10]
chr3:130492301	C3orf37	coding_exon		+	AtoG	0.1053	0.125	2	2	[16,19]
chr3:130506708	C3orf37	UTR3		+	CtoA	0.1	0.12	4	2	[10,25]
chr3:88288196	C3orf38	mixed		+	TtoC	0.1	0.1053	4	2	[19,20]
chr3:113322488	C3orf52	mixed		+	TtoC	0.1	0.2	2	2	[10,10]
chr3:113323430	C3orf52	mixed		+	AtoG	0.1	0.1875	7	3	[10,18]
chr3:56655601	C3orf63	coding_exon	ENST00000296313:HtoR;ENST00000355628:HtoR;ENST00000431842:HtoR;ENST00000431842:HtoR;	-	AtoG	0.1	0.1	3	2	[10,10]
chr3:56647814	C3orf63	coding_exon		-	AtoG	0.1	0.1053	3	2	[10,19]
chr3:56632354	C3orf63	mixed		-	AtoT	0.1	0.125	2	2	[10,16]
chr4:129169344	C4orf29	coding_exon	ENST00000388795:PtoT;ENST00000398961:PtoT;ENST00000398965:PtoT;ENST00000398965:PtoT;	+	CtoA	0.1	0.2	2	2	[10,10]
chr4:129169342	C4orf29	coding_exon	ENST00000388795:NtoS;ENST00000398961:NtoS;ENST00000398965:NtoS;ENST00000398965:NtoS;	+	AtoG	0.1	0.1	2	2	[10,10]
chr4:17415360	C4orf30	coding_exon	ENST00000382247:VtoI;	-	GtoA	0.1	0.1429	5	4	[10,19]
chr4:17415248	C4orf30	coding_exon	ENST00000382247:KtoM;	-	AtoT	0.1429	0.5	5	3	[10,14]
chr4:17415068	C4orf30	coding_exon	ENST00000382247:FtoY;	-	TtoA	0.1	0.3	6	4	[10,19]
chr4:17415043	C4orf30	coding_exon		-	AtoG	0.1	0.2	4	4	[10,20]
chr4:17411751	C4orf30	UTR3		-	GtoA	0.1	0.2143	4	3	[10,14]
chr4:39229326	C4orf34	UTR3		-	TtoC	0.1	0.125	3	2	[10,24]
chr4:39229793	C4orf34	UTR3		-	TtoC	0.1053	0.2	3	2	[19,20]
chr4:39316754	C4orf34	UTR5		-	GtoT	0.1	0.2941	8	3	[10,19]
chr4:159809850	C4orf46	UTR3		-	GtoA	0.1	0.125	5	2	[10,16]
chr4:159810121	C4orf46	UTR3		-	TtoC	0.1111	0.125	2	2	[16,18]
chr4:2662454	C4orf8	coding_exon	ENST00000324666:NtoT;ENST00000382839:NtoT;	+	AtoC	0.1667	0.2	3	2	[10,12]
chr4:2631571	C4orf8	coding_exon		+	AtoG	0.1	0.1	3	2	[10,10]
chr4:2704016	C4orf8	UTR3		+	TtoC	0.1667	0.25	4	2	[12,16]
chr5:111119386	C5orf13	mixed		-	AtoG	0.1176	0.1176	8	2	[17,17]
chr5:31570171	C5orf22	mixed		+	GtoA	0.1	0.1	2	2	[10,10]
chr5:31589572	C5orf22	UTR3		+	GtoA	0.1	0.1	2	2	[10,10]
chr5:31590201	C5orf22	UTR3		+	GtoC	0.1	0.1	3	2	[10,10]
chr5:31590202	C5orf22	UTR3		+	AtoT	0.1	0.1818	4	3	[10,11]
chr5:134218703	C5orf24	coding_exon	ENST00000435259:Itov;	+	AtoG	0.1	0.1	2	2	[10,10]
chr5:131839529	C5orf56	UTR3		+	TtoA	0.1	0.1333	6	2	[10,15]
chr6:34663647	C6orf106	UTR3		-	AtoG	0.1	0.1977	3	3	[40,86]
chr6:139406076	C6orf115	UTR3		+	TtoA	0.1111	0.1333	4	2	[10,15]
chr6:30727033	C6orf136	coding_exon	ENST00000293604:WtoS;ENST00000376471:WtoS;ENST00000376473:WtoS;	+	GtoC	0.1	0.1	3	2	[10,10]
chr6:30726838	C6orf136	coding_exon	ENST00000293604:KtoR;ENST00000376471:KtoR;ENST00000376473:KtoR;	+	AtoG	0.1111	0.1538	3	2	[13,18]
chr6:30725677	C6orf136	coding_exon	ENST00000293604:EtoK;ENST00000376473:EtoK;	+	AtoA	0.1	0.1667	2	2	[10,12]
chr6:43101767	C6orf153	coding_exon		+	TtoC	0.1	0.1818	4	2	[10,11]
chr6:43105289	C6orf153	UTR3		+	AtoG	0.1	0.1	3	2	[10,11]
chr6:151832250	C6orf211	UTR3		+	CtoA	0.1	0.2	2	2	[10,10]
chr6:151832397	C6orf211	UTR3		+	AtoG	0.1667	0.2727	3	2	[11,12]
chr6:44080470	C6orf223	mixed		+	AtoG	0.1364	0.3	3	2	[10,22]
chr6:31910687	C6orf48	UTR5		+	GtoT	0.1176	0.1333	5	2	[15,17]
chr6:24813294	C6orf62	UTR3		-	GtoT	0.1	0.2353	5	3	[15,20]
chr6:24813931	C6orf62	UTR3		-	TtoC	0.125	0.1429	4	2	[16,22]
chr6:169897394	C6orf70	coding_exon	ENST00000366772:QtoR;ENST00000366773:QtoR;	+	AtoG	0.1	0.1	4	2	[10,10]
chr6:169898770	C6orf70	coding_exon	ENST00000366772:FtoI;ENST00000366773:FtoI;	+	TtoA	0.1	0.1176	2	2	[10,17]
chr6:149954290	C6orf72	UTR3		+	TtoA	0.1	0.1818	4	2	[10,11]
chr6:36999393	C6orf89	UTR3		+	TtoA	0.1	0.1	2	2	[10,10]
chr6:37000057	C6orf89	UTR3		+	TtoA	0.1	0.1333	6	2	[10,15]
chr7:40139345	C7orf11	coding_exon		-	TtoA	0.1	0.1053	5	2	[10,19]
chr7:40140726	C7orf11	UTR5		-	AtoT	0.1	0.1	3	2	[10,10]
chr7:6608296	C7orf26	coding_exon	ENST00000344417:NtoS;ENST00000359073:NtoS;	+	AtoG	0.125	0.1818	5	2	[11,16]
chr7:2544772	C7orf27	coding_exon		-	AtoG	0.6154	1	5	5	[13,17]
chr7:66053507	C7orf42	coding_exon	ENST00000341567:Gto*;	+	GtoT	0.1176	0.1429	2	2	[17,28]
chr7:66058377	C7orf42	UTR3		+	TtoC	0.1154	0.125	10	3	[27,33]
chr7:66060614	C7orf42	UTR3		+	AtoG	0.1	0.125	2	2	[16,20]
chr7:66060623	C7orf42	UTR3		+	TtoC	0.1429	0.1667	3	3	[12,14]
chr7:99592197	C7orf43	coding_exon	ENST00000316937:YtoH;ENST00000419841:YtoH;ENST00000457641:YtoH;	-	TtoC	0.1	0.1111	2	2	[10,10]
chr7:1003168	C7orf50	UTR3		-	AtoG	0.1429	0.2	5	3	[10,28]
chr7:99585055	C7orf59	coding_exon		+	TtoA	0.1	0.1	4	2	[10,10]
chr7:99589763	C7orf59	mixed		+	GtoA	0.5455	0.6667	2	2	[12,12]
chr7:99590628	C7orf59	mixed		+	GtoT	0.1	0.1	2	2	[10,10]
chr7:99590979	C7orf59	mixed		+	GtoT	0.1	0.125	4	2	[10,16]
chr7:99589755	C7orf59	UTR3		+	GtoA	0.1111	0.1515	4	2	[18,33]
chr7:99589759	C7orf59	UTR3		+	TtoC	0.1	0.1154	8	2	[20,26]

chr7:99589762	C7orf59	UTR3		+	AtoG	0.1	0.125	4	2	[10,17]
chr7:112247007	C7orf60	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr8:146250517	C8orf33	UTR3		+	AtoG	0.1	0.1	2	2	[10,20]
chr8:33477873	C8orf41	coding_exon		-	AtoT	0.1	0.1111	4	2	[11,19]
chr8:143814372	C8orf55	UTR3		+	GtoT	0.1	0.1	2	2	[10,10]
chr8:143814660	C8orf55	UTR3		+	TtoC	0.1	0.1	2	2	[10,11]
chr8:86314079	C8orf59	coding_exon	ENST00000417663:DtoN;ENST00000421308:DtoN;ENST00000431163:DtoN;ENST00000431163:DtoN	-	GtoA	0.1667	0.4286	2	2	[14,24]
chr8:86314009	C8orf59	UTR3		-	TtoA	0.2	0.3077	2	2	[11,13]
chr8:86319843	C8orf59	UTR5		-	CtoT	0.1034	0.125	5	2	[16,29]
chr8:124301619	C8orf76	coding_exon	ENST00000276704:StoP;	-	TtoC	0.1	0.1	5	2	[10,10]
chr8:124312866	C8orf76	coding_exon	ENST00000276704:StoA;	-	TtoG	0.1	0.1	2	2	[10,10]
chr9:35653375	C9orf100	coding_exon	ENST00000343259:VtoA;ENST00000378382:VtoA;ENST00000378387:VtoA;ENST00000378387:VtoA	-	TtoC	0.1	0.1667	3	2	[10,18]
chr9:97677149	C9orf130	mixed		-	CtoA	0.1	0.1	2	2	[10,10]
chr9:129966018	C9orf16	UTR3		+	TtoC	0.1111	0.1818	7	3	[11,18]
chr9:5351155	C9orf46	coding_exon	ENST00000223864:VtoA;	-	TtoC	0.1	0.1	3	2	[11,20]
chr9:5351851	C9orf46	coding_exon	ENST00000223864:VtoG;	-	AtoG	0.1538	0.2	4	2	[10,13]
chr9:5348207	C9orf46	UTR3		-	AtoG	0.1	0.1765	2	2	[10,17]
chr9:85744131	C9orf64	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr9:4654902	C9orf68	coding_exon		-	AtoT	0.1	0.1333	2	2	[10,15]
chr9:131629503	C9orf78	UTR3		-	GtoA	0.1875	0.25	5	2	[12,16]
chr9:114491698	C9orf80	coding_exon	ENST00000374236:StoC;ENST00000374242:StoC;	-	CtoG	0.1053	0.1538	5	2	[13,19]
chr9:114491681	C9orf80	coding_exon	ENST00000374236:RtoW;ENST00000374242:RtoW;	-	CtoT	0.1	0.125	2	2	[16,20]
chr9:26877510	C9orf82	coding_exon	ENST00000333916:VtoG;	-	AtoG	0.1	0.1429	3	2	[10,14]
chr9:76873811	C9orf95	coding_exon		-	TtoC	0.1	0.1667	3	2	[10,12]
chr22:22813431	CABIN1	coding_exon	ENST00000263119:LtoP;ENST00000398319:LtoP;ENST00000405822:LtoP;	+	TtoC	0.1	0.1	2	2	[10,10]
chr22:1972777	CACNA1C	coding_exon		+	AtoG	0.1	0.1	2	2	[10,11]
chr1:179814950	CACNA1E	coding_exon	ENST00000357570:KtoE;ENST00000358338:KtoE;ENST00000360108:KtoE;ENST00000360108:KtoE	+	AtoG	0.1	0.1	4	2	[10,10]
chr1:180035390	CACNA1E	UTR3		+	TtoG	0.1111	0.1429	4	2	[14,18]
chr2:27297602	CAD	coding_exon	ENST00000264705:StoP;ENST00000403525:StoP;	+	TtoC	0.1053	0.1111	6	2	[19,27]
chr17:44296134	CALCOCO2	UTR3		+	AtoG	0.1	0.1333	6	2	[10,15]
chr10:105196589	CALHM2	UTR3		-	CtoA	0.1	0.2727	2	2	[10,12]
chr10:105199708	CALHM2	UTR5		-	AtoC	0.1	0.2667	4	4	[10,29]
chr2:47253101	CALM2	mixed		-	TtoC	0.1	0.1111	2	2	[10,10]
chr2:47156201	CALM2	UTR3		-	GtoT	0.1	0.125	6	3	[10,24]
chr2:47240893	CALM2	UTR3		-	TtoA	0.1224	0.125	8	2	[34,54]
chr2:47257139	CALM2	UTR5		-	AtoT	0.1	0.2222	8	4	[10,55]
chr2:47257140	CALM2	UTR5		-	GtoC	0.1026	0.1304	4	3	[18,39]
chr2:47257146	CALM2	UTR5		-	TtoG	0.1	0.1667	9	3	[10,14]
chr19:12915900	CALR	UTR3		+	GtoC	0.1364	0.1579	3	2	[22,38]
chr19:12916269	CALR	UTR3		+	AtoG	0.1154	0.1667	12	3	[12,27]
chr19:12916273	CALR	UTR3		+	AtoG	0.1818	0.25	3	2	[11,12]
chr7:128198292	CALU	UTR3		+	TtoA	0.1	0.125	5	3	[10,24]
chr7:128198548	CALU	UTR3		+	AtoG	0.1	0.1538	4	3	[10,13]
chr7:128198672	CALU	UTR3		+	TtoG	0.1	0.1	2	2	[10,10]
chr10:12907702	CAMK1D	coding_exon	ENST00000378845:YtoS;	+	AtoC	0.1	0.125	2	2	[10,16]
chr10:12851714	CAMK1D	coding_exon	ENST00000378845:StoP;ENST00000378847:StoP;	+	TtoC	0.1	0.1	4	2	[10,10]
chr10:12912013	CAMK1D	UTR3		+	TtoG	0.1	0.1	2	2	[10,10]
chr10:12916593	CAMK1D	UTR3		+	TtoG	0.1	0.2353	2	2	[10,18]
chr4:114593599	CAMK2D	UTR3		-	GtoA	0.1	0.1	2	2	[10,10]
chr10:75242710	CAMK2G	UTR3		-	AtoG	0.1	0.1	3	3	[10,20]
chr5:110847856	CAMK4	coding_exon		+	TtoC	0.1071	0.2	3	2	[10,28]
chr5:110848173	CAMK4	UTR3		+	TtoC	0.1	0.1111	4	2	[10,18]
chr5:110848176	CAMK4	UTR3		+	AtoG	0.1	0.1667	12	6	[10,12]
chr12:120162590	CAMKK2	UTR3		-	AtoG	0.1053	0.125	4	2	[16,19]
chr5:134105060	CAMLG	coding_exon	ENST00000297156:VtoA;	+	TtoC	0.1	0.1538	3	2	[10,13]
chr9:137854457	CAMSAP1	coding_exon	ENST00000312405:VtoE;ENST00000389532:VtoE;ENST00000389533:VtoE;ENST00000389533:VtoE	-	TtoA	0.1	0.1	2	2	[10,10]
chr1:199096371	CAMSAP11	UTR3		+	TtoC	0.1	0.125	2	2	[10,16]
chr12:65990255	CAND1	coding_exon		+	AtoG	0.1	0.1538	3	2	[13,20]
chr12:65993007	CAND1	UTR3		+	AtoG	0.1667	0.3571	2	2	[12,15]
chr3:12852538	CAND2	coding_exon		+	AtoT	0.1034	0.2	5	4	[10,29]
chr3:12852539	CAND2	coding_exon		+	TtoC	0.1084	0.1333	11	4	[15,83]
chr3:12852540	CAND2	coding_exon		+	GtoT	0.1364	0.1429	9	2	[21,22]
chr3:12852544	CAND2	coding_exon		+	GtoT	0.1048	0.177	15	5	[35,114]
chr3:12852545	CAND2	coding_exon		+	AtoT	0.1086	0.2373	19	11	[38,178]
chr3:12852547	CAND2	coding_exon		+	GtoT	0.1117	0.2025	19	15	[63,569]
chr17:74500590	CANT1	UTR3		-	TtoG	0.1	0.1538	3	3	[10,17]
chr5:179088514	CANX	UTR3		+	TtoC	0.1667	0.2	4	2	[10,18]
chr5:179090533	CANX	UTR3		+	TtoA	0.1333	0.3	9	8	[15,40]
chr2:85475400	CAPG	UTR3		-	GtoA	0.1538	0.2	2	2	[10,14]
chr11:64736039	CAPN1	UTR3		+	CtoA	0.1176	0.1818	2	2	[11,17]
chr2:241183391	CAPN10	coding_exon	ENST00000354082:Wto*;ENST00000391982:Wto*;ENST00000391984:Wto*;ENST00000391984:Wto*	+	GtoA	0.1	0.1818	3	2	[10,11]
chr2:241183392	CAPN10	coding_exon	ENST00000354082:KtoQ;ENST00000391982:KtoQ;ENST00000391984:KtoQ;ENST00000391984:KtoQ	+	AtoC	0.125	0.1429	4	2	[14,16]
chr15:40431558	CAPN3	UTR5		+	AtoC	0.1	0.1538	5	2	[10,13]
chr19:41333090	CAPNS1	UTR3		+	TtoA	0.4615	0.6667	3	3	[10,13]
chr11:34078429	CAPRIN1	UTR3		+	TtoC	0.1	0.1212	2	2	[41,66]
chr11:34079232	CAPRIN1	UTR3		+	GtoA	0.1	0.1429	2	2	[14,20]
chr1:113011240	CAPZA1	coding_exon	ENST00000263168:NtoD;	+	AtoG	0.119	0.1923	12	2	[26,42]
chr1:113003871	CAPZA1	coding_exon	ENST00000263168:KtoE;	+	AtoG	0.1	0.1	5	2	[10,20]
chr7:116346164	CAPZA2	UTR3		+	TtoC	0.1	0.2857	3	3	[10,14]
chr7:116346167	CAPZA2	UTR3		+	TtoA	0.1	0.1	3	2	[10,10]
chr7:116346357	CAPZA2	UTR3		+	TtoC	0.1	0.2222	2	2	[10,10]
chr1:19537975	CAPZB	UTR3		-	TtoG	0.1	0.1154	3	2	[11,28]
chr1:19537977	CAPZB	UTR3		-	GtoA	0.1176	0.1667	4	2	[12,17]
chr19:53444845	CARD8	UTR5		-	AtoG	0.1	0.2	4	2	[10,10]
chr16:8854697	CARHSP1	UTR3		-	TtoC	0.1	0.1667	2	2	[10,18]
chr16:8854698	CARHSP1	UTR3		-	CtoT	0.1429	0.5455	6	6	[10,21]
chr16:8856270	CARHSP1	UTR3		-	GtoA	0.1818	0.6364	10	8	[11,22]
chr13:110087477	CARKD	coding_exon	ENST00000309957:VtoG;ENST00000397191:VtoG;ENST00000424185:VtoG;ENST00000424185:VtoG	+	TtoG	0.1818	0.2	3	2	[10,11]
chr13:110085827	CARKD	mixed		+	TtoA	0.1818	0.1875	6	2	[12,17]
chr11:2995734	CARS	coding_exon		-	CtoT	0.1875	0.2857	5	2	[14,16]
chr13:110091770	CARS2	UTR3		-	AtoG	0.1	0.2	4	4	[10,13]
chr17:35578166	CASC3	coding_exon		+	AtoC	0.1034	0.1667	3	2	[18,29]
chr17:35580292	CASC3	mixed		+	AtoG	0.1	0.1	2	2	[10,10]
chr15:38701703	CASC5	coding_exon	ENST00000260369:PtOH;ENST00000346991:PtOH;ENST00000399668:PtOH;	+	CtoA	0.1	0.1	2	2	[10,11]
chr15:38705127	CASC5	coding_exon		+	GtoA	0.1	0.1333	2	2	[10,15]
chr11:104417540	CASP1	coding_exon		-	TtoC	0.1	0.1538	9	2	[10,13]

chr7:142713204	CASP2	UTR3		+	TtoC	0.1	0.1	4	2	[10,10]
chr4:185786290	CASP3	UTR3		-	AtoG	0.1111	0.2	7	3	[10,18]
chr4:185787180	CASP3	UTR3		-	AtoG	0.1176	0.1333	7	2	[15,17]
chr4:185787401	CASP3	UTR3		-	GtoT	0.1	0.1091	5	3	[20,55]
chr11:104318849	CASP4	UTR3		-	TtoG	0.1053	0.1111	6	2	[10,19]
chr2:201839549	CASP8	coding_exon	ENST00000264274:QtoR;ENST00000264275:QtoR;ENST00000303385:QtoR;ENST00000303386:QtoR	+	AtoG	0.1	0.1429	3	2	[10,14]
chr5:96134289	CAST	UTR3		+	TtoA	0.1	0.1818	4	2	[10,11]
chr5:96134648	CAST	UTR3		+	TtoA	0.1	0.1	5	2	[10,20]
chr5:96135536	CAST	UTR3		+	AtoG	0.125	0.1538	2	2	[13,16]
chr11:34449665	CAT	UTR3		+	TtoA	0.1	0.1111	6	2	[10,18]
chr20:31696261	CBFA2T2	UTR3		+	AtoC	0.1	0.2	2	2	[10,10]
chr16:87470044	CBFA2T3	UTR3		-	AtoG	0.1	0.1818	3	2	[10,11]
chr16:65690393	CBFB	UTR3		+	TtoA	0.1	0.2	3	2	[10,10]
chr16:65691715	CBFB	UTR3		+	GtoA	0.1	0.1	5	2	[10,10]
chr16:65692254	CBFB	UTR3		+	TtoG	0.12	0.1818	7	4	[11,26]
chr11:118679382	CBL	UTR3		+	TtoC	0.1	0.1333	3	2	[10,15]
chr11:118680246	CBL	UTR3		+	TtoC	0.125	0.1429	4	2	[14,16]
chr11:118682349	CBL	UTR3		+	TtoG	0.5455	0.5769	2	2	[12,26]
chr11:118682601	CBL	UTR3		+	GtoC	0.1	0.1333	2	2	[15,20]
chr11:118683108	CBL	UTR3		+	TtoC	0.1176	0.12	6	2	[17,25]
chr3:106903631	CBLB	coding_exon		-	TtoA	0.1	0.1	3	2	[10,20]
chr3:106859864	CBLB	UTR3		-	AtoC	0.1	0.1429	2	2	[10,14]
chr4:170146290	CBR4	mixed		-	TtoC	0.1	0.1	2	2	[10,10]
chr12:52923236	CBX5	coding_exon		-	TtoA	0.1053	0.12	3	2	[19,25]
chr12:52914322	CBX5	UTR3		-	GtoA	0.1579	0.1667	2	2	[12,19]
chr12:52914708	CBX5	UTR3		-	AtoG	0.1304	0.1538	3	3	[13,24]
chr12:52915110	CBX5	UTR3		-	AtoG	0.1	0.1176	4	2	[10,17]
chr12:52916820	CBX5	UTR3		-	GtoT	0.1	0.15	4	2	[20,20]
chr12:52921522	CBX5	UTR3		-	CtoA	0.1	0.1	2	2	[10,10]
chr22:37589492	CBX6	UTR3		-	GtoA	0.1818	0.2143	2	2	[14,22]
chr22:37394057	CBY1	coding_exon	ENST00000216029:StoP;ENST00000396811:StoP;ENST00000454616:StoP;	+	TtoC	0.1	0.1429	2	2	[10,14]
chr22:37399621	CBY1	UTR3		+	TtoA	0.1	0.1	4	2	[10,20]
chr19:13891753	CC2D1A	coding_exon	ENST00000318003:VtoL;ENST00000397486:VtoL;ENST00000412841:VtoL;	+	GtoC	0.1	0.2	2	2	[10,10]
chr1:52599263	CC2D1B	mixed		-	GtoA	0.1	0.1	2	2	[10,10]
chr10:70183734	CCAR1	coding_exon	ENST00000265872:LtoP;	+	TtoC	0.1	0.1	2	2	[10,10]
chr10:70184565	CCAR1	coding_exon	ENST00000265872:FtoS;	+	TtoC	0.1111	0.2	2	2	[10,18]
chr10:70172216	CCAR1	coding_exon		+	AtoT	0.125	0.1333	2	2	[15,16]
chr10:70178933	CCAR1	coding_exon		+	AtoC	0.1	0.1765	5	2	[10,17]
chr2:55616394	CCDC104	coding_exon		+	GtoA	0.1429	0.1818	4	3	[11,14]
chr9:35651157	CCDC107	mixed		+	TtoC	0.1	0.1538	13	5	[10,26]
chr4:110825222	CCDC109B	coding_exon	ENST00000344132:FtoL;ENST00000394650:FtoL;	+	TtoA	0.1111	0.1579	5	2	[21,37]
chr4:110828218	CCDC109B	UTR3		+	TtoC	0.1053	0.2	4	3	[10,19]
chr22:27514201	CCDC117	UTR3		+	GtoC	0.1111	0.1818	2	2	[10,11]
chr22:27514937	CCDC117	UTR3		+	TtoC	0.1	0.2	4	2	[10,10]
chr22:27515169	CCDC117	UTR3		+	AtoG	0.1429	0.1818	3	2	[11,21]
chr19:17915788	CCDC124	UTR3		+	TtoC	0.1071	0.1875	5	2	[16,28]
chr3:125150669	CCDC14	mixed		-	CtoG	0.1538	0.2	2	2	[10,13]
chr5:42837433	CCDC152	UTR3		+	AtoG	0.1	0.1429	2	2	[15,20]
chr6:139156081	CCDC28A	UTR3		+	AtoG	0.1	0.2	3	2	[10,10]
chr1:32443562	CCDC28B	UTR3		+	CtoA	0.1333	0.3333	7	6	[12,31]
chr1:32443563	CCDC28B	UTR3		+	AtoG	0.129	0.2632	8	5	[12,31]
chr11:27318833	CCDC34	coding_exon	ENST00000328697:NtoS;	-	AtoG	0.4211	0.4615	2	2	[13,19]
chr3:181810445	CCDC39	mixed		-	AtoC	0.1	0.1	3	2	[10,10]
chr3:181810670	CCDC39	mixed		-	TtoC	0.1	0.1	3	2	[10,10]
chr17:59959434	CCDC45	coding_exon	ENST00000269064:HtoL;ENST00000397727:HtoL;	+	AtoT	0.1	0.1	2	2	[10,10]
chr17:59957532	CCDC45	coding_exon		+	AtoG	0.1	0.1	2	2	[10,10]
chr17:59177086	CCDC47	UTR3		-	TtoG	0.1	0.3077	4	2	[10,13]
chr17:34211928	CCDC49	coding_exon	ENST00000225428:NtoK;	-	TtoA	0.1	0.1667	5	3	[10,13]
chr17:34224805	CCDC49	coding_exon	ENST00000225428:LtoR;	-	TtoG	0.1	0.1	2	2	[10,11]
chr17:34220359	CCDC49	coding_exon	ENST00000225428:EtoK;	-	GtoA	0.1	0.3	5	3	[10,22]
chr17:34219544	CCDC49	coding_exon		-	AtoG	0.1163	0.2143	16	7	[14,43]
chr17:34220249	CCDC49	coding_exon		-	GtoA	0.1	0.1667	3	2	[10,12]
chr17:34211814	CCDC49	UTR3		-	TtoA	0.1667	0.1818	2	2	[11,12]
chr3:114655226	CCDC52	coding_exon	ENST00000295872:StoL;	-	GtoT	0.1	0.1	2	2	[10,10]
chr12:100979186	CCDC53	coding_exon		-	CtoT	0.1	0.1429	3	2	[10,14]
chr17:25469263	CCDC55	coding_exon		+	CtoT	0.2308	0.3	3	2	[10,39]
chr17:25523691	CCDC55	coding_exon		+	TtoC	0.1	0.2727	3	3	[10,33]
chr17:77652659	CCDC57	UTR3		-	AtoG	0.1111	0.1739	3	2	[18,23]
chr3:123569761	CCDC58	coding_exon	ENST00000291458:NtoK;ENST00000479899:NtoK;	-	TtoG	0.1053	0.125	3	2	[16,19]
chr3:123561421	CCDC58	coding_exon		-	TtoC	0.1176	0.1739	6	4	[15,24]
chr12:81270955	CCDC59	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr19:51201700	CCDC61	coding_exon	ENST00000263284:LtoP;	+	TtoC	0.1	0.1	2	2	[10,10]
chr5:150542231	CCDC69	UTR3		-	TtoC	0.1304	0.15	3	2	[20,23]
chr3:49175343	CCDC71	mixed		-	TtoG	0.1053	0.1111	5	2	[19,28]
chr2:37176091	CCDC75	coding_exon	ENST00000281932:EtoG;ENST00000379187:EtoG;ENST00000409774:EtoG;	+	AtoG	0.1	0.1	2	2	[10,10]
chr2:37170500	CCDC75	coding_exon		+	AtoG	0.1538	0.1765	3	2	[13,17]
chr1:100386333	CCDC76	coding_exon		+	AtoG	0.1	0.1	2	2	[10,10]
chr11:95756933	CCDC82	coding_exon		-	TtoC	0.1	0.1538	4	2	[10,13]
chr11:118390957	CCDC84	coding_exon		+	TtoC	0.1818	0.1818	4	2	[11,11]
chr2:55376418	CCDC88A	coding_exon		-	AtoT	0.1	0.1053	4	2	[10,19]
chr11:63873710	CCDC88B	mixed		+	GtoC	0.1111	0.12	2	2	[25,27]
chr11:63873713	CCDC88B	mixed		+	CtoG	0.1	0.2	5	4	[10,26]
chr11:63881574	CCDC88B	UTR3		+	GtoA	0.1538	0.2	2	2	[11,27]
chr14:90874160	CCDC88C	coding_exon	ENST00000389857:EtoG;	-	AtoG	0.1	0.1	2	2	[10,10]
chr14:90819614	CCDC88C	coding_exon	ENST00000331194:StoT;ENST00000389857:GtoA;ENST00000427583:StoT;	-	GtoC	0.1	0.1053	3	2	[10,19]
chr19:52455435	CCDC9	coding_exon		+	TtoC	0.1	0.125	4	2	[10,24]
chr11:82650574	CCDC90B	UTR3		-	TtoG	0.1	0.1176	4	2	[10,17]
chr12:28435532	CCDC91	coding_exon	ENST00000306172:QtoR;ENST00000381259:QtoR;	+	AtoG	0.1667	0.25	2	2	[12,12]
chr19:46520849	CCDC97	UTR3		+	TtoC	0.12	0.2	3	2	[10,25]
chr5:168953818	CCDC99	coding_exon	ENST00000265295:LtoP;ENST00000446362:LtoP;	+	TtoC	0.1	0.1053	2	2	[10,21]
chr6:31230419	CCHCR1	mixed		-	GtoT	0.1	0.1	2	2	[10,10]
chr16:55957595	CCL22	UTR3		+	TtoG	0.1154	0.1667	6	2	[12,28]
chr16:55950195	CCL22	UTR3		+	TtoG	0.4167	0.4706	3	3	[12,21]
chr4:122958228	CCNA2	UTR3		-	CtoG	0.1	0.1	3	2	[10,10]
chr5:68509235	CCNB1	UTR3		+	TtoG	0.1538	0.1538	9	2	[13,26]
chr5:68498741	CCNB1	UTR5		+	GtoT	0.1	0.2	3	2	[10,10]

chr14:19854432	CCNB1IP1	coding_exon	ENST00000353689:Itov;ENST00000358932:Itov;ENST00000398160:Itov;ENST0000	-	AtoG	0.1	0.1538	2	2	[10,13]
chr6:100097483	CCNC	UTR3		-	TtoC	0.1	0.1739	8	4	[23,36]
chr6:100097586	CCNC	UTR3		-	GtoT	0.1	0.1	4	2	[10,20]
chr12:4280763	CCND2	UTR3		+	AtoG	0.102	0.1667	6	4	[12,49]
chr12:4280794	CCND2	UTR3		+	AtoT	0.1176	0.3333	11	11	[11,72]
chr12:4281331	CCND2	UTR3		+	AtoG	0.1333	0.1765	6	3	[15,17]
chr12:4253196	CCND2	UTR5		+	AtoG	0.1	0.1364	2	2	[10,22]
chr12:4253215	CCND2	UTR5		+	AtoT	0.1515	0.1667	2	2	[30,34]
chr6:42011333	CCND3	UTR3		-	AtoC	0.2222	0.3333	2	2	[12,36]
chr19:35003512	CCNE1	coding_exon	ENST00000262643:YtoH;ENST00000444983:YtoH;	+	TtoC	0.1	0.1667	3	2	[10,13]
chr19:35006474	CCNE1	coding_exon	ENST00000262643:TtoP;ENST00000357943:TtoP;ENST00000444983:TtoP;	+	AtoC	0.1111	0.2	6	3	[10,18]
chr19:35006559	CCNE1	UTR3		+	GtoA	0.1053	0.2	4	2	[15,19]
chr16:2447710	CCNF	UTR3		+	TtoC	0.1154	0.2	5	2	[16,26]
chr16:2448852	CCNF	UTR3		+	TtoC	0.1667	0.1667	3	2	[12,13]
chr5:86740926	CCNH	coding_exon	ENST00000256897:CtoF;ENST00000448765:CtoF;	-	GtoT	0.2	0.2	2	2	[10,15]
chr4:78187338	CCNI	UTR3		-	TtoC	0.1429	0.4	6	3	[11,21]
chr4:78187806	CCNI	UTR3		-	AtoG	0.1	0.2083	6	2	[20,25]
chr4:78187808	CCNI	UTR3		-	TtoA	0.1429	0.2	4	2	[10,28]
chr3:158352661	CCNL1	coding_exon	ENST00000295926:WtoR;ENST00000417607:WtoR;ENST00000461804:WtoR;	-	TtoA	0.1176	0.5833	10	8	[12,17]
chr3:158350635	CCNL1	coding_exon		-	TtoC	0.102	0.2083	8	4	[24,53]
chr2:135428250	CCNT2	coding_exon		+	TtoG	0.1	0.1	3	2	[10,10]
chr10:35845544	CCNY	coding_exon	ENST00000265375:YtoD;ENST00000339497:YtoD;ENST00000374704:YtoD;ENST00	+	TtoG	0.1	0.1	3	2	[10,10]
chr17:35963548	CCR7	UTR3		-	AtoG	0.1	0.2	3	2	[10,10]
chr17:35963549	CCR7	UTR3		-	AtoG	0.2143	0.375	7	6	[11,18]
chr12:68265515	CCT2	UTR5		+	GtoA	0.1	0.2	4	4	[13,36]
chr1:154545404	CCT3	UTR3		-	TtoC	0.1	0.25	9	7	[10,24]
chr2:61949130	CCT4	UTR3		-	TtoC	0.1	0.1111	3	2	[10,18]
chr2:73333617	CCT7	UTR3		+	TtoG	0.1029	0.119	11	4	[44,71]
chr6:109794440	CD164	UTR3		-	TtoA	0.1	0.1667	4	4	[10,20]
chr6:109794639	CD164	UTR3		-	GtoT	0.1	0.1818	4	2	[10,11]
chr6:109794640	CD164	UTR3		-	GtoC	0.1	0.1818	3	2	[10,11]
chr6:109794648	CD164	UTR3		-	TtoA	0.1	0.1429	3	2	[10,14]
chr6:109794650	CD164	UTR3		-	AtoG	0.1304	0.4167	5	2	[12,23]
chr3:113551306	CD200	coding_exon	ENST00000315711:VtoA;ENST00000383681:VtoA;ENST00000451093:VtoA;ENST00	+	TtoC	0.1053	0.1429	4	2	[14,19]
chr3:113542498	CD200	mixed		+	AtoT	0.1	0.1	2	2	[10,10]
chr19:40514815	CD22	coding_exon	ENST00000085219:LtoR;ENST00000341773:LtoR;ENST00000419549:LtoR;	+	TtoG	0.1	0.1429	3	2	[14,20]
chr19:40515294	CD22	coding_exon		+	AtoG	0.1111	0.1429	11	4	[14,41]
chr19:40530094	CD22	UTR3		+	AtoG	0.1538	0.1667	3	2	[12,13]
chr18:65765238	CD226	coding_exon	ENST00000280200:NtoD;	-	AtoG	0.1	0.1538	3	2	[10,13]
chr18:65679662	CD226	UTR3		-	AtoT	0.1053	0.25	2	2	[12,19]
chr18:65679663	CD226	UTR3		-	TtoC	0.1	0.1667	3	2	[10,12]
chr18:65681167	CD226	UTR3		-	AtoG	0.1071	0.2	6	2	[10,28]
chr18:65681396	CD226	UTR3		-	GtoA	0.1	0.3333	12	6	[10,64]
chr18:65681589	CD226	UTR3		-	AtoG	0.1	0.3	9	2	[10,10]
chr12:6431137	CD27	UTR3		+	CtoA	0.1	0.2727	6	4	[10,11]
chr12:6431138	CD27	UTR3		+	AtoG	0.1	0.2222	6	3	[10,11]
chr12:6431141	CD27	UTR3		+	CtoA	0.2	0.3333	2	2	[13,25]
chr9:5460448	CD274	UTR3		+	TtoC	0.1111	0.3	5	2	[10,18]
chr6:47700552	CD2AP	UTR3		+	AtoG	0.1	0.1	3	2	[10,20]
chr6:47701927	CD2AP	UTR3		+	TtoC	0.1	0.1111	3	2	[10,19]
chr6:47702068	CD2AP	UTR3		+	AtoG	0.1	0.1111	3	2	[10,18]
chr17:69981559	CD300A	coding_exon		+	CtoT	0.1	0.1	2	2	[10,10]
chr19:50603835	CD3EAP	coding_exon	ENST00000309424:KtoE;ENST00000423698:KtoE;	+	AtoG	0.1	0.15	3	2	[10,21]
chr11:35208047	CD44	UTR3		+	TtoC	0.1538	0.1818	6	2	[13,23]
chr11:35209485	CD44	UTR3		+	AtoC	0.1034	0.125	4	2	[29,40]
chr11:35209595	CD44	UTR3		+	GtoA	0.1071	0.2143	4	2	[14,28]
chr1:206007030	CD46	coding_exon		+	AtoG	0.1	0.1667	3	2	[10,13]
chr1:206033566	CD46	UTR3		+	TtoC	0.1053	0.15	3	2	[19,20]
chr1:206033847	CD46	UTR3		+	AtoG	0.1	0.25	7	3	[10,17]
chr1:206035103	CD46	UTR3		+	TtoA	0.1111	0.1176	5	2	[17,18]
chr3:109245583	CD47	UTR3		-	TtoC	0.125	0.1333	4	2	[15,16]
chr3:109245728	CD47	UTR3		-	AtoC	0.1	0.1	2	2	[10,10]
chr1:26519601	CD52	UTR3		+	AtoG	0.1724	0.36	8	4	[22,65]
chr1:111244030	CD53	UTR3		+	TtoA	0.1053	0.125	6	3	[16,19]
chr1:111217296	CD53	UTR5		+	AtoC	0.1	0.3333	12	11	[10,22]
chr1:111217298	CD53	UTR5		+	TtoC	0.1429	0.3684	12	11	[10,25]
chr1:116862939	CD58	mixed		-	TtoA	0.1	0.1	2	2	[10,10]
chr12:9796567	CD69	UTR3		-	AtoG	0.1429	0.1875	5	3	[11,22]
chr19:6536894	CD70	mixed		-	AtoG	0.1	0.2727	7	4	[11,30]
chr5:149761401	CD74	UTR3		-	AtoG	0.1	0.2	3	2	[20,38]
chr5:149761402	CD74	UTR3		-	AtoG	0.1364	0.2222	10	4	[19,44]
chr5:149761403	CD74	UTR3		-	TtoA	0.1933	0.5571	14	14	[30,143]
chr5:149761406	CD74	UTR3		-	TtoA	0.1538	0.1667	13	2	[66,191]
chr5:149761408	CD74	UTR3		-	GtoA	0.1402	0.1719	8	3	[64,290]
chr5:149761980	CD74	UTR3		-	TtoG	0.1222	0.1899	6	3	[1872,4407]
chr5:149772511	CD74	UTR5		-	TtoG	0.1515	0.1765	6	3	[34,66]
chr5:149772524	CD74	UTR5		-	CtoT	0.1053	0.1111	5	2	[18,19]
chr19:47077273	CD79A	UTR3		+	AtoG	0.1	0.2308	7	3	[10,15]
chr17:59359836	CD79B	UTR3		-	AtoG	0.2105	0.5	2	2	[11,19]
chr3:123321130	CD86	UTR3		+	TtoC	0.1	0.1333	5	2	[15,20]
chr15:40803736	CDAN1	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr10:12278284	CDC123	coding_exon	ENST00000281141:StoP;ENST00000378900:StoP;	+	TtoC	0.1	0.1053	2	2	[10,19]
chr10:62217991	CDC2	coding_exon	ENST00000307250:HtoQ;ENST00000373811:HtoQ;ENST00000395284:HtoQ;ENST0	+	TtoA	0.1	0.1538	3	2	[10,13]
chr1:43601439	CDC20	UTR3		+	TtoC	0.1304	0.2	12	5	[10,23]
chr3:48173786	CDC25A	UTR3		-	TtoA	0.1	0.1053	2	2	[10,19]
chr20:3731597	CDC25B	coding_exon	ENST00000245960:LtoP;ENST00000340833:LtoP;ENST00000344256:LtoP;ENST000	+	TtoC	0.1053	0.125	4	2	[16,19]
chr20:3726278	CDC25B	coding_exon		+	AtoG	0.1	0.1333	3	2	[10,15]
chr20:3733821	CDC25B	UTR3		+	AtoG	0.125	0.1538	5	3	[13,17]
chr5:137649188	CDC25C	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr9:115060817	CDC26	mixed		-	TtoC	0.1	0.1818	2	2	[10,11]
chr17:42574390	CDC27	coding_exon	ENST00000066544:EtoA;ENST00000441612:EtoA;	-	AtoC	0.1	0.1818	3	2	[10,11]
chr17:42550711	CDC27	UTR3		-	TtoC	0.1	0.1176	3	3	[10,20]
chr1:1637753	CDC2L2	coding_exon	ENST00000317673:RtoK;ENST00000341028:RtoK;ENST00000341832:RtoK;ENST000	-	GtoA	0.1	0.2963	12	8	[11,51]
chr1:1640667	CDC2L2	coding_exon		-	GtoA	0.3529	0.7143	4	4	[13,17]
chr7:40094317	CDC2L5	coding_exon	ENST00000181839:MtoV;ENST00000340829:MtoV;	+	AtoG	0.1304	0.1818	3	2	[11,23]
chr7:40100653	CDC2L5	coding_exon	ENST00000181839:LtoP;ENST00000340829:LtoP;	+	TtoC	0.1	0.1	2	2	[10,10]

chr7:40003671	CDC2L5	coding_exon	ENST00000181839:LtoP;ENST00000326351:LtoP;ENST00000340829:LtoP;	+	TtoC	0.1	0.1176	3	2	[10,17]
chr7:39993857	CDC2L5	mixed		+	TtoC	0.1	0.1333	7	3	[10,15]
chr7:40101517	CDC2L5	UTR3		+	CtoA	0.1	0.1	2	2	[10,10]
chr6:111041483	CDC2L6	UTR3		-	TtoC	0.1	0.1667	3	2	[10,12]
chr2:37727325	CDC42EP3	mixed		-	TtoA	0.1	0.1	3	2	[10,10]
chr5:130757299	CDC42SE2	UTR3		+	TtoA	0.1053	0.1111	3	2	[10,19]
chr6:44505563	CDCSL	coding_exon	ENST00000371477:YtoN;ENST00000423012:YtoN;	+	TtoA	0.1	0.2105	2	2	[21,30]
chr8:25421024	CDCA2	coding_exon		+	GtoA	0.1053	0.1176	2	2	[17,19]
chr12:6828320	CDCA3	UTR3		-	TtoA	0.125	0.1538	4	2	[14,16]
chr11:64601523	CDCA5	UTR3		-	AttoG	0.1	0.1176	3	2	[10,17]
chr2:123936868	CDCA7	coding_exon	ENST00000306721:Sto*;ENST00000347703:Sto*;ENST00000392567:Sto*;ENST000	+	CtoA	0.1	0.1081	3	2	[20,38]
chr7:21914588	CDCA7L	coding_exon	ENST00000356195:DtoE;ENST00000373934:DtoE;ENST00000396561:DtoE;ENST000	-	TtoG	0.1	0.1	2	2	[10,10]
chr3:120618599	CDGAP	UTR3		+	TtoC	0.1	0.1176	8	2	[10,17]
chr10:73180522	CDH23	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr12:54652560	CDK2	UTR3		+	AttoG	0.1053	0.1176	3	2	[17,19]
chr11:67030584	CDK2AP2	UTR3		-	CtoA	0.125	0.125	4	2	[16,16]
chr17:27841802	CDK5R1	coding_exon	ENST00000313401:NtoK;	+	TtoA	0.1	0.2	3	2	[10,15]
chr17:27842309	CDK5R1	coding_exon		+	TtoA	0.1	0.1111	4	2	[10,18]
chr20:31431106	CDK5RAP1	coding_exon	ENST00000346416:NtoI;ENST00000357886:NtoI;ENST00000452723:NtoI;	-	AttoT	0.1	0.1176	3	2	[10,17]
chr20:31437165	CDK5RAP1	coding_exon		-	TtoC	0.1333	0.1429	5	2	[14,15]
chr9:12202902	CDK5RAP2	coding_exon	ENST00000349780:LtoQ;ENST00000359309:LtoQ;ENST00000360190:LtoQ;ENST000	-	TtoA	0.1	0.1818	4	2	[10,12]
chr9:122347879	CDK5RAP2	coding_exon	ENST00000349780:LtoH;ENST00000359309:LtoH;ENST00000360190:LtoH;ENST000	-	TtoA	0.1	0.1	2	2	[10,10]
chr9:122191138	CDK5RAP2	UTR3		-	TtoC	0.1	0.125	3	2	[11,16]
chr9:122191233	CDK5RAP2	UTR3		-	TtoC	0.1	0.2727	7	3	[10,19]
chr17:43406808	CDK5RAP3	coding_exon	ENST00000338399:YtoF;	+	AttoT	0.125	0.1905	10	3	[21,30]
chr17:43406811	CDK5RAP3	coding_exon	ENST00000338399:LtoS;	+	TtoC	0.1053	0.5714	20	10	[14,76]
chr17:43408016	CDK5RAP3	coding_exon		+	GtoA	0.1064	0.2917	11	4	[24,86]
chr7:92075030	CDK6	UTR3		-	AttoC	0.1	0.1538	6	3	[10,20]
chr7:92075308	CDK6	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr7:92076887	CDK6	UTR3		-	CtoG	0.1	0.2	5	3	[10,20]
chr9:129592607	CDK9	UTR3		+	AttoG	0.1	0.1	5	2	[10,10]
chr6:20954285	CDKAL1	coding_exon		+	GtoA	0.1	0.2	3	2	[10,20]
chr6:20642741	CDKAL1	UTR5		+	TtoG	0.1	0.1	2	2	[10,10]
chr6:36754477	CDKN1A	mixed		+	AttoG	0.1538	0.2143	6	3	[13,14]
chr6:36754479	CDKN1A	mixed		+	CtoG	0.1282	0.4583	3	2	[24,41]
chr6:36754481	CDKN1A	mixed		+	GtoT	0.2131	0.6061	6	5	[36,85]
chr12:12766270	CDKN1B	UTR3		+	AttoC	0.1	0.1429	2	2	[10,14]
chr12:12766523	CDKN1B	UTR3		+	AttoG	0.1	0.1538	2	2	[10,13]
chr9:21960979	CDKN2A	coding_exon	ENST00000304494:StoA;ENST00000446177:StoA;	-	TtoG	1	1	3	3	[20,50]
chr16:22265170	CDR2	UTR3		-	AttoG	0.1	0.2222	6	2	[10,10]
chr20:5119333	CDS2	UTR3		+	TtoA	0.1	0.1333	4	2	[11,15]
chr16:87402419	CDT1	UTR3		+	AttoG	0.125	0.25	7	7	[14,24]
chr16:87402420	CDT1	UTR3		+	CtoA	0.1053	0.25	7	3	[17,25]
chr3:134788765	CDV3	mixed		+	AttoG	0.1176	0.125	5	2	[16,17]
chr3:134791796	CDV3	UTR3		+	TtoA	0.6	1	2	2	[10,11]
chr19:46733793	CEACAM21	UTR5		+	AttoG	0.1538	0.4	5	3	[15,26]
chr19:46733983	CEACAM21	UTR5		+	CtoT	0.1053	0.1333	5	2	[15,38]
chr19:38562627	CEBPG	mixed		+	TtoG	0.1	0.1818	2	2	[10,11]
chr22:15998775	CECR5	UTR3		-	AttoG	0.1071	0.125	5	2	[24,29]
chr2:26857130	CENPA	mixed		+	GtoA	0.1	0.1	2	2	[10,10]
chr2:26870480	CENPA	UTR3		+	TtoC	0.1	0.2	2	2	[10,10]
chr4:68023226	CENPC1	coding_exon		-	TtoC	0.1	0.25	3	2	[10,12]
chr4:104288124	CENPE	coding_exon		-	AttoG	0.1	0.1538	2	2	[10,13]
chr1:212903624	CENPF	coding_exon	ENST00000366955:VtoA;	+	TtoC	0.1053	0.2041	9	4	[10,49]
chr1:212886465	CENPF	coding_exon	ENST00000366955:LtoR;	+	TtoG	0.1	0.1	2	2	[10,10]
chr1:212883055	CENPF	coding_exon	ENST00000366955:LtoP;	+	TtoC	0.1	0.125	4	2	[10,16]
chr1:212897109	CENPF	coding_exon	ENST00000366955:GtoE;	+	GtoA	0.1212	0.15	3	2	[20,33]
chr1:212887176	CENPF	coding_exon	ENST00000366955:EtoG;	+	AttoG	0.1	0.1	3	2	[10,20]
chr1:212886682	CENPF	coding_exon		+	TtoC	0.1	0.1	4	3	[10,10]
chr5:68541536	CENPH	UTR3		+	AttoG	0.1333	0.2	3	2	[11,15]
chr16:79619719	CENPN	coding_exon	ENST00000305850:NtoD;ENST00000428963:NtoD;ENST00000439957:NtoD;	+	AttoG	0.1	0.1818	2	2	[10,11]
chr16:79603097	CENPN	coding_exon	ENST00000299572:MtoV;ENST00000305850:MtoV;ENST00000393335:MtoV;ENST	+	AttoG	0.1	0.1	4	2	[10,20]
chr2:24897247	CENPO	UTR3		+	AttoC	0.1	0.1429	2	2	[10,14]
chr16:66420835	CENPT	coding_exon		-	TtoC	0.1	0.1538	3	2	[10,13]
chr16:66422620	CENPT	mixed		-	AttoG	0.1	0.2	9	5	[10,30]
chr17:16186622	CENPV	UTR3		-	TtoA	0.1	0.1818	2	2	[10,11]
chr9:122964270	CEP110	mixed		+	TtoC	0.1	0.1	2	2	[10,20]
chr15:46818393	CEP152	coding_exon	ENST00000399334:Sto*;	-	CtoA	0.1	0.1	3	2	[10,10]
chr11:116783878	CEP164	coding_exon	ENST00000278935:StoP;ENST00000444913:StoP;	+	TtoC	0.1	0.1429	3	2	[14,20]
chr11:116747167	CEP164	coding_exon		+	TtoC	0.1	0.1538	5	2	[10,13]
chr11:116788303	CEP164	UTR3		+	TtoC	0.1	0.1667	2	2	[10,12]
chr11:116788362	CEP164	UTR3		+	GtoC	0.1	0.1	3	2	[10,10]
chr18:13059848	CEP192	coding_exon	ENST00000325971:EtoK;ENST00000399863:EtoK;ENST00000430049:EtoK;	+	GtoA	0.1	0.1667	2	2	[10,12]
chr18:13104239	CEP192	mixed		+	TtoC	0.1	0.3333	2	2	[10,12]
chr18:13106479	CEP192	mixed		+	AttoG	0.1	0.1818	8	3	[10,22]
chr20:33542567	CEP250	coding_exon	ENST00000342580:VtoA;ENST00000356095:VtoA;ENST00000397527:VtoA;	+	TtoC	0.1	0.1	2	2	[10,10]
chr20:33545853	CEP250	coding_exon	ENST00000342580:QtoR;ENST00000356095:QtoR;ENST00000397527:QtoR;	+	AttoG	0.1	0.1429	2	2	[10,14]
chr20:3355925	CEP250	coding_exon	ENST00000342580:QtoR;ENST00000356095:QtoR;ENST00000397527:QtoR;	+	AttoG	0.1	0.1176	3	2	[10,18]
chr20:33549110	CEP250	coding_exon	ENST00000342580:LtoQ;ENST00000356095:LtoQ;ENST00000397527:LtoQ;	+	TtoA	0.1	0.1	2	2	[10,10]
chr20:33545835	CEP250	coding_exon	ENST00000342580:EtoG;ENST00000356095:EtoG;ENST00000397527:EtoG;	+	AttoG	0.1	0.1	2	2	[10,10]
chr20:33551293	CEP250	coding_exon	ENST00000342580:DtoG;ENST00000356095:DtoG;ENST00000397527:DtoG;	+	AttoG	0.1	0.1333	2	2	[10,15]
chr1:178329449	CEP350	coding_exon	ENST00000367607:VtoE;ENST00000419991:VtoE;	+	TtoA	0.1	0.1111	2	2	[10,18]
chr1:178346852	CEP350	coding_exon	ENST00000367607:LtoQ;ENST00000419991:LtoQ;	+	TtoA	0.1	0.1818	3	2	[10,11]
chr1:178256546	CEP350	coding_exon	ENST00000367607:LtoH;ENST00000419991:LtoH;	+	TtoA	0.1	0.1	2	2	[10,10]
chr1:178350561	CEP350	UTR3		+	TtoC	0.1	0.1818	2	2	[11,12]
chr10:95278253	CEP55	UTR3		+	GtoA	0.1176	0.15	6	2	[17,20]
chr11:95172197	CEP57	coding_exon	ENST00000325486:RtoG;ENST00000325542:RtoG;	+	AttoG	0.1	0.1538	3	2	[10,13]
chr1:111527081	CEPT1	coding_exon		+	TtoA	0.1	0.1176	5	2	[11,17]
chr22:45459943	CERK	UTR3		-	TtoC	0.1053	0.1429	5	2	[14,19]
chr2:182110069	CERKL	UTR3		-	TtoC	0.1176	0.1429	5	2	[14,18]
chr2:182110539	CERKL	UTR3		-	TtoC	0.125	0.4545	9	2	[11,24]
chr16:65529443	CES2	coding_exon	ENST00000317091:QtoE;ENST00000417689:QtoE;	+	CtoG	0.1111	0.125	4	2	[18,24]
chr16:65534183	CES2	coding_exon	ENST00000317091:NtoD;	+	AttoG	0.1	0.1111	4	2	[10,18]
chr16:65535454	CES2	UTR3		+	TtoC	0.1	0.2	7	3	[10,20]
chr16:65526073	CES2	UTR5		+	TtoC	0.1	0.2222	4	3	[10,10]
chr5:89725646	CETN3	coding_exon		-	TtoC	0.1	0.2	5	3	[10,15]

chr2:201709339	CFLAR	coding_exon	ENST00000395148:GtoW;	+	GtoT	0.1	0.1	2	2	[10,10]
chr3:88186689	CGGBP1	mixed		-	TtoG	0.1	0.1034	2	2	[10,29]
chr21:36707199	CHAF1B	coding_exon	ENST00000314103:StoR;	+	TtoG	0.1	0.1	3	2	[10,10]
chr22:22438021	CHCHD10	UTR3		-	AtoG	0.1	0.1538	3	2	[10,13]
chr7:56141552	CHCHD2	coding_exon	ENST00000395422:StoR;	-	AtoC	0.1053	0.125	3	3	[16,19]
chr7:56139606	CHCHD2	coding_exon	ENST00000395422:AtoE;	-	CtoA	0.1333	0.1579	4	2	[15,20]
chr7:56136830	CHCHD2	UTR3		-	TtoG	0.1132	0.1509	13	5	[42,59]
chr7:56137013	CHCHD2	UTR3		-	GtoC	0.1053	0.12	4	2	[19,26]
chr7:56137022	CHCHD2	UTR3		-	TtoC	0.102	0.1406	12	4	[32,100]
chr7:132120345	CHCHD3	UTR3		-	AtoG	0.1	0.1395	6	3	[10,43]
chr8:57287998	CHCHD7	mixed		+	AtoG	0.1	0.1	2	2	[10,10]
chr11:73261499	CHCHD8	mixed		-	GtoA	0.1	0.2	5	3	[10,10]
chr5:98236081	CHD1	coding_exon	ENST00000284049:HtoR;	-	AtoG	0.1053	0.1667	4	2	[12,19]
chr5:98233361	CHD1	coding_exon	ENST00000284049:DtoE;	-	TtoA	0.1667	0.1818	3	2	[11,12]
chr5:98233358	CHD1	coding_exon		-	AtoG	0.1	0.3077	5	3	[10,13]
chr5:98236134	CHD1	coding_exon		-	TtoC	0.1429	0.1538	4	2	[13,14]
chr5:98218942	CHD1	UTR3		-	AtoG	0.1	0.1111	2	2	[10,45]
chr1:145229803	CHD1L	coding_exon	ENST00000369258:GtoD;ENST00000369259:GtoD;ENST00000431239:GtoD;	+	GtoA	0.125	0.1818	4	2	[11,16]
chr15:91286133	CHD2	coding_exon	ENST00000309818:QtoR;ENST00000394196:QtoR;ENST00000420239:QtoR;	+	AtoG	0.1	0.1071	4	2	[10,28]
chr15:91316139	CHD2	coding_exon	ENST00000309818:Etog;ENST00000394196:Etog;	+	AtoG	0.1	0.1	2	2	[10,10]
chr15:91283941	CHD2	coding_exon		+	TtoA	0.1212	0.3333	9	2	[10,33]
chr15:91369477	CHD2	UTR3		+	CtoG	0.16	0.25	5	2	[12,25]
chr15:91370630	CHD2	UTR3		+	TtoG	0.1071	0.1935	6	3	[28,35]
chr15:91371324	CHD2	UTR3		+	TtoC	0.1154	0.1538	4	2	[13,26]
chr15:91371351	CHD2	UTR3		+	TtoC	0.1111	0.1333	5	2	[16,18]
chr17:7749996	CHD3	coding_exon	ENST00000330494:VtoG;ENST00000358181:VtoG;ENST00000380358:VtoG;ENST00000330494:AtoG;ENST00000358181:AtoG;ENST00000380358:AtoG;ENST00000330494:StoR;ENST00000358181:StoR;ENST00000380358:StoR;	+	TtoG	0.1	0.2	4	2	[10,16]
chr17:7753229	CHD3	coding_exon	ENST00000330494:AtoG;ENST00000358181:AtoG;ENST00000380358:AtoG;ENST00000330494:StoR;ENST00000358181:StoR;ENST00000380358:StoR;	+	CtoG	0.1	0.1	4	2	[10,10]
chr12:6549583	CHD4	UTR3		-	GtoA	0.1	0.1053	6	2	[10,19]
chr12:6549585	CHD4	UTR3		-	AtoG	0.1667	0.1765	4	2	[12,17]
chr12:6549598	CHD4	UTR3		-	GtoA	0.1	0.1591	7	3	[14,44]
chr12:6549614	CHD4	UTR3		-	TtoA	0.125	0.2308	14	5	[13,24]
chr12:6549764	CHD4	UTR3		-	TtoA	0.1	0.1053	4	2	[19,30]
chr8:61928506	CHD7	coding_exon	ENST00000307121:VtoA;ENST00000423902:VtoA;	+	TtoC	0.1053	0.2	6	2	[19,20]
chr8:61936202	CHD7	coding_exon	ENST00000307121:HtoQ;ENST00000423902:HtoQ;	+	CtoA	0.1	0.1	2	2	[10,10]
chr8:61891539	CHD7	coding_exon		+	GtoT	0.1	0.1	3	2	[10,10]
chr14:20932930	CHD8	coding_exon	ENST00000399982:RtoG;ENST00000430710:RtoG;	-	CtoG	0.1	0.2222	2	2	[10,10]
chr14:20966046	CHD8	coding_exon	ENST00000399982:RtoC;ENST00000430710:RtoC;	-	CtoT	0.1	0.1	2	2	[10,10]
chr14:20923485	CHD8	UTR3		-	GtoA	0.1111	0.1875	8	5	[14,27]
chr16:51897748	CHD9	coding_exon	ENST00000219084:TtoP;ENST00000398510:TtoP;ENST00000447540:TtoP;ENST00000219084:StoP;ENST00000398510:StoP;ENST00000447540:StoP;ENST00000219084:UtoP;ENST00000398510:UtoP;ENST00000447540:UtoP;	+	AtoC	0.1	0.1	2	2	[10,10]
chr16:51916270	CHD9	coding_exon	ENST00000219084:StoP;ENST00000398510:StoP;ENST00000447540:StoP;ENST00000219084:UtoP;ENST00000398510:UtoP;ENST00000447540:UtoP;	+	TtoC	0.1176	0.15	5	2	[17,20]
chr16:51913025	CHD9	coding_exon		+	AtoG	0.1	0.1667	2	2	[10,12]
chr16:51822915	CHD9	mixed		+	TtoC	0.1333	0.1667	2	2	[12,15]
chr16:51829786	CHD9	mixed		+	TtoC	0.1429	0.1875	2	2	[14,16]
chr11:125002790	CHEK1	coding_exon		+	TtoC	0.1111	0.125	5	3	[16,18]
chr22:27425893	CHEK2	mixed		-	TtoC	0.1	0.2727	4	3	[10,15]
chr12:131940090	CHFR	coding_exon	ENST00000266880:AtoT;ENST00000315585:AtoT;ENST00000432561:AtoT;ENST00000266880:StoT;ENST00000315585:StoT;ENST00000432561:StoT;	-	GtoA	0.1818	0.25	7	6	[10,25]
chr12:131940091	CHFR	coding_exon		-	AtoG	0.1538	0.3	7	7	[10,26]
chr12:131927447	CHFR	UTR3		-	GtoC	0.1667	0.3077	3	2	[12,13]
chr12:131927741	CHFR	UTR3		-	TtoG	0.1	0.1	2	2	[10,10]
chr1:111585505	CHI3L2	coding_exon	ENST00000369744:RtoW;ENST00000369748:RtoW;ENST00000393553:RtoW;ENST00000369744:StoW;ENST00000369748:StoW;ENST00000393553:StoW;	+	CtoT	0.125	1	5	5	[12,199]
chr1:111573927	CHI3L2	mixed		+	AtoC	0.1	0.1	2	2	[10,10]
chr1:111587578	CHI3L2	UTR3		+	TtoC	0.1667	0.4545	4	3	[11,19]
chr11:859795	CHID1	UTR3		-	TtoA	0.1	0.2222	2	2	[10,10]
chr11:67590534	CHKA	coding_exon		-	AtoG	0.1	0.1	5	2	[10,21]
chr22:49366848	CHKB	coding_exon	ENST00000406938:StoG;	-	AtoG	0.1	0.1111	3	2	[10,18]
chr16:88239909	CHMP1A	mixed		-	AtoC	0.1176	0.1333	2	2	[16,17]
chr3:87386981	CHMP2B	UTR3		+	GtoT	0.1	0.1333	2	2	[10,15]
chr14:23748660	CHMP4A	UTR3		-	TtoA	0.1	0.2	5	2	[10,10]
chr14:23748679	CHMP4A	UTR3		-	TtoA	0.1	0.1	3	2	[10,10]
chr20:31905768	CHMP4B	UTR3		+	AtoG	0.1	0.1667	5	2	[10,12]
chr8:23174682	CHMP7	UTR3		+	CtoG	0.1818	0.2	2	2	[10,11]
chr11:89579081	CHORDC1	coding_exon	ENST00000320585:QtoR;ENST00000457199:QtoR;	-	AtoG	0.1	0.2667	4	3	[10,15]
chr11:89579083	CHORDC1	coding_exon		-	CtoT	0.1	0.25	4	2	[10,12]
chr12:100634647	CHPT1	coding_exon	ENST00000229266:TtoS;	+	AtoT	0.2	0.2727	3	2	[10,11]
chr12:103675453	CHST11	coding_exon		+	TtoC	0.1	0.1	3	2	[10,30]
chr15:99535825	CHSY1	coding_exon	ENST00000254190:LtoP;	-	TtoC	0.1	0.1	3	2	[10,10]
chr16:782781	CHTF18	coding_exon	ENST00000262315:LtoP;ENST00000317063:LtoP;ENST00000448184:LtoP;ENST00000262315:StoP;ENST00000317063:StoP;ENST00000448184:StoP;	+	TtoC	0.1	0.1	2	2	[10,10]
chr16:781204	CHTF18	coding_exon	ENST00000262315:LtoM;ENST00000317063:LtoM;ENST00000455171:LtoM;	+	CtoA	0.1	0.1	2	2	[10,10]
chr16:781946	CHTF18	coding_exon	ENST00000262315:AtoG;ENST00000317063:AtoG;ENST00000455171:AtoG;	+	CtoG	0.125	0.2308	5	2	[13,16]
chr2:96301012	CIAO1	UTR3		+	CtoA	0.1053	0.12	10	2	[19,25]
chr16:56025530	CIAPIN1	coding_exon		-	CtoA	0.1111	0.125	8	3	[16,18]
chr19:47489929	CIC	coding_exon	ENST00000160740:RtoK;	+	GtoA	0.1176	0.1667	7	2	[17,18]
chr19:47491577	CIC	UTR3		+	TtoG	0.1154	0.1154	3	2	[26,26]
chr19:1223788	CIRBP	UTR3		+	AtoT	0.1111	0.3158	9	5	[16,36]
chr19:1224161	CIRBP	UTR3		+	TtoC	0.1	0.125	12	3	[17,20]
chr16:67724961	CIRH1A	coding_exon	ENST00000314423:VtoG;ENST00000352319:VtoG;ENST00000453167:VtoG;	+	TtoG	0.1176	0.2609	7	4	[16,24]
chr12:118634535	CIT	coding_exon	ENST00000261833:DtoG;ENST00000392520:DtoG;ENST00000392521:DtoG;	-	AtoG	0.1	0.1	2	2	[10,11]
chr13:51946049	CKAP2	coding_exon	ENST00000258607:Etog;ENST00000378037:Etog;ENST00000490903:Etog;	+	AtoG	0.1	0.1667	4	2	[12,20]
chr12:105156624	CKAP4	UTR3		-	AtoG	0.1818	0.2727	5	2	[11,11]
chr11:46729608	CKAP5	mixed		-	TtoC	0.1	0.1333	3	2	[10,15]
chr11:46754439	CKAP5	mixed		-	TtoC	0.1	0.16	3	2	[10,25]
chr9:91121381	CKS2	UTR3		+	TtoA	0.2	0.2143	9	2	[15,21]
chr2:121921385	CLASP1	coding_exon	ENST00000263710:LtoS;ENST00000397587:LtoS;ENST00000409078:LtoS;ENST00000263710:StoS;ENST00000397587:StoS;ENST00000409078:StoS;	-	TtoC	0.1154	0.2	4	3	[10,26]
chr2:122001886	CLASP1	coding_exon		-	TtoC	0.1	0.1333	2	2	[10,15]
chr2:122079747	CLASP1	mixed		-	GtoA	0.1667	0.1667	6	2	[18,18]
chr2:121813765	CLASP1	UTR3		-	GtoA	0.1333	0.2143	11	7	[11,24]
chr3:33561293	CLASP2	coding_exon		-	AtoG	0.1176	0.2	2	2	[10,17]
chr1:109276646	CLCC1	mixed		-	AtoG	0.1	0.3	4	3	[10,20]
chr1:109274287	CLCC1	UTR3		-	AtoC	0.1	0.1176	2	2	[10,17]
chr4:170864926	CLCN3	coding_exon	ENST00000347613:StoV;ENST00000360642:StoV;	+	AtoG	0.1	0.1	2	2	[10,10]
chr16:1436357	CLCN7	UTR3		-	GtoC	0.1	0.1	2	2	[10,10]
chr16:11183319	CLEC16A	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr12:9738756	CLEC2D	UTR3		+	AtoG	0.1042	0.1429	9	2	[14,48]
chr12:9766435	CLECL1	UTR3		-	AtoG	0.1	0.1429	5	2	[20,21]
chr6:31806360	CLIC1	UTR3		-	TtoA	0.1818	0.2778	3	2	[11,19]
chr6:31806393	CLIC1	UTR3		-	TtoC	0.1206	0.1579	5	2	[61,148]

chr5:157146393	CLINT1	UTR3		-	TtoC	0.1	0.2	6	3	[10,25]
chr12:121378650	CLIP1	coding_exon	ENST00000302528:Etok;ENST00000358808:Etok;ENST00000361654:Etok;ENST00000361654:Etok	-	GtoA	0.1818	0.2	4	2	[11,15]
chr12:121324633	CLIP1	coding_exon		-	CtoT	0.1	0.1111	3	2	[10,18]
chr12:121324642	CLIP1	coding_exon		-	AtoG	0.1	0.1	2	2	[10,10]
chr12:121367263	CLIP1	coding_exon		-	AtoG	0.1	0.1667	2	2	[10,12]
chr12:121378890	CLIP1	coding_exon		-	TtoC	0.1667	0.2	2	2	[11,12]
chr7:73458195	CLIP2	UTR3		+	TtoC	0.1379	0.1538	4	2	[31,40]
chr2:29210099	CLIP4	coding_exon	ENST00000320081:WtoR;ENST00000379543:WtoR;ENST00000401605:WtoR;ENST00000401605:WtoR	+	TtoC	0.1	0.1	7	2	[10,10]
chr2:201433156	CLK1	coding_exon	ENST00000321356:StoR;ENST00000434813:StoR;	-	AtoC	0.1	0.1	2	2	[10,10]
chr2:201430781	CLK1	coding_exon	ENST00000321356:LtoH;ENST00000357369:LtoH;ENST00000409769:LtoH;ENST00000409769:LtoH	-	TtoA	0.1	0.1333	3	2	[10,15]
chr2:201434207	CLK1	coding_exon	ENST00000321356:GtoE;ENST00000357369:GtoE;ENST00000434813:GtoE;	-	GtoA	0.1	0.1667	9	4	[10,26]
chr15:72709461	CLK3	UTR3		+	AtoG	0.1	0.1154	2	2	[10,57]
chr12:91338919	CLLU1O5	coding_exon	ENST00000378487:*toQ;	-	TtoC	0.1	0.2	3	3	[10,15]
chr16:28405406	CLN3	coding_exon	ENST00000354630:YtoS;ENST00000355477:YtoS;ENST00000359984:YtoS;ENST00000359984:YtoS	-	AtoC	0.1	0.1	2	2	[10,10]
chr11:57183883	CLP1	coding_exon	ENST00000302731:VtoA;ENST00000438099:VtoA;	+	TtoC	0.1	0.1538	4	2	[10,13]
chr11:57184884	CLP1	coding_exon	ENST00000302731:CtoW;ENST00000438099:CtoW;	+	TtoG	0.1818	0.2308	3	2	[11,13]
chr11:57185046	CLP1	coding_exon		+	TtoA	0.1	0.1	3	2	[10,10]
chr11:71681264	CLPB	UTR3		-	CtoG	0.1	0.1	3	2	[10,10]
chr19:6319885	CLPP	UTR3		+	TtoC	0.1053	0.2	4	2	[11,19]
chr15:63246143	CLPX	coding_exon	ENST00000300107:HtoR;	-	AtoG	0.1	0.1	3	2	[10,10]
chr15:63259552	CLPX	coding_exon		-	TtoC	0.1	0.1053	3	2	[10,19]
chr1:36001348	CLSPN	coding_exon		-	GtoA	0.125	0.2	3	2	[10,16]
chr1:9732172	CLSTN1	coding_exon	ENST00000361311:TtoP;ENST00000377288:TtoP;ENST00000377298:TtoP;	-	AtoC	0.1333	0.1429	2	2	[14,15]
chr1:9711696	CLSTN1	UTR3		-	TtoC	0.1	0.1111	11	2	[18,20]
chr1:9712103	CLSTN1	UTR3		-	AtoC	0.125	0.1765	2	2	[17,48]
chr12:7201362	CLSTN3	coding_exon	ENST00000266546:StoR;ENST00000331148:StoR;	+	CtoA	0.1	0.1	3	2	[10,10]
chr12:7176996	CLSTN3	coding_exon		+	GtoC	0.1	0.2	4	2	[10,15]
chr17:55076590	CLTC	coding_exon	ENST00000269122:IttoV;ENST00000393043:IttoV;	+	AtoG	0.1111	0.1538	3	2	[18,26]
chr17:55126822	CLTC	UTR3		+	AtoG	0.1071	0.1081	8	2	[38,56]
chr6:25205379	CMAH	coding_exon	ENST00000377989:DtoG;ENST00000377993:DtoG;ENST00000436589:DtoG;	-	AtoG	0.1	0.1	2	2	[10,10]
chr12:107209101	CMKLR1	UTR3		-	GtoA	0.1	0.1	2	2	[10,10]
chr1:47613509	CMPK1	mixed		+	TtoC	0.125	0.1667	3	2	[12,17]
chr1:47616993	CMPK1	UTR3		+	AtoG	0.1333	0.4545	7	4	[11,15]
chr16:65204919	CMTM3	UTR3		+	TtoA	0.1	0.1	2	2	[10,10]
chr3:32498322	CMTM7	mixed		+	AtoG	0.1071	0.1333	7	2	[28,45]
chr3:32498346	CMTM7	mixed		+	AtoG	0.1111	0.1176	4	2	[17,27]
chr3:32499254	CMTM7	mixed		+	TtoC	0.1875	0.2105	4	3	[16,20]
chr3:32471328	CMTM7	UTR3		+	TtoC	0.129	0.2727	3	2	[11,31]
chr3:130372816	CNBP	coding_exon	ENST00000307433:VtoD;ENST00000441626:VtoD;ENST00000446936:VtoD;	-	TtoA	0.4444	0.8824	14	14	[10,31]
chr3:130372812	CNBP	coding_exon	ENST00000307433:Etod;ENST00000441626:Etod;ENST00000446936:Etod;ENST00000446936:Etod	-	AtoT	0.1039	0.2069	18	16	[18,143]
chr3:130372980	CNBP	coding_exon	ENST00000307433:DtoE;ENST00000393290:DtoE;ENST00000422453:DtoE;ENST00000422453:DtoE	-	TtoG	0.1087	0.1304	16	2	[70,276]
chr3:130369543	CNBP	UTR3		-	GtoC	0.1	0.1	3	2	[10,10]
chr3:130371109	CNBP	UTR3		-	GtoA	0.1	0.1463	14	5	[31,88]
chr3:130371110	CNBP	UTR3		-	AtoG	0.1026	0.1053	9	2	[39,39]
chr18:70331924	CNDP2	coding_exon	ENST00000324262:HtoP;ENST00000324301:HtoP;	+	AtoC	0.1744	0.2292	7	3	[48,87]
chr18:70331922	CNDP2	coding_exon		+	GtoC	0.1	0.1205	3	2	[60,83]
chr18:70318149	CNDP2	UTR5		+	AtoC	0.1111	0.1111	5	2	[73,81]
chr19:988983	CNN2	UTR3		+	CtoT	0.1026	0.2593	8	5	[17,78]
chr2:96858162	CNNM3	coding_exon	ENST00000305510:KtoQ;ENST00000377060:KtoQ;ENST00000424641:KtoQ;	+	AtoC	0.1	0.1429	6	2	[10,14]
chr2:96858462	CNNM3	coding_exon		+	TtoG	0.1053	0.1667	6	2	[12,19]
chr2:96838069	CNNM4	coding_exon	ENST00000377075:LtoV;	+	CtoG	0.1	0.1	2	2	[10,10]
chr2:96839623	CNNM4	UTR3		+	TtoC	0.1176	0.2	2	2	[10,17]
chr2:96840973	CNNM4	UTR3		+	AtoG	0.1	0.2	2	2	[10,10]
chr16:57114906	CNOT1	coding_exon		-	TtoC	0.125	0.1364	2	2	[16,44]
chr16:57136844	CNOT1	mixed		-	AtoC	0.1	0.1538	3	2	[26,50]
chr16:57136847	CNOT1	mixed		-	AtoC	0.1	0.1714	4	2	[20,35]
chr3:32725262	CNOT10	coding_exon	ENST00000328834:YtoN;ENST00000331889:YtoN;ENST00000435630:YtoN;ENST00000435630:YtoN	+	TtoA	0.1	0.125	3	2	[10,16]
chr3:32736615	CNOT10	coding_exon		+	AtoG	0.1	0.1333	2	2	[10,15]
chr12:68991024	CNOT2	coding_exon	ENST00000229195:YtoS;ENST00000418359:YtoS;	+	AtoC	0.1053	0.2	5	3	[15,19]
chr12:68991023	CNOT2	coding_exon	ENST00000229195:YtoH;ENST00000418359:YtoH;	+	TtoC	0.1111	0.1333	3	2	[15,18]
chr5:154235498	CNOT8	UTR3		+	GtoT	0.1	0.1	2	2	[10,10]
chr5:154236199	CNOT8	UTR3		+	TtoA	0.1	0.1538	5	2	[10,13]
chr12:54990543	CNPY2	UTR3		-	AtoG	0.1	0.2857	10	6	[10,29]
chr12:54990547	CNPY2	UTR3		-	TtoC	0.1176	0.125	7	2	[16,17]
chr6:43014954	CNPY3	UTR3		+	AtoG	0.1	0.1429	5	3	[10,14]
chr6:88908205	CNR1	UTR3		-	AtoC	0.1	0.1	2	2	[10,10]
chr17:38105038	CNTNAP1	UTR3		+	TtoC	0.1	0.1786	9	6	[18,28]
chr17:7778589	CNTROB	mixed		+	AtoG	0.1	0.1818	3	2	[11,20]
chr17:37971788	COASY	UTR3		+	AtoG	0.1	0.125	2	2	[10,16]
chr9:139286480	COBRA1	coding_exon	ENST00000343053:LtoP;	+	TtoC	0.1	0.1034	6	3	[10,30]
chr17:68714527	COG1	coding_exon	ENST00000299886:LtoP;ENST00000438720:LtoP;	+	TtoC	0.1	0.1	3	2	[10,10]
chr17:68708438	COG1	coding_exon		+	TtoC	0.1	0.1	3	2	[10,10]
chr1:228877392	COG2	coding_exon	ENST00000366668:YtoN;ENST00000366669:YtoN;	+	TtoA	0.1	0.1765	3	2	[10,18]
chr1:228873914	COG2	coding_exon		+	TtoC	0.1	0.1	3	2	[10,10]
chr13:45007919	COG3	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr7:106638274	COG5	coding_exon	ENST00000297135:StoP;ENST00000347053:StoP;ENST00000393603:StoP;	-	TtoC	0.1333	0.1667	3	2	[12,15]
chr7:106790099	COG5	coding_exon	ENST00000297135:GtoR;ENST00000347053:GtoR;ENST00000393603:GtoR;	-	GtoC	0.1	0.1667	4	2	[10,12]
chr16:23361390	COG7	coding_exon		-	AtoT	0.1	0.1	2	2	[10,10]
chr16:67920028	COG8	UTR3		-	TtoC	0.1	0.2308	6	3	[10,18]
chr5:74705728	COL4A3BP	UTR3		-	GtoA	0.1429	0.1818	6	4	[11,27]
chr1:40539561	COL9A2	coding_exon		-	TtoC	0.1111	0.1765	4	2	[17,18]
chr2:62216686	COMMD1	UTR3		+	TtoC	0.1026	0.3529	19	17	[14,39]
chr10:22649015	COMMD3	UTR3		+	CtoA	0.125	0.1579	5	2	[19,24]
chr13:74998621	COMMD6	UTR3		-	AtoG	0.1111	0.2	3	2	[11,18]
chr20:30754210	COMMD7	UTR3		-	CtoA	0.1	0.1429	4	2	[10,21]
chr4:47148297	COMMD8	UTR3		-	AtoG	0.125	0.1333	6	2	[15,16]
chr11:36254337	COMMD9	coding_exon	ENST00000263401:WtoG;ENST00000452374:WtoG;	-	TtoG	0.1	0.1	2	2	[10,10]
chr11:36252695	COMMD9	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr22:18336272	COMT	UTR3		+	CtoG	0.1538	0.1923	2	2	[14,26]
chr10:76663746	COMTD1	UTR3		-	TtoC	0.1111	0.1818	5	2	[11,18]
chr1:158571656	COPA	coding_exon	ENST00000241704:HtoQ;ENST00000368069:HtoQ;	-	TtoG	0.1	0.1379	2	2	[10,29]
chr3:130479131	COPG	UTR3		+	TtoA	0.1429	0.1667	5	2	[13,14]
chr7:129946502	COPG2	coding_exon	ENST00000445977:VtoD;	-	TtoA	0.1	0.1	2	2	[10,10]
chr7:129933562	COPG2	mixed		-	CtoT	0.1818	0.25	2	2	[11,16]
chr15:47213448	COPS2	coding_exon	ENST00000299259:StoP;ENST00000388901:StoP;	-	TtoC	0.1	0.1333	2	2	[10,15]
chr15:47235065	COPS2	coding_exon	ENST00000299259:MtoI;ENST00000388901:MtoI;	-	GtoC	0.1176	0.2	5	4	[10,17]

chr15:47205952	COPS2	UTR3		-	AtoG	0.1	0.1667	2	2	[10,12]
chr15:47206851	COPS2	UTR3		-	TtoC	0.1	0.1	3	2	[10,10]
chr15:47206862	COPS2	UTR3		-	AtoG	0.1034	0.1429	5	2	[14,29]
chr15:47207109	COPS2	UTR3		-	TtoA	0.1154	0.1463	4	2	[26,42]
chr4:84206687	COPS4	coding_exon	ENST00000264389:TtoI;	+	CtoT	0.1	0.1	2	2	[10,20]
chr8:68118052	COPS5	coding_exon	ENST00000357849:DtoE;	-	TtoA	0.125	0.2	7	3	[10,25]
chr7:99527467	COPS6	UTR3		+	CtoA	0.1176	0.3333	15	9	[17,33]
chr2:232380578	COPS7B	mixed		+	TtoG	0.1	0.1	2	2	[10,10]
chr2:232380944	COPS7B	UTR3		+	AtoC	0.1	0.1818	4	2	[10,11]
chr2:237663350	COPS8	coding_exon	ENST00000354371:VtoA;ENST00000392008:VtoA;ENST00000409334:VtoA;ENST00000409334:VtoA;	+	TtoC	0.1	0.2222	2	2	[10,10]
chr2:53031176	COP21	UTR3		+	AtoC	0.1154	0.1818	4	2	[11,26]
chr2:53031593	COP21	UTR3		+	TtoC	0.1154	0.3	9	3	[20,26]
chr2:53031879	COP21	UTR3		+	AtoG	0.1	0.1333	2	2	[10,16]
chr2:53031880	COP21	UTR3		+	TtoA	0.1111	0.2727	2	2	[12,18]
chr2:53005192	COP21	UTR5		+	GtoC	0.1	0.1176	3	2	[10,17]
chr2:198032942	COQ10B	coding_exon	ENST00000263960:PtoL;ENST00000409010:PtoL;	+	CtoT	0.1	0.1333	2	2	[10,15]
chr9:130136037	COQ4	UTR3		+	TtoC	0.1	0.1053	3	2	[10,58]
chr12:119425495	COQ5	UTR3		-	TtoA	0.1	0.1	4	2	[10,20]
chr14:73497630	COQ6	coding_exon	ENST00000238709:WtoL;ENST00000334571:WtoL;ENST00000394026:WtoL;	+	GtoT	0.1	0.1176	4	2	[10,17]
chr12:107563172	CORO1C	UTR3		-	TtoA	0.1053	0.1538	8	3	[13,19]
chr12:107563438	CORO1C	UTR3		-	AtoG	0.1	0.2	17	11	[13,40]
chr16:4344549	CORO7	UTR3		-	TtoC	0.1176	0.2727	10	8	[10,18]
chr16:83156743	COTL1	UTR3		-	AtoG	0.1333	0.25	6	2	[13,15]
chr17:13946283	COX10	coding_exon	ENST00000261643:QtoR;	+	AtoG	0.125	0.2	2	2	[10,16]
chr17:13946284	COX10	coding_exon	ENST00000261643:QtoH;	+	GtoT	0.1333	0.1818	2	2	[11,15]
chr17:14052505	COX10	UTR3		+	TtoC	0.1429	0.1538	4	2	[13,14]
chr17:13913627	COX10	UTR5		+	GtoT	0.1	0.1176	3	2	[10,17]
chr3:120871119	COX17	UTR3		-	AtoG	0.1176	0.2353	7	2	[17,34]
chr4:74149380	COX18	mixed		-	CtoG	0.1	0.1	3	2	[10,10]
chr16:84398099	COX41	UTR3		+	TtoA	0.125	0.1852	15	3	[27,65]
chr16:84398105	COX41	UTR3		+	TtoC	0.1333	0.3333	8	2	[10,15]
chr16:84398109	COX41	UTR3		+	AtoG	0.1	0.1111	4	2	[10,11]
chr16:84370175	COX4NB	UTR3		-	AtoG	0.1	0.1333	2	2	[10,15]
chr16:84370576	COX4NB	UTR3		-	TtoA	0.1053	0.1053	6	2	[19,19]
chr16:84370627	COX4NB	UTR3		-	TtoC	0.1	0.1	5	2	[20,30]
chr2:97631083	COX5B	UTR3		+	TtoC	0.1209	0.2381	3	3	[15,91]
chr12:119360595	COX6A1	coding_exon	ENST00000229379:VtoA;	+	TtoC	0.1	0.2174	5	4	[20,26]
chr12:119360585	COX6A1	coding_exon	ENST00000229379:TtoA;	+	AtoG	0.129	0.1316	6	2	[33,38]
chr12:119360380	COX6A1	coding_exon	ENST00000229379:PtoH;	+	CtoA	0.1154	0.25	3	2	[12,26]
chr12:119360382	COX6A1	coding_exon	ENST00000229379:MtoL;	+	AtoC	0.12	0.2727	4	4	[11,26]
chr12:119360381	COX6A1	coding_exon		+	TtoG	0.1	0.2727	3	2	[10,11]
chr12:119362762	COX6A1	UTR3		+	GtoT	0.1429	0.3333	6	4	[11,21]
chr12:119362764	COX6A1	UTR3		+	AtoT	0.2	0.3333	5	3	[10,22]
chr12:119362776	COX6A1	UTR3		+	CtoA	0.1026	0.2941	11	4	[16,40]
chr12:119362778	COX6A1	UTR3		+	TtoA	0.1071	0.3	10	4	[15,43]
chr12:119362798	COX6A1	UTR3		+	AtoG	0.1	0.1	4	2	[10,10]
chr19:40841500	COX6B1	UTR3		+	TtoA	0.1143	0.1463	9	3	[38,46]
chr6:76020289	COX7A2	coding_exon		-	AtoG	0.1	0.1818	3	2	[10,11]
chr6:76010179	COX7A2	mixed		-	AtoC	0.1125	0.124	2	2	[81,123]
chr6:76004222	COX7A2	UTR3		-	CtoA	0.75	1	8	8	[11,15]
chr2:42431227	COX7A2L	UTR3		-	AtoG	0.1071	0.1364	4	2	[56,92]
chr2:42431305	COX7A2L	UTR3		-	TtoG	0.1053	0.3231	5	3	[38,65]
chr2:42431317	COX7A2L	UTR3		-	AtoG	0.1216	0.3091	6	3	[55,88]
chr5:85952340	COX7C	UTR3		+	TtoA	0.12	0.3	9	6	[10,25]
chr11:63500572	COX8A	UTR3		+	TtoA	0.2	0.5	3	2	[10,20]
chr3:150367592	CP	mixed		-	GtoT	0.1	0.1	2	2	[10,10]
chr5:173312821	CPEB4	coding_exon	ENST00000265085:StoR;ENST00000326629:StoR;ENST00000334035:StoR;	+	TtoA	0.1	0.1111	2	2	[10,18]
chr5:173317457	CPEB4	UTR3		+	TtoG	0.1	0.1	3	2	[10,10]
chr5:173319667	CPEB4	UTR3		+	AtoG	0.1	0.1538	2	2	[10,13]
chr20:33678725	CPNE1	coding_exon	ENST00000317619:YtoS;ENST00000317677:YtoS;ENST00000349942:YtoS;ENST00000349942:YtoS;	-	AtoC	0.1111	0.5	11	9	[10,73]
chr20:33678726	CPNE1	coding_exon	ENST00000317619:YtoH;ENST00000317677:YtoH;ENST00000349942:YtoH;ENST00000349942:YtoH;	-	TtoC	0.129	0.3077	7	2	[13,31]
chr20:33703835	CPNE1	mixed		-	TtoC	0.1	0.1579	6	2	[10,19]
chr20:33704256	CPNE1	mixed		-	TtoC	0.1176	0.1515	4	2	[17,33]
chr8:87640012	CPNE3	UTR3		+	TtoC	0.1	0.125	6	3	[10,32]
chr6:36822291	CPNE5	coding_exon	ENST00000244751:YtoD;	-	TtoG	0.1	0.2	4	2	[11,20]
chr16:88190635	CPNE7	UTR3		+	TtoC	0.1	0.1	4	2	[10,10]
chr12:37373851	CPNE8	coding_exon	ENST00000331366:YtoN;	-	TtoA	0.1	0.1	3	2	[10,10]
chr3:99782005	CPOX	UTR3		-	AtoG	0.1	0.125	3	2	[24,40]
chr14:91698605	CP5F2	UTR3		+	TtoC	0.1	0.1333	2	2	[10,15]
chr2:9517115	CP5F3	coding_exon	ENST00000238112:LtoP;ENST00000460593:LtoP;	+	TtoC	0.1053	0.1579	5	2	[19,19]
chr12:67931190	CP5F6	coding_exon		+	TtoC	0.1	0.2143	9	4	[14,43]
chr22:49362620	CPT1B	coding_exon	ENST00000312108:GtoW;ENST00000360719:GtoW;ENST00000395650:GtoW;ENST00000395650:GtoW;	-	GtoT	0.1	0.1429	2	2	[10,14]
chr22:49362152	CPT1B	coding_exon		-	TtoG	0.1053	0.125	4	2	[16,19]
chr3:3166873	CRBN	UTR3		-	TtoC	0.2	0.2	2	2	[10,10]
chr3:3167353	CRBN	UTR3		-	AtoC	0.1	0.1111	2	2	[10,18]
chr7:65255981	CRCP	UTR3		+	AtoG	0.1111	0.1818	5	4	[11,20]
chr2:208169949	CREB1	coding_exon		+	AtoG	0.1053	0.1333	6	2	[16,19]
chr9:35726851	CREB3	UTR3		+	CtoG	0.1429	0.4615	3	3	[10,14]
chr9:35726862	CREB3	UTR3		+	AtoT	0.2222	0.25	3	3	[10,13]
chr7:137239254	CREB3L2	coding_exon	ENST00000330387:LtoP;ENST00000456390:LtoP;	-	TtoC	0.1	0.1429	4	2	[10,14]
chr7:137210992	CREB3L2	UTR3		-	TtoG	0.2308	0.3	4	2	[10,13]
chr7:137210998	CREB3L2	UTR3		-	GtoT	0.1111	0.5	6	4	[12,28]
chr7:137211656	CREB3L2	UTR3		-	GtoC	0.1	0.25	3	2	[10,12]
chr7:137212592	CREB3L2	UTR3		-	AtoG	0.1	0.1429	7	3	[10,21]
chr7:137214485	CREB3L2	UTR3		-	AtoG	0.1	0.2143	2	2	[11,15]
chr7:137214507	CREB3L2	UTR3		-	AtoG	0.1	0.1818	3	2	[10,11]
chr1:152212297	CREB3L4	coding_exon	ENST00000271889:VtoA;ENST00000368600:VtoA;ENST00000368603:VtoA;ENST00000368603:VtoA;	+	TtoC	0.1	0.1	3	3	[10,10]
chr1:152213139	CREB3L4	coding_exon	ENST00000271889:StoP;ENST00000368600:StoP;ENST00000368603:StoP;ENST00000368603:StoP;	+	TtoC	0.1	0.1333	3	2	[10,15]
chr1:152212357	CREB3L4	coding_exon	ENST00000271889:HtoR;ENST00000368600:HtoR;ENST00000368603:HtoR;ENST00000368603:HtoR;	+	AtoG	0.1	0.1818	4	2	[10,11]
chr1:152213439	CREB3L4	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr16:3741735	CREBBP	mixed		-	CtoA	0.1	0.1053	2	2	[10,19]
chr16:3768817	CREBBP	mixed		-	TtoC	0.1	0.1	4	2	[10,10]
chr16:3840433	CREBBP	mixed		-	GtoA	0.1	0.1	3	2	[10,10]
chr16:3840484	CREBBP	mixed		-	CtoA	0.1	0.1	2	2	[10,10]
chr6:32191126	CREBL1	UTR3		-	CtoA	0.1333	0.2667	7	2	[30,30]
chr6:32191175	CREBL1	UTR3		-	TtoG	0.1186	0.1923	8	3	[26,59]

chr6:43122631	CUL7	coding_exon	ENST00000265348:KtoE;	-	AtaG	0.125	0.1667	2	2	[12,16]
chr6:43123940	CUL7	coding_exon	ENST00000265348:EtoG;	-	AtaG	0.1	0.1	2	2	[10,20]
chr6:43296595	CUL9	coding_exon	ENST00000252050:WtoR;ENST00000354495:WtoR;ENST00000372647:WtoR;	+	TtoC	0.1	0.1333	4	3	[10,19]
chr6:43260529	CUL9	coding_exon	ENST00000252050:LtoQ;ENST00000354351:LtoQ;ENST00000354495:LtoQ;ENST00000372647:LtoQ;	+	TtoA	0.1	0.1	2	2	[10,10]
chr6:43300100	CUL9	coding_exon	ENST00000252050:LtoP;ENST00000354495:LtoP;ENST00000372647:LtoP;	+	TtoC	0.1	0.1667	6	2	[10,30]
chr6:43288948	CUL9	coding_exon	ENST00000252050:KtoE;ENST00000354495:KtoE;ENST00000372647:KtoE;	+	AtaG	0.1	0.1	3	2	[10,10]
chr6:33493507	CUTA	mixed		-	GtoC	0.1071	0.1786	2	2	[28,29]
chr6:33492314	CUTA	UTR3		-	TtoC	0.15	0.1818	7	3	[11,20]
chr10:101504328	CUTC	coding_exon		+	TtoA	0.1034	0.3	5	2	[10,29]
chr10:101504379	CUTC	coding_exon		+	TtoC	0.1	0.1111	6	2	[10,18]
chr10:101504380	CUTC	coding_exon		+	CtoA	0.1	0.1176	5	2	[10,17]
chr10:101505634	CUTC	UTR3		+	AtaG	0.1333	0.15	4	2	[15,20]
chr7:101527397	CUX1	coding_exon	ENST00000292535:LtoP;ENST00000292538:LtoP;ENST00000338990:LtoP;ENST00000372647:LtoP;	+	TtoC	0.1	0.1	2	2	[10,10]
chr11:94339159	CWC15	coding_exon	ENST00000279839:LtoI;	-	CtoA	0.2	0.4	2	2	[10,10]
chr11:94339158	CWC15	coding_exon	ENST00000279839:LtoH;	-	TtoA	0.4545	0.6364	2	2	[11,11]
chr11:118271569	CXCR5	UTR3		+	AtaG	0.1333	0.1667	2	2	[12,15]
chr5:139040879	CXC5	coding_exon	ENST00000302517:VtoG;	+	TtoG	0.1429	0.15	2	2	[20,21]
chr5:139040571	CXC5	coding_exon		+	TtoG	0.1282	0.2097	2	2	[39,62]
chr5:139040886	CXC5	coding_exon		+	TtoG	0.1154	0.125	4	2	[40,52]
chr5:139043348	CXC5	UTR3		+	GtoA	0.1364	0.1579	8	3	[19,22]
chr5:139008341	CXC5	UTR5		+	GtoA	0.1	0.1	2	2	[10,20]
chr3:50363951	CYB561D2	coding_exon	ENST00000232508:LtoP;ENST00000418577:LtoP;ENST00000424512:LtoP;ENST00000435939:LtoP;	+	TtoC	0.1	0.1765	7	2	[10,17]
chr3:50367296	CYB561D2	mixed		+	TtoC	0.1	0.1	3	2	[10,10]
chr6:84660030	CYB5R4	coding_exon		+	AtaG	0.1667	0.2	3	2	[10,12]
chr2:172121682	CYBRD1	UTR3		+	CtoG	0.1	0.1	2	2	[10,10]
chr15:20515200	CYFIP1	coding_exon	ENST00000313077:LtoP;ENST00000412127:LtoP;ENST00000435939:LtoP;	+	TtoC	0.1111	0.125	4	2	[16,18]
chr15:20551650	CYFIP1	coding_exon	ENST00000313077:KtoR;ENST00000412127:KtoR;ENST00000435939:KtoR;	+	AtaG	0.125	0.1429	4	2	[14,16]
chr15:20487364	CYFIP1	coding_exon	ENST00000313077:KtoE;ENST00000412127:KtoE;	+	AtaG	0.1	0.1	5	2	[10,10]
chr15:20554531	CYFIP1	UTR3		+	AtaG	0.1	0.1176	2	2	[17,20]
chr15:20554558	CYFIP1	UTR3		+	TtoA	0.1	0.1111	7	3	[10,18]
chr15:20555000	CYFIP1	UTR3		+	TtoC	0.1	0.1923	3	2	[10,26]
chr5:156718606	CYFIP2	coding_exon	ENST00000318218:YtoD;ENST00000347377:YtoD;ENST00000377576:YtoD;ENST00000435939:YtoD;	+	TtoG	0.1	0.1667	2	2	[10,12]
chr5:156753835	CYFIP2	UTR3		+	TtoA	0.1	0.1	2	2	[10,10]
chr5:156754451	CYFIP2	UTR3		+	AtaG	0.1	0.1111	3	2	[10,18]
chr16:49388090	CYLD	UTR3		+	AtaG	0.1	0.1	3	2	[10,10]
chr16:49388116	CYLD	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr16:49390840	CYLD	UTR3		+	AtaG	0.1	0.1	2	2	[10,10]
chr16:49392572	CYLD	UTR3		+	AtaG	0.1	0.1	5	2	[10,10]
chr16:49392578	CYLD	UTR3		+	TtoG	0.1	0.1818	5	2	[10,11]
chr2:38149965	CYP1B1	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr17:74183307	CYTH1	UTR3		-	AtaG	0.1176	0.1364	5	2	[17,22]
chr19:53673135	CYTH2	coding_exon	ENST00000427476:AtaG;	+	CtoG	1	1	10	10	[10,21]
chr7:6168836	CYTH3	UTR3		-	TtoG	0.125	0.2222	2	2	[10,16]
chr7:6169380	CYTH3	UTR3		-	CtoT	0.1	0.1	2	2	[10,10]
chr2:157979781	CYTIP	UTR3		-	TtoA	0.1	0.3571	7	4	[10,22]
chr2:157980074	CYTIP	UTR3		-	AtaG	0.1	0.1429	3	3	[10,16]
chr22:23091500	CYTSA	coding_exon	ENST00000314328:StoP;ENST00000437398:StoP;	+	TtoG	0.1429	0.1429	4	2	[14,14]
chr22:23048563	CYTSA	coding_exon	ENST00000314328:EtoK;ENST00000437398:EtoK;	+	GtoA	0.1	0.1	2	2	[10,10]
chr22:23141615	CYTSA	UTR3		+	AtaG	0.1	0.1	2	2	[10,10]
chr2:242331725	D2HGDH	coding_exon	ENST00000321264:QtoL;ENST00000342518:QtoL;ENST00000403782:QtoL;	+	AtaT	0.1053	0.1818	3	2	[11,19]
chr1:58744323	DAB1	mixed		-	TtoC	0.1	0.1333	7	3	[10,18]
chr1:58777085	DAB1	mixed		-	TtoC	0.1	0.1111	4	2	[10,18]
chr3:49544799	DAG1	coding_exon		+	AtaG	0.1	0.1	3	2	[10,10]
chr11:60865904	DAK	coding_exon	ENST00000311463:VtoA;ENST00000394900:VtoA;	+	TtoC	0.1	0.1034	2	2	[10,29]
chr5:10732983	DAP	UTR3		-	AtaC	0.1047	0.2	6	2	[41,86]
chr5:10733501	DAP	UTR3		-	AtaC	0.4202	0.5366	2	2	[41,257]
chr9:89486358	DAPK1	coding_exon	ENST00000358077:TtoA;ENST00000408954:TtoA;ENST00000469640:TtoA;ENST00000469640:TtoA;	+	AtaG	0.1	0.1176	2	2	[10,17]
chr9:89510940	DAPK1	coding_exon	ENST00000358077:LtoP;ENST00000408954:LtoP;ENST00000469640:LtoP;ENST00000469640:LtoP;	+	TtoC	0.1053	0.1071	4	2	[19,28]
chr4:101004023	DAPP1	coding_exon	ENST00000296414:VtoA;	+	TtoC	0.1	0.2308	3	2	[10,14]
chr2:136435478	DARS	coding_exon	ENST00000264161:VtoG;	-	TtoG	0.1111	0.1429	6	2	[57,64]
chr1:172093635	DARS2	UTR3		+	AtaG	0.1429	0.1875	3	2	[14,16]
chr19:1383538	DAZAP1	coding_exon		+	AtaC	0.1053	0.1364	2	2	[44,57]
chr19:1383577	DAZAP1	coding_exon		+	AtaC	0.1081	0.1159	5	2	[70,74]
chr19:1386059	DAZAP1	UTR3		+	TtoG	0.1111	0.1429	2	2	[14,27]
chr19:1386158	DAZAP1	UTR3		+	TtoC	0.1176	0.1842	6	4	[17,38]
chr17:40180352	DBF4B	coding_exon	ENST00000315005:ItaN;ENST00000393547:ItaN;	+	TtoA	0.1	0.1	2	2	[10,10]
chr17:40167045	DBF4B	coding_exon		+	AtaG	0.1	0.1	2	2	[10,10]
chr2:119846535	DBI	UTR3		+	TtoA	0.1	0.1333	14	9	[18,51]
chr16:88599266	DBNDD1	UTR3		-	TtoC	0.1	0.1143	2	2	[10,37]
chr16:88599763	DBNDD1	UTR3		-	TtoG	0.1053	0.1176	4	2	[17,19]
chr7:44065567	DBNL	coding_exon	ENST00000258780:RtoG;ENST00000389369:RtoG;ENST00000414258:RtoG;ENST00000414258:RtoG;	+	AtaG	0.1875	0.25	4	3	[10,16]
chr8:104524359	DCAF13	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr14:72492104	DCAF4	coding_exon	ENST00000340355:VtoL;ENST00000353777:VtoL;ENST00000358377:VtoL;ENST00000358377:VtoL;	+	GtoC	0.1	0.1429	2	2	[10,14]
chr14:72495737	DCAF4	UTR3		+	TtoC	0.1	0.1818	2	2	[10,11]
chr14:68652888	DCAF5	coding_exon	ENST00000341516:TtoA;ENST00000389997:TtoA;	-	AtaG	0.1	0.1	4	2	[10,10]
chr14:68588512	DCAF5	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr14:68588837	DCAF5	UTR3		-	CtoG	0.1	0.1667	5	2	[10,12]
chr14:68588993	DCAF5	UTR3		-	AtaT	0.1	0.1	2	2	[10,10]
chr14:68589250	DCAF5	UTR3		-	TtoG	0.1	0.1538	8	5	[10,20]
chr4:72110440	DKC	coding_exon	ENST00000286648:QtoR;	+	AtaG	0.1667	0.2	2	2	[10,12]
chr1:114256077	DCLRE1B	coding_exon	ENST00000369563:TtoN;	+	CtoA	0.1	0.1667	2	2	[10,12]
chr10:14989196	DCLRE1C	mixed		-	GtoA	0.1333	0.1333	2	2	[15,16]
chr10:14989248	DCLRE1C	mixed		-	AtaT	0.1	0.2	2	2	[10,10]
chr3:53321417	DCP1A	coding_exon	ENST00000294241:QtoR;ENST00000398650:QtoR;ENST00000480258:QtoR;	-	AtaG	0.1	0.1176	3	2	[10,17]
chr3:53297343	DCP1A	coding_exon	ENST00000294241:QtoP;	-	AtaC	1	1	11	11	[10,17]
chr3:53294009	DCP1A	UTR3		-	GtoT	0.1071	0.1818	6	3	[11,28]
chr3:53294887	DCP1A	UTR3		-	TtoA	0.1111	0.1667	4	2	[12,18]
chr3:53296130	DCP1A	UTR3		-	GtoA	0.1	0.1111	3	2	[10,18]
chr12:1925589	DCP1B	UTR3		-	TtoC	0.1538	0.1538	4	2	[13,13]
chr11:125720822	DCP5	UTR3		+	TtoG	0.1071	0.1667	5	3	[18,28]
chr4:184073651	DCTD	coding_exon	ENST00000312820:VtoG;ENST00000357067:VtoG;ENST00000438320:VtoG;ENST00000438320:VtoG;	-	TtoG	0.1176	0.1667	4	3	[17,43]
chr5:150069649	DCTN4	UTR3		-	CtoT	0.1	0.1	3	2	[10,10]
chr5:150070168	DCTN4	UTR3		-	TtoC	0.1	0.1	3	2	[10,10]
chr5:150070297	DCTN4	UTR3		-	TtoG	0.1	0.1	2	2	[10,10]
chr5:150070604	DCTN4	UTR3		-	AtaG	0.125	0.1667	6	3	[12,16]
chr3:184161770	DCUN1D1	coding_exon	ENST00000292782:RtoQ;ENST00000458486:RtoQ;ENST00000469954:RtoQ;	-	GtoA	0.1	0.1	2	2	[10,10]

chr11:102438212	DCUN1D5	UTR3		-	TtoC	0.1111	0.1875	9	3	[16,24]
chr11:60837717	DDB1	coding_exon		-	TtoC	0.9722	1	13	13	[11,178]
chr14:52583202	DDHD1	UTR3		-	AtoT	0.1111	0.2	3	2	[10,10]
chr8:38226402	DDHD2	coding_exon	ENST00000319246:DtoG;ENST00000397166:DtoG;ENST00000440212:DtoG;	+	AtoG	0.1	0.1	5	2	[10,10]
chr1:15864452	DDI2	UTR3		+	TtoC	0.1	0.1	3	2	[10,10]
chr12:56196673	DDIT3	UTR3		-	TtoC	0.129	0.3	2	2	[10,32]
chr12:56197487	DDIT3	UTR5		-	TtoC	0.1053	0.1667	3	2	[13,19]
chr12:56197488	DDIT3	UTR5		-	AtoG	0.1	0.1	4	2	[10,11]
chr10:73704341	DDIT4	coding_exon		+	AtoG	0.1053	0.15	2	2	[19,20]
chr10:73705761	DDIT4	UTR3		+	AtoG	0.1333	0.1818	4	4	[12,22]
chr1:20851300	DDOST	UTR3		-	TtoA	0.1364	0.3704	11	9	[19,47]
chr20:3119165	DDRK1	UTR3		-	GtoA	0.1	0.1667	2	2	[10,12]
chr22:22643955	DDT	coding_exon		-	AtoG	0.1	0.2	2	2	[10,10]
chr11:108069474	DDX10	coding_exon	ENST00000322536:VtoA;ENST00000456020:VtoA;	+	TtoC	0.1	0.1667	4	2	[10,12]
chr11:108082732	DDX10	coding_exon	ENST00000322536:VtoA;ENST00000456020:VtoA;	+	TtoC	0.1	0.1111	3	2	[10,18]
chr22:37212009	DDX17	coding_exon		-	AtoC	0.1023	0.1319	4	2	[88,91]
chr22:37211519	DDX17	UTR3		-	AtoG	0.1053	0.3636	5	3	[11,19]
chr22:37211761	DDX17	UTR3		-	CtoT	0.1	0.2	5	2	[11,11]
chr1:112110290	DDX20	coding_exon	ENST00000369702:QtoR;	+	AtoG	0.1	0.1	2	2	[10,20]
chr1:112111140	DDX20	UTR3		+	AtoG	0.1538	0.1579	4	2	[13,19]
chr10:70398756	DDX21	coding_exon	ENST00000354185:QtoR;	+	AtoG	0.1538	0.1818	3	2	[14,22]
chr10:70413167	DDX21	UTR3		+	AtoA	0.1111	0.1538	11	4	[10,41]
chr14:93587291	DDX24	coding_exon	ENST00000330836:*toS;ENST00000423579:*toS;ENST00000440370:*toS;	-	AtoC	0.12	0.1429	3	2	[14,25]
chr14:93587067	DDX24	UTR3		-	TtoG	0.1	0.2222	3	2	[10,10]
chr14:93587286	DDX24	UTR3		-	GtoC	0.119	0.2667	4	3	[16,42]
chr20:47293868	DDX27	UTR3		+	GtoT	0.1	0.1429	2	2	[10,14]
chr9:134497286	DDX31	coding_exon	ENST00000372153:RtoQ;ENST00000372155:RtoQ;ENST00000372159:RtoQ;	-	GtoA	0.1	0.1	3	2	[10,10]
chr19:14382028	DDX39	coding_exon	ENST00000242792:DtoE;ENST00000324340:DtoE;ENST00000451994:DtoE;ENST00000373585:DtoY;	-	TtoG	0.1167	0.1489	5	2	[47,181]
chr5:176871196	DDX41	UTR3		-	AtoG	0.1	0.1	3	2	[10,10]
chr5:176871197	DDX41	UTR3		-	AtoG	0.1	0.1429	6	2	[10,14]
chr17:59250160	DDX42	UTR3		+	TtoC	0.1013	0.1034	10	2	[30,80]
chr17:59250192	DDX42	UTR3		+	AtoG	0.1333	0.1765	9	2	[15,17]
chr5:134190554	DDX46	coding_exon	ENST00000354283:VtoG;ENST00000452510:VtoG;	+	TtoG	0.1034	0.1333	5	2	[15,29]
chr5:134134519	DDX46	coding_exon		+	TtoC	0.125	0.1429	3	2	[21,24]
chr5:134181243	DDX46	coding_exon		+	TtoC	0.1053	0.1364	3	3	[17,22]
chr5:134182514	DDX46	coding_exon		+	AtoG	0.12	0.1429	4	3	[14,33]
chr17:59926507	DDX5	coding_exon	ENST00000225792:QtoR;ENST00000450599:QtoR;	-	AtoG	0.1064	0.12	10	2	[50,94]
chr17:59929579	DDX5	coding_exon	ENST00000225792:QtoR;ENST00000450599:QtoR;	-	GtoT	0.1	0.1134	4	2	[98,150]
chr17:59926505	DDX5	coding_exon	ENST00000225792:*toK;ENST00000450599:*toK;	-	TtoA	0.1067	0.1591	10	3	[33,75]
chr17:59929577	DDX5	coding_exon		-	AtoT	0.112	0.1319	7	2	[92,127]
chr10:70336506	DDX50	coding_exon	ENST00000373585:StoP;	+	TtoC	0.1	0.1538	3	2	[10,13]
chr10:70340914	DDX50	coding_exon	ENST00000373585:RtoQ;	+	GtoA	0.1111	0.1667	3	2	[18,18]
chr10:70331171	DDX50	coding_exon	ENST00000373585:DtoY;	+	GtoT	0.16	0.1667	3	2	[18,25]
chr10:70331182	DDX50	coding_exon		+	GtoA	0.1379	0.1579	3	2	[19,30]
chr10:70340918	DDX50	coding_exon		+	AtoG	0.1	0.1176	3	2	[10,17]
chr10:70364116	DDX50	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr10:70376513	DDX50	UTR3		+	TtoC	0.1304	0.16	3	2	[25,46]
chr12:122663701	DDX55	coding_exon	ENST00000238146:LtoP;ENST00000354291:LtoP;	+	TtoC	0.1	0.1	5	2	[10,10]
chr12:122671258	DDX55	UTR3		+	TtoC	0.1111	0.1667	3	2	[12,18]
chr1:198902180	DDX59	mixed		-	GtoA	0.1	0.1333	4	2	[10,15]
chr11:118123994	DDX6	UTR3		-	AtoG	0.1	0.1	7	2	[21,30]
chr11:118124562	DDX6	UTR3		-	AtoG	0.1042	0.1587	9	4	[28,63]
chr11:118125939	DDX6	UTR3		-	TtoA	0.1	0.1	3	2	[10,10]
chr8:91133336	DECR1	UTR3		+	GtoA	0.1053	0.1163	5	2	[19,44]
chr1:159358125	DEDD	UTR3		-	CtoG	0.1	0.1053	3	2	[10,19]
chr6:18332446	DEK	UTR3		-	TtoG	0.1176	0.2	6	2	[10,17]
chr9:125203939	DENND1A	coding_exon	ENST00000373620:TtoA;	-	AtoG	0.1	0.1429	2	2	[10,14]
chr9:125454195	DENND1A	coding_exon	ENST00000373618:VtoG;ENST00000373620:VtoG;ENST00000373624:VtoG;	-	TtoG	0.1111	0.2308	3	3	[10,18]
chr9:125454192	DENND1A	coding_exon	ENST00000373618:DtoG;ENST00000373620:DtoG;ENST00000373624:DtoG;	-	AtoG	0.1	0.1	4	2	[10,10]
chr9:125182542	DENND1A	UTR3		-	AtoG	0.1	0.1053	3	2	[10,19]
chr19:6430011	DENND1C	coding_exon	ENST00000381480:GtoD;	-	GtoA	0.1304	0.1429	4	2	[14,23]
chr19:6432691	DENND1C	coding_exon	ENST00000381480:EtoK;	-	GtoA	0.1111	0.1333	3	2	[15,18]
chr19:6432690	DENND1C	coding_exon	ENST00000381480:EtoG;	-	AtoG	0.1	0.1538	4	2	[13,20]
chr15:63741252	DENND4A	coding_exon		-	TtoA	0.1	0.1538	3	2	[10,13]
chr1:152174013	DENND4B	coding_exon	ENST00000361217:WtoR;ENST00000368646:WtoR;	-	TtoC	0.1	0.1176	4	2	[17,20]
chr9:19363822	DENND4C	UTR3		+	TtoA	0.1	0.1429	3	2	[11,14]
chr12:16081164	DERA	UTR3		+	TtoC	0.1	0.1111	3	2	[10,20]
chr8:124112070	DERL1	mixed		-	TtoC	0.1333	0.1667	5	2	[12,15]
chr8:124094977	DERL1	UTR3		-	TtoC	0.1	0.1579	5	2	[10,19]
chr8:124095756	DERL1	UTR3		-	TtoC	0.1	0.1429	4	2	[10,14]
chr17:5324185	DERL2	coding_exon	ENST00000158771:ltoN;	-	TtoA	0.1	0.1	2	2	[10,10]
chr17:5329200	DERL2	coding_exon	ENST00000158771:FtoI;	-	TtoA	0.1	0.1	2	2	[10,10]
chr22:22506754	DERL3	UTR3		-	TtoC	0.1333	0.1818	2	2	[11,15]
chr16:10930917	DEXI	mixed		-	AtoG	0.1429	0.1579	6	2	[14,19]
chr16:10942927	DEXI	mixed		-	TtoG	0.2	0.2143	5	2	[10,14]
chr7:24705225	DFNA5	coding_exon	ENST00000342947:LtoQ;ENST00000409775:LtoQ;ENST00000409970:LtoQ;ENST00000342947:WtoG;	-	TtoA	0.1	0.1429	4	2	[21,30]
chr22:17456923	DGCR2	coding_exon	ENST00000263196:WtoG;ENST00000447928:WtoG;	-	TtoG	0.1	0.1	4	2	[10,10]
chr22:18457499	DGCR8	coding_exon	ENST00000351989:KtoE;ENST00000383024:KtoE;ENST00000407755:KtoE;	+	AtoG	0.1111	0.1333	5	2	[15,18]
chr2:234021475	DGKD	coding_exon	ENST00000264057:Qto*;	+	CtoT	0.1	0.2	5	2	[15,20]
chr2:234033674	DGKD	coding_exon		+	GtoA	0.4706	0.5	2	2	[16,34]
chr2:74031276	DGUOK	mixed		+	AtoG	0.1053	0.1667	8	2	[12,19]
chr11:70823900	DHCR7	UTR3		-	TtoC	0.1	0.1163	3	2	[40,43]
chr11:70837047	DHCR7	UTR5		-	GtoT	0.5333	0.5455	2	2	[11,15]
chr1:26668136	DHDDS	coding_exon	ENST00000236342:VtoA;ENST00000357049:VtoA;ENST00000360009:VtoA;ENST00000236342:WtoG;	+	TtoC	0.1	0.1538	4	2	[10,14]
chr1:26641831	DHDDS	mixed		+	TtoC	0.125	0.2727	7	3	[11,16]
chr1:26669241	DHDDS	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr16:70605883	DHODH	coding_exon	ENST00000219240:VtoA;ENST00000378782:VtoA;	+	TtoC	0.1	0.1	2	2	[10,10]
chr17:32030785	DHRS11	UTR3		+	GtoT	0.1	0.1	2	2	[10,10]
chr10:12203928	DHTKD1	UTR3		+	TtoG	0.1111	0.1111	3	2	[18,27]
chr4:24187092	DHX15	coding_exon	ENST00000336812:YtoN;	-	TtoA	0.1	0.1667	8	2	[20,24]
chr4:24140391	DHX15	coding_exon	ENST00000336812:VtoA;	-	TtoC	0.1064	0.1231	6	3	[47,67]
chr4:24138219	DHX15	UTR3		-	TtoA	0.2222	0.2857	2	2	[10,14]
chr4:24138225	DHX15	UTR3		-	AtoG	0.1	0.1071	5	2	[10,28]
chr6:30732393	DHX16	coding_exon		-	GtoA	0.1	0.1	2	2	[10,10]
chr5:54601150	DHX29	coding_exon	ENST00000251636:NtoD;	-	AtoG	0.1	0.2	3	2	[10,10]
chr3:47866645	DHX30	UTR3		+	TtoC	0.1	0.15	9	2	[10,20]

chr17:5306382	DHX33	coding_exon	ENST00000225296:LtoP;ENST00000457531:LtoP;	-	TtoC	0.1111	0.2143	3	2	[14,18]
chr17:5294967	DHX33	coding_exon	ENST00000225296:Atop;ENST00000433302:Atop;ENST00000457531:Atop;	-	GtoC	0.1	0.1	2	2	[10,11]
chr17:5285209	DHX33	UTR3		-	Atot	0.1333	0.1818	3	2	[11,15]
chr12:124010854	DHX37	coding_exon	ENST00000308736:VtoG;	-	TtoG	0.1	0.1	2	2	[10,10]
chr12:124036606	DHX37	coding_exon	ENST00000308736:KtoE;	-	Atog	0.1	0.1	2	2	[10,10]
chr12:123997344	DHX37	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr16:70687873	DHX38	coding_exon	ENST00000268482:KtoE;	+	Atog	0.1	0.1034	4	2	[10,29]
chr16:70704237	DHX38	UTR3		+	Atog	0.1111	0.125	7	2	[16,18]
chr2:38906616	DHX57	coding_exon	ENST00000295373:RtoQ;	-	GtoA	0.1	0.1	2	2	[10,10]
chr2:38896250	DHX57	coding_exon	ENST00000295373:FtoL;	-	TtoC	0.1	0.1	3	2	[10,10]
chr2:38899595	DHX57	coding_exon		-	Atog	0.1	0.1	2	2	[10,10]
chr17:38956821	DHX8	UTR3		+	Atot	0.1	0.1333	3	2	[10,15]
chr17:38956866	DHX8	UTR3		+	TtoC	0.1176	0.1429	4	2	[14,17]
chr17:38957184	DHX8	UTR3		+	TtoC	0.1	0.1429	3	2	[10,14]
chr12:121258280	DIABLO	UTR3		-	GtoA	0.1	0.3	4	3	[10,12]
chr12:121258455	DIABLO	UTR3		-	Atog	0.1154	0.1786	6	2	[26,28]
chr13:59246325	DIAPH3	coding_exon	ENST00000267214:HtoQ;ENST00000267215:HtoQ;ENST00000377908:HtoQ;ENST00000377908:HtoQ;	-	TtoA	0.1	0.1	3	2	[10,10]
chr14:94632042	DICER1	coding_exon	ENST00000343455:DtoE;ENST00000393063:DtoE;	-	TtoA	0.1	0.1176	3	2	[10,17]
chr14:94665696	DICER1	coding_exon		-	TtoC	0.1	0.1	2	2	[10,10]
chr20:61016186	DIDO1	UTR5		-	Atoc	0.1	0.1429	3	2	[10,14]
chr5:61720613	DIMT1L	coding_exon	ENST00000199320:EtoG;	-	Atog	0.1333	0.1579	6	2	[15,19]
chr5:61720636	DIMT1L	coding_exon		-	Atog	0.1364	0.1538	5	2	[13,22]
chr12:49394499	DIP2B	coding_exon	ENST00000301180:NtoD;	+	Atog	0.1	0.1	2	2	[10,10]
chr12:49425846	DIP2B	UTR3		+	Atoc	0.1	0.1	2	2	[10,10]
chr12:49427686	DIP2B	UTR3		+	CtoT	0.1	0.1	2	2	[10,10]
chr2:232736487	DIS3L2	coding_exon	ENST00000273009:VtoA;ENST00000325385:VtoA;ENST00000409307:VtoA;	+	TtoC	0.2	0.2	3	2	[10,10]
chr2:232811563	DIS3L2	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr11:111421163	DLAT	coding_exon	ENST00000280346:RtoQ;ENST00000393051:RtoQ;ENST00000452417:RtoQ;	+	GtoA	0.1	0.1538	5	2	[10,13]
chr7:107346923	DLG	coding_exon	ENST00000205402:KtoE;ENST00000417551:KtoE;ENST00000437604:KtoE;ENST00000437604:KtoE;	+	Atog	0.1	0.1818	6	2	[10,11]
chr13:49577189	DLEU1	UTR3		+	Atog	0.1	0.1	3	2	[10,10]
chr3:198255912	DLG1	coding_exon		-	TtoC	0.1	0.2	3	3	[10,25]
chr3:198351497	DLG1	coding_exon		-	TtoC	0.1	0.1	5	2	[10,20]
chr3:198255205	DLG1	UTR3		-	CtoG	0.4667	0.5909	2	2	[15,22]
chr20:34558868	DLGAP4	mixed		+	Atog	0.125	0.125	2	2	[16,16]
chr14:54695029	DLGAP5	coding_exon	ENST00000247191:FtoI;ENST00000341764:FtoI;ENST00000395425:FtoI;	-	TtoA	0.1	0.1	3	2	[10,10]
chr1:44458924	DMAP1	UTR3		+	TtoA	0.1	0.2	3	2	[10,10]
chr19:50975066	DMPK	coding_exon	ENST00000343373:GtoD;ENST00000348168:GtoD;ENST00000354227:GtoD;	-	GtoA	0.1	0.2	2	2	[10,10]
chr7:86660605	DMTF1	mixed		+	CtoG	0.1	0.1429	6	2	[10,14]
chr7:86662677	DMTF1	UTR3		+	TtoA	0.1	0.1667	7	2	[11,12]
chr19:50981633	DMWD	coding_exon	ENST00000270223:LtoI;ENST00000377735:LtoI;	-	CtoA	0.1333	0.15	3	2	[15,20]
chr5:118567028	DMXL1	coding_exon	ENST00000311085:EtoK;	+	GtoA	0.125	0.125	2	2	[16,16]
chr15:49560583	DMXL2	coding_exon		-	GtoA	0.1	0.1	2	2	[10,10]
chr10:69860283	DNA2	coding_exon	ENST00000433594:LtoQ;	-	TtoA	0.1	0.1429	2	2	[10,14]
chr10:69846613	DNA2	coding_exon		-	TtoG	0.1	0.1	2	2	[10,10]
chr10:69866844	DNA2	mixed		-	TtoG	0.1	0.125	3	2	[10,16]
chr16:45547916	DNAJ2	UTR3		-	TtoC	0.1	0.2	5	2	[10,10]
chr4:101046735	DNAJB14	coding_exon	ENST00000337833:Rto*;ENST00000442697:Rto*;	-	CtoT	0.3125	0.4	3	2	[10,16]
chr4:101045852	DNAJB14	coding_exon	ENST00000337833:ltoK;ENST00000442697:ltoK;	-	TtoA	0.1	0.2	2	2	[10,10]
chr2:219858590	DNAJB2	mixed		+	Atot	0.1	0.1818	2	2	[10,11]
chr7:156848642	DNAJB6	coding_exon	ENST00000262177:HtoR;ENST00000413963:HtoR;ENST00000429029:HtoR;ENST00000429029:HtoR;	+	Atog	0.1026	0.1333	3	2	[15,39]
chr10:22085650	DNAJC1	coding_exon	ENST00000376980:VtoA;	-	TtoC	0.1	0.3636	6	4	[10,41]
chr10:22233482	DNAJC1	coding_exon		-	TtoA	0.1053	0.1053	2	2	[19,19]
chr3:133700731	DNAJC13	coding_exon	ENST00000260818:LtoI;	+	CtoA	0.1	0.1111	2	2	[10,18]
chr3:133718344	DNAJC13	coding_exon		+	TtoC	0.1	0.1	2	2	[10,20]
chr12:54507616	DNAJC14	coding_exon	ENST00000317269:LtoH;	-	TtoA	0.1	0.1818	5	2	[10,11]
chr12:54501223	DNAJC14	UTR3		-	Atog	0.1	0.2	6	4	[10,26]
chr1:15782318	DNAJC16	mixed		+	GtoC	0.1	0.1	3	2	[10,10]
chr15:38853904	DNAJC17	coding_exon	ENST00000220496:VtoA;	-	TtoC	0.1	0.1053	3	2	[20,20]
chr11:63756515	DNAJC4	coding_exon	ENST00000321460:HtoP;ENST00000321685:HtoP;	+	Atoc	0.1111	0.1111	6	2	[27,45]
chr17:37382058	DNAJC7	UTR3		-	Atog	0.2	0.2	4	2	[10,10]
chr1:28432104	DNAJC8	UTR5		-	CtoT	0.1	0.1538	2	2	[10,13]
chr10:74676466	DNAJC9	coding_exon	ENST00000372950:LtoV;	-	CtoG	0.1071	0.1333	6	3	[15,35]
chr16:3648038	DNASE1	mixed		+	CtoT	0.7273	0.7857	3	3	[11,14]
chr16:3648040	DNASE1	mixed		+	CtoT	0.1	0.1111	6	2	[10,18]
chr3:58166285	DNASE1L3	coding_exon		-	TtoC	0.1	0.1154	3	2	[10,26]
chr12:32784674	DNM1L	coding_exon	ENST00000266479:LtoH;ENST00000266481:LtoH;ENST00000358214:LtoH;ENST00000358214:LtoH;	+	TtoA	0.125	0.125	4	2	[16,17]
chr12:32787935	DNM1L	mixed		+	TtoA	0.1	0.1	2	2	[10,10]
chr19:10796797	DNM2	coding_exon	ENST00000314646:VtoG;ENST00000355667:VtoG;ENST00000359692:VtoG;ENST00000359692:VtoG;	+	TtoG	0.1304	0.1667	3	2	[23,30]
chr19:10803567	DNM2	UTR3		+	GtoA	0.1	0.1	3	2	[10,10]
chr10:101638609	DNMBP	coding_exon	ENST00000324109:VtoA;ENST00000342239:VtoA;ENST00000393570:VtoA;	-	TtoC	0.1	0.1333	3	2	[10,16]
chr10:101626185	DNMBP	UTR3		-	CtoA	0.1	0.1333	2	2	[10,15]
chr2:25312137	DNMT3A	coding_exon	ENST00000264709:HtoR;ENST00000321117:HtoR;ENST00000380746:HtoR;ENST00000380746:HtoR;	-	Atog	0.1538	0.1667	3	2	[12,13]
chr2:25358093	DNMT3A	mixed		-	CtoA	0.1	0.1	2	2	[10,10]
chr2:25309927	DNMT3A	UTR3		-	TtoA	0.1	0.1053	5	2	[10,19]
chr2:219960095	DNPEP	mixed		-	TtoG	0.125	0.1379	5	2	[16,29]
chr20:43863480	DNTTIP1	coding_exon	ENST00000372605:HtoQ;ENST00000372614:HtoQ;ENST00000372622:HtoQ;ENST00000372622:HtoQ;	+	TtoA	0.1	0.1333	3	2	[10,15]
chr20:43873432	DNTTIP1	UTR3		+	TtoA	0.1	0.1111	4	2	[10,11]
chr2:225380632	DOCK10	coding_exon	ENST00000258390:NtoK;ENST00000373702:NtoK;ENST00000409592:NtoK;	-	TtoA	0.1	0.2	2	2	[10,20]
chr2:225380633	DOCK10	coding_exon	ENST00000258390:NtoI;ENST00000373702:NtoI;ENST00000409592:NtoI;	-	Atot	0.1053	0.1667	2	2	[12,19]
chr2:225359995	DOCK10	coding_exon		-	Atog	0.1364	0.2	4	2	[11,22]
chr2:225407171	DOCK10	mixed		-	TtoA	0.1042	0.1667	4	2	[13,49]
chr19:11174362	DOCK6	coding_exon		-	CtoT	0.1	0.2	2	2	[10,10]
chr5:176864352	DOK3	coding_exon	ENST00000312943:KtoQ;ENST00000357198:KtoQ;ENST00000377112:KtoQ;ENST00000377112:KtoQ;	-	Atoc	0.125	0.1818	8	2	[11,16]
chr5:176863573	DOK3	mixed		-	TtoC	0.1	0.1	2	2	[20,20]
chr16:56064582	DOK4	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr9:130891469	DOLPP1	UTR3		+	Atog	0.1	0.1	2	2	[10,10]
chr6:83934343	DOPEY1	coding_exon	ENST00000237163:EtoG;ENST00000349129:EtoG;ENST00000369739:EtoG;	+	Atog	0.1	0.12	2	2	[10,25]
chr19:2162751	DOT1L	coding_exon	ENST00000221482:EtoD;ENST00000398665:EtoD;	+	GtoT	0.1	0.1	2	2	[10,10]
chr19:2136890	DOT1L	coding_exon		+	TtoA	0.1	0.125	3	2	[11,26]
chr11:118473914	DPAGT1	coding_exon	ENST00000354202:MtoV;ENST00000409993:MtoV;ENST00000432443:MtoV;	-	Atog	0.1111	0.1176	5	3	[17,18]
chr16:66579366	DPEP2	mixed		-	TtoC	0.1	0.1	2	2	[10,10]
chr17:1893444	DPH1	UTR3		+	GtoT	0.1	0.1	3	2	[10,10]
chr3:16281325	DPH3	coding_exon		-	GtoA	0.1034	0.3913	4	2	[23,29]
chr3:16281379	DPH3	coding_exon		-	GtoA	0.1176	0.1818	5	4	[11,26]
chr1:101251906	DPH5	coding_exon	ENST00000342173:RtoI;ENST00000370106:RtoI;ENST00000370109:RtoI;ENST00000370109:RtoI;	-	GtoT	0.1	0.1	2	2	[10,10]
chr1:101259848	DPH5	coding_exon	ENST00000342173:DtoG;ENST00000370106:DtoG;ENST00000370109:DtoG;ENST00000370109:DtoG;	-	Atog	0.1	0.1818	4	2	[10,12]

chr20:49008458	DPM1	coding_exon		-	TtoC	0.1111	0.1538	2	2	[18,26]
chr1:153379026	DPM3	mixed		-	TtoC	0.1	0.1538	4	2	[11,13]
chr9:139128755	DPP7	coding_exon	ENST00000443858:StoP;	-	TtoC	0.4773	0.5065	2	2	[44,77]
chr9:139128590	DPP7	coding_exon	ENST00000371579:AtoP;ENST00000443858:GtoA;	-	GtoC	0.5581	0.6118	2	2	[85,86]
chr15:63524509	DPP8	UTR3		-	TtoC	0.1429	0.2	5	2	[11,21]
chr15:63524675	DPP8	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr19:4665114	DPP9	coding_exon	ENST00000262959:StoP;ENST00000262960:StoP;	-	TtoC	0.125	0.1905	4	3	[21,47]
chr19:4665110	DPP9	coding_exon	ENST00000262959:HtoP;ENST00000262960:HtoP;	-	Atoc	0.1429	0.25	3	2	[16,35]
chr19:4645802	DPP9	coding_exon	ENST00000262959:Eto*;ENST00000262960:Eto*;	-	GtoT	0.1	0.1	2	2	[10,10]
chr12:100839291	DRAM1	UTR3		+	CtoG	0.1	0.1818	11	7	[10,32]
chr12:100839292	DRAM1	UTR3		+	TtoA	0.1071	0.1429	8	4	[14,30]
chr22:30160165	DRG1	UTR3		+	TtoA	0.1	0.1818	10	4	[10,21]
chr22:30160172	DRG1	UTR3		+	Atog	0.1	0.1429	5	2	[10,14]
chr6:56484022	DST	coding_exon	ENST00000244364:StoC;ENST00000312431:StoC;ENST00000340834:StoC;ENST00000340834:StoR;ENST00000340834:StoT;	-	Atot	0.1	0.1538	5	2	[10,13]
chr6:56482426	DST	coding_exon	ENST00000244364:GtoR;ENST00000312431:GtoR;ENST00000340834:GtoR;ENST00000340834:GtoT;	-	GtoA	0.1	0.1	3	2	[10,10]
chr6:56441754	DST	coding_exon		-	CtoT	0.125	0.5	7	5	[12,30]
chr20:17529435	DSTN	coding_exon	ENST00000246069:KtoR;ENST00000403962:KtoR;	+	Atog	0.1333	0.2	3	2	[15,20]
chr20:17536857	DSTN	UTR3		+	TtoA	0.1111	0.1818	2	2	[10,11]
chr1:210342893	DTL	mixed		+	Atog	0.1	0.1111	4	2	[11,18]
chr1:210343230	DTL	UTR3		+	CtoA	0.1176	0.4	8	3	[10,17]
chr2:25497593	DTNB	coding_exon		-	CtoT	0.1	0.1667	3	3	[10,18]
chr11:58730248	DTX4	UTR3		+	TtoA	0.1	0.1053	4	2	[10,19]
chr10:112261285	DUSP	UTR3		+	GtoA	0.1	0.2174	4	3	[10,23]
chr1:159933267	DUSP12	coding_exon	ENST00000367943:GtoD;	+	GtoA	0.1	0.1	2	2	[10,10]
chr17:32946718	DUSP14	coding_exon		+	TtoC	0.1	0.1333	3	2	[10,15]
chr12:12565637	DUSP16	UTR5		-	Atoc	0.1	0.1111	2	2	[10,18]
chr2:96172669	DUSP2	UTR3		-	TtoA	0.12	0.25	4	3	[12,26]
chr8:29249102	DUSP4	UTR3		-	Atog	0.1176	0.1765	5	2	[17,17]
chr3:52063035	DUSP7	coding_exon	ENST00000296483:NtoD;ENST00000495880:NtoD;	-	Atog	0.1	0.1	2	2	[10,10]
chr15:46421597	DUT	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr15:46421611	DUT	UTR3		+	TtoA	0.1	0.1	2	2	[10,10]
chr15:46421899	DUT	UTR3		+	TtoA	0.1	0.1	6	2	[10,10]
chr15:46422277	DUT	UTR3		+	Atog	0.1538	0.2222	3	2	[10,13]
chr15:46422714	DUT	UTR3		+	TtoC	0.1538	0.3333	5	2	[10,13]
chr18:44877822	DYM	coding_exon	ENST00000269445:VtoA;ENST00000442713:VtoA;	-	TtoC	0.1	0.1176	4	2	[17,20]
chr18:45062386	DYM	coding_exon		-	TtoC	0.1	0.1364	7	2	[10,22]
chr14:101548481	DYNC1H1	coding_exon	ENST00000360184:VtoD;	+	TtoA	0.1	0.1538	4	2	[10,13]
chr14:101537742	DYNC1H1	coding_exon	ENST00000360184:StoP;	+	TtoC	0.1	0.125	3	2	[10,24]
chr14:101553304	DYNC1H1	coding_exon	ENST00000360184:LtoM;	+	CtoA	0.1	0.1176	4	2	[10,17]
chr14:101531293	DYNC1H1	coding_exon	ENST00000360184:HtoR;	+	Atog	0.1	0.1	3	2	[10,10]
chr3:32553522	DYNC1L1	coding_exon	ENST00000273130:KtoE;ENST00000432458:KtoE;	-	Atog	0.1	0.125	4	2	[10,16]
chr3:32544979	DYNC1L1	coding_exon		-	TtoC	0.1	0.1538	5	2	[10,13]
chr16:65327648	DYNC1L2	coding_exon	ENST00000258198:FtoC;ENST00000379482:FtoC;ENST00000443351:VtoG;	-	TtoG	0.1	0.1	2	2	[10,10]
chr16:65315065	DYNC1L2	mixed		-	Atog	0.1	0.1429	2	2	[10,14]
chr21:37787277	DYRK1A	coding_exon	ENST00000321219:LtoP;ENST00000338785:LtoP;ENST00000339659:LtoP;ENST00000339659:LtoT;	+	TtoC	0.1	0.15	3	2	[20,20]
chr21:37787275	DYRK1A	coding_exon		+	CtoT	0.1	0.1	2	2	[10,10]
chr12:66338107	DYRK2	coding_exon	ENST00000319833:StoP;ENST00000344096:StoP;ENST00000393555:StoP;	+	TtoC	0.1	0.1429	2	2	[14,20]
chr12:66342538	DYRK2	mixed		+	TtoC	0.1	0.1	2	2	[10,10]
chr12:4592939	DYRK4	coding_exon	ENST0000010132:AtoE;	+	CtoA	0.1053	0.1667	8	4	[12,19]
chr20:31728446	E2F1	coding_exon	ENST00000343380:EtoG;ENST00000402461:EtoG;	-	Atog	0.1	0.1429	2	2	[21,30]
chr20:31727185	E2F1	UTR3		-	TtoC	0.1	0.2222	3	3	[10,18]
chr1:23705644	E2F2	UTR3		-	Atot	0.1	0.1667	2	2	[10,12]
chr3:15458215	EAF1	UTR3		+	CtoA	0.1	0.1	2	2	[10,10]
chr3:123074303	EAF2	coding_exon		+	TtoC	0.1304	0.1333	3	2	[15,23]
chr16:23442024	EARS2	UTR3		-	TtoC	0.1	0.1	2	2	[10,20]
chr16:23442292	EARS2	UTR3		-	TtoC	0.1579	0.1667	2	2	[12,19]
chr16:23443180	EARS2	UTR3		-	TtoC	0.1	0.1176	4	2	[17,20]
chr5:158156060	EBF1	coding_exon		-	TtoA	0.1429	0.1579	4	2	[14,19]
chr1:43465342	EBNA1BP2	mixed		-	Atog	0.1	0.1333	4	2	[10,15]
chr13:49132910	EBPL	UTR3		-	Atog	0.1	0.125	3	2	[10,25]
chr10:74578084	ECD	coding_exon	ENST00000372979:WtoR;ENST00000430082:WtoR;ENST00000454759:WtoR;	-	TtoC	0.125	0.1667	6	2	[12,32]
chr10:74567798	ECD	coding_exon	ENST00000372979:DtoE;ENST00000430082:DtoE;ENST00000454759:DtoE;	-	TtoA	0.1	0.1538	4	4	[10,16]
chr10:74597636	ECD	UTR5		-	TtoG	0.1111	0.1667	5	2	[12,27]
chr1:21416529	ECE1	UTR3		-	Atoc	0.1	0.2105	3	2	[10,19]
chr6:127651595	ECHDC1	UTR3		-	Atog	0.1	0.1667	3	2	[10,12]
chr6:127652225	ECHDC1	UTR3		-	GtoT	0.1	0.1	2	2	[10,10]
chr15:72735372	EDC3	coding_exon	ENST00000315127:FtoS;ENST00000426797:FtoS;	-	TtoC	0.1	0.1	2	2	[10,10]
chr15:72710133	EDC3	UTR3		-	TtoC	0.1	0.125	4	3	[10,16]
chr16:66475801	EDC4	UTR3		+	CtoG	0.1	0.1304	8	4	[10,23]
chr16:66475807	EDC4	UTR3		+	TtoG	0.1	0.1	2	2	[10,10]
chr3:5234190	EDEM1	UTR3		+	GtoA	0.1	0.1	3	2	[10,10]
chr3:5235444	EDEM1	UTR3		+	TtoG	0.4225	0.4514	2	2	[71,144]
chr3:5235445	EDEM1	UTR3		+	CtoA	0.3594	0.4207	2	2	[64,145]
chr9:138876631	EDF1	mixed		-	TtoG	0.1071	0.2222	3	3	[18,36]
chr12:91775347	EEA1	coding_exon		-	TtoG	0.1667	0.2	3	2	[10,12]
chr11:85633492	EED	UTR5		+	GtoT	0.1	0.1429	3	2	[10,14]
chr11:85633577	EED	UTR5		+	TtoG	0.1389	0.1538	6	3	[13,36]
chr6:74283487	EEF1A1	UTR3		-	TtoA	0.1	0.1	4	2	[10,10]
chr6:74283957	EEF1A1	UTR3		-	CtoA	0.1538	0.4	4	3	[10,13]
chr6:74283958	EEF1A1	UTR3		-	CtoA	0.1176	0.4167	5	5	[10,17]
chr6:74286508	EEF1A1	UTR5		-	CtoG	0.1	0.1538	5	3	[10,20]
chr6:74287476	EEF1A1	UTR5		-	CtoT	0.1429	0.4643	12	11	[12,58]
chr6:74287477	EEF1A1	UTR5		-	TtoG	0.1111	0.3871	11	7	[11,34]
chr2:20673586	EEF1B2	coding_exon	ENST00000236957:VtoG;ENST00000392221:VtoG;ENST00000392222:VtoG;	+	TtoG	0.1178	0.1908	2	2	[887,1266]
chr2:206735873	EEF1B2	UTR3		+	Atog	0.1061	0.2935	17	16	[68,201]
chr2:206735874	EEF1B2	UTR3		+	TtoA	0.1048	0.1379	13	4	[30,109]
chr2:206732768	EEF1B2	UTR5		+	GtoT	0.1	0.1	4	2	[10,10]
chr2:206732863	EEF1B2	UTR5		+	TtoG	0.1	0.1667	4	3	[10,13]
chr19:3930885	EEF2	coding_exon	ENST00000309311:VtoG;	-	TtoG	0.114	0.1161	2	2	[732,1669]
chr19:3927055	EEF2	UTR3		-	GtoA	0.1008	0.1757	15	5	[74,270]
chr19:3927059	EEF2	UTR3		-	TtoC	0.1003	0.1576	17	11	[150,643]
chr16:22175654	EEF2K	coding_exon	ENST00000263026:KtoE;	+	Atog	0.1	0.1	6	2	[10,10]
chr3:129448483	EEFSEC	coding_exon	ENST00000254730:VtoE;ENST00000483457:VtoE;	+	TtoA	0.1	0.1111	2	2	[10,10]
chr3:129609858	EEFSEC	UTR3		+	Atog	0.1	0.1111	3	2	[10,19]
chr3:129609968	EEFSEC	UTR3		+	TtoC	0.1667	0.2	3	2	[10,12]
chr5:106750835	EFNA5	coding_exon	ENST00000333274:DtoN;	-	GtoA	0.1538	0.1538	2	2	[13,13]

chr5:106744139	EFNA5	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr8:133093999	EFR3A	UTR3		+	Atog	0.1	0.1	3	2	[10,10]
chr8:133094395	EFR3A	UTR3		+	Atog	0.1333	0.1818	3	2	[11,15]
chr1:229566984	EGLN1	UTR3		-	GtoA	0.1	0.2	5	3	[10,20]
chr1:229567146	EGLN1	UTR3		-	TtoG	0.1	0.1053	2	2	[10,19]
chr5:137832173	EGR1	UTR3		+	GtoA	0.1	0.1	3	2	[10,10]
chr5:137832251	EGR1	UTR3		+	CtoT	0.1	0.1	3	2	[10,10]
chr5:137832831	EGR1	UTR3		+	TtoG	0.1429	0.1667	3	2	[12,14]
chr11:64377203	EHD1	UTR3		-	Atog	0.3333	0.5	3	3	[11,22]
chr9:13972187	EHMT1	coding_exon		+	TtoA	0.1	0.1	3	2	[10,10]
chr6:31968243	EHMT2	coding_exon	ENST00000375528:VtoR;ENST00000375530:VtoR;ENST00000375537:VtoR;ENST	-	TtoC	0.1	0.1667	3	3	[10,15]
chr6:31962380	EHMT2	coding_exon	ENST00000375528:VtoA;ENST00000375530:VtoA;ENST00000375537:VtoA;ENST00	-	TtoC	0.1053	0.1538	7	3	[13,38]
chr11:124957509	EI24	coding_exon	ENST00000343678:RtoT;	+	GtoC	0.1429	0.4	4	4	[10,15]
chr11:124951409	EI24	coding_exon		+	TtoC	0.1	0.1154	3	2	[10,27]
chr17:37100777	EIF1	UTR3		+	Atog	0.1011	0.211	7	3	[11,291]
chr17:37100778	EIF1	UTR3		+	TtoA	0.1176	0.3125	7	4	[70,178]
chr11:65520925	EIF1AD	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr11:65521585	EIF1AD	UTR3		-	GtoT	0.1	0.1176	2	2	[10,17]
chr7:6030530	EIF2AK1	UTR3		-	GtoT	0.1154	0.2222	6	4	[18,29]
chr7:6030531	EIF2AK1	UTR3		-	CtoT	0.12	0.2632	7	4	[13,31]
chr7:6030532	EIF2AK1	UTR3		-	CtoT	0.1111	0.1154	4	3	[18,27]
chr7:6030536	EIF2AK1	UTR3		-	GtoT	0.1333	0.3333	2	2	[12,15]
chr2:37203242	EIF2AK2	coding_exon	ENST00000233057:CtoW;ENST00000343510:CtoW;ENST00000395127:CtoW;ENST	-	TtoG	0.1176	0.2	3	2	[10,17]
chr2:37180827	EIF2AK2	UTR3		-	TtoG	0.1	0.1765	7	2	[10,18]
chr2:37181094	EIF2AK2	UTR3		-	Atog	0.1111	0.3478	13	13	[11,35]
chr2:37181118	EIF2AK2	UTR3		-	Atog	0.1163	0.2308	6	2	[13,43]
chr2:37181148	EIF2AK2	UTR3		-	Atog	0.1	0.1429	6	4	[14,20]
chr2:37181206	EIF2AK2	UTR3		-	Atog	0.2308	0.8333	9	8	[10,30]
chr2:37181512	EIF2AK2	UTR3		-	Atog	0.1053	0.28	12	10	[15,26]
chr2:37181517	EIF2AK2	UTR3		-	Atog	0.125	0.6429	17	17	[14,37]
chr2:37181520	EIF2AK2	UTR3		-	Atog	0.1081	0.2308	14	10	[13,37]
chr2:37181538	EIF2AK2	UTR3		-	Atog	0.6	1	17	17	[10,32]
chr2:37181546	EIF2AK2	UTR3		-	Atog	0.1	0.25	11	6	[10,25]
chr2:37181579	EIF2AK2	UTR3		-	Atog	0.1	0.4615	16	13	[10,43]
chr2:37181586	EIF2AK2	UTR3		-	Atog	0.1304	0.5714	20	19	[12,49]
chr2:37181591	EIF2AK2	UTR3		-	Atog	0.1053	0.4286	18	17	[11,52]
chr2:37181601	EIF2AK2	UTR3		-	Atog	0.2941	0.8095	18	18	[10,54]
chr2:37186353	EIF2AK2	UTR3		-	Atot	0.1	0.1818	2	2	[10,11]
chr2:88638078	EIF2AK3	UTR3		-	Atog	0.1	0.1667	4	3	[10,12]
chr1:45113953	EIF2B3	coding_exon	ENST00000360403:VtoA;ENST00000372183:VtoA;	-	TtoC	0.1	0.1111	4	2	[10,18]
chr1:45119900	EIF2B3	coding_exon	ENST00000360403:DtoG;ENST00000372183:DtoG;	-	Atog	0.1	0.1111	2	2	[10,10]
chr3:185338487	EIF2B5	coding_exon	ENST00000273783:VtoG;ENST0000044495:VtoG;	+	TtoG	0.1667	0.2857	9	6	[10,19]
chr3:185338683	EIF2B5	coding_exon		+	TtoG	0.1	0.2143	2	2	[15,20]
chr3:185371530	EIF2B5	coding_exon		+	TtoA	0.1	0.1	2	2	[10,10]
chr3:185384554	EIF2B5	coding_exon		+	Atog	0.1071	0.3125	11	6	[17,36]
chr3:185442906	EIF2B5	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr3:185458066	EIF2B5	coding_exon		+	Atog	0.1	0.1	2	2	[10,10]
chr3:185458797	EIF2B5	coding_exon		+	CtoT	0.1	0.3636	2	2	[10,33]
chr3:185509531	EIF2B5	coding_exon		+	Atog	0.1429	0.2381	7	5	[14,23]
chr3:185509532	EIF2B5	coding_exon		+	Atog	0.1	0.1	3	2	[10,10]
chr3:185532079	EIF2B5	coding_exon		+	CtoT	0.5199	0.5331	2	2	[302,427]
chr3:185535810	EIF2B5	coding_exon		+	TtoA	0.1304	0.16	3	2	[24,26]
chr3:185535826	EIF2B5	coding_exon		+	Atog	0.1	0.2	2	2	[10,10]
chr1:36158578	EIF2C1	UTR3		+	TtoG	0.1	0.1	2	2	[10,10]
chr1:36161283	EIF2C1	UTR3		+	TtoC	0.1	0.1	3	2	[10,10]
chr1:36161734	EIF2C1	UTR3		+	GtoT	0.1	0.1053	2	2	[10,19]
chr1:36161780	EIF2C1	UTR3		+	Atot	0.1	0.1	2	2	[10,10]
chr8:141618660	EIF2C2	coding_exon	ENST00000220592:FtoV;	-	TtoG	0.1	0.1	3	2	[10,10]
chr14:66919976	EIF2S1	mixed		+	CtoG	0.1	0.1667	5	2	[10,12]
chr22:35236878	EIF3D	UTR3		-	TtoA	0.1538	0.3077	7	5	[10,13]
chr8:109330105	EIF3E	coding_exon	ENST00000220849:MtoL;	-	GtoC	0.1	0.5714	12	8	[10,38]
chr8:109330104	EIF3E	coding_exon	ENST00000220849:AtoS;	-	GtoT	0.1304	0.4286	11	7	[10,30]
chr11:7965485	EIF3F	coding_exon	ENST00000309828:PtoS;ENST00000449102:PtoS;	+	CtoT	0.1053	0.4286	7	6	[14,51]
chr11:7973139	EIF3F	coding_exon	ENST00000309828:NtoK;ENST00000449102:NtoK;	+	CtoA	0.1	0.1111	3	2	[10,21]
chr11:7973137	EIF3F	coding_exon	ENST00000309828:NtoD;ENST00000449102:NtoD;	+	Atog	0.1395	0.48	13	13	[17,72]
chr11:7974276	EIF3F	UTR3		+	CtoA	0.1	0.1	5	3	[10,11]
chr11:7974277	EIF3F	UTR3		+	CtoG	0.125	0.2	3	2	[10,16]
chr19:10091571	EIF3G	UTR5		-	GtoC	0.1	0.1	2	2	[10,10]
chr19:43819430	EIF3K	UTR3		+	TtoC	0.1026	0.2727	19	14	[25,69]
chr19:43819432	EIF3K	UTR3		+	Atog	0.1111	0.1333	11	3	[27,30]
chr19:43819434	EIF3K	UTR3		+	CtoA	0.3684	0.75	12	12	[10,33]
chr19:43819435	EIF3K	UTR3		+	CtoA	0.3571	0.6364	2	2	[12,15]
chr22:36614582	EIF3L	UTR3		+	Atog	0.1029	0.1373	13	4	[52,122]
chr22:36614584	EIF3L	UTR3		+	Atog	0.1207	0.3333	16	10	[16,62]
chr22:36614585	EIF3L	UTR3		+	TtoA	0.3	0.5455	7	7	[10,22]
chr22:36614586	EIF3L	UTR3		+	TtoA	0.125	0.2222	2	2	[10,16]
chr17:7422739	EIF4A1	UTR3		+	TtoC	0.1	0.1538	4	2	[13,20]
chr17:7422742	EIF4A1	UTR3		+	CtoA	0.1154	0.1515	4	2	[33,52]
chr3:187989649	EIF4A2	coding_exon	ENST00000323963:IttoK;ENST00000356531:IttoK;ENST00000440191:IttoK;	+	TtoA	0.1333	0.1807	2	2	[75,83]
chr3:187990324	EIF4A2	UTR3		+	TtoG	0.1053	0.129	2	2	[19,62]
chr3:187990334	EIF4A2	UTR3		+	GtoA	0.1	0.1429	6	2	[10,14]
chr3:187990335	EIF4A2	UTR3		+	TtoC	0.1	0.1818	3	2	[10,11]
chr3:187984078	EIF4A2	UTR5		+	Atog	0.1	0.2	3	2	[10,11]
chr12:51720384	EIF4B	UTR3		+	GtoA	0.1429	0.1667	3	2	[12,14]
chr10:71854609	EIF4EBP2	UTR3		+	Atog	0.1	0.2143	2	2	[10,14]
chr10:71834160	EIF4EBP2	UTR5		+	Atog	0.1	0.125	2	2	[10,24]
chr11:10785472	EIF4G2	mixed		-	Atot	0.1026	0.1304	4	2	[40,71]
chr11:10775281	EIF4G2	UTR3		-	TtoC	0.1	0.1272	18	3	[150,206]
chr1:21078405	EIF4G3	coding_exon	ENST00000264211:TtoP;ENST00000400422:TtoP;	-	Atoc	0.125	0.125	4	2	[16,17]
chr1:21085282	EIF4G3	coding_exon	ENST00000264211:QtoR;ENST00000400422:QtoR;	-	Atog	0.1	0.1538	2	2	[10,13]
chr1:21140627	EIF4G3	coding_exon	ENST00000264211:QtoR;ENST00000356916:QtoR;ENST00000400422:QtoR;	-	Atog	0.1	0.3077	6	3	[10,18]
chr1:21168555	EIF4G3	coding_exon	ENST00000264211:QtoP;ENST00000356916:QtoP;ENST00000400422:QtoP;	-	Atoc	0.1053	0.2727	5	3	[11,19]
chr1:21149190	EIF4G3	coding_exon	ENST00000264211:QtoL;ENST00000356916:QtoL;ENST00000400422:QtoL;	-	Atot	0.1333	0.2	4	2	[10,15]
chr1:21168554	EIF4G3	coding_exon	ENST00000264211:QtoH;ENST00000356916:QtoH;ENST00000400422:QtoH;	-	GtoT	0.1	0.3	6	5	[10,20]
chr1:21098926	EIF4G3	coding_exon	ENST00000264211:LtoQ;ENST00000374933:LtoQ;ENST00000400422:LtoQ;	-	TtoA	0.1	0.1	3	2	[10,10]
chr1:21059562	EIF4G3	coding_exon		-	TtoA	0.1	0.1818	8	2	[10,11]

chr17:7156173	EIF5A	UTR3		+	AtoT	0.1161	0.2651	4	2	[83,155]
chr17:7156483	EIF5A	UTR3		+	AtoG	0.1	0.125	5	2	[16,30]
chr17:7156499	EIF5A	UTR3		+	GtoA	0.1538	0.2667	6	5	[10,15]
chr2:99382378	EIF5B	UTR3		+	CtoA	0.1	0.125	7	2	[30,40]
chr17:12836972	ELAC2	coding_exon	ENST00000338034:VtoG;ENST00000395962:VtoG;ENST00000424152:VtoG;ENST00000424152:VtoG	-	TtoG	0.1	0.2	4	2	[10,10]
chr13:40454392	ELF1	UTR5		-	TtoC	0.1	0.1	2	2	[10,10]
chr1:203850348	ELK4	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr19:18416594	ELL	coding_exon	ENST00000262809:YtoN;	-	TtoA	0.1154	0.1429	2	2	[14,26]
chr19:18414854	ELL	UTR3		-	AtoC	0.1	0.1	2	2	[10,10]
chr19:18414867	ELL	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr15:41852696	ELL3	coding_exon	ENST00000319359:EtoD;	-	AtoT	0.1111	0.1111	2	2	[10,18]
chr20:44429249	ELMO2	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr4:141694260	ELMOD2	UTR3		+	TtoA	0.1	0.1	2	2	[10,10]
chr2:85470881	ELMOD3	coding_exon	ENST00000315658:StoP;ENST00000393852:StoP;ENST00000393856:StoP;ENST00000393856:StoP	+	TtoC	0.1	0.1	3	2	[10,10]
chr8:28026505	ELP3	coding_exon		+	TtoC	0.1	0.125	2	2	[10,16]
chr17:45813597	EME1	UTR3		+	GtoT	0.1	0.2	3	2	[10,10]
chr16:1768771	EME2	UTR3		+	GtoA	0.1	0.1	2	2	[10,10]
chr12:6950352	EMG1	coding_exon	ENST00000261406:AtoV;ENST00000439543:AtoV;ENST00000451846:AtoV;	+	CtoT	0.125	0.2143	4	3	[12,16]
chr12:6958112	EMG1	coding_exon		+	TtoC	0.1053	0.1538	3	2	[13,19]
chr22:27941548	EMID1	mixed		+	TtoC	0.1	0.1111	2	2	[10,19]
chr2:42375837	EML4	coding_exon		+	TtoA	0.1111	0.2	4	3	[10,17]
chr19:53521905	EMP3	UTR5		+	AtoC	0.1	0.1429	2	2	[10,46]
chr4:71740124	ENAM	mixed		+	TtoC	0.1053	0.3636	3	3	[11,64]
chr4:71740541	ENAM	mixed		+	CtoG	0.1163	0.2889	6	4	[24,45]
chr4:71740810	ENAM	mixed		+	GtoA	0.1458	0.2	6	4	[12,50]
chr9:130623318	ENDOG	coding_exon		+	AtoG	0.1	0.1818	2	2	[10,11]
chr17:74595756	ENGASE	UTR3		+	GtoC	0.1	0.1176	2	2	[10,17]
chr1:8845549	ENO1	coding_exon	ENST00000234590:YtoN;	-	TtoA	0.1803	0.3929	8	7	[16,65]
chr1:8854549	ENO1	coding_exon	ENST00000234590:YtoH;	-	TtoC	0.1111	0.1587	9	2	[65,66]
chr1:8854615	ENO1	coding_exon	ENST00000234590:VtoL;	-	GtoC	0.1176	0.165	11	3	[71,109]
chr1:8850693	ENO1	coding_exon	ENST00000234590:VtoA;	-	TtoC	0.1048	0.1692	9	2	[68,330]
chr1:8846682	ENO1	coding_exon	ENST00000234590:TtoP;	-	AtoC	0.1292	0.2581	4	3	[72,899]
chr1:8857500	ENO1	coding_exon	ENST00000234590:TtoA;	-	AtoG	0.1	0.1062	13	2	[42,167]
chr1:8848125	ENO1	coding_exon	ENST00000234590:LtoP;	-	TtoC	0.1161	0.1961	9	6	[55,176]
chr1:8845552	ENO1	coding_exon	ENST00000234590:KtoE;	-	AtoG	0.1019	0.1135	11	3	[109,141]
chr1:8844063	ENO1	coding_exon	ENST00000234590:EtoD;	-	GtoT	0.1522	0.2414	6	2	[30,47]
chr1:8854621	ENO1	coding_exon	ENST00000234590:AtoS;	-	GtoT	0.1	0.1538	5	3	[13,44]
chr1:8854617	ENO1	coding_exon	ENST00000234590:AtoD;	-	CtoA	0.1026	0.2316	15	10	[28,167]
chr1:8854624	ENO1	coding_exon		-	AtoC	0.1091	0.1538	5	2	[13,56]
chr1:8861358	ENO1	mixed		-	AtoG	0.1538	0.1818	2	2	[11,14]
chr1:8843649	ENO1	UTR3		-	AtoG	0.1	0.1	3	2	[10,44]
chr1:8843650	ENO1	UTR3		-	GtoA	0.1053	0.1136	12	2	[38,44]
chr1:8843653	ENO1	UTR3		-	TtoA	0.1	0.1351	16	5	[66,118]
chr1:8843654	ENO1	UTR3		-	AtoG	0.1004	0.2695	18	17	[96,503]
chr12:6902706	ENO2	UTR3		+	TtoG	0.1111	0.2941	8	5	[10,38]
chr12:6903118	ENO2	UTR3		+	TtoC	0.2	0.6667	4	4	[10,31]
chr17:4800624	ENO3	coding_exon	ENST00000323997:VtoG;ENST00000381335:VtoG;ENST00000441285:VtoG;	+	TtoG	0.1	0.1	3	3	[10,10]
chr17:4799584	ENO3	coding_exon		+	AtoG	0.1	0.1	6	2	[10,10]
chr4:83601006	ENOPH1	UTR3		+	AtoG	0.1053	0.1111	4	2	[18,19]
chr4:83601202	ENOPH1	UTR3		+	TtoA	0.1818	0.3077	4	2	[11,13]
chr18:681070	ENOSF1	coding_exon	ENST00000251101:RtoT;ENST00000340116:RtoT;ENST00000383578:RtoT;	-	GtoC	0.1	0.3333	9	7	[10,24]
chr18:675930	ENOSF1	coding_exon		-	AtoG	0.1	0.1818	3	2	[11,20]
chr18:696560	ENOSF1	mixed		-	TtoC	0.1	0.1	4	3	[10,10]
chr18:663435	ENOSF1	UTR3		-	AtoT	0.1	0.1364	6	2	[20,22]
chr18:663447	ENOSF1	UTR3		-	TtoA	0.1364	0.9231	3	3	[13,29]
chr18:663494	ENOSF1	UTR3		-	AtoT	0.1053	0.3889	14	9	[11,29]
chr18:663498	ENOSF1	UTR3		-	AtoG	0.1	0.1818	3	2	[10,11]
chr6:46216008	ENPP4	coding_exon	ENST00000321037:Cto*;ENST00000371401:Cto*;	+	TtoA	0.1	0.1333	3	3	[10,15]
chr1:148861232	ENSA	mixed		-	CtoA	0.1	0.2	5	2	[10,10]
chr1:148861234	ENSA	mixed		-	AtoG	0.1	0.2308	7	3	[10,20]
chr20:25152764	ENTPD6	coding_exon	ENST00000354989:VtoA;ENST00000360031:VtoA;ENST00000376635:VtoA;ENST00000376635:VtoA	+	TtoC	0.1	0.1053	3	2	[10,19]
chr22:39884418	EP300	coding_exon		+	TtoC	0.1	0.1818	3	2	[10,11]
chr12:131128095	EP400	coding_exon	ENST00000330386:PtoG;ENST00000332482:PtoQ;ENST00000333577:PtoQ;ENST00000333577:PtoQ	+	CtoA	0.1	0.1	2	2	[10,10]
chr12:131088193	EP400	coding_exon	ENST00000330386:NtoD;ENST00000332482:NtoD;ENST00000333577:NtoD;ENST00000333577:NtoD	+	AtoG	0.1333	0.1429	4	2	[14,15]
chr12:131128711	EP400	UTR3		+	AtoG	0.1333	0.1429	5	2	[14,15]
chr12:131128764	EP400	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr12:131129209	EP400	UTR3		+	TtoC	0.1	0.2308	4	2	[10,13]
chr12:131129216	EP400	UTR3		+	AtoG	0.1	0.1111	2	2	[10,18]
chr12:131130484	EP400	UTR3		+	GtoT	0.1	0.1	2	2	[10,10]
chr12:131130608	EP400	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr1:29316885	EPB41	UTR3		+	TtoC	0.1429	0.1818	4	2	[11,14]
chr1:29317125	EPB41	UTR3		+	TtoA	0.1111	0.1538	3	2	[10,13]
chr1:29319068	EPB41	UTR3		+	TtoC	0.1	0.1333	2	2	[10,15]
chr1:29319099	EPB41	UTR3		+	TtoA	0.1	0.1	4	2	[10,20]
chr6:131257859	EPB41L2	mixed		-	AtoG	0.1	0.1429	4	2	[10,14]
chr6:131203249	EPB41L2	UTR3		-	TtoC	0.1667	0.1905	5	2	[12,21]
chr6:131220964	EPB41L2	UTR3		-	GtoA	0.15	0.1667	9	2	[18,20]
chr3:136355797	EPHB1	mixed		+	TtoC	0.1	0.1	3	2	[10,10]
chr19:16358022	EPS15L1	coding_exon	ENST00000248070:StoR;ENST00000455140:StoR;	-	TtoA	0.1	0.1429	4	2	[10,14]
chr19:16333590	EPS15L1	coding_exon		-	TtoG	0.1154	0.1818	7	2	[11,26]
chr5:96136592	ERAP1	mixed		-	TtoA	0.1538	0.3077	8	2	[14,14]
chr5:96137616	ERAP1	mixed		-	TtoC	0.1	0.1429	4	2	[11,14]
chr5:96137621	ERAP1	mixed		-	TtoA	0.1364	0.15	3	2	[20,22]
chr5:65410484	ERBB2IP	UTR3		+	CtoA	0.1176	0.1538	2	2	[13,17]
chr5:65411630	ERBB2IP	UTR3		+	AtoG	0.1	0.1818	3	2	[10,11]
chr2:127731424	ERCC3	UTR3		-	TtoC	0.1538	0.2	7	2	[10,13]
chr13:102322576	ERCC5	coding_exon	ENST00000355739:NtoK;ENST00000375954:NtoK;	+	TtoA	0.1538	0.2	4	2	[10,13]
chr13:102312963	ERCC5	coding_exon	ENST00000355739:ItoK;	+	TtoA	0.1	0.1053	6	2	[19,20]
chr5:60276526	ERCC8	coding_exon	ENST00000265038:StoT;ENST00000426118:StoT;ENST00000426742:VtoD;	-	TtoA	0.1	0.1	2	2	[10,10]
chr19:47446381	ERF	coding_exon	ENST00000222329:WtoG;	-	TtoG	0.1034	0.2353	4	3	[17,29]
chr5:172312129	ERGIC1	UTR3		+	GtoA	0.1	0.2727	5	3	[10,20]
chr5:172312142	ERGIC1	UTR3		+	AtoC	0.125	0.5882	4	2	[16,17]
chr5:172312277	ERGIC1	UTR3		+	GtoA	0.1	0.1875	3	3	[10,16]
chr12:29401886	ERGIC2	coding_exon	ENST00000201023:HtoR;ENST00000360150:HtoR;	-	AtoG	0.1	0.2	3	3	[10,16]
chr12:29385001	ERGIC2	UTR3		-	GtoA	0.1053	0.1667	3	2	[12,19]
chr20:33608786	ERGIC3	UTR3		+	AtoG	0.1	0.1538	7	5	[13,28]

chr14:68916620	ERH	UTR3		-	TtoG	0.2766	0.381	7	4	[22,50]
chr10:101900472	ERLIN1	UTR3		-	Atoc	0.1	0.1333	2	2	[10,15]
chr8:37714627	ERLIN2	coding_exon	ENST00000276461:VtoG;ENST00000335171:VtoG;ENST00000397228:VtoG;	+	TtoG	0.1	0.2308	3	3	[10,14]
chr8:37721355	ERLIN2	coding_exon	ENST00000276461:VtoA;ENST00000335171:VtoA;ENST00000397228:VtoA;	+	TtoC	0.1	0.125	3	2	[10,17]
chr9:5775667	ERMP1	UTR3		-	Atoc	0.1	0.1	3	2	[10,10]
chr14:52176999	ERO1L	UTR3		-	TtoA	0.1176	0.1304	4	2	[17,23]
chr1:234473346	ERO1LB	coding_exon	ENST00000354619:DtoE;	-	TtoA	0.1	0.1	2	2	[10,10]
chr12:110935645	ERP29	UTR5		+	CtoT	0.1	0.1379	3	2	[20,29]
chr13:46243489	ESD	UTR3		-	TtoC	0.1034	0.1471	8	4	[29,49]
chr20:13643610	ESF1	coding_exon	ENST00000202816:StoP;	-	TtoC	0.1	0.2	2	2	[10,11]
chr20:13704611	ESF1	coding_exon	ENST00000202816:DtoN;	-	GtoA	0.1	0.1	2	2	[10,10]
chr20:13643656	ESF1	coding_exon		-	Atog	0.1	0.1176	5	3	[10,18]
chr20:13703893	ESF1	coding_exon		-	TtoC	0.1	0.1333	5	3	[10,15]
chr20:13711706	ESF1	coding_exon		-	Atog	0.1538	0.16	3	2	[13,25]
chr16:66819804	ESRP2	UTR3		-	Atot	0.1	0.1053	4	2	[10,19]
chr11:63840777	ESRRA	UTR3		+	TtoC	0.1373	0.2308	6	3	[11,56]
chr11:63840778	ESRRA	UTR3		+	Atog	0.125	0.25	4	4	[13,53]
chr11:63840782	ESRRA	UTR3		+	Atog	0.1084	0.1311	17	7	[60,113]
chr12:54808705	ESYT1	coding_exon	ENST00000267113:Etog;ENST00000394048:Etog;ENST00000402331:Etog;	+	Atog	0.1	0.1176	3	2	[17,30]
chr12:54810907	ESYT1	coding_exon		+	TtoC	0.1333	0.1429	4	2	[15,28]
chr7:158227150	ESYT2	coding_exon	ENST00000251527:Atog;ENST00000377650:Atog;ENST00000421679:Atog;ENST00000421679:Atog;	-	GtoT	0.1	0.1	2	2	[11,20]
chr7:158284490	ESYT2	mixed		-	TtoA	0.1	0.1333	2	2	[10,15]
chr2:67484243	ETAA1	coding_exon	ENST00000272342:StoG;	+	Atog	0.1	0.1	2	2	[10,10]
chr19:56540240	ETFB	UTR3		-	CtoG	0.1818	0.2	2	2	[10,11]
chr19:56540242	ETFB	UTR3		-	Atog	0.1	0.2727	8	3	[10,16]
chr19:56540244	ETFB	UTR3		-	TtoC	0.125	0.1818	5	4	[11,20]
chr19:48702734	ETHE1	UTR3		-	TtoA	0.1143	0.1667	4	3	[13,35]
chr19:48702738	ETHE1	UTR3		-	TtoC	0.1111	0.1364	9	5	[15,27]
chr11:127834002	ETS1	UTR3		-	Atog	0.1	0.1333	5	2	[15,20]
chr11:127834547	ETS1	UTR3		-	TtoG	0.1042	0.2105	8	4	[38,50]
chr12:11928688	ETV6	coding_exon	ENST00000266427:DtoA;	+	Atoc	0.125	0.1667	4	2	[12,16]
chr12:11937383	ETV6	UTR3		+	Atog	0.1429	0.1538	2	2	[13,14]
chr12:11938595	ETV6	UTR3		+	TtoC	0.1	0.1176	6	2	[10,17]
chr12:11939463	ETV6	UTR3		+	Atog	0.1	0.1	4	2	[10,10]
chr17:26669827	EV12A	coding_exon	ENST00000247270:Etog*;ENST00000394756:Etog*;	-	GtoT	0.1	0.125	2	2	[10,16]
chr14:99680321	EVL	UTR3		+	TtoC	0.1	0.2121	8	3	[20,70]
chr1:240101957	EXO1	coding_exon	ENST00000348581:Atog;ENST00000366548:Atog;ENST00000445862:Atog;	+	CtoA	0.1111	0.1818	5	4	[10,18]
chr1:240101958	EXO1	coding_exon		+	Atog	0.1	0.2	5	4	[10,19]
chr4:56465271	EXOC1	coding_exon		+	GtoT	0.1	0.1	4	2	[10,10]
chr5:512570	EXOC3	mixed		+	Atoc	0.1176	0.1538	7	3	[13,17]
chr5:512571	EXOC3	mixed		+	GtoT	0.1111	0.1667	7	3	[12,18]
chr5:520388	EXOC3	mixed		+	TtoC	0.2	0.2632	2	2	[10,19]
chr7:132624217	EXOC4	coding_exon	ENST00000253861:VtoE;ENST00000393161:VtoE;	+	TtoA	0.1	0.1818	3	2	[10,11]
chr7:132610446	EXOC4	coding_exon	ENST00000253861:StoP;ENST00000393161:StoP;	+	TtoC	0.1	0.1538	4	3	[10,13]
chr7:132610437	EXOC4	coding_exon	ENST00000253861:Itov;ENST00000393161:Itov;	+	Atog	0.1	0.125	2	2	[10,16]
chr7:132610451	EXOC4	coding_exon		+	Atoc	0.1	0.1	4	2	[10,10]
chr7:132652638	EXOC4	coding_exon		+	Atog	0.1111	0.125	3	2	[16,18]
chr7:133399893	EXOC4	UTR3		+	TtoA	0.1176	0.1333	5	2	[15,17]
chr1:11050694	EXOSC10	coding_exon	ENST00000304457:VtoA;ENST00000376936:VtoA;	-	TtoC	0.1053	0.2	7	2	[15,19]
chr9:3770561	EXOSC3	UTR3		-	TtoC	0.1	0.25	4	3	[10,16]
chr16:68843118	EXOSC6	coding_exon	ENST00000435634:VtoL;	-	GtoC	1	1	3	3	[19,31]
chr16:68842242	EXOSC6	UTR3		-	Atot	0.1667	0.25	6	3	[12,24]
chr16:68842243	EXOSC6	UTR3		-	Atot	0.125	0.2941	9	2	[17,24]
chr16:68842297	EXOSC6	UTR3		-	Atog	0.1	0.7174	12	11	[10,71]
chr16:68842300	EXOSC6	UTR3		-	Atog	0.1034	0.7105	11	8	[16,61]
chr16:68842315	EXOSC6	UTR3		-	GtoA	0.1125	0.5	9	7	[28,83]
chr16:68842350	EXOSC6	UTR3		-	CtoA	0.1364	0.6818	9	9	[42,80]
chr16:68842379	EXOSC6	UTR3		-	GtoT	0.1111	0.3214	8	2	[10,28]
chr4:122957504	EXOSC9	UTR3		+	TtoA	0.1	0.1429	2	2	[10,14]
chr4:122957623	EXOSC9	UTR3		+	Atog	0.2353	0.25	4	2	[16,17]
chr11:44214461	EXT2	coding_exon	ENST00000343631:Itov;ENST00000358681:Itov;	+	Atog	0.1	0.1333	2	2	[10,15]
chr11:44212273	EXT2	coding_exon		+	TtoC	0.1	0.2	2	2	[10,10]
chr11:44222536	EXT2	UTR3		+	Atog	0.1	0.1538	2	2	[10,13]
chr1:28203513	EYA3	coding_exon	ENST00000373863:VtoA;ENST00000373864:VtoA;ENST00000373871:VtoA;	-	TtoC	0.1111	0.1176	3	2	[10,17]
chr1:28199088	EYA3	coding_exon		-	TtoG	0.1	0.1667	2	2	[10,12]
chr1:28170309	EYA3	UTR3		-	TtoG	0.1	0.1304	3	2	[20,23]
chr1:28171360	EYA3	UTR3		-	GtoT	0.1	0.1538	2	2	[10,13]
chr17:38106886	EZH1	UTR3		-	TtoC	0.1	0.1	3	2	[10,10]
chr17:38107711	EZH1	UTR3		-	TtoC	0.1	0.1667	3	2	[10,12]
chr17:38107897	EZH1	UTR3		-	GtoT	0.1	0.125	2	2	[10,16]
chr7:148135649	EZH2	UTR3		-	TtoC	0.1176	0.1667	3	2	[12,17]
chr7:148135656	EZH2	UTR3		-	TtoC	0.1739	0.5	7	6	[12,36]
chr1:159233356	F11R	UTR3		-	Atog	0.1	0.1667	8	3	[12,21]
chr1:159233360	F11R	UTR3		-	Atog	0.15	0.1667	3	2	[12,20]
chr1:159234396	F11R	UTR3		-	TtoG	0.1	0.1	3	2	[10,11]
chr6:6196046	F13A1	mixed		-	TtoG	0.1	0.1	3	2	[10,10]
chr6:6211828	F13A1	mixed		-	Atog	0.1	0.1	2	2	[10,10]
chr1:31618424	FABP3	coding_exon	ENST00000373713:WtoR;	-	TtoA	0.1	0.1	2	2	[10,10]
chr8:82358198	FABP5	coding_exon	ENST00000297258:PtoR;ENST00000396359:PtoR;	+	CtoG	0.1	0.1538	2	2	[10,13]
chr8:82358158	FABP5	mixed		+	GtoT	0.1	0.2	4	2	[10,10]
chr8:82358165	FABP5	mixed		+	TtoA	0.1818	0.3333	2	2	[10,11]
chr11:61323721	FADS1	UTR3		-	TtoG	0.1	0.1	2	2	[10,10]
chr11:61323722	FADS1	UTR3		-	TtoA	0.1	0.1667	5	2	[10,12]
chr11:61324581	FADS1	UTR3		-	Atoc	0.1	0.1379	7	2	[20,29]
chr5:175868000	FAF2	UTR3		+	GtoA	0.25	0.3333	3	2	[12,28]
chr5:175868614	FAF2	UTR3		+	Atot	0.1	0.1176	5	2	[10,17]
chr15:78256956	FAH	coding_exon		+	TtoG	0.1	0.1429	4	2	[14,20]
chr16:4599962	FAM100A	coding_exon		-	TtoA	0.1	0.1538	3	3	[10,20]
chr16:4599153	FAM100A	UTR3		-	TtoC	0.1111	0.2	6	2	[10,18]
chr1:108982788	FAM102B	mixed		+	Atog	0.1	0.125	2	2	[10,16]
chr17:68715686	FAM104A	UTR3		-	Atog	0.1	0.1818	2	2	[10,11]
chr17:68715898	FAM104A	UTR3		-	TtoG	0.1	0.1	3	2	[10,10]
chr5:14726774	FAM105B	coding_exon	ENST00000284274:Atog;	+	CtoA	0.1	0.1	4	2	[10,20]
chr5:14751542	FAM105B	UTR3		+	TtoC	0.1	0.1176	3	2	[10,17]
chr10:14612490	FAM107B	mixed		-	Atoc	0.1	0.125	3	2	[16,20]
chr10:14602487	FAM107B	UTR3		-	TtoC	0.122	0.1429	3	3	[15,41]

chr11:58676405	FAM111A	coding_exon	ENST00000361723:RtoG;ENST00000420244:RtoG;ENST00000423534:RtoG;ENST00000423534:RtoG	+	AtaG	0.1	0.1053	4	2	[10,19]
chr11:58650013	FAM111B	coding_exon	ENST00000343597:MtoL;ENST00000435727:MtoL;	+	AtaC	0.1	0.1	2	2	[10,10]
chr11:58650185	FAM111B	coding_exon	ENST00000343597:LtoR;ENST00000435727:LtoR;	+	TtoG	0.1	0.2	3	2	[10,10]
chr20:2764768	FAM113A	coding_exon	ENST00000356872:PtoL;ENST00000360652:PtoL;ENST00000436952:PtoL;	-	CtoT	0.1	0.1667	3	2	[12,20]
chr22:44102950	FAM118A	coding_exon	ENST00000405673:AtaG;ENST00000442334:AtaG;	+	CtoG	0.3333	0.3333	2	2	[15,15]
chr22:44105152	FAM118A	coding_exon	ENST00000216214:LtoP;ENST00000405548:LtoP;ENST00000441876:LtoP;	+	TtoC	0.1	0.1538	4	2	[10,13]
chr22:44102584	FAM118A	coding_exon		+	CtoT	0.1594	0.6667	5	4	[12,69]
chr11:125637480	FAM118B	UTR3		+	TtoC	0.1176	0.1429	2	2	[14,17]
chr2:208186404	FAM119A	coding_exon	ENST00000272839:VtoL;ENST00000406927:VtoL;ENST00000411432:VtoL;ENST00000411432:VtoL	-	GtoT	0.1	0.1667	2	2	[10,12]
chr2:208186106	FAM119A	mixed		-	GtoT	0.1	0.1	2	2	[10,10]
chr9:95248963	FAM120AOS	UTR3		-	TtoC	0.1	0.1053	4	2	[10,19]
chr9:95249325	FAM120AOS	UTR3		-	GtoA	0.1	0.1053	3	2	[10,19]
chr6:170469404	FAM120B	coding_exon	ENST00000476287:DtoA;	+	AtaC	0.1	0.1333	4	3	[10,15]
chr6:170555810	FAM120B	UTR3		+	CtoG	0.3939	0.4545	2	2	[22,33]
chr19:17394210	FAM125A	coding_exon	ENST00000317040:VtoG;ENST00000392702:VtoG;	+	TtoG	0.1	0.1333	5	2	[10,15]
chr7:22966412	FAM126A	coding_exon	ENST00000409923:WtoR;ENST00000432176:WtoR;	-	TtoC	0.1	0.1	2	2	[10,20]
chr1:183026817	FAM129A	UTR3		-	TtoA	0.125	0.2222	4	3	[10,17]
chr1:183029934	FAM129A	UTR3		-	TtoC	0.1064	0.1333	4	2	[16,47]
chr1:183030113	FAM129A	UTR3		-	TtoG	0.1	0.1	2	2	[10,10]
chr1:183030682	FAM129A	UTR3		-	GtoT	0.1	0.1	2	2	[10,10]
chr7:92044427	FAM133B	coding_exon	ENST00000427372:RtoW;ENST00000438306:RtoW;ENST00000445716:RtoW;	-	CtoT	0.1176	0.2951	5	4	[17,61]
chr7:92033307	FAM133B	coding_exon	ENST00000427372:RtoQ;ENST00000438306:RtoQ;ENST00000445716:RtoQ;	-	GtoA	0.1765	0.3333	5	2	[12,18]
chr7:92044426	FAM133B	coding_exon	ENST00000427372:RtoQ;ENST00000438306:RtoQ;ENST00000445716:RtoQ;	-	GtoA	0.1429	0.1778	4	3	[21,45]
chr7:92048668	FAM133B	coding_exon	ENST00000427372:PtoQ;ENST00000438306:PtoQ;ENST00000445716:PtoQ;	-	CtoA	0.1	0.3	2	2	[10,10]
chr7:92046617	FAM133B	coding_exon	ENST00000427372:KtoE;ENST00000438306:KtoE;ENST00000445716:KtoE;	-	AtaG	0.1	0.2	2	2	[10,10]
chr7:92037165	FAM133B	coding_exon	ENST00000427372:DtoH;ENST00000438306:DtoH;ENST00000445716:DtoH;	-	GtoC	0.1	0.5476	4	4	[10,42]
chr7:92057587	FAM133B	UTR5		-	CtoT	0.1818	0.25	4	2	[11,20]
chr17:37987169	FAM134C	UTR3		-	AtaG	0.1111	0.1667	5	3	[18,27]
chr5:137301709	FAM13B	UTR3		-	TtoC	0.1	0.1818	3	2	[10,11]
chr14:23679940	FAM158A	coding_exon	ENST00000216799:QtoH;ENST00000396903:QtoH;ENST00000439499:QtoH;	-	GtoC	0.1	0.1702	9	6	[10,47]
chr11:6192219	FAM160A2	mixed		-	TtoC	0.1	0.1	3	2	[10,10]
chr11:6189233	FAM160A2	UTR3		-	AtaG	0.1	0.1667	2	2	[10,12]
chr10:116592771	FAM160B1	coding_exon		+	AtaT	0.1	0.1	4	2	[10,10]
chr10:116613565	FAM160B1	mixed		+	TtoG	0.1	0.1	4	2	[10,10]
chr9:139257961	FAM166A	UTR3		-	TtoC	0.1667	0.3333	6	4	[18,40]
chr2:131524090	FAM168B	mixed		-	TtoA	0.1	0.125	4	2	[10,16]
chr2:131525736	FAM168B	mixed		-	TtoC	0.1	0.2105	6	5	[10,20]
chr2:131522176	FAM168B	UTR3		-	CtoT	0.1	0.1	4	2	[20,20]
chr1:177310027	FAM20B	UTR3		+	AtaG	0.1	0.125	3	2	[10,16]
chr1:243072132	FAM36A	coding_exon	ENST00000366528:RtoK;ENST00000411948:RtoK;	+	GtoA	0.1011	0.125	3	2	[72,89]
chr1:243071920	FAM36A	coding_exon	ENST00000366528:HtoD;ENST00000411948:HtoD;	+	CtoG	0.1064	0.2131	15	7	[29,75]
chr1:243071913	FAM36A	coding_exon		+	CtoT	0.1143	0.1304	8	2	[23,35]
chr1:243072157	FAM36A	coding_exon		+	GtoA	0.1029	0.25	15	7	[27,87]
chr1:243073115	FAM36A	UTR3		+	TtoA	0.1071	0.1591	3	2	[28,44]
chr16:87327235	FAM38A	coding_exon		-	CtoT	0.1	0.1053	2	2	[10,19]
chr1:110397953	FAM40A	coding_exon	ENST00000369795:GtoS;ENST00000369796:GtoS;	+	GtoA	0.1053	0.1429	3	2	[14,19]
chr1:110398484	FAM40A	UTR3		+	GtoA	0.1	0.1176	3	2	[10,17]
chr10:120869939	FAM45B	coding_exon	ENST00000361432:VtoA;	+	TtoC	0.1	0.1	2	2	[10,10]
chr13:36494212	FAM48A	coding_exon	ENST00000350612:TtoS;ENST00000356185:TtoS;ENST00000360252:TtoS;ENST00000360252:TtoS	-	AtaT	0.1	0.1333	5	3	[10,15]
chr13:36496172	FAM48A	coding_exon	ENST00000350612:RtoG;ENST00000356185:RtoG;ENST00000360252:RtoG;ENST00000360252:RtoG	-	AtaG	0.1538	0.1667	5	2	[13,13]
chr10:126298073	FAM53B	UTR3		-	TtoG	0.1	0.1667	5	2	[12,31]
chr10:126300458	FAM53B	UTR3		-	TtoC	0.1	0.2	3	2	[10,10]
chr5:137712560	FAM53C	UTR3		+	TtoG	0.1429	0.1579	4	2	[15,19]
chr5:137712798	FAM53C	UTR3		+	TtoG	0.1	0.1	2	2	[10,10]
chr5:137712895	FAM53C	UTR3		+	TtoC	0.1	0.2	10	4	[10,30]
chr3:102987138	FAM55C	coding_exon	ENST00000273347:TtoI;ENST00000422132:TtoI;ENST00000477909:TtoI;ENST00000477909:TtoI	+	CtoT	0.1	0.1	2	2	[10,10]
chr1:149236292	FAM63A	UTR3		-	AtaG	0.1	0.1	2	2	[10,11]
chr17:6294876	FAM64A	UTR3		+	GtoT	0.1579	0.2	4	2	[10,19]
chr6:24977317	FAM65B	coding_exon	ENST00000259698:Etog;ENST00000378023:Etog;	-	AtaG	0.1	0.1	2	2	[10,10]
chr9:130851959	FAM73B	coding_exon	ENST00000277475:WtoR;ENST00000358369:WtoR;ENST00000406926:WtoR;ENST00000406926:WtoR	+	TtoC	0.1	0.1	2	2	[10,10]
chr9:130850587	FAM73B	coding_exon	ENST00000277475:Itos;ENST00000358369:Itos;ENST00000406926:Itos;ENST00000406926:Itos	+	TtoG	0.1	0.1	2	2	[10,10]
chr9:133125393	FAM78A	UTR3		-	TtoG	0.1	0.1	2	2	[10,10]
chr9:133125819	FAM78A	UTR3		-	AtaG	0.1	0.1429	2	2	[10,14]
chr15:57586830	FAM81A	coding_exon		+	AtaG	0.1	0.1	2	2	[10,10]
chr15:38817490	FAM82A2	coding_exon	ENST00000260385:MtoV;ENST00000338376:MtoV;ENST00000397465:MtoV;ENST00000397465:MtoV	-	AtaG	0.1	0.1	3	2	[10,10]
chr15:38817134	FAM82A2	coding_exon	ENST00000260385:LtoP;ENST00000338376:LtoP;ENST00000397465:StoP;ENST00000397465:StoP	-	TtoC	0.1429	0.1667	4	2	[12,14]
chr8:124880965	FAM91A1	coding_exon	ENST00000334705:VtoI;	+	GtoA	0.1	0.1	2	2	[10,10]
chr8:124881001	FAM91A1	coding_exon	ENST00000334705:VtoI;	+	GtoA	0.1	0.1818	2	2	[10,11]
chr8:124880987	FAM91A1	coding_exon	ENST00000334705:LtoR;	+	TtoG	0.1	0.2	3	2	[10,10]
chr16:65523521	FAM96B	UTR3		-	TtoC	0.125	0.125	8	2	[16,41]
chr2:33662258	FAM98A	UTR3		-	TtoC	0.1053	0.1333	6	3	[15,19]
chr15:36564285	FAM98B	UTR3		+	TtoA	0.1	0.1333	3	2	[10,15]
chr19:43585949	FAM98C	coding_exon	ENST00000252530:VtoG;ENST00000343358:VtoG;	+	TtoG	0.1	0.1538	2	2	[10,13]
chr16:88404654	FANCA	coding_exon	ENST00000389301:StoP;	-	TtoC	0.1	0.1	4	2	[10,20]
chr16:88358799	FANCA	coding_exon	ENST00000389301:HtoQ;	-	CtoG	0.1	0.3	5	2	[10,10]
chr3:10113062	FANCD2	mixed		+	TtoC	0.1364	0.2	5	3	[14,22]
chr11:22603158	FANCF	mixed		-	CtoT	0.1	0.1304	3	2	[10,23]
chr9:35066799	FANCG	coding_exon		-	AtaG	0.1	0.1	2	2	[10,10]
chr15:87617651	FANCI	coding_exon	ENST00000300027:FtoI;ENST00000310775:FtoI;ENST00000447611:FtoI;	+	TtoA	0.125	0.1818	4	2	[11,16]
chr15:87660939	FANCI	UTR3		+	AtaC	0.1333	0.9	3	2	[10,30]
chr15:87660940	FANCI	UTR3		+	CtoA	0.125	0.6364	3	2	[11,32]
chr15:87661213	FANCI	UTR3		+	TtoC	0.1111	0.2222	3	2	[10,28]
chr2:58284831	FANCL	coding_exon	ENST00000233741:KtoE;ENST00000402135:KtoE;ENST00000403295:KtoE;ENST00000403295:KtoE	-	AtaG	0.1	0.1	2	2	[10,10]
chr12:29377913	FAR2	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr6:5314398	FARS2	coding_exon	ENST00000274680:LtoR;ENST00000324331:LtoR;ENST00000397563:LtoR;	+	TtoG	0.1	0.1818	5	2	[10,11]
chr6:5314396	FARS2	coding_exon		+	GtoT	0.1	0.1	4	2	[10,10]
chr2:223212621	FAR5B	coding_exon	ENST00000281828:LtoP;	-	TtoC	0.1034	0.125	4	2	[16,29]
chr2:223144830	FAR5B	UTR3		-	TtoC	0.4466	0.6078	2	2	[51,103]
chr2:170096123	FASTK01	coding_exon	ENST00000260971:PtoR;ENST00000361619:PtoR;ENST00000415956:PtoR;ENST00000415956:PtoR	-	CtoG	0.1333	0.1333	7	2	[15,15]
chr2:170094595	FASTK01	coding_exon	ENST00000260971:KtoE;ENST00000361619:KtoE;ENST00000415956:KtoE;ENST00000415956:KtoE	-	AtaG	0.1	0.2143	3	2	[10,14]
chr2:207359779	FASTKD2	coding_exon	ENST00000236980:VtoE;ENST00000402774:VtoE;ENST00000403094:VtoE;	+	GtoA	0.1	0.1818	6	2	[10,11]
chr2:207339691	FASTKD2	coding_exon	ENST00000236980:StoT;ENST00000402774:StoT;ENST00000403094:StoT;	+	GtoC	0.2727	0.3333	2	2	[11,12]
chr11:64645073	FAU	coding_exon	ENST00000279259:GtoS;	-	GtoA	0.1071	0.4444	10	8	[18,56]
chr11:64645072	FAU	coding_exon	ENST00000279259:GtoD;	-	GtoA	0.1	0.3182	3	2	[10,22]
chr11:64645678	FAU	coding_exon		-	AtaT	0.1071	0.1282	7	2	[31,43]
chr11:64644680	FAU	UTR3		-	TtoC	0.1905	0.5	8	7	[10,29]

chr15:46489609	FBN1	UTR3		-	AtoG	0.1	0.1	3	2	[10,20]
chr12:131670635	FBRSL1	UTR3		+	GtoA	0.1	0.1	7	2	[10,30]
chr19:9783341	FBXL12	coding_exon	ENST00000247977:LtoR;	-	TtoG	0.1333	0.1667	2	2	[12,15]
chr16:30867377	FBXL19	UTR3		+	TtoC	0.1	0.1538	2	2	[10,13]
chr13:76473312	FBXL3	mixed		-	AtoT	0.1	0.1	2	2	[10,10]
chr4:15247332	FBXL5	coding_exon	ENST00000341285:FtoL;ENST00000382358:FtoL;ENST00000412094:FtoL;ENST00000412094:FtoL;	-	TtoC	0.1	0.1	3	2	[10,10]
chr4:15215939	FBXL5	UTR3		-	AtoG	0.1	0.125	2	2	[10,16]
chr4:15216340	FBXL5	UTR3		-	TtoC	0.1	0.1818	2	2	[10,11]
chr16:65754252	FBXL8	coding_exon	ENST00000258200:StoR;	+	TtoG	0.1	0.1765	3	2	[10,17]
chr16:65754255	FBXL8	coding_exon	ENST00000258200:Cto*;	+	CtoA	0.1	0.15	4	2	[10,20]
chr9:37502716	FBXO10	coding_exon	ENST00000276960:StoC;ENST00000432825:StoC;	-	CtoG	0.1053	0.1429	3	2	[14,19]
chr9:37522055	FBXO10	coding_exon	ENST00000276960:StoC;ENST00000432825:StoC;	-	AtoG	0.1	0.1333	3	2	[10,15]
chr9:37501389	FBXO10	UTR3		-	TtoG	0.1	0.1538	3	2	[10,13]
chr2:47881317	FBXO11	coding_exon		-	AtoT	0.1	0.1818	2	2	[10,11]
chr2:47886872	FBXO11	coding_exon		-	CtoT	0.1111	0.119	4	2	[18,43]
chr2:47913083	FBXO11	mixed		-	TtoG	0.1	0.1667	2	2	[10,12]
chr2:47920138	FBXO11	mixed		-	CtoG	0.1	0.125	2	2	[11,16]
chr2:47920306	FBXO11	mixed		-	TtoC	0.125	0.1538	3	2	[13,16]
chr19:44113451	FBXO17	coding_exon		-	GtoA	0.1	0.1111	2	2	[10,18]
chr10:6007450	FBXO18	coding_exon	ENST00000379999:HtoR;ENST00000397269:HtoR;	+	AtoG	0.1154	0.1364	4	2	[23,26]
chr12:116066931	FBXO21	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr14:38970662	FBXO33	coding_exon		-	TtoG	0.1	0.1	3	2	[10,10]
chr14:54887796	FBXO34	mixed		+	TtoC	0.1	0.1	2	2	[10,10]
chr14:54888594	FBXO34	mixed		+	TtoC	0.1	0.1	2	2	[10,10]
chr14:54889489	FBXO34	mixed		+	GtoA	0.1176	0.1538	3	2	[13,17]
chr14:54889491	FBXO34	mixed		+	AtoC	0.1176	0.1538	3	2	[13,17]
chr5:147787487	FBXO38	coding_exon	ENST00000340253:StoP;	+	TtoC	0.1	0.1818	3	2	[10,11]
chr5:147799493	FBXO38	coding_exon	ENST00000296701:VtoL;ENST00000340253:VtoL;ENST00000394370:VtoL;	+	GtoC	0.1	0.1333	4	3	[10,18]
chr5:147787492	FBXO38	coding_exon		+	CtoG	0.1	0.1	2	2	[10,10]
chr5:147801846	FBXO38	coding_exon		+	AtoG	0.1	0.1111	6	2	[10,18]
chr5:147802027	FBXO38	UTR3		+	AtoG	0.1	0.2	2	2	[10,10]
chr5:41975312	FBXO4	coding_exon	ENST00000281623:QtoR;	+	AtoG	0.1	0.2727	3	2	[10,11]
chr5:41977131	FBXO4	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr2:73335529	FBXO41	UTR3		-	TtoC	0.1	0.125	2	2	[10,16]
chr2:73335677	FBXO41	UTR3		-	TtoC	0.1053	0.1333	3	2	[15,19]
chr1:16514300	FBXO42	coding_exon	ENST00000375592:EtoD;	-	AtoT	0.1	0.1	3	2	[10,10]
chr1:11641457	FBXO44	coding_exon	ENST00000251547:GtoE;ENST00000376770:GtoE;	+	GtoA	0.1304	0.2632	4	3	[19,23]
chr1:11644396	FBXO44	UTR3		+	TtoC	0.1	0.1	4	2	[10,10]
chr1:11644592	FBXO44	UTR3		+	TtoG	0.1	0.2	5	2	[10,10]
chr6:153335140	FBXO5	coding_exon	ENST00000229758:QtoL;ENST00000367241:QtoL;	-	AtoT	0.1	0.1538	2	2	[10,13]
chr22:31224796	FBXO7	UTR3		+	AtoG	0.1	0.1429	6	3	[10,17]
chr6:53065559	FBXO9	coding_exon	ENST00000244426:WtoR;ENST00000323557:WtoR;ENST00000370939:WtoR;	+	TtoC	0.1	0.1111	5	2	[10,10]
chr5:17128377	FBXW11	coding_exon	ENST00000265094:QtoR;ENST00000296933:QtoR;ENST00000393802:QtoR;	-	AtoG	0.1	0.1333	2	2	[10,15]
chr9:122573460	FBXW2	coding_exon	ENST00000340778:YtoD;ENST00000373926:YtoD;ENST00000444833:YtoD;	-	TtoG	0.1	0.1	2	2	[10,10]
chr9:122573461	FBXW2	coding_exon	ENST00000340778:StoR;ENST00000373926:StoR;ENST00000444833:StoR;	-	TtoA	0.1	0.1	3	2	[10,10]
chr9:122589934	FBXW2	coding_exon	ENST00000340778:StoP;ENST00000373926:StoP;ENST00000444833:StoP;	-	TtoC	0.1	0.1053	4	2	[10,19]
chr9:122566365	FBXW2	UTR3		-	TtoA	0.1	0.1333	7	3	[10,20]
chr9:138956702	FBXW5	coding_exon	ENST00000325285:LtoP;	-	TtoC	0.1053	0.1304	7	2	[19,25]
chr9:138954712	FBXW5	UTR3		-	CtoA	0.1	0.2	3	3	[10,10]
chr9:138954713	FBXW5	UTR3		-	AtoG	0.1	0.2	3	2	[10,10]
chr4:153463028	FBXW7	UTR3		-	TtoG	0.1	0.125	2	2	[10,16]
chr4:153675543	FBXW7	UTR5		-	TtoG	0.3846	0.5	2	2	[12,14]
chr19:7659663	FCER2	UTR3		-	CtoA	0.1	0.2	4	2	[10,20]
chr19:7659665	FCER2	UTR3		-	CtoA	0.1111	0.15	8	3	[18,25]
chr19:7659666	FCER2	UTR3		-	TtoA	0.125	0.2121	4	4	[17,36]
chr19:7672995	FCER2	UTR5		-	GtoT	0.1	0.1053	2	2	[10,19]
chr14:74259787	FCF1	coding_exon	ENST00000341162:Rto*;	+	CtoT	0.1071	0.1667	4	4	[12,36]
chr14:74252442	FCF1	coding_exon	ENST00000341162:NtoL;	+	AtoT	0.1667	0.3	6	3	[10,13]
chr14:74252414	FCF1	coding_exon	ENST00000341162:HtoY;	+	CtoT	0.1176	0.25	6	3	[12,17]
chr14:74252433	FCF1	coding_exon	ENST00000341162:FtoC;	+	TtoG	0.1	0.15	4	2	[10,20]
chr14:74269190	FCF1	coding_exon		+	TtoC	0.1	0.4	6	2	[10,10]
chr14:74271420	FCF1	UTR3		+	GtoC	0.1	0.1053	4	2	[10,19]
chr11:72226105	FCHSD2	UTR3		-	TtoC	0.1	0.1429	2	2	[10,14]
chr11:72227069	FCHSD2	UTR3		-	TtoG	0.1	0.1579	8	3	[10,19]
chr1:155760958	FCRL5	coding_exon		-	TtoC	0.15	0.3	3	2	[10,20]
chr1:155750805	FCRL5	UTR3		-	AtoC	0.1	0.1	2	2	[10,10]
chr1:155751511	FCRL5	UTR3		-	TtoG	0.1	0.1	2	2	[10,10]
chr1:159949958	FCRLA	UTR3		+	GtoA	0.1	0.125	5	2	[10,16]
chr8:11733878	FDFT1	UTR3		+	GtoT	0.1	0.1	2	2	[10,10]
chr8:11734171	FDFT1	UTR3		+	TtoC	0.1176	0.3636	10	5	[11,17]
chr8:11734176	FDFT1	UTR3		+	AtoG	0.1	0.16	2	2	[10,27]
chr1:153553455	FDP5	coding_exon		+	AtoG	0.1333	0.1429	2	2	[14,15]
chr11:111185602	FDXACB1	coding_exon	ENST00000320165:YtoD;ENST00000398006:YtoD;ENST00000428306:YtoD;ENST00000428306:YtoD;	-	TtoG	0.1	0.1053	5	2	[10,19]
chr17:70380586	FDXR	coding_exon	ENST00000293195:StoG;ENST00000413947:TtoA;ENST00000420580:StoG;ENST00000420580:StoG;	-	AtoG	0.1	0.1429	2	2	[10,14]
chr17:70370239	FDXR	UTR3		-	TtoC	0.1	0.1538	7	2	[10,13]
chr15:66371054	FEM1B	UTR3		+	AtoC	0.1	0.125	2	2	[10,16]
chr11:63747580	FERMT3	UTR3		+	AtoC	0.1094	0.125	7	4	[33,83]
chr9:94812410	FGD3	coding_exon	ENST00000337352:VtoA;ENST00000375482:VtoA;ENST00000416701:VtoA;	+	TtoC	0.1	0.15	3	2	[10,20]
chr9:94838062	FGD3	UTR3		+	AtoC	0.1	0.1667	4	3	[10,19]
chr17:7287119	FGF11	coding_exon	ENST00000293829:VtoG;	+	TtoG	0.1	0.1	2	2	[10,10]
chr8:38401297	FGFR1	coding_exon	ENST00000310729:FtoV;ENST00000326324:FtoV;ENST00000335922:FtoV;ENST00000335922:FtoV;	-	TtoG	0.1	0.1	3	2	[10,10]
chr6:167356098	FGFR1OP	coding_exon	ENST00000283506:EtoV;ENST00000349556:EtoV;ENST00000366847:EtoV;ENST00000366847:EtoV;	+	AtoT	0.1	0.1	6	2	[10,10]
chr6:167373561	FGFR1OP	mixed		+	TtoC	0.1	0.1	2	2	[10,10]
chr12:27001830	FGFR1OP2	coding_exon	ENST00000229395:StoP;ENST00000327214:StoP;	+	TtoC	0.1	0.1364	4	3	[10,23]
chr1:27822669	FIG1	coding_exon		-	TtoA	0.1	0.2143	3	2	[10,14]
chr1:239747217	FH	coding_exon	ENST00000366560:ItoK;	-	TtoA	0.1	0.2	7	4	[20,32]
chr1:239727757	FH	coding_exon		-	AtoG	0.1579	0.2143	7	2	[14,19]
chr2:105344151	FHL2	UTR3		-	TtoC	0.1	0.1176	2	2	[10,17]
chr1:38235321	FHL3	UTR3		-	TtoG	0.1	0.125	5	2	[10,16]
chr18:32410465	FHOD3	mixed		+	AtoG	0.1	0.1	2	2	[10,10]
chr11:65407967	FIBP	UTR3		-	GtoA	0.125	0.5	9	9	[11,21]
chr6:110219387	FIG4	coding_exon		+	CtoA	0.1	0.1	2	2	[10,10]
chr7:50481914	FIGNL1	coding_exon	ENST00000451735:QtoR;	-	AtoG	0.1	0.1	2	2	[10,10]
chr7:50481106	FIGNL1	coding_exon		-	TtoC	0.1176	0.2	2	2	[10,17]
chr7:50479508	FIGNL1	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr7:50480390	FIGNL1	UTR3		-	TtoC	0.1	0.2	2	2	[10,10]

chr16:74168887	GABARAPL2	UTR3		+	TtoA	0.1111	0.1111	8	2	[18,19]
chr1:67926378	GADD45A	UTR3		+	TtoC	0.1111	0.1333	5	2	[15,18]
chr2:38814513	GALM	UTR3		+	TtoC	0.1	0.1111	2	2	[10,18]
chr2:38815148	GALM	UTR3		+	CtoA	0.1	0.125	2	2	[10,24]
chr18:31511712	GALNT1	coding_exon	ENST00000269195:StoR;	+	TtoA	0.1	0.1	2	2	[10,10]
chr18:31517384	GALNT1	coding_exon		+	GtoA	0.1	0.1333	2	2	[10,15]
chr18:31545500	GALNT1	UTR3		+	CtoT	0.2	0.2143	4	2	[10,14]
chr18:31545544	GALNT1	UTR3		+	Atog	0.3158	0.3571	2	2	[14,19]
chr18:31545584	GALNT1	UTR3		+	GtoC	0.3571	0.5455	3	3	[10,14]
chr5:153736135	GALNT10	coding_exon	ENST00000297107:Atog;ENST00000425427:Atog;	+	CtoG	0.1	0.2	3	2	[10,10]
chr5:153778719	GALNT10	UTR3		+	TtoC	0.1	0.1034	3	2	[20,29]
chr5:153778884	GALNT10	UTR3		+	TtoA	0.1	0.1	4	2	[10,10]
chr1:228438406	GALNT2	coding_exon	ENST00000366672:VtoG;	+	TtoG	0.1143	0.1333	5	2	[15,36]
chr1:228483302	GALNT2	UTR3		+	Atoc	0.1	0.1562	6	4	[10,33]
chr12:50034334	GALNT6	UTR3		-	TtoA	0.1	0.1111	3	2	[10,18]
chr4:174480854	GALNT7	UTR3		+	Atot	0.1	0.1	2	2	[10,10]
chr4:174481274	GALNT7	UTR3		+	Atog	0.1	0.1	2	2	[10,10]
chr11:11249317	GALNT4	coding_exon	ENST00000227756:StoP;	-	TtoC	0.1	0.1176	2	2	[10,17]
chr9:34639049	GALT	coding_exon	ENST00000378842:TtoM;ENST00000450095:TtoM;	+	CtoT	0.1	0.1429	2	2	[10,14]
chr19:1348171	GAMT	UTR3		-	TtoG	0.1	0.1111	2	2	[10,10]
chr11:62150937	GANAB	coding_exon	ENST00000346178:TtoP;ENST00000356638:TtoP;	-	Atoc	0.1176	0.1333	2	2	[17,108]
chr11:62156790	GANAB	coding_exon		-	TtoG	0.1017	0.2083	3	2	[49,62]
chr12:6514890	GAPDH	mixed		+	TtoA	0.9655	1	2	2	[10,29]
chr12:6514895	GAPDH	mixed		+	TtoG	0.6667	0.9459	5	5	[10,37]
chr12:6517797	GAPDH	UTR3		+	CtoA	0.1434	0.5973	11	11	[89,300]
chr12:6517798	GAPDH	UTR3		+	Atog	0.2083	0.7627	10	10	[24,168]
chr12:6513943	GAPDH	UTR5		+	CtoG	0.125	0.3	8	4	[20,79]
chr9:127134641	GAPVD1	coding_exon	ENST00000265956:NtoK;ENST00000297933:NtoK;ENST00000312123:NtoK;ENST00000312123:NtoK;	+	TtoA	0.1	0.1429	3	2	[10,14]
chr9:127104865	GAPVD1	coding_exon	ENST00000265956:EtoA;ENST00000297933:EtoA;ENST00000312123:EtoA;ENST00000312123:EtoA;	+	Atoc	0.1	0.2308	2	2	[10,13]
chr9:127139325	GAPVD1	coding_exon		+	TtoA	0.1	0.1818	3	2	[10,11]
chr9:127156766	GAPVD1	coding_exon		+	Atog	0.1	0.1538	5	3	[10,13]
chr9:127164908	GAPVD1	UTR3		+	TtoC	0.1	0.1	4	2	[10,10]
chr9:127064055	GAPVD1	UTR5		+	CtoT	0.1	0.1	2	2	[10,10]
chr7:30640033	GARS	UTR3		+	CtoA	0.1515	0.1667	3	2	[33,36]
chr21:33804022	GART	coding_exon	ENST00000381815:LtoP;ENST00000381831:LtoP;ENST00000381839:LtoP;	-	TtoC	0.1	0.1333	7	3	[10,15]
chr21:33822510	GART	coding_exon	ENST00000361093:VtoE;ENST00000381815:VtoE;ENST00000381831:VtoE;ENST00000381831:VtoE;	-	TtoA	0.1111	0.1154	3	2	[18,27]
chr21:33825667	GART	coding_exon	ENST00000361093:StoP;ENST00000381815:StoP;ENST00000381831:StoP;ENST00000381831:StoP;	-	TtoC	0.1	0.1538	2	2	[10,13]
chr21:33825060	GART	coding_exon	ENST00000361093:CtoG;ENST00000381815:CtoG;ENST00000381831:CtoG;ENST00000381831:CtoG;	-	TtoG	0.1	0.1538	2	2	[10,13]
chr17:9758817	GAS7	UTR3		-	Atog	0.1	0.125	3	2	[10,16]
chr16:88629588	GAS8	coding_exon	ENST00000268699:QtoR;	+	Atog	0.1	0.1	2	2	[10,10]
chr7:91914836	GATAD1	UTR5		+	CtoG	0.1	0.1	2	2	[10,10]
chr19:19477832	GATAD2A	UTR3		+	TtoC	0.1111	0.1333	4	2	[15,19]
chr1:152049316	GATAD2B	coding_exon		-	TtoC	0.1	0.1053	5	2	[10,20]
chr1:152045625	GATAD2B	UTR3		-	TtoC	0.1	0.1176	4	2	[11,17]
chr1:152049179	GATAD2B	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr9:35730327	GBA2	coding_exon	ENST00000378094:VtoV;ENST00000378103:VtoV;	-	Atog	0.1	0.1	2	2	[20,20]
chr9:35727914	GBA2	coding_exon	ENST00000378088:VtoA;ENST00000378094:VtoA;ENST00000378103:VtoA;	-	TtoC	0.1	0.1429	4	2	[10,14]
chr9:35726931	GBA2	UTR3		-	Atot	0.1	0.1053	2	2	[10,19]
chr9:35727042	GBA2	UTR3		-	Atoc	0.1	0.125	2	2	[10,16]
chr3:81631067	GBE1	coding_exon	ENST00000264326:FtoL;ENST00000429644:FtoL;ENST00000489715:FtoL;	-	TtoC	0.1053	0.2857	11	6	[13,31]
chr3:81621953	GBE1	UTR3		-	TtoA	0.1818	0.2	3	2	[11,16]
chr10:104126876	GBF1	coding_exon	ENST00000369983:VtoF;	+	GtoT	0.1053	0.2632	10	2	[19,19]
chr10:104120171	GBF1	coding_exon	ENST00000369983:EtoV;	+	Atot	0.12	0.2308	3	2	[13,25]
chr10:104126887	GBF1	coding_exon	ENST00000369983:DtoE;	+	CtoG	0.1053	0.2222	8	2	[18,19]
chr10:104126878	GBF1	coding_exon		+	CtoG	0.1176	0.2632	8	4	[14,19]
chr22:36541161	GCAT	coding_exon	ENST00000248924:LtoP;ENST00000323205:LtoP;	+	TtoC	0.1	0.125	4	2	[10,16]
chr2:108475622	GCC2	coding_exon	ENST00000309863:QtoR;ENST00000409325:QtoR;	+	Atog	0.1	0.1	3	2	[10,10]
chr19:12865307	GCDH	mixed		+	TtoG	0.1	0.3125	12	8	[16,38]
chr15:38846951	GCHFR	UTR3		+	Atoc	0.1111	0.1364	5	3	[22,27]
chr12:119112547	GCN11	coding_exon	ENST00000300648:TtoP;	-	Atoc	0.1176	0.1379	4	2	[17,29]
chr12:119107046	GCN11	coding_exon	ENST00000300648:LtoR;	-	TtoG	0.1	0.2	6	2	[10,10]
chr12:119082091	GCN11	coding_exon		-	TtoC	0.125	0.1429	2	2	[14,32]
chr12:119049991	GCN11	UTR3		-	Atog	0.1	0.1	2	2	[10,20]
chr16:19420836	GDE1	UTR3		-	Atog	0.1	0.1538	3	2	[10,13]
chr12:54429900	GDF11	coding_exon		+	TtoC	0.1	0.1	3	2	[10,10]
chr10:5847737	GDI2	UTR3		-	CtoT	0.1	0.2941	11	8	[17,50]
chr10:5847749	GDI2	UTR3		-	CtoT	0.1026	0.1818	5	4	[39,79]
chr5:154262883	GEMIN5	coding_exon	ENST00000285873:LtoP;	-	TtoC	0.1538	0.1765	2	2	[13,17]
chr5:74054006	GFM2	coding_exon	ENST00000296805:QtoR;ENST00000345239:QtoR;	-	Atog	0.1	0.1538	4	2	[10,13]
chr5:74082187	GFM2	coding_exon		-	TtoC	0.1	0.1	3	2	[10,22]
chr6:13468461	GFOD1	UTR3		-	TtoA	0.1	0.1333	2	2	[10,15]
chr6:13468510	GFOD1	UTR3		-	GtoT	0.1	0.25	3	2	[10,13]
chr6:13468511	GFOD1	UTR3		-	GtoC	0.1	0.1818	3	2	[10,11]
chr2:69406727	GFPT1	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr16:23384195	GGA2	UTR3		-	TtoG	0.1	0.2308	6	3	[10,19]
chr16:23384198	GGA2	UTR3		-	TtoG	0.1667	0.2	6	3	[11,18]
chr16:23385008	GGA2	UTR3		-	TtoG	0.1667	0.1667	6	2	[12,12]
chr16:23385452	GGA2	UTR3		-	TtoA	0.1429	0.1818	6	2	[11,14]
chr16:23385454	GGA2	UTR3		-	Atog	0.1	0.1	3	2	[10,10]
chr16:23385456	GGA2	UTR3		-	TtoC	0.1053	0.2	11	6	[10,20]
chr17:70744778	GGA3	UTR3		-	CtoA	0.1	0.1875	7	4	[16,20]
chr17:70745215	GGA3	UTR3		-	TtoA	0.1111	0.1429	3	2	[14,27]
chr8:64099047	GGH	coding_exon	ENST00000260118:KtoE;	-	Atog	0.1429	0.1875	2	2	[14,16]
chr8:64090565	GGH	coding_exon		-	TtoC	0.125	0.1667	5	2	[12,16]
chr17:31987202	GGNBP2	coding_exon	ENST00000304718:LtoQ;ENST00000453197:LtoQ;	+	TtoA	0.1	0.2	12	4	[10,15]
chr17:32008719	GGNBP2	coding_exon	ENST00000304718:FtoV;ENST00000453197:FtoV;	+	TtoG	0.1	0.1538	4	2	[10,13]
chr17:32015899	GGNBP2	coding_exon		+	TtoC	0.1333	0.2	8	3	[10,21]
chr1:233572485	GGPS1	coding_exon		+	Atog	0.1818	0.1818	2	2	[11,11]
chr7:100122592	GIGYF1	coding_exon	ENST00000275732:FtoV;	-	TtoG	0.1	0.1765	4	2	[10,18]
chr2:233385345	GIGYF2	coding_exon		+	Atog	0.1	0.125	2	2	[10,16]
chr20:25374611	GINS1	mixed		+	Atog	0.1	0.1111	2	2	[10,18]
chr20:25374845	GINS1	UTR3		+	TtoA	0.1	0.2222	2	2	[10,10]
chr16:84278676	GINS2	coding_exon		-	CtoT	0.1	0.1111	2	2	[10,18]
chr16:56995921	GINS3	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr16:56997245	GINS3	UTR3		+	TtoC	0.1	0.1538	4	2	[10,13]
chr8:41516668	GINS4	coding_exon	ENST00000276533:LtoI;	+	CtoA	0.1111	0.125	2	2	[18,24]

chr8:41520002	GIN54	UTR3		+	AtoC	0.1	0.1667	2	2	[10,12]
chr8:41520110	GIN54	UTR3		+	TtoA	0.1333	0.1429	5	2	[14,15]
chr8:41520695	GIN54	UTR3		+	AtoG	0.129	0.1765	9	3	[17,31]
chr19:14449627	GIPC1	UTR3		-	TtoC	0.1	0.1111	3	2	[10,18]
chr12:1088560631	GIT2	coding_exon	ENST00000338373:TtoN;ENST00000343646:TtoN;ENST00000345474:TtoN;ENST00000345474:TtoN	-	CtoA	0.1	0.1	2	2	[10,10]
chr12:108852268	GIT2	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr12:108853128	GIT2	UTR3		-	GtoA	0.1	0.1	3	2	[10,10]
chr17:40238153	GJC1	mixed		-	TtoC	0.1	0.1053	2	2	[10,19]
chr3:33040789	GLB1	coding_exon		-	AtoG	0.1	0.1111	2	2	[10,18]
chr7:8077235	GLCC1	coding_exon	ENST00000223145:QtoK;ENST00000456919:QtoK;	+	CtoA	0.1282	0.1667	4	3	[12,39]
chr7:8093891	GLCC1	UTR3		+	TtoG	0.2	0.2105	2	2	[10,19]
chr7:8095043	GLCC1	UTR3		+	TtoA	0.1	0.1333	4	2	[10,32]
chr9:6579230	GLDC	coding_exon		-	GtoA	0.2258	0.5455	3	3	[11,31]
chr9:130324877	GLE1	coding_exon	ENST00000309971:HtoR;ENST00000372770:HtoR;	+	AtoG	0.1111	0.1515	6	2	[27,33]
chr9:130325908	GLE1	coding_exon	ENST00000309971:CtoG;ENST00000372770:CtoG;	+	TtoG	0.1	0.1	3	2	[10,10]
chr16:73198103	GLG1	coding_exon	ENST00000205061:WtoG;ENST00000422840:WtoG;ENST00000447066:WtoG;	-	TtoG	0.1	0.1111	2	2	[10,19]
chr16:73077308	GLG1	coding_exon		-	AtoG	0.55	0.5909	2	2	[40,44]
chr12:74178926	GLPR1	coding_exon	ENST00000456650:LtoR;	+	TtoG	0.1	0.1	4	2	[10,10]
chr17:609495	GLOD4	UTR3		-	AtoC	0.1	0.1667	3	2	[10,12]
chr5:95178004	GLRX	coding_exon	ENST00000237858:TtoR;ENST00000379979:TtoR;ENST00000448201:TtoR;	-	CtoG	0.125	0.3	10	3	[10,24]
chr5:95177977	GLRX	coding_exon	ENST00000237858:QtoR;ENST00000379979:QtoR;ENST00000448201:QtoR;	-	AtoG	0.1	0.1538	7	2	[10,14]
chr5:95177998	GLRX	coding_exon	ENST00000237858:LtoQ;ENST00000379979:LtoQ;ENST00000448201:LtoQ;	-	TtoA	0.1667	0.3333	7	4	[15,21]
chr1:191332427	GLRX2	coding_exon	ENST00000367439:LtoR;ENST00000367440:LtoR;	-	TtoA	0.1	0.1111	3	2	[10,10]
chr1:191332433	GLRX2	coding_exon	ENST00000367439:LtoP;ENST00000367440:LtoP;	-	TtoC	0.1	0.125	5	2	[10,16]
chr2:191503510	GLS	coding_exon	ENST00000320717:NtoD;ENST00000338435:NtoD;ENST00000409215:NtoD;ENST00000320717:NtoD	+	AtoG	0.1	0.1364	4	2	[22,30]
chr2:191507031	GLS	mixed		+	AtoG	0.1667	0.1667	3	2	[12,18]
chr2:191507081	GLS	mixed		+	TtoA	0.1	0.1304	2	2	[21,24]
chr19:17551292	GLT25D1	coding_exon	ENST00000252599:VtoA;ENST00000379714:VtoA;	+	TtoC	0.1	0.1667	2	2	[10,12]
chr19:52940631	GLTSCR2	coding_exon	ENST00000246802:MtoI;ENST00000446535:MtoI;	+	GtoC	0.125	0.25	3	2	[16,16]
chr19:52940634	GLTSCR2	coding_exon		+	GtoT	0.1	0.125	5	2	[10,32]
chr19:52952124	GLTSCR2	UTR3		+	CtoA	0.1429	0.1818	3	2	[11,21]
chr10:88803080	GLUD1	coding_exon	ENST00000277865:RtoM;	-	GtoT	0.1429	0.1667	2	2	[12,14]
chr6:1906016	GMD5	coding_exon	ENST00000380815:StoP;	-	TtoC	0.1176	0.1818	3	2	[11,17]
chr1:28913869	GMEB1	coding_exon	ENST00000294409:DtoE;ENST00000361872:DtoE;ENST00000373816:DtoE;ENST00000373816:DtoE	+	TtoA	0.1	0.1111	4	2	[18,20]
chr1:28916980	GMEB1	UTR3		+	AtoC	0.1	0.1	2	2	[10,10]
chr20:61699570	GMEB2	coding_exon	ENST00000266068:NtoH;ENST00000370069:NtoH;ENST00000370077:NtoH;	-	AtoC	0.1	0.1	3	2	[10,10]
chr20:61690429	GMEB2	UTR3		-	CtoG	0.1	0.1	2	2	[10,10]
chr20:61690523	GMEB2	UTR3		-	TtoG	0.1	0.1	3	2	[10,10]
chr19:19605988	GMIP	coding_exon	ENST00000203556:RtoQ;ENST00000445806:RtoQ;	-	GtoA	0.4167	0.439	2	2	[41,84]
chr6:24883212	GMNN	UTR5		+	GtoA	0.125	0.3333	2	2	[15,16]
chr3:49733935	GMPPB	UTR3		-	GtoA	0.1	0.1	5	2	[10,10]
chr3:49733941	GMPPB	UTR3		-	AtoG	0.1	0.1053	2	2	[10,19]
chr7:2735417	GNA12	UTR3		-	TtoG	0.1	0.1	2	2	[10,10]
chr7:2736238	GNA12	UTR3		-	AtoC	0.1	0.125	3	3	[24,30]
chr7:2737020	GNA12	UTR3		-	TtoG	0.125	0.1667	3	2	[12,16]
chr17:60444881	GNA13	coding_exon		-	TtoC	0.1	0.25	8	3	[10,12]
chr17:60439259	GNA13	UTR3		-	TtoG	0.1	0.3077	6	4	[10,20]
chr17:60439947	GNA13	UTR3		-	TtoA	0.1111	0.1818	5	2	[11,18]
chr1:109936795	GNAI3	UTR3		+	CtoT	0.1538	0.25	6	2	[12,13]
chr1:109937658	GNAI3	UTR3		+	CtoA	0.1	0.2	3	2	[10,10]
chr20:56919632	GNAS	UTR3		+	TtoC	0.1053	0.125	4	2	[16,19]
chr1:1708124	GNB1	UTR3		-	AtoG	0.1	0.1875	11	5	[15,30]
chr1:1708127	GNB1	UTR3		-	GtoA	0.1	0.1875	7	3	[16,30]
chr5:180597737	GNB2L1	mixed		-	TtoG	0.1377	0.1973	6	2	[845,1409]
chr5:180598671	GNB2L1	mixed		-	TtoG	0.1	0.625	15	11	[10,32]
chr5:180598672	GNB2L1	mixed		-	GtoA	0.1111	0.3158	13	11	[12,34]
chr5:180596541	GNB2L1	UTR3		-	TtoA	0.25	0.6	10	10	[12,27]
chr5:180596546	GNB2L1	UTR3		-	TtoC	0.1061	0.3882	17	8	[85,223]
chr5:180603508	GNB2L1	UTR5		-	CtoT	0.1	0.1818	5	3	[10,19]
chr15:50205438	GNB5	coding_exon	ENST00000261837:StoR;ENST00000358784:StoR;ENST00000396335:StoR;	-	TtoA	0.1	0.1	2	2	[10,10]
chr14:51504587	GNG2	UTR3		+	AtoT	0.1	0.1	2	2	[10,10]
chr14:51504700	GNG2	UTR3		+	TtoG	0.1	0.1	2	2	[10,10]
chr14:51504783	GNG2	UTR3		+	AtoG	0.1429	0.3	3	2	[10,21]
chr6:30630380	GNL1	coding_exon	ENST00000376602:VtoG;ENST00000376621:VtoG;ENST00000426875:VtoG;ENST00000376602:VtoG	-	TtoG	0.1	0.125	6	2	[16,21]
chr1:37806535	GNL2	coding_exon	ENST00000373062:GtoR;	-	GtoA	0.1	0.1111	2	2	[10,18]
chr3:52696595	GNL3	coding_exon	ENST00000354540:QtoR;ENST00000394799:QtoR;ENST00000418458:QtoR;ENST00000354540:QtoR	+	AtoG	0.1	0.1429	9	2	[36,40]
chr3:52703472	GNL3	UTR3		+	TtoA	0.125	0.1333	9	2	[31,34]
chr1:229467739	GNPAT	coding_exon	ENST00000366647:NtoD;	+	AtoG	0.1034	0.1176	4	2	[29,35]
chr1:229480108	GNPAT	UTR3		+	TtoC	0.1034	0.1053	9	2	[19,30]
chr5:141362927	GNPDA1	coding_exon	ENST00000311337:StoT;ENST00000458112:StoT;	-	TtoA	0.1	0.1	4	2	[10,10]
chr5:141361616	GNPDA1	UTR3		-	AtoG	0.1	0.1667	2	2	[10,12]
chr14:52318354	GNPNAT1	coding_exon		-	TtoC	0.1	0.1429	2	2	[10,14]
chr14:52313599	GNPNAT1	UTR3		-	GtoC	0.1	0.1	2	2	[10,10]
chr12:63396591	GNS	mixed		-	CtoA	0.1	0.1	2	2	[10,10]
chr12:63393623	GNS	UTR3		-	TtoA	0.1	0.1154	3	3	[10,26]
chr12:63394880	GNS	UTR3		-	GtoA	0.1	0.1	3	2	[10,10]
chr9:126714123	GOLGA1	coding_exon	ENST00000373555:TtoS;	-	AtoT	0.1	0.1818	2	2	[10,11]
chr9:130059564	GOLGA2	coding_exon	ENST00000342583:HtoR;ENST00000421699:HtoR;	-	AtoG	0.1304	0.1429	2	2	[14,23]
chr9:130059028	GOLGA2	UTR3		-	TtoC	0.1333	0.1818	3	2	[11,15]
chr12:99074687	GOLGA2L1	UTR3		-	GtoA	0.1	0.1	2	2	[10,10]
chr12:131882878	GOLGA3	coding_exon	ENST00000204726:VtoA;ENST00000450791:VtoA;ENST00000456883:VtoA;	-	TtoC	0.1154	0.2	3	2	[10,26]
chr12:131882519	GOLGA3	coding_exon	ENST00000204726:StoP;ENST00000450791:StoP;ENST00000456883:StoP;	-	TtoC	0.1	0.1667	7	4	[10,18]
chr12:131864335	GOLGA3	coding_exon	ENST00000204726:DtoN;ENST00000450791:DtoN;ENST00000456883:DtoN;	-	GtoA	0.25	0.625	2	2	[12,24]
chr12:131855676	GOLGA3	UTR3		-	TtoG	0.1	0.2	3	2	[10,10]
chr12:131858545	GOLGA3	UTR3		-	GtoT	0.4583	0.625	2	2	[24,24]
chr12:131858658	GOLGA3	UTR3		-	TtoG	0.1	0.1	2	2	[10,10]
chr12:131858834	GOLGA3	UTR3		-	AtoG	0.1667	0.1818	2	2	[11,12]
chr12:131859540	GOLGA3	UTR3		-	GtoC	0.1	0.1	2	2	[10,10]
chr3:37343120	GOLGA4	coding_exon	ENST00000273176:VtoD;ENST00000356847:VtoD;ENST00000361924:VtoD;ENST00000273176:VtoD	+	TtoA	0.1	0.1176	5	2	[10,17]
chr3:37340849	GOLGA4	coding_exon	ENST00000273176:QtoR;ENST00000356847:QtoR;ENST00000361924:QtoR;ENST00000273176:QtoR	+	AtoG	0.1	0.1	4	2	[10,10]
chr3:37342182	GOLGA4	coding_exon	ENST00000273176:KtoN;ENST00000356847:KtoN;ENST00000361924:KtoN;ENST00000273176:KtoN	+	AtoC	0.1	0.1111	2	2	[10,18]
chr3:37344167	GOLGA4	coding_exon	ENST00000273176:Etog;ENST00000356847:Etog;ENST00000361924:Etog;ENST00000273176:Etog	+	AtoG	0.1	0.1	3	2	[10,10]
chr3:37343844	GOLGA4	coding_exon		+	TtoG	0.1	0.2	4	2	[10,10]
chr3:122894071	GOLGB1	coding_exon	ENST00000340645:VtoA;ENST00000393667:VtoA;	-	TtoC	0.1538	0.1667	3	2	[12,13]
chr3:122892914	GOLGB1	coding_exon	ENST00000340645:LtoM;ENST00000393667:LtoM;	-	CtoA	0.1	0.1	2	2	[10,10]
chr3:122896113	GOLGB1	coding_exon	ENST00000340645:Etok;ENST00000393667:Etok;	-	GtoA	0.1053	0.1081	4	2	[19,37]

chr3:122869078	GOLGB1	coding_exon		-	AtaG	0.1	0.1111	3	2	[10,18]
chr3:169229782	GOLIM4	coding_exon	ENST00000309027:QtoR;ENST00000470487:QtoR;	-	AtaG	0.1	0.1	3	2	[10,10]
chr3:169229710	GOLIM4	coding_exon	ENST00000309027:Etog;ENST00000470487:Etog;	-	AtaG	0.1176	0.1429	5	2	[14,17]
chr12:21551100	GOLT1B	coding_exon	ENST00000229314:LtoV;	+	TtoG	0.1	0.1	3	2	[10,10]
chr1:154014233	GON4L	coding_exon	ENST00000271883:FtoC;ENST00000361040:FtoC;ENST00000368327:FtoC;ENST00000368327:FtoC;	-	TtoG	0.1	0.1	2	2	[10,10]
chr1:153993406	GON4L	coding_exon		-	GtoA	0.1	0.125	3	3	[10,16]
chr1:154020201	GON4L	coding_exon		-	CtoT	0.2	1	7	7	[10,18]
chr1:154020206	GON4L	coding_exon		-	AtaG	0.8	1	6	6	[11,17]
chr3:39114855	GORASP1	coding_exon	ENST00000319283:DtoA;ENST00000422110:DtoA;ENST00000479927:DtoA;	-	AtaC	0.1	0.1	2	2	[10,10]
chr3:39113871	GORASP1	UTR3		-	AtoT	0.1	0.1	2	2	[10,11]
chr2:171531334	GORASP2	UTR3		+	TtoC	0.1034	0.1081	8	3	[31,66]
chr17:25871098	GOSR1	coding_exon		+	AtaG	0.1	0.1	3	2	[10,10]
chr17:25876463	GOSR1	UTR3		+	AtaG	0.1176	0.1538	6	3	[13,18]
chr17:42371411	GOSR2	mixed		+	GtoT	0.125	0.1333	3	2	[15,16]
chr17:42372550	GOSR2	mixed		+	TtoC	0.1	0.1818	3	2	[10,11]
chr17:42373160	GOSR2	UTR3		+	GtoA	0.1	0.1818	3	2	[10,11]
chr17:42373646	GOSR2	UTR3		+	GtoT	0.1	0.1	2	2	[10,10]
chr16:57298537	GOT2	UTR3		-	AtaG	0.1818	0.5	10	10	[10,17]
chr17:39833281	GPATCH8	coding_exon	ENST00000335500:StoP;	-	TtoC	0.1	0.1429	5	2	[10,14]
chr17:39833504	GPATCH8	coding_exon	ENST00000335500:DtoE;	-	TtoG	0.1	0.1429	2	2	[10,14]
chr17:39833495	GPATCH8	coding_exon		-	TtoC	0.1	0.1111	2	2	[18,20]
chr17:39830321	GPATCH8	UTR3		-	GtoA	0.1	0.1333	3	2	[10,15]
chr5:56578661	GPBP1	coding_exon		+	TtoC	0.125	0.1429	3	2	[14,16]
chr5:56578781	GPBP1	coding_exon		+	TtoA	0.1333	0.1765	5	2	[15,17]
chr1:458966141	GPBP1L1	UTR3		-	AtaG	0.1053	0.15	8	3	[19,44]
chr1:45898920	GPBP1L1	UTR5		-	TtoG	0.1	0.1333	2	2	[10,15]
chr1:45899369	GPBP1L1	UTR5		-	TtoG	0.1	0.1	4	2	[10,10]
chr2:157136035	GPD2	coding_exon	ENST00000310454:DtoE;ENST00000409674:DtoE;ENST00000438166:DtoE;	+	TtoA	0.1	0.1538	6	3	[10,13]
chr14:66705421	PHNN	coding_exon	ENST00000305960:VtoG;ENST00000315266:VtoG;ENST00000478722:VtoG;	+	TtoG	0.1176	0.2727	6	4	[10,20]
chr19:39583074	GPI	UTR3		+	GtoA	0.1031	0.5385	12	12	[11,97]
chr19:39583075	GPI	UTR3		+	GtoA	0.175	0.4167	3	3	[10,43]
chr2:27727152	GNP1	UTR3		+	AtaG	0.1053	0.1818	4	2	[11,19]
chr9:131885669	GPR107	coding_exon	ENST00000347136:StoP;ENST00000372406:StoP;ENST00000372410:StoP;ENST00000372410:StoP;	+	TtoC	0.1	0.1	2	2	[10,10]
chr9:131885669	GPR107	coding_exon		+	TtoC	0.1	0.1429	2	2	[10,14]
chr19:6685248	GPR108	mixed		-	TtoC	0.1	0.2	3	2	[10,10]
chr16:56168144	GPR114	mixed		+	AtaG	0.1111	0.1111	4	2	[18,18]
chr1:234409911	GPR137B	coding_exon	ENST00000366591:VtoA;ENST00000366592:VtoA;	+	TtoC	0.2	0.2308	7	2	[10,14]
chr3:99734681	GPR15	mixed		+	TtoC	0.1389	0.2308	5	2	[13,36]
chr3:171285142	GPR160	coding_exon	ENST00000355897:StoT;	+	TtoA	0.1	0.2	2	2	[10,10]
chr3:171284558	GPR160	coding_exon	ENST00000355897:KtoR;	+	AtaG	0.1	0.2	4	2	[10,15]
chr3:128776733	GPR175	coding_exon	ENST00000355552:LtoP;ENST00000450633:LtoP;ENST00000489960:LtoP;	-	TtoC	0.1	0.1333	5	3	[10,18]
chr3:128774647	GPR175	UTR3		-	TtoC	0.2	0.3636	3	3	[10,11]
chr13:94062525	GPR180	coding_exon	ENST00000376958:KtoE;	+	AtaG	0.1	0.1	2	2	[10,10]
chr2:231481135	GPR55	mixed		-	AtaC	0.1111	0.375	2	2	[16,27]
chr16:45501197	GPT2	coding_exon	ENST00000340124:LtoP;ENST00000440783:LtoP;	+	TtoC	0.1	0.125	2	2	[10,16]
chr16:45515940	GPT2	coding_exon	ENST00000340124:AtoS;ENST00000440783:AtoS;	+	GtoT	0.1	0.1	2	2	[10,10]
chr3:49369614	GPX1	UTR3		-	AtaG	0.1	0.2727	7	4	[10,19]
chr3:49369615	GPX1	UTR3		-	GtoA	0.1034	0.45	21	20	[10,59]
chr3:49369616	GPX1	UTR3		-	AtaG	0.1333	0.1633	9	2	[30,49]
chr19:40209205	GRAMD1A	UTR3		+	TtoC	0.1111	0.1579	5	4	[18,44]
chr17:70826870	GRB2	UTR3		-	GtoC	0.125	0.1333	2	2	[15,16]
chr9:37426949	GRHPR	UTR3		+	AtaG	0.102	0.16	8	5	[16,49]
chr10:121130427	GRK5	mixed		+	GtoA	0.1	0.1	3	2	[10,10]
chr5:176791614	GRK6	coding_exon	ENST00000355472:HtoP;ENST00000355958:HtoP;ENST00000393576:HtoP;	+	AtaC	0.1	0.1111	4	2	[18,20]
chr19:52195609	GRLF1	coding_exon	ENST00000317082:TtoP;ENST00000404338:TtoP;	+	AtaC	0.1	0.1	2	2	[10,10]
chr19:52184656	GRLF1	coding_exon	ENST00000317082:LtoP;ENST00000404338:LtoP;	+	TtoC	0.1	0.125	2	2	[20,24]
chr19:52114246	GRLF1	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr19:52196128	GRLF1	mixed		+	TtoC	0.1	0.1667	4	2	[12,20]
chr19:52198012	GRLF1	UTR3		+	TtoC	0.1	0.1	3	2	[10,10]
chr4:71904392	GRSF1	UTR3		-	TtoG	0.1	0.1	2	2	[10,10]
chr19:53647788	GRWD1	coding_exon		+	AtaC	0.1333	0.2727	3	2	[11,15]
chr19:53648960	GRWD1	UTR3		+	AtaG	0.1	0.1	4	2	[10,20]
chr19:53648966	GRWD1	UTR3		+	CtoA	0.1	0.1818	2	2	[10,11]
chr3:121024141	GSK3B	UTR3		-	TtoA	0.1	0.1053	4	2	[10,19]
chr3:121027474	GSK3B	UTR3		-	TtoG	0.1	0.1	3	2	[10,10]
chr3:121027634	GSK3B	UTR3		-	AtoT	0.1	0.1	2	2	[10,10]
chr16:11889042	GSPT1	coding_exon		-	TtoC	0.1053	0.1176	3	2	[17,19]
chr16:11896341	GSPT1	coding_exon		-	TtoC	0.1538	0.16	2	2	[13,25]
chr16:11874069	GSPT1	UTR3		-	AtaG	0.1053	0.2308	6	5	[13,19]
chr8:30655761	GSR	UTR3		-	TtoA	0.1	0.1	4	2	[10,10]
chr4:106859965	GSTCD	coding_exon		+	AtaG	0.1818	0.2	3	2	[11,15]
chr1:110005385	GSTM4	mixed		+	TtoC	0.1	0.2143	8	4	[10,24]
chr11:67110698	GSTP1	mixed		+	CtoA	0.3	0.375	5	4	[16,40]
chr14:76867621	GSTZ1	UTR3		+	TtoG	0.1333	0.1429	2	2	[14,15]
chr14:80721638	GTF2A1	coding_exon	ENST00000298173:QtoR;ENST00000344860:QtoR;ENST00000393604:QtoR;ENST00000393604:QtoR;	-	AtaG	0.1	0.1818	4	2	[10,11]
chr14:80721637	GTF2A1	coding_exon		-	AtaG	0.1	0.1	2	2	[10,10]
chr15:57721658	GTF2A2	coding_exon	ENST00000396060:DtoE;ENST00000396061:DtoE;ENST00000396063:DtoE;ENST00000396063:DtoE;	-	TtoA	0.1154	0.122	12	3	[27,41]
chr15:57718394	GTF2A2	UTR3		-	TtoA	0.1429	0.1538	4	2	[13,14]
chr1:89091326	GTF2B	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr3:121982892	GTF2E1	coding_exon	ENST00000283875:PtoQ;	+	CtoA	0.1	0.1	2	2	[10,10]
chr3:121982782	GTF2E1	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr8:30630513	GTF2E2	coding_exon	ENST00000355904:StoP;	-	TtoC	0.1	0.1364	9	2	[22,41]
chr8:30584177	GTF2E2	coding_exon		-	TtoC	0.1	0.1071	9	3	[10,30]
chr8:30555647	GTF2E2	UTR3		-	TtoA	0.1111	0.1818	3	2	[11,18]
chr13:44755819	GTF2F2	UTR3		+	TtoC	0.1	0.125	4	3	[10,32]
chr11:18319431	GTF2H1	mixed		+	GtoA	0.1	0.1	2	2	[10,20]
chr11:18330044	GTF2H1	mixed		+	AtaG	0.1	0.1538	4	2	[10,13]
chr12:122706323	GTF2H3	coding_exon	ENST00000228955:QtoL;	+	AtoT	0.1	0.1	2	2	[10,10]
chr13:26907824	GTF3A	mixed		+	AtaG	0.1071	0.125	7	2	[16,30]
chr16:27421714	GTF3C1	coding_exon	ENST00000170629:VtoA;ENST00000356183:VtoA;	-	TtoC	0.1	0.1176	5	3	[10,20]
chr16:27425741	GTF3C1	coding_exon	ENST00000170629:StoP;ENST00000356183:StoP;	-	TtoC	0.1	0.2667	6	4	[10,15]
chr16:27456649	GTF3C1	coding_exon	ENST00000170629:QtoK;ENST00000356183:QtoK;	-	CtoA	0.1	0.1818	2	2	[10,11]
chr16:27380264	GTF3C1	coding_exon	ENST00000170629:MtoV;ENST00000356183:MtoV;	-	AtaG	0.1	0.1176	2	2	[10,17]
chr16:27456740	GTF3C1	coding_exon		-	TtoC	0.1	0.1	4	3	[10,10]
chr2:197337450	GTF3C3	UTR3		-	TtoC	0.1	0.125	4	3	[10,18]
chr9:134554475	GTF3C4	UTR3		+	TtoC	0.1	0.1111	3	3	[10,10]

chr9:35802964	HINT2	UTR3		-	TtoC	0.1	0.2	9	5	[10,45]
chr1:114319824	HIPK1	UTR3		+	TtoC	0.1	0.1	3	2	[10,10]
chr7:139062552	HIPK2	coding_exon	ENST00000263551:DtoE;ENST00000342645:DtoE;ENST00000406875:DtoE;ENST000	-	TtoG	0.1053	0.1429	5	2	[14,19]
chr7:138949714	HIPK2	coding_exon		-	AtoC	0.1	0.1	2	2	[10,10]
chr7:138902088	HIPK2	UTR3		-	TtoC	0.1154	0.125	6	2	[16,26]
chr7:138902248	HIPK2	UTR3		-	CtoT	0.1	0.3	7	2	[10,10]
chr11:33265575	HIPK3	coding_exon	ENST00000303296:StoP;ENST00000379016:StoP;ENST00000456517:StoP;	+	TtoC	0.1	0.1111	3	3	[10,19]
chr11:33335107	HIPK3	UTR3		+	TtoC	0.1	0.2143	3	2	[10,14]
chr6:26164406	HIST1H1C	mixed		-	AtoC	0.1	0.1775	12	7	[10,231]
chr6:26246261	HIST1H2AC	mixed		+	GtoA	0.1	0.1333	3	2	[10,15]
chr6:26212488	HIST1H4C	mixed		+	TtoC	0.1	0.1923	4	4	[10,26]
chr6:26313114	HIST1H4E	mixed		+	TtoG	0.1	0.1	2	2	[10,10]
chr6:12271726	HIVEP1	coding_exon		+	TtoC	0.1	0.1176	3	2	[10,17]
chr1:41822998	HIVEP3	coding_exon		-	CtoA	0.1	0.1	2	2	[10,10]
chr10:70773697	HK1	mixed		+	AtoC	0.1	0.1111	7	2	[10,27]
chr10:70831169	HK1	UTR3		+	AtoG	0.1176	0.127	4	2	[66,70]
chr10:70831629	HK1	UTR3		+	TtoA	0.1667	0.4545	8	6	[11,22]
chr10:70831630	HK1	UTR3		+	TtoG	0.1304	0.3333	7	4	[14,23]
chr2:74954504	HK2	coding_exon	ENST00000290573:VtoG;ENST00000409174:VtoG;	+	TtoG	0.2	0.4286	4	2	[10,21]
chr6:31432278	HLA-B	coding_exon	ENST00000428231:QtoR;	-	AtoG	0.102	0.1667	5	3	[49,54]
chr6:31432274	HLA-B	coding_exon	ENST00000428231:LtoF;	-	GtoT	0.16	0.3455	7	7	[25,66]
chr6:31431286	HLA-B	coding_exon	ENST00000412585:WtoR;ENST00000428231:WtoR;	-	TtoC	0.1	0.1475	6	3	[19,67]
chr6:31431284	HLA-B	coding_exon	ENST00000412585:Wto*;ENST00000428231:Wto*;	-	GtoA	0.1325	0.625	6	6	[19,147]
chr6:31432015	HLA-B	coding_exon	ENST00000412585:VtoE;ENST00000428231:VtoE;	-	TtoA	0.8008	0.922	3	2	[141,532]
chr6:31431241	HLA-B	coding_exon	ENST00000412585:RtoW;ENST00000428231:RtoW;	-	CtoT	0.1234	0.1633	3	2	[1049,2558]
chr6:31431283	HLA-B	coding_exon	ENST00000412585:AtoT;ENST00000428231:AtoT;	-	GtoA	0.16	0.2667	4	3	[14,52]
chr6:31431282	HLA-B	coding_exon	ENST00000412585:AtoD;ENST00000428231:AtoD;	-	CtoA	0.1111	0.155	3	2	[76,140]
chr6:31431233	HLA-B	coding_exon		-	CtoG	0.1071	0.1422	4	2	[1672,4098]
chr6:31432056	HLA-B	coding_exon		-	CtoG	0.9596	0.9745	2	2	[204,676]
chr6:31429628	HLA-B	UTR3		-	AtoG	0.1127	0.2	3	2	[10,71]
chr6:31429630	HLA-B	UTR3		-	GtoA	0.1111	0.5833	5	5	[12,54]
chr6:31429631	HLA-B	UTR3		-	AtoG	0.2174	0.2667	7	4	[15,46]
chr6:31429634	HLA-B	UTR3		-	TtoC	0.1184	0.3636	7	6	[25,77]
chr6:31429636	HLA-B	UTR3		-	CtoA	0.1522	0.1818	6	3	[48,110]
chr6:31429637	HLA-B	UTR3		-	CtoG	0.1053	0.1633	4	3	[51,119]
chr6:31429638	HLA-B	UTR3		-	AtoT	0.125	0.125	7	2	[32,68]
chr6:31429643	HLA-B	UTR3		-	TtoC	0.1163	0.2283	10	6	[73,262]
chr6:31429665	HLA-B	UTR3		-	TtoG	0.1682	0.2069	5	2	[320,422]
chr6:31429782	HLA-B	UTR3		-	CtoT	0.1489	0.1707	3	2	[2443,3068]
chr6:31429972	HLA-B	UTR3		-	TtoG	0.1009	0.125	8	2	[115,170]
chr6:31432920	HLA-B	UTR5		-	GtoT	0.1975	0.2012	2	2	[159,165]
chr6:31345285	HLA-C	coding_exon	ENST00000383329:TtoS;	-	AtoT	0.25	0.5588	6	4	[16,44]
chr6:31345287	HLA-C	coding_exon	ENST00000383329:PtoL;	-	CtoT	0.15	0.5	7	5	[15,53]
chr6:31346177	HLA-C	coding_exon	ENST00000376228:Wto*;ENST00000383329:Wto*;ENST00000396254:Wto*;	-	GtoA	0.1	0.15	2	2	[10,20]
chr6:31347755	HLA-C	coding_exon	ENST00000376228:CtoG;ENST00000383329:CtoG;ENST00000396254:CtoG;	-	TtoG	0.1299	0.1691	2	2	[308,337]
chr6:31345298	HLA-C	coding_exon		-	GtoA	0.1111	0.3846	3	3	[13,21]
chr6:31344507	HLA-C	UTR3		-	GtoA	0.25	0.3125	3	2	[12,16]
chr6:31344508	HLA-C	UTR3		-	AtoG	0.1	0.2	3	2	[10,15]
chr6:31344509	HLA-C	UTR3		-	CtoA	0.1176	0.125	4	2	[16,17]
chr6:31344511	HLA-C	UTR3		-	TtoC	0.12	0.2857	6	5	[14,25]
chr6:31344520	HLA-C	UTR3		-	TtoC	0.1111	0.2857	11	5	[14,48]
chr6:31344701	HLA-C	UTR3		-	GtoA	0.151	0.3262	2	2	[615,1151]
chr6:31344751	HLA-C	UTR3		-	CtoT	0.1363	0.1592	6	3	[1921,2632]
chr6:31344805	HLA-C	UTR3		-	AtoC	0.3576	0.4191	2	2	[1430,3239]
chr6:33024526	HLA-DMA	UTR3		-	GtoA	0.1176	0.1333	6	2	[15,17]
chr6:33028847	HLA-DMA	UTR5		-	TtoC	0.1	0.1111	6	2	[10,18]
chr6:33028848	HLA-DMA	UTR5		-	TtoC	0.1	0.1818	6	3	[10,22]
chr6:33028849	HLA-DMA	UTR5		-	GtoT	0.2	0.2	3	2	[10,11]
chr6:33024389	HLA-DMB	mixed		-	TtoA	0.1818	0.3846	9	6	[11,54]
chr6:33010392	HLA-DMB	UTR3		-	AtoG	0.1667	0.2727	4	2	[12,23]
chr6:33010396	HLA-DMB	UTR3		-	TtoC	0.1111	0.2727	13	6	[11,18]
chr6:33079973	HLA-DOA	UTR3		-	TtoA	0.1818	0.2	2	2	[10,23]
chr6:33081833	HLA-DOA	UTR3		-	TtoC	0.1111	0.1481	2	2	[27,27]
chr6:33081964	HLA-DOA	UTR3		-	TtoC	0.1579	0.4545	6	3	[11,19]
chr6:33160714	HLA-DPB1	coding_exon	ENST00000418931:RtoK;ENST00000422592:RtoK;	+	GtoA	0.144	0.1915	3	3	[113,705]
chr6:33160936	HLA-DPB1	coding_exon	ENST00000411942:TtoL;ENST00000418931:TtoL;ENST00000422592:TtoL;	+	CtoT	0.5155	0.6195	2	2	[259,1253]
chr6:33156435	HLA-DPB1	coding_exon	ENST00000411942:LtoV;ENST00000418931:LtoV;ENST00000422592:LtoV;	+	CtoG	0.1119	0.1393	3	3	[280,412]
chr6:33156606	HLA-DPB1	coding_exon	ENST00000411942:ItoL;ENST00000418931:ItoL;ENST00000422592:ItoL;	+	AtoC	0.1143	0.3487	2	2	[565,1928]
chr6:33156577	HLA-DPB1	coding_exon	ENST00000411942:AtoD;ENST00000418931:AtoD;ENST00000422592:AtoD;	+	CtoA	0.1731	0.4013	3	2	[209,2879]
chr6:33159732	HLA-DPB1	coding_exon		+	TtoA	0.1	0.1818	4	2	[10,11]
chr6:33160721	HLA-DPB1	coding_exon		+	TtoC	0.2517	0.2979	2	2	[143,483]
chr6:33160928	HLA-DPB1	coding_exon		+	TtoC	0.5786	0.6254	2	2	[280,1198]
chr6:33162303	HLA-DPB1	UTR3		+	GtoC	0.3666	0.3918	2	2	[486,974]
chr6:33162309	HLA-DPB1	UTR3		+	TtoC	0.2974	0.305	2	2	[436,850]
chr6:33162523	HLA-DPB1	UTR3		+	AtoG	0.1	0.1915	22	15	[30,156]
chr6:33162525	HLA-DPB1	UTR3		+	CtoA	0.1	0.2206	16	8	[30,93]
chr6:33162713	HLA-DPB1	UTR3		+	CtoA	0.1	0.1176	2	2	[11,17]
chr6:32718368	HLA-DQA1	coding_exon	ENST00000343139:PtoL;ENST00000374949:PtoL;ENST00000395363:PtoL;ENST000	+	CtoT	0.1515	0.3	4	2	[10,33]
chr6:32717985	HLA-DQA1	coding_exon	ENST00000343139:DtoA;ENST00000374949:DtoA;ENST00000395363:DtoA;ENST000	+	AtoC	0.1	0.125	7	4	[10,27]
chr6:32717704	HLA-DQA1	coding_exon		+	CtoT	0.25	0.25	2	2	[12,24]
chr6:32718513	HLA-DQA1	coding_exon		+	AtoC	0.1338	0.492	5	5	[412,1249]
chr6:32718773	HLA-DQA1	UTR3		+	GtoC	0.125	0.2716	3	2	[81,354]
chr6:32718997	HLA-DQA1	UTR3		+	AtoG	0.1	0.2647	7	6	[10,34]
chr6:32719177	HLA-DQA1	UTR3		+	TtoA	0.1754	0.4706	3	3	[13,57]
chr6:32820977	HLA-DQA2	coding_exon	ENST00000374940:TtoS;	+	CtoG	0.994	1	3	3	[184,336]
chr6:32821022	HLA-DQA2	coding_exon	ENST00000374940:TtoR;	+	CtoG	0.9966	1	5	5	[102,588]
chr6:32821707	HLA-DQA2	coding_exon	ENST00000374940:StoP;	+	TtoC	0.1	0.25	3	2	[10,12]
chr6:32822142	HLA-DQA2	coding_exon	ENST00000374940:LtoP;	+	TtoC	1	1	3	3	[11,164]
chr6:32822009	HLA-DQA2	coding_exon	ENST00000374940:AtoT;	+	GtoA	0.9845	1	5	5	[68,129]
chr6:32817258	HLA-DQA2	coding_exon		+	CtoT	1	1	2	2	[19,40]
chr6:32820969	HLA-DQA2	coding_exon		+	CtoG	0.9936	1	3	3	[101,156]
chr6:32821026	HLA-DQA2	coding_exon		+	AtoG	0.9545	1	5	5	[88,482]
chr6:32821805	HLA-DQA2	coding_exon		+	CtoT	1	1	2	2	[228,610]
chr6:32822011	HLA-DQA2	coding_exon		+	CtoA	0.9688	1	5	5	[10,64]
chr6:32822053	HLA-DQA2	coding_exon		+	GtoA	0.4184	0.8305	2	2	[98,118]
chr6:32822146	HLA-DQA2	coding_exon		+	AtoG	1	1	3	3	[72,162]

chr5:162851186	HMMR	UTR3		+	TtoC	0.1	0.1176	4	2	[17,20]
chr16:4499897	HMOX2	UTR3		+	AtoG	0.1	0.1	3	2	[10,10]
chr17:70643681	HN1	UTR3		-	TtoG	0.1111	0.2	6	2	[11,18]
chr17:70643687	HN1	UTR3		-	AtoG	0.1034	0.1538	3	2	[13,29]
chr17:70643688	HN1	UTR3		-	GtoA	0.1	0.12	2	2	[25,30]
chr16:1689356	HN1L	UTR3		+	AtoC	0.1176	0.16	9	3	[25,51]
chr16:1689541	HN1L	UTR3		+	TtoC	0.1489	0.1765	8	2	[17,47]
chr16:1691541	HN1L	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr16:1691627	HN1L	UTR3		+	GtoT	0.1	0.2	2	2	[10,10]
chr17:33167852	HNF1B	coding_exon	ENST00000225893:PtoR;ENST00000427275:PtoR;	-	CtoG	0.1429	0.1818	3	2	[11,14]
chr17:33167921	HNF1B	coding_exon	ENST00000225893:NtoS;ENST00000427275:NtoS;	-	AtoG	0.1111	0.1364	6	2	[18,22]
chr17:33167850	HNF1B	coding_exon	ENST00000225893:EtoQ;ENST00000427275:EtoQ;	-	GtoC	0.1111	0.2	4	3	[10,18]
chr17:33167926	HNF1B	coding_exon		-	AtoG	0.1154	0.3333	7	5	[11,26]
chr5:137115700	HNRNPA0	mixed		-	CtoT	0.1	0.1	3	2	[10,20]
chr5:137116262	HNRNPA0	mixed		-	AtoG	0.1296	0.1818	3	2	[33,59]
chr12:52961437	HNRNPA1P2	coding_exon	ENST00000330752:StoT;ENST00000340913:StoT;ENST00000420780:StoT;	+	TtoA	0.1053	0.1765	6	3	[17,38]
chr12:52960869	HNRNPA1P2	coding_exon	ENST00000330752:Sto*;ENST00000340913:Sto*;ENST00000420780:Sto*;	+	CtoG	0.1034	0.186	9	4	[15,149]
chr12:52962536	HNRNPA1P2	coding_exon	ENST00000330752:RtoS;ENST00000340913:RtoS;ENST00000420780:RtoS;	+	AtoC	0.1159	0.2105	15	5	[20,73]
chr12:52963863	HNRNPA1P2	coding_exon	ENST00000330752:GtoV;ENST00000340913:GtoV;	+	GtoT	0.1	0.1	2	2	[10,10]
chr12:52962537	HNRNPA1P2	coding_exon	ENST00000330752:GtoC;ENST00000340913:GtoC;ENST00000420780:GtoC;	+	GtoT	0.1059	0.5161	18	15	[31,201]
chr12:52962527	HNRNPA1P2	coding_exon		+	CtoT	0.1	0.1	3	2	[10,10]
chr12:52962664	HNRNPA1P2	coding_exon		+	TtoG	0.1088	0.1813	8	5	[158,257]
chr12:52960818	HNRNPA1P2	UTR5		+	GtoC	0.1	0.1385	4	2	[50,65]
chr7:26196858	HNRNPA2B1	UTR3		-	TtoC	0.1	0.2	3	2	[10,10]
chr7:26196960	HNRNPA2B1	UTR3		-	TtoC	0.1111	0.1818	5	2	[11,18]
chr7:26197850	HNRNPA2B1	UTR3		-	TtoA	0.1304	0.1429	3	2	[14,23]
chr7:26198027	HNRNPA2B1	UTR3		-	TtoC	0.125	0.1429	10	3	[25,110]
chr2:177790723	HNRNPA3	coding_exon	ENST00000392524:YtoH;ENST00000411529:YtoH;ENST00000416446:YtoH;ENST00000412538:YtoH;	+	TtoC	0.1	0.1	3	2	[10,10]
chr2:177789516	HNRNPA3	coding_exon	ENST00000392524:VtoG;ENST00000411529:VtoG;ENST00000412538:VtoG;ENST00000412538:VtoG;	+	TtoG	0.15	0.2	5	2	[10,20]
chr2:177789664	HNRNPA3	coding_exon	ENST00000392524:StoP;ENST00000411529:StoP;ENST00000412538:StoP;ENST00000412538:StoP;	+	TtoC	0.1	0.1	5	2	[10,10]
chr2:177790739	HNRNPA3	coding_exon	ENST00000392524:PtoR;ENST00000411529:PtoR;ENST00000416446:PtoR;ENST00000412538:PtoR;	+	CtoG	0.1	0.1	3	2	[10,10]
chr2:177789518	HNRNPA3	coding_exon	ENST00000392524:KtoE;ENST00000411529:KtoE;ENST00000412538:KtoE;ENST00000412538:KtoE;	+	AtoG	0.1	0.25	6	2	[20,20]
chr2:177789554	HNRNPA3	coding_exon	ENST00000392524:GtoR;ENST00000411529:GtoR;ENST00000412538:GtoR;ENST00000412538:GtoR;	+	GtoC	0.1053	0.1429	11	3	[21,46]
chr2:177789651	HNRNPA3	coding_exon		+	TtoC	0.1143	0.1538	7	3	[13,36]
chr2:177789654	HNRNPA3	coding_exon		+	TtoC	0.1	0.2	12	5	[11,21]
chr2:177790695	HNRNPA3	coding_exon		+	TtoG	0.1271	0.3017	8	4	[93,144]
chr2:177790704	HNRNPA3	coding_exon		+	TtoC	0.1034	0.1379	7	2	[29,29]
chr2:177790722	HNRNPA3	coding_exon		+	CtoG	0.1	0.1875	4	2	[10,16]
chr2:177790737	HNRNPA3	coding_exon		+	AtoT	0.1	0.1818	7	2	[10,12]
chr14:20771963	HNRNPC	coding_exon	ENST00000320084:GtoV;ENST00000336053:GtoV;ENST00000420743:GtoV;ENST00000420743:GtoV;	-	GtoT	0.122	0.14	5	3	[39,50]
chr14:20750982	HNRNPC	coding_exon	ENST00000216296:RtoQ;ENST00000320084:RtoQ;ENST00000336053:RtoQ;ENST00000336053:RtoQ;	-	GtoA	0.1	0.1667	17	7	[40,104]
chr14:20750979	HNRNPC	coding_exon	ENST00000216296:GtoE;ENST00000320084:GtoE;ENST00000336053:GtoE;ENST00000336053:GtoE;	-	GtoA	0.1	0.25	14	6	[31,55]
chr14:20750975	HNRNPC	coding_exon		-	TtoG	0.1	0.1053	4	2	[19,20]
chr14:20750978	HNRNPC	coding_exon		-	AtoG	0.122	0.1509	9	2	[41,58]
chr14:20750981	HNRNPC	coding_exon		-	GtoA	0.1552	0.1842	14	2	[39,59]
chr14:20771965	HNRNPC	coding_exon		-	TtoC	0.1053	0.1538	13	7	[21,57]
chr4:83494040	HNRNPD	UTR3		-	TtoA	0.1	0.3	9	4	[10,20]
chr4:83494212	HNRNPD	UTR3		-	TtoC	0.1014	0.1268	9	5	[57,143]
chr5:178974419	HNRNPH1	UTR3		-	TtoC	0.1148	0.1333	5	2	[15,61]
chr10:69767653	HNRNPH3	coding_exon	ENST00000265866:TtoP;ENST00000354695:TtoP;	+	AtoC	0.1129	0.1746	11	2	[124,126]
chr10:69767594	HNRNPH3	coding_exon		+	AtoC	0.1	0.2	2	2	[10,10]
chr10:69767617	HNRNPH3	coding_exon		+	AtoG	0.4545	0.75	11	11	[11,35]
chr10:69771860	HNRNPH3	UTR3		+	TtoC	0.1053	0.1538	8	2	[13,19]
chr19:44028133	HNRNPL	coding_exon	ENST00000221419:VtoG;ENST00000388749:VtoG;ENST00000388750:VtoG;ENST00000388750:VtoG;	-	TtoG	0.1	0.1818	5	2	[11,11]
chr19:44021073	HNRNPL	coding_exon	ENST00000221419:StoF;ENST00000388749:StoF;ENST00000388750:StoF;ENST00000388750:StoF;	-	CtoT	0.1053	0.1333	6	3	[15,28]
chr19:44026546	HNRNPL	coding_exon	ENST00000221419:StoC;ENST00000388749:StoC;ENST00000388750:StoC;ENST00000388750:StoC;	-	CtoG	0.1111	0.1818	3	2	[10,12]
chr19:44028541	HNRNPL	coding_exon	ENST00000221419:QtoR;ENST00000388749:QtoR;ENST00000388750:QtoR;ENST00000388750:QtoR;	-	AtoG	0.1	0.1	3	2	[10,11]
chr19:44021390	HNRNPL	coding_exon	ENST00000221419:QtoK;ENST00000388749:QtoK;ENST00000388750:QtoK;ENST00000388750:QtoK;	-	CtoA	0.2	0.2	2	2	[10,10]
chr19:44028151	HNRNPL	coding_exon	ENST00000221419:NtoT;ENST00000388749:NtoT;ENST00000388750:NtoT;ENST00000388750:NtoT;	-	AtoC	0.1	0.1	4	2	[10,10]
chr19:44020924	HNRNPL	coding_exon	ENST00000221419:HtoN;ENST00000388749:HtoN;ENST00000388750:HtoN;ENST00000388750:HtoN;	-	CtoA	0.1	0.1333	2	2	[10,15]
chr19:44026579	HNRNPL	coding_exon	ENST00000221419:DtoV;ENST00000388749:DtoV;ENST00000388750:DtoV;ENST00000388750:DtoV;	-	AtoT	0.1818	0.25	3	2	[11,12]
chr19:44026580	HNRNPL	coding_exon	ENST00000221419:DtoH;ENST00000388749:DtoH;ENST00000388750:DtoH;ENST00000388750:DtoH;	-	GtoC	0.1667	0.2	3	2	[10,12]
chr19:44026556	HNRNPL	coding_exon	ENST00000221419:AtoT;ENST00000388749:AtoT;ENST00000388750:AtoT;ENST00000388750:AtoT;	-	GtoA	0.1	0.1818	3	2	[10,11]
chr19:44026555	HNRNPL	coding_exon	ENST00000221419:AtoG;ENST00000388749:AtoG;ENST00000388750:AtoG;ENST00000388750:AtoG;	-	CtoG	0.1	0.2	3	2	[10,10]
chr19:44020102	HNRNPL	coding_exon		-	AtoG	0.1296	0.1905	8	2	[54,70]
chr19:44021024	HNRNPL	coding_exon		-	GtoA	0.1111	0.2353	5	4	[18,35]
chr19:44026491	HNRNPL	coding_exon		-	AtoG	0.1538	0.4167	10	7	[10,17]
chr19:44029800	HNRNPL	mixed		-	AtoG	0.1	0.4	9	4	[10,23]
chr19:44019142	HNRNPL	UTR3		-	TtoA	0.1053	0.1667	13	5	[16,58]
chr19:44019143	HNRNPL	UTR3		-	AtoG	0.1053	0.1711	7	5	[16,84]
chr1:243085469	HNRNPU	coding_exon		-	AtoG	0.1133	0.1633	2	2	[346,459]
chr1:243085472	HNRNPU	coding_exon		-	TtoG	0.1143	0.1297	7	2	[191,459]
chr19:46492379	HNRNPUL1	coding_exon	ENST00000263367:NtoT;ENST00000352456:NtoT;ENST00000378215:NtoT;ENST00000378215:NtoT;	+	AtoC	0.1154	0.1231	4	2	[26,65]
chr19:46505339	HNRNPUL1	UTR3		+	CtoA	0.1	0.1	5	3	[10,10]
chr19:46505340	HNRNPUL1	UTR3		+	TtoA	0.1	0.1026	3	2	[10,39]
chr11:62238821	HNRNPUL2	UTR3		-	TtoA	0.1	0.1064	3	2	[30,48]
chr4:83566704	HNRPDL	coding_exon		-	AtoG	0.1069	0.1111	2	2	[108,132]
chr5:78704985	HOMER1	UTR3		-	GtoT	0.4444	0.8	4	4	[10,27]
chr14:22815360	HOMEZ	coding_exon	ENST00000357460:LtoP;	-	TtoC	0.1538	0.2	2	2	[10,13]
chr14:22814368	HOMEZ	UTR3		-	GtoA	0.1	0.1	3	2	[10,10]
chr14:22814390	HOMEZ	UTR3		-	TtoC	0.1818	0.2	5	2	[10,11]
chr14:22814600	HOMEZ	UTR3		-	TtoG	0.1	0.2	3	2	[10,10]
chr8:43001115	HOOK3	UTR3		+	AtoG	0.1	0.1538	2	2	[10,13]
chr17:44009283	HQB3	UTR5		-	TtoG	0.1	0.2	3	2	[10,10]
chr1:20943593	HP1BP3	UTR3		-	TtoA	0.1	0.1429	6	2	[10,15]
chr2:10484784	HPCAL1	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr2:10485148	HPCAL1	UTR3		+	TtoC	0.1	0.1	5	3	[10,10]
chr1:45566577	HPDL	coding_exon		+	AtoG	0.1	0.1818	3	2	[10,11]
chr10:100185446	HPS1	coding_exon	ENST00000249092:KtoT;ENST00000325103:KtoT;ENST00000338546:KtoT;ENST00000338546:KtoT;	-	AtoC	0.1	0.1111	3	2	[10,18]
chr10:100192899	HPS1	coding_exon	ENST00000249092:FtoS;ENST00000325103:FtoS;ENST00000338546:FtoS;ENST00000338546:FtoS;	-	TtoC	0.1176	0.1429	6	3	[14,17]
chr10:100167122	HPS1	UTR3		-	AtoG	0.1	0.1	5	2	[10,20]
chr3:150341831	HPS3	coding_exon	ENST00000296051:LtoP;ENST00000460120:LtoP;	+	TtoC	0.1	0.1429	2	2	[10,14]
chr22:25190014	HPS4	coding_exon	ENST00000336873:RtoW;ENST00000398141:RtoW;ENST00000398145:RtoW;ENST00000398145:RtoW;	-	AtoT	0.1	0.1	3	2	[10,10]
chr22:25207781	HPS4	UTR5		-	TtoA	0.1	0.1538	2	2	[10,13]
chr11:18269887	HPS5	coding_exon		-	AtoT	0.1	0.1	2	2	[10,10]
chr11:18257672	HPS5	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]

chr10:103816292	HPS6	coding_exon	ENST00000299238:EtOD;	+	AtoC	0.1429	0.2	4	2	[10,14]
chr11:63082528	HRASLS2	coding_exon	ENST0000025695:VtoA;	-	TtoC	0.1	0.1	3	2	[10,30]
chr16:82399159	HSBP1	UTR5		+	AtoC	0.1034	0.1134	4	2	[29,98]
chr22:2747229	HSCB	coding_exon	ENST00000216027:Atog;ENST00000398941:StoR;	+	CtoG	0.1	0.1429	2	2	[10,14]
chr19:54026737	HSD17B14	coding_exon	ENST00000263278:KtoN;	-	GtoC	0.1667	0.1739	3	2	[12,23]
chr19:16126299	HSH2D	mixed		+	GtoC	0.1053	0.2143	5	2	[14,57]
chr14:101620494	HSP90AA2	coding_exon	ENST00000216281:YtoS;ENST00000334701:YtoS;	-	AtoC	0.1	0.2	14	10	[10,42]
chr14:101619971	HSP90AA2	coding_exon	ENST00000216281:VtoA;ENST00000334701:VtoA;	-	TtoC	0.1	0.2143	7	4	[14,25]
chr14:101617879	HSP90AA2	coding_exon	ENST00000216281:TtoP;ENST00000334701:TtoP;ENST00000456274:TtoP;	-	AtoC	0.1053	0.1111	9	2	[27,38]
chr14:101617878	HSP90AA2	coding_exon	ENST00000216281:TtoI;ENST00000334701:TtoI;ENST00000456274:TtoI;	-	CtoT	0.1176	0.1818	8	2	[11,51]
chr14:101619969	HSP90AA2	coding_exon	ENST00000216281:KtoE;ENST00000334701:KtoE;	-	Atog	0.1333	0.25	4	4	[10,15]
chr14:101617892	HSP90AA2	coding_exon		-	TtoA	0.1042	0.1818	10	3	[24,48]
chr14:101617910	HSP90AA2	coding_exon		-	TtoG	0.1143	0.1379	12	2	[29,35]
chr14:101619955	HSP90AA2	coding_exon		-	Atog	0.1333	0.1429	3	2	[14,16]
chr14:101619970	HSP90AA2	coding_exon		-	CtoT	0.1538	0.3333	3	2	[10,14]
chr14:101617135	HSP90AA2	UTR3		-	TtoA	0.1	0.3	8	4	[10,17]
chr14:101617137	HSP90AA2	UTR3		-	TtoA	0.1053	0.3333	9	4	[12,26]
chr14:101617153	HSP90AA2	UTR3		-	CtoG	0.1077	0.1111	8	3	[36,65]
chr14:101617521	HSP90AA2	UTR3		-	TtoG	0.1091	0.3077	9	6	[25,78]
chr14:101617527	HSP90AA2	UTR3		-	TtoG	0.1023	0.2093	11	10	[18,155]
chr6:44327809	HSP90AB1	coding_exon	ENST00000353801:YtoN;ENST00000371554:YtoN;ENST00000371646:YtoN;	+	TtoA	0.1024	0.2773	13	11	[33,184]
chr6:44328822	HSP90AB1	coding_exon	ENST00000353801:WtoC;ENST00000371554:WtoC;ENST00000371646:WtoC;	+	GtoC	0.125	0.5294	7	3	[17,24]
chr6:44327731	HSP90AB1	coding_exon	ENST00000353801:VtoL;ENST00000371554:VtoL;ENST00000371562:VtoL;ENST00000371646:VtoL;	+	GtoC	0.1017	0.1429	9	5	[83,178]
chr6:44327783	HSP90AB1	coding_exon	ENST00000353801:VtoA;ENST00000371554:VtoA;ENST00000371646:VtoA;	+	TtoC	0.1111	0.1781	15	8	[28,205]
chr6:44328823	HSP90AB1	coding_exon	ENST00000353801:TtoP;ENST00000371554:TtoP;ENST00000371646:TtoP;	+	AtoC	0.15	0.7895	11	8	[12,34]
chr6:44328874	HSP90AB1	coding_exon	ENST00000353801:TtoA;ENST00000371554:TtoA;ENST00000371646:TtoA;	+	Atog	0.1	0.2222	5	4	[10,16]
chr6:44328871	HSP90AB1	coding_exon	ENST00000353801:StoP;ENST00000371554:StoP;ENST00000371646:StoP;	+	TtoC	0.1538	0.3077	4	3	[13,14]
chr6:44327731	HSP90AB1	coding_exon	ENST00000353801:StoI;ENST00000371554:StoI;ENST00000371562:StoI;ENST00000371646:StoI;	+	GtoT	0.1111	0.1194	8	2	[18,68]
chr6:44327730	HSP90AB1	coding_exon	ENST00000353801:QtoH;ENST00000371554:QtoH;ENST00000371562:QtoH;ENST00000371646:QtoH;	+	GtoT	0.1043	0.1728	13	5	[81,176]
chr6:44328869	HSP90AB1	coding_exon	ENST00000353801:NtoI;ENST00000371554:NtoI;ENST00000371646:NtoI;	+	AtoT	0.15	0.1724	7	3	[18,29]
chr6:44327737	HSP90AB1	coding_exon	ENST00000353801:NtoD;ENST00000371554:NtoD;ENST00000371562:NtoD;ENST00000371646:NtoD;	+	Atog	0.1165	0.1176	13	2	[102,104]
chr6:44328998	HSP90AB1	coding_exon	ENST00000353801:LtoQ;ENST00000371554:LtoQ;ENST00000371646:LtoQ;	+	TtoA	0.1538	0.4286	8	8	[10,22]
chr6:44327939	HSP90AB1	coding_exon	ENST00000353801:LtoP;ENST00000371554:LtoP;ENST00000371646:LtoP;	+	TtoC	0.1311	0.1809	12	6	[26,101]
chr6:44327960	HSP90AB1	coding_exon	ENST00000353801:ItoN;ENST00000371554:ItoN;ENST00000371646:ItoN;	+	TtoA	0.1	0.1429	4	2	[14,21]
chr6:44326909	HSP90AB1	coding_exon	ENST00000353801:EtoD;ENST00000371554:EtoD;ENST00000371562:EtoD;ENST00000371646:EtoD;	+	GtoC	0.1304	0.2353	8	4	[16,28]
chr6:44328865	HSP90AB1	coding_exon	ENST00000353801:DtoN;ENST00000371554:DtoN;ENST00000371646:DtoN;	+	GtoA	0.129	0.1538	3	2	[13,34]
chr6:44328971	HSP90AB1	coding_exon	ENST00000353801:DtoG;ENST00000371554:DtoG;ENST00000371646:DtoG;	+	AtoG	0.1	0.1	3	2	[10,20]
chr6:44326906	HSP90AB1	coding_exon	ENST00000353801:DtoE;ENST00000371554:DtoE;ENST00000371562:DtoE;ENST00000371646:DtoE;	+	TtoG	0.1053	0.1429	5	2	[14,19]
chr6:44327736	HSP90AB1	coding_exon		+	CtoA	0.1038	0.1044	12	2	[106,251]
chr6:44328978	HSP90AB1	coding_exon		+	Atog	0.5	0.7	2	2	[11,17]
chr6:44328990	HSP90AB1	coding_exon		+	GtoT	0.1	0.1	3	2	[10,10]
chr6:44328999	HSP90AB1	coding_exon		+	GtoT	0.1818	0.5238	11	10	[10,25]
chr6:44324385	HSP90AB1	mixed		+	CtoG	0.102	0.2	8	4	[10,64]
chr6:44324386	HSP90AB1	mixed		+	TtoA	0.1111	0.3462	12	9	[19,72]
chr6:44325092	HSP90AB1	mixed		+	GtoC	0.12	0.2143	8	6	[14,27]
chr6:44325093	HSP90AB1	mixed		+	CtoT	0.1429	0.2	9	7	[12,22]
chr6:44325098	HSP90AB1	mixed		+	GtoC	0.1	0.16	7	4	[19,32]
chr6:44325107	HSP90AB1	mixed		+	CtoT	0.1	0.2	5	2	[10,10]
chr6:44325129	HSP90AB1	mixed		+	CtoT	0.1111	0.1212	5	2	[33,36]
chr6:44325149	HSP90AB1	mixed		+	Atog	0.129	0.2667	8	5	[10,31]
chr6:44325155	HSP90AB1	mixed		+	CtoT	0.15	0.1579	2	2	[21,40]
chr6:44325203	HSP90AB1	mixed		+	GtoA	0.1	0.3684	13	11	[13,44]
chr6:44325205	HSP90AB1	mixed		+	Atog	0.1364	0.28	17	12	[11,39]
chr6:44325209	HSP90AB1	mixed		+	Atog	0.1	0.125	4	2	[10,24]
chr6:44325215	HSP90AB1	mixed		+	Atog	0.1	0.3125	6	6	[10,16]
chr6:44325248	HSP90AB1	mixed		+	TtoC	0.1429	0.2	12	4	[10,24]
chr6:44325250	HSP90AB1	mixed		+	GtoT	0.125	0.1429	4	2	[16,21]
chr6:44325508	HSP90AB1	mixed		+	AtoT	0.16	0.2	7	2	[10,25]
chr6:44325751	HSP90AB1	mixed		+	GtoA	0.1026	0.1111	5	2	[39,46]
chr6:44325769	HSP90AB1	mixed		+	TtoC	0.1071	0.2222	11	8	[22,50]
chr6:44325772	HSP90AB1	mixed		+	Atog	0.122	0.3333	13	12	[14,45]
chr6:44325812	HSP90AB1	mixed		+	GtoA	0.1	0.125	3	2	[16,20]
chr6:44325813	HSP90AB1	mixed		+	GtoA	0.1	0.1143	6	2	[20,38]
chr6:44325816	HSP90AB1	mixed		+	Atog	0.1667	0.1818	3	2	[12,13]
chr6:44325841	HSP90AB1	mixed		+	AtoT	0.1	0.1875	8	5	[10,16]
chr6:44326193	HSP90AB1	mixed		+	AtoT	0.1	0.1667	2	2	[10,13]
chr6:44326204	HSP90AB1	mixed		+	AtoC	0.1111	0.1212	5	3	[10,34]
chr6:44326816	HSP90AB1	mixed		+	TtoC	0.1	0.2371	21	17	[26,180]
chr6:44326822	HSP90AB1	mixed		+	TtoG	0.1111	0.3529	13	11	[18,94]
chr6:44326846	HSP90AB1	mixed		+	GtoT	0.1	0.1111	6	2	[10,18]
chr6:44326854	HSP90AB1	mixed		+	AtoT	0.1429	0.2	3	2	[10,21]
chr6:44326875	HSP90AB1	mixed		+	TtoC	0.1	0.1667	10	6	[15,30]
chr6:44322829	HSP90AB1	UTR5		+	CtoT	0.1224	0.25	6	3	[20,49]
chr12:102861718	HSP90B1	coding_exon	ENST00000299767:StoA;ENST00000421266:StoA;	+	TtoG	0.125	0.1333	6	2	[15,40]
chr12:102864581	HSP90B1	coding_exon	ENST00000299767:RtoG;ENST00000421266:RtoG;	+	Atog	0.1	0.1	7	4	[10,10]
chr12:102861093	HSP90B1	coding_exon	ENST00000299767:KtoE;ENST00000421266:KtoE;	+	Atog	0.1765	0.2	2	2	[10,18]
chr12:102864599	HSP90B1	coding_exon	ENST00000299767:ItoV;ENST00000421266:ItoV;	+	Atog	0.1	0.1333	3	2	[10,15]
chr12:102864586	HSP90B1	coding_exon	ENST00000299767:DtoE;ENST00000421266:DtoE;	+	CtoG	0.1	0.2	3	2	[10,11]
chr12:102861072	HSP90B1	coding_exon	ENST00000299767:Atot;ENST00000421266:Atot;	+	GtoA	0.1	0.125	3	2	[10,16]
chr12:102861745	HSP90B1	coding_exon	ENST00000299767:Atos;ENST00000421266:Atos;	+	GtoT	0.1154	0.5	13	10	[10,49]
chr12:102861101	HSP90B1	coding_exon		+	CtoT	0.1	0.1818	6	3	[11,20]
chr12:102865720	HSP90B1	UTR3		+	TtoA	0.1	0.1667	15	6	[31,131]
chr10:14928847	HSPA14	coding_exon		+	TtoC	0.1	0.1333	3	2	[10,15]
chr5:132459768	HSPA4	coding_exon	ENST00000304858:VtoG;	+	TtoG	0.1111	0.1221	3	2	[54,131]
chr4:128973785	HSPA4L	UTR3		+	Atog	0.1	0.1	2	2	[10,10]
chr9:127038352	HSPA5	UTR3		-	TtoG	0.1	0.1	4	2	[10,20]
chr9:127043423	HSPA5	UTR5		-	AtoT	0.1	0.194	4	4	[15,68]
chr5:137938981	HSPA9	UTR5		-	TtoC	0.1154	0.1667	2	2	[12,26]
chr2:198076081	HSPF1	coding_exon	ENST00000233893:VtoE;ENST00000409468:VtoE;ENST00000409729:VtoE;	+	TtoA	0.1	0.1176	8	2	[11,17]
chr2:198076074	HSPF1	coding_exon	ENST00000233893:TtoA;ENST00000409468:TtoA;ENST00000409729:TtoA;	+	Atog	0.1	0.25	11	7	[13,33]
chr2:198074130	HSPF1	coding_exon	ENST00000233893:ItoV;ENST00000409468:ItoV;	+	Atog	0.1	0.1471	12	8	[23,47]
chr2:198076072	HSPF1	coding_exon	ENST00000233893:GtoD;ENST00000409468:GtoD;ENST00000409729:GtoD;	+	GtoA	0.1081	0.2083	4	2	[24,37]
chr2:198076091	HSPF1	coding_exon	ENST00000233893:DtoE;ENST00000409468:DtoE;ENST00000409729:DtoE;	+	TtoA	0.1	0.2	4	2	[10,10]
chr2:198074144	HSPF1	coding_exon		+	Atog	0.1	0.1	5	2	[10,10]
chr2:198074189	HSPF1	coding_exon		+	AtoT	0.1	0.1667	5	2	[12,30]
chr2:198076079	HSPF1	coding_exon		+	Atog	0.1053	0.1176	4	2	[17,19]

chr13:30609486	HSPH1	coding_exon	ENST00000320027:Etov;ENST00000380405:Etov;ENST00000380406:Etov;ENST00000380407:Etov	-	AtoT	0.1765	0.1818	2	2	[11,17]
chr13:30609487	HSPH1	coding_exon	ENST00000320027:Etov;ENST00000380405:Etov;ENST00000380406:Etov;ENST00000380407:Etov	-	GtoC	0.1538	0.2	2	2	[10,13]
chr13:30608808	HSPH1	UTR3		-	TtoA	0.1	0.1	4	2	[10,20]
chr11:20361810	HTATIP2	UTR3		+	TtoA	0.1538	0.1667	5	2	[12,13]
chr4:3114304	HTT	coding_exon	ENST00000355072:YtoN;	+	TtoA	0.1	0.1429	5	2	[10,14]
chr4:3070892	HTT	coding_exon		+	TtoG	0.1	0.1	2	2	[10,10]
chr4:3094415	HTT	coding_exon		+	TtoC	0.1	0.1176	2	2	[10,17]
chr4:3215368	HTT	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr12:109573422	HVCN1	coding_exon	ENST00000356742:VtoG;	-	TtoG	0.1053	0.1585	6	2	[59,83]
chr3:50309843	HYAL3	mixed		-	AtoG	0.1	0.1	2	2	[10,10]
chr11:125269085	HVLS1	mixed		+	AtoG	0.1	0.1667	3	2	[10,12]
chr11:118422340	HYOU1	coding_exon		-	TtoA	0.1	0.127	9	3	[10,127]
chr11:118420299	HYOU1	UTR3		-	CtoT	0.1304	0.2143	7	4	[14,26]
chr11:118420967	HYOU1	UTR3		-	AtoT	0.1667	0.4	2	2	[12,15]
chr15:41880103	HYPK	coding_exon		+	TtoG	0.125	0.1818	6	2	[11,24]
chr15:41881326	HYPK	UTR3		+	TtoA	0.1	0.1429	10	6	[10,32]
chr2:9546585	IAH1	mixed		+	GtoC	0.1	0.1	2	2	[10,10]
chr9:94043005	IARS	coding_exon		-	TtoA	0.1034	0.119	9	3	[18,42]
chr9:94095576	IARS	UTR5		-	CtoA	0.1	0.1429	2	2	[10,14]
chr19:10257447	ICAM1	UTR3		+	AtoG	0.1034	0.1053	4	2	[19,29]
chr17:59434871	ICAM2	coding_exon	ENST00000225760:TtoP;ENST00000412356:TtoP;ENST00000418105:TtoP;ENST00000418106:TtoP	-	AtoC	0.1034	0.1364	7	2	[22,29]
chr19:10305699	ICAM3	coding_exon	ENST00000160262:VtoG;	-	TtoG	0.1121	0.1446	5	3	[79,166]
chr1:6205174	ICMT	UTR3		-	AtoG	0.1176	0.3636	6	4	[10,17]
chr1:6205700	ICMT	UTR3		-	AtoG	0.1	0.1111	3	2	[10,10]
chr21:44471760	ICOSLG	mixed		-	CtoT	0.1	0.1667	5	2	[18,40]
chr21:44471761	ICOSLG	mixed		-	AtoC	0.1111	0.1429	10	3	[14,36]
chr10:94284490	IDE	coding_exon	ENST00000265986:LtoV;	-	TtoG	0.1	0.1053	2	2	[11,19]
chr10:94215450	IDE	coding_exon		-	AtoG	0.1	0.1	2	2	[10,10]
chr10:94202042	IDE	UTR3		-	AtoC	0.1	0.1667	2	2	[12,20]
chr15:76248632	IDH3A	UTR3		+	TtoC	0.1176	0.2	3	3	[10,17]
chr20:2587057	IDH3B	UTR3		-	TtoG	0.1	0.1818	2	2	[11,12]
chr6:30818958	IER3	UTR3		-	TtoA	0.1667	0.4	2	2	[11,13]
chr6:30819436	IER3	UTR3		-	TtoC	0.1	0.1538	3	3	[10,36]
chr6:30819455	IER3	UTR3		-	TtoA	0.1111	0.1429	3	2	[18,21]
chr12:6519126	IFFO1	UTR3		-	TtoC	0.1176	0.125	3	2	[16,17]
chr17:38412334	IFI35	UTR5		+	CtoT	0.125	0.1818	2	2	[11,16]
chr1:78888796	IFI44	coding_exon	ENST00000370747:StoP;	+	TtoC	0.1333	0.1765	4	2	[15,17]
chr1:27865167	IFI6	UTR3		-	AtoG	0.1296	0.3091	12	12	[13,58]
chr1:27865412	IFI6	UTR3		-	CtoT	0.1	0.1818	7	5	[11,33]
chr2:162852969	IFIH1	coding_exon		-	TtoG	0.1	0.1111	4	2	[10,38]
chr10:91168375	IFIT5	coding_exon	ENST00000371795:LtoH;ENST00000416601:LtoH;	+	TtoA	0.1	0.1	2	2	[10,10]
chr10:91168107	IFIT5	coding_exon	ENST00000371795:KtoE;ENST00000416601:KtoE;	+	AtoG	0.1	0.2	2	2	[10,10]
chr10:91168089	IFIT5	coding_exon	ENST00000371795:FtoV;ENST00000416601:FtoV;	+	TtoG	0.1	0.1	4	3	[10,10]
chr11:305264	IFITM1	UTR3		+	TtoC	0.1014	0.15	12	4	[16,70]
chr11:305266	IFITM1	UTR3		+	CtoA	0.1	0.1333	7	3	[10,46]
chr11:305267	IFITM1	UTR3		+	TtoG	0.1	0.2308	3	3	[13,32]
chr6:137560659	IFNGR1	UTR3		-	AtoT	0.1875	0.2143	3	2	[14,16]
chr7:111902733	IFRD1	coding_exon	ENST0000005558:StoP;ENST00000403825:StoP;	+	TtoC	0.1	0.125	3	2	[10,16]
chr3:50300491	IFRD2	UTR3		-	TtoC	0.1	0.1	3	2	[10,10]
chr16:1579753	IFT140	mixed		-	AtoG	0.1111	0.2	2	2	[10,10]
chr2:27526451	IFT172	coding_exon	ENST00000260570:IttoN;ENST00000425023:IttoN;	-	TtoA	0.1	0.1429	2	2	[10,14]
chr20:41704641	IFTS2	mixed		+	TtoC	0.125	0.2	6	2	[10,16]
chr3:109365244	IFTS7	coding_exon	ENST00000264538:VtoA;ENST00000457963:VtoA;	-	TtoC	0.1	0.1176	3	2	[10,17]
chr3:109421082	IFTS7	coding_exon		-	TtoC	0.1	0.1111	3	2	[10,18]
chr3:161619840	IFT80	coding_exon		-	TtoC	0.1	0.1	3	2	[10,30]
chr3:161629334	IFT80	coding_exon		-	TtoC	0.1	0.2222	4	2	[19,30]
chr3:161629335	IFT80	coding_exon		-	TtoC	0.1	0.1429	2	2	[10,14]
chr3:161632881	IFT80	coding_exon		-	AtoT	0.1111	0.1111	2	2	[10,20]
chr3:161636829	IFT80	coding_exon		-	TtoG	0.1	0.1	4	2	[10,22]
chr12:101320378	IGF1	UTR3		-	CtoT	0.1818	0.1818	3	2	[11,11]
chr6:160446441	IGF2R	UTR3		+	TtoA	0.1	0.1111	7	2	[11,19]
chr6:160446528	IGF2R	UTR3		+	GtoA	0.1	0.1333	4	3	[10,15]
chr6:160446889	IGF2R	UTR3		+	TtoG	0.1053	0.1538	4	2	[13,19]
chr6:160447456	IGF2R	UTR3		+	TtoA	0.1154	0.1429	6	3	[21,27]
chr17:35866569	IGFBP4	UTR3		+	TtoC	0.1	0.1538	4	3	[10,17]
chr14:105796436	IGHV3-6	coding_exon	ENST00000422244:StoN;	-	GtoA	0.9091	1	3	3	[59,95]
chr14:105401104	IGHV3-6	coding_exon	ENST00000422244:PtoH;ENST00000425681:PtoH;	-	CtoA	0.9286	0.963	2	2	[14,27]
chr14:105796443	IGHV3-6	coding_exon	ENST00000422244:AtoT;	-	GtoA	0.9891	1	2	2	[17,185]
chr14:105389086	IGHV3-6	coding_exon		-	TtoC	0.1	0.125	2	2	[10,17]
chr14:105901064	IGHV3-6	coding_exon		-	AtoG	0.3721	0.8667	2	2	[30,44]
chr1:158331441	IGSF8	coding_exon	ENST00000314485:VtoE;ENST00000358475:VtoE;ENST00000368086:VtoE;	-	TtoA	0.1	0.1	2	2	[10,10]
chr9:110681591	IKBKAP	coding_exon	ENST00000374647:StoR;	-	TtoG	0.1	0.125	5	2	[16,21]
chr9:110698708	IKBKAP	coding_exon		-	AtoG	0.1	0.1	2	2	[10,10]
chr7:50439158	IKZF1	UTR3		+	AtoG	0.1818	0.1818	6	2	[11,12]
chr2:21357325	IKZF2	UTR3		-	GtoA	0.1	0.1053	2	2	[10,19]
chr2:213575442	IKZF2	UTR3		-	AtoG	0.1	0.129	4	2	[10,31]
chr2:213577670	IKZF2	UTR3		-	GtoA	0.1	0.1333	2	2	[10,15]
chr2:213578625	IKZF2	UTR3		-	AtoG	0.1	0.1111	4	2	[10,27]
chr2:213579251	IKZF2	UTR3		-	TtoC	0.125	0.1304	4	2	[16,23]
chr17:35169924	IKZF3	UTR3		-	GtoA	0.1429	0.2727	9	5	[11,19]
chr17:35171400	IKZF3	UTR3		-	TtoC	0.1364	0.1818	6	3	[11,22]
chr17:35173274	IKZF3	UTR3		-	AtoT	0.1	0.1	4	2	[10,10]
chr17:35175066	IKZF3	UTR3		-	AtoC	0.1667	0.3333	11	4	[10,13]
chr11:117375532	IL10RA	coding_exon	ENST00000227752:LtoP;	+	TtoC	0.1	0.1667	3	2	[10,12]
chr21:33574082	IL10RB	coding_exon	ENST00000290200:TtoA;ENST00000433395:TtoA;	+	AtoG	0.1	0.1	3	2	[10,20]
chr4:142859969	IL15	UTR5		+	AtoT	0.1	0.1818	6	4	[10,14]
chr10:6034792	IL15RA	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr15:79379715	IL16	coding_exon	ENST00000302987:VtoG;ENST00000329842:VtoG;ENST00000355368:VtoG;ENST00000355369:VtoG	+	TtoG	0.1013	0.1389	9	3	[37,79]
chr15:79392810	IL16	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr3:53874479	IL17RB	UTR3		+	CtoA	0.1333	0.1429	2	2	[14,16]
chr11:71391065	IL18BP	UTR3		+	AtoC	0.1	0.1111	4	2	[10,10]
chr2:102372948	IL18R1	coding_exon	ENST00000233957:AtoE;ENST00000409599:AtoE;ENST00000410040:AtoE;	+	CtoA	0.1	0.12	2	2	[10,25]
chr19:14018392	IL27RA	coding_exon	ENST00000263379:VtoA;	+	TtoC	0.1	0.1818	3	2	[10,11]
chr16:3055623	IL32	UTR5		+	CtoG	0.1333	0.1667	2	2	[12,15]
chr16:3055625	IL32	UTR5		+	GtoA	0.1429	0.1538	2	2	[13,14]
chr19:55084747	IL41I	coding_exon	ENST00000319225:StoP;ENST00000341114:StoP;ENST00000391826:StoP;	-	TtoC	0.1	0.16	12	5	[25,130]

chr16:27282602	IL4R	coding_exon	ENST00000170630:KtoE;ENST00000395762:KtoE;	+	AtoG	0.1	0.1	3	2	[10,10]
chr16:27283351	IL4R	UTR3		+	TtoC	0.1	0.1333	2	2	[10,15]
chr1:152706084	IL6R	UTR3		+	GtoT	0.1	0.1	2	2	[10,10]
chr5:55276217	IL6ST	mixed		-	GtoA	0.16	0.1875	7	3	[16,30]
chr5:55276235	IL6ST	mixed		-	CtoA	0.996	1	12	12	[320,1635]
chr5:55276273	IL6ST	mixed		-	GtoT	0.15	0.2273	6	4	[10,42]
chr19:10656777	ILF3	mixed		+	AtoT	0.125	0.1364	2	2	[16,22]
chr19:10661525	ILF3	UTR3		+	GtoA	0.1304	0.2	6	3	[10,27]
chr11:6588660	ILK	UTR3		+	TtoA	0.1	0.1923	3	2	[20,26]
chr2:86239293	IMMT	coding_exon		-	TtoC	0.102	0.1176	5	2	[17,49]
chr15:731718490	IMP3	mixed		-	AtoG	0.2	0.2308	2	2	[10,13]
chr15:731718493	IMP3	mixed		-	TtoC	0.1538	0.1538	4	2	[13,13]
chr15:731718507	IMP3	mixed		-	AtoG	0.1176	0.1333	7	3	[16,23]
chr2:130820655	IMP4	UTR3		+	TtoC	0.1	0.2083	4	2	[20,25]
chr3:49036798	IMPDH2	UTR3		-	TtoC	0.1	0.2692	15	9	[15,57]
chr14:104252110	INF2	coding_exon	ENST00000252520:LtoP;ENST00000330634:LtoP;ENST00000339008:LtoP;ENST00000339008:LtoP;	+	TtoC	0.1364	0.1538	2	2	[13,23]
chr2:190944079	INPP1	coding_exon		+	TtoG	0.1	0.1	3	2	[10,10]
chr2:190944393	INPP1	UTR3		+	TtoG	0.1	0.1667	2	2	[10,12]
chr2:98537341	INPP4A	coding_exon	ENST00000074304:NtoT;ENST00000409016:NtoT;ENST00000409540:NtoT;ENST00000409540:NtoT;	+	AtoC	0.1	0.125	3	2	[16,20]
chr2:98526880	INPP4A	coding_exon		+	GtoC	0.1	0.1	2	2	[10,10]
chr1:38111237	INPP5B	mixed		-	CtoA	0.1	0.1	2	2	[10,10]
chr1:38099404	INPP5B	UTR3		-	AtoG	0.1111	0.1304	3	2	[23,38]
chr17:1345698	INPP5K	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr11:71627765	INPPL1	UTR3		+	GtoA	0.1	0.2857	6	2	[10,14]
chr2:118583530	INSIG2	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr19:7117337	INSR	coding_exon		-	AtoG	0.1	0.1	3	2	[10,10]
chr19:7063717	INSR	UTR3		-	CtoA	0.1	0.1	2	2	[10,10]
chr19:7066491	INSR	UTR3		-	AtoG	0.1	0.1053	2	2	[19,20]
chr19:7067317	INSR	UTR3		-	TtoG	0.1875	0.2222	5	2	[16,18]
chr7:1506135	INTS1	mixed		-	AtoG	0.1304	0.1538	3	2	[13,23]
chr4:106836217	INTS12	coding_exon	ENST00000265150:KtoE;ENST00000340139:KtoE;ENST00000394735:KtoE;ENST00000394735:KtoE;	-	AtoG	0.125	0.2	3	2	[10,16]
chr4:106836245	INTS12	coding_exon		-	AtoG	0.1	0.1667	2	2	[10,12]
chr4:106823331	INTS12	UTR3		-	AtoG	0.1111	0.3	4	3	[10,18]
chr1:152013072	INTS3	UTR3		+	AtoG	0.1	0.2727	5	2	[10,11]
chr1:210247292	INTS7	coding_exon	ENST00000366992:StoP;ENST00000366993:StoP;ENST00000366994:StoP;ENST00000366994:StoP;	-	TtoC	0.1	0.1429	5	2	[10,14]
chr1:210181794	INTS7	coding_exon	ENST00000366992:FtoL;ENST00000366993:FtoL;ENST00000366994:FtoL;ENST00000366994:FtoL;	-	TtoC	0.1111	0.1818	4	2	[10,11]
chr8:28760234	INTS9	coding_exon	ENST00000416984:EtoD;	-	GtoC	0.1	0.1	2	2	[10,10]
chr8:28691324	INTS9	coding_exon	ENST00000416984:CtoR;	-	TtoC	0.1	0.1	3	2	[10,10]
chr3:49736992	IP6K1	UTR3		-	AtoC	0.1	0.1667	2	2	[10,12]
chr3:49739476	IP6K1	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr3:48703890	IP6K2	coding_exon	ENST00000328631:LtoQ;ENST00000395507:LtoQ;ENST00000395509:LtoQ;	-	TtoA	0.1	0.1875	9	3	[17,40]
chr5:61960101	IPO11	UTR3		+	AtoC	0.1	0.1	3	2	[10,10]
chr1:44205953	IPO13	UTR3		+	AtoG	0.1	0.1429	3	2	[10,14]
chr1:44206003	IPO13	UTR3		+	TtoC	0.1	0.1429	5	2	[10,14]
chr11:9411918	IPO7	coding_exon	ENST00000379719:LtoI;	+	CtoA	0.1111	0.1333	2	2	[10,15]
chr11:9420282	IPO7	coding_exon	ENST00000379719:DtoG;	+	AtoG	0.1	0.2222	2	2	[10,10]
chr1:200106918	IPO9	coding_exon	ENST00000361565:LtoI;	+	AtoC	0.1	0.125	2	2	[10,16]
chr3:199161471	IQCG	UTR5		-	GtoA	0.1364	0.2105	5	3	[19,30]
chr3:199161472	IQCG	UTR5		-	TtoG	0.1034	0.2353	6	4	[17,30]
chr3:199167115	IQCG	UTR5		-	AtoT	0.4211	0.7222	4	4	[13,23]
chr15:88839018	IQGAP1	coding_exon		+	AtoG	0.1	0.1538	6	2	[10,13]
chr15:88845255	IQGAP1	UTR3		+	TtoC	0.1	0.1667	5	2	[18,20]
chr15:88845392	IQGAP1	UTR3		+	CtoG	0.3333	0.5455	3	3	[11,14]
chr5:75984371	IQGAP2	coding_exon	ENST00000274364:HtoR;ENST00000396234:HtoR;	+	AtoG	0.1	0.1429	2	2	[10,14]
chr5:76005533	IQGAP2	coding_exon		+	TtoA	0.1	0.1	2	2	[10,10]
chr3:12917140	IQSEC1	mixed		-	AtoG	0.1	0.1111	5	2	[10,18]
chr3:12913744	IQSEC1	UTR3		-	AtoG	0.1538	0.1818	2	2	[12,13]
chr3:12915364	IQSEC1	UTR3		-	CtoG	0.2	0.25	2	2	[10,12]
chr12:64928237	IRAK3	UTR3		+	GtoA	0.1	0.1	2	2	[10,10]
chr12:42466627	IRAK4	coding_exon	ENST00000356669:KtoN;ENST00000431837:KtoN;ENST00000440781:KtoN;ENST00000440781:KtoN;	+	GtoT	0.1	0.1	3	2	[10,10]
chr12:42463779	IRAK4	coding_exon		+	TtoC	0.1	0.1	5	3	[10,10]
chr15:76551319	IREB2	coding_exon	ENST00000258886:Wto*;	+	GtoA	0.1	0.1	2	2	[10,10]
chr15:76573375	IREB2	coding_exon		+	TtoA	0.1	0.1818	3	2	[10,11]
chr15:76577669	IREB2	UTR3		+	GtoT	0.1	0.1	2	2	[10,10]
chr1:232807016	IRF2BP2	UTR3		-	TtoG	0.1	0.1	4	2	[10,10]
chr1:232807766	IRF2BP2	UTR3		-	AtoG	0.1	0.1538	2	2	[10,13]
chr1:232808840	IRF2BP2	UTR3		-	TtoG	0.1	0.1071	5	3	[10,28]
chr1:232808841	IRF2BP2	UTR3		-	GtoT	0.1034	0.2727	5	5	[11,29]
chr19:54860701	IRF3	UTR5		-	AtoC	0.1875	0.3	4	2	[10,16]
chr7:128376626	IRF5	UTR3		+	TtoC	0.1333	0.2143	10	4	[14,37]
chr11:602563	IRF7	UTR3		-	TtoC	0.1333	0.1875	5	3	[16,45]
chr16:84513117	IRF8	UTR3		+	TtoA	0.1111	0.1905	6	3	[22,36]
chr19:48785220	IRGQ	UTR3		-	GtoA	0.1	0.1818	3	2	[10,11]
chr14:74031709	ISCA2	UTR3		+	TtoC	0.1111	0.1176	6	2	[17,18]
chr14:74031712	ISCA2	UTR3		+	GtoA	0.1	0.1053	3	2	[19,20]
chr12:107482056	ISCU	coding_exon	ENST00000338291:TtoI;ENST00000392807:TtoI;	+	CtoT	0.1	0.1333	3	2	[10,15]
chr12:107482058	ISCU	coding_exon	ENST00000338291:Qto*;ENST00000392807:Qto*;	+	CtoT	0.1	0.1	4	2	[10,10]
chr1:154963323	ISG20L2	coding_exon	ENST00000313146:QtoR;ENST00000368219:QtoR;	-	AtoG	0.1	0.1	2	2	[10,10]
chr1:154958985	ISG20L2	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr5:128470628	ISOC1	coding_exon	ENST00000173527:MtoV;	+	AtoG	0.1	0.2	3	2	[10,10]
chr5:128477140	ISOC1	UTR3		+	AtoG	0.1	0.1667	2	2	[10,12]
chr20:32560731	ITCH	UTR3		+	TtoG	0.1	0.1429	2	2	[10,14]
chr20:32560874	ITCH	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr16:250154	ITFG3	coding_exon	ENST00000301678:FtoL;ENST00000301679:FtoL;ENST00000399932:FtoL;ENST00000399932:FtoL;	+	TtoC	0.1	0.1818	3	2	[10,11]
chr2:182104651	ITGA4	coding_exon	ENST00000397033:HtoR;	+	AtoG	0.1	0.1667	8	3	[10,12]
chr17:3576065	ITGAE	coding_exon		-	TtoC	0.1	0.1	2	2	[10,10]
chr10:33252584	ITGB1	coding_exon	ENST00000302252:IttoV;ENST00000302278:IttoV;ENST00000359614:IttoV;ENST00000359614:IttoV;	-	AtoG	0.1	0.1	6	2	[10,20]
chr21:45130366	ITGB2	UTR3		-	AtoG	0.1053	0.1154	8	2	[19,26]
chr13:47733318	ITM2B	coding_exon	ENST00000378549:HtoR;ENST00000378565:HtoR;	+	AtoG	0.1	0.1176	3	2	[10,17]
chr14:92475959	ITPK1	mixed		-	TtoA	0.1053	0.2	8	4	[15,25]
chr14:92475960	ITPK1	mixed		-	AtoG	0.1	0.2222	6	5	[10,22]
chr1:224991037	ITPK8	coding_exon	ENST00000272117:QtoR;ENST00000429204:QtoR;	-	AtoG	0.1	0.1538	3	2	[10,13]
chr1:224886156	ITPK8	UTR3		-	AtoG	0.125	0.1667	3	2	[12,17]
chr3:4804754	ITPR1	coding_exon	ENST00000302640:KtoE;ENST00000354582:KtoE;ENST00000356617:KtoE;ENST00000356617:KtoE;	+	AtoG	0.1	0.125	2	2	[10,16]
chr12:26538403	ITPR2	coding_exon	ENST00000381340:GtoS;ENST00000451599:GtoS;	-	GtoA	0.1	0.1	2	2	[10,10]
chr12:26666602	ITPR2	coding_exon		-	AtoG	0.1	0.2	2	2	[10,10]

chr12:26726148	ITPR2	coding_exon		-	CtoA	0.1	0.1333	3	2	[10,15]
chr12:26380105	ITPR2	UTR3		-	AtoG	0.1	0.2308	3	3	[10,13]
chr12:26381097	ITPR2	UTR3		-	AtoC	0.1	0.1176	2	2	[10,17]
chr12:26381107	ITPR2	UTR3		-	GtoA	0.1	0.2	3	2	[10,10]
chr12:26381108	ITPR2	UTR3		-	AtoG	0.1	0.1667	3	2	[10,12]
chr12:26381369	ITPR2	UTR3		-	TtoC	0.1	0.125	3	2	[10,16]
chr12:26383149	ITPR2	UTR3		-	TtoA	0.1333	0.1818	4	2	[11,16]
chr6:33731553	ITPR3	coding_exon	ENST00000374316:YtoN;	+	TtoA	0.1	0.1	3	2	[10,10]
chr6:33760155	ITPR3	coding_exon	ENST00000374316:LtoM;	+	CtoA	0.1	0.1429	2	2	[10,14]
chr6:33755773	ITPR3	coding_exon	ENST00000374316:DtoA;	+	AtoC	0.1	0.1	2	2	[10,10]
chr10:106062970	ITPRIP	mixed		-	AtoG	0.1	0.1	2	2	[10,10]
chr2:24334466	ITSN2	coding_exon	ENST00000355123:GtoR;ENST00000361999:GtoR;ENST00000380868:GtoR;ENST00000380868:GtoR;	-	GtoA	0.1	0.1304	2	2	[10,23]
chr2:24325232	ITSN2	coding_exon		-	TtoC	0.1	0.1818	4	2	[10,11]
chr2:24388712	ITSN2	coding_exon		-	TtoC	0.1	0.1	5	2	[10,30]
chr15:38497848	IVD	UTR3		+	TtoG	0.1	0.1	2	2	[10,10]
chr15:38498319	IVD	UTR3		+	GtoA	0.1111	0.1818	5	2	[11,18]
chr15:38500366	IVD	UTR3		+	TtoA	0.1	0.1	4	2	[10,10]
chr1:183533525	IVNS1ABP	UTR3		-	AtoG	0.1	0.1176	5	2	[17,20]
chr1:183533595	IVNS1ABP	UTR3		-	TtoG	0.1	0.1	7	2	[10,11]
chr1:183533728	IVNS1ABP	UTR3		-	AtoG	0.1	0.1053	2	2	[10,19]
chr2:127955046	IWS1	UTR3		-	AtoG	0.1154	0.1176	10	2	[17,26]
chr2:127955047	IWS1	UTR3		-	CtoA	0.1	0.1111	4	2	[10,18]
chr3:9910528	JAGN1	UTR3		+	TtoC	0.1	0.1	5	2	[10,10]
chr1:65098412	JAK1	coding_exon	ENST00000342505:VtoA;	+	TtoC	0.1	0.125	4	2	[10,16]
chr21:25996414	JAM2	coding_exon	ENST00000312957:VtoA;ENST00000400532:VtoA;ENST00000400533:VtoA;ENST00000400534:VtoA;	+	TtoC	0.1	0.1	2	2	[10,10]
chr6:15621214	JARID2	coding_exon		+	TtoC	0.1	0.2	4	3	[10,16]
chr4:75006550	JDP2	UTR3		+	CtoA	0.1	0.1	2	2	[10,10]
chr7:72226173	JMJD6	mixed		-	AtoG	0.1111	0.2941	6	2	[17,20]
chr16:673532	JMJD8	coding_exon	ENST00000293882:NtoK;ENST00000412368:NtoK;ENST00000454700:NtoK;	-	TtoA	0.1176	0.1765	5	2	[17,17]
chr16:671680	JMJD8	UTR3		-	TtoA	0.1	0.1818	2	2	[10,11]
chr16:672748	JMJD8	UTR3		-	CtoT	0.1026	0.1111	5	2	[27,39]
chr22:37411681	JOSD1	UTR3		-	TtoC	0.1176	0.2	6	4	[10,17]
chr22:37412780	JOSD1	UTR3		-	AtoG	0.1111	0.1111	5	2	[18,18]
chr4:23108229	JPH4	UTR3		-	TtoC	0.1364	0.1579	7	3	[19,36]
chr19:12765027	JUNB	coding_exon	ENST00000302754:HtoR;	+	AtoG	0.1	0.1538	10	4	[13,44]
chr16:74233110	KARS	coding_exon		-	AtoG	0.2373	0.4015	2	2	[59,137]
chr16:74219162	KARS	UTR3		-	AtoG	0.1042	0.1379	12	4	[19,49]
chr17:37524728	KAT2A	coding_exon		-	CtoT	0.1	0.1	6	2	[10,10]
chr6:150001321	KATNA1	coding_exon	ENST00000335643:LtoP;ENST00000335647:LtoP;ENST00000367411:LtoP;	-	TtoC	0.1	0.1	3	2	[10,10]
chr11:47550697	KBTD4	UTR3		-	AtoG	0.1176	0.2	8	3	[10,17]
chr2:85108563	KCMF1	coding_exon		+	TtoC	0.1071	0.1429	7	3	[21,30]
chr1:6083285	KCNAB2	UTR3		+	GtoC	0.24	0.4884	4	4	[24,43]
chr1:6083286	KCNAB2	UTR3		+	AtoG	0.2353	0.3333	4	4	[17,34]
chr1:6083669	KCNAB2	UTR3		+	TtoC	0.1	0.2	4	2	[15,20]
chr1:6083821	KCNAB2	UTR3		+	AtoG	0.125	0.1667	7	2	[16,42]
chr17:59020652	KCNH6	UTR3		+	TtoC	0.122	0.1304	2	2	[23,42]
chr17:59022438	KCNH6	UTR3		+	AtoG	0.1	0.1818	8	3	[10,16]
chr17:59116671	KCNH6	UTR3		+	GtoC	0.1667	0.2	5	3	[10,18]
chr17:59116672	KCNH6	UTR3		+	TtoC	0.1	0.1875	4	2	[10,17]
chr12:108382824	KCTD10	coding_exon		-	AtoG	0.1	0.1	3	2	[10,20]
chr12:108371300	KCTD10	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr12:108371343	KCTD10	UTR3		-	AtoG	0.125	0.1667	4	2	[12,16]
chr17:70572323	KCTD2	UTR3		+	TtoC	0.1	0.1	3	2	[10,10]
chr6:36565445	KCTD20	UTR3		+	AtoG	0.1	0.3333	9	6	[10,20]
chr11:107849343	KDELC2	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr19:53584669	KDELR1	coding_exon	ENST00000330720:TtoP;	-	AtoC	0.1148	0.2353	4	2	[17,61]
chr7:6469045	KDELR2	UTR3		-	AtoT	0.1	0.1081	4	2	[20,37]
chr11:23281443	KDM1	coding_exon		+	AtoC	0.1111	0.1667	13	5	[19,36]
chr11:66739928	KDM2A	coding_exon	ENST00000401583:CtoG;	+	TtoG	0.1	0.2	2	2	[10,10]
chr11:66780005	KDM2A	UTR3		+	TtoC	0.1	0.1176	2	2	[10,17]
chr11:66780378	KDM2A	UTR3		+	GtoA	0.1	0.1538	2	2	[10,13]
chr11:66780411	KDM2A	UTR3		+	AtoG	0.1	0.125	2	2	[10,16]
chr12:120471165	KDM2B	coding_exon	ENST00000261824:KtoR;ENST00000377069:KtoR;ENST00000377071:KtoR;ENST00000377072:KtoR;	-	AtoG	0.1667	0.6	6	6	[10,14]
chr12:120351711	KDM2B	UTR3		-	AtoG	0.1	0.1765	7	2	[10,17]
chr5:137755483	KDM3B	coding_exon	ENST00000314358:GtoR;ENST00000394866:GtoR;	+	GtoA	0.1	0.1	3	2	[10,10]
chr5:137799418	KDM3B	UTR3		+	TtoC	0.1	0.1176	5	2	[10,17]
chr5:137800310	KDM3B	UTR3		+	AtoG	0.1	0.1667	4	2	[12,20]
chr5:137800469	KDM3B	UTR3		+	TtoG	0.1	0.2	2	2	[10,10]
chr19:5061795	KDM4B	coding_exon	ENST00000159111:StoP;ENST00000381759:StoP;	+	TtoC	0.1	0.1	2	2	[10,20]
chr19:5082097	KDM4B	coding_exon	ENST00000159111:RtoS;	+	GtoC	0.1	0.125	3	2	[10,17]
chr19:5103120	KDM4B	UTR3		+	CtoG	0.1429	0.1538	4	2	[21,26]
chr19:5103126	KDM4B	UTR3		+	GtoA	0.1071	0.1538	2	2	[13,28]
chr19:5104603	KDM4B	UTR3		+	TtoC	0.1333	0.2	5	3	[10,15]
chr12:292607	KDM5A	coding_exon	ENST00000382815:VtoA;ENST00000399787:VtoA;ENST00000399788:VtoA;	-	TtoC	0.1	0.1429	4	2	[14,20]
chr12:312997	KDM5A	coding_exon	ENST00000382815:EtoK;ENST00000399787:EtoK;ENST00000399788:EtoK;	-	GtoA	0.1	0.2	3	3	[10,10]
chr12:275043	KDM5A	coding_exon	ENST00000382815:AtoV;ENST00000399787:AtoV;ENST00000399788:AtoV;	-	CtoT	0.1	0.125	2	2	[10,16]
chr12:265030	KDM5A	mixed		-	TtoA	0.125	0.1429	7	2	[17,21]
chr12:264669	KDM5A	UTR3		-	AtoC	0.1667	0.2632	6	4	[13,19]
chr17:7690999	KDM6B	coding_exon	ENST00000254846:StoR;ENST00000448097:StoR;	+	TtoG	0.1	0.1	2	2	[10,10]
chr17:7697093	KDM6B	coding_exon	ENST00000254846:LtoR;ENST00000448097:LtoR;	+	TtoG	0.1	0.1	2	2	[10,10]
chr17:7690265	KDM6B	coding_exon		+	AtoG	0.1	0.1	2	2	[10,10]
chr17:7698028	KDM6B	UTR3		+	AtoC	0.1	0.1111	2	2	[10,10]
chr17:7698171	KDM6B	UTR3		+	AtoC	0.1	0.125	3	3	[10,16]
chr18:59153497	KDSR	coding_exon		-	AtoG	0.1	0.1818	2	2	[10,11]
chr19:6366156	KHSRP	coding_exon	ENST00000398148:QtoP;	-	AtoC	0.1	0.2083	5	4	[25,41]
chr19:6364536	KHSRP	mixed		-	TtoC	0.1071	0.1235	4	3	[28,81]
chr19:6364740	KHSRP	mixed		-	AtoC	0.1042	0.1471	4	4	[29,96]
chr1:173393706	KIAA0040	mixed		-	TtoC	0.1	0.1	3	2	[10,10]
chr1:173394013	KIAA0040	mixed		-	AtoC	0.1	0.25	5	4	[10,15]
chr1:19418760	KIAA0090	coding_exon	ENST00000375199:YtoH;ENST00000375208:YtoH;ENST00000477853:YtoH;	-	TtoC	0.1154	0.2	5	2	[10,26]
chr1:19432111	KIAA0090	coding_exon	ENST00000375184:RtoQ;ENST00000375199:RtoQ;ENST00000375208:RtoQ;ENST00000375209:RtoQ;	-	GtoA	0.1	0.125	2	2	[10,16]
chr1:19432207	KIAA0090	coding_exon	ENST00000375184:LtoP;ENST00000375199:LtoP;ENST00000375208:LtoP;ENST00000375209:LtoP;	-	TtoC	0.1	0.1111	5	2	[10,18]
chr15:62445235	KIAA0101	UTR3		-	AtoG	0.1053	0.1176	3	2	[17,19]
chr15:62445239	KIAA0101	UTR3		-	TtoC	0.1	0.1176	7	3	[11,27]
chr5:141298499	KIAA0141	coding_exon		+	TtoG	0.1	0.1	4	2	[10,20]
chr16:70514018	KIAA0174	coding_exon		+	CtoA	0.1351	0.2115	4	2	[37,52]

chr16:70514772	KIAA0174	coding_exon		+	AtoG	0.1176	0.125	4	2	[16,17]
chr16:84245995	KIAA0182	mixed		+	CtoA	0.1	0.1	2	2	[10,10]
chr16:84266124	KIAA0182	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr16:84266408	KIAA0182	UTR3		+	TtoG	0.1429	0.1429	2	2	[14,14]
chr16:84266986	KIAA0182	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr16:84267149	KIAA0182	UTR3		+	TtoC	0.1	0.1	4	2	[10,10]
chr17:70999575	KIAA0195	coding_exon	ENST00000314256:KtoR;ENST00000375248:KtoR;	+	AtoG	0.1	0.2143	3	2	[10,14]
chr17:70999576	KIAA0195	coding_exon	ENST00000314256:KtoN;ENST00000375248:KtoN;	+	GtoC	0.1364	0.2353	4	2	[17,22]
chr17:71001451	KIAA0195	coding_exon	ENST00000314256:CtoR;ENST00000375248:CtoR;	+	TtoC	0.1053	0.1053	4	2	[19,19]
chr17:71007022	KIAA0195	UTR3		+	TtoG	0.1333	0.1818	2	2	[11,15]
chr8:126154622	KIAA0196	coding_exon	ENST00000318410:CtoR;	-	TtoC	0.1	0.1111	3	2	[10,18]
chr3:198905643	KIAA0226	coding_exon	ENST00000273582:StoG;ENST00000296343:StoG;ENST00000389665:StoG;ENST00000273582:StoA;	-	AtoG	0.1	0.1429	5	3	[14,20]
chr3:198893832	KIAA0226	coding_exon	ENST00000273582:AtoS;ENST00000296343:AtoS;ENST00000389665:AtoS;ENST00000273582:AtoD;	-	GtoT	0.1667	0.2143	2	2	[14,18]
chr3:198912326	KIAA0226	coding_exon		-	CtoA	0.1111	0.2105	3	2	[18,19]
chr3:198884763	KIAA0226	UTR3		-	AtoC	0.1	0.1818	2	2	[10,11]
chr3:198886234	KIAA0226	UTR3		-	TtoC	0.1	0.1111	4	3	[10,18]
chr6:42943706	KIAA0240	UTR3		+	TtoG	0.1	0.1	5	2	[10,10]
chr14:69247629	KIAA0247	UTR3		+	TtoC	0.1	0.1053	4	2	[10,19]
chr1:35691753	KIAA0319L	coding_exon		-	AtoG	0.1	0.1	2	2	[10,10]
chr9:113176115	KIAA0368	mixed		-	TtoC	0.1	0.1111	2	2	[10,18]
chr9:113188552	KIAA0368	mixed		-	TtoA	0.1	0.2	4	3	[10,17]
chr9:113214220	KIAA0368	mixed		-	GtoT	0.1176	0.1429	4	2	[14,17]
chr9:113214221	KIAA0368	mixed		-	TtoC	0.1333	0.1429	5	2	[14,15]
chr9:113164016	KIAA0368	UTR3		-	TtoC	0.1429	0.1818	3	2	[11,14]
chr14:34662493	KIAA0391	coding_exon		+	TtoC	0.1	0.1	3	2	[10,10]
chr20:36074379	KIAA0406	coding_exon		-	CtoA	0.1	0.1	4	2	[10,10]
chr20:36044891	KIAA0406	UTR3		-	TtoA	0.1	0.1	3	2	[10,10]
chr7:4796083	KIAA0415	coding_exon	ENST00000348624:HtoR;ENST0000041897:HtoR;ENST00000450194:HtoR;	+	AtoG	0.1	0.2727	5	3	[10,18]
chr7:4796082	KIAA0415	coding_exon	ENST00000348624:HtoD;ENST0000041897:HtoD;ENST00000450194:HtoD;	+	CtoG	0.1	0.1667	5	3	[10,20]
chr7:4773595	KIAA0415	coding_exon		+	AtoC	0.1	0.1053	2	2	[10,19]
chr7:4773552	KIAA0415	coding_exon		+	AtoG	0.1	0.1667	4	2	[10,12]
chr16:15598187	KIAA0430	coding_exon	ENST00000321370:VtoE;ENST00000344181:VtoE;ENST00000396368:VtoE;	-	TtoA	0.1	0.1	2	2	[10,10]
chr16:15595753	KIAA0430	UTR3		-	GtoA	0.1379	0.1818	2	2	[11,29]
chr16:15596013	KIAA0430	UTR3		-	TtoC	0.1	0.1176	2	2	[10,18]
chr1:46954664	KIAA0494	coding_exon	ENST00000371933:LtoH;	-	TtoA	0.1	0.1333	5	2	[10,15]
chr1:46927849	KIAA0494	coding_exon	ENST00000371933:KtoN;	-	AtoC	0.1	0.1333	2	2	[10,15]
chr12:22493082	KIAA0528	UTR3		-	TtoG	0.1	0.1	2	2	[10,10]
chr13:41077329	KIAA0564	coding_exon	ENST00000251030:LtoP;ENST00000379310:LtoP;	-	TtoC	0.1667	0.1818	3	2	[12,22]
chr13:41062797	KIAA0564	coding_exon		-	TtoC	0.1	0.1538	3	2	[10,13]
chr13:41087197	KIAA0564	coding_exon		-	TtoC	0.1	0.1	3	2	[10,10]
chr14:58035355	KIAA0586	coding_exon		+	AtoG	0.1	0.1818	2	2	[10,11]
chr11:46652258	KIAA0652	UTR3		+	AtoG	0.1	0.1111	3	2	[10,18]
chr11:46652553	KIAA0652	UTR3		+	TtoC	0.1379	0.2	2	2	[10,29]
chr11:46596007	KIAA0652	UTR5		+	AtoG	0.1	0.1	2	2	[10,10]
chr17:2546766	KIAA0664	coding_exon	ENST00000322335:TtoA;ENST00000435359:TtoA;	-	AtoG	0.1053	0.2667	5	5	[15,37]
chr17:2546579	KIAA0664	coding_exon	ENST00000322335:DtoA;ENST00000435359:DtoA;	-	AtoC	0.1	0.1818	4	3	[10,25]
chr17:2539435	KIAA0664	UTR3		-	TtoC	0.125	0.1818	7	2	[11,16]
chr12:53646183	KIAA0748	mixed		-	AtoG	0.1	0.1333	3	2	[10,15]
chr12:53647245	KIAA0748	mixed		-	TtoC	0.1	0.12	4	2	[10,25]
chr12:53654657	KIAA0748	UTR5		-	AtoC	0.1333	0.25	6	2	[15,16]
chr17:6440223	KIAA0753	coding_exon	ENST00000361413:MtoL;	-	GtoA	0.1	0.1	2	2	[10,10]
chr19:19307995	KIAA0892	mixed		+	AtoC	0.1	0.1667	4	2	[10,12]
chr19:19329260	KIAA0892	UTR3		+	CtoT	0.3214	0.381	2	2	[21,28]
chr19:19329283	KIAA0892	UTR3		+	AtoT	0.1111	0.125	2	2	[16,27]
chr1:154162102	KIAA0907	coding_exon	ENST00000368319:CtoG;ENST00000368320:CtoG;ENST00000368321:CtoG;	-	TtoG	0.1	0.1	2	2	[10,10]
chr1:154149729	KIAA0907	UTR3		-	TtoA	0.1081	0.125	4	2	[16,41]
chr1:154149733	KIAA0907	UTR3		-	TtoC	0.1	0.1667	5	3	[10,19]
chr1:154150201	KIAA0907	UTR3		-	CtoA	0.1429	0.1818	5	2	[11,21]
chr10:75227206	KIAA0913	coding_exon	ENST00000398706:RtoG;ENST00000412131:RtoG;ENST00000414462:RtoG;ENST00000398706:RtoA;	+	AtoG	0.1	0.1	4	2	[10,10]
chr10:75218480	KIAA0913	coding_exon		+	AtoG	0.1	0.2727	5	3	[10,15]
chr4:154744729	KIAA0922	coding_exon	ENST00000361316:Itov;ENST00000409663:Itov;ENST00000409959:Itov;ENST00000361316:GtoW;	+	AtoG	0.1176	0.1429	2	2	[14,34]
chr5:5517758	KIAA0947	coding_exon	ENST00000296564:GtoW;	+	GtoT	0.1	0.1	2	2	[10,10]
chr18:27673321	KIAA1012	coding_exon	ENST00000283351:TtoK;ENST00000451747:TtoK;	-	CtoA	0.1	0.1	2	2	[10,10]
chr12:104085433	KIAA1033	UTR3		+	TtoA	0.1	0.1818	3	2	[10,11]
chr7:141032853	KIAA1147	coding_exon	ENST00000297761:StoP;ENST00000482493:StoP;	-	TtoC	0.1	0.125	3	2	[10,16]
chr7:141003744	KIAA1147	UTR3		-	TtoC	0.1	0.1667	5	2	[12,20]
chr7:141004275	KIAA1147	UTR3		-	AtoG	0.1	0.1111	2	2	[18,30]
chr7:141005075	KIAA1147	UTR3		-	GtoA	0.3939	0.5789	2	2	[19,33]
chr7:141005208	KIAA1147	UTR3		-	TtoG	0.1	0.1818	5	2	[11,11]
chr5:175719173	KIAA1191	UTR5		-	GtoT	0.1	0.1176	5	2	[17,20]
chr5:175719444	KIAA1191	UTR5		-	TtoG	0.1	0.2	3	2	[10,10]
chr5:175712996	KIAA1191	UTR5		-	AtoC	0.125	0.1333	2	2	[15,16]
chr20:36594859	KIAA1219	coding_exon	ENST00000262879:TtoA;ENST00000304939:TtoA;ENST00000397038:TtoA;ENST00000262879:StoA;	+	AtoG	0.1	0.1	2	2	[10,10]
chr20:36636966	KIAA1219	coding_exon	ENST00000262879:StoA;ENST00000304939:StoA;ENST00000397038:StoA;ENST00000262879:StoD;	+	AtoC	0.1	0.1	2	2	[10,10]
chr10:70445416	KIAA1279	coding_exon		+	TtoC	0.1	0.1333	3	2	[10,15]
chr2:96634297	KIAA1310	coding_exon	ENST00000354204:LtoP;ENST00000421845:LtoP;ENST00000431828:LtoP;ENST00000354204:StoP;	-	TtoC	0.1	0.1	2	2	[10,10]
chr2:96633816	KIAA1310	coding_exon	ENST00000354204:AtoS;ENST00000421845:AtoS;ENST00000431828:AtoS;ENST00000354204:StoA;	-	GtoA	0.1	0.1538	5	2	[10,13]
chr8:95612422	KIAA1429	coding_exon		-	TtoC	0.1	0.1	2	2	[10,10]
chr8:95571473	KIAA1429	mixed		-	TtoC	0.1	0.1429	4	2	[20,21]
chr8:95576267	KIAA1429	mixed		-	TtoA	0.1	0.1667	5	2	[10,12]
chr8:95577771	KIAA1429	mixed		-	TtoC	0.1	0.1364	2	2	[10,22]
chr4:186348889	KIAA1430	coding_exon		-	TtoA	0.1	0.1176	4	2	[10,35]
chr4:186318571	KIAA1430	UTR3		-	AtoC	0.125	0.1579	2	2	[16,19]
chr4:186320622	KIAA1430	UTR3		-	TtoC	0.1538	0.2727	3	3	[11,15]
chr9:5736004	KIAA1432	coding_exon	ENST00000251879:DtoA;ENST00000381532:DtoA;ENST00000414202:DtoA;ENST00000251879:StoA;	+	AtoC	0.1	0.1	2	2	[10,10]
chr9:5764613	KIAA1432	UTR3		+	TtoC	0.1	0.1	6	2	[10,10]
chr9:5764741	KIAA1432	UTR3		+	TtoC	0.1	0.125	5	2	[11,16]
chr11:93103115	KIAA1731	UTR3		+	TtoC	0.1	0.2	2	2	[10,10]
chr11:93103163	KIAA1731	UTR3		+	AtoT	0.1	0.125	2	2	[10,16]
chr11:93103168	KIAA1731	UTR3		+	AtoG	0.1	0.1176	6	2	[11,18]
chr14:76650885	KIAA1737	UTR3		+	GtoT	0.1	0.2	3	2	[10,10]
chr9:20913760	KIAA1797	coding_exon	ENST00000338382:LtoR;ENST00000380249:LtoR;	+	TtoG	0.1	0.1667	5	3	[10,20]
chr11:105385761	KIAA1826	coding_exon	ENST00000301919:LtoR;	-	TtoG	0.1	0.1333	6	3	[11,20]
chr2:61224503	KIAA1841	mixed		+	AtoT	0.1	0.1538	2	2	[10,13]
chr8:22520142	KIAA1967	coding_exon		+	CtoT	0.1	0.1379	4	2	[10,29]
chr1:11902346	KIAA2013	UTR3		-	AtoG	0.1	0.1053	3	2	[10,19]

chr9:5958025	KIAA2026	mixed		-	AtoG	0.1	0.1	3	2	[10,10]
chr2:8788824	KIDINS220	coding_exon	ENST00000256707:StoY;ENST00000418530:StoY;ENST00000427284:StoY;ENST000	-	CtoA	0.1	0.1	2	2	[10,10]
chr2:8794529	KIDINS220	coding_exon	ENST00000256707:DtoH;ENST00000418530:DtoH;ENST00000427284:DtoH;ENST000	-	GtoC	0.1	0.1	3	2	[10,10]
chr10:94403522	KIF11	coding_exon	ENST00000260731:IttoV;	+	AtoG	0.1	0.1176	2	2	[10,17]
chr10:94362855	KIF11	coding_exon		+	AtoC	0.1	0.1053	3	2	[10,19]
chr3:44869190	KIF15	coding_exon	ENST00000326047:Etok;ENST00000425755:Etok;	+	GtoA	0.1	0.2143	2	2	[10,14]
chr11:28013510	KIF18A	coding_exon	ENST00000263181:StoT;	-	GtoC	0.1	0.2	2	2	[10,10]
chr17:40367149	KIF18B	coding_exon	ENST00000339151:LtoR;ENST00000376982:LtoR;ENST00000438933:LtoR;	-	TtoG	0.1	0.1111	3	2	[10,18]
chr17:40359330	KIF18B	coding_exon		-	AtoG	0.1	0.2	3	3	[10,14]
chr17:40358936	KIF18B	UTR3		-	AtoC	0.1	0.1111	3	2	[10,18]
chr1:10363946	KIF1B	UTR3		+	TtoG	0.1	0.1429	2	2	[10,14]
chr17:4868723	KIF1C	UTR3		+	GtoA	0.1333	0.2143	3	3	[10,15]
chr5:137549287	KIF20A	coding_exon	ENST00000394894:StoC;	+	CtoG	0.1	0.1	2	2	[10,10]
chr5:137549636	KIF20A	coding_exon	ENST00000394894:QtoR;	+	AtoG	0.1	0.1429	5	2	[10,14]
chr5:137546793	KIF20A	coding_exon	ENST00000394894:PtoR;	+	CtoG	0.1	0.1	3	2	[10,10]
chr10:91487558	KIF20B	coding_exon	ENST00000260753:TtoP;ENST00000371728:TtoP;ENST00000394289:TtoP;ENST000	+	AtoC	0.1	0.1667	2	2	[10,12]
chr10:91504280	KIF20B	coding_exon	ENST00000260753:DtoG;ENST00000371728:DtoG;ENST00000394289:DtoG;ENST000	+	AtoG	0.1	0.1176	2	2	[10,17]
chr10:91493568	KIF20B	coding_exon	ENST00000260753:DtoE;ENST00000371728:DtoE;ENST00000394289:DtoE;ENST000	+	TtoA	0.1429	0.1818	4	2	[11,15]
chr10:91488022	KIF20B	coding_exon		+	GtoT	0.1	0.1	2	2	[10,10]
chr10:91488043	KIF20B	coding_exon		+	TtoC	0.1	0.1176	3	2	[17,20]
chr12:38031931	KIF21A	coding_exon	ENST00000341813:StoP;ENST00000361418:StoP;ENST00000361961:StoP;ENST000	-	TtoC	0.1	0.1	2	2	[10,10]
chr12:38013324	KIF21A	coding_exon	ENST00000341813:QtoR;ENST00000361418:QtoR;ENST00000361961:QtoR;ENST000	-	AtoG	0.1	0.2	6	4	[10,12]
chr12:38046539	KIF21A	coding_exon	ENST00000341813:NtoK;ENST00000361418:NtoK;ENST00000361961:NtoK;ENST000	-	TtoG	0.1	0.125	3	2	[10,16]
chr12:38020319	KIF21A	coding_exon	ENST00000341813:HtoR;ENST00000361418:HtoR;ENST00000361961:HtoR;ENST000	-	AtoG	0.1	0.1	2	2	[10,10]
chr12:37987750	KIF21A	coding_exon		-	TtoC	0.1	0.1	3	2	[10,10]
chr12:37973565	KIF21A	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr12:37974360	KIF21A	UTR3		-	CtoA	0.1	0.1	2	2	[10,10]
chr1:199235186	KIF21B	coding_exon	ENST00000332129:Etog;	-	AtoG	0.1	0.1	2	2	[10,10]
chr15:67526277	KIF23	coding_exon	ENST00000260363:VtoG;ENST00000352331:VtoG;	+	TtoG	0.1154	0.2	4	3	[15,26]
chr15:67514877	KIF23	coding_exon		+	TtoC	0.1	0.1429	4	2	[10,14]
chr15:67532211	KIF23	mixed		+	CtoG	0.2222	0.6	4	4	[10,19]
chr15:67532212	KIF23	mixed		+	CtoG	0.2	0.5	5	3	[15,16]
chr15:67532214	KIF23	mixed		+	CtoT	0.1034	0.2	8	5	[10,48]
chr5:61689727	KIF2A	coding_exon	ENST00000230731:QtoR;ENST00000381103:QtoR;ENST0000041507:QtoR;ENST000	+	AtoG	0.1	0.1	2	2	[10,10]
chr5:61717821	KIF2A	UTR3		+	AtoC	0.125	0.1818	8	3	[11,24]
chr5:132065690	KIF3A	coding_exon		-	TtoC	0.1	0.2	5	4	[10,25]
chr20:30384767	KIF3B	UTR3		+	TtoG	0.1333	0.1333	3	2	[15,15]
chr10:32338719	KIF5B	UTR3		-	AtoG	0.1	0.2	4	2	[10,15]
chr10:32339710	KIF5B	UTR3		-	TtoG	0.1	0.2	3	2	[10,11]
chr10:7841859	KIN	coding_exon		-	TtoC	0.1	0.1	3	2	[10,10]
chr8:103731200	KLF10	UTR3		-	CtoT	0.1	0.1538	2	2	[10,13]
chr8:103731343	KLF10	UTR3		-	AtoG	0.1	0.1905	7	2	[10,21]
chr13:73167108	KLF12	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr15:29454013	KLF13	UTR3		+	TtoC	0.1053	0.1429	10	3	[19,43]
chr15:29455786	KLF13	UTR3		+	TtoG	0.1	0.1053	6	2	[10,19]
chr15:29457236	KLF13	UTR3		+	TtoA	0.1053	0.129	10	2	[20,32]
chr15:29457263	KLF13	UTR3		+	AtoG	0.1176	0.1304	5	2	[17,23]
chr19:1804264	KLF16	UTR3		-	TtoG	0.1	0.1	2	2	[10,10]
chr19:1804529	KLF16	UTR3		-	TtoG	0.1	0.1538	2	2	[10,13]
chr19:1805253	KLF16	UTR3		-	CtoG	0.1	0.2308	4	2	[13,20]
chr7:12959247	KLHDC10	UTR3		+	GtoT	0.1	0.1	2	2	[10,10]
chr14:49311100	KLHDC2	coding_exon	ENST00000298307:VtoE;	+	TtoA	0.1	0.1	3	2	[10,11]
chr14:49316786	KLHDC2	coding_exon		+	AtoG	0.1	0.1	2	2	[10,10]
chr1:888604	KLHL17	coding_exon		+	TtoG	0.1	0.1	2	2	[10,10]
chr3:47360511	KLHL18	UTR3		+	AtoG	0.1	0.1	3	2	[10,10]
chr3:47360584	KLHL18	UTR3		+	TtoC	0.1	0.1111	6	2	[10,10]
chr4:166454680	KLHL2	coding_exon		+	TtoG	0.1	0.1429	3	2	[10,15]
chr1:6573482	KLHL21	UTR3		-	GtoA	0.1	0.1667	2	2	[10,12]
chr1:6573627	KLHL21	UTR3		-	AtoC	0.1	0.1	2	2	[10,10]
chr5:136981207	KLHL3	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr16:83253321	KLHL36	UTR3		+	GtoA	0.1	0.1333	3	2	[10,15]
chr16:83258266	KLHL36	UTR3		+	TtoA	0.1	0.1176	5	3	[10,18]
chr3:184694758	KLHL6	coding_exon	ENST00000341319:KtoE;	-	AtoG	0.1	0.1	5	2	[10,10]
chr7:23131991	KLHL7	mixed		+	TtoC	0.1	0.1538	3	2	[13,20]
chr9:21321754	KLHL9	mixed		-	AtoG	0.1	0.1053	2	2	[10,20]
chr2:48592111	KLRAQ1	mixed		+	GtoA	0.1	0.1	2	2	[10,10]
chr2:48595587	KLRAQ1	UTR3		+	TtoC	0.1304	0.2	7	2	[10,23]
chr12:121653180	KNTC1	coding_exon	ENST00000333479:TtoP;ENST00000436959:TtoP;	+	AtoC	0.1	0.1875	2	2	[10,17]
chr12:121623642	KNTC1	mixed		+	GtoA	0.1	0.1	2	2	[10,20]
chr12:121638256	KNTC1	mixed		+	TtoA	0.1	0.1176	2	2	[10,17]
chr12:121676788	KNTC1	UTR3		+	TtoA	0.1	0.1538	2	2	[10,13]
chr13:49204900	KPNA3	mixed		-	TtoA	0.1	0.2	2	2	[10,10]
chr13:49171943	KPNA3	UTR3		-	GtoA	0.4483	0.5625	2	2	[29,32]
chr3:161696147	KPNA4	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr1:32405361	KPNA6	coding_exon	ENST00000373625:VtoG;	+	TtoG	0.1	0.1818	3	2	[10,11]
chr1:32409450	KPNA6	UTR3		+	TtoC	0.1	0.1	2	2	[10,11]
chr2:88108978	KRCC1	mixed		-	TtoC	0.1053	0.1111	3	2	[10,19]
chr2:88109082	KRCC1	mixed		-	AtoC	0.1	0.25	3	2	[10,16]
chr2:88109135	KRCC1	mixed		-	AtoT	0.1	0.1	2	2	[10,10]
chr7:91680450	KRIT1	mixed		-	AtoG	0.1	0.1	2	2	[10,10]
chr12:74183976	KRR1	coding_exon	ENST00000229214:FtoS;	-	TtoC	0.1	0.1765	4	2	[10,17]
chr12:74186446	KRR1	coding_exon	ENST00000229214:Atot;ENST00000438169:Atot;	-	GtoA	0.1111	0.1875	3	2	[16,18]
chr12:74186445	KRR1	coding_exon	ENST00000229214:Atog;ENST00000438169:Atog;	-	CtoG	0.1	0.1333	4	2	[15,20]
chr17:36228026	KRT10	UTR3		-	TtoA	0.1	0.1429	6	3	[10,20]
chr12:50928679	KRT7	coding_exon		+	TtoG	0.1333	0.1667	7	2	[12,15]
chr1:153408534	KRTCAP2	UTR3		-	AtoG	0.1	0.3125	5	3	[11,16]
chr17:22952550	KSR1	mixed		+	TtoC	0.1053	0.4167	6	5	[11,19]
chr17:22956639	KSR1	mixed		+	TtoC	0.1	0.15	4	2	[10,20]
chr17:22974697	KSR1	mixed		+	AtoG	0.1	0.1	2	2	[10,10]
chr17:22975111	KSR1	mixed		+	AtoG	0.1	0.2	5	3	[10,20]
chr3:120694659	KTELC1	UTR3		+	TtoA	0.1	0.25	2	2	[10,12]
chr14:55148640	KTN1	coding_exon	ENST00000334975:QtoK;ENST00000356229:QtoK;ENST00000395308:QtoK;ENST000	+	CtoA	0.1	0.1053	7	3	[20,76]
chr14:55220660	KTN1	UTR3		+	TtoG	0.1	0.1053	2	2	[10,19]
chr22:39939871	L3MBTL2	coding_exon		+	TtoA	0.1	0.1429	4	2	[10,14]
chr8:17132643	LACTB2	coding_exon		-	AtoG	0.1	0.1333	2	2	[10,15]
chr12:6754912	LAG3	coding_exon	ENST00000203629:TtoP;ENST00000441671:TtoP;	+	AtoC	0.1364	0.1379	2	2	[22,29]

chr19:59557461	LAIR1	UTR3		-	CtoA	0.15	0.4444	3	3	[18,24]
chr1:181353293	LAMC1	coding_exon		+	AtoG	0.1	0.1	3	2	[10,10]
chr1:181380527	LAMC1	UTR3		+	TtoA	0.1	0.1	2	2	[10,10]
chr3:184324696	LAMP3	coding_exon	ENST00000265598:VtoA;ENST00000466939:VtoA;	-	TtoC	0.12	0.1212	9	2	[25,33]
chr1:30977905	LAPTM5	UTR3		-	TtoA	0.3	0.4444	3	3	[10,10]
chr1:30977912	LAPTM5	UTR3		-	AtoG	0.1	0.1846	15	13	[65,567]
chr1:30978575	LAPTM5	UTR3		-	TtoA	0.1117	0.1643	12	3	[149,191]
chr5:154173702	LARP1	coding_exon		+	TtoG	0.1053	0.1385	2	2	[19,65]
chr5:154174105	LARP1	UTR3		+	GtoA	0.1026	0.25	10	4	[12,40]
chr5:154174106	LARP1	UTR3		+	GtoA	0.1	0.1538	10	3	[13,23]
chr5:154175469	LARP1	UTR3		+	TtoG	0.1957	0.2222	3	2	[19,48]
chr5:154176265	LARP1	UTR3		+	AtoG	0.1429	0.2	5	2	[15,20]
chr5:154177172	LARP1	UTR3		+	AtoG	0.1034	0.1538	9	3	[13,29]
chr12:49107814	LARP4	mixed		+	GtoT	0.1538	0.1765	3	2	[13,17]
chr12:49107815	LARP4	mixed		+	GtoT	0.1	0.1667	3	3	[10,16]
chr10:846092	LARP4B	UTR3		-	AtoG	0.1	0.1	5	3	[10,10]
chr4:113788295	LARP7	coding_exon	ENST00000324052:DtoA;ENST00000344442:DtoA;	+	AtoC	0.1	0.1	2	2	[10,10]
chr4:113793691	LARP7	coding_exon	ENST00000324052:AtoS;ENST00000344442:AtoS;	+	GtoT	0.1053	0.1333	4	2	[15,19]
chr5:145489883	LARS	coding_exon	ENST00000394434:VtoG;	-	TtoG	0.1042	0.1875	7	4	[16,48]
chr3:45534442	LARS2	coding_exon	ENST00000265537:Wto*;ENST00000414984:Wto*;ENST00000415258:Wto*;	+	GtoA	0.1	0.1	3	2	[10,10]
chr3:45564417	LARS2	UTR3		+	TtoG	0.1	0.1	4	2	[10,10]
chr17:34328812	LASP1	mixed		+	AtoG	0.141	0.1765	4	3	[51,81]
chr17:34331547	LASP1	UTR3		+	GtoA	0.2	0.5455	6	6	[10,14]
chr19:8181744	LASS4	UTR5		+	GtoC	0.1818	0.25	3	3	[10,12]
chr2:16939599	LASS6	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr1:223678358	LBR	coding_exon		-	CtoA	0.1	0.1	2	2	[10,20]
chr1:223656148	LBR	UTR3		-	TtoC	0.1	0.1212	10	5	[20,36]
chr15:41408221	LCMT2	coding_exon	ENST00000305641:YtoD;	-	TtoG	0.1	0.2	2	2	[10,10]
chr13:45630661	LCP1	coding_exon	ENST00000323076:StoA;ENST00000398576:StoA;	-	TtoG	0.1053	0.125	2	2	[19,24]
chr5:169608317	LCP2	coding_exon	ENST00000046794:YtoD;	-	TtoG	0.125	0.1579	2	2	[16,19]
chr5:169608315	LCP2	coding_exon		-	CtoT	0.1333	0.15	2	2	[15,20]
chr10:103858777	LDB1	coding_exon	ENST00000361198:PtoH;ENST00000419270:PtoH;ENST00000425280:PtoH;	-	CtoA	0.1053	0.15	8	5	[19,54]
chr10:103858776	LDB1	coding_exon		-	TtoG	0.1	0.1905	9	4	[21,57]
chr10:103870090	LDB1	UTR5		-	GtoA	0.1	0.25	2	2	[10,12]
chr11:18377641	LDHA	coding_exon	ENST00000227157:LtoI;ENST00000379412:LtoI;ENST00000396222:LtoI;ENST00000	+	CtoA	0.1429	0.1429	7	2	[21,100]
chr11:18377652	LDHA	coding_exon		+	AtoG	0.1029	0.144	12	7	[24,153]
chr11:18385970	LDHA	UTR3		+	AtoG	0.1045	0.3478	10	10	[42,298]
chr11:18385971	LDHA	UTR3		+	CtoA	0.5455	1	12	12	[11,75]
chr11:18385972	LDHA	UTR3		+	TtoA	0.75	0.8333	4	4	[13,24]
chr12:21679544	LDHB	UTR3		-	TtoC	0.125	0.1429	5	2	[14,16]
chr12:21679546	LDHB	UTR3		-	TtoC	0.1	0.3333	6	3	[10,12]
chr19:11103991	LDLR	UTR3		+	AtoC	0.1176	0.1429	5	2	[14,17]
chr12:63920063	LEMD3	coding_exon	ENST00000308330:VtoA;	+	TtoC	0.1	0.1333	2	2	[10,15]
chr12:63918816	LEMD3	coding_exon	ENST00000308330:RtoS;	+	CtoA	0.1	0.1	2	2	[10,10]
chr12:63850681	LEMD3	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr12:63926554	LEMD3	UTR3		+	TtoC	0.1	0.1	3	2	[10,10]
chr19:60294099	LENG3	UTR3		-	CtoA	0.1	0.1667	2	2	[10,12]
chr19:59658518	LENG8	coding_exon	ENST00000301196:StoP;ENST00000326764:StoP;ENST00000376526:StoP;ENST000	+	TtoC	0.1364	0.1667	3	2	[18,22]
chr19:59664777	LENG8	mixed		+	TtoA	0.1	0.1	3	2	[10,10]
chr19:59652262	LENG8	UTR5		+	TtoG	0.1	0.125	3	2	[10,16]
chr15:50045844	LEO1	coding_exon	ENST00000299601:GtoR;ENST00000315141:GtoR;	-	GtoA	0.1333	0.2	4	2	[10,15]
chr15:50045713	LEO1	coding_exon		-	TtoA	0.1	0.1538	3	2	[10,13]
chr1:42993246	LEPRE1	coding_exon	ENST00000236040:Sto*;ENST00000296388:Sto*;	-	CtoG	0.1667	0.2727	2	2	[11,12]
chr3:191195925	LEPREL1	mixed		-	CtoG	0.1	0.2	3	3	[10,27]
chr8:30081372	LEPROTL1	coding_exon	ENST00000321250:LtoH;ENST00000442880:LtoH;	+	TtoA	0.1	0.1111	4	2	[10,10]
chr8:30083834	LEPROTL1	mixed		+	GtoA	0.1	0.1	2	2	[10,10]
chr8:30084741	LEPROTL1	mixed		+	GtoT	0.1	0.1	3	2	[10,10]
chr4:1812996	LETM1	coding_exon	ENST00000302787:VtoG;	-	TtoG	0.125	0.1538	2	2	[13,16]
chr4:1813173	LETM1	coding_exon	ENST00000302787:VtoG;	-	TtoG	0.1	0.1852	6	2	[10,27]
chr4:1813257	LETM1	coding_exon	ENST00000302787:LtoP;	-	TtoC	0.1053	0.1111	3	2	[18,19]
chr12:49732207	LETMD1	coding_exon	ENST00000262055:NtoD;ENST00000418425:NtoD;ENST00000448283:NtoD;	+	AtoG	0.1	0.1818	2	2	[10,11]
chr22:36405751	LGALS1	UTR3		+	CtoG	0.16	0.2727	4	2	[11,26]
chr22:36405752	LGALS1	UTR3		+	TtoG	0.3	0.5	3	3	[10,16]
chr22:36401596	LGALS1	UTR5		+	TtoC	0.1111	0.1786	2	2	[10,28]
chr22:36401597	LGALS1	UTR5		+	CtoA	0.125	0.1538	2	2	[13,17]
chr14:54681755	LGALS3	UTR3		+	AtoG	0.1	0.1667	5	2	[10,12]
chr1:234778153	LGALS8	UTR3		+	GtoA	0.1053	0.1875	5	4	[16,25]
chr1:234780604	LGALS8	UTR3		+	TtoC	0.1	0.1053	2	2	[10,19]
chr1:204831661	LGTN	UTR3		-	AtoG	0.1	0.2727	12	6	[11,18]
chr1:204831675	LGTN	UTR3		-	TtoA	0.125	0.1818	9	3	[11,32]
chr5:77820329	LHFPL2	UTR3		-	AtoG	0.1176	0.125	4	2	[16,17]
chr4:39141595	LIAS	coding_exon	ENST00000261434:YtoS;ENST00000340169:YtoS;ENST00000381846:YtoS;ENST000	+	AtoC	0.1429	0.1667	2	2	[12,14]
chr4:39141600	LIAS	coding_exon	ENST00000261434:TtoP;ENST00000340169:TtoP;ENST00000381846:TtoP;ENST000	+	AtoC	0.1538	0.2222	5	2	[13,18]
chr4:39149312	LIAS	mixed		+	TtoC	0.1	0.1	2	2	[10,10]
chr19:53346407	LIG1	coding_exon		-	AtoG	0.1	0.1282	4	2	[30,39]
chr19:53310547	LIG1	UTR3		-	TtoC	0.1	0.14	7	3	[10,50]
chr17:30348953	LIG3	coding_exon	ENST00000262327:VtoA;ENST00000378526:VtoA;	+	TtoC	0.1	0.1	3	2	[10,10]
chr17:30343100	LIG3	coding_exon	ENST00000262327:NtoD;ENST00000378526:NtoD;	+	AtoG	0.1	0.1	2	2	[10,10]
chr17:30334205	LIG3	coding_exon	ENST00000262327:LtoQ;ENST00000378526:LtoQ;	+	TtoA	0.1111	0.2	3	2	[10,10]
chr17:30340763	LIG3	coding_exon	ENST00000262327:IttoT;ENST00000378526:IttoT;	+	TtoC	0.1	0.1	2	2	[10,10]
chr17:30355645	LIG3	UTR3		+	TtoA	0.1	0.1	3	2	[10,10]
chr12:48857996	LIMA1	coding_exon		-	AtoG	0.1	0.1	4	2	[10,20]
chr12:48855949	LIMA1	UTR3		-	AtoG	0.1	0.1818	5	2	[10,11]
chr12:48856854	LIMA1	UTR3		-	TtoC	0.1	0.1	3	2	[10,20]
chr20:61838489	LIME1	UTR5		+	GtoA	0.1	0.1	3	3	[10,10]
chr7:73173273	LIMK1	coding_exon	ENST00000336180:YtoF;ENST00000418310:YtoF;	+	AtoT	1	1	13	13	[11,80]
chr7:73174283	LIMK1	UTR3		+	CtoT	0.375	0.5	2	2	[56,74]
chr22:29985175	LIMK2	coding_exon		+	TtoC	0.1	0.1429	2	2	[10,14]
chr14:73735481	LIN52	UTR3		+	TtoC	0.1053	0.125	3	2	[16,19]
chr10:91152641	LIPA	coding_exon		-	AtoG	0.1	0.2143	3	2	[10,14]
chr16:11550849	LITAF	mixed		-	TtoC	0.1	0.1149	9	2	[87,121]
chr16:11549965	LITAF	UTR3		-	TtoC	0.1071	0.1818	10	3	[11,29]
chr1:144212896	LIX1L	UTR3		+	AtoG	0.1	0.1818	5	3	[10,11]
chr22:21003526	22NC03-80A10	mixed		+	CtoG	0.4667	0.8438	2	2	[15,64]
chr22:21003534	22NC03-80A10	mixed		+	TtoC	0.25	0.5714	2	2	[14,16]
chr12:64803960	LIPH	coding_exon	ENST00000266604:KtoT;	-	AtoC	0.1009	0.102	8	2	[49,109]

chr12:64804041	LLPH	coding_exon	ENST00000266604:Itot;	-	TtoC	0.1	0.2258	11	5	[18,62]
chr12:64803612	LLPH	UTR3		-	AtoG	0.1333	0.2	3	2	[10,15]
chr18:55147922	LMAN1	UTR3		-	AtoG	0.1429	0.2	4	2	[20,21]
chr5:176691179	LMAN2	UTR3		-	AtoG	0.1	0.1333	4	2	[11,16]
chr5:176691627	LMAN2	UTR3		-	AtoG	0.1	0.1667	5	3	[11,18]
chr2:96736499	LMAN2L	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr2:96736677	LMAN2L	UTR3		-	TtoG	0.1	0.1	3	2	[10,10]
chr7:156169603	LMBR1	coding_exon	ENST00000316198:HtoP;ENST00000347571:HtoP;ENST00000353442:HtoP;ENST00000370570:VtoL;ENST00000370577:VtoL;	-	AtoC	0.1	0.1	2	2	[10,10]
chr6:70485601	LMBRD1	coding_exon	ENST00000370570:VtoL;ENST00000370577:VtoL;	-	GtoT	0.1	0.1	3	2	[10,10]
chr3:8553937	LMCD1	mixed		+	TtoC	0.1	0.1667	3	2	[10,12]
chr11:33837092	LMO2	UTR3		-	AtoG	0.1	0.12	3	3	[10,25]
chr1:87583556	LMO4	UTR3		+	TtoA	0.1	0.1765	8	3	[10,22]
chr5:96341273	LNPEP	coding_exon	ENST00000231368:AtoD;ENST00000379870:AtoD;ENST00000395770:AtoD;ENST00000396395:UtoA;	+	CtoA	0.1	0.1	2	2	[10,10]
chr5:96395815	LNPEP	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr5:96398142	LNPEP	UTR3		+	TtoG	0.1176	0.1429	2	2	[14,17]
chr19:5670776	LONP1	coding_exon	ENST00000358403:HtoP;ENST00000360614:HtoP;	-	AtoC	0.1667	0.3571	4	2	[15,18]
chr16:46843599	LONP2	coding_exon	ENST00000285737:HtoR;ENST00000416006:HtoR;	+	AtoG	0.1	0.1	3	2	[10,10]
chr16:46943219	LONP2	UTR3		+	AtoG	0.1111	0.1333	7	2	[15,18]
chr16:46943360	LONP2	UTR3		+	TtoA	0.1	0.1333	3	2	[10,16]
chr19:19596300	LPAR2	coding_exon	ENST00000407877:LtoP;	-	TtoC	0.1	0.1	3	2	[10,20]
chr5:1514542	LPCAT1	UTR3		-	AtoG	0.1	0.1333	2	2	[10,15]
chr15:32443698	LPCAT4	coding_exon	ENST00000314891:KtoE;	-	AtoG	0.1034	0.1333	4	3	[16,29]
chr1:210023225	LPGAT1	coding_exon		-	AtoC	0.1	0.1	2	2	[10,10]
chr1:209985691	LPGAT1	UTR3		-	TtoC	0.1111	0.1304	3	2	[18,23]
chr1:209986229	LPGAT1	UTR3		-	TtoC	0.1111	0.125	7	3	[16,18]
chr1:209986988	LPGAT1	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr1:209988099	LPGAT1	UTR3		-	TtoG	0.1	0.1	2	2	[10,11]
chr1:209988748	LPGAT1	UTR3		-	AtoT	0.1	0.1	2	2	[10,10]
chr18:2929544	LPIN2	coding_exon		-	GtoA	0.1	0.1	4	2	[10,10]
chr18:2908112	LPIN2	UTR3		-	TtoG	0.1	0.1053	7	3	[10,19]
chr18:2909346	LPIN2	UTR3		-	GtoA	0.2308	0.2727	2	2	[11,13]
chr11:58051340	LPXN	UTR3		-	TtoG	0.1	0.1724	4	3	[20,40]
chr4:151948934	LRBA	coding_exon	ENST00000357115:VtoA;	-	TtoC	0.1	0.125	5	3	[10,32]
chr4:151406265	LRBA	UTR3		-	TtoA	0.1	0.1538	5	2	[10,13]
chr13:46223076	LRCH1	UTR3		+	AtoC	0.1818	0.25	4	2	[11,12]
chr13:46223596	LRCH1	UTR3		+	AtoG	0.1	0.1053	3	2	[10,19]
chr3:199043543	LRCH3	coding_exon	ENST00000334859:YtoN;ENST00000414675:YtoN;ENST00000425562:YtoN;ENST00000425562:StoC;ENST00000425562:StoC;ENST00000425562:StoC;ENST00000425562:StoC;	+	TtoA	0.1	0.2	4	2	[10,10]
chr3:199026319	LRCH3	coding_exon	ENST00000334859:StoC;ENST00000414675:StoC;ENST00000425562:StoC;ENST00000425562:StoC;ENST00000425562:StoC;ENST00000425562:StoC;	+	AtoT	0.1429	0.1538	2	2	[13,14]
chr3:199087040	LRCH3	coding_exon		+	TtoC	0.125	0.1333	2	2	[15,16]
chr3:199097094	LRCH3	UTR3		+	AtoG	0.1818	0.3	2	2	[11,11]
chr12:25096958	LRMP	UTR5		+	AtoG	0.1	0.1333	2	2	[10,15]
chr2:44054452	LRPPRC	coding_exon	ENST00000260665:LtoP;ENST00000409659:LtoP;ENST00000409946:LtoP;	-	TtoC	0.1	0.1389	5	2	[20,36]
chr2:44055355	LRPPRC	coding_exon	ENST00000260665:DtoG;ENST00000409659:DtoG;ENST00000409946:DtoG;	-	AtoG	0.1111	0.1429	3	2	[14,18]
chr2:43980230	LRPPRC	coding_exon		-	AtoG	0.1071	0.1154	2	2	[26,28]
chr2:44041215	LRPPRC	coding_exon		-	AtoG	0.1	0.3	9	3	[10,28]
chr2:43969172	LRPPRC	UTR3		-	TtoC	0.125	0.1818	7	2	[16,22]
chr10:71728983	LRRC20	UTR3		-	TtoG	0.1	0.1	3	2	[10,10]
chr10:71729562	LRRC20	UTR3		-	GtoT	0.1	0.1	3	2	[10,10]
chr15:97613726	LRRC28	coding_exon	ENST00000301981:LtoR;ENST00000331450:LtoR;ENST00000422500:LtoR;ENST00000422500:LtoR;ENST00000422500:LtoR;	+	TtoG	0.1	0.1	2	2	[10,10]
chr15:9719067	LRRC28	coding_exon	ENST00000301981:CtoW;ENST00000422500:CtoW;ENST00000447360:CtoW;ENST00000447360:CtoW;ENST00000447360:CtoW;	+	TtoG	0.125	0.2308	7	3	[13,16]
chr15:97270977	LRRC28	coding_exon	ENST00000301981:AtoS;ENST00000422500:AtoS;ENST00000450058:AtoS;	+	GtoT	0.1	0.1429	2	2	[10,14]
chr15:9719073	LRRC28	coding_exon		+	TtoC	0.1	0.1667	3	2	[10,12]
chr1:46524047	LRRC41	coding_exon	ENST00000254454:StoP;ENST00000343304:StoP;ENST00000371972:StoP;	-	TtoC	0.1	0.1333	2	2	[10,15]
chr1:3686917	LRRC47	UTR3		-	AtoG	0.1154	0.1818	4	2	[11,26]
chr15:40624714	LRRCS7	coding_exon		-	CtoA	0.1	0.1	2	2	[10,10]
chr17:45815211	LRRCS9	UTR3		-	TtoC	0.1	0.1333	2	2	[15,20]
chr7:149659721	LRRC61	UTR5		+	AtoG	0.1111	0.15	4	2	[18,20]
chr7:149659747	LRRC61	UTR5		+	AtoG	0.1	0.2143	6	3	[10,14]
chr9:130710186	LRRC8A	coding_exon	ENST00000259324:YtoN;ENST00000372599:YtoN;ENST00000372600:YtoN;	+	TtoA	0.1	0.1	2	2	[10,10]
chr9:130710916	LRRC8A	coding_exon	ENST00000259324:LtoH;ENST00000372599:LtoH;ENST00000372600:LtoH;	+	TtoA	0.1	0.1	2	2	[10,10]
chr9:130719991	LRRC8A	UTR3		+	TtoC	0.1818	0.2	3	2	[10,11]
chr1:90171563	LRRC8D	mixed		+	TtoC	0.1	0.2	4	2	[10,10]
chr1:90172282	LRRC8D	mixed		+	AtoG	0.1	0.2	2	2	[10,10]
chr2:23833477	LRRFP1	coding_exon	ENST00000244815:AtoV;ENST00000289175:AtoV;ENST00000308482:AtoV;ENST00000308482:AtoV;ENST00000308482:AtoV;	+	CtoT	0.1081	0.1429	2	2	[35,37]
chr2:37071635	LRRFP2	coding_exon		-	AtoG	0.1667	0.2	4	2	[18,20]
chr3:37070265	LRRFP2	UTR3		-	TtoG	0.1	0.1	6	3	[10,10]
chr15:99423272	LRRK1	coding_exon	ENST00000284395:StoA;ENST00000388948:StoA;	+	TtoG	0.1	0.1053	4	2	[10,19]
chr15:99406355	LRRK1	coding_exon	ENST00000284395:LtoR;ENST00000388948:LtoR;	+	TtoG	0.1429	0.2	2	2	[15,20]
chr15:99427163	LRRK1	UTR3		+	GtoT	0.375	0.5652	2	2	[23,56]
chr9:129275915	LRSAM1	coding_exon	ENST00000300417:YtoN;ENST00000323301:YtoN;ENST00000373322:YtoN;ENST00000373322:YtoN;ENST00000373322:YtoN;	+	TtoA	0.1	0.1	2	2	[10,10]
chr9:129257126	LRSAM1	coding_exon	ENST00000300417:LtoP;ENST00000323301:LtoP;ENST00000373322:LtoP;ENST00000373322:LtoP;ENST00000373322:LtoP;	+	TtoC	0.1	0.1667	6	3	[10,14]
chr7:101900568	LRWD1	UTR3		+	TtoG	0.1	0.1176	3	2	[10,17]
chr8:38140179	LSM1	UTR3		-	TtoA	0.1	0.1	4	2	[10,10]
chr19:39410718	LSM14A	UTR3		+	GtoA	0.1	0.1	3	2	[10,10]
chr19:39411221	LSM14A	UTR3		+	CtoT	0.125	0.2	5	2	[15,16]
chr19:39411976	LSM14A	UTR3		+	TtoG	0.1	0.2857	6	4	[10,14]
chr20:60142724	LSM14B	mixed		+	AtoG	0.1304	0.1364	6	2	[22,23]
chr20:60142852	LSM14B	UTR3		+	CtoA	0.1	0.1	3	2	[10,10]
chr20:60142853	LSM14B	UTR3		+	AtoG	0.1667	0.1875	4	2	[12,16]
chr6:31873169	LSM2	UTR3		-	TtoA	0.1053	0.125	3	2	[16,19]
chr6:31873171	LSM2	UTR3		-	AtoG	0.1	0.1087	9	4	[20,46]
chr4:147330401	LSM6	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr11:1870029	LSP1	UTR3		+	AtoC	0.1071	0.1138	5	2	[58,125]
chr11:1870054	LSP1	UTR3		+	TtoC	0.1077	0.1087	7	2	[46,65]
chr21:46453962	LSS	coding_exon		-	CtoG	0.125	0.2222	3	2	[17,18]
chr6:31650059	LTA	UTR3		+	AtoG	0.1024	0.2927	19	16	[20,207]
chr6:31650060	LTA	UTR3		+	AtoG	0.1071	0.2222	15	5	[10,42]
chr6:31650061	LTA	UTR3		+	TtoA	0.1	0.3529	13	10	[10,54]
chr12:94947080	LTA4H	coding_exon		-	GtoA	0.1111	0.1111	3	2	[18,18]
chr12:94918892	LTA4H	UTR3		-	TtoC	0.1111	0.129	6	2	[27,32]
chr6:31656353	LTB	UTR3		-	AtoC	0.1	0.1053	2	2	[10,19]
chr6:144225056	LTV1	coding_exon	ENST00000367576:DtoG;	+	AtoG	0.1429	0.2222	10	3	[10,17]
chr16:210649	LUC7L	coding_exon	ENST00000293872:DtoE;ENST00000337351:DtoE;ENST00000397780:DtoE;ENST00000397780:DtoE;ENST00000397780:DtoE;	-	TtoG	0.1053	0.1111	3	2	[19,19]
chr16:217335	LUC7L	mixed		-	AtoT	0.1111	0.3	11	7	[10,27]
chr7:138758324	LUC7L2	UTR3		+	TtoG	0.125	0.1667	3	2	[12,16]
chr7:138758395	LUC7L2	UTR3		+	TtoA	0.1	0.1818	6	3	[10,12]

chr1:23292498	LUZP1	coding_exon	ENST00000314174:NtoD;ENST00000374623:NtoD;ENST00000418342:NtoD;	-	AtoG	0.1	0.2	2	2	[10,15]
chr6:31746732	LY6G5B	mixed		+	TtoA	0.1333	0.2	4	2	[10,15]
chr6:31748710	LY6G5B	UTR3		+	AtoG	0.1	0.1333	5	2	[10,15]
chr2:160458692	LY75	coding_exon	ENST00000263636:WtoG;ENST00000409803:WtoG;ENST00000409827:WtoG;	-	TtoG	0.1	0.1	3	2	[10,10]
chr6:6600206	LY86	UTR3		+	TtoC	0.1429	0.1875	7	4	[13,18]
chr1:159036278	LY9	mixed		+	TtoG	0.1	0.125	2	2	[10,16]
chr1:159036288	LY9	mixed		+	TtoC	0.1765	0.2143	5	2	[14,17]
chr4:4320533	LYAR	coding_exon	ENST00000343470:VtoA;ENST00000452476:VtoA;	-	TtoC	0.1	0.1364	3	3	[10,22]
chr4:4320559	LYAR	coding_exon		-	TtoC	0.1	0.1111	5	2	[10,28]
chr1:23994613	LYPLA2	UTR3		+	TtoC	0.1176	0.1818	2	2	[11,18]
chr1:23994615	LYPLA2	UTR3		+	AtoG	0.1667	0.4118	2	2	[12,18]
chr1:217450564	LYPLAL1	coding_exon		+	AtoG	0.1	0.1667	6	2	[10,12]
chr16:20843304	LYRM1	UTR3		+	TtoA	0.1	0.1429	5	3	[10,18]
chr16:20843735	LYRM1	UTR3		+	TtoC	0.1176	0.1538	5	2	[13,18]
chr5:130566784	LYRM7	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr1:149401031	LYSMD1	coding_exon	ENST00000368908:WtoS;ENST00000440902:WtoS;	-	GtoC	0.1111	0.1333	2	2	[15,18]
chr15:98073610	LYSMD4	mixed		-	TtoC	0.1	0.1	7	2	[10,21]
chr1:9913074	LZIC	coding_exon		-	AtoG	0.1	0.1	3	2	[10,10]
chr22:19672309	LZTR1	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr19:4789352	M6PRBP1	UTR3		-	TtoA	0.2	0.4	3	3	[10,16]
chr19:4789359	M6PRBP1	UTR3		-	AtoG	0.1	0.1667	9	3	[12,20]
chr1:39591327	MACF1	mixed		+	TtoC	0.1	0.1429	4	2	[10,14]
chr1:39669016	MACF1	mixed		+	TtoC	0.1	0.1538	5	2	[10,13]
chr1:39677585	MACF1	mixed		+	TtoC	0.1163	0.1429	4	2	[14,43]
chr1:39681709	MACF1	mixed		+	AtoG	0.1111	0.125	5	2	[18,24]
chr1:39686147	MACF1	mixed		+	GtoA	0.1	0.1	2	2	[10,30]
chr1:39724179	MACF1	UTR3		+	TtoC	0.1	0.2	4	4	[10,14]
chr1:39724310	MACF1	UTR3		+	TtoC	0.1	0.1176	3	2	[10,17]
chr4:121206413	MAD2L1	coding_exon	ENST00000296509:itoV;ENST00000333047:itoV;	-	AtoG	0.1053	0.2	2	2	[10,21]
chr4:121202598	MAD2L1	coding_exon		-	CtoT	0.129	0.1429	2	2	[21,31]
chr4:121200566	MAD2L1	UTR3		-	AtoG	0.1	0.1	3	2	[10,10]
chr11:47286772	MADD	coding_exon	ENST00000311027:itoV;ENST00000342922:itoV;ENST00000349238:itoV;ENST00000349238:itoV;	+	AtoG	0.1	0.1	5	2	[10,10]
chr4:1323279	MAEA	UTR3		+	TtoC	0.1176	0.1538	2	2	[13,17]
chr4:1323875	MAEA	UTR3		+	TtoA	0.1	0.2308	5	3	[10,14]
chr8:145234484	MAF1	UTR3		+	TtoA	0.1	0.1111	3	2	[10,10]
chr3:185910879	MAGEF1	mixed		-	TtoC	0.1	0.1765	8	2	[10,17]
chr1:53465273	MAGOH	UTR3		-	TtoG	0.1	0.1429	3	2	[14,20]
chr12:10654520	MAGOHB	coding_exon	ENST00000320756:NtoD;ENST00000381881:NtoD;	-	AtoG	0.1	0.1667	3	2	[18,30]
chr9:87823517	MAK10	coding_exon		+	AtoG	0.1053	0.1429	6	2	[14,19]
chr1:117786376	MAN1A2	mixed		+	AtoG	0.1	0.1818	7	3	[10,17]
chr1:117786377	MAN1A2	mixed		+	TtoG	0.1	0.2	7	3	[10,15]
chr1:117872591	MAN1A2	UTR3		+	CtoG	0.1	0.2	3	2	[10,10]
chr9:139116584	MAN1B1	coding_exon		+	GtoA	0.2308	0.3333	4	4	[10,13]
chr15:89257111	MAN2A2	coding_exon	ENST00000360468:PtoA;ENST00000431652:NtoK;	+	CtoG	0.1	0.2381	11	4	[13,30]
chr4:6662463	MAN2B2	coding_exon	ENST00000285599:StoP;	+	TtoC	0.2	0.2143	4	2	[10,14]
chr15:73438726	MAN2C1	coding_exon	ENST00000267978:QtoP;	-	AtoC	0.1	0.4375	13	5	[10,41]
chr15:73438724	MAN2C1	coding_exon	ENST00000267978:EtoK;	-	GtoA	0.1	0.4118	14	9	[10,40]
chr15:73435192	MAN2C1	UTR3		-	TtoC	0.1364	0.1538	8	2	[13,22]
chr4:103804992	MANBA	coding_exon		-	GtoA	0.125	0.1429	3	2	[14,16]
chr5:71530066	MAP1B	coding_exon	ENST00000296755:StoA;	+	TtoG	0.1	0.2	2	2	[10,10]
chr5:71530076	MAP1B	coding_exon	ENST00000296755:QtoR;	+	AtoG	0.1818	0.2727	2	2	[11,11]
chr19:4052140	MAP2K2	coding_exon	ENST00000262948:DtoE;ENST00000394867:DtoE;ENST00000443189:DtoE;	-	TtoG	0.1	0.2	5	2	[10,16]
chr19:4052246	MAP2K2	mixed		-	GtoC	0.1429	0.1875	7	3	[14,29]
chr19:4052247	MAP2K2	mixed		-	AtoT	0.125	0.1667	7	4	[13,32]
chr19:4053378	MAP2K2	mixed		-	TtoC	0.1	0.1875	6	2	[10,16]
chr19:4053405	MAP2K2	mixed		-	CtoT	0.1053	0.12	5	2	[19,25]
chr19:4053415	MAP2K2	mixed		-	AtoG	0.1	0.125	7	2	[10,24]
chr19:4068477	MAP2K2	mixed		-	CtoG	0.1	0.1667	4	2	[22,42]
chr17:21158633	MAP2K3	UTR3		+	TtoC	0.9855	1	7	7	[33,95]
chr15:65665294	MAP2K5	coding_exon	ENST00000178640:PtoH;ENST00000395476:PtoH;	+	CtoA	0.1	0.1	2	2	[10,10]
chr15:65849002	MAP2K5	coding_exon		+	CtoG	0.1	0.1	2	2	[10,10]
chr17:65024636	MAP2K6	coding_exon	ENST00000359094:NtoK;	+	TtoG	0.1	0.1	3	2	[10,10]
chr17:65031300	MAP2K6	coding_exon	ENST00000359094:CtoR;	+	TtoC	0.1	0.125	2	2	[10,16]
chr19:7883830	MAP2K7	UTR3		+	CtoA	0.1	0.1538	2	2	[10,13]
chr12:52162236	MAP3K12	coding_exon	ENST00000267079:QtoR;ENST00000444144:QtoR;	-	AtoG	0.1	0.1	3	2	[10,10]
chr12:5216490	MAP3K12	coding_exon	ENST00000267079:KtoR;ENST00000444144:KtoR;	-	AtoG	0.1	0.2	3	2	[10,10]
chr3:186486014	MAP3K13	UTR5		+	AtoC	0.1	0.1	2	2	[10,10]
chr17:40707646	MAP3K14	coding_exon	ENST00000344686:PtoR;	-	CtoG	0.1	0.1579	3	2	[10,19]
chr17:40700857	MAP3K14	coding_exon		-	AtoC	0.1818	0.2	3	2	[10,11]
chr17:40696815	MAP3K14	UTR3		-	AtoC	0.1	0.1176	2	2	[10,17]
chr2:127780650	MAP3K2	UTR3		-	TtoG	0.1	0.1	2	2	[10,10]
chr6:161390909	MAP3K4	coding_exon	ENST00000348824:LtoI;ENST00000366919:LtoI;ENST00000366920:LtoI;ENST00000366920:LtoI;	+	TtoA	0.1	0.1111	2	2	[10,10]
chr6:161422032	MAP3K4	coding_exon	ENST00000348824:Gto*;ENST00000366919:Gto*;ENST00000366920:Gto*;ENST00000366920:Gto*;	+	GtoT	0.1	0.1	2	2	[10,10]
chr6:136964708	MAP3K5	coding_exon	ENST00000355845:CtoR;ENST00000359015:CtoR;	-	TtoC	0.1	0.1538	3	2	[10,13]
chr6:136985738	MAP3K5	coding_exon		-	TtoC	0.1	0.1429	7	2	[10,14]
chr22:38214122	MAP3K7IP1	mixed		+	AtoC	0.1	0.1	2	2	[10,10]
chr22:38241623	MAP3K7IP1	mixed		+	TtoC	0.1	0.1	7	2	[10,40]
chr22:38241871	MAP3K7IP1	mixed		+	TtoC	0.1	0.1	2	2	[10,10]
chr22:38242094	MAP3K7IP1	mixed		+	TtoC	0.1	0.1429	3	2	[10,14]
chr6:149741482	MAP3K7IP2	coding_exon		+	AtoG	0.1	0.1	2	2	[10,10]
chr6:149772609	MAP3K7IP2	UTR3		+	TtoC	0.1	0.1667	5	2	[10,12]
chr6:149773419	MAP3K7IP2	UTR3		+	AtoT	0.1	0.1111	4	2	[10,18]
chr10:30787136	MAP3K8	coding_exon	ENST00000263056:YtoN;ENST00000375321:YtoN;ENST00000375328:YtoN;	+	TtoA	0.1	0.1053	2	2	[10,19]
chr10:30776876	MAP3K8	coding_exon	ENST00000263056:CtoS;ENST00000375321:CtoS;ENST00000375328:CtoS;	+	TtoA	0.1	0.1	4	2	[10,10]
chr3:47933123	MAP4	coding_exon	ENST00000360240:KtoE;ENST00000395734:KtoE;ENST00000403918:KtoE;	-	AtoG	0.1	0.1538	3	2	[10,13]
chr3:47933226	MAP4	coding_exon		-	CtoT	0.1	0.1333	4	2	[15,30]
chr3:47867249	MAP4	UTR3		-	TtoC	0.1154	0.1875	4	3	[16,26]
chr3:47868721	MAP4	UTR3		-	AtoG	0.1053	0.1111	2	2	[18,19]
chr19:43770125	MAP4K1	UTR3		-	TtoC	0.1	0.1429	7	3	[14,52]
chr14:49956572	MAP4K5	coding_exon	ENST00000013125:VtoD;ENST00000429500:VtoD;	-	TtoA	0.1	0.1667	2	2	[10,12]
chr1:36410676	MAP7D1	coding_exon	ENST00000316156:EtoG;ENST00000373150:EtoG;ENST00000373151:EtoG;	+	AtoG	0.1111	0.1818	3	2	[11,28]
chr22:20446301	MAPK1	UTR3		-	TtoA	0.1667	0.2	4	3	[10,13]
chr22:20446750	MAPK1	UTR3		-	AtoG	0.1	0.1111	2	2	[10,18]
chr22:49045097	MAPK11	UTR3		-	AtoG	1	1	5	5	[10,24]
chr22:49033475	MAPK12	UTR3		-	AtoC	0.1	0.1	2	2	[10,10]
chr6:36186470	MAPK14	UTR3		+	TtoC	0.1034	0.1818	4	2	[11,29]

chr14:54602467	MAPK1IP1L	UTR3		+	TtoA	0.1	0.1	2	2	[10,10]
chr14:54602521	MAPK1IP1L	UTR3		+	CtoA	0.1	0.1667	3	2	[11,12]
chr14:54602612	MAPK1IP1L	UTR3		+	TtoC	0.1	0.1818	3	2	[10,11]
chr14:54605342	MAPK1IP1L	UTR3		+	GtoT	0.1	0.1	4	2	[10,10]
chr14:54605345	MAPK1IP1L	UTR3		+	TtoA	0.1	0.125	14	3	[10,16]
chr10:49313993	MAPK8	UTR3		+	TtoG	0.1	0.1	2	2	[10,10]
chr11:45881281	MAPK8IP1	coding_exon	ENST00000241014:VtoI;ENST00000395629:VtoI;	+	GtoA	1	1	3	3	[13,19]
chr11:45883304	MAPK8IP1	coding_exon	ENST00000241014:PtoL;ENST00000395629:PtoL;	+	CtoT	1	1	2	2	[18,40]
chr11:45882142	MAPK8IP1	coding_exon	ENST00000241014:LtoP;ENST00000395629:LtoP;	+	TtoC	0.7	1	4	4	[10,61]
chr11:45880140	MAPK8IP1	coding_exon	ENST00000241014:HtoV;ENST00000395629:HtoV;	+	CtoT	1	1	2	2	[21,22]
chr11:45880523	MAPK8IP1	coding_exon	ENST00000241014:HtoP;ENST00000395629:HtoP;	+	AtoC	0.9231	1	4	4	[13,37]
chr11:45880558	MAPK8IP1	coding_exon	ENST00000241014:GtoS;ENST00000395629:GtoS;	+	GtoA	1	1	2	2	[11,11]
chr11:45881530	MAPK8IP1	coding_exon	ENST00000241014:GtoR;ENST00000395629:GtoR;	+	GtoC	0.8571	1	2	2	[14,20]
chr11:45881557	MAPK8IP1	coding_exon	ENST00000241014:AtoT;ENST00000395629:AtoT;	+	GtoA	0.9524	1	3	3	[21,36]
chr11:45880527	MAPK8IP1	coding_exon		+	CtoT	0.9	1	4	4	[12,20]
chr11:45881061	MAPK8IP1	coding_exon		+	AtoG	1	1	2	2	[11,12]
chr11:45881496	MAPK8IP1	coding_exon		+	TtoC	0.9333	1	3	3	[13,30]
chr11:45882260	MAPK8IP1	coding_exon		+	GtoA	1	1	2	2	[12,16]
chr11:45882589	MAPK8IP1	coding_exon		+	CtoT	0.9706	1	2	2	[28,35]
chr11:45883850	MAPK8IP1	UTR3		+	TtoC	0.9	1	3	3	[10,30]
chr11:45883852	MAPK8IP1	UTR3		+	TtoC	0.9	1	3	3	[10,25]
chr11:45884222	MAPK8IP1	UTR3		+	GtoA	0.9	1	3	3	[10,13]
chr16:1737031	MAPK8IP3	coding_exon	ENST00000250894:CtoG;ENST00000356010:CtoG;	+	TtoG	0.1818	0.2727	3	3	[10,11]
chr16:1760315	MAPK8IP3	UTR3		+	TtoC	0.1429	0.2308	2	2	[13,21]
chr5:179640085	MAPK9	coding_exon	ENST00000343111:QtoR;ENST00000347470:QtoR;ENST00000393360:QtoR;ENST00000393360:QtoR;	-	AtoG	0.1	0.2222	3	2	[10,18]
chr5:179595731	MAPK9	UTR3		-	TtoC	0.1111	0.2	9	2	[10,10]
chr5:179595748	MAPK9	UTR3		-	TtoC	0.1	0.1	3	2	[10,10]
chr1:204974220	MAPKAPK2	UTR3		+	AtoG	0.1818	0.1818	3	2	[11,11]
chr3:50654736	MAPKAPK3	coding_exon	ENST00000357955:HtoP;ENST00000446044:HtoP;	+	AtoC	0.1	0.2727	3	2	[11,20]
chr3:50660403	MAPKAPK3	coding_exon		+	TtoA	0.1	0.1	3	2	[10,10]
chr15:39905561	MAPKBP1	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr15:39978456	MAPKBP1	UTR3		+	AtoT	0.1053	0.1818	5	2	[11,19]
chr15:39978996	MAPKBP1	UTR3		+	GtoA	0.1	0.1818	3	2	[10,11]
chr15:39979009	MAPKBP1	UTR3		+	CtoA	0.1667	0.4	5	2	[10,12]
chr4:101021807	MAPKSP1	UTR3		-	AtoG	0.125	0.1579	4	2	[16,20]
chr18:30904171	MAPRE2	coding_exon	ENST00000300249:VtoG;ENST00000413393:VtoG;ENST00000436190:VtoG;	+	TtoG	0.1111	0.1667	4	2	[12,18]
chr19:8409531	MARCH2	UTR3		+	TtoC	0.1	0.1111	2	2	[18,20]
chr5:126281743	MARCH3	coding_exon	ENST00000308660:StoI;	-	GtoT	0.1	0.1	2	2	[10,10]
chr5:10430983	MARCH6	coding_exon	ENST00000274140:StoR;	+	TtoA	0.1429	0.1538	3	2	[13,14]
chr5:10483116	MARCH6	coding_exon	ENST00000274140:LtoH;	+	TtoA	0.1	0.1111	9	2	[10,31]
chr5:10458684	MARCH6	coding_exon		+	TtoC	0.1	0.1579	4	2	[10,20]
chr2:160312953	MARCH7	coding_exon	ENST00000259050:DtoE;ENST00000409175:DtoE;ENST00000409591:DtoE;	+	TtoA	0.1429	0.3	3	2	[10,28]
chr2:160332097	MARCH7	coding_exon	ENST00000259050:*toK;ENST00000409175:*toK;ENST00000409591:*toK;	+	TtoA	0.1	0.1429	3	2	[10,21]
chr2:160332113	MARCH7	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr10:45276756	MARCH8	coding_exon	ENST00000319836:StoP;ENST00000395769:StoP;ENST00000395771:StoP;	-	TtoC	0.1	0.1667	2	2	[10,12]
chr10:45304823	MARCH8	coding_exon	ENST00000319836:KtoQ;ENST00000395769:KtoQ;ENST00000395771:KtoQ;	-	AtoC	0.1	0.1	4	2	[10,10]
chr10:45271339	MARCH8	mixed		-	CtoT	0.4545	0.75	2	2	[11,12]
chr6:114288609	MARCKS	UTR3		+	TtoG	0.102	0.2667	5	3	[15,49]
chr1:32572034	MARCKSL1	UTR3		-	TtoC	0.1538	0.3333	12	11	[10,106]
chr14:103039347	MARK3	UTR3		+	AtoG	0.1333	0.1538	4	2	[15,26]
chr19:50475799	MARK4	coding_exon	ENST00000262891:TtoP;ENST00000300843:TtoP;	+	AtoC	0.1	0.1	2	2	[10,10]
chr19:50482758	MARK4	coding_exon	ENST00000262891:TtoN;ENST00000300843:TtoN;	+	CtoA	0.1	0.1	2	2	[10,10]
chr19:50498439	MARK4	UTR3		+	AtoG	0.1	0.1	3	2	[10,10]
chr19:50498508	MARK4	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr12:56168135	MARS	UTR5		+	GtoT	0.1	0.375	6	4	[10,16]
chr1:46273844	MAST2	coding_exon	ENST00000361297:PtoH;ENST00000372009:PtoH;ENST00000456625:PtoH;	+	CtoA	0.1	0.1818	2	2	[10,11]
chr1:46270459	MAST2	coding_exon	ENST00000361297:LtoF;ENST00000372009:LtoF;	+	GtoT	0.1	0.125	4	2	[10,16]
chr1:46269500	MAST2	coding_exon		+	GtoC	0.1	0.2	2	2	[10,10]
chr1:46270872	MAST2	coding_exon		+	TtoC	0.1	0.1667	5	2	[10,18]
chr1:46067775	MAST2	mixed		+	TtoC	0.1	0.2	2	2	[10,10]
chr1:46067824	MAST2	mixed		+	CtoA	0.1	0.1	2	2	[10,10]
chr19:18102477	MAST3	coding_exon	ENST00000262811:RtoQ;	+	GtoA	0.1	0.2	2	2	[10,10]
chr19:18118825	MAST3	coding_exon	ENST00000262811:DtoE;	+	TtoG	0.125	0.25	5	3	[12,16]
chr19:18121762	MAST3	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr10:27499838	MASTL	coding_exon		+	TtoG	0.1	0.1	3	2	[10,10]
chr10:27499985	MASTL	coding_exon		+	TtoA	0.1	0.1	4	2	[10,10]
chr5:162878726	MAT2B	UTR3		+	TtoC	0.1	0.2	8	4	[10,20]
chr5:138639721	MATR3	UTR5		+	TtoG	0.1667	0.2308	3	2	[12,13]
chr20:3795190	MAVS	mixed		+	TtoC	0.1	0.1111	2	2	[10,18]
chr14:64611705	MAX	mixed		-	AtoC	0.1	0.16	5	2	[10,25]
chr18:46051840	MBD1	mixed		-	CtoG	0.1111	0.2353	14	7	[17,48]
chr18:46051843	MBD1	mixed		-	AtoC	0.125	0.1852	11	6	[16,40]
chr19:1527680	MBD3	UTR3		-	TtoA	0.1818	0.1818	4	2	[11,12]
chr3:130634659	MBD4	coding_exon		-	TtoC	0.125	0.15	2	2	[16,20]
chr2:148944034	MBD5	coding_exon		+	AtoG	0.1	0.1818	2	2	[10,11]
chr12:56206277	MBD6	coding_exon	ENST00000355673:TtoI;	+	CtoT	0.1	0.1	2	2	[10,10]
chr12:56206279	MBD6	coding_exon	ENST00000355673:PtoS;	+	CtoT	0.1	0.1538	2	2	[10,14]
chr12:56210097	MBD6	UTR3		+	TtoG	0.1	0.1538	5	3	[10,13]
chr14:35838050	MBIP	mixed		-	AtoC	0.1	0.1	2	2	[10,10]
chr3:153664540	MBNL1	UTR3		+	TtoC	0.1	0.1333	2	2	[10,15]
chr3:153666160	MBNL1	UTR3		+	AtoG	0.1667	0.2	4	2	[12,21]
chr2:8915736	MBOAT2	UTR3		-	TtoA	0.1	0.2727	3	2	[10,11]
chr3:184237721	MCCC1	coding_exon	ENST00000265594:TtoA;ENST00000392616:TtoA;ENST00000492597:TtoA;	-	AtoG	0.1111	0.125	3	2	[16,18]
chr2:46988482	MCFD2	coding_exon	ENST00000319466:StoP;ENST00000409105:StoP;ENST00000409147:StoP;ENST00000409147:StoP;	-	TtoC	0.1333	0.1818	2	2	[11,15]
chr1:148813687	MCL1	UTR3		-	TtoC	0.12	0.1818	3	2	[11,25]
chr10:13253251	MCM10	coding_exon	ENST00000361282:TtoA;ENST00000378694:TtoA;ENST00000378714:TtoA;ENST00000378714:TtoA;	+	AtoG	0.1	0.1	2	2	[10,10]
chr10:13277053	MCM10	coding_exon		+	GtoA	0.1	0.1538	2	2	[10,13]
chr3:128823916	MCM2	UTR3		+	AtoG	0.16	0.1667	6	2	[12,25]
chr21:46491087	MCM3AP	coding_exon	ENST00000291688:StoA;ENST00000397708:StoA;	-	TtoG	0.1111	0.1579	5	2	[19,19]
chr21:46524474	MCM3AP	coding_exon	ENST00000291688:NtoD;ENST00000397708:NtoD;	-	AtoG	0.1	0.1053	4	2	[10,19]
chr21:46487254	MCM3AP	coding_exon		-	TtoC	0.125	0.2	11	4	[13,16]
chr21:46528612	MCM3AP	coding_exon		-	TtoC	0.1	0.1	4	2	[10,10]
chr21:46529734	MCM3AP	UTR5		-	TtoG	0.1	0.125	5	3	[16,20]
chr21:46529736	MCM3AP	UTR5		-	CtoG	0.1	0.125	5	2	[16,20]
chr21:46530127	MCM3AP	UTR5		-	AtoG	0.1	0.1667	2	2	[10,12]
chr2:136333433	MCM6	coding_exon	ENST00000264156:StoP;	-	TtoC	0.1	0.1333	2	2	[10,15]

chr1:85185403	MCOLN2	coding_exon	ENST00000284027:Itov;ENST00000370608:Itov;	-	AtoG	0.1	0.1364	4	2	[10,22]
chr1:85169636	MCOLN2	coding_exon		-	TtoA	0.1	0.3529	7	4	[10,17]
chr1:85163920	MCOLN2	UTR3		-	TtoC	0.1	0.2727	10	5	[10,11]
chr1:85164717	MCOLN2	UTR3		-	TtoA	0.1	0.1667	5	2	[12,20]
chr8:6487989	MCPH1	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr12:48244865	MCRS1	coding_exon	ENST00000343810:KtoN;ENST00000357123:KtoN;	-	AtoC	0.1154	0.1707	5	2	[27,41]
chr6:30776105	MDC1	UTR3		-	TtoC	0.12	0.1429	9	3	[14,25]
chr7:114443342	MDFIC	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr7:114444961	MDFIC	UTR3		+	TtoA	0.1	0.1429	8	4	[10,27]
chr7:75534296	MDH2	UTR3		+	TtoA	0.1	0.1	2	2	[10,10]
chr7:75534592	MDH2	UTR3		+	TtoA	0.1	0.1	3	2	[10,10]
chr12:66995009	MDM1	coding_exon	ENST00000303145:DtoE;ENST00000411698:DtoE;	-	TtoA	0.1	0.1538	3	2	[10,13]
chr12:67504617	MDM2	coding_exon	ENST00000258149:LtoI;ENST00000311420:LtoI;ENST00000311440:LtoI;ENST00000	+	CtoA	0.1176	0.1176	2	2	[17,17]
chr1:202782576	MDM4	coding_exon	ENST00000367182:LtoP;ENST00000454264:LtoP;	+	TtoC	0.1	0.1538	7	2	[10,13]
chr1:202789468	MDM4	UTR3		+	TtoG	0.1429	0.2	3	2	[10,14]
chr1:202792156	MDM4	UTR3		+	AtoG	0.1304	0.1333	4	2	[15,23]
chr1:202792462	MDM4	UTR3		+	TtoG	0.2	0.2308	2	2	[10,13]
chr6:90459561	MDN1	coding_exon		-	CtoT	0.3636	0.4167	2	2	[11,12]
chr14:23754673	MDP1	coding_exon	ENST00000288087:VtoA;ENST00000396833:VtoA;	-	TtoC	0.1111	0.1364	2	2	[18,22]
chr6:84112706	ME1	coding_exon	ENST00000369705:Itov;	-	AtoG	0.1111	0.1111	3	2	[10,18]
chr6:43089504	MEA1	coding_exon	ENST00000244711:GtoA;	-	GtoC	0.2	0.6667	11	11	[17,33]
chr6:43089503	MEA1	coding_exon		-	CtoG	0.25	0.6897	12	11	[16,37]
chr17:34820393	MED1	coding_exon	ENST00000300651:VtoA;ENST00000394287:VtoA;	-	TtoC	0.1	0.1053	5	2	[10,19]
chr17:34820361	MED1	coding_exon	ENST00000300651:GtoR;ENST00000394287:GtoR;	-	GtoA	0.1111	0.3333	4	4	[12,32]
chr17:34817761	MED1	coding_exon		-	TtoC	0.1667	0.1667	3	2	[12,12]
chr17:34820362	MED1	coding_exon		-	AtoC	0.1579	0.4	4	4	[10,27]
chr12:114904631	MED13L	coding_exon	ENST00000281928:CtoG;	-	TtoG	0.1	0.1	3	2	[10,10]
chr22:19239293	MED15	coding_exon		+	TtoC	0.1	0.1	3	2	[20,20]
chr22:19271863	MED15	UTR3		+	TtoA	0.1	0.125	3	2	[10,16]
chr11:93182547	MED17	coding_exon	ENST00000251871:VtoE;ENST00000427225:VtoE;	+	TtoA	0.1	0.2	7	3	[10,18]
chr11:93166673	MED17	coding_exon	ENST00000251871:LtoL;ENST00000427225:LtoL;	+	AtoC	0.1	0.1818	3	3	[10,11]
chr1:28534597	MED18	UTR3		+	CtoT	0.1111	0.125	2	2	[16,18]
chr11:57229225	MED19	coding_exon		-	AtoG	0.1	0.1	2	2	[10,10]
chr9:135199292	MED22	mixed		-	AtoT	0.1	0.1	2	2	[10,10]
chr9:135195680	MED22	UTR3		-	GtoT	0.75	0.8	2	2	[10,12]
chr6:131965110	MED23	coding_exon	ENST00000368053:EtoG;ENST00000368058:EtoG;ENST00000368060:EtoG;ENST000	-	AtoG	0.1	0.1	2	2	[10,10]
chr19:55027225	MED25	coding_exon	ENST00000312865:LtoQ;ENST00000312881:LtoQ;ENST00000377077:LtoQ;ENST000	+	TtoA	0.1053	0.1818	3	2	[11,19]
chr19:55032020	MED25	mixed		+	AtoG	0.1	0.1364	4	2	[10,22]
chr9:133725374	MED27	UTR3		-	TtoC	0.15	0.2	6	3	[10,20]
chr4:17234646	MED28	UTR3		+	TtoC	0.125	0.1538	8	3	[13,24]
chr19:44580247	MED29	UTR3		+	TtoC	0.1429	0.1667	4	2	[12,21]
chr19:44581002	MED29	UTR3		+	AtoG	0.1	0.2	3	2	[10,10]
chr1:43622825	MED8	mixed		-	AtoG	0.1	0.1538	5	3	[10,16]
chr1:43622981	MED8	mixed		-	TtoA	0.1111	0.1875	2	2	[16,18]
chr15:98070226	MEF2A	coding_exon		+	AtoG	1	1	5	5	[10,18]
chr15:98070755	MEF2A	UTR3		+	AtoG	0.1	0.125	3	2	[10,16]
chr15:98071904	MEF2A	UTR3		+	TtoC	0.1	0.1	3	2	[10,10]
chr19:19117900	MEF2B	mixed		-	TtoG	0.1	0.1667	2	2	[10,12]
chr19:19163917	MEF2B	UTR5		-	CtoT	0.1	0.1	2	2	[10,10]
chr5:88054404	MEF2C	coding_exon	ENST00000340208:RtoG;ENST00000424173:RtoG;ENST00000437473:RtoG;	-	AtoG	0.1111	0.25	8	2	[16,28]
chr5:88092872	MEF2C	coding_exon	ENST00000340208:CtoW;ENST00000437473:CtoW;	-	TtoG	0.125	0.1613	3	3	[32,50]
chr5:88054495	MEF2C	coding_exon		-	TtoC	0.1	0.1	4	2	[10,21]
chr5:88050885	MEF2C	UTR3		-	TtoA	0.1	0.2	3	3	[10,11]
chr5:88051354	MEF2C	UTR3		-	TtoA	0.1429	0.1429	3	2	[14,14]
chr5:88052163	MEF2C	UTR3		-	TtoG	0.1	0.1111	4	2	[10,10]
chr5:88214529	MEF2C	UTR5		-	AtoT	0.1364	0.1429	5	2	[22,28]
chr22:40507552	MEI1	mixed		+	AtoG	0.1	0.1429	6	3	[10,48]
chr9:36641859	MELK	coding_exon		+	AtoG	0.1176	0.2308	2	2	[13,17]
chr15:79083184	MESDC1	mixed		+	CtoT	0.1429	0.1818	4	3	[11,14]
chr15:79057695	MESDC2	mixed		-	TtoA	0.1	0.1	2	2	[10,10]
chr15:79058055	MESDC2	mixed		-	TtoA	0.1	0.1429	2	2	[10,14]
chr4:100202183	METAP1	UTR3		+	TtoA	0.1667	0.1818	8	2	[11,12]
chr17:2266890	METT10D	UTR3		-	AtoG	0.1	0.1818	5	2	[10,11]
chr17:2266895	METT10D	UTR3		-	TtoC	0.1333	0.1818	4	2	[11,15]
chr17:2267985	METT10D	UTR3		-	TtoC	0.1	0.1111	5	2	[18,20]
chr17:2269411	METT10D	UTR3		-	TtoG	0.1	0.1	7	2	[10,10]
chr14:20528493	METT11D1	coding_exon	ENST00000339374:VtoA;ENST00000382985:VtoA;	+	TtoC	0.1	0.1111	2	2	[11,18]
chr14:20534976	METT11D1	UTR3		+	AtoG	0.1	0.2727	6	3	[10,19]
chr12:56448945	METTL1	UTR3		-	TtoG	0.1	0.1	3	2	[10,10]
chr10:12644012	METTL10	coding_exon		-	CtoT	0.1	0.1538	4	2	[10,13]
chr1:170023592	METTL3	coding_exon	ENST00000361735:VtoG;ENST00000362019:VtoG;ENST00000367737:VtoG;ENST000	+	TtoG	0.1	0.1	2	2	[10,10]
chr1:170032706	METTL13	UTR3		+	TtoA	0.1	0.1	4	3	[10,10]
chr14:21039882	METTL3	coding_exon	ENST00000298717:StoG;	-	AtoG	0.1176	0.1538	3	2	[13,18]
chr3:15442987	METTL6	coding_exon		-	GtoA	0.1	0.2	3	2	[10,10]
chr12:49609965	METTL7A	coding_exon	ENST00000332160:GtoE;ENST00000433599:GtoE;	+	GtoA	0.1	0.1053	2	2	[10,19]
chr2:171888715	METTL8	UTR3		-	AtoG	0.1	0.1111	2	2	[10,18]
chr16:21543781	METTL9	coding_exon	ENST00000358154:TtoS;ENST00000396014:TtoS;	+	AtoT	0.1013	0.129	8	4	[31,79]
chr16:21574391	METTL9	UTR3		+	AtoG	0.1	0.1667	4	2	[10,18]
chr18:46955918	MEX3C	UTR3		-	TtoC	0.1	0.1	5	3	[10,10]
chr8:8786494	MFHAS1	coding_exon		-	GtoT	0.1	0.1	2	2	[10,10]
chr8:8680793	MFHAS1	UTR3		-	TtoC	0.1538	0.1818	4	3	[11,18]
chr1:11989317	MFN2	coding_exon	ENST00000235329:Itov;ENST00000376320:Itov;ENST00000376337:Itov;ENST00000	+	AtoG	0.1	0.125	3	2	[16,20]
chr1:11964615	MFN2	UTR5		+	CtoA	0.1	0.25	4	3	[10,12]
chr22:36195079	MFNG	UTR3		-	TtoC	0.1	0.1667	5	5	[10,34]
chr12:51934262	MFSD5	coding_exon	ENST00000329548:LtoP;	+	TtoC	0.1667	0.2	4	2	[10,12]
chr12:51934043	MFSD5	coding_exon	ENST00000329548:HtoR;	+	AtoG	0.1	0.1	2	2	[10,10]
chr2:191010177	MFSD6	coding_exon	ENST00000281416:YtoN;ENST00000392328:YtoN;	+	TtoA	0.1	0.1333	2	2	[10,15]
chr2:191074498	MFSD6	UTR3		+	TtoG	0.1	0.1	2	2	[10,10]
chr15:39806743	MGA	coding_exon		+	TtoC	0.1	0.1333	2	2	[10,15]
chr14:49159164	MGAT2	mixed		+	CtoA	0.1	0.125	2	2	[10,16]
chr5:179161064	MGAT4B	coding_exon	ENST00000292591:VtoG;ENST00000337755:VtoG;ENST00000429098:VtoG;	-	TtoG	0.1579	0.2	2	2	[10,19]
chr2:134922873	MGAT5	coding_exon	ENST00000281923:Cto*;ENST00000409645:Cto*;	+	CtoA	0.1	0.1	2	2	[10,10]
chr2:134744524	MGAT5	coding_exon		+	AtoG	0.1	0.1176	2	2	[10,17]
chr2:134923932	MGAT5	UTR3		+	AtoG	0.1	0.125	2	2	[10,16]
chr2:134926005	MGAT5	UTR3		+	GtoA	0.1	0.1667	3	2	[10,12]
chr2:134928630	MGAT5	UTR3		+	AtoG	0.1667	0.1875	3	2	[12,16]

chr10:103547721	MGEA5	coding_exon	ENST00000370094:CtoR;	-	TtoC	0.1	0.2	3	2	[10,10]
chr10:103557497	MGEA5	coding_exon	ENST00000357797:TtoP;ENST00000361464:TtoN;ENST00000370094:TtoN;ENST00000370094:TtoN;	-	CtoA	0.1	0.1667	2	2	[10,12]
chr10:103534216	MGEA5	UTR3		-	Atog	0.1	0.2308	6	3	[10,16]
chr10:103535191	MGEA5	UTR3		-	TtoC	0.1	0.1053	2	2	[20,20]
chr10:103535508	MGEA5	UTR3		-	CtoA	0.1	0.1333	2	2	[10,15]
chr3:128892800	MGLL	UTR3		-	TtoC	0.1111	0.129	5	2	[18,31]
chr10:131455357	MGMT	UTR3		+	Atog	0.1	0.1	3	2	[10,10]
chr16:4679749	MGRN1	UTR3		+	TtoC	0.1	0.1429	3	2	[10,14]
chr6:109880145	MICAL1	coding_exon	ENST00000358577:TtoP;ENST00000358807:TtoP;	-	Atoc	0.1351	0.3	7	3	[10,37]
chr19:1202895	MIDN	coding_exon	ENST00000300952:TtoP;ENST00000395622:TtoP;	+	Atoc	0.1053	0.12	4	2	[19,25]
chr19:1209544	MIDN	UTR3		+	GtoC	0.1	0.1429	5	3	[10,25]
chr19:1210079	MIDN	UTR3		+	GtoA	0.1	0.2	3	3	[10,15]
chr19:285517	MIER2	coding_exon	ENST00000264819:HtoQ;	-	TtoG	0.1	0.1	2	2	[10,10]
chr3:99151548	MINA	coding_exon	ENST0000033396:QtoL;ENST00000394198:QtoL;ENST00000442492:QtoL;	-	Atot	0.1	0.1	5	2	[10,10]
chr3:99168970	MINA	coding_exon	ENST00000330299:TtoI;ENST0000033396:TtoI;ENST00000360258:TtoI;ENST00000360258:TtoI;	-	CtoT	0.1538	0.1818	5	2	[11,13]
chr17:4730648	MINK1	mixed		+	TtoG	0.125	0.1818	2	2	[16,22]
chr17:4734678	MINK1	mixed		+	TtoC	0.1	0.1	2	2	[10,10]
chr17:4735528	MINK1	mixed		+	GtoC	0.1	0.1	5	2	[10,10]
chr17:4738060	MINK1	mixed		+	Atoc	0.125	0.1852	8	4	[15,33]
chr17:4741970	MINK1	mixed		+	TtoC	0.6667	1	3	3	[15,45]
chr10:89301991	MINPP1	mixed		+	Atoc	0.1	0.1	3	2	[10,10]
chr7:7601178	MIOS	coding_exon	ENST00000340080:WtoR;ENST00000405785:WtoR;	+	TtoC	0.1	0.1	3	2	[10,20]
chr7:7601257	MIOS	coding_exon	ENST00000340080:KtoM;ENST00000405785:KtoM;	+	Atot	0.1	0.1667	2	2	[10,12]
chr17:5333339	MIS12	mixed		+	CtoA	0.1	0.1	4	3	[10,10]
chr17:5333499	MIS12	mixed		+	Atoc	0.1	0.1538	3	2	[10,13]
chr2:99156910	MITD1	coding_exon		-	TtoC	0.1765	0.2222	2	2	[10,17]
chr10:129795004	MKI67	coding_exon	ENST00000368653:LtoQ;ENST00000368654:LtoQ;	-	TtoA	0.1	0.1667	4	2	[10,12]
chr10:129784964	MKI67	UTR3		-	TtoA	0.1	0.1	3	2	[10,10]
chr10:129786112	MKI67	UTR3		-	Atog	0.1	0.1	3	2	[10,20]
chr2:122201778	MKI67P	coding_exon	ENST00000285814:NtoD;	-	Atog	0.1	0.2	3	2	[10,20]
chr22:39136798	MKL1	UTR3		-	Atog	0.1	0.1739	9	2	[10,23]
chr7:130798583	MKLN1	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr7:130773150	MKLN1	mixed		+	TtoC	0.1	0.1	2	2	[10,10]
chr7:130773159	MKLN1	mixed		+	TtoC	0.1	0.1111	2	2	[10,10]
chr7:130828387	MKLN1	UTR3		+	Atog	0.1	0.1818	2	2	[10,11]
chr1:46818793	MKNK1	coding_exon	ENST00000341183:VtoA;ENST00000342571:StoP;ENST00000371944:StoP;ENST00000371944:StoP;	-	TtoC	0.1	0.1538	4	2	[10,13]
chr1:46818845	MKNK1	mixed		-	TtoA	0.1	0.1	4	2	[10,10]
chr19:1988850	MKNK2	mixed		-	GtoT	0.1011	0.139	6	4	[72,376]
chr19:1988854	MKNK2	mixed		-	GtoT	0.1	0.1235	3	2	[81,354]
chr19:1989459	MKNK2	mixed		-	CtoT	0.4542	0.484	2	2	[252,584]
chr19:1990434	MKNK2	mixed		-	CtoT	0.1022	0.1469	8	2	[138,211]
chr19:1988517	MKNK2	UTR3		-	Atog	0.1023	0.125	13	3	[24,88]
chr19:1988518	MKNK2	UTR3		-	Atog	0.1	0.1447	11	3	[43,78]
chr19:1988647	MKNK2	UTR3		-	CtoA	0.1031	0.1525	9	5	[43,230]
chr3:12599065	MKRN2	UTR3		+	TtoA	0.1053	0.125	5	2	[19,24]
chr3:12599780	MKRN2	UTR3		+	Atog	0.1176	0.1538	3	2	[13,18]
chr3:12600093	MKRN2	UTR3		+	CtoA	0.1	0.2143	3	3	[10,25]
chr3:12600094	MKRN2	UTR3		+	CtoG	0.1	0.2143	2	2	[10,14]
chr3:12600096	MKRN2	UTR3		+	GtoA	0.1	0.1053	2	2	[10,19]
chr17:53638853	MKS1	coding_exon	ENST00000393119:FtoI;	-	TtoA	0.1	0.1111	2	2	[10,18]
chr17:53648448	MKS1	coding_exon	ENST00000337050:EtoD;ENST00000393119:EtoD;ENST00000393120:EtoD;	-	GtoT	0.1	0.1	2	2	[10,10]
chr12:119619228	MLEC	UTR3		+	Atog	0.1034	0.1333	8	2	[15,29]
chr12:119620354	MLEC	UTR3		+	CtoG	0.1	0.1579	2	2	[19,20]
chr12:119623907	MLEC	UTR3		+	Atog	0.1532	0.2199	7	4	[112,141]
chr12:119624010	MLEC	UTR3		+	Atog	0.1333	0.1429	2	2	[14,15]
chr4:185868322	MLF1IP	coding_exon	ENST00000281453:StoY;	-	CtoA	0.1	0.1	2	2	[10,10]
chr4:185883128	MLF1IP	coding_exon		-	TtoC	0.1	0.1111	3	2	[10,36]
chr4:185853185	MLF1IP	UTR3		-	TtoC	0.1818	0.2	4	2	[10,11]
chr4:185853243	MLF1IP	UTR3		-	TtoA	0.1	0.1	3	2	[10,10]
chr4:185853330	MLF1IP	UTR3		-	TtoA	0.1176	0.2	5	3	[11,17]
chr3:37067304	MLH1	UTR3		+	TtoA	0.1	0.1	2	2	[10,10]
chr11:117881701	MLL	coding_exon	ENST00000354520:StoN;ENST00000359313:StoN;	+	GtoA	0.1	0.1	2	2	[10,10]
chr11:117854006	MLL	coding_exon	ENST00000354520:RtoP;ENST00000359313:RtoP;	+	GtoC	0.1	0.1111	2	2	[10,10]
chr11:117896765	MLL	coding_exon	ENST00000354520:FtoS;ENST00000359313:FtoS;	+	TtoC	0.1	0.1111	5	2	[10,18]
chr11:117899351	MLL	UTR3		+	TtoG	0.1538	0.1818	6	2	[11,13]
chr11:117899760	MLL	UTR3		+	GtoC	0.1	0.1	2	2	[10,10]
chr12:47699298	MLL2	UTR3		-	TtoC	0.1	0.2	5	2	[10,10]
chr12:47699323	MLL2	UTR3		-	TtoC	0.1	0.1304	2	2	[20,23]
chr12:47699888	MLL2	UTR3		-	GtoA	0.1	0.125	2	2	[10,17]
chr12:47700029	MLL2	UTR3		-	Atog	0.1	0.1176	4	3	[10,17]
chr12:47701036	MLL2	UTR3		-	TtoG	0.1	0.1	2	2	[10,10]
chr12:47701060	MLL2	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr7:151476867	MLL3	coding_exon	ENST00000262189:WtoR;ENST00000355193:WtoR;	-	TtoC	0.1	0.1	4	2	[10,10]
chr7:151490723	MLL3	coding_exon		-	TtoC	0.1	0.1	5	2	[10,10]
chr7:151695192	MLL3	coding_exon		-	CtoT	1	1	4	4	[15,19]
chr19:6221745	MLLT1	coding_exon	ENST00000252674:LtoP;	-	TtoC	0.1	0.1176	5	2	[10,17]
chr10:22002343	MLLT10	coding_exon		+	TtoC	0.1	0.1	3	2	[10,10]
chr10:22071629	MLLT10	UTR3		+	TtoC	0.1	0.2	2	2	[10,10]
chr6:168091947	MLLT4	coding_exon		+	Atog	0.1	0.1111	2	2	[10,18]
chr17:34126673	MLLT6	coding_exon	ENST00000325718:StoP;	+	TtoC	0.1	0.1	2	2	[10,10]
chr17:34137993	MLLT6	UTR3		+	Atog	0.1111	0.1429	11	4	[14,27]
chr17:37977893	MLX	UTR3		+	Atoc	0.1667	0.1667	2	2	[12,12]
chr17:37977894	MLX	UTR3		+	GtoT	0.1	0.1333	3	3	[10,17]
chr17:37978446	MLX	UTR3		+	Atot	0.1053	0.1053	4	2	[19,19]
chr17:37978555	MLX	UTR3		+	Atoc	0.1	0.1333	4	2	[10,15]
chr4:146786692	MMAA	coding_exon	ENST00000281317:TtoP;	+	Atoc	0.1	0.1	2	2	[10,10]
chr1:45749309	MMACHC	UTR3		+	GtoT	0.6364	0.9167	3	3	[10,12]
chr1:45749310	MMACHC	UTR3		+	TtoC	0.1463	0.2619	16	13	[29,113]
chr17:50854049	MMD	coding_exon	ENST00000262065:FtoL;	-	TtoC	0.1	0.1	6	2	[10,10]
chr17:50825745	MMD	UTR3		-	Atog	0.1	0.1818	2	2	[10,11]
chr11:101899196	MMP7	coding_exon	ENST00000260227:IttoV;	-	Atog	0.1	0.1071	3	2	[10,28]
chr10:99208103	MMS19	UTR3		-	TtoG	0.1	0.1818	2	2	[10,11]
chr14:60344826	MNAT1	coding_exon	ENST00000261245:DtoG;	+	Atog	0.1	0.1	2	2	[10,10]
chr19:2022040	MOBK2A	UTR3		-	TtoC	0.1111	0.3125	17	13	[11,54]
chr19:2022045	MOBK2A	UTR3		-	Atog	0.1818	0.1818	9	2	[22,34]
chr1:46846719	MOBK2C	UTR3		-	Atog	0.1	0.1	3	2	[10,10]

chr1:46847009	MOBKLC2	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr16:75785733	MON1B	coding_exon	ENST00000248248:EtoG;ENST00000439557:EtoG;	+	AtoG	0.1	0.1429	4	2	[14,20]
chr22:29665975	MORC2	coding_exon	ENST00000215862:LtoV;ENST00000397641:LtoV;	-	CtoG	0.1	0.1818	4	2	[10,11]
chr15:76973554	MORF4L1	coding_exon		+	TtoC	0.1031	0.1918	3	2	[73,98]
chr15:76974239	MORF4L1	coding_exon		+	TtoC	0.1098	0.2	3	2	[45,82]
chr15:76976499	MORF4L1	UTR3		+	TtoA	0.1228	0.1875	11	3	[49,150]
chr15:76976633	MORF4L1	UTR3		+	TtoC	0.1538	0.1852	4	2	[13,27]
chr15:76977068	MORF4L1	UTR3		+	AtoG	0.1111	0.2	3	2	[10,18]
chr1:2325023	MORN1	mixed		-	CtoT	0.1	0.2	3	3	[10,14]
chr17:7431312	MPDU1	coding_exon	ENST00000250124:QtoR;ENST00000396501:RtoG;ENST00000449455:RtoG;	+	AtoG	0.1333	0.1429	5	2	[30,35]
chr17:7432209	MPDU1	mixed		+	TtoC	0.1053	0.1538	5	2	[13,19]
chr16:69448	MPG	coding_exon	ENST00000219431:QtoK;ENST00000356432:QtoK;ENST00000397817:QtoK;ENST00000406663:QtoK;	+	CtoA	0.9855	1	19	19	[12,101]
chr13:19122165	MPHOSPH8	mixed		+	AtoC	0.1	0.1333	2	2	[10,15]
chr15:72977623	MPI	UTR3		+	GtoA	0.1111	0.1667	7	3	[10,15]
chr17:16987693	MPRI1	mixed		+	GtoA	0.1	0.1176	3	2	[17,20]
chr17:17009022	MPRI1	mixed		+	TtoC	0.1	0.1	4	2	[10,10]
chr17:17009651	MPRI1	mixed		+	AtoC	0.1	0.1667	2	2	[10,12]
chr17:17010265	MPRI1	mixed		+	TtoC	0.1	0.1	2	2	[10,10]
chr17:17029006	MPRI1	UTR3		+	TtoG	0.1333	0.1667	4	2	[12,15]
chr22:35755213	MPST	mixed		+	TtoC	0.1	0.1538	3	2	[10,13]
chr2:27385870	MPV17	UTR3		-	TtoC	0.1	0.1429	4	2	[10,14]
chr1:179291216	MR1	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr1:179291782	MR1	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr21:32608768	MRAP	coding_exon	ENST00000339944:VtoA;ENST00000399786:VtoA;	+	TtoC	0.1	0.1818	3	3	[10,11]
chr4:6693439	MRFAP1	UTR5		+	TtoG	0.1667	0.2	6	2	[10,18]
chr4:6760486	MRFAP1L1	mixed		-	TtoC	0.1053	0.1136	4	2	[20,45]
chr4:6760588	MRFAP1L1	mixed		-	CtoA	0.1333	0.2	3	3	[10,15]
chr19:13737940	MR11	coding_exon	ENST0000040663:LtoV;ENST00000445479:LtoV;	+	CtoG	0.1053	0.2308	3	3	[13,19]
chr19:13737941	MR11	coding_exon	ENST0000040663:LtoP;ENST00000445479:LtoP;	+	TtoC	0.1176	0.3333	3	3	[12,17]
chr19:13740429	MR11	coding_exon	ENST0000040663:EtoG;ENST00000319545:EtoG;ENST00000445479:EtoG;	+	AtoG	0.15	0.2	4	2	[10,20]
chr17:32032637	MRM1	coding_exon		+	GtoA	0.1	0.2308	3	2	[10,13]
chr17:32039453	MRM1	UTR3		+	GtoT	0.1333	0.16	2	2	[15,25]
chr13:20649638	MRP63	mixed		+	CtoA	0.1	0.1	2	2	[10,10]
chr13:20649640	MRP63	mixed		+	AtoG	0.125	0.2	2	2	[10,16]
chr11:65959891	MRPL11	UTR3		-	TtoG	0.1111	0.1818	4	2	[10,11]
chr17:77284947	MRPL12	UTR3		+	AtoG	0.1429	0.1765	2	2	[14,17]
chr17:77280832	MRPL12	UTR5		+	TtoA	0.1333	0.3	2	2	[10,15]
chr6:44189432	MRPL14	UTR3		-	TtoC	0.1389	0.1579	4	2	[20,36]
chr11:59330268	MRPL16	UTR3		-	TtoA	0.1	0.1176	4	2	[10,18]
chr6:160139295	MRPL18	UTR3		+	TtoC	0.1111	0.1143	6	2	[19,70]
chr1:154973754	MRPL24	UTR3		-	CtoT	0.2821	0.2927	2	2	[39,41]
chr16:357701	MRPL28	coding_exon	ENST00000199706:VtoG;ENST00000389675:VtoG;ENST00000397734:VtoG;ENST00000406663:VtoG;	-	TtoG	0.102	0.2157	3	2	[49,51]
chr16:357704	MRPL28	coding_exon	ENST00000199706:VtoG;ENST00000389675:VtoG;ENST00000397734:VtoG;ENST00000406663:VtoG;	-	TtoG	0.1538	0.2308	4	2	[26,53]
chr16:357402	MRPL28	UTR3		-	CtoG	0.125	0.1333	2	2	[15,16]
chr2:99180331	MRPL30	UTR3		+	CtoA	0.1	0.1111	3	2	[10,11]
chr19:17277709	MRPL34	coding_exon	ENST00000252602:VtoG;	+	TtoG	0.16	0.2143	5	2	[14,25]
chr2:86293020	MRPL35	mixed		+	AtoG	0.1111	0.125	5	2	[16,18]
chr21:25879898	MRPL39	mixed		-	TtoG	0.1	0.1667	3	2	[10,12]
chr12:92405412	MRPL42	coding_exon		+	TtoC	0.1	0.3	9	6	[10,55]
chr17:33732574	MRPL45	UTR3		+	TtoC	0.1	0.1429	2	2	[10,14]
chr17:33732579	MRPL45	UTR3		+	AtoG	0.2222	0.3	3	2	[10,10]
chr11:73193758	MRPL48	coding_exon		+	CtoG	0.1	0.1	2	2	[10,10]
chr11:73253284	MRPL48	UTR3		+	TtoC	0.1	0.1818	2	2	[10,11]
chr9:103192514	MRPL50	UTR3		-	TtoG	0.1111	0.15	12	4	[10,20]
chr12:6471588	MRPL51	UTR3		-	GtoA	0.1	0.1	2	2	[10,10]
chr12:6471592	MRPL51	UTR3		-	TtoC	0.1	0.3333	14	11	[10,62]
chr14:22373397	MRPL52	UTR3		+	CtoA	0.1	0.1538	3	3	[10,18]
chr2:74552630	MRPL53	UTR3		-	CtoG	0.1	0.125	6	2	[10,24]
chr1:226361013	MRPL55	UTR3		-	TtoC	0.1	0.1818	6	3	[10,13]
chr1:226361016	MRPL55	UTR3		-	AtoG	0.1	0.1	3	2	[10,20]
chr1:173259131	MRPS14	coding_exon	ENST00000476371:FtoV;	-	TtoG	0.1	0.1429	2	2	[10,14]
chr1:36693980	MRPS15	coding_exon	ENST00000373116:QtoR;	-	AtoG	0.1	0.2143	7	6	[10,23]
chr1:36693985	MRPS15	coding_exon	ENST00000373116:DtoE;	-	CtoG	0.1538	0.2353	5	2	[13,17]
chr10:74679260	MRPS16	mixed		-	TtoA	0.1053	0.1304	3	2	[19,23]
chr10:74679415	MRPS16	mixed		-	TtoG	0.1034	0.1429	8	4	[14,38]
chr10:74680504	MRPS16	mixed		-	GtoA	0.1	0.1875	8	3	[10,32]
chr6:43754319	MRPS18A	coding_exon	ENST00000372116:TtoA;ENST00000372118:TtoA;ENST00000372133:TtoA;	-	AtoG	0.1	0.1818	2	2	[10,11]
chr6:30702142	MRPS18B	UTR3		+	TtoC	0.1064	0.3333	11	7	[10,47]
chr7:43872706	MRPS24	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr3:15059458	MRPS25	mixed		-	GtoT	0.1	0.1	2	2	[10,10]
chr3:15068718	MRPS25	mixed		-	GtoA	0.1	0.2	7	4	[10,19]
chr3:15068732	MRPS25	mixed		-	GtoA	0.1053	0.1429	8	3	[14,19]
chr3:15066245	MRPS25	UTR3		-	TtoC	0.1	0.1667	2	2	[10,12]
chr5:71645702	MRPS27	coding_exon	ENST00000261413:HtoR;ENST00000457646:HtoR;	-	AtoG	0.1	0.1	6	2	[10,10]
chr8:81104836	MRPS28	coding_exon	ENST00000276585:PtoL;	-	CtoT	0.125	0.1818	4	2	[11,16]
chr8:81104827	MRPS28	coding_exon	ENST00000276585:KtoR;	-	AtoG	0.1111	0.2857	7	3	[14,27]
chr8:81104828	MRPS28	coding_exon	ENST00000276585:KtoQ;	-	AtoC	0.2667	0.2857	4	2	[14,15]
chr8:81104835	MRPS28	coding_exon		-	CtoT	0.129	0.2308	4	3	[13,31]
chr13:40201610	MRPS31	coding_exon		-	AtoG	0.1	0.125	4	2	[10,16]
chr5:68567023	MRPS36	mixed		+	TtoC	0.1111	0.1481	3	2	[27,27]
chr2:95139445	MRPS5	coding_exon	ENST00000272418:KtoE;	-	AtoG	0.1176	0.1364	3	2	[17,22]
chr6:24523344	MRS2	mixed		+	GtoC	0.1053	0.1667	4	2	[12,19]
chr6:24531199	MRS2	mixed		+	TtoG	0.1429	0.5	3	2	[12,21]
chr6:24532044	MRS2	UTR3		+	CtoT	0.1	0.1	2	2	[10,10]
chr1:19458969	MRT04	UTR3		+	TtoA	0.1	0.2308	3	3	[10,13]
chr11:59994108	MS4A1	UTR3		+	CtoA	0.1	0.2273	8	5	[10,27]
chr11:59986231	MS4A1	UTR5		+	CtoA	0.7273	1	2	2	[10,11]
chr8:72916763	MSC	UTR3		-	TtoA	0.4481	0.4615	2	2	[52,242]
chr2:47490745	MSH2	mixed		+	TtoC	0.1	0.1	4	2	[10,10]
chr2:47547371	MSH2	mixed		+	TtoC	0.1	0.1176	5	2	[10,17]
chr2:47555824	MSH2	mixed		+	AtoG	0.1	0.25	5	2	[10,16]
chr2:47563832	MSH2	mixed		+	TtoA	0.1	0.2	6	2	[10,10]
chr5:80207417	MSH3	coding_exon	ENST00000265081:QtoE;	+	CtoG	0.1	0.1	3	2	[10,10]
chr6:31834932	MSH5	mixed		+	TtoA	0.1	0.2308	3	2	[10,13]
chr6:31835952	MSH5	mixed		+	AtoG	0.1	0.2	4	2	[10,21]
chr2:47879256	MSH6	coding_exon		+	AtoG	0.1154	0.1333	5	2	[15,27]

chr17:52833739	MSI2	coding_exon	ENST00000284073:MtoV;ENST00000322684:MtoV;ENST00000416426:MtoV;ENST	+	AtaG	0.125	0.2857	4	2	[21,24]
chr17:35541317	MSL1	coding_exon	ENST00000339569:RtoS;ENST00000398532:RtoS;	+	GtoT	0.1	0.1818	7	3	[11,20]
chr17:35539033	MSL1	coding_exon		+	AtaG	0.1	0.1026	3	2	[10,39]
chr17:35545056	MSL1	UTR3		+	TtoC	0.1053	0.2	2	2	[10,20]
chr3:137353522	MSL2	coding_exon		-	TtoA	0.1	0.1	2	2	[10,10]
chr16:55200849	MT2A	UTR3		+	CtoA	0.1176	0.2143	6	2	[14,17]
chr14:105007919	MTA1	UTR3		+	TtoC	0.1034	0.1111	8	3	[18,37]
chr11:62117313	MTA2	UTR3		-	TtoC	0.1111	0.2083	14	8	[10,34]
chr11:62117518	MTA2	UTR3		-	TtoA	0.1	0.1053	3	2	[10,19]
chr2:42659827	MTA3	coding_exon	ENST00000405094:LtoP;ENST00000405592:LtoP;ENST00000406652:LtoP;ENST000	+	TtoC	0.1	0.1538	8	2	[10,13]
chr6:37045370	MTCH1	coding_exon		-	TtoC	0.1	0.1538	2	2	[10,13]
chr11:47607128	MTCH2	coding_exon	ENST00000302503:CtoG;	-	TtoG	0.102	0.1304	11	5	[63,98]
chr8:98806531	MTDH	UTR3		+	AtaC	0.1667	0.1667	7	2	[12,18]
chr8:98807707	MTDH	UTR3		+	TtoC	0.1	0.1	2	2	[10,20]
chr8:98807712	MTDH	UTR3		+	AtaG	0.1	0.1667	2	2	[12,30]
chr8:98809278	MTDH	UTR3		+	TtoC	0.1176	0.3	5	4	[10,17]
chr2:241685401	MTERFD2	coding_exon	ENST00000391980:VtoA;ENST00000406593:VtoA;ENST00000407095:VtoA;	-	TtoC	0.1333	0.2143	4	2	[14,15]
chr2:241676558	MTERFD2	mixed		-	GtoA	0.1	0.1	2	2	[10,10]
chr1:93317547	MTF2	UTR5		+	AtaG	0.125	0.1538	3	2	[13,16]
chr10:135064898	MTG1	coding_exon		+	TtoA	0.1	0.25	2	2	[10,16]
chr10:135083969	MTG1	UTR3		+	TtoA	0.1111	0.1579	4	2	[10,21]
chr15:77978398	MTFH5	mixed		-	CtoT	0.2308	0.6429	3	3	[13,16]
chr13:26912392	MTIF3	coding_exon	ENST00000381116:GtoE;ENST00000381120:GtoE;ENST00000405591:GtoE;ENST000	-	GtoA	0.1	0.1333	3	2	[10,15]
chr13:26912412	MTIF3	coding_exon		-	TtoG	0.125	0.1429	4	2	[14,16]
chr15:29022080	MTMR10	mixed		-	GtoA	0.125	0.1538	5	2	[13,16]
chr15:29018863	MTMR10	UTR3		-	AtaG	0.1	0.1	2	2	[10,10]
chr11:95207026	MTMR2	UTR3		-	TtoG	0.1	0.1818	4	2	[11,11]
chr11:95207937	MTMR2	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr22:29011282	MTMR3	mixed		+	TtoC	0.1	0.1	2	2	[10,10]
chr22:29059127	MTMR3	mixed		+	AtaG	0.1	0.1	2	2	[10,10]
chr22:29060039	MTMR3	mixed		+	AtaT	0.125	0.1538	11	2	[13,16]
chr22:29068221	MTMR3	mixed		+	AtaC	0.1111	0.125	4	2	[81,162]
chr22:29153204	MTMR3	mixed		+	TtoG	0.1207	0.2571	5	2	[58,106]
chr22:29652830	MTMR3	mixed		+	AtaG	0.1	0.1176	2	2	[10,17]
chr22:29696785	MTMR3	mixed		+	TtoC	0.1	0.1667	3	2	[10,12]
chr22:29699574	MTMR3	mixed		+	GtoC	0.1538	0.3	6	4	[10,17]
chr22:29701776	MTMR3	mixed		+	TtoA	0.1	0.1538	3	2	[10,13]
chr22:28751950	MTMR3	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr22:28753586	MTMR3	UTR3		+	GtoA	0.1	0.1	3	2	[10,20]
chr17:53939667	MTMR4	coding_exon	ENST00000323456:NtoK;	-	TtoG	0.1	0.1	3	2	[10,10]
chr6:74258783	MTQ1	coding_exon	ENST00000357845:RtoS;ENST00000370300:RtoS;ENST00000370305:RtoS;ENST000	+	AtaC	0.1	0.3	3	2	[10,10]
chr1:11099657	MTOR	coding_exon	ENST00000361445:LtoP;ENST00000376838:LtoP;	-	TtoC	0.1	0.1111	3	2	[10,18]
chr1:11090143	MTOR	coding_exon	ENST00000361445:CtoG;ENST00000376838:CtoG;	-	TtoG	0.1111	0.1176	4	2	[17,18]
chr1:235092241	MTR	coding_exon	ENST00000366577:VtoA;ENST00000417743:VtoA;	+	TtoC	0.1	0.1	2	2	[10,10]
chr13:40760886	MTRF1	coding_exon	ENST00000379477:AtoS;ENST00000379480:AtoS;ENST00000430347:AtoS;	+	GtoT	0.1	0.1429	3	2	[10,14]
chr2:176896369	MTX2	coding_exon	ENST00000249442:FtoV;ENST00000392529:FtoV;	+	TtoG	0.1	0.2	4	2	[10,10]
chr2:176910654	MTX2	UTR3		+	TtoC	0.1538	0.1818	4	2	[11,13]
chr14:56816774	MUDENG	coding_exon	ENST00000261558:StoP;ENST00000431972:StoP;	+	TtoC	0.1	0.1429	3	2	[10,14]
chr14:56811318	MUDENG	coding_exon		+	TtoG	0.1	0.125	4	2	[10,16]
chr14:56825908	MUDENG	UTR3		+	AtaG	0.1	0.1	2	2	[10,10]
chr1:20699402	MUL1	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr19:1315544	MUM1	coding_exon	ENST00000311401:HtoR;ENST00000344663:HtoR;ENST00000415183:HtoR;	+	AtaG	0.1	0.1176	6	2	[10,17]
chr1:45569455	MUTYH	coding_exon	ENST00000354383:TtoP;ENST0000035498:TtoP;ENST00000372098:TtoP;ENST000	-	AtaC	0.1	0.1765	7	4	[10,22]
chr16:29766838	MVP	UTR3		+	TtoC	0.1667	0.2917	6	4	[13,26]
chr21:41733614	MX1	coding_exon	ENST00000288383:VtoG;ENST00000398598:VtoG;ENST00000398600:VtoG;ENST000	+	TtoG	0.1009	0.2	15	9	[34,308]
chr21:41729735	MX1	coding_exon		+	CtoA	0.1111	0.125	4	3	[10,19]
chr21:41753006	MX1	UTR3		+	CtoA	0.1	0.2286	7	2	[10,37]
chr21:41753007	MX1	UTR3		+	AtaG	0.1176	0.2703	5	2	[17,37]
chr21:41753008	MX1	UTR3		+	GtoA	0.1111	0.2105	10	5	[15,24]
chr21:41753009	MX1	UTR3		+	AtaG	0.1089	0.1429	5	2	[14,112]
chr21:41753010	MX1	UTR3		+	CtoA	0.6667	1	9	9	[10,36]
chr21:41725842	MX1	UTR5		+	TtoC	0.1818	0.1818	6	2	[11,11]
chr21:41725843	MX1	UTR5		+	TtoC	0.1	0.1538	8	2	[10,13]
chr21:41702707	MX2	UTR3		+	AtaG	0.1	0.1429	2	2	[10,14]
chr10:112035621	MX11	UTR3		+	AtaG	0.1429	0.1667	4	2	[12,14]
chr6:135557262	MYB	coding_exon	ENST00000237302:NtoD;ENST00000316528:NtoD;ENST00000341911:NtoD;ENST000	+	AtaG	0.1	0.1	3	2	[10,20]
chr6:135581803	MYB	UTR3		+	AtaG	0.1	0.1111	5	2	[10,18]
chr13:76523234	MYCBP2	coding_exon	ENST00000357337:VtoG;ENST00000407578:VtoG;	-	TtoG	0.1111	0.1579	4	2	[19,36]
chr13:76641793	MYCBP2	coding_exon	ENST00000357337:LtoR;ENST00000407578:LtoR;	-	TtoG	0.1	0.1034	5	2	[11,29]
chr13:76597486	MYCBP2	coding_exon	ENST00000357337:LtoP;ENST00000407578:LtoP;	-	TtoC	0.1	0.1538	5	2	[10,13]
chr13:76662412	MYCBP2	coding_exon	ENST00000357337:GtoD;ENST00000407578:GtoD;	-	GtoA	0.1	0.1	4	2	[10,10]
chr13:76569795	MYCBP2	coding_exon		-	TtoG	0.15	0.1538	9	2	[13,21]
chr13:76517037	MYCBP2	UTR3		-	CtoA	0.1	0.25	3	2	[10,12]
chr13:76517328	MYCBP2	UTR3		-	TtoA	0.1538	0.1538	9	2	[13,13]
chr15:46228847	MYEF2	coding_exon		-	TtoC	0.1429	0.2	5	2	[10,14]
chr15:46246888	MYEF2	mixed		-	GtoT	0.1	0.1	2	2	[10,10]
chr15:46221699	MYEF2	UTR3		-	TtoA	0.1	0.2222	2	2	[10,10]
chr17:8357846	MYH10	coding_exon	ENST00000269243:WtoG;ENST00000360416:WtoG;ENST00000379980:WtoG;ENST	-	TtoG	0.1	0.1111	2	2	[10,10]
chr17:8337792	MYH10	coding_exon	ENST00000269243:LtoP;ENST00000360416:LtoP;ENST00000379980:LtoP;ENST000	-	TtoC	0.1	0.1111	4	2	[10,18]
chr17:8318433	MYH10	UTR3		-	TtoG	0.1111	0.2	2	2	[10,10]
chr16:15725832	MYH11	coding_exon		-	TtoC	0.1	0.1	4	2	[10,20]
chr16:15726520	MYH11	coding_exon		-	GtoT	0.1111	0.1765	4	2	[10,17]
chr22:35028580	MYH9	coding_exon	ENST00000216181:WtoG;ENST00000378118:WtoG;ENST00000438303:WtoG;	-	TtoG	0.1053	0.2083	3	3	[19,56]
chr22:35007282	MYH9	UTR3		-	AtaT	0.1	0.1	3	3	[10,20]
chr18:3243982	MYL12A	coding_exon	ENST00000217652:LtoI;	+	TtoA	0.1	0.1538	6	2	[11,13]
chr18:3245809	MYL12A	coding_exon	ENST00000217652:EtoK;	+	GtoA	0.1	0.1818	2	2	[10,11]
chr18:3244005	MYL12A	coding_exon		+	TtoC	0.2727	0.6364	7	7	[10,26]
chr18:3246194	MYL12A	UTR3		+	TtoC	0.1	0.1176	6	4	[10,20]
chr18:3237812	MYL12A	UTR5		+	AtaG	0.1333	0.1667	2	2	[12,16]
chr18:3237816	MYL12A	UTR5		+	GtoT	0.1111	0.1176	3	2	[17,18]
chr18:3267820	MYL12B	coding_exon	ENST00000237500:TtoR;ENST00000400174:TtoR;ENST00000400175:TtoR;ENST000	+	CtoG	0.1	0.1538	2	2	[10,13]
chr18:3267847	MYL12B	coding_exon	ENST00000237500:RtoT;ENST00000400174:RtoT;ENST00000400175:RtoT;ENST000	+	GtoC	0.3636	0.5385	3	3	[10,13]
chr18:3267897	MYL12B	coding_exon	ENST00000237500:RtoS;ENST00000400174:RtoS;ENST00000400175:RtoS;ENST000	+	CtoA	0.1	0.5	3	2	[10,24]
chr18:3267804	MYL12B	coding_exon	ENST00000237500:MtoV;ENST00000400174:MtoV;ENST00000400175:MtoV;ENST	+	AtaG	0.1061	0.1803	8	3	[61,124]
chr18:3262970	MYL12B	coding_exon	ENST00000237500:MtoT;ENST00000400174:MtoT;ENST00000400175:MtoT;ENST	+	TtoC	0.1818	0.1923	3	2	[11,26]
chr18:3267347	MYL12B	coding_exon	ENST00000237500:Lto* ⁺ ;ENST00000400174:Lto* ⁺ ;ENST00000400175:Lto* ⁺ ;ENST000	+	TtoG	0.1	0.1818	4	2	[10,11]

chr18:3267900	MYL12B	coding_exon	ENST00000237500:Itov;ENST00000400174:Itov;ENST00000400175:Itov;ENST00000	+	AtoG	0.1	0.1111	4	2	[10,18]
chr18:3267822	MYL12B	coding_exon	ENST00000237500:DtoY;ENST00000400174:DtoY;ENST00000400175:DtoY;ENST000	+	GtoT	0.1	0.1667	3	2	[10,12]
chr18:3267384	MYL12B	coding_exon		+	CtoT	0.146	0.1636	6	2	[55,139]
chr18:3267785	MYL12B	coding_exon		+	AtoG	0.1119	0.1406	7	2	[128,295]
chr18:3267821	MYL12B	coding_exon		+	AtoG	0.1	0.35	8	8	[10,20]
chr18:3267869	MYL12B	coding_exon		+	GtoA	0.1	0.1333	2	2	[10,15]
chr18:3267890	MYL12B	coding_exon		+	GtoA	0.6364	0.7143	2	2	[11,21]
chr18:3268180	MYL12B	UTR3		+	AtoG	0.1034	0.1846	13	3	[29,65]
chr18:3268181	MYL12B	UTR3		+	GtoA	0.1026	0.1081	9	2	[38,40]
chr18:3268182	MYL12B	UTR3		+	AtoG	0.1053	0.1111	5	2	[18,19]
chr4:662807	MYL5	coding_exon	ENST00000400159:TtoA;	+	AtoG	0.1	0.1053	2	2	[10,19]
chr4:662501	MYL5	coding_exon	ENST00000400159:StoP;	+	TtoC	0.1	0.1	2	2	[10,10]
chr12:54841622	MYL6	UTR3		+	TtoC	0.1065	0.1585	15	7	[77,186]
chr12:54841624	MYL6	UTR3		+	GtoA	0.1111	0.2444	11	9	[35,65]
chr12:54841625	MYL6	UTR3		+	GtoA	0.1061	0.25	12	5	[25,66]
chr12:54841626	MYL6	UTR3		+	CtoA	0.1176	0.6	16	16	[12,203]
chr12:54841628	MYL6	UTR3		+	CtoA	0.1667	0.2	5	2	[10,12]
chr6:16253324	MYLIP	coding_exon	ENST00000349606:StoP;ENST00000356840:StoP;	+	TtoC	0.1	0.1333	2	2	[10,15]
chr6:16253163	MYLIP	coding_exon	ENST00000349606:HtoR;ENST00000356840:HtoR;	+	AtoG	0.1	0.1	5	2	[10,10]
chr6:16255349	MYLIP	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr3:70979928	MYNN	coding_exon	ENST00000349841:StoR;ENST00000356716:StoR;ENST00000392733:StoR;	+	CtoG	0.1	0.125	2	2	[10,16]
chr17:24466496	MYO18A	coding_exon	ENST00000354329:RtoW;ENST00000354682:RtoW;ENST00000399229:RtoW;ENST	-	AtoT	0.125	0.125	2	2	[16,16]
chr17:31941403	MYO19	coding_exon	ENST00000268852:LtoR;ENST00000378326:LtoR;ENST00000415126:LtoR;ENST000	-	TtoG	0.1176	0.2143	9	5	[10,17]
chr17:31941404	MYO19	coding_exon	ENST00000268852:LtoI;ENST00000378326:LtoI;ENST00000415126:LtoI;ENST00000	-	CtoA	0.1	0.25	9	7	[10,18]
chr17:31925818	MYO19	UTR3		-	AtoG	0.1	0.1538	5	4	[10,21]
chr17:1328486	MYO1C	coding_exon	ENST00000359786:DtoE;ENST00000361007:DtoE;ENST00000438665:DtoE;	-	TtoA	0.1111	0.125	2	2	[16,18]
chr17:27846046	MYO1D	coding_exon	ENST00000318217:StoR;	-	TtoA	0.1	0.1053	4	2	[10,19]
chr15:57215859	MYO1E	UTR3		-	GtoA	0.1538	0.4	5	4	[10,14]
chr15:57215864	MYO1E	UTR3		-	TtoC	0.1	0.1	3	2	[10,10]
chr15:57452175	MYO1E	UTR5		-	AtoC	0.1	0.1	2	2	[10,10]
chr15:50400922	MYO5A	coding_exon	ENST00000356338:VtoG;ENST00000358212:VtoG;ENST00000399229:VtoG;ENST00	-	TtoG	0.1	0.1429	3	3	[10,14]
chr15:50455992	MYO5A	coding_exon	ENST00000356338:VtoA;ENST00000358212:VtoA;ENST00000399229:VtoA;ENST00	-	TtoC	0.1	0.1	2	2	[10,20]
chr15:50400955	MYO5A	coding_exon	ENST00000356338:LtoP;ENST00000358212:LtoP;ENST00000399229:LtoP;ENST000	-	TtoC	0.1	0.1538	6	3	[10,14]
chr15:50407418	MYO5A	coding_exon	ENST00000356338:AtoT;ENST00000358212:AtoT;ENST00000399229:AtoT;ENST00	-	GtoA	0.1	0.1	3	2	[10,10]
chr15:50400936	MYO5A	coding_exon		-	TtoA	0.1	0.1333	7	2	[10,15]
chr15:50400975	MYO5A	coding_exon		-	TtoC	0.1	0.1333	3	2	[10,15]
chr6:76653370	MYO6	coding_exon	ENST00000369975:Etog;ENST00000369977:Etog;ENST00000369981:Etog;ENST00	+	AtoG	0.125	0.1333	2	2	[15,16]
chr6:76681515	MYO6	UTR3		+	AtoG	0.1111	0.125	4	2	[16,18]
chr6:76682191	MYO6	UTR3		+	TtoA	0.1	0.1538	3	3	[10,13]
chr6:76583956	MYO6	UTR5		+	AtoG	0.1	0.1	2	2	[10,10]
chr15:69906127	MYO9A	coding_exon	ENST00000356056:KtoE;ENST00000424560:KtoE;ENST00000444904:KtoE;ENST000	-	AtoG	0.1	0.1	2	2	[10,10]
chr15:69906135	MYO9A	coding_exon	ENST00000356056:Etog;ENST00000424560:Etog;ENST00000444904:Etog;ENST00	-	AtoG	0.1	0.1111	2	2	[10,10]
chr15:69903381	MYO9A	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr19:17174651	MYO9B	coding_exon	ENST00000319396:QtoK;ENST00000397274:QtoK;	+	CtoA	0.1	0.1667	15	6	[12,69]
chr16:31046114	MYST1	coding_exon	ENST00000219797:LtoP;ENST00000448516:LtoP;	+	TtoC	0.1053	0.1111	3	2	[18,19]
chr17:45250250	MYST2	coding_exon	ENST00000259021:YtoD;ENST00000424009:YtoD;ENST00000435742:YtoD;ENST00	+	TtoG	0.1111	0.1333	4	2	[16,18]
chr8:41907054	MYST3	UTR3		-	TtoA	0.15	0.2	3	2	[15,20]
chr10:76460236	MYST4	coding_exon	ENST00000287239:NtoT;ENST00000372711:NtoT;ENST00000372714:NtoT;ENST00	+	AtoC	0.1	0.1429	2	2	[11,14]
chr13:32010783	N4BP2L2	UTR5		-	TtoG	0.1	0.1	3	2	[10,10]
chr3:176471540	NAALADL2	coding_exon		+	TtoC	0.2	0.4167	5	3	[10,21]
chr12:55394735	NACA	coding_exon	ENST00000356769:StoY;ENST00000393891:StoY;ENST00000435567:StoY;ENST000	-	CtoA	0.1	0.1	4	2	[20,40]
chr12:55394717	NACA	coding_exon	ENST00000356769:StoI;ENST00000393891:StoI;ENST00000435567:StoI;ENST00000	-	GtoT	0.1034	0.2	10	2	[10,30]
chr12:55404520	NACA	coding_exon	ENST00000356769:QtoR;ENST00000393891:QtoR;ENST00000435567:QtoR;ENST00	-	AtoG	0.125	0.1591	10	5	[44,104]
chr12:55404518	NACA	coding_exon	ENST00000356769:PtoT;ENST00000393891:PtoT;ENST00000435567:PtoT;ENST000	-	CtoA	0.1	0.2593	13	9	[29,100]
chr12:55404517	NACA	coding_exon	ENST00000356769:PtoL;ENST00000393891:PtoL;ENST00000435567:PtoL;ENST000	-	CtoT	0.1111	0.1538	9	9	[29,40]
chr12:55392946	NACA	coding_exon	ENST00000356769:GtoD;ENST00000393891:GtoD;ENST00000435567:GtoD;ENST00	-	GtoA	0.1212	0.16	9	2	[50,66]
chr12:55394726	NACA	coding_exon	ENST00000356769:Etov;ENST00000393891:Etov;ENST00000435567:Etov;ENST000	-	AtoT	0.1	0.125	10	2	[16,21]
chr12:55394727	NACA	coding_exon	ENST00000356769:Etog;ENST00000393891:Etog;ENST00000435567:Etog;ENST00	-	GtoC	0.1	0.1429	6	3	[10,17]
chr12:55392932	NACA	coding_exon	ENST00000356769:DtoN;ENST00000393891:DtoN;ENST00000435567:DtoN;ENST00	-	GtoA	0.1	0.1818	3	3	[10,17]
chr12:55392945	NACA	coding_exon		-	TtoC	0.1	0.2841	11	6	[56,223]
chr12:55394731	NACA	coding_exon		-	AtoG	0.1	0.125	9	2	[10,16]
chr12:55405013	NACA	UTR5		-	GtoA	0.1091	0.1429	5	2	[35,55]
chr4:166084397	NACA3P	coding_exon	ENST00000240349:Etog;	+	AtoG	0.1818	0.2308	2	2	[11,13]
chr4:166084400	NACA3P	coding_exon	ENST00000240349:Etog;	+	AtoG	0.1	0.1	3	2	[10,10]
chr4:166084407	NACA3P	coding_exon	ENST00000240349:DtoE;	+	TtoG	0.1	0.1667	5	3	[10,18]
chr4:166084410	NACA3P	coding_exon		+	AtoG	0.1579	0.3	4	2	[10,20]
chr1:1673692	NADK	UTR3		-	TtoG	0.1	0.1304	4	2	[23,31]
chr1:1674121	NADK	UTR3		-	AtoC	0.1111	0.1765	3	2	[17,27]
chr11:70870648	NADSYN1	coding_exon	ENST00000319023:VtoG;	+	TtoG	0.1026	0.1212	7	2	[33,39]
chr11:70867162	NADSYN1	coding_exon	ENST00000319023:AtoE;	+	CtoA	0.1053	0.1818	5	2	[11,19]
chr11:70890221	NADSYN1	UTR3		+	TtoC	0.1667	0.3	7	4	[11,19]
chr16:65414678	NAE1	coding_exon		-	AtoG	0.1333	0.1765	3	2	[15,17]
chr22:40784506	NAGA	UTR3		-	TtoA	0.1	0.1	4	2	[10,10]
chr22:40784610	NAGA	UTR3		-	AtoG	0.1	0.1333	2	2	[10,15]
chr22:40784799	NAGA	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr17:37942949	NAGLU	coding_exon	ENST00000225927:YtoH;	+	TtoC	0.1	0.125	4	2	[10,16]
chr17:37949481	NAGLU	coding_exon	ENST00000225927:YtoC;	+	AtoG	0.1	0.1579	3	2	[10,19]
chr17:37949470	NAGLU	coding_exon	ENST00000225927:QtoH;	+	GtoC	0.1	0.1667	3	2	[10,12]
chr17:37949472	NAGLU	coding_exon	ENST00000225927:NtoT;	+	AtoC	0.1818	0.2	8	2	[11,15]
chr17:37949759	NAGLU	coding_exon	ENST00000225927:GtoS;	+	GtoA	0.5	0.5833	2	2	[12,13]
chr9:99879083	NAN5	mixed		+	TtoA	0.1	0.1111	9	3	[18,20]
chr11:2953860	NAP1L4	coding_exon	ENST00000380542:VtoA;ENST00000399624:VtoA;	-	TtoC	0.1231	0.2727	7	3	[11,65]
chr11:2956122	NAP1L4	coding_exon	ENST00000380542:StoF;ENST00000399624:StoF;	-	CtoT	0.1064	0.2222	10	6	[18,69]
chr11:2936276	NAP1L4	coding_exon	ENST00000380542:RtoP;ENST00000399624:RtoP;	-	GtoC	0.1562	0.4	6	2	[10,32]
chr11:2950006	NAP1L4	coding_exon	ENST00000380542:LtoI;ENST00000399624:LtoI;	-	CtoA	0.1	0.25	7	3	[10,30]
chr11:2942533	NAP1L4	coding_exon	ENST00000380542:HtoY;ENST00000399624:HtoY;	-	CtoT	0.1026	0.3667	10	7	[18,81]
chr11:2936285	NAP1L4	coding_exon	ENST00000380542:HtoR;ENST00000399624:HtoR;	-	AtoG	0.1231	0.4	9	3	[10,83]
chr11:2957017	NAP1L4	coding_exon	ENST00000380542:HtoN;ENST00000399624:HtoN;	-	CtoA	0.102	0.2778	9	7	[30,49]
chr11:2942510	NAP1L4	coding_exon		-	AtoG	0.125	0.3077	11	5	[13,46]
chr19:55531609	NAP5B	mixed		-	TtoC	0.1	0.1333	3	2	[10,15]
chr19:55531647	NAP5B	mixed		-	TtoC	0.1	0.1333	2	2	[10,16]
chr19:55531648	NAP5B	mixed		-	GtoT	0.1	0.1429	3	2	[14,21]
chr19:55532095	NAP5B	mixed		-	CtoG	0.1	0.1176	5	2	[17,20]
chr17:78039231	NARF	coding_exon	ENST00000309794:Etog;ENST00000345415:Etog;ENST00000374611:Etog;ENST00	+	AtoG	0.1017	0.2857	6	4	[21,59]
chr4:140498137	NARG1	coding_exon	ENST00000296543:LtoP;ENST00000398947:LtoP;	+	TtoC	0.1	0.1	2	2	[10,10]
chr4:140529240	NARG1	UTR3		+	TtoC	0.1	0.1538	3	2	[13,20]

chr15:58502982	NARG2	UTR3		-	GtoT	0.1	0.1	2	2	[10,10]
chr18:53419835	NARS	UTR3		-	TtoG	0.1538	0.1538	6	2	[13,13]
chr11:77832361	NARS2	coding_exon	ENST00000281038:LtoS;	-	TtoC	0.1	0.1	4	2	[10,10]
chr1:45856470	NASP	UTR3		+	TtoA	0.1	0.1538	4	2	[10,13]
chr11:34124992	NAT10	UTR3		+	GtoA	0.1111	0.1304	6	2	[18,23]
chr11:34124993	NAT10	UTR3		+	AtoG	0.1	0.1429	6	2	[10,21]
chr11:34124995	NAT10	UTR3		+	AtoC	0.1	0.1333	4	2	[10,15]
chr11:63476290	NAT11	coding_exon	ENST00000338447:NtoD;ENST0000037793:NtoD;	+	AtoG	0.1	0.1333	2	2	[10,15]
chr11:63469974	NAT11	coding_exon	ENST00000338447:LtoR;	+	TtoG	0.1	0.1	2	2	[10,10]
chr3:114923452	NAT13	coding_exon	ENST00000240922:StoP;ENST00000477813:StoP;ENST00000493454:StoP;ENST00000360862:WtoR;ENST00000407558:WtoR;ENST00000414063:WtoR;ENST00000334982:FtoI;ENST00000398602:FtoI;	-	TtoC	0.1061	0.1333	7	2	[15,67]
chr16:3473588	NAT15	coding_exon	ENST00000360862:WtoR;ENST00000407558:WtoR;ENST00000414063:WtoR;ENST00000334982:FtoI;ENST00000398602:FtoI;	+	TtoC	0.1	0.1	2	2	[10,10]
chr16:3466226	NAT15	mixed		+	TtoA	0.1	0.1176	2	2	[10,18]
chr20:19961162	NAT5	coding_exon	ENST00000334982:FtoI;ENST00000398602:FtoI;	+	TtoA	0.1	0.1053	2	2	[20,38]
chr3:47015370	NBEAL2	mixed		+	TtoA	0.1	0.1429	5	2	[10,22]
chr8:91045867	NBN	coding_exon	ENST00000265433:VtoG;ENST00000409330:VtoG;	-	TtoG	0.1053	0.1765	6	4	[14,19]
chr8:91027572	NBN	coding_exon	ENST00000265433:QtoR;ENST00000409330:QtoR;	-	AtoG	0.1	0.1429	2	2	[10,14]
chr8:91062927	NBN	mixed		-	AtoG	0.1364	0.1818	3	2	[11,22]
chr8:91015741	NBN	UTR3		-	AtoG	0.1	0.1053	2	2	[10,19]
chr17:38596287	NBR1	coding_exon		+	TtoC	0.1	0.1053	5	3	[10,19]
chr12:6505902	NCAPD2	coding_exon	ENST00000315579:Itot;ENST00000382457:Itot;	+	TtoC	0.1	0.1667	2	2	[10,12]
chr12:6493707	NCAPD2	coding_exon	ENST00000315579:CtoW;ENST00000382457:CtoW;	+	TtoG	0.1111	0.1538	5	2	[18,26]
chr12:6511339	NCAPD2	UTR3		+	AtoG	0.1176	0.1333	2	2	[15,17]
chr4:17451328	NCAPG	coding_exon	ENST00000251496:EtoG;	+	AtoG	0.1176	0.1579	7	4	[17,27]
chr7:158137831	NCAPG2	coding_exon	ENST00000275830:LtoR;ENST00000356309:LtoR;ENST00000409339:LtoR;ENST00000275830:LtoR;ENST00000356309:LtoR;ENST00000409339:LtoR;ENST00000275830:LtoR;ENST00000356309:LtoR;ENST00000409339:LtoR;	-	TtoG	0.1	0.1	3	2	[10,10]
chr7:158117004	NCAPG2	UTR3		-	GtoA	0.1111	0.1765	4	2	[17,18]
chr2:96388597	NCAPH	coding_exon	ENST00000240423:StoR;ENST00000427946:StoR;ENST00000455200:StoR;	+	TtoA	0.1	0.1111	2	2	[10,18]
chr2:96389857	NCAPH	coding_exon	ENST00000240423:NtoD;ENST00000427946:NtoD;ENST00000455200:NtoD;	+	AtoG	0.125	0.1538	5	2	[13,16]
chr2:96403068	NCAPH	UTR3		+	TtoC	0.1154	0.1429	7	2	[14,26]
chr9:99458115	NCBP1	mixed		+	TtoC	0.1	0.1	2	2	[10,20]
chr9:99475716	NCBP1	UTR3		+	AtoG	0.1	0.1	5	2	[10,10]
chr3:198147132	NCBP2	UTR3		-	GtoA	0.1	0.3	2	2	[10,10]
chr22:35603941	NCF4	UTR3		+	TtoA	0.1111	0.1579	5	2	[10,20]
chr2:105876756	NCK2	UTR3		+	TtoC	0.1	0.125	2	2	[10,16]
chr2:105877116	NCK2	UTR3		+	TtoG	0.1176	0.3571	4	3	[14,17]
chr12:53223148	NCKAP1L	UTR3		+	TtoA	0.1	0.2	3	2	[11,20]
chr3:48691500	NCKIPSD	coding_exon	ENST00000294129:HtoP;ENST00000341520:HtoP;ENST00000416649:HtoP;	-	AtoC	0.1	0.1111	2	2	[18,20]
chr2:232027704	NCL	UTR3		-	GtoA	0.125	0.3636	10	9	[11,16]
chr2:232027801	NCL	UTR3		-	GtoT	0.1	0.1111	3	2	[10,18]
chr2:232037438	NCL	UTR5		-	GtoA	0.1667	0.2308	3	2	[12,13]
chr2:24783247	NCOA1	coding_exon		+	TtoA	0.1	0.1	2	2	[10,10]
chr2:24845466	NCOA1	UTR3		+	TtoG	0.1	0.1818	4	2	[10,11]
chr2:24845484	NCOA1	UTR3		+	TtoA	0.1	0.2308	7	3	[10,17]
chr2:24845485	NCOA1	UTR3		+	TtoG	0.1053	0.125	3	2	[16,19]
chr2:24846729	NCOA1	UTR3		+	GtoA	0.1	0.1	2	2	[10,10]
chr8:71198714	NCOA2	coding_exon	ENST00000452400:StoP;	-	TtoC	0.125	0.1429	4	2	[14,16]
chr20:45689747	NCOA3	coding_exon	ENST00000340189:QtoK;ENST00000341724:QtoK;ENST00000371997:QtoK;ENST00000340189:QtoK;ENST00000341724:QtoK;ENST00000371997:QtoK;	+	CtoA	0.1	0.1875	3	2	[16,20]
chr20:45689293	NCOA3	coding_exon		+	AtoG	0.1	0.1	2	2	[10,10]
chr20:45716402	NCOA3	UTR3		+	TtoA	0.1	0.1	2	2	[10,10]
chr20:45716766	NCOA3	UTR3		+	TtoC	0.1154	0.3077	13	6	[11,26]
chr20:45716770	NCOA3	UTR3		+	TtoG	0.1	0.2	5	2	[10,10]
chr20:45717885	NCOA3	UTR3		+	TtoC	0.1	0.1111	8	2	[10,10]
chr20:32766815	NCOA6	coding_exon	ENST00000359003:VtoE;ENST00000374796:VtoE;	-	TtoA	0.1	0.1	6	2	[10,20]
chr20:32801085	NCOA6	coding_exon	ENST00000359003:StoR;ENST00000374796:StoR;	-	TtoA	0.1	0.1818	2	2	[10,11]
chr17:15892992	NCOR1	coding_exon	ENST00000268712:StoF;ENST00000395849:StoF;ENST00000395851:StoF;ENST00000268712:QtoK;ENST00000395848:QtoK;ENST00000395849:QtoK;ENST00000395851:QtoK;	-	CtoT	0.1	0.1	2	2	[10,10]
chr17:15990584	NCOR1	coding_exon	ENST00000268712:QtoK;ENST00000395848:QtoK;ENST00000395849:QtoK;ENST00000395851:QtoK;	-	CtoA	0.1136	0.1176	5	2	[17,45]
chr17:15924069	NCOR1	coding_exon		-	TtoC	0.1	0.1176	4	2	[17,30]
chr17:15990540	NCOR1	coding_exon		-	GtoA	0.1111	0.1429	5	2	[14,18]
chr17:15875797	NCOR1	UTR3		-	TtoA	0.1	0.1818	2	2	[10,11]
chr10:112648488	NCRNA00081	mixed		-	AtoT	0.1	0.1905	4	2	[10,21]
chr10:112650078	NCRNA00081	mixed		-	TtoC	0.1	0.1667	4	3	[10,19]
chr9:135881896	NCRNA00094	mixed		+	TtoC	0.1	0.1	2	2	[10,10]
chr9:135882749	NCRNA00094	mixed		+	AtoG	0.1	0.125	2	2	[10,16]
chr1:158595003	NCSTN	UTR3		+	TtoG	0.1	0.1667	3	2	[10,12]
chr6:90096147	NCUBE1	coding_exon		-	AtoG	0.1	0.125	4	3	[16,25]
chr18:2567768	NDC80	coding_exon	ENST00000261597:NtoS;	+	AtoG	0.1	0.1176	6	2	[17,20]
chr18:2569020	NDC80	coding_exon	ENST00000261597:CtoR;	+	TtoC	0.1	0.1	2	2	[10,10]
chr13:79015715	NDIFP2	coding_exon	ENST00000218652:LtoP;ENST00000377116:LtoP;	+	TtoC	0.1053	0.1429	6	3	[14,19]
chr20:34713693	NDRG3	UTR3		-	TtoG	0.1111	0.16	5	2	[10,25]
chr5:149892704	NDST1	coding_exon	ENST00000261797:LtoR;ENST00000424060:LtoR;	+	TtoG	0.1	0.1176	3	2	[17,20]
chr5:149916914	NDST1	UTR3		+	GtoA	0.1	0.1	3	2	[10,10]
chr5:149917557	NDST1	UTR3		+	TtoC	0.1	0.1053	4	2	[10,19]
chr10:75236893	NDST2	coding_exon	ENST00000299641:StoP;ENST00000309979:StoP;ENST00000426473:StoP;	-	TtoC	0.1	0.1	4	2	[10,20]
chr10:75238065	NDST2	coding_exon	ENST00000299641:StoA;ENST00000309979:StoA;ENST00000426473:StoA;	-	TtoG	0.1	0.1	2	2	[10,10]
chr10:75234572	NDST2	coding_exon	ENST00000299641:LtoP;ENST00000309979:LtoP;	-	TtoC	0.1	0.1333	3	2	[10,15]
chr10:75237788	NDST2	coding_exon	ENST00000299641:GtoE;ENST00000309979:GtoE;ENST00000426473:GtoE;	-	GtoA	0.1111	0.1111	2	2	[18,18]
chr10:75232030	NDST2	UTR3		-	TtoG	0.1	0.1429	2	2	[10,14]
chr19:5845691	NDUFA11	mixed		-	TtoA	0.1071	0.25	11	7	[28,69]
chr19:19500007	NDUFA13	mixed		+	GtoA	0.1	0.1765	11	7	[10,71]
chr19:19500008	NDUFA13	mixed		+	CtoA	0.8696	0.9259	4	4	[24,55]
chr19:59302079	NDUFA3	mixed		+	AtoG	0.1429	0.2121	5	2	[14,33]
chr19:59302081	NDUFA3	mixed		+	CtoA	0.2222	0.4167	4	4	[10,19]
chr7:10939615	NDUFA4	UTR3		-	AtoG	0.1	0.125	3	2	[10,17]
chr22:40812064	NDUFA6	UTR3		-	AtoG	0.1	0.2727	18	12	[10,21]
chr22:40812066	NDUFA6	UTR3		-	TtoC	0.1	0.2727	11	6	[10,26]
chr15:39468012	NDUFAF1	coding_exon	ENST00000260361:ItotV;	-	AtoG	0.1	0.1	7	2	[10,10]
chr15:39466994	NDUFAF1	coding_exon		-	TtoA	0.1053	0.1111	5	2	[18,19]
chr3:49035703	NDUFAF3	UTR3		+	TtoA	0.1	0.1	4	2	[10,10]
chr3:49035721	NDUFAF3	UTR3		+	TtoC	0.1538	0.3	4	4	[10,16]
chr7:140052903	NDUFB2	mixed		+	TtoC	0.1	0.2143	9	5	[10,20]
chr3:121802685	NDUFB4	coding_exon	ENST00000184266:TtoK;ENST00000485064:TtoK;	+	CtoA	0.12	0.125	3	2	[24,25]
chr3:121802684	NDUFB4	coding_exon	ENST00000184266:TtoA;ENST00000485064:TtoA;	+	AtoG	0.1667	0.2143	3	3	[24,29]
chr3:121803836	NDUFB4	UTR3		+	TtoC	0.1064	0.1364	6	2	[47,66]
chr10:102273493	NDUFB8	UTR3		-	TtoC	0.1333	0.1538	8	2	[13,15]
chr8:125631397	NDUFB9	UTR3		+	TtoA	0.1	0.1176	3	2	[10,18]
chr8:125631401	NDUFB9	UTR3		+	CtoA	0.2083	0.4615	3	3	[10,24]
chr4:140430595	NDUFC1	UTR3		-	AtoG	0.1	0.1538	8	2	[13,31]

chr11:77468303	NDUFC2	coding_exon	ENST00000281031:LtoV;ENST00000324742:LtoV;	-	CtoG	0.3654	0.3871	2	2	[31,52]
chr1:39272658	NDUFS5	coding_exon	ENST00000372967:RtoP;ENST00000372969:RtoP;	+	GtoC	0.1053	0.1923	11	5	[16,28]
chr1:39267183	NDUFS5	coding_exon	ENST00000372967:LtoS;ENST00000372969:LtoS;	+	TtoC	0.1	0.1	3	2	[10,10]
chr1:39272866	NDUFS5	UTR3		+	TtoC	0.1	0.2727	9	5	[10,20]
chr1:39264594	NDUFS5	UTR5		+	TtoC	0.1579	0.3333	4	3	[12,19]
chr1:39264595	NDUFS5	UTR5		+	CtoT	0.1818	0.2857	7	3	[11,18]
chr11:67560687	NDUFS8	UTR3		+	AtoG	0.2857	0.3	2	2	[10,14]
chr11:67136575	NDUFV1	UTR3		+	AtoG	0.1	0.2308	8	3	[10,18]
chr11:67130987	NDUFV1	UTR5		+	CtoT	0.1	0.1	3	2	[10,10]
chr18:9124192	NDUFV2	coding_exon	ENST00000318388:RtoH;ENST00000400033:RtoH;	+	GtoA	0.1	0.2	5	3	[10,20]
chr18:9124206	NDUFV2	coding_exon	ENST00000318388:PtoT;ENST00000400033:PtoT;	+	CtoA	0.1176	0.1538	3	2	[13,17]
chr18:9114903	NDUFV2	coding_exon	ENST00000318388:KtoN;ENST00000400033:KtoN;	+	AtoT	0.1	0.1667	4	3	[10,13]
chr18:9114901	NDUFV2	coding_exon	ENST00000318388:KtoE;ENST00000400033:KtoE;	+	AtoG	0.1176	0.25	4	4	[13,17]
chr18:9114941	NDUFV2	coding_exon	ENST00000318388:CtoY;ENST00000400033:CtoY;	+	GtoA	0.1	0.1538	3	3	[10,13]
chr18:9114949	NDUFV2	coding_exon	ENST00000318388:AtoT;ENST00000400033:AtoT;	+	GtoA	0.1667	0.5	4	3	[10,12]
chr18:9114900	NDUFV2	coding_exon		+	CtoT	0.1	0.2667	3	3	[10,15]
chr18:9124193	NDUFV2	coding_exon		+	CtoG	0.1429	0.1818	4	2	[11,14]
chr18:9124324	NDUFV2	UTR3		+	TtoA	0.1	0.2727	10	8	[10,19]
chr8:92040160	NECAP1	UTR3		+	TtoG	0.1	0.125	2	2	[10,17]
chr12:8135634	NECAP1	coding_exon	ENST00000339754:RtoS;ENST00000450991:RtoS;	+	CtoA	0.1	0.1111	4	2	[10,20]
chr1:16659118	NECAP2	UTR3		+	GtoA	0.1	0.2727	7	3	[10,14]
chr12:95862645	NEDD1	coding_exon	ENST00000266742:EtoG;ENST00000411739:EtoG;ENST00000429527:EtoG;ENST00000429527:EtoG;	+	AtoG	0.1	0.1333	2	2	[10,15]
chr12:95854715	NEDD1	coding_exon		+	TtoC	0.1	0.1	2	2	[10,20]
chr14:23755911	NEDD8	UTR3		-	CtoA	0.1	0.3	2	2	[10,10]
chr14:23771389	NEDD8	UTR5		-	TtoG	0.1	0.1111	2	2	[10,27]
chr6:11300613	NEDD9	coding_exon	ENST00000379446:VtoE;ENST00000448183:VtoE;	-	TtoA	0.1	0.1429	6	2	[14,20]
chr6:11300611	NEDD9	coding_exon	ENST00000379446:GtoR;ENST00000448183:GtoR;	-	GtoA	0.1	0.1053	5	2	[19,20]
chr6:11291791	NEDD9	UTR3		-	AtoG	0.1	0.1538	2	2	[10,13]
chr6:11292681	NEDD9	UTR3		-	TtoC	0.1	0.1429	6	2	[10,14]
chr6:11293112	NEDD9	UTR3		-	AtoG	0.1	0.1	6	2	[10,20]
chr8:11681179	NEIL2	coding_exon	ENST00000284503:Cto*;ENST00000354579:Cto*;ENST00000382309:Cto*;ENST00000382309:Cto*;	+	CtoA	0.1	0.1	2	2	[10,10]
chr9:126154514	NEK6	UTR3		+	GtoA	0.1053	0.1667	5	4	[12,19]
chr9:126154674	NEK6	UTR3		+	TtoC	0.1	0.1111	2	2	[10,20]
chr1:196488909	NEK7	coding_exon		+	AtoC	0.1	0.1	2	2	[10,10]
chr1:196555524	NEK7	UTR3		+	TtoA	0.1	0.1	4	2	[10,11]
chr1:196556655	NEK7	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr17:24092101	NEK8	coding_exon	ENST00000268766:LtoP;	+	TtoC	0.1	0.1053	3	2	[19,20]
chr14:74640406	NEK9	coding_exon	ENST00000238616:CtoW;	-	TtoG	0.1111	0.1875	7	3	[16,20]
chr9:139462501	NELF	UTR3		-	CtoA	0.1	0.1	2	2	[10,10]
chr9:139462506	NELF	UTR3		-	TtoC	0.1	0.1111	7	3	[10,99]
chr9:139462825	NELF	UTR3		-	CtoG	0.1	0.1429	2	2	[10,15]
chr1:210686099	NENF	UTR3		+	TtoC	0.1053	0.3529	13	6	[11,19]
chr1:210686103	NENF	UTR3		+	AtoG	0.1538	0.1667	2	2	[13,13]
chr1:210686196	NENF	UTR3		+	CtoG	0.1667	0.1667	2	2	[12,12]
chr10:5490066	NET1	UTR3		+	AtoG	0.1	0.1	3	2	[10,10]
chr16:45714283	NETO2	coding_exon	ENST00000303155:PtoA;	-	CtoG	0.1	0.1818	4	2	[10,11]
chr16:45675026	NETO2	coding_exon		-	TtoC	0.1	0.1	2	2	[10,20]
chr6:31935012	NEU1	UTR3		-	TtoA	0.1	0.1667	6	3	[10,12]
chr17:7168952	NEURL4	coding_exon	ENST00000315614:VtoA;ENST00000399464:VtoA;	-	TtoC	0.15	0.1818	3	2	[11,20]
chr17:7162184	NEURL4	coding_exon		-	AtoC	0.1	0.3846	6	3	[10,20]
chr17:26656122	NF1	mixed		+	AtoG	0.1	0.1	2	2	[10,10]
chr17:26727939	NF1	mixed		+	TtoA	0.1	0.1538	3	2	[10,13]
chr18:75322299	NFATC1	coding_exon	ENST00000329101:DtoG;ENST00000397794:DtoG;	+	AtoG	0.1	0.1111	2	2	[18,20]
chr20:49482042	NFATC2	coding_exon		-	GtoA	0.1	0.1	3	2	[10,10]
chr20:49438248	NFATC2	UTR3		-	TtoC	0.1	0.1333	3	2	[10,15]
chr16:28874860	NFATC2IP	mixed		+	TtoC	0.15	0.2308	14	2	[13,20]
chr16:66758273	NFATC3	coding_exon	ENST00000329524:LtoP;ENST00000346183:LtoP;ENST00000379165:LtoP;	+	TtoC	0.1	0.1	2	2	[10,10]
chr16:66714156	NFATC3	coding_exon	ENST00000329524:HtoR;ENST00000346183:HtoR;ENST00000379165:HtoR;	+	AtoG	0.1	0.25	2	2	[10,12]
chr16:66782665	NFATC3	coding_exon	ENST00000329524:HtoQ;ENST00000346183:HtoQ;ENST00000379165:HtoQ;	+	TtoG	0.1	0.1	2	2	[10,10]
chr16:66782530	NFATC3	coding_exon		+	TtoC	0.1	0.1	3	2	[10,10]
chr17:43483076	NFE2L1	UTR5		+	AtoG	0.1	0.2	4	4	[10,21]
chr17:43483414	NFE2L1	UTR5		+	TtoC	0.1053	0.1667	5	2	[13,19]
chr2:177803907	NFE2L2	coding_exon	ENST00000397062:LtoP;ENST00000397063:LtoP;ENST00000446151:LtoP;	-	TtoC	0.1333	0.15	3	2	[15,20]
chr4:103733684	NFKB1	mixed		+	TtoG	0.119	0.1636	3	2	[42,55]
chr6:31634574	NFKB1L1	UTR3		+	TtoC	0.1	0.1579	5	3	[10,27]
chr3:103054300	NFKBIZ	coding_exon	ENST00000326151:RtoT;ENST00000326172:RtoT;ENST00000394054:RtoT;	+	GtoC	0.1	0.2	4	2	[10,10]
chr3:103057382	NFKBIZ	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr11:129245309	NFRKB	coding_exon	ENST00000304521:TtoP;ENST00000446488:TtoP;	-	AtoC	0.1053	0.1333	2	2	[15,19]
chr11:129239467	NFRKB	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr9:33284896	NFX1	mixed		+	CtoA	0.1053	0.25	9	6	[12,38]
chr9:33322498	NFX1	mixed		+	AtoC	0.1	0.1304	7	4	[10,23]
chr9:33361117	NFX1	UTR3		+	AtoG	0.1111	0.1538	6	3	[13,19]
chr12:103038350	NFYB	coding_exon		-	TtoC	0.125	0.2381	4	3	[17,21]
chr12:103037560	NFYB	UTR3		-	GtoA	0.1	0.125	4	2	[10,16]
chr15:88610327	NGRN	mixed		+	TtoC	0.1	0.15	3	2	[10,20]
chr4:104190889	NHEDC2	coding_exon	ENST00000339611:LtoP;ENST00000362026:LtoP;ENST00000394785:LtoP;	-	TtoC	0.1	0.1	3	2	[10,10]
chr4:104187749	NHEDC2	coding_exon	ENST00000339611:GtoD;ENST00000362026:GtoD;ENST00000394785:GtoD;	-	GtoA	0.1	0.1	2	2	[10,10]
chr4:104187832	NHEDC2	coding_exon		-	TtoG	0.1	0.1111	4	2	[10,10]
chr4:104198576	NHEDC2	coding_exon		-	TtoC	0.125	0.3333	3	2	[12,16]
chr2:219648987	NHEJ1	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr2:219649139	NHEJ1	UTR3		-	TtoA	0.1	0.1	5	2	[10,10]
chr22:40399915	NHP2L1	UTR3		-	GtoT	0.1	0.1818	3	2	[10,11]
chr22:40399918	NHP2L1	UTR3		-	TtoA	0.1	0.1667	4	3	[10,13]
chr22:40400749	NHP2L1	UTR3		-	TtoA	0.1053	0.25	3	2	[12,19]
chr22:40400756	NHP2L1	UTR3		-	TtoA	0.1154	0.3	15	6	[10,26]
chr1:234206350	NID1	UTR3		-	TtoG	0.1	0.1111	3	2	[10,11]
chr2:201470168	NIF3L1	coding_exon	ENST00000359683:VtoA;ENST00000403702:VtoA;ENST00000409020:VtoA;ENST00000359683:VtoA;	+	TtoC	0.1053	0.1538	3	2	[14,19]
chr2:201468258	NIF3L1	coding_exon	ENST00000358515:IttoN;ENST00000359683:IttoN;ENST00000374679:IttoN;ENST00000374679:IttoN;	+	TtoA	0.1	0.1333	5	2	[10,15]
chr14:50280799	NIN	coding_exon	ENST00000245441:QtoR;ENST00000311149:QtoR;ENST00000324292:QtoR;ENST00000324292:QtoR;	-	AtoG	0.1053	0.1333	3	2	[15,19]
chr14:50291308	NIN	coding_exon		-	AtoG	0.125	0.1818	3	2	[11,16]
chr14:50256569	NIN	UTR3		-	AtoG	0.1	0.1176	3	2	[10,17]
chr14:50257146	NIN	UTR3		-	AtoG	0.1	0.16	4	2	[10,25]
chr14:50257539	NIN	UTR3		-	AtoG	0.1	0.2727	2	2	[11,11]
chr14:50258644	NIN	UTR3		-	TtoC	0.1	0.2	4	3	[12,20]
chr12:622937	NINJ2	coding_exon		-	GtoC	0.1	0.1667	3	3	[10,16]
chr15:20557777	NIP2A	coding_exon	ENST00000337451:NtoS;ENST00000359727:NtoS;ENST00000398013:NtoS;ENST00000398013:NtoS;	-	AtoG	0.1111	0.125	3	2	[16,18]

chr15:20563876	NIPA2	coding_exon	ENST00000337451:Itov;ENST00000359727:Itov;ENST00000398013:Itov;ENST0000	-	AtaG	0.1818	0.1923	7	4	[11,26]
chr15:20557950	NIPA2	coding_exon		-	TtoA	0.1	0.1176	2	2	[10,17]
chr15:20565926	NIPA2	coding_exon		-	AtaC	0.1633	0.1892	4	2	[37,49]
chr1:24671905	NIPAL3	UTR3		+	TtoC	0.1	0.1	3	2	[10,10]
chr3:52501435	NISCH	coding_exon	ENST00000345716:VtoG;ENST00000433196:VtoG;ENST00000479054:VtoG;	+	TtoG	0.1176	0.3	5	2	[10,17]
chr3:52481015	NISCH	mixed		+	TtoC	0.1176	0.2143	3	2	[14,17]
chr3:52490878	NISCH	mixed		+	GtoC	0.1	0.1	2	2	[10,10]
chr1:159357027	NIT1	coding_exon	ENST00000368007:WtoR;ENST00000368009:WtoR;	+	TtoC	0.1053	0.125	5	2	[19,24]
chr3:42636164	NKTR	coding_exon	ENST00000232978:NtoK;ENST00000442970:NtoK;	+	TtoA	0.1	0.1	2	2	[10,10]
chr17:30483533	NLE1	UTR3		-	TtoC	0.1071	0.1875	2	2	[16,28]
chr17:23543339	NLK	coding_exon	ENST00000262393:QtoR;ENST0000047008:QtoR;	+	AtaG	0.1	0.1818	2	2	[10,12]
chr16:55619717	NLRC5	coding_exon	ENST00000262510:Lto*;ENST00000308149:Lto*;ENST00000436936:Lto*;	+	TtoG	0.1	0.1875	5	4	[16,29]
chr16:55580997	NLRC5	UTR5		+	CtoG	0.3571	0.4615	2	2	[13,14]
chr16:55581002	NLRC5	UTR5		+	GtoT	0.3182	0.4667	2	2	[15,22]
chr11:118559492	NLRX1	mixed		+	CtoG	0.1	0.1	2	2	[10,10]
chr11:118559743	NLRX1	mixed		+	TtoC	0.1	0.1667	2	2	[10,12]
chr3:162452493	NMDD3	mixed		+	TtoA	0.1667	0.1667	2	2	[12,12]
chr17:46594388	NME1-NME2	coding_exon		+	TtoC	0.1	0.2963	21	16	[18,90]
chr17:46603929	NME2	coding_exon	ENST00000393185:YtoH;ENST00000393190:YtoH;ENST00000393191:YtoH;ENST00	+	TtoC	0.1333	0.4	3	2	[11,16]
chr17:46603950	NME2	coding_exon	ENST00000393185:WtoR;ENST00000393190:WtoR;ENST00000393191:WtoR;ENST	+	TtoC	0.1	0.1818	3	2	[11,11]
chr17:46603864	NME2	coding_exon	ENST00000393185:StoN;ENST00000393190:StoN;ENST00000393191:StoN;ENST00	+	GtoA	0.1176	0.125	2	2	[16,18]
chr17:46602409	NME2	coding_exon	ENST00000393185:RtoK;ENST00000393190:RtoK;ENST00000393191:RtoK;ENST00	+	GtoA	0.1429	0.1613	8	3	[20,31]
chr17:46602330	NME2	coding_exon	ENST00000393185:RtoG;ENST00000393190:RtoG;ENST00000393191:RtoG;ENST00	+	CtoG	0.1013	0.1111	11	2	[74,79]
chr17:46602408	NME2	coding_exon	ENST00000393185:RtoG;ENST00000393190:RtoG;ENST00000393191:RtoG;ENST00	+	AtaG	0.1	0.1379	10	2	[30,50]
chr17:46603858	NME2	coding_exon	ENST00000393185:HtoR;ENST00000393190:HtoR;ENST00000393191:HtoR;ENST00	+	AtaG	0.1429	0.2727	3	2	[12,14]
chr17:46603860	NME2	coding_exon	ENST00000393185:GtoS;ENST00000393190:GtoS;ENST00000393191:GtoS;ENST00	+	GtoA	0.1111	0.3	2	2	[10,11]
chr17:46603940	NME2	coding_exon	ENST00000393185:Cto*;ENST00000393190:Cto*;ENST00000393191:Cto*;ENST00	+	TtoA	0.1	0.1667	3	2	[10,13]
chr17:46603942	NME2	coding_exon	ENST00000393185:AtaD;ENST00000393190:AtaD;ENST00000393191:AtaD;ENST00	+	CtoA	0.1	0.1333	2	2	[10,15]
chr17:46603847	NME2	coding_exon		+	GtoA	0.1	0.2759	13	8	[15,72]
chr17:46603919	NME2	coding_exon		+	AtaG	0.1	0.25	5	3	[10,15]
chr17:46604046	NME2	UTR3		+	AtaG	0.1005	0.1015	17	2	[191,199]
chr17:46604104	NME2	UTR3		+	AtaG	0.1266	0.1333	11	3	[46,80]
chr17:46604105	NME2	UTR3		+	CtoA	0.8929	1	7	7	[19,65]
chr3:48311007	NME6	UTR3		-	TtoC	0.1	0.1111	3	2	[10,10]
chr1:167368583	NME7	UTR3		-	AtaT	0.1	0.1111	2	2	[10,18]
chr2:151835413	NMI	UTR3		-	AtaG	0.1111	0.2727	7	3	[10,11]
chr1:9965342	NMNAT1	coding_exon	ENST00000377205:TtoR;	+	CtoG	0.1	0.1	2	2	[10,10]
chr17:40540826	NMT1	UTR3		+	TtoG	0.1053	0.1071	3	2	[19,28]
chr17:40541026	NMT1	UTR3		+	GtoC	0.2963	1	3	3	[21,27]
chr17:40541830	NMT1	UTR3		+	TtoC	0.12	0.1212	4	2	[25,33]
chr10:15223471	NMT2	mixed		-	TtoC	0.1	0.1818	2	2	[10,11]
chr5:43648945	NNT	coding_exon		+	TtoG	0.1	0.3125	8	4	[10,21]
chr5:43680052	NNT	coding_exon		+	TtoA	0.1	0.1818	3	2	[10,11]
chr5:43740530	NNT	UTR3		+	AtaC	0.1	0.1111	2	2	[10,27]
chr5:43740639	NNT	UTR3		+	TtoA	0.1	0.1	2	2	[10,10]
chr5:43741104	NNT	UTR3		+	AtaG	0.1111	0.125	7	2	[16,18]
chr10:96084389	NOC3L	coding_exon	ENST00000371350:KtoE;ENST00000371361:KtoE;	-	AtaG	0.125	0.15	8	2	[16,20]
chr10:96087574	NOC3L	coding_exon		-	TtoC	0.1	0.1364	5	3	[10,23]
chr10:96083906	NOC3L	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr7:30439275	NOD1	coding_exon		-	AtaT	0.1	0.1	2	2	[10,10]
chr16:49303343	NOD2	coding_exon	ENST00000300589:TtoP;	+	AtaC	0.1	0.1	2	2	[10,10]
chr16:49324170	NOD2	UTR3		+	AtaG	0.1	0.1667	2	2	[10,12]
chr16:49324225	NOD2	UTR3		+	TtoA	0.1	0.1	2	2	[10,10]
chr22:36414910	NOL12	coding_exon	ENST00000359114:StoP;	+	TtoC	0.1176	0.2	3	2	[10,17]
chr16:65766648	NOL3	UTR3		+	TtoC	0.1429	0.1818	3	2	[11,14]
chr9:33452621	NOL6	mixed		-	TtoC	0.1	0.1176	2	2	[10,17]
chr9:33451626	NOL6	UTR3		-	AtaG	0.1053	0.1905	9	4	[16,21]
chr9:33451630	NOL6	UTR3		-	TtoC	0.1	0.2	7	2	[10,10]
chr6:13728970	NOL7	coding_exon	ENST00000451315:QtoK;	+	CtoA	0.1176	0.2308	7	2	[13,17]
chr6:13728528	NOL7	coding_exon	ENST00000451315:NtoD;	+	AtaG	0.1	0.1	2	2	[10,10]
chr6:13729988	NOL7	mixed		+	AtaG	0.1	0.129	7	2	[10,34]
chr6:13730111	NOL7	mixed		+	TtoC	0.1	0.2143	7	3	[10,14]
chr6:13729148	NOL7	UTR3		+	AtaT	0.1	0.1	2	2	[10,10]
chr9:94109124	NOL8	coding_exon	ENST00000358855:VtoA;ENST00000360868:VtoA;ENST00000375594:VtoA;ENST00	-	TtoC	0.1	0.1212	3	2	[10,33]
chr1:6508497	NOL9	UTR3		-	TtoC	0.1	0.15	4	2	[20,20]
chr10:103909297	NOLC1	coding_exon	ENST00000370007:PtoT;ENST00000405356:PtoT;ENST00000429062:PtoT;	+	CtoA	0.1111	0.1667	8	2	[30,36]
chr7:156449363	NOM1	coding_exon	ENST00000275820:StoG;	+	AtaG	0.1111	0.2308	7	5	[10,18]
chr7:156445439	NOM1	coding_exon	ENST00000275820:LtoP;	+	TtoC	0.1	0.2	2	2	[10,10]
chr7:156455078	NOM1	coding_exon	ENST00000275820:AtaT;	+	GtoA	0.1	0.1818	3	2	[10,11]
chr7:156449362	NOM1	coding_exon		+	CtoA	0.1176	0.2143	6	4	[14,17]
chr5:175743705	NOP16	coding_exon	ENST00000341213:HtoQ;ENST00000451293:HtoQ;	-	CtoA	0.3462	0.5	4	4	[10,26]
chr5:175743702	NOP16	coding_exon	ENST00000341213:HtoP;ENST00000451293:HtoP;	-	AtaC	0.1538	0.25	3	2	[12,13]
chr5:175743706	NOP16	coding_exon	ENST00000341213:HtoP;ENST00000451293:HtoP;	-	AtaC	0.3462	0.5	3	3	[10,26]
chr5:175743703	NOP16	coding_exon	ENST00000341213:HtoN;ENST00000451293:HtoN;	-	CtoA	0.1333	0.3333	6	5	[10,18]
chr12:6536312	NOP2	mixed		-	AtaG	0.1053	0.2	5	2	[15,19]
chr20:2586685	NOP56	coding_exon	ENST00000329276:KtoN;	+	AtaC	0.1667	0.1818	2	2	[11,12]
chr2:202857446	NOP58	coding_exon	ENST00000264279:HtoP;	+	AtaC	0.1053	0.3077	5	5	[13,25]
chr19:54750786	NOSIP	UTR3		-	TtoC	0.1	0.1111	4	2	[18,20]
chr9:138509118	NOTCH1	UTR3		-	TtoC	0.1	0.1	3	2	[10,11]
chr11:107538114	NPAT	coding_exon	ENST00000278612:KtoR;	-	AtaG	0.1	0.1	2	2	[10,10]
chr18:19366129	NPC1	UTR3		-	AtaG	0.1	0.1	3	2	[10,10]
chr20:56721883	NPEPL1	coding_exon	ENST00000371131:DtoN;	+	GtoA	0.1176	0.2143	6	4	[14,17]
chr20:56721884	NPEPL1	coding_exon	ENST00000356091:TtoP;ENST00000371131:DtoA;	+	AtaC	0.125	0.1333	3	2	[15,16]
chr20:56721999	NPEPL1	coding_exon	ENST00000356091:GtoE;	+	CtoA	0.1	0.1	2	2	[10,10]
chr20:56723986	NPEPL1	UTR3		+	TtoC	0.1053	0.1333	5	2	[15,19]
chr17:43046067	NPEPPS	coding_exon	ENST00000322157:TtoA;	+	AtaG	0.1	0.2143	4	2	[14,20]
chr17:43054476	NPEPPS	UTR3		+	AtaG	0.1	0.125	2	2	[10,16]
chr17:43055387	NPEPPS	UTR3		+	AtaC	0.1	0.2308	6	3	[13,21]
chr3:133759900	NPHP3	UTR3		-	AtaG	0.1	0.1154	7	2	[10,26]
chr3:133760494	NPHP3	UTR3		-	AtaC	0.1	0.1	2	2	[10,10]
chr3:133760513	NPHP3	UTR3		-	AtaG	0.1	0.1053	3	2	[10,19]
chr3:133804775	NPHP3	UTR3		-	TtoA	0.1	0.125	2	2	[10,16]
chr5:170751007	NPM1	coding_exon	ENST00000296930:TtoA;ENST00000351986:TtoA;ENST00000393820:TtoA;	+	AtaG	0.12	0.2963	9	4	[25,52]
chr5:170747595	NPM1	coding_exon	ENST00000296930:RtoM;ENST00000351986:RtoM;ENST00000393820:RtoM;	+	GtoT	0.1034	0.1379	7	2	[29,30]
chr5:170770160	NPM1	coding_exon	ENST00000296930:RtoG;ENST00000351986:RtoG;	+	AtaG	0.1	0.25	8	5	[10,19]
chr5:170751378	NPM1	coding_exon	ENST00000296930:PtoT;ENST00000351986:PtoT;ENST00000393820:PtoT;	+	CtoA	0.1212	0.1923	8	3	[28,90]

chr5:170751345	NPM1	coding_exon	ENST00000296930:PtoS;ENST00000351986:PtoS;ENST00000393820:PtoS;	+	CtoT	0.1154	0.1207	2	2	[52,60]
chr5:170747598	NPM1	coding_exon	ENST00000296930:PtoR;ENST00000351986:PtoR;ENST00000393820:PtoR;	+	CtoG	0.1	0.1176	6	2	[10,18]
chr5:170747592	NPM1	coding_exon	ENST00000296930:LtoQ;ENST00000351986:LtoQ;ENST00000393820:LtoQ;	+	TtoA	0.1136	0.28	7	5	[18,48]
chr5:170751002	NPM1	coding_exon	ENST00000296930:LtoP;ENST00000351986:LtoP;ENST00000393820:LtoP;	+	TtoC	0.1408	0.28	14	13	[50,210]
chr5:170770139	NPM1	coding_exon	ENST00000296930:ItoV;ENST00000351986:ItoV;	+	AtoG	0.25	0.25	7	2	[12,24]
chr5:170751328	NPM1	coding_exon	ENST00000296930:GtoV;ENST00000351986:GtoV;ENST00000393820:GtoV;	+	GtoT	0.1053	0.125	8	2	[24,38]
chr5:170751376	NPM1	coding_exon	ENST00000296930:GtoE;ENST00000351986:GtoE;ENST00000393820:GtoE;	+	GtoA	0.1132	0.1923	10	4	[27,90]
chr5:170747596	NPM1	coding_exon		+	GtoA	0.1111	0.2105	9	4	[18,27]
chr5:170751006	NPM1	coding_exon		+	AtoG	0.18	0.3793	6	6	[51,79]
chr5:170751024	NPM1	coding_exon		+	AtoC	0.1	0.1	5	2	[10,20]
chr5:170751347	NPM1	coding_exon		+	AtoT	0.1	0.1111	2	2	[47,61]
chr5:170770300	NPM1	UTR3		+	TtoC	0.1622	0.2083	6	4	[25,50]
chr5:170770306	NPM1	UTR3		+	TtoA	0.1429	0.2581	3	3	[14,31]
chr5:170770442	NPM1	UTR3		+	TtoC	0.108	0.1569	15	5	[180,351]
chr5:170770476	NPM1	UTR3		+	CtoG	0.1333	0.5882	15	15	[13,67]
chr5:170770477	NPM1	UTR3		+	AtoG	0.12	0.2	8	2	[25,25]
chr5:170770479	NPM1	UTR3		+	TtoA	0.2727	0.6923	5	5	[12,20]
chr5:170747465	NPM1	UTR5		+	TtoG	0.1538	0.1667	5	2	[12,26]
chr15:71639466	NPTN	UTR3		-	AtoG	0.1111	0.1538	5	3	[10,18]
chr15:71639812	NPTN	UTR3		-	TtoC	0.1	0.1111	4	2	[10,10]
chr6:2962216	NQO2	coding_exon	ENST00000338130:Qto*;ENST00000380430:Qto*;ENST00000380441:Qto*;ENST00000338130:Qto*;	+	CtoT	0.1	0.1	2	2	[10,10]
chr19:55573647	NR1H2	coding_exon	ENST00000253727:StoA;ENST00000376942:StoA;ENST00000411902:StoA;	+	TtoG	0.1	0.3	4	3	[10,14]
chr19:55573644	NR1H2	coding_exon	ENST00000253727:EtoQ;ENST00000376942:EtoQ;ENST00000411902:EtoQ;	+	GtoC	0.12	0.4	10	10	[10,32]
chr19:55573634	NR1H2	coding_exon		+	AtoG	0.1	0.1667	6	5	[10,30]
chr19:55571594	NR1H2	UTR5		+	TtoG	0.1026	0.25	12	6	[11,70]
chr3:15054552	NR2C2	coding_exon	ENST00000323373:ItoL;ENST00000383792:ItoL;ENST00000393102:ItoL;ENST00000323373:ItoL;	+	AtoC	0.1	0.1	2	2	[10,10]
chr19:19174658	NR2C2AP	coding_exon	ENST00000331552:QtoR;ENST00000420605:QtoR;	-	AtoG	0.1053	0.1111	2	2	[18,19]
chr19:19174310	NR2C2AP	coding_exon		-	TtoC	0.1176	0.125	3	2	[16,17]
chr19:19174352	NR2C2AP	coding_exon		-	CtoA	0.1	0.1538	2	2	[10,13]
chr5:142655230	NR3C1	coding_exon	ENST00000231509:StoL;ENST00000343796:StoL;ENST00000394464:StoL;ENST00000231509:StoL;	-	CtoT	0.1667	0.3	3	2	[10,12]
chr5:142655274	NR3C1	coding_exon	ENST00000231509:LtoR;ENST00000343796:LtoR;ENST00000394464:LtoR;ENST00000231509:LtoR;	-	TtoG	0.1	0.12	11	2	[10,25]
chr5:142641094	NR3C1	mixed		-	TtoG	0.1111	0.1818	4	2	[10,11]
chr5:142638962	NR3C1	UTR3		-	TtoC	0.1	0.1316	4	2	[30,38]
chr11:124121996	NRGN	UTR3		+	AtoG	0.1	0.1333	2	2	[10,15]
chr14:23642774	NRL	UTR5		-	AtoC	0.1077	0.1351	3	2	[37,65]
chr6:30763820	NRM	UTR3		-	TtoC	0.1	0.1389	5	3	[10,36]
chr20:278348	NRSN2	coding_exon	ENST00000246039:KtoE;ENST00000382285:KtoE;ENST00000382291:KtoE;	+	AtoG	0.1667	0.2308	4	2	[12,13]
chr5:176653762	NSD1	coding_exon	ENST00000347982:StoP;ENST00000354179:StoP;ENST00000355783:StoP;ENST00000347982:StoP;	+	TtoC	0.1	0.1333	2	2	[10,15]
chr5:176655302	NSD1	UTR3		+	AtoT	0.1111	0.1429	2	2	[15,18]
chr5:176655783	NSD1	UTR3		+	CtoT	0.1	0.1	2	2	[10,10]
chr5:176659396	NSD1	UTR3		+	AtoG	0.1667	0.2	7	2	[10,12]
chr17:42161411	NSF	coding_exon	ENST00000398238:VtoA;	+	TtoC	0.1053	0.1333	2	2	[15,19]
chr20:1374320	NSFL1C	coding_exon	ENST00000216879:HtoP;ENST00000350991:HtoP;ENST00000353088:HtoP;ENST00000216879:HtoP;	-	AtoC	0.1224	0.1607	4	2	[49,56]
chr8:59658905	NSMAF	UTR3		-	GtoA	0.125	0.1818	4	2	[11,16]
chr16:27143830	NSMCE1	UTR3		-	TtoC	0.1053	0.1111	8	2	[18,19]
chr8:126232658	NSMCE2	coding_exon	ENST00000287437:QtoR;	+	AtoG	0.1053	0.125	7	3	[16,24]
chr8:126232653	NSMCE2	coding_exon		+	TtoC	0.1	0.1	3	2	[10,20]
chr8:126173379	NSMCE2	UTR5		+	CtoA	0.1429	0.2	6	3	[10,20]
chr10:123706726	NSMCE4A	UTR3		-	AtoG	0.1111	0.3	11	2	[10,36]
chr1:46598991	NSUN4	coding_exon	ENST00000447844:DtoA;	+	AtoC	0.1429	0.1765	3	2	[14,17]
chr1:46600761	NSUN4	mixed		+	AtoG	0.1	0.1	2	2	[10,10]
chr10:104849682	NT5C2	mixed		-	TtoG	0.1	0.2	2	2	[10,15]
chr10:104850831	NT5C2	mixed		-	GtoC	0.1	0.1	2	2	[10,10]
chr10:104839310	NT5C2	UTR3		-	GtoA	0.1	0.1176	2	2	[10,17]
chr17:37235042	NT5C3L	UTR3		-	GtoA	0.1	0.1333	4	2	[10,15]
chr16:15039446	NTAN1	coding_exon		-	AtoG	0.1	0.1	2	2	[10,10]
chr16:2033595	NTHL1	coding_exon	ENST00000219066:VtoG;	-	TtoG	0.1	0.3	4	3	[10,14]
chr11:17308263	NUC82	coding_exon	ENST00000323688:QtoR;ENST00000405119:QtoR;ENST00000458064:QtoR;	+	AtoG	0.1026	0.2	4	3	[10,40]
chr1:203953146	NUCKS1	mixed		-	CtoA	0.1111	0.4	2	2	[10,18]
chr1:203953555	NUCKS1	mixed		-	AtoC	0.1818	0.2	2	2	[10,12]
chr1:203953813	NUCKS1	mixed		-	GtoC	0.1304	0.1429	5	3	[21,36]
chr1:203953814	NUCKS1	mixed		-	AtoT	0.1	0.1613	6	3	[19,31]
chr1:203949054	NUCKS1	UTR3		-	CtoG	0.1429	0.3846	3	2	[13,21]
chr1:203949072	NUCKS1	UTR3		-	TtoC	0.1	0.125	3	3	[10,20]
chr1:203952434	NUCKS1	UTR3		-	TtoA	0.1111	0.1667	3	2	[12,18]
chr1:203952496	NUCKS1	UTR3		-	TtoC	0.1	0.125	7	2	[30,32]
chr1:203953037	NUCKS1	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr1:27145470	NUDC	UTR3		+	CtoA	0.1333	0.1538	3	2	[13,15]
chr1:27145471	NUDC	UTR3		+	AtoG	0.1667	0.2143	7	4	[11,18]
chr5:162813581	NUDCD2	coding_exon		-	TtoC	0.1034	0.125	5	2	[29,32]
chr7:44389875	NUDCD3	UTR3		-	AtoC	0.1	0.1818	3	3	[10,15]
chr7:2257206	NUDT1	UTR3		+	AtoC	0.1	0.1944	6	4	[11,36]
chr9:34333284	NUDT2	coding_exon	ENST00000337747:EtoG;ENST00000346365:EtoG;ENST00000379154:EtoG;ENST00000337747:EtoG;	+	AtoG	0.1	0.12	3	2	[25,30]
chr9:34333653	NUDT2	UTR3		+	AtoG	0.1	0.1667	3	2	[10,12]
chr4:88598079	NUDT9	coding_exon	ENST00000302174:VtoA;ENST00000358033:VtoA;ENST00000440591:VtoA;	+	TtoC	0.1111	0.1667	11	3	[18,18]
chr4:88598237	NUDT9	UTR3		+	AtoG	0.1	0.1	3	2	[10,10]
chr17:24638835	NUFIP2	coding_exon		-	TtoC	0.1	0.1111	3	2	[10,18]
chr17:24615282	NUFIP2	UTR3		-	TtoA	0.1	0.1818	4	2	[10,11]
chr12:67411668	NUP107	coding_exon	ENST00000229179:TtoA;	+	AtoG	0.1111	0.2	3	2	[10,18]
chr12:67390075	NUP107	coding_exon	ENST00000229179:StoR;ENST00000378905:StoR;	+	TtoA	0.1	0.1333	5	2	[10,15]
chr1:227660553	NUP133	coding_exon	ENST00000261396:DtoE;ENST00000366679:DtoE;ENST00000366681:DtoE;	-	TtoA	0.1176	0.2	4	2	[10,17]
chr6:17723728	NUP153	UTR3		-	AtoG	0.1	0.1429	3	3	[10,14]
chr5:37335388	NUP155	coding_exon	ENST00000231498:CtoR;ENST00000381843:CtoR;ENST00000434056:CtoR;	-	TtoC	0.1	0.1429	3	2	[14,20]
chr11:47791133	NUP160	coding_exon	ENST00000263764:LtoP;ENST00000378460:LtoP;	-	TtoC	0.1111	0.1333	2	2	[18,30]
chr11:47758561	NUP160	coding_exon		-	AtoG	0.1	0.1333	3	2	[10,15]
chr7:134923150	NUP205	coding_exon	ENST00000285968:EtoA;	+	AtoC	0.1	0.1111	3	2	[10,10]
chr7:134954899	NUP205	coding_exon		+	AtoG	0.1	0.1	2	2	[10,10]
chr7:134983881	NUP205	UTR3		+	TtoG	0.1	0.1	4	2	[10,10]
chr3:13370113	NUP210	coding_exon	ENST00000254508:TtoP;	-	AtoC	0.1	0.2308	5	3	[10,60]
chr9:132995988	NUP214	coding_exon	ENST00000354226:KtoE;ENST00000359428:KtoE;ENST00000411637:KtoE;ENST00000354226:KtoE;	+	AtoG	0.1	0.1667	9	2	[10,12]
chr12:100992271	NUP37	coding_exon		-	TtoA	0.1176	0.125	8	2	[16,18]
chr12:101030027	NUP37	coding_exon		-	TtoC	0.1304	0.1818	4	2	[11,23]
chr6:150087186	NUP43	UTR3		-	AtoG	0.1667	0.2	2	2	[12,20]
chr6:150088781	NUP43	UTR3		-	AtoG	0.1	0.1176	6	2	[10,17]
chr6:150089384	NUP43	UTR3		-	TtoG	0.1	0.1	2	2	[10,10]
chr17:70743401	NUP85	UTR3		+	AtoG	0.2	0.3333	4	4	[10,12]

chr17:5230180	NUP88	UTR3		-	TtoC	0.1	0.1667	3	2	[10,12]
chr11:3653978	NUP98	coding_exon	ENST00000324932:VtoG;ENST00000355260:VtoG;	-	TtoG	0.1333	0.2	3	2	[10,15]
chr11:3657376	NUP98	coding_exon	ENST00000324932:LtoP;ENST00000355260:LtoP;ENST00000359171:LtoP;	-	TtoC	0.1333	0.1538	5	2	[13,15]
chr11:3757032	NUP98	coding_exon		-	AtoG	0.1	0.1	7	2	[10,11]
chr13:24812650	NUPL1	UTR3		+	TtoA	0.1429	0.1667	6	2	[12,14]
chr13:24813524	NUPL1	UTR3		+	AtoG	0.1	0.1111	4	2	[10,18]
chr7:23206862	NUPL2	coding_exon		+	TtoC	0.1	0.1	2	2	[10,20]
chr6:118103927	NUS1	coding_exon	ENST00000368494:VtoD;	+	TtoA	0.1053	0.1579	2	2	[19,19]
chr15:39460509	NUSAP1	UTR3		+	TtoC	0.1765	0.25	6	4	[10,19]
chr16:66462702	NUTF2	UTR3		+	CtoA	0.1538	0.2	9	3	[10,20]
chr16:66462705	NUTF2	UTR3		+	AtoG	0.1579	0.3636	6	5	[13,22]
chr12:111932908	OAS2	UTR3		+	AtoT	0.1	0.1	3	2	[10,10]
chr12:111895102	OAS3	UTR3		+	TtoG	0.1136	0.2	6	5	[19,45]
chr2:192254965	OBFC2A	coding_exon		+	TtoC	0.2727	0.3333	4	2	[11,12]
chr9:130302513	ODF2	UTR3		+	AtoG	0.1176	0.1667	4	2	[12,17]
chr9:130302572	ODF2	UTR3		+	TtoG	0.1	0.125	3	2	[10,24]
chr22:49316866	ODF3B	coding_exon	ENST00000401779:WtoR;ENST00000456888:WtoR;	-	TtoA	0.2727	0.625	3	2	[11,16]
chr22:49316870	ODF3B	coding_exon	ENST00000329363:GtoA;ENST00000405135:GtoA;ENST00000428989:GtoA;ENST00000428989:GtoA;	-	GtoC	0.1538	0.2	2	2	[10,13]
chr22:49315726	ODF3B	UTR3		-	TtoC	0.1	0.1667	3	2	[12,20]
chr7:44715083	OGDH	UTR3		+	CtoA	0.1053	0.1538	2	2	[13,19]
chr16:55053975	OGFOD1	coding_exon	ENST00000336111:WtoR;	+	TtoC	0.1	0.1364	4	2	[10,22]
chr16:55066926	OGFOD1	coding_exon	ENST00000336111:EtoG;	+	AtoG	0.1	0.1	4	2	[10,10]
chr12:122029055	OGFOD2	coding_exon	ENST00000228922:MtoV;ENST00000397389:MtoV;ENST00000406539:MtoV;ENST00000406539:MtoV;	+	AtoG	0.1	0.1176	2	2	[10,18]
chr12:122028963	OGFOD2	mixed		+	TtoA	0.1	0.1053	3	2	[10,20]
chr12:122030029	OGFOD2	UTR3		+	TtoC	0.1	0.1667	2	2	[10,12]
chr15:39411427	OIP5	coding_exon	ENST00000220514:itoV;	-	AtoG	0.1	0.1579	2	2	[10,19]
chr3:194855475	OPA1	coding_exon	ENST00000361150:WtoR;ENST00000361150:WtoR;ENST000003611715:WtoR;ENST000003611715:WtoR;	+	TtoC	0.1	0.2	5	2	[10,10]
chr3:194815506	OPA1	coding_exon		+	TtoG	0.1	0.1667	2	2	[10,13]
chr19:50748775	OPA3	coding_exon	ENST00000263275:VtoA;	-	TtoC	0.1	0.1	2	2	[10,10]
chr19:50744316	OPA3	mixed		-	AtoG	0.1	0.1053	4	2	[19,20]
chr1:239823978	OPN3	UTR3		-	TtoC	0.1	0.1	3	2	[10,10]
chr1:239824338	OPN3	UTR3		-	AtoG	0.1	0.2	3	2	[10,10]
chr10:13192463	OPTN	coding_exon	ENST00000263036:KtoR;ENST00000378747:KtoR;ENST00000378748:KtoR;ENST00000378748:KtoR;	+	AtoG	0.1	0.1538	3	2	[10,13]
chr10:13194567	OPTN	coding_exon	ENST00000263036:itoV;ENST00000378747:itoV;ENST00000378748:itoV;ENST00000378748:itoV;	+	AtoG	0.1	0.1111	4	3	[18,40]
chr12:120564064	ORAI1	UTR3		+	GtoA	0.1176	0.1667	6	2	[12,17]
chr7:101873984	ORAI2	coding_exon	ENST00000356387:QtoR;ENST00000403646:QtoR;ENST00000458233:QtoR;ENST00000458233:QtoR;	+	AtoG	0.1	0.1	2	2	[20,20]
chr7:101878972	ORAI2	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr16:30873049	ORAI3	UTR3		+	AtoT	0.1	0.1	5	3	[10,10]
chr11:69189699	ORAOV1	mixed		-	TtoC	0.1	0.2	2	2	[10,10]
chr11:52631997	ORC1L	coding_exon	ENST00000371566:KtoT;ENST00000371568:KtoT;	-	AtoC	0.1	0.1667	2	2	[10,12]
chr1:52626856	ORC1L	coding_exon	ENST00000371566:itoS;ENST00000371568:itoS;	-	TtoG	0.1	0.1	2	2	[10,10]
chr2:201498899	ORC2L	coding_exon	ENST00000234296:VtoA;	-	TtoC	0.1333	0.2	4	2	[10,15]
chr2:201483790	ORC2L	UTR3		-	TtoC	0.1	0.1111	3	2	[10,18]
chr2:148446786	ORC4L	coding_exon	ENST00000264169:KtoE;ENST00000392857:KtoE;ENST00000392858:KtoE;	-	AtoG	0.1333	0.1818	2	2	[11,15]
chr2:148412431	ORC4L	coding_exon		-	TtoC	0.1	0.1053	6	2	[10,19]
chr2:148409466	ORC4L	UTR3		-	TtoA	0.1	0.125	6	2	[10,16]
chr2:190344397	ORMDL1	UTR3		-	AtoG	0.1	0.1304	7	2	[20,23]
chr2:190355700	ORMDL1	UTR5		-	TtoC	0.1	0.1	5	3	[10,10]
chr11:59102378	OSBP	coding_exon	ENST00000263847:VtoA;ENST00000378235:VtoA;	-	TtoC	0.1	0.1	2	2	[10,10]
chr11:59105546	OSBP	coding_exon	ENST00000263847:TtoI;ENST00000378235:TtoI;	-	CtoT	0.1	0.1	3	2	[10,10]
chr11:59099624	OSBP	UTR3		-	GtoA	0.1	0.1	2	2	[10,10]
chr20:60302720	OSBPL2	UTR3		+	AtoG	0.1	0.1538	3	2	[10,13]
chr20:60303144	OSBPL2	UTR3		+	GtoT	0.1	0.1053	2	2	[10,19]
chr7:24816017	OSBPL3	mixed		-	TtoG	0.1034	0.1111	8	3	[18,29]
chr7:24821320	OSBPL3	mixed		-	AtoT	0.1	0.1364	2	2	[10,22]
chr7:24822809	OSBPL3	mixed		-	TtoC	0.1	0.25	5	2	[10,12]
chr7:24804427	OSBPL3	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr17:43241232	OSBPL7	coding_exon	ENST00000007414:QtoR;	-	AtoG	0.1	0.1	2	2	[10,10]
chr14:19987012	OSGEP	coding_exon	ENST00000206542:itoV;	-	AtoG	0.1	0.1154	5	2	[26,30]
chr14:19985241	OSGEP	coding_exon	ENST00000206542:*toK;	-	TtoA	0.1034	0.1429	6	2	[21,30]
chr14:19985091	OSGEP	UTR3		-	TtoC	0.1538	0.25	6	2	[12,13]
chr2:190326944	OSGEP1L	coding_exon		-	TtoC	0.1	0.1667	3	2	[10,12]
chr3:197445857	Osta	mixed		+	AtoT	0.1053	0.1111	5	2	[18,19]
chr3:197449712	Osta	mixed		+	TtoG	0.1	0.1875	3	2	[16,20]
chr3:197449729	Osta	mixed		+	AtoT	0.1	0.1	3	2	[10,20]
chr4:109798066	OSTC	coding_exon	ENST00000361564:QtoR;	+	AtoG	0.1	0.2727	9	4	[10,25]
chr4:109796232	OSTC	coding_exon	ENST00000361564:HtoR;	+	AtoG	0.1667	0.2	5	2	[15,18]
chr4:109807891	OSTC	UTR3		+	AtoG	0.1	0.1	5	3	[10,10]
chr4:109807910	OSTC	UTR3		+	CtoA	0.1	0.1304	2	2	[10,25]
chr4:109808118	OSTC	UTR3		+	AtoG	0.1	0.3333	14	11	[10,56]
chr4:109808341	OSTC	UTR3		+	AtoG	0.1	0.1111	2	2	[10,18]
chr8:92159833	OTUD6B	coding_exon	ENST00000285420:AtoD;ENST00000404789:AtoD;	+	CtoA	0.1538	0.1538	3	2	[13,13]
chr1:148182961	OTUD7B	coding_exon	ENST00000369135:KtoE;	-	AtoG	0.1	0.1	2	2	[10,10]
chr20:17919727	OVOL2	mixed		-	TtoC	0.1	0.1	2	2	[10,10]
chr14:22310553	OXA1L	coding_exon		+	TtoC	0.1489	0.2297	5	2	[47,75]
chr14:22310803	OXA1L	UTR3		+	AtoG	0.2	0.25	2	2	[10,12]
chr5:41766534	OXCT1	UTR3		-	TtoC	0.125	0.1538	3	2	[13,16]
chr5:41767521	OXCT1	UTR3		-	AtoG	0.1	0.1	3	2	[10,10]
chr3:25810730	OXSM	coding_exon	ENST00000280701:LtoH;ENST00000420173:LtoH;	+	TtoA	0.1	0.1	3	2	[10,10]
chr3:25810599	OXSM	coding_exon		+	TtoA	0.1	0.1	2	2	[10,10]
chr3:38271213	OXSRI	UTR3		+	GtoT	0.1	0.1765	6	3	[14,20]
chr3:38271712	OXSRI	UTR3		+	AtoG	0.1	0.1351	2	2	[20,37]
chr12:120156281	P2RX4	UTR3		+	TtoC	0.1	0.1	3	2	[10,10]
chr19:10086697	P2RY11	UTR3		+	AtoT	0.122	0.1364	4	2	[22,43]
chr19:10086699	P2RY11	UTR3		+	TtoC	0.1091	0.2222	2	2	[27,55]
chr10:74480958	P4HA1	coding_exon		-	TtoA	0.1	0.1176	4	3	[10,17]
chr10:74437730	P4HA1	UTR3		-	GtoA	0.1	0.1053	5	2	[10,19]
chr3:49013988	P4HTM	coding_exon	ENST00000343546:StoC;ENST00000383729:StoC;ENST00000416619:StoC;	+	AtoT	0.1	0.1	2	2	[10,10]
chr3:49002973	P4HTM	coding_exon	ENST00000343546:GtoR;ENST00000383729:GtoR;ENST00000416619:GtoR;	+	GtoA	0.1	0.1	2	2	[10,10]
chr12:54793342	PA2G4	UTR3		+	TtoC	0.1111	0.1667	5	3	[12,18]
chr12:54793595	PA2G4	UTR3		+	GtoA	0.1111	0.25	2	2	[12,18]
chr12:54793931	PA2G4	UTR3		+	AtoG	0.1	0.1538	3	2	[10,13]
chr11:73298236	PAAF1	coding_exon	ENST00000310571:VtoG;ENST00000376384:VtoG;	+	TtoG	0.2	0.3636	8	2	[10,11]
chr1:39799098	PABPC4	UTR3		-	TtoA	0.1111	0.1429	2	2	[14,18]
chr8:101791134	PABPCP5	coding_exon	ENST00000318607:VtoA;ENST00000347137:VtoA;	-	TtoC	0.1	0.1176	8	2	[18,31]
chr8:101791112	PABPCP5	coding_exon	ENST00000318607:StoR;ENST00000347137:StoR;	-	CtoA	0.1	0.2143	12	6	[20,41]

chr8:101791113	PABPCP5	coding_exon	ENST00000318607:StoN;ENST00000347137:StoN;	-	GtoA	0.1111	0.1667	3	2	[12,27]
chr8:101794519	PABPCP5	coding_exon	ENST00000318607:StoI;ENST00000347137:StoI;	-	GtoT	0.1	0.1429	7	4	[14,38]
chr8:101794520	PABPCP5	coding_exon	ENST00000318607:StoC;ENST00000347137:StoC;	-	AtoT	0.1071	0.12	7	2	[25,30]
chr8:101786343	PABPCP5	coding_exon	ENST00000318607:Sto*;ENST00000347137:Sto*;	-	CtoG	0.1	0.1818	4	2	[10,11]
chr8:101790566	PABPCP5	coding_exon	ENST00000318607:RtoL;ENST00000347137:RtoL;	-	GtoT	0.1333	0.1429	7	2	[45,77]
chr8:101794063	PABPCP5	coding_exon	ENST00000318607:RtoK;ENST00000347137:RtoK;	-	AtoA	0.1415	0.1852	5	3	[28,106]
chr8:101786337	PABPCP5	coding_exon	ENST00000318607:RtoH;ENST00000347137:RtoH;	-	GtoA	0.1	0.2667	2	2	[10,16]
chr8:101790554	PABPCP5	coding_exon	ENST00000318607:QtoL;ENST00000347137:QtoL;	-	AtoT	0.1148	0.1311	11	3	[63,117]
chr8:101799637	PABPCP5	coding_exon	ENST00000318607:PttoI;ENST00000347137:PttoI;	-	CtoA	0.1	0.2381	12	11	[28,105]
chr8:101799636	PABPCP5	coding_exon	ENST00000318607:PttoR;ENST00000347137:PttoR;	-	CtoG	0.1538	0.2381	11	3	[22,79]
chr8:101786358	PABPCP5	coding_exon	ENST00000318607:LtoP;ENST00000347137:LtoP;	-	TtoC	0.1111	0.2258	10	6	[13,37]
chr8:101793767	PABPCP5	coding_exon	ENST00000318607:KtoT;ENST00000347137:KtoT;	-	AtoC	0.1351	0.1429	9	2	[39,56]
chr8:101793766	PABPCP5	coding_exon	ENST00000318607:KtoN;ENST00000347137:KtoN;	-	GtoT	0.1	0.1389	11	4	[36,62]
chr8:101791111	PABPCP5	coding_exon	ENST00000318607:KtoE;ENST00000347137:KtoE;	-	AtoG	0.1053	0.2188	14	8	[13,39]
chr8:101793825	PABPCP5	coding_exon	ENST00000318607:IttoV;ENST00000347137:IttoV;	-	AtoG	0.1667	0.1667	3	2	[12,12]
chr8:101791105	PABPCP5	coding_exon	ENST00000318607:FtoL;ENST00000347137:FtoL;	-	TtoC	0.1176	0.125	13	2	[16,18]
chr8:101796895	PABPCP5	coding_exon	ENST00000318607:EtoV;ENST00000347137:EtoV;	-	AtoT	0.1356	0.4	9	3	[16,64]
chr8:101796896	PABPCP5	coding_exon	ENST00000318607:EtoQ;ENST00000347137:EtoQ;	-	GtoC	0.1136	0.175	6	3	[40,57]
chr8:101793816	PABPCP5	coding_exon	ENST00000318607:EtoK;ENST00000347137:EtoK;	-	GtoA	0.125	0.1429	3	2	[14,17]
chr8:101785787	PABPCP5	coding_exon	ENST00000318607:EtoG;ENST00000347137:EtoG;	-	AtoG	0.1	0.1111	4	2	[10,10]
chr8:101786345	PABPCP5	coding_exon	ENST00000318607:EtoD;ENST00000347137:EtoD;	-	GtoT	0.1765	0.1818	7	2	[12,17]
chr8:101786354	PABPCP5	coding_exon	ENST00000318607:EtoD;ENST00000347137:EtoD;	-	GtoT	0.1053	0.1176	5	2	[17,19]
chr8:101785791	PABPCP5	coding_exon	ENST00000318607:DtoH;ENST00000347137:DtoH;	-	GtoC	0.2	0.4667	5	4	[10,15]
chr8:101796907	PABPCP5	coding_exon	ENST00000318607:DtoG;ENST00000347137:DtoG;	-	AtoG	0.1	0.125	3	3	[10,24]
chr8:101793817	PABPCP5	coding_exon	ENST00000318607:DtoE;ENST00000347137:DtoE;	-	TtoG	0.2	0.2727	6	2	[10,11]
chr8:101791093	PABPCP5	coding_exon	ENST00000318607:CtoS;ENST00000347137:CtoS;	-	TtoA	0.1176	0.2	7	4	[12,20]
chr8:101785784	PABPCP5	coding_exon	ENST00000318607:AttoV;ENST00000347137:AttoV;	-	CtoT	0.1	0.3636	3	3	[10,16]
chr8:101796950	PABPCP5	coding_exon	ENST00000318607:AttoI;ENST00000347137:AttoI;	-	GtoA	0.1071	0.4179	19	16	[14,101]
chr8:101785785	PABPCP5	coding_exon	ENST00000318607:AttoP;ENST00000347137:AttoP;	-	GtoC	0.1	0.25	3	3	[10,12]
chr8:101796949	PABPCP5	coding_exon	ENST00000318607:AttoG;ENST00000347137:AttoG;	-	CtoG	0.1	0.4203	21	17	[10,101]
chr8:101785771	PABPCP5	coding_exon		-	AttoT	0.1176	0.1351	7	2	[17,39]
chr8:101788073	PABPCP5	coding_exon		-	AttoG	0.1	0.1507	9	3	[51,116]
chr8:101788079	PABPCP5	coding_exon		-	AttoC	0.1061	0.2857	12	9	[51,160]
chr8:101790568	PABPCP5	coding_exon		-	TtoC	0.125	0.1724	7	5	[29,43]
chr8:101790574	PABPCP5	coding_exon		-	AttoG	0.1042	0.1556	2	2	[47,49]
chr8:101791118	PABPCP5	coding_exon		-	TtoC	0.125	0.2381	11	2	[21,24]
chr8:101794062	PABPCP5	coding_exon		-	AttoG	0.11	0.1852	6	2	[27,100]
chr8:101794545	PABPCP5	coding_exon		-	AttoG	0.1064	0.125	4	2	[35,48]
chr8:101784321	PABPCP5	UTR3		-	TtoC	0.1429	0.25	6	3	[12,22]
chr8:101784503	PABPCP5	UTR3		-	TtoC	0.1013	0.1263	7	2	[81,98]
chr8:101784599	PABPCP5	UTR3		-	AttoG	0.1	0.1111	7	3	[10,38]
chr8:101784600	PABPCP5	UTR3		-	CtoA	0.1	0.125	9	3	[16,29]
chr8:101784606	PABPCP5	UTR3		-	GtoA	0.1	0.3889	15	8	[14,31]
chr8:101803472	PABPCP5	UTR5		-	GtoC	0.1	0.1538	2	2	[10,13]
chr14:22864695	PABPN1	UTR3		+	AttoC	0.1143	0.1964	5	3	[32,56]
chr14:22865013	PABPN1	UTR3		+	TtoC	0.1034	0.1429	14	5	[15,29]
chr14:22865182	PABPN1	UTR3		+	TtoC	0.1	0.1429	6	2	[10,14]
chr22:41595729	PACSN2	UTR3		-	TtoC	0.1429	0.15	4	2	[14,20]
chr17:2532980	PAFAH1B1	UTR3		+	TtoA	0.1	0.1	2	2	[10,10]
chr17:2535168	PAFAH1B1	UTR3		+	AttoG	0.1	0.1304	4	2	[10,23]
chr17:2535473	PAFAH1B1	UTR3		+	AttoG	0.1429	0.2308	3	2	[13,14]
chr17:2488238	PAFAH1B1	UTR5		+	AttoG	0.12	0.1333	8	2	[15,25]
chr19:47496219	PAFAH1B3	coding_exon	ENST00000262890:TtoA;	-	AttoG	0.1	0.1	3	2	[10,10]
chr5:43591725	PAIP1	coding_exon		-	TtoA	0.1	0.2143	6	2	[10,14]
chr5:138727405	PAIP2	coding_exon		+	AttoG	0.1	0.2	3	2	[10,30]
chr11:76742248	PAK1	coding_exon	ENST00000278568:FtoL;ENST00000356341:FtoL;	-	TtoC	0.1429	0.2	2	2	[10,15]
chr15:38300437	PAK6	UTR5		+	TtoC	0.1	0.1	3	2	[10,10]
chr16:23542873	PALB2	coding_exon	ENST00000261584:LtoP;	-	TtoC	0.1	0.1	2	2	[10,10]
chr9:111972128	PALM2-AKAP2	UTR3		+	TtoC	0.1176	0.2353	6	2	[18,18]
chr9:111972301	PALM2-AKAP2	UTR3		+	CtoA	0.125	0.1538	3	2	[13,16]
chr9:111974552	PALM2-AKAP2	UTR3		+	AttoG	0.1	0.1333	5	3	[10,19]
chr5:102370513	PAM	coding_exon	ENST00000304400:VtoG;ENST00000345721:VtoG;ENST00000346918:VtoG;ENST00000346918:VtoG;	+	TtoG	0.1429	0.1818	4	2	[11,21]
chr5:102337967	PAM	mixed		+	CtoA	0.1	0.1	2	2	[10,10]
chr5:102366690	PAM	mixed		+	AttoG	0.1	0.1429	2	2	[10,14]
chr12:55004346	PAN2	coding_exon	ENST00000257931:StoG;ENST00000379495:StoG;ENST00000425394:StoG;ENST00000425394:StoG;	-	AttoG	0.1	0.1667	4	2	[10,12]
chr12:55013030	PAN2	coding_exon	ENST00000257931:LtoP;ENST00000379495:LtoP;ENST00000425394:LtoP;ENST00000425394:LtoP;	-	TtoC	0.1	0.1	2	2	[10,10]
chr12:54999230	PAN2	coding_exon		-	GtoT	0.1667	0.1667	3	2	[12,12]
chr13:27752636	PAN3	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr13:27766698	PAN3	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr13:27766862	PAN3	UTR3		+	TtoC	0.1364	0.1579	2	2	[19,22]
chr20:3845690	PANK2	coding_exon	ENST00000316562:LtoR;ENST00000361370:LtoR;ENST00000399552:LtoR;ENST00000399552:LtoR;	+	TtoG	0.1111	0.2	11	2	[10,18]
chr20:3845697	PANK2	coding_exon		+	AttoG	0.1	0.125	4	3	[10,25]
chr11:93552679	PANX1	coding_exon	ENST00000227638:VtoA;ENST00000436171:VtoA;	+	TtoC	0.1	0.1	4	2	[10,10]
chr5:79017379	PAPD4	UTR3		+	AttoG	0.1053	0.1765	5	4	[17,32]
chr5:78944653	PAPD4	UTR5		+	AttoG	0.1	0.1	3	2	[10,10]
chr14:96073110	PAPOLA	coding_exon	ENST00000216277:StoP;	+	TtoC	0.1	0.125	12	3	[10,34]
chr14:96056178	PAPOLA	coding_exon	ENST00000216277:QtoH;	+	AttoC	0.1026	0.1818	9	5	[38,57]
chr14:96064092	PAPOLA	coding_exon	ENST00000216277:ltoK;	+	TtoA	0.1333	0.1389	6	2	[16,37]
chr6:52378422	PAQR8	coding_exon	ENST00000361841:StoP;ENST00000442253:StoP;	+	TtoC	0.1	0.1818	4	2	[10,11]
chr6:52377411	PAQR8	coding_exon	ENST00000361841:AttoS;ENST00000442253:AttoS;	+	GtoT	0.1	0.125	2	2	[10,16]
chr10:34666260	PARD3	coding_exon	ENST00000340077:StoG;ENST00000346874:StoG;ENST00000347488:StoG;ENST00000347488:StoG;	-	AttoG	0.1	0.1	3	2	[10,10]
chr3:185085358	PARL	UTR5		-	TtoG	0.1	0.1	2	2	[10,10]
chr16:14605575	PARN	coding_exon	ENST00000341484:YtoN;ENST00000420015:YtoN;ENST00000437198:YtoN;	-	TtoA	0.1	0.1	3	2	[10,10]
chr16:14448285	PARN	coding_exon	ENST00000341484:KtoE;ENST00000420015:KtoE;ENST00000437198:KtoE;	-	AttoG	0.1	0.1053	3	2	[10,19]
chr8:145131195	PARP10	coding_exon		-	AttoG	0.1	0.1053	2	2	[10,19]
chr7:139403215	PARP12	coding_exon	ENST00000263549:PtoT;	-	CtoA	0.1	0.1176	2	2	[10,17]
chr7:139372585	PARP12	coding_exon	ENST00000263549:GtoE;	-	GtoA	0.1	0.2	3	2	[10,10]
chr3:123921923	PARP14	coding_exon	ENST00000310276:KtoQ;ENST00000310290:KtoQ;ENST00000398157:KtoQ;ENST00000398157:KtoQ;	+	AttoC	0.1	0.1333	7	3	[20,30]
chr3:123901737	PARP14	mixed		+	TtoC	0.125	0.1429	3	2	[14,16]
chr3:123932316	PARP14	UTR3		+	TtoC	0.1	0.1333	5	2	[10,15]
chr3:123818607	PARP15	coding_exon		+	TtoC	0.1	0.125	6	2	[10,17]
chr14:19893777	PARP2	coding_exon	ENST00000250416:TtoR;ENST00000429687:TtoR;ENST00000446919:TtoR;	+	CtoG	0.1765	0.1818	5	2	[11,17]
chr14:19890338	PARP2	coding_exon	ENST00000250416:NtoD;ENST00000429687:NtoD;	+	AttoG	0.1	0.1176	4	2	[10,17]
chr14:19895707	PARP2	coding_exon	ENST00000250416:NtoD;ENST00000429687:NtoD;	+	AttoG	0.1	0.1176	7	3	[10,19]
chr14:19895519	PARP2	coding_exon	ENST00000250416:LtoR;ENST00000429687:LtoR;	+	TtoG	0.1111	0.2258	4	2	[18,32]
chr14:19895117	PARP2	coding_exon	ENST00000250416:LtoQ;ENST00000429687:LtoQ;ENST00000446919:LtoQ;	+	TtoA	0.1053	0.1333	4	2	[15,19]

chr14:19892155	PARP2	coding_exon		+	GtoA	0.1176	0.125	3	2	[16,17]
chr15:70336789	PARP6	coding_exon	ENST00000260376:LtoP;ENST00000287196:LtoP;ENST00000336471:LtoP;ENST000	-	TtoC	0.125	0.1429	6	2	[15,16]
chr5:50159615	PARP8	coding_exon		+	TtoA	0.1	0.1333	6	3	[10,15]
chr3:123757164	PARP9	coding_exon	ENST00000360356:IttoV;ENST00000452457:IttoV;ENST00000462315:IttoV;ENST00000	-	AttoG	0.1176	0.2308	11	5	[13,19]
chr3:123737766	PARP9	coding_exon		-	AttoG	0.1	0.1538	2	2	[10,13]
chr3:123757108	PARP9	coding_exon		-	AttoG	0.1	0.1	2	2	[10,20]
chr3:123761245	PARP9	UTR5		-	AttoT	0.1	0.1111	2	2	[10,10]
chr1:54995338	PARS2	mixed		-	GtoT	0.1	0.1	2	2	[10,10]
chr11:59183492	PATL1	coding_exon	ENST00000300146:RtoC;ENST00000428532:RtoC;	-	CtoT	0.1538	0.5333	3	3	[11,15]
chr11:59183303	PATL1	coding_exon	ENST00000300146:Qto*;ENST00000428532:Qto*;	-	CtoT	0.1667	0.8	4	2	[10,12]
chr11:59183334	PATL1	coding_exon		-	TtoC	0.1	0.1333	4	2	[15,40]
chr11:59183430	PATL1	coding_exon		-	GtoA	0.1538	0.2727	2	2	[11,13]
chr11:59171846	PATL1	mixed		-	CtoT	0.1	0.1071	4	2	[28,30]
chr12:78514452	PAWR	coding_exon		-	AttoG	0.1	0.2	3	2	[10,11]
chr9:37023984	PAX5	coding_exon		-	AttoC	0.1111	0.1176	4	2	[18,34]
chr9:36823550	PAX5	UTR3		-	GtoA	0.1	0.1667	3	3	[10,19]
chr9:36823819	PAX5	UTR3		-	TtoA	0.1	0.1	3	2	[10,10]
chr9:36823882	PAX5	UTR3		-	TtoA	0.1667	0.2	2	2	[10,12]
chr7:154398355	PAXIP1	coding_exon	ENST00000323199:PtoR;ENST00000397192:PtoR;ENST00000404141:PtoR;ENST000	-	CtoG	0.1	0.1667	2	2	[10,12]
chr7:154385099	PAXIP1	coding_exon		-	AttoG	0.1667	0.1765	2	2	[12,17]
chr7:105700327	PBEF1	coding_exon	ENST00000222553:HtoR;ENST00000354289:HtoR;ENST00000393617:HtoR;	-	AttoG	0.1111	0.2	9	7	[10,22]
chr9:127765122	PBX3	coding_exon	ENST00000373483:LtoP;ENST00000373487:LtoP;ENST00000373489:LtoP;ENST000	+	TtoC	0.1333	0.1667	5	2	[12,15]
chr9:127769351	PBX3	UTR3		+	AttoG	0.1538	0.1667	2	2	[12,13]
chr10:72313333	PCBD1	UTR3		-	AttoG	0.1	0.125	7	4	[10,20]
chr5:134324233	PCBD2	coding_exon	ENST00000254908:LtoP;ENST00000398833:LtoP;	+	TtoC	0.1	0.1818	2	2	[10,11]
chr12:52159723	PCBP2	UTR3		+	TtoG	0.2308	0.2368	2	2	[13,40]
chr12:52159874	PCBP2	UTR3		+	TtoA	0.1034	0.2105	7	5	[10,30]
chr12:52159885	PCBP2	UTR3		+	TtoA	0.1	0.2	6	2	[10,10]
chr12:52160860	PCBP2	UTR3		+	GtoA	0.1111	0.1364	2	2	[18,22]
chr3:137531642	PCCB	mixed		+	TtoC	0.1	0.1905	7	2	[20,21]
chr3:137539193	PCCB	UTR3		+	AttoG	0.1	0.1	2	2	[10,10]
chr11:82557470	PCF11	coding_exon		+	TtoC	0.1	0.1	3	2	[10,10]
chr11:82573803	PCF11	UTR3		+	TtoC	0.1333	0.1429	2	2	[14,15]
chr4:745182	PCGF3	coding_exon	ENST00000362003:LtoP;ENST00000470161:LtoP;	+	TtoC	0.1111	0.1176	4	2	[17,18]
chr4:717578	PCGF3	coding_exon	ENST00000362003:FtoV;ENST00000470161:FtoV;	+	TtoG	0.1667	0.2	3	2	[10,12]
chr4:749931	PCGF3	UTR3		+	TtoG	0.1	0.1	3	2	[10,10]
chr4:750196	PCGF3	UTR3		+	CtoT	0.1	0.1	2	2	[10,10]
chr4:750888	PCGF3	UTR3		+	CtoT	0.1	0.4286	2	2	[10,14]
chr4:751258	PCGF3	UTR3		+	TtoC	0.1	0.1818	4	2	[10,11]
chr10:93030360	PCGF5	UTR3		+	TtoC	0.1429	0.1875	2	2	[14,16]
chr13:112887847	PCID2	coding_exon	ENST00000246505:WtoR;ENST00000246506:WtoR;ENST00000337344:WtoR;ENST	-	TtoC	0.1111	0.1429	6	2	[14,29]
chr13:112880443	PCID2	UTR3		-	TtoC	0.1053	0.1364	5	2	[19,22]
chr20:44003239	PCIF1	coding_exon	ENST00000372409:CtoF;ENST00000443130:CtoF;	+	GtoT	0.1	0.1	2	2	[10,10]
chr8:17867874	PCM1	coding_exon	ENST00000325083:QtoR;ENST00000327578:QtoR;ENST00000412583:QtoR;	+	AttoG	0.1	0.1154	3	3	[10,26]
chr8:17893466	PCM1	coding_exon	ENST00000325083:GtoD;ENST00000327578:GtoD;ENST00000412583:GtoD;	+	GtoA	0.1	0.1579	9	6	[10,37]
chr8:17893487	PCM1	coding_exon	ENST00000325083:EtoA;ENST00000327578:EtoA;ENST00000412583:EtoA;	+	AttoC	0.1	0.1667	11	5	[12,40]
chr8:17893467	PCM1	coding_exon		+	TtoA	0.1176	0.2083	10	5	[12,29]
chr8:17837417	PCM1	mixed		+	TtoC	0.1	0.1053	4	2	[10,19]
chr6:150165052	PCMT1	coding_exon		+	AttoT	0.1053	0.125	4	2	[16,19]
chr20:5048591	PCNA	UTR5		-	AttoT	0.1111	0.1111	5	2	[18,45]
chr21:46655532	PCNT	coding_exon	ENST00000359568:VtoA;	+	TtoC	0.1	0.1	2	2	[10,10]
chr21:46674382	PCNT	coding_exon	ENST00000359568:EtoG;	+	AttoG	0.1	0.1	3	2	[10,20]
chr14:70515114	PCNX	coding_exon		+	TtoC	0.1	0.1538	2	2	[10,13]
chr14:70646596	PCNX	UTR3		+	AttoC	0.1	0.1111	3	2	[10,10]
chr11:65141554	PCNXL3	coding_exon	ENST00000355703:RtoT;	+	GtoC	0.1111	0.15	2	2	[18,20]
chr11:65154620	PCNXL3	coding_exon	ENST00000355703:LtoP;ENST00000439247:LtoP;	+	TtoC	0.1111	0.125	6	2	[16,18]
chr11:65154477	PCNXL3	coding_exon		+	TtoC	0.1111	0.125	3	2	[16,18]
chr11:116594456	PCSK7	coding_exon		-	TtoC	0.1	0.2353	3	2	[17,31]
chr12:95229072	PCTK2	coding_exon		-	GtoA	0.1	0.1	2	2	[10,10]
chr7:98830257	PDAP1	mixed		-	CtoT	0.1154	0.25	4	3	[20,51]
chr10:105150195	PDCD11	coding_exon	ENST00000369797:AtoS;	+	GtoT	0.1	0.1818	2	2	[11,20]
chr6:170728573	PDCD2	coding_exon		-	AttoG	0.1071	0.1176	8	2	[17,28]
chr10:112648280	PDCD4	UTR3		+	TtoA	0.1053	0.1765	10	5	[17,45]
chr10:112648281	PDCD4	UTR3		+	AttoG	0.1053	0.125	5	2	[19,24]
chr5:368077	PDCD6	mixed		+	AttoG	0.1	0.1	2	2	[10,10]
chr5:489022	PDCD6	UTR3		+	GtoC	0.1	0.1333	2	2	[10,15]
chr5:489290	PDCD6	UTR3		+	AttoG	0.1333	0.2	4	3	[15,21]
chr5:490017	PDCD6	UTR3		+	TtoA	0.1	0.1667	4	2	[10,18]
chr5:490984	PDCD6	UTR3		+	AttoT	0.1538	0.2	2	2	[10,13]
chr15:63197551	PDCD7	UTR3		-	TtoG	0.1	0.1176	5	2	[10,17]
chr9:124622141	PDCL	UTR3		-	AttoG	0.1	0.1111	2	2	[10,19]
chr2:100559287	PDCL3	coding_exon	ENST00000264254:TtoI;	+	CtoT	0.1176	0.5882	10	5	[17,48]
chr2:100551896	PDCL3	coding_exon	ENST00000264254:RtoC;	+	CtoT	0.1333	0.175	7	2	[15,40]
chr2:100559362	PDCL3	coding_exon	ENST00000264254:KtoR;	+	AttoG	0.1154	0.125	2	2	[24,26]
chr2:100554512	PDCL3	coding_exon	ENST00000264254:HtoN;	+	CtoA	0.1111	0.3462	8	5	[15,26]
chr2:100552521	PDCL3	coding_exon	ENST00000264254:Gto*;	+	GtoT	0.1429	0.4286	8	6	[12,19]
chr2:100549417	PDCL3	coding_exon		+	AttoG	0.1111	0.3077	6	2	[13,45]
chr2:100552520	PDCL3	coding_exon		+	CtoT	0.25	0.4286	3	2	[12,14]
chr2:100552577	PDCL3	coding_exon		+	CtoT	0.2	0.5789	3	2	[19,20]
chr2:100554670	PDCL3	coding_exon		+	CtoT	0.1	0.2083	6	3	[20,64]
chr2:100559288	PDCL3	coding_exon		+	AttoG	0.1212	0.6316	11	5	[19,46]
chr2:100559378	PDCL3	coding_exon		+	CtoT	0.1111	0.1212	2	2	[33,54]
chr2:100559401	PDCL3	UTR3		+	TtoG	0.1	0.2143	7	4	[13,48]
chr11:760217	PDDC1	mixed		-	TtoC	0.1	0.1429	3	2	[10,14]
chr3:57518140	PDE12	coding_exon	ENST00000311180:QtoE;ENST00000487257:QtoE;	+	CtoG	0.1	0.1	2	2	[10,10]
chr19:10441251	PDE4A	UTR3		+	TtoC	0.1	0.1	4	2	[10,10]
chr8:66793024	PDE7A	UTR3		-	AttoG	0.1111	0.2222	10	2	[18,27]
chr8:66793332	PDE7A	UTR3		-	GtoA	0.1053	0.1111	3	2	[18,19]
chr8:66793334	PDE7A	UTR3		-	GtoA	0.1111	0.125	3	2	[16,18]
chr15:83482585	PDE8A	UTR3		+	CtoA	0.1	0.125	3	2	[10,16]
chr11:34962769	PDHX	coding_exon	ENST00000227868:VtoG;ENST00000430469:VtoG;ENST00000448838:VtoG;	+	TtoG	0.1538	0.2	2	2	[10,13]
chr11:34944833	PDHX	coding_exon	ENST00000227868:TtoP;ENST00000448838:TtoP;	+	AttoC	0.1538	0.24	5	5	[10,25]
chr2:10860095	PDI A6	coding_exon	ENST00000272227:VtoL;ENST00000381611:VtoL;ENST00000404371:VtoL;ENST000	-	GtoT	0.1067	0.1809	8	4	[18,94]
chr2:10864997	PDI A6	coding_exon	ENST00000272227:VtoG;ENST00000381611:VtoG;ENST00000404371:VtoG;ENST000	-	TtoG	0.1062	0.1458	7	4	[48,139]
chr10:96987579	PD LIM1	UTR3		-	TtoC	0.4489	0.529	2	2	[483,499]
chr16:2589019	PDPK1	UTR3		+	TtoC	0.1	0.1	3	2	[10,10]

chr16:68751371	PDPR	UTR3		+	CtoT	0.1	0.1538	4	4	[10,24]
chr16:68751935	PDPR	UTR3		+	AtaG	0.1	0.1176	3	2	[10,17]
chr16:68752188	PDPR	UTR3		+	GtoT	0.1667	0.2414	6	3	[18,29]
chr20:29996986	PDRG1	UTR3		-	TtoG	0.1176	0.1538	4	3	[13,34]
chr20:29996992	PDRG1	UTR3		-	TtoG	0.1379	0.25	7	3	[14,34]
chr4:39527662	PD55A	coding_exon	ENST00000303538:LtoQ;ENST00000412404:LtoQ;	-	TtoA	0.1818	0.1818	8	2	[11,12]
chr4:39580434	PD55A	coding_exon	ENST00000303538:HtoR;ENST00000412404:HtoR;	-	AtaG	0.1053	0.1667	4	2	[12,19]
chr4:39515894	PD55A	coding_exon		-	AtaG	0.1111	0.1333	3	2	[15,18]
chr4:39582177	PD55A	coding_exon		-	TtoC	0.1053	0.2	6	3	[10,38]
chr4:39501007	PD55A	UTR3		-	TtoG	0.1	0.1579	4	4	[10,19]
chr4:39502887	PD55A	UTR3		-	TtoC	0.1818	0.3	9	2	[10,11]
chr10:27052851	PD55X	coding_exon		+	TtoC	0.1	0.1	2	2	[10,11]
chr21:44005989	PDXK	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr21:44005999	PDXK	UTR3		+	AtaG	0.1	0.125	4	3	[10,16]
chr10:119033429	PDZD8	coding_exon		-	AtaG	0.1	0.1	2	2	[10,10]
chr12:117067768	PEBP1	UTR3		+	AtaG	0.1429	0.3	2	2	[10,14]
chr2:216612298	PECR	mixed		-	AtaC	0.1	0.1053	3	2	[10,19]
chr2:64181136	PEL1	coding_exon	ENST00000358912:AtaV;	-	CtoT	0.1429	0.3	5	2	[10,14]
chr2:64174340	PEL1	UTR3		-	TtoC	0.1	0.1429	3	2	[10,14]
chr5:52132305	PELO	coding_exon	ENST00000274311:NtoT;ENST00000381463:NtoT;	+	AtaC	0.1	0.3125	5	3	[10,16]
chr17:17353516	PEMT	coding_exon	ENST00000255389:MtoV;ENST00000343219:MtoV;ENST00000395781:MtoV;ENST	-	AtaG	0.125	0.1429	3	2	[14,16]
chr17:7984943	PER1	UTR3		-	TtoG	0.1	0.1	2	2	[10,20]
chr4:152820417	PET112L	coding_exon	ENST00000263985:Qto*;	-	CtoT	0.1429	0.25	2	2	[12,14]
chr15:88027517	PEX11A	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr2:61129178	PEX13	coding_exon		+	TtoC	0.1	0.2143	2	2	[10,14]
chr1:10612870	PEX14	UTR3		+	GtoC	0.1	0.1	2	2	[10,10]
chr1:158514053	PEX19	UTR3		-	AtaG	0.125	0.1667	4	2	[12,16]
chr1:158514895	PEX19	UTR3		-	GtoA	0.1	0.1818	2	2	[10,11]
chr22:16950857	PEX26	mixed		+	AtaC	0.1	0.1538	6	2	[10,13]
chr22:16952021	PEX26	UTR3		+	AtaG	0.1053	0.1176	4	2	[17,19]
chr22:16952235	PEX26	UTR3		+	AtaC	0.1111	0.1212	4	2	[27,33]
chr22:16953508	PEX26	UTR3		+	AtaG	0.1	0.1538	6	2	[10,13]
chr22:16953514	PEX26	UTR3		+	TtoA	0.1	0.1538	4	2	[10,13]
chr22:16953774	PEX26	UTR3		+	AtaG	0.1	0.2	3	2	[10,10]
chr12:7253657	PEX5	coding_exon	ENST00000266563:StoP;ENST00000266564:StoP;ENST00000396637:StoP;ENST000	+	TtoC	0.1111	0.1176	3	2	[18,18]
chr6:137232763	PEX7	coding_exon	ENST00000318471:WtoR;	+	TtoC	0.1	0.1667	2	2	[10,12]
chr6:137232828	PEX7	coding_exon	ENST00000318471:RtoS;	+	GtoT	0.1	0.1	2	2	[10,10]
chr17:8109640	PFAS	coding_exon	ENST00000314666:TtoP;	+	AtaC	0.1	0.2	5	2	[10,20]
chr17:8098256	PFAS	coding_exon	ENST00000314666:FtoV;	+	TtoG	0.1176	0.15	7	2	[17,20]
chr17:8109069	PFAS	coding_exon	ENST00000314666:EtoD;	+	AtaC	0.1053	0.1429	4	2	[14,19]
chr17:8097989	PFAS	coding_exon		+	AtaG	0.1	0.1	2	2	[10,20]
chr1:159337058	PFDN2	UTR3		-	AtaG	0.1	0.3333	11	9	[10,26]
chr12:51979496	PFDN5	UTR3		+	GtoA	0.1	0.1026	7	2	[10,39]
chr10:6308237	PFKFB3	mixed		+	AtaG	0.1	0.1	2	2	[10,10]
chr10:6315310	PFKFB3	UTR3		+	TtoC	0.1	0.1364	6	4	[10,22]
chr10:6317003	PFKFB3	UTR3		+	TtoC	0.1	0.2	2	2	[10,10]
chr10:6317403	PFKFB3	UTR3		+	TtoC	0.1053	0.125	3	2	[16,19]
chr3:48530153	PFKFB4	UTR3		-	CtoG	0.1333	0.1538	2	2	[13,15]
chr21:44571677	PFKL	UTR3		+	TtoC	0.1053	0.2545	14	9	[19,81]
chr21:44571683	PFKL	UTR3		+	GtoA	0.3	0.7	6	6	[10,23]
chr12:46814320	PFKM	coding_exon	ENST00000340802:HtoR;ENST00000359794:HtoR;ENST00000395233:HtoR;	+	AtaG	0.1	0.1538	4	2	[13,20]
chr12:46825818	PFKM	UTR3		+	TtoC	0.1	0.2083	11	5	[13,37]
chr10:3168993	PFKP	coding_exon		+	AtaC	0.1667	0.1818	4	2	[11,13]
chr10:3168971	PFKP	mixed		+	TtoA	0.1071	0.381	6	6	[28,56]
chr17:4789784	PFN1	UTR3		-	CtoA	0.987	0.9995	12	12	[733,3188]
chr11:3801714	PGAP2	coding_exon	ENST00000278243:StoI;ENST00000300730:StoI;ENST0000039686:StoI;ENST00000	+	GtoT	0.1818	0.1818	2	2	[11,11]
chr11:3803510	PGAP2	UTR3		+	GtoT	0.1538	0.4	2	2	[10,13]
chr1:10395757	PGD	coding_exon	ENST00000270776:TtoP;	+	AtaC	0.1042	0.1299	4	2	[77,96]
chr1:10402646	PGD	UTR3		+	TtoG	0.1053	0.125	2	2	[89,115]
chr19:17489563	PGL5	coding_exon		+	AtaC	0.1212	0.1731	5	2	[52,66]
chr4:37517868	PGM2	coding_exon	ENST00000381967:FtoI;	+	TtoA	0.1176	0.1176	4	2	[17,18]
chr16:2203740	PGP	coding_exon	ENST00000333503:LtoH;	-	TtoA	0.125	0.2222	2	2	[10,16]
chr19:18337948	PGPEP1	UTR3		+	AtaG	0.1	0.1333	8	3	[10,17]
chr19:18337979	PGPEP1	UTR3		+	AtaC	0.1	0.125	2	2	[10,16]
chr19:18340609	PGPEP1	UTR3		+	TtoC	0.1	0.1053	3	2	[10,19]
chr19:18340869	PGPEP1	UTR3		+	GtoA	0.1	0.1	2	2	[10,10]
chr19:18340916	PGPEP1	UTR3		+	TtoG	0.1	0.1154	2	2	[20,26]
chr4:129411749	PGRM2	UTR3		-	GtoT	0.1	0.1	2	2	[10,10]
chr17:73911735	PGS1	coding_exon	ENST00000262764:WtoR;ENST00000329897:WtoR;ENST00000335081:WtoR;	+	TtoC	0.1	0.1	2	2	[10,10]
chr17:73911611	PGS1	coding_exon	ENST00000262764:NtoK;ENST00000329897:NtoK;ENST00000335081:NtoK;	+	TtoA	0.1	0.1	2	2	[10,10]
chr1:28679556	PHACTR4	coding_exon	ENST00000373836:LtoP;ENST00000373837:LtoP;ENST00000373839:LtoP;	+	TtoC	0.1	0.15	6	2	[10,20]
chr1:28665553	PHACTR4	coding_exon		+	TtoC	0.1	0.1	3	2	[10,10]
chr1:28697361	PHACTR4	UTR3		+	AtaG	0.1	0.2353	10	6	[17,32]
chr5:125988538	PHAX	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr17:44845585	PHB	coding_exon	ENST00000300408:LtoP;ENST00000393345:LtoP;ENST00000434917:LtoP;	-	TtoC	0.1111	0.3	8	6	[10,19]
chr17:44845601	PHB	coding_exon	ENST00000300408:ItaV;ENST00000393345:ItaV;ENST00000434917:ItaV;	-	AtaG	0.1154	0.1176	5	2	[17,26]
chr17:44845547	PHB	coding_exon		-	TtoC	0.1	0.1053	6	3	[10,19]
chr17:44845581	PHB	coding_exon		-	CtoG	0.1	0.2	6	3	[10,16]
chr17:44847228	PHB	UTR5		-	GtoT	0.125	0.1667	5	2	[12,16]
chr1:33561980	PHC2	UTR3		-	GtoT	0.1	0.1818	2	2	[10,11]
chr3:171293617	PHC3	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr6:33490098	PHF1	coding_exon	ENST00000374512:WtoR;ENST00000374516:WtoR;	+	TtoC	0.1	0.1111	3	2	[10,18]
chr6:33488541	PHF1	mixed		+	TtoC	0.1	0.1111	3	2	[10,18]
chr6:33492045	PHF1	UTR3		+	TtoC	0.1	0.1875	3	2	[10,16]
chr6:169846442	PHF10	coding_exon		-	TtoA	0.1	0.1	2	2	[10,10]
chr5:133942351	PHF15	mixed		+	AtaC	0.1176	0.1176	3	2	[17,17]
chr4:130002450	PHF17	coding_exon	ENST00000226319:EtoK;ENST00000413543:EtoK;ENST00000452328:EtoK;	+	GtoA	0.1	0.1538	2	2	[10,13]
chr4:130002324	PHF17	coding_exon	ENST00000226319:CtoR;ENST00000413543:CtoR;ENST00000452328:CtoR;	+	TtoC	0.1	0.1	3	2	[10,20]
chr9:122671928	PHF19	coding_exon	ENST00000312189:StoP;	-	TtoC	0.1429	0.2105	4	2	[14,19]
chr9:122676671	PHF19	coding_exon	ENST00000312189:LtoP;ENST00000373896:LtoP;	-	TtoC	0.1067	0.1356	9	2	[59,75]
chr9:122671717	PHF19	mixed		-	AtaG	0.1429	0.1818	3	2	[11,14]
chr9:122657824	PHF19	UTR3		-	TtoC	0.1667	0.1667	2	2	[12,12]
chr20:33922362	PHF20	mixed		+	TtoC	0.1	0.1333	3	2	[10,15]
chr20:34000070	PHF20	UTR3		+	TtoA	0.1	0.1111	3	2	[10,10]
chr20:34000697	PHF20	UTR3		+	TtoC	0.1	0.2727	10	4	[10,17]
chr8:133875902	PHF20L1	coding_exon	ENST00000315808:WtoR;ENST00000337920:WtoR;ENST00000361997:WtoR;ENST	+	TtoC	0.1	0.1333	3	2	[10,16]

chr11:45947950	PHF21A	coding_exon	ENST00000257821:Totl;ENST00000323180:Totl;ENST00000418153:Totl;	-	CtoA	0.1	0.1	2	2	[10,10]
chr11:45910861	PHF21A	UTR3		-	TtoC	0.1429	0.2143	7	3	[11,14]
chr11:45911459	PHF21A	UTR3		-	AtoC	0.1364	0.2222	6	3	[18,33]
chr6:64480005	PHF3	coding_exon	ENST00000262043:KtoR;ENST00000393387:KtoR;	+	AtoG	0.1	0.1	3	2	[10,10]
chr6:64459669	PHF3	coding_exon	ENST00000262043:GtoD;ENST00000393387:GtoD;	+	GtoA	0.1	0.1	2	2	[10,10]
chr6:64459745	PHF3	coding_exon	ENST00000262043:DtoE;ENST00000393387:DtoE;	+	TtoA	0.1	0.1	2	2	[10,10]
chr6:64452497	PHF3	coding_exon		+	TtoC	0.1	0.1111	2	2	[10,18]
chr6:64480006	PHF3	coding_exon		+	GtoA	0.1	0.1818	3	2	[10,11]
chr6:79707330	PHIP	coding_exon	ENST00000275034:EtaD;	-	GtoT	0.1	0.1	3	2	[10,20]
chr6:79768393	PHIP	mixed		-	TtoC	0.1333	0.1364	5	2	[15,22]
chr6:79770294	PHIP	mixed		-	AtoG	0.1	0.2727	10	4	[10,19]
chr9:138863384	PHPT1	UTR5		+	CtoG	0.1667	0.2308	4	2	[13,18]
chr9:138863463	PHPT1	UTR5		+	TtoC	0.1	0.1538	2	2	[10,13]
chr11:598595	PHRF1	coding_exon	ENST00000264555:StoP;ENST00000413872:StoP;ENST00000416188:StoP;	+	TtoC	0.1	0.1667	3	2	[10,12]
chr11:599652	PHRF1	coding_exon	ENST00000264555:LtoP;ENST00000413872:LtoP;ENST00000416188:LtoP;	+	TtoC	0.1	0.1	2	2	[10,10]
chr7:7369034	PHTF2	coding_exon		+	AtoG	0.1	0.1	2	2	[10,10]
chr4:24888547	PI4K2B	UTR3		+	CtoT	0.1	0.1	2	2	[10,10]
chr22:19445639	PI4KA	mixed		-	TtoG	0.1	0.1333	4	2	[10,15]
chr1:149555149	PI4KB	mixed		-	AtoG	0.1	0.1429	3	2	[20,21]
chr1:149565402	PI4KB	UTR5		-	TtoG	0.1	0.1	3	2	[10,10]
chr15:66267027	PIAS1	coding_exon	ENST00000249636:StoA;	+	TtoG	0.1	0.1053	3	2	[10,19]
chr15:66253125	PIAS1	coding_exon	ENST00000249636:LtoH;	+	TtoA	0.1	0.1538	4	2	[10,13]
chr15:66253251	PIAS1	coding_exon	ENST00000249636:KtoM;	+	AtoT	0.1	0.1	2	2	[10,10]
chr18:42663735	PIAS2	coding_exon		-	AtoG	0.1	0.125	3	2	[10,16]
chr18:42724626	PIAS2	coding_exon		-	AtoG	0.1	0.1667	2	2	[10,12]
chr1:144289547	PIAS3	coding_exon		+	TtoC	0.1	0.1	3	2	[10,10]
chr11:85347686	PICALM	UTR3		-	AtoG	0.1429	0.2	3	2	[10,14]
chr22:36801064	PICK1	coding_exon		+	TtoG	0.1	0.1	4	2	[10,10]
chr15:62899222	PIF1	coding_exon	ENST00000268043:TtoP;ENST00000333425:TtoP;	-	AtoC	0.1	0.1	2	2	[10,10]
chr15:62899235	PIF1	coding_exon	ENST00000268043:CtoW;ENST00000333425:CtoW;	-	TtoG	0.1176	0.1429	4	3	[14,21]
chr15:62897198	PIF1	coding_exon		-	AtoG	0.1765	0.2	4	2	[10,17]
chr4:491339	PIGG	coding_exon	ENST00000296306:MtoK;ENST00000310340:MtoK;ENST00000453061:MtoK;ENST00000310340:RtoG;	+	TtoA	0.1	0.1111	2	2	[10,10]
chr14:67136571	PIGH	coding_exon	ENST00000216452:RtoG;	-	CtoG	0.1818	0.7143	3	3	[10,14]
chr14:67126614	PIGH	coding_exon	ENST00000216452:IttoT;	-	TtoC	0.1333	0.2	6	2	[15,15]
chr14:67129153	PIGH	coding_exon		-	AtoG	0.1538	0.2	4	2	[10,13]
chr14:67136521	PIGH	coding_exon		-	GtoA	0.2727	0.2727	2	2	[11,11]
chr14:67126071	PIGH	UTR3		-	TtoC	0.1053	0.1538	3	2	[13,19]
chr14:67126403	PIGH	UTR3		-	TtoA	0.1	0.2143	7	2	[10,14]
chr14:67126431	PIGH	UTR3		-	GtoA	0.1579	0.1923	2	2	[19,26]
chr17:16170116	PIGL	UTR3		+	GtoA	0.1	0.1111	2	2	[10,18]
chr18:57864117	PIGN	coding_exon		-	AtoG	0.1	0.1	2	2	[10,10]
chr17:23904783	PIGS	UTR3		-	AtoT	0.12	0.1212	2	2	[25,33]
chr10:98370163	PIK3AP1	coding_exon	ENST00000339364:VtoG;ENST00000371109:VtoG;ENST00000371110:VtoG;	-	TtoG	0.1	0.125	3	2	[16,31]
chr10:98370217	PIK3AP1	coding_exon	ENST00000339364:LtoR;ENST00000371109:LtoR;ENST00000371110:LtoR;	-	TtoG	0.1	0.1	2	2	[10,10]
chr1:202679305	PIK3C2B	coding_exon	ENST00000367187:YtoN;	-	TtoA	0.1	0.1	3	2	[10,10]
chr1:202691743	PIK3C2B	coding_exon	ENST00000367187:AtoA;	-	AtoG	0.1	0.1	2	2	[10,10]
chr18:37901393	PIK3C3	coding_exon	ENST00000262039:VtoG;ENST00000398870:VtoG;	+	TtoG	0.1	0.3077	7	6	[10,16]
chr18:37849439	PIK3C3	coding_exon	ENST00000262039:StoP;ENST00000398870:StoP;	+	TtoC	0.1	0.1111	3	2	[10,18]
chr18:3791590	PIK3C3	coding_exon		+	AtoG	0.1	0.2	3	3	[10,12]
chr18:37877697	PIK3C3	coding_exon		+	CtoT	0.1	0.1	2	2	[10,10]
chr5:67629170	PIK3R1	coding_exon		+	AtoG	0.1	0.1	2	2	[10,10]
chr5:67632835	PIK3R1	UTR3		+	GtoA	0.1	0.1176	2	2	[10,17]
chr5:67632909	PIK3R1	UTR3		+	AtoG	0.1429	0.3125	4	3	[12,16]
chr19:18141408	PIK3R2	UTR3		+	TtoG	0.1	0.1	2	2	[10,10]
chr1:46294126	PIK3R3	coding_exon	ENST00000262741:EtaG;ENST00000340332:EtaG;ENST00000372006:EtaG;ENST00000262741:EtaG;	-	AtoG	0.1	0.1538	2	2	[10,13]
chr1:46279215	PIK3R3	UTR3		-	AtoG	0.1	0.1333	8	2	[10,15]
chr1:46281458	PIK3R3	UTR3		-	TtoC	0.1	0.1333	2	2	[10,15]
chr3:131882583	PIK3R4	coding_exon	ENST00000356763:VtoA;	-	TtoC	0.1111	0.1538	5	3	[13,18]
chr3:131881018	PIK3R4	coding_exon	ENST00000356763:EtaG;	-	AtoG	0.1	0.1	2	2	[10,20]
chr17:8734072	PIK3R5	coding_exon	ENST00000269300:WtoG;ENST00000444598:WtoG;ENST00000447110:WtoG;	-	TtoG	0.1	0.1	2	2	[10,10]
chr17:8722997	PIK3R5	UTR3		-	AtoG	0.1176	0.3333	5	3	[12,17]
chr17:8665945	PIK3R6	coding_exon	ENST00000311434:VtoF;ENST00000434064:VtoF;	-	GtoT	0.125	0.16	6	6	[16,40]
chr17:8665936	PIK3R6	coding_exon	ENST00000311434:RtoL;ENST00000434064:RtoL;	-	GtoT	0.1	0.2955	6	2	[20,44]
chr6:37249811	PIM1	mixed		+	AtoC	0.1	0.1	2	2	[10,10]
chr6:37249967	PIM1	UTR3		+	AtoG	0.1	0.1667	3	2	[10,12]
chr6:37250314	PIM1	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr6:37250504	PIM1	UTR3		+	TtoA	0.1	0.3	6	4	[10,16]
chr6:37250505	PIM1	UTR3		+	GtoT	0.1176	0.2	4	3	[10,17]
chr22:48743697	PIM3	UTR3		+	TtoC	0.15	0.2	3	2	[10,20]
chr22:48743698	PIM3	UTR3		+	AtoG	0.1667	0.2308	3	3	[12,21]
chr12:56281857	PIP4K2C	UTR3		+	AtoG	0.1	0.1667	3	2	[10,12]
chr1:149481621	PIP5K1A	coding_exon		+	AtoG	0.2	0.5294	3	2	[10,17]
chr1:149437985	PIP5K1A	UTR5		+	TtoC	0.1	0.1429	4	2	[10,14]
chr19:3581290	PIP5K1C	mixed		-	AtoC	0.1	0.1	3	2	[20,30]
chr19:3581485	PIP5K1C	mixed		-	TtoC	0.1	0.2	4	2	[10,10]
chr19:3593910	PIP5K1C	mixed		-	TtoG	0.1	0.1	2	2	[10,10]
chr10:22863909	PIP5K2A	UTR3		-	TtoC	0.1	0.1429	6	2	[10,15]
chr17:34209055	PIP5K2B	coding_exon	ENST00000269554:VtoA;	-	TtoC	0.1	0.1818	3	2	[10,11]
chr17:1403186	PITPNA	coding_exon	ENST00000313486:VtoA;	-	TtoC	0.1	0.2	5	2	[10,20]
chr17:1369181	PITPNA	UTR3		-	AtoT	0.1	0.1	2	2	[10,10]
chr22:26578453	PITPNB	UTR3		-	AtoG	0.1111	0.1351	4	2	[27,37]
chr11:67021280	PITPNM1	coding_exon	ENST00000356404:EtaA;ENST00000436757:EtaA;	-	AtoC	0.1	0.12	4	2	[10,25]
chr11:67021279	PITPNM1	coding_exon		-	GtoA	0.1034	0.125	3	2	[16,29]
chr10:3177869	PITRM1	coding_exon		-	AtoG	0.1	0.1	2	2	[10,10]
chr10:3198510	PITRM1	mixed		-	TtoC	0.1	0.125	2	2	[16,20]
chr10:3170113	PITRM1	UTR3		-	TtoC	0.1	0.125	2	2	[16,20]
chr5:108699624	PJA2	UTR3		-	TtoC	0.1	0.3333	4	3	[11,20]
chr16:2078887	PKD1	UTR3		-	TtoC	0.1	0.125	2	2	[16,40]
chr8:110608245	PKHD1L1	coding_exon	ENST00000378402:TtoA;ENST00000426474:TtoA;	+	AtoG	0.1	0.1	2	2	[10,10]
chr15:70278424	PKM2	UTR3		-	CtoA	0.2025	1	8	8	[10,84]
chr15:70278425	PKM2	UTR3		-	CtoA	0.2576	0.9412	18	18	[11,137]
chr15:70278426	PKM2	UTR3		-	AtoG	0.1154	0.2885	20	12	[17,52]
chr16:2961341	PKMYT1	coding_exon		-	CtoA	0.1	0.1	2	2	[10,10]
chr16:2962666	PKMYT1	coding_exon		-	GtoA	1	1	6	6	[10,18]
chr3:120831052	PLA1A	UTR3		+	GtoT	0.1034	0.2	4	2	[10,29]
chr22:36841566	PLA2G6	mixed		-	TtoC	0.1	0.1176	2	2	[10,17]

chr4:84234882	PLAC8	coding_exon	ENST00000311507:RtoS;ENST00000411416:RtoS;ENST00000426923:RtoS;	-	AtoT	0.1	0.1333	3	2	[10,15]
chr4:84254887	PLAC8	UTR5		-	CtoT	0.1	0.1333	2	2	[10,15]
chr15:38374498	PLCB2	coding_exon	ENST00000260402:StoP;ENST00000456256:StoP;	-	TtoC	0.1	0.1538	3	2	[10,13]
chr15:38372436	PLCB2	coding_exon	ENST00000260402:ItotN;ENST00000456256:ItotN;	-	TtoA	0.1	0.1	2	2	[10,10]
chr15:38367645	PLCB2	UTR3		-	AtoG	0.1	0.1538	2	2	[10,13]
chr3:17106607	PLCL2	UTR3		+	AtoG	0.1154	0.1818	2	2	[11,26]
chr8:145064465	PLEC1	coding_exon	ENST00000322810:StoA;ENST00000345136:StoA;ENST00000354589:StoA;ENST00000354589:StoA;	-	TtoG	0.1	0.1	2	2	[10,10]
chr8:145068731	PLEC1	coding_exon	ENST00000322810:ItotL;ENST00000345136:ItotL;ENST00000354589:ItotL;ENST00000354589:ItotL;	-	AtoC	0.1	0.1	3	2	[10,10]
chr8:145061375	PLEC1	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr8:38949459	PLEKHA2	UTR3		+	AtoT	0.1818	0.2	4	3	[10,27]
chr8:38949583	PLEKHA2	UTR3		+	TtoC	0.1111	0.1667	9	3	[13,38]
chr8:38950528	PLEKHA2	UTR3		+	AtoG	0.1053	0.1212	3	2	[19,36]
chr2:131623833	PLEKHB2	mixed		+	AtoG	0.1	0.2143	3	2	[10,14]
chr19:44606867	PLEKHG2	coding_exon	ENST00000409794:LtoR;ENST00000425673:LtoR;ENST00000458508:LtoR;	+	TtoG	0.1	0.1	4	2	[10,10]
chr1:148397845	PLEKHO1	coding_exon	ENST0000025469:EtotK;ENST00000369124:EtotK;	+	GtoA	0.1045	0.1087	4	2	[67,138]
chr4:129027333	PLK4	coding_exon	ENST00000270861:LtoR;	+	TtoG	0.1	0.1	2	2	[10,10]
chr4:155679745	PLRG1	coding_exon	ENST00000302078:HtoQ;ENST00000393905:HtoQ;	-	CtoA	0.1111	0.1154	5	2	[18,26]
chr4:155686459	PLRG1	coding_exon		-	AtoC	0.1304	0.1818	2	2	[11,23]
chr3:147745103	PLSCR1	UTR5		-	TtoC	0.1	0.1	2	2	[10,10]
chr3:48420928	PLXNB1	mixed		-	CtoA	0.1	0.1667	2	2	[10,12]
chr12:93197392	PLXNC1	coding_exon	ENST00000258526:VtoA;	+	TtoC	0.1	0.1	4	2	[10,10]
chr12:93221740	PLXNC1	coding_exon		+	AtoC	0.1	0.1	2	2	[10,10]
chr18:55721739	PMIAP1	UTR3		+	GtoA	0.1429	0.3636	4	2	[11,14]
chr1:154449469	PMF1	coding_exon	ENST00000302139:CtoW;ENST00000368273:CtoW;ENST00000368276:CtoW;ENST00000368276:CtoW;	+	TtoG	0.1111	0.1579	6	3	[18,19]
chr15:72122587	PML	mixed		+	AtoG	0.1	0.1667	3	2	[10,12]
chr15:72124731	PML	UTR3		+	AtoC	0.1818	0.2667	2	2	[11,15]
chr16:8850554	PMM2	UTR3		+	TtoG	0.1875	0.2308	4	2	[13,16]
chr9:138438021	PMPCA	UTR3		+	TtoC	0.125	0.25	11	6	[10,30]
chr9:138438024	PMPCA	UTR3		+	CtoG	0.1538	0.2	5	2	[10,13]
chr7:102739765	PMPCB	coding_exon		+	AtoG	0.1	0.1216	2	2	[40,74]
chr2:218914554	PNKD	coding_exon	ENST00000258362:VtoG;ENST00000273077:VtoG;ENST00000436005:VtoG;	+	TtoG	0.1	0.1	3	2	[10,10]
chr2:218912844	PNKD	coding_exon	ENST00000258362:TtoP;ENST00000273077:TtoP;ENST00000436005:TtoP;	+	AtoC	0.1	0.125	2	2	[10,16]
chr2:218850400	PNKD	coding_exon		+	AtoG	0.1333	0.1818	3	2	[11,15]
chr2:218854968	PNKD	coding_exon		+	GtoA	0.4286	0.4375	2	2	[14,16]
chr14:38721857	PNN	UTR3		+	AtoG	0.1	0.1667	2	2	[10,12]
chr8:28242716	PNOC	coding_exon		+	GtoA	0.7	0.9091	2	2	[10,11]
chr8:28252871	PNOC	coding_exon		+	TtoC	0.16	0.1667	4	2	[18,25]
chr11:812569	PNPLA2	coding_exon	ENST00000336615:VtoS;	+	AtoC	0.1	0.1667	2	2	[10,12]
chr19:7513741	PNPLA6	coding_exon	ENST00000221249:PtoL;ENST00000414982:PtoL;ENST00000450331:PtoL;	+	CtoT	0.3182	0.6	2	2	[10,22]
chr17:43377042	PNPO	coding_exon	ENST00000225573:FtoI;ENST00000434554:FtoI;	+	TtoA	0.1	0.1333	3	2	[10,15]
chr17:43381578	PNPO	UTR3		+	TtoA	0.1	0.1111	5	2	[10,18]
chr17:43381620	PNPO	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr2:55726022	PNPT1	coding_exon		-	TtoC	0.12	0.1667	7	2	[12,25]
chr2:55747723	PNPT1	coding_exon		-	TtoC	0.1429	0.4167	5	2	[12,28]
chr6:89850615	PNRC1	coding_exon	ENST00000336032:LtoP;	+	TtoC	0.1103	0.1143	5	2	[37,138]
chr6:89847281	PNRC1	UTR5		+	CtoG	0.3	0.5455	7	3	[10,11]
chr6:89847283	PNRC1	UTR5		+	TtoC	0.2	0.3333	5	3	[15,18]
chr6:89847284	PNRC1	UTR5		+	TtoC	0.1667	0.2143	3	2	[14,18]
chr20:30288193	POFUT1	UTR3		+	TtoG	0.1	0.1333	4	2	[10,15]
chr21:45508846	POFUT2	UTR3		-	AtoG	0.1333	0.1875	3	2	[16,16]
chr1:165084960	POGK	coding_exon	ENST00000367875:MtoV;ENST00000367876:MtoV;	+	AtoG	0.1	0.125	2	2	[10,16]
chr1:165090212	POGK	UTR3		+	AtoG	0.1111	0.1538	3	2	[13,18]
chr1:165090285	POGK	UTR3		+	TtoA	0.1	0.1333	6	2	[10,15]
chr1:149668792	POGZ	coding_exon	ENST00000271715:VtoA;ENST00000361398:VtoA;ENST00000392723:VtoA;ENST00000392723:VtoA;	-	TtoC	0.1429	0.1818	3	2	[11,14]
chr1:149669792	POGZ	coding_exon	ENST00000271715:StoP;ENST00000361398:StoP;ENST00000392723:StoP;ENST00000392723:StoP;	-	TtoC	0.1	0.1	3	2	[10,10]
chr1:149644865	POGZ	coding_exon		-	CtoA	0.1	0.1429	2	2	[14,20]
chr1:149643420	POGZ	UTR3		-	AtoG	0.1	0.1667	2	2	[10,12]
chr1:149643684	POGZ	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr11:64821364	POLA2	UTR3		+	AtoG	0.1429	0.3	5	3	[10,41]
chr8:42348373	POLB	UTR3		+	TtoG	0.1	0.1304	4	2	[10,23]
chr7:44128278	POLD2	UTR5		-	TtoC	0.1053	0.1111	2	2	[18,19]
chr11:74017960	POLD3	coding_exon	ENST00000263681:MtoT;	+	TtoC	0.1	0.1	3	2	[10,20]
chr17:66875599	POLD4	UTR3		-	TtoC	0.1111	0.1667	11	3	[12,30]
chr17:23698373	POLDIP2	mixed		-	AtoG	0.1	0.1818	2	2	[10,11]
chr22:41309718	POLDIP3	UTR3		-	TtoC	0.1667	0.2	3	2	[10,19]
chr22:41310356	POLDIP3	UTR3		-	CtoA	0.1429	0.1667	2	2	[14,18]
chr22:41310362	POLDIP3	UTR3		-	AtoG	0.1429	0.24	5	3	[21,25]
chr12:131719111	POLE	mixed		-	AtoC	0.1	0.1818	2	2	[10,11]
chr12:131728479	POLE	mixed		-	CtoA	0.1	0.1429	2	2	[10,14]
chr12:131728882	POLE	mixed		-	TtoA	0.1	0.125	3	2	[10,16]
chr15:87671224	POLG	coding_exon	ENST00000268124:VtoA;ENST00000442287:VtoA;	-	TtoC	0.1	0.1176	5	2	[10,17]
chr15:87663575	POLG	coding_exon	ENST00000268124:StoA;ENST00000442287:StoA;	-	TtoG	0.1538	0.1818	6	3	[11,25]
chr15:87662900	POLG	coding_exon	ENST00000268124:FtoV;ENST00000442287:FtoV;	-	TtoG	0.1111	0.3125	9	4	[14,18]
chr6:43689602	POLH	coding_exon	ENST00000372236:QtoR;	+	AtoG	0.1	0.1	2	2	[10,10]
chr2:86122575	POLR1A	coding_exon	ENST00000263857:WtoR;ENST00000409681:WtoR;	-	TtoC	0.1	0.1	2	2	[10,10]
chr2:113033574	POLR1B	coding_exon	ENST00000263331:TtoS;ENST00000417433:TtoS;	+	AtoT	0.1	0.1	2	2	[10,10]
chr2:113021068	POLR1B	coding_exon		+	TtoC	0.1538	0.1579	3	2	[13,19]
chr2:113023377	POLR1B	coding_exon		+	TtoC	0.1	0.1111	3	2	[10,10]
chr13:27138554	POLR1D	UTR3		+	TtoC	0.1	0.1538	3	2	[10,13]
chr13:27138834	POLR1E	UTR3		+	TtoA	0.1111	0.1111	2	2	[10,36]
chr9:37476086	POLR1E	mixed		+	TtoC	0.1	0.1111	2	2	[18,20]
chr17:7356012	POLR2A	coding_exon	ENST00000322644:NtoK;	+	CtoA	0.1304	0.1538	2	2	[13,23]
chr17:7356274	POLR2A	coding_exon	ENST00000322644:LtoP;	+	TtoC	0.1	0.25	6	4	[10,20]
chr4:57567852	POLR2B	coding_exon	ENST00000314595:LtoQ;ENST00000381227:LtoQ;	+	TtoA	0.1176	0.15	10	3	[18,20]
chr4:57555756	POLR2B	coding_exon		+	TtoC	0.1	0.2	5	2	[10,10]
chr2:128321840	POLR2D	UTR3		-	TtoG	0.1	0.1111	3	2	[10,10]
chr2:128321844	POLR2D	UTR3		-	CtoG	0.1	0.1818	3	2	[10,11]
chr2:128321846	POLR2D	UTR3		-	TtoC	0.1	0.1176	6	2	[10,17]
chr19:1037628	POLR2E	UTR3		-	AtoT	0.4	0.9231	4	4	[10,16]
chr19:1037629	POLR2E	UTR3		-	CtoT	0.2	0.3636	7	7	[10,16]
chr22:36693703	POLR2F	mixed		+	AtoG	0.1053	0.1176	5	3	[19,35]
chr11:830202	POLR2L	UTR3		-	TtoA	0.1429	0.6667	9	8	[10,26]
chr10:79443427	POLR3A	coding_exon	ENST00000372371:LtoH;	-	TtoA	0.1	0.1	2	2	[10,10]
chr10:79432040	POLR3A	coding_exon		-	TtoC	0.1	0.1	3	2	[10,10]
chr10:79405482	POLR3A	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr16:22253170	POLR3E	UTR3		+	GtoC	0.1111	0.1538	2	2	[13,18]

chr19:575856	POLRMT	coding_exon	ENST00000215591:TtoP;ENST00000432652:TtoP;	-	AtoC	0.1667	0.1667	6	2	[12,18]
chr5:6808769	POLS	UTR3		+	AtoC	0.1	0.1	2	2	[10,10]
chr5:6809110	POLS	UTR3		+	TtoC	0.1111	0.1176	3	2	[18,18]
chr5:6809650	POLS	UTR3		+	TtoG	0.1	0.1333	2	2	[10,15]
chr1:46435288	POMGNT1	coding_exon	ENST00000371984:LtoP;ENST00000371986:LtoP;ENST00000371992:LtoP;ENST00000371992:LtoP;	-	TtoC	0.1	0.1176	2	2	[10,17]
chr1:46428198	POMGNT1	mixed		-	TtoC	0.1	0.1	3	2	[10,10]
chr13:28150337	POMP	UTR3		+	GtoA	0.1053	0.16	8	3	[19,47]
chr9:133388249	POMT1	coding_exon	ENST00000341012:StoP;ENST00000354713:StoP;ENST00000372228:StoP;ENST00000372228:StoP;	+	TtoC	0.1	0.1	3	2	[10,10]
chr9:133387318	POMT1	coding_exon	ENST00000341012:LtoP;ENST00000354713:LtoP;ENST00000372228:LtoP;ENST00000372228:LtoP;	+	TtoC	0.1176	0.1667	4	2	[12,17]
chr9:133388436	POMT1	UTR3		+	GtoC	0.1	0.1	3	2	[10,10]
chr8:99237725	POP1	coding_exon	ENST00000349693:CtoG;ENST00000401707:CtoG;	+	TtoG	0.1	0.15	2	2	[10,20]
chr8:99222201	POP1	coding_exon		+	AtoG	0.1	0.1071	2	2	[10,28]
chr11:110728197	POU2AF1	UTR3		-	TtoC	0.1053	0.2273	12	5	[17,38]
chr1:165651818	POU2F1	UTR3		+	CtoA	0.1818	0.25	2	2	[11,16]
chr1:165656320	POU2F1	UTR3		+	TtoG	0.1667	0.3	2	2	[10,12]
chr1:165659439	POU2F1	UTR3		+	AtoG	0.1	0.1	4	2	[10,10]
chr19:47288084	POU2F2	coding_exon	ENST00000292077:LtoF;ENST00000342301:LtoF;ENST00000389341:LtoF;	-	GtoT	0.1273	0.25	4	3	[40,55]
chr19:47287896	POU2F2	coding_exon		-	AtoG	0.2667	0.3077	3	2	[13,15]
chr19:47286210	POU2F2	UTR3		-	GtoA	0.1	0.125	7	3	[16,20]
chr10:71644307	PPA1	coding_exon	ENST00000373230:CtoW;ENST00000373232:CtoW;	-	TtoG	0.1132	0.15	11	5	[20,296]
chr4:106510200	PPA2	UTR3		-	AtoG	0.1429	0.1818	5	3	[11,14]
chr19:10082971	PPAN	coding_exon		+	CtoA	0.6667	0.9231	3	3	[11,15]
chr19:10083413	PPAN	coding_exon		+	TtoC	0.125	0.2	3	2	[10,16]
chr5:54756447	PPAP2A	UTR3		-	AtoG	0.1	0.1538	6	4	[10,19]
chr8:38241277	PPAPDC18	coding_exon	ENST00000317577:VtoL;ENST00000424479:VtoL;	-	GtoC	0.1	0.1	2	2	[10,10]
chr5:149213571	PPARGC18	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr15:73129111	PPCDC	UTR3		+	GtoA	0.1053	0.1538	3	2	[13,19]
chr15:73129114	PPCDC	UTR3		+	AtoG	0.1	0.1	3	2	[10,10]
chr20:61623960	PPDPF	UTR3		+	TtoA	0.1064	0.12	7	2	[25,51]
chr12:27725875	PPFIBP1	coding_exon		+	TtoG	0.1	0.1	2	2	[10,10]
chr12:27739015	PPFIBP1	UTR3		+	TtoA	0.1	0.1	2	2	[10,10]
chr12:27568528	PPFIBP1	UTR5		+	AtoT	0.1	0.1	2	2	[10,10]
chr12:41121926	PPHLN1	mixed		+	TtoA	0.1	0.1538	6	5	[10,25]
chr7:44805604	PPIA	coding_exon	ENST00000451562:QtoH;ENST00000468812:QtoH;	+	GtoC	0.1	0.1429	4	2	[10,21]
chr7:44805960	PPIA	coding_exon	ENST00000451562:NtoK;ENST00000468812:NtoK;	+	TtoA	0.1	0.1667	14	6	[10,28]
chr7:44805563	PPIA	coding_exon	ENST00000451562:GtoS;ENST00000468812:GtoS;	+	GtoA	0.1111	0.4	13	10	[16,72]
chr7:44805564	PPIA	coding_exon	ENST00000451562:GtoD;ENST00000468812:GtoD;	+	GtoA	0.1111	0.1111	5	2	[18,27]
chr7:44805962	PPIA	coding_exon	ENST00000451562:GtoD;ENST00000468812:GtoD;	+	GtoA	0.15	0.2308	11	4	[13,33]
chr7:44805826	PPIA	coding_exon	ENST00000451562:GtoC;ENST00000468812:GtoC;	+	GtoT	0.1034	0.2308	8	6	[13,32]
chr7:44805827	PPIA	coding_exon	ENST00000451562:GtoA;ENST00000468812:GtoA;	+	GtoC	0.1	0.1429	3	2	[10,28]
chr7:44805971	PPIA	coding_exon	ENST00000451562:FtoS;ENST00000468812:FtoS;	+	TtoC	0.1	0.1818	6	3	[10,14]
chr7:44805832	PPIA	coding_exon	ENST00000451562:DtoH;ENST00000468812:DtoH;	+	GtoC	0.1	0.1053	6	2	[19,40]
chr7:44804874	PPIA	coding_exon		+	AtoC	0.1	0.12	9	4	[20,34]
chr7:44804875	PPIA	coding_exon		+	AtoG	0.1	0.1071	9	2	[20,28]
chr7:44804919	PPIA	coding_exon		+	GtoA	0.1	0.5769	14	10	[24,43]
chr7:44805562	PPIA	coding_exon		+	GtoA	0.1	0.1176	5	2	[17,30]
chr7:44807700	PPIA	UTR3		+	TtoC	0.1111	0.1212	3	2	[36,48]
chr7:44807707	PPIA	UTR3		+	AtoG	0.1026	0.125	5	2	[24,39]
chr7:44807708	PPIA	UTR3		+	TtoA	0.1	0.2381	4	2	[10,22]
chr7:44807716	PPIA	UTR3		+	TtoA	0.1	0.7222	7	7	[17,35]
chr7:44807718	PPIA	UTR3		+	AtoC	0.1176	0.6875	10	9	[16,36]
chr7:44807753	PPIA	UTR3		+	TtoA	0.1	0.4545	12	9	[10,28]
chr7:44807912	PPIA	UTR3		+	AtoG	0.125	0.1724	11	4	[22,32]
chr7:44807913	PPIA	UTR3		+	AtoG	0.1042	0.45	15	14	[15,48]
chr7:44808624	PPIA	UTR3		+	AtoG	0.1912	0.6522	19	19	[11,69]
chr7:44802808	PPIA	UTR5		+	TtoC	0.1	0.1	2	2	[10,10]
chr7:44802814	PPIA	UTR5		+	AtoC	0.125	0.125	2	2	[16,24]
chr4:159856180	PPID	coding_exon	ENST00000307720:DtoG;	-	AtoG	0.1	0.1538	7	3	[10,15]
chr4:159856179	PPID	coding_exon	ENST00000307720:DtoE;	-	TtoA	0.1429	0.1818	7	4	[12,18]
chr4:159861955	PPID	coding_exon		-	TtoG	0.1053	0.1538	6	2	[13,20]
chr10:80783553	PPIF	mixed		+	TtoC	0.1111	0.1296	3	2	[27,54]
chr10:80784359	PPIF	UTR3		+	TtoA	0.1136	0.1667	7	2	[20,46]
chr2:170196594	PPIG	coding_exon		+	TtoC	0.1034	0.11	3	2	[29,102]
chr6:36930914	PPIL1	UTR3		-	TtoG	0.1	0.1	4	2	[10,10]
chr6:36930916	PPIL1	UTR3		-	AtoG	0.125	0.1818	2	2	[11,24]
chr6:36931104	PPIL1	UTR3		-	TtoG	0.1071	0.1333	6	2	[15,28]
chr6:149868288	PPIL4	coding_exon	ENST00000340881:ltoT;	-	TtoC	0.1818	0.3636	6	5	[11,22]
chr6:149898490	PPIL4	coding_exon	ENST00000253329:MtoL;	-	GtoT	0.1333	0.1818	4	2	[11,15]
chr6:149903846	PPIL4	coding_exon	ENST00000253329:KtoN;	-	AtoC	0.1111	0.2143	5	3	[14,18]
chr6:149896301	PPIL4	coding_exon	ENST00000253329:ltoL;	-	AtoT	0.125	0.1875	9	3	[13,24]
chr6:149903793	PPIL4	coding_exon	ENST00000253329:GtoD;	-	GtoA	0.1818	0.3333	3	2	[11,12]
chr6:149889513	PPIL4	coding_exon	ENST00000253329:EtoD;	-	AtoT	0.125	0.1667	3	2	[12,16]
chr6:149883990	PPIL4	coding_exon	ENST00000253329:CtoV;	-	GtoA	0.1	0.1818	5	3	[10,11]
chr6:149903854	PPIL4	coding_exon	ENST00000253329:AtoT;	-	GtoA	0.1	0.1818	4	3	[11,20]
chr6:149889570	PPIL4	coding_exon		-	AtoG	0.1	0.1053	5	2	[10,19]
chr6:149896293	PPIL4	coding_exon		-	GtoA	0.1053	0.25	10	6	[12,26]
chr6:149898556	PPIL4	coding_exon		-	CtoT	0.1	0.1667	2	2	[12,20]
chr6:149868253	PPIL4	UTR3		-	AtoG	0.1	0.1538	5	3	[10,14]
chr6:149868259	PPIL4	UTR3		-	AtoT	0.1111	0.25	7	3	[12,18]
chr14:49150725	PPIL5	coding_exon	ENST00000298288:ltoF;ENST00000318317:DtoV;	+	AtoT	0.1	0.1	4	2	[10,10]
chr14:59829723	PPM1A	UTR3		+	AtoC	0.1053	0.1429	3	2	[14,20]
chr2:44282051	PPM1B	mixed		+	AtoT	0.1	0.1667	2	2	[10,12]
chr2:44298720	PPM1B	mixed		+	AtoG	0.125	0.129	3	2	[16,31]
chr17:56066055	PPM1D	coding_exon	ENST00000305921:NtoI;ENST00000392995:NtoI;	+	AtoT	0.1	0.1	2	2	[10,10]
chr4:89397983	PPM1K	UTR3		-	TtoG	0.1	0.125	6	2	[10,16]
chr4:89401782	PPM1K	UTR3		-	CtoA	0.1	0.1667	2	2	[10,12]
chr3:52258018	PPM1M	coding_exon	ENST00000296487:LtoI;ENST00000323588:LtoI;ENST00000409502:LtoI;	+	TtoA	0.1	0.1	2	2	[10,10]
chr1:159407896	PPOX	coding_exon		+	AtoC	0.1	0.1154	3	2	[20,26]
chr1:159407897	PPOX	coding_exon		+	AtoT	0.1053	0.1304	3	2	[19,23]
chr11:66930738	PPP1CA	coding_exon		-	AtoT	0.1	0.1034	4	2	[10,30]
chr11:66930881	PPP1CA	coding_exon		-	AtoC	0.1	0.1053	2	2	[10,19]
chr11:66922228	PPP1CA	UTR3		-	CtoA	0.125	0.1364	8	2	[22,40]
chr12:109643117	PPP1CC	mixed		-	AtoG	0.1136	0.1333	4	3	[15,44]
chr12:109642003	PPP1CC	UTR3		-	AtoG	0.1	0.1818	6	3	[12,22]
chr6:30676633	PPP1R10	UTR3		-	TtoC	0.1053	0.12	7	2	[20,26]
chr12:78693720	PPP1R12A	UTR3		-	AtoG	0.1176	0.1818	2	2	[11,17]

chr11:63768983	PPP1R14B	coding_exon	ENST00000309318:TtoA;	-	AtoG	0.1	0.2759	12	8	[13,31]
chr11:63768824	PPP1R14B	coding_exon	ENST00000309318:LtoP;	-	TtoC	0.1	0.2308	4	3	[11,16]
chr11:63770495	PPP1R14B	coding_exon	ENST00000309318:LtoP;	-	TtoC	0.12	0.3125	8	8	[15,66]
chr1:28040250	PPP1R8	mixed		+	TtoG	0.1111	0.1818	9	5	[22,27]
chr17:45567647	PPP1R9B	UTR3		-	TtoC	0.75	1	2	2	[12,12]
chr5:133560909	PPP2CA	UTR3		-	TtoA	0.1	0.1429	2	2	[10,14]
chr8:30771337	PPP2CB	coding_exon		-	AtoC	0.1	0.125	3	2	[10,16]
chr19:57385101	PPP2R1A	UTR5		+	GtoC	0.1	0.2143	2	2	[10,14]
chr11:111140790	PPP2R1B	coding_exon		-	GtoT	0.1	0.1	2	2	[10,10]
chr10:133603593	PPP2R2D	UTR5		+	GtoA	0.1	0.1	2	2	[10,10]
chr9:130951040	PPP2R4	UTR3		+	CtoG	0.1538	0.3	2	2	[10,13]
chr1:210600732	PPP2R5A	coding_exon		+	AtoG	0.1	0.1	2	2	[10,10]
chr11:64451883	PPP2R5B	coding_exon	ENST00000164133:StoG;	+	AtoG	0.1	0.1	3	2	[10,10]
chr14:101463267	PPP2R5C	UTR3		+	TtoC	0.1	0.1176	8	3	[17,20]
chr14:101463268	PPP2R5C	UTR3		+	GtoT	0.1	0.1111	7	2	[10,18]
chr14:101463289	PPP2R5C	UTR3		+	TtoC	0.1	0.2	3	2	[20,20]
chr14:101463317	PPP2R5C	UTR3		+	GtoA	0.1	0.1818	7	2	[10,11]
chr14:101463360	PPP2R5C	UTR3		+	TtoA	1	1	12	12	[10,23]
chr14:63076069	PPP2R5E	coding_exon	ENST00000337537:StoP;	-	TtoC	0.1	0.1364	6	2	[10,22]
chr14:63079666	PPP2R5E	UTR5		-	TtoG	0.1	0.1	2	2	[10,20]
chr10:74876340	PPP3CB	coding_exon	ENST00000394828:VtoE;ENST00000394829:VtoE;	-	TtoA	0.1	0.25	11	10	[12,27]
chr10:74876339	PPP3CB	coding_exon		-	AtoT	0.1	0.2727	12	10	[10,29]
chr10:74867702	PPP3CB	UTR3		-	TtoC	0.1	0.1111	3	2	[10,18]
chr2:68259808	PPP3R1	mixed		-	AtoG	0.1	0.1111	4	2	[10,18]
chr2:68261334	PPP3R1	mixed		-	TtoG	0.1	0.1818	2	2	[11,11]
chr2:68261339	PPP3R1	mixed		-	TtoC	0.1	0.1818	6	2	[10,23]
chr18:9537102	PPP4R1	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr3:73195927	PPP4R2	coding_exon	ENST00000356692:LtoW;ENST00000394284:LtoW;	+	TtoG	0.1333	0.3636	4	4	[10,15]
chr22:40325171	PPPDE2	UTR3		-	TtoA	0.1333	0.1875	3	2	[15,16]
chr22:40325172	PPPDE2	UTR3		-	TtoA	0.1	0.2308	3	3	[10,15]
chr22:40325206	PPPDE2	UTR3		-	AtoG	0.1111	0.5455	12	10	[10,26]
chr22:40325230	PPPDE2	UTR3		-	AtoG	0.1	0.2727	3	2	[11,30]
chr22:40325252	PPPDE2	UTR3		-	AtoG	0.1579	0.1923	4	2	[19,26]
chr22:40325496	PPPDE2	UTR3		-	TtoC	0.1	0.2	2	2	[10,10]
chr22:40326270	PPPDE2	UTR3		-	CtoT	0.1364	0.16	8	2	[23,25]
chr22:40326274	PPPDE2	UTR3		-	AtoG	0.1	0.125	2	2	[16,20]
chr22:40326309	PPPDE2	UTR3		-	AtoG	0.1	0.1429	5	2	[10,14]
chr10:103890952	PPRC1	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr10:103894052	PPRC1	coding_exon		+	AtoC	0.1	0.1	2	2	[10,10]
chr5:64918951	PPWD1	coding_exon	ENST00000261308:VtoA;	+	TtoC	0.12	0.1667	6	3	[12,26]
chr5:64918956	PPWD1	coding_exon	ENST00000261308:itoV;	+	AtoG	0.1	0.3	3	3	[10,10]
chr5:64914621	PPWD1	coding_exon	ENST00000261308:FtoL;	+	TtoC	0.1	0.125	2	2	[10,16]
chr5:64894960	PPWD1	coding_exon	ENST00000261308:EtoK;	+	GtoA	0.1154	0.1923	9	4	[25,28]
chr18:75764108	PQLC1	UTR3		-	TtoG	0.1111	0.1111	2	2	[10,10]
chr15:89326052	PRC1	coding_exon	ENST00000361188:StoT;ENST00000361919:StoT;ENST00000394249:StoT;ENST00000394250:StoT;	-	GtoC	0.4762	0.75	2	2	[12,21]
chr6:106660942	PRDM1	coding_exon	ENST00000071246:HtoY;ENST00000369089:HtoY;ENST00000369091:HtoY;ENST000000071246:HtoR;ENST00000369089:HtoR;ENST00000369091:HtoR;ENST000000071246:HtoE;ENST00000369089:HtoE;ENST00000369091:HtoE;ENST000000071246:HtoK;ENST00000369089:HtoK;ENST00000369091:HtoK;	+	CtoT	0.1026	0.2727	6	3	[11,39]
chr6:106660943	PRDM1	coding_exon	ENST00000071246:HtoR;ENST00000369089:HtoR;ENST00000369091:HtoR;ENST000000071246:HtoE;ENST00000369089:HtoE;ENST00000369091:HtoE;ENST000000071246:HtoK;ENST00000369089:HtoK;ENST00000369091:HtoK;	+	AtoG	0.1	0.2308	6	4	[10,28]
chr1:13977665	PRDM2	coding_exon	ENST00000235372:VtoA;ENST00000311066:VtoA;ENST00000343137:VtoA;ENST00000235372:QtoR;ENST00000311066:QtoR;ENST00000343137:QtoR;ENST00000235372:KtoE;ENST00000311066:KtoE;ENST00000343137:KtoE;ENST00000235372:HtoR;ENST00000311066:HtoR;ENST00000343137:HtoR;ENST00000235372:EtoG;ENST00000311066:EtoG;ENST00000343137:EtoG;ENST00000235372:StoY;ENST00000311066:StoY;ENST00000343137:StoY;ENST00000235372:StoA;ENST00000311066:StoA;ENST00000343137:StoA;ENST00000235372:UtoA;ENST00000311066:UtoA;ENST00000343137:UtoA;	+	TtoC	0.1111	0.1818	3	2	[10,11]
chr1:13978970	PRDM2	coding_exon	ENST00000235372:QtoR;ENST00000311066:QtoR;ENST00000343137:QtoR;ENST00000235372:KtoE;ENST00000311066:KtoE;ENST00000343137:KtoE;ENST00000235372:HtoR;ENST00000311066:HtoR;ENST00000343137:HtoR;ENST00000235372:EtoG;ENST00000311066:EtoG;ENST00000343137:EtoG;ENST00000235372:StoY;ENST00000311066:StoY;ENST00000343137:StoY;ENST00000235372:StoA;ENST00000311066:StoA;ENST00000343137:StoA;ENST00000235372:UtoA;ENST00000311066:UtoA;ENST00000343137:UtoA;	+	AtoG	0.1	0.1818	2	2	[10,11]
chr1:13981129	PRDM2	coding_exon	ENST00000235372:KtoE;ENST00000311066:KtoE;ENST00000343137:KtoE;ENST00000235372:HtoR;ENST00000311066:HtoR;ENST00000343137:HtoR;ENST00000235372:EtoG;ENST00000311066:EtoG;ENST00000343137:EtoG;ENST00000235372:StoY;ENST00000311066:StoY;ENST00000343137:StoY;ENST00000235372:StoA;ENST00000311066:StoA;ENST00000343137:StoA;ENST00000235372:UtoA;ENST00000311066:UtoA;ENST00000343137:UtoA;	+	AtoG	0.125	0.1667	2	2	[12,16]
chr1:13978379	PRDM2	coding_exon	ENST00000235372:HtoR;ENST00000311066:HtoR;ENST00000343137:HtoR;ENST00000235372:EtoG;ENST00000311066:EtoG;ENST00000343137:EtoG;ENST00000235372:StoY;ENST00000311066:StoY;ENST00000343137:StoY;ENST00000235372:StoA;ENST00000311066:StoA;ENST00000343137:StoA;ENST00000235372:UtoA;ENST00000311066:UtoA;ENST00000343137:UtoA;	+	AtoG	0.1	0.1	2	2	[10,11]
chr1:13977827	PRDM2	coding_exon	ENST00000235372:EtoG;ENST00000311066:EtoG;ENST00000343137:EtoG;ENST00000235372:StoY;ENST00000311066:StoY;ENST00000343137:StoY;ENST00000235372:StoA;ENST00000311066:StoA;ENST00000343137:StoA;ENST00000235372:UtoA;ENST00000311066:UtoA;ENST00000343137:UtoA;	+	AtoG	0.1	0.15	3	2	[10,20]
chr1:13978221	PRDM2	coding_exon	ENST00000235372:EtoG;ENST00000311066:EtoG;ENST00000343137:EtoG;ENST00000235372:StoY;ENST00000311066:StoY;ENST00000343137:StoY;ENST00000235372:StoA;ENST00000311066:StoA;ENST00000343137:StoA;ENST00000235372:UtoA;ENST00000311066:UtoA;ENST00000343137:UtoA;	+	TtoC	0.1	0.1	3	2	[10,10]
chr1:13985773	PRDM2	mixed		+	TtoC	0.1111	0.1176	3	2	[17,18]
chr1:13986214	PRDM2	mixed		+	CtoT	0.1	0.1	2	2	[10,10]
chr19:12771996	PRDX2	coding_exon		-	TtoC	1	1	15	15	[16,269]
chr19:12768642	PRDX2	UTR3		-	AtoG	0.1	0.1795	4	4	[10,39]
chr6:105843439	PREP	coding_exon		-	TtoC	0.1	0.1176	2	2	[10,17]
chr6:105832372	PREP	UTR3		-	TtoA	0.1	0.2	2	2	[10,10]
chr2:44419802	PREPL	coding_exon		-	TtoC	0.1	0.1111	5	2	[10,18]
chr20:46729329	PREX1	coding_exon	ENST00000371941:HtoP;ENST00000396220:HtoP;	-	AtoC	0.1429	0.2667	8	3	[15,34]
chr20:46675182	PREX1	UTR3		-	AtoG	0.1111	0.1429	7	2	[14,18]
chr20:46675247	PREX1	UTR3		-	AtoC	0.1489	0.2105	6	2	[19,47]
chr11:56913129	PRG2	coding_exon	ENST00000311862:VtoA;	-	TtoC	0.1	0.1818	2	2	[10,11]
chr5:40813424	PRKAA1	coding_exon	ENST00000296800:GtoE;ENST00000354209:GtoE;ENST00000397128:GtoE;	-	GtoA	0.1	0.1	2	2	[10,10]
chr5:40803534	PRKAA1	coding_exon		-	AtoG	0.1	0.1429	2	2	[10,14]
chr12:118603215	PRKAB1	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr19:14064944	PRKACA	coding_exon	ENST00000308677:KtoE;ENST00000350356:KtoE;	-	AtoG	0.1	0.1667	7	2	[18,20]
chr19:14064409	PRKACA	UTR3		-	TtoG	0.1071	0.1176	2	2	[17,28]
chr12:47693156	PRKAG1	mixed		-	TtoG	0.1	0.1053	2	2	[10,19]
chr17:64030649	PRKAR1A	coding_exon	ENST00000358598:StoY;ENST00000392710:StoY;ENST00000392711:StoY;	+	CtoA	0.1	0.1029	5	2	[68,80]
chr17:64030648	PRKAR1A	coding_exon	ENST00000358598:StoA;ENST00000392710:StoA;ENST00000392711:StoA;	+	TtoG	0.1169	0.2075	10	3	[53,77]
chr17:64038748	PRKAR1A	UTR3		+	TtoA	0.1429	0.1429	5	2	[14,28]
chr17:64039437	PRKAR1A	UTR3		+	AtoG	0.1304	0.2	11	5	[10,24]
chr17:64039739	PRKAR1A	UTR3		+	TtoC	0.1	0.1053	9	2	[19,20]
chr17:64039745	PRKAR1A	UTR3		+	TtoA	0.1	0.1818	5	4	[10,23]
chr17:64040239	PRKAR1A	UTR3		+	TtoG	0.1	0.1	2	2	[10,10]
chr17:64040427	PRKAR1A	UTR3		+	CtoA	0.1034	0.1667	2	2	[12,29]
chr17:64040428	PRKAR1A	UTR3		+	TtoG	0.1176	0.125	4	2	[18,32]
chr3:48760251	PRKAR2A	UTR3		-	CtoG	0.1	0.1	2	2	[10,10]
chr3:48763496	PRKAR2A	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr16:24134452	PRKCB	mixed		+	GtoT	0.1176	0.1429	2	2	[14,17]
chr16:24134797	PRKCB	mixed		+	TtoC	0.1111	0.1111	3	2	[18,27]
chr16:24134802	PRKCB	mixed		+	AtoC	0.1	0.1111	6	2	[10,18]
chr16:24134803	PRKCB	mixed		+	TtoA	0.125	0.2	5	3	[10,19]
chr16:24138012	PRKCB	mixed		+	CtoA	0.1176	0.12	3	2	[17,25]
chr16:24138013	PRKCB	mixed		+	TtoC	0.1333	0.1364	3	2	[16,22]
chr16:24138366	PRKCB	mixed		+	TtoA	0.1111	0.125	5	2	[10,33]
chr16:24139134	PRKCB	UTR3		+	AtoG	0.1111	0.1429	4	2	[14,18]
chr3:53201540	PRKCD	UTR3		+	TtoC	0.1	0.25	10	6	[12,23]
chr11:6297351	PRKCDBP	coding_exon	ENST00000303927:AtoD;	-	CtoA	0.1	0.1667	3	2	[10,12]
chr11:6297350	PRKCDBP	coding_exon		-	CtoG	0.1	0.1667	2	2	[10,12]
chr19:51869415	PRKD2	UTR3		-	GtoA	0.1818	0.1818	2	2	[11,11]
chr19:51869418	PRKD2	UTR3		-	TtoC	0.1	0.2727	4	2	[10,11]
chr19:51911760	PRKD2	UTR5		-	TtoA	0.1	0.1	2	2	[10,10]
chr19:51911761	PRKD2	UTR5		-	TtoG	0.1	0.1	2	2	[10,10]

chr8:48964177	PRKDC	coding_exon	ENST00000314191:YtoD;ENST00000338368:YtoD;	-	TtoG	0.1	0.1	3	2	[10,10]
chr8:48915208	PRKDC	coding_exon	ENST00000314191:VtoA;ENST00000338368:VtoA;	-	TtoC	0.1	0.1	2	2	[10,10]
chr8:4896783	PRKDC	coding_exon	ENST00000314191:TtoP;ENST00000338368:TtoP;	-	AtoC	0.1	0.1765	4	2	[10,17]
chr8:48857348	PRKDC	coding_exon	ENST00000314191:LtoR;	-	TtoG	0.1	0.1034	7	2	[10,29]
chr8:48956544	PRKDC	coding_exon	ENST00000314191:DtoY;ENST00000338368:DtoY;	-	GtoT	0.1	0.1	2	2	[10,20]
chr8:48848755	PRKDC	UTR3		-	TtoA	0.1	0.1818	2	2	[10,11]
chr10:53127582	PRKG1	coding_exon		+	AtoT	0.1	0.1429	2	2	[10,14]
chr2:179005012	PRKRA	UTR3		-	TtoA	0.1429	0.1667	3	2	[12,14]
chr19:54883513	PRMT1	UTR3		+	TtoC	0.1	0.3	12	5	[10,25]
chr4:148813601	PRMT10	coding_exon		-	GtoT	0.1	0.1	2	2	[10,10]
chr1:107402447	PRMT6	mixed		+	TtoA	0.1	0.1667	4	2	[10,12]
chr16:66931289	PRMT7	coding_exon	ENST00000339507:WtoR;ENST00000348497:WtoR;ENST00000441236:WtoR;ENST00000339507:RtoK;ENST00000348497:RtoK;ENST00000441236:RtoK;ENST00000339507:YtoD;ENST00000348497:YtoD;ENST00000441236:YtoD;	+	TtoC	0.1	0.1176	3	2	[10,17]
chr16:66912865	PRMT7	coding_exon	ENST00000339507:RtoK;ENST00000348497:RtoK;ENST00000441236:RtoK;ENST00000339507:YtoD;ENST00000348497:YtoD;ENST00000441236:YtoD;	+	GtoA	0.1053	0.125	6	2	[16,19]
chr11:60430606	PRPF19	UTR5		-	GtoT	0.1	0.2	2	2	[10,10]
chr1:148583550	PRPF3	coding_exon	ENST00000324862:NtoD;ENST00000414970:NtoD;	+	AtoG	0.1	0.2	2	2	[10,10]
chr1:148571780	PRPF3	coding_exon	ENST00000324862:IttoS;ENST00000414970:IttoS;	+	TtoG	0.1333	0.2353	3	2	[15,17]
chr1:148592264	PRPF3	UTR3		+	TtoG	0.1	0.2	3	2	[10,11]
chr1:52655038	PRPF38A	UTR3		+	TtoA	0.1111	0.1538	5	3	[10,15]
chr1:52655282	PRPF38A	UTR3		+	TtoA	0.1	0.45	15	11	[13,24]
chr1:52655283	PRPF38A	UTR3		+	TtoA	0.1333	0.3571	12	3	[14,15]
chr1:52655703	PRPF38A	UTR3		+	AtoG	0.1	0.125	4	2	[10,16]
chr1:109040479	PRPF38B	coding_exon	ENST00000370021:EttoD;ENST00000370022:EttoD;ENST00000370025:EttoD;	+	AtoT	0.1034	0.1053	7	2	[19,29]
chr1:109040481	PRPF38B	coding_exon	ENST00000370021:EttoA;ENST00000370022:EttoA;ENST00000370025:EttoA;	+	AtoC	0.1	0.1429	10	4	[17,21]
chr14:44649047	PRPF39	mixed		+	TtoG	0.2	0.4545	6	4	[10,12]
chr9:115094711	PRPF4	UTR3		+	AtoC	0.1	0.1429	3	2	[10,14]
chr2:153228981	PRPF40A	coding_exon	ENST00000356402:QtoR;ENST00000359961:QtoR;ENST00000410080:QtoR;ENST00000356402:RtoS;ENST00000359961:RtoS;ENST00000410080:RtoS;	-	AtoG	0.1111	0.1111	4	2	[18,18]
chr2:153220788	PRPF40A	UTR3		-	AtoC	0.1053	0.1333	2	2	[15,19]
chr12:48317520	PRPF40B	coding_exon	ENST00000261897:TtoA;ENST00000341308:TtoA;ENST00000380281:TtoA;ENST00000261897:NtoS;ENST00000341308:NtoS;ENST00000380281:NtoS;ENST00000261897:RtoK;ENST00000341308:RtoK;ENST00000380281:RtoK;ENST00000261897:YtoD;ENST00000341308:YtoD;ENST00000380281:YtoD;	+	AtoG	0.1538	0.5	4	4	[10,15]
chr12:48321983	PRPF40B	coding_exon	ENST00000261897:NtoS;ENST00000341308:NtoS;ENST00000380281:NtoS;ENST00000261897:RtoK;ENST00000341308:RtoK;ENST00000380281:RtoK;ENST00000261897:YtoD;ENST00000341308:YtoD;ENST00000380281:YtoD;	+	AtoG	0.1053	0.25	12	9	[16,53]
chr12:48321984	PRPF40B	coding_exon	ENST00000261897:NtoK;ENST00000341308:NtoK;ENST00000380281:NtoK;ENST00000261897:RtoS;ENST00000341308:RtoS;ENST00000380281:RtoS;ENST00000261897:YtoD;ENST00000341308:YtoD;ENST00000380281:YtoD;	+	CtoG	0.1053	0.1667	10	6	[15,57]
chr12:48322992	PRPF40B	coding_exon	ENST00000261897:HtoN;ENST00000341308:HtoN;ENST00000380281:HtoN;ENST00000261897:NtoS;ENST00000341308:NtoS;ENST00000380281:NtoS;ENST00000261897:RtoK;ENST00000341308:RtoK;ENST00000380281:RtoK;ENST00000261897:YtoD;ENST00000341308:YtoD;ENST00000380281:YtoD;	+	CtoA	0.1	0.2	3	3	[10,24]
chr12:48316895	PRPF40B	coding_exon	ENST00000261897:FtoS;ENST00000341308:FtoS;ENST00000380281:FtoS;ENST00000261897:RtoK;ENST00000341308:RtoK;ENST00000380281:RtoK;ENST00000261897:YtoD;ENST00000341308:YtoD;ENST00000380281:YtoD;	+	TtoC	0.1	0.1875	8	4	[10,16]
chr12:48316896	PRPF40B	coding_exon		+	CtoT	0.1	0.25	10	5	[10,17]
chr12:48321221	PRPF40B	coding_exon		+	TtoA	0.125	0.125	4	2	[16,24]
chr12:48321600	PRPF40B	coding_exon		+	CtoA	0.1053	0.125	5	2	[16,19]
chr12:48323468	PRPF40B	coding_exon		+	TtoC	0.15	0.1667	4	3	[12,20]
chr12:48324680	PRPF40B	UTR3		+	GtoT	0.1	0.1	2	2	[10,10]
chr6:3987728	PRPF4B	coding_exon	ENST00000337659:DtoV;	+	AtoT	0.1	0.1429	2	2	[10,14]
chr17:1500709	PRPF8	UTR3		-	TtoG	0.1111	0.125	7	2	[10,26]
chr17:71818639	PRPSA1	UTR3		-	TtoC	0.1111	0.2083	2	2	[10,24]
chr17:18721825	PRPSA2	coding_exon	ENST00000268835:YtoS;ENST00000395656:YtoS;ENST00000419071:YtoS;	+	AtoC	0.1333	0.2222	2	2	[16,18]
chr17:18774922	PRPSA2	UTR3		+	AtoG	0.1	0.1429	5	2	[14,20]
chr17:18774972	PRPSA2	UTR3		+	TtoC	0.1538	0.1818	8	2	[11,13]
chr19:54789801	PRR12	coding_exon	ENST00000418929:StoP;	+	TtoC	0.1667	0.1818	2	2	[11,12]
chr12:52126682	PRR13	UTR3		+	TtoC	0.1429	0.2857	2	2	[14,15]
chr19:47498319	PRR19	UTR5		+	TtoC	0.1	0.1818	5	4	[11,49]
chr6:30639279	PRR3	UTR3		+	TtoC	0.1429	0.1538	7	3	[13,14]
chr6:30639281	PRR3	UTR3		+	GtoA	0.1	0.1	3	2	[10,10]
chr5:176815373	PRR7	coding_exon	ENST00000323249:VtoG;ENST00000355386:VtoG;	+	TtoG	0.1818	0.2	3	2	[10,11]
chr5:126888126	PRRC1	coding_exon		+	AtoG	0.1	0.1538	3	2	[10,13]
chr5:126915608	PRRC1	mixed		+	TtoA	0.1	0.1	2	2	[10,10]
chr5:126917660	PRRC1	UTR3		+	TtoG	0.1	0.1	3	2	[10,10]
chr3:9963279	PRRT3	coding_exon	ENST00000295984:IttoL;ENST00000412055:IttoL;	-	AtoC	1	1	4	4	[10,33]
chr3:9963475	PRRT3	coding_exon		-	AtoG	0.1	0.1	2	2	[10,10]
chr3:9965473	PRRT3	coding_exon		-	AtoG	0.1	0.1429	2	2	[10,14]
chr1:149274491	PRUNE	UTR3		+	AtoG	0.1333	0.2	5	3	[10,15]
chr10:73251776	PSAP	coding_exon	ENST00000394934:LtoV;	-	CtoG	0.1053	0.3846	7	5	[10,19]
chr10:73251775	PSAP	coding_exon	ENST00000394934:LtoH;	-	TtoA	0.1	0.3846	4	2	[10,13]
chr10:73246063	PSAP	UTR3		-	AtoG	0.1	0.1875	5	3	[10,17]
chr14:72729299	PSEN1	coding_exon	ENST00000261970:LtoH;ENST00000324501:LtoH;ENST00000344094:LtoH;ENST00000261970:NtoS;ENST00000324501:NtoS;ENST00000344094:NtoS;ENST00000261970:RtoK;ENST00000324501:RtoK;ENST00000344094:RtoK;ENST00000261970:YtoD;ENST00000324501:YtoD;ENST00000344094:YtoD;	+	TtoA	0.1818	0.2	3	2	[11,11]
chr14:72756715	PSEN1	UTR3		+	AtoG	0.1111	0.1818	4	2	[11,18]
chr1:225144382	PSEN2	coding_exon	ENST00000366782:KtoE;ENST00000366783:KtoE;ENST00000391872:KtoE;ENST00000366782:NtoS;ENST00000366783:NtoS;ENST00000391872:NtoS;ENST00000366782:RtoK;ENST00000366783:RtoK;ENST00000391872:RtoK;ENST00000366782:YtoD;ENST00000366783:YtoD;ENST00000391872:YtoD;	+	AtoG	0.1	0.1	2	2	[10,10]
chr11:14483116	PSMA1	UTR3		-	TtoC	0.1169	0.1786	4	2	[29,80]
chr15:76628588	PSMA4	UTR3		+	AtoG	0.1	0.1667	2	2	[10,12]
chr1:109770561	PSMA5	mixed		-	AtoT	0.1	0.1765	5	2	[11,17]
chr1:109770563	PSMA5	mixed		-	TtoG	0.1	0.1538	4	2	[10,13]
chr14:34856415	PSMA6	UTR3		+	AtoG	0.1	0.1818	4	3	[10,11]
chr16:66525921	PSMB10	UTR3		-	AtoG	0.1333	0.2	3	2	[10,15]
chr16:66525923	PSMB10	UTR3		-	AtoG	0.1053	0.1364	14	5	[19,54]
chr1:35840005	PSMB2	UTR3		-	TtoA	0.1	0.1111	5	2	[18,20]
chr1:149641004	PSMB4	UTR3		+	TtoG	0.1667	0.2	7	2	[12,21]
chr1:149638680	PSMB4	UTR5		+	TtoG	0.1	0.1	2	2	[10,20]
chr1:149638681	PSMB4	UTR5		+	GtoC	0.1	0.1818	2	2	[10,12]
chr9:126155567	PSMB7	UTR3		-	TtoA	0.1818	0.2222	5	2	[10,12]
chr9:126155568	PSMB7	UTR3		-	CtoA	0.1	0.3077	8	3	[10,15]
chr9:126155569	PSMB7	UTR3		-	GtoA	0.1	0.3	11	6	[10,19]
chr9:126155570	PSMB7	UTR3		-	AtoG	0.1	0.125	7	2	[10,16]
chr6:32933029	PSMB9	coding_exon	ENST00000374859:VtoG;ENST00000395330:VtoG;ENST00000453265:VtoG;	+	TtoG	0.1	0.1624	4	2	[60,435]
chr6:32935334	PSMB9	mixed		+	GtoA	0.12	0.1667	4	3	[15,25]
chr6:32935337	PSMB9	mixed		+	AtoG	0.1064	0.375	18	14	[15,47]
chr6:32935338	PSMB9	mixed		+	AtoG	0.1333	0.2	8	2	[10,16]
chr6:32935339	PSMB9	mixed		+	AtoG	0.1	0.1053	5	2	[10,19]
chr6:32935344	PSMB9	mixed		+	GtoA	0.1176	0.1176	2	2	[17,17]
chr6:32935446	PSMB9	mixed		+	GtoA	0.1	0.1818	4	3	[10,16]
chr6:32935541	PSMB9	mixed		+	AtoT	0.2	0.3	2	2	[10,10]
chr11:47396904	PSMC3	UTR3		-	GtoA	0.1	0.1538	9	4	[10,26]
chr2:161976399	PSMD14	UTR3		+	AtoG	0.1111	0.1429	7	3	[14,19]
chr3:185507243	PSMD2	coding_exon	ENST00000310118:VtoG;ENST00000435761:VtoG;ENST00000439383:VtoG;	+	TtoG	0.1143	0.1184	5	2	[80,140]
chr17:35407730	PSMD3	UTR3		+	TtoC	0.1	0.2727	5	4	[10,19]
chr1:149506399	PSMD4	coding_exon	ENST00000368881:TtoA;ENST00000368884:TtoA;ENST00000418119:TtoA;ENST00000368881:NtoS;ENST00000368884:NtoS;ENST00000418119:NtoS;ENST00000368881:RtoK;ENST00000368884:RtoK;ENST00000418119:RtoK;ENST00000368881:YtoD;ENST00000368884:YtoD;ENST00000418119:YtoD;	+	AtoG	0.1	0.1667	2	2	[10,13]
chr1:149506394	PSMD4	coding_exon	ENST00000368881:QtoP;ENST00000368884:QtoP;ENST00000418119:QtoP;ENST00000368881:FtoI;ENST00000368884:FtoI;ENST00000418119:FtoI;ENST00000368881:NtoS;ENST00000368884:NtoS;ENST00000418119:NtoS;ENST00000368881:RtoK;ENST00000368884:RtoK;ENST00000418119:RtoK;ENST00000368881:YtoD;ENST00000368884:YtoD;ENST00000418119:YtoD;	+	AtoC	0.1	0.1538	2	2	[11,13]
chr1:149506309	PSMD4	coding_exon	ENST00000368881:FtoI;ENST00000368884:FtoI;ENST00000418119:FtoI;ENST00000368881:NtoS;ENST00000368884:NtoS;ENST00000418119:NtoS;ENST00000368881:RtoK;ENST00000368884:RtoK;ENST00000418119:RtoK;ENST00000368881:YtoD;ENST00000368884:YtoD;ENST00000418119:YtoD;	+	TtoA	0.1071	0.1786	7	5	[19,30]
chr1:149506430	PSMD4	coding_exon	ENST00000368881:EttoA;ENST00000368884:EttoA;ENST00000418119:EttoA;ENST00000368881:NtoS;ENST00000368884:NtoS;ENST00000418119:NtoS;ENST00000368881:RtoK;ENST00000368884:RtoK;ENST00000418119:RtoK;ENST00000368881:YtoD;ENST00000368884:YtoD;ENST00000418119:YtoD;	+	AtoC	0.1	0.6875	5	3	[10,23]
chr1:149506406	PSMD4	coding_exon	ENST00000368881:EttoA;ENST00000368884:EttoA;ENST00000418119:EttoA;ENST00000368881:NtoS;ENST00000368884:NtoS;ENST00000418119:NtoS;ENST00000368881:RtoK;ENST00000368884:RtoK;ENST00000418119:RtoK;ENST00000368881:YtoD;ENST00000368884:							

chr1:149501316	PSMD4	mixed		+	GtoA	0.1053	0.2143	3	2	[14,19]
chr1:149501318	PSMD4	mixed		+	CtoG	0.1	0.1071	4	2	[10,28]
chr1:149501320	PSMD4	mixed		+	Atog	0.1579	0.2143	6	4	[15,22]
chr1:149501330	PSMD4	mixed		+	TtoA	0.1429	0.1538	6	2	[13,14]
chr1:149503099	PSMD4	mixed		+	Atog	0.1	0.1333	7	2	[10,16]
chr1:149504291	PSMD4	mixed		+	Atog	0.1	0.1	3	2	[10,10]
chr1:149505434	PSMD4	mixed		+	Atoc	0.1	0.125	2	2	[10,16]
chr1:149505461	PSMD4	mixed		+	Atog	0.1111	0.1875	5	2	[16,18]
chr1:149506499	PSMD4	UTR3		+	Atog	0.1	0.1304	9	2	[20,23]
chr14:23677620	PSME1	coding_exon	ENST00000382708:QtoR;	+	Atog	0.1	0.1111	4	2	[10,10]
chr14:23678010	PSME1	UTR3		+	CtoA	0.1667	0.2	4	2	[10,12]
chr14:23678012	PSME1	UTR3		+	CtoA	0.7	0.7778	2	2	[10,10]
chr14:23683244	PSME2	coding_exon	ENST00000216802:StoC;ENST00000396881:StoC;ENST00000429021:StoC;	-	CtoG	0.1	0.125	6	2	[10,16]
chr14:23682645	PSME2	coding_exon	ENST00000216802:RtoW;ENST00000396881:RtoW;ENST00000429021:RtoW;	-	Atot	0.1	0.2	2	2	[10,10]
chr14:23684322	PSME2	coding_exon	ENST00000216802:MtoV;ENST00000396881:MtoV;ENST00000429021:MtoV;	-	Atog	0.1053	0.1818	3	3	[10,19]
chr14:23682660	PSME2	coding_exon	ENST00000216802:MtoL;ENST00000396881:MtoL;ENST00000429021:MtoL;	-	Atot	0.25	0.4286	3	3	[12,17]
chr14:23682668	PSME2	coding_exon	ENST00000216802:LtoP;ENST00000396881:LtoP;ENST00000429021:LtoP;	-	TtoC	0.1111	0.2432	10	9	[16,52]
chr14:23683278	PSME2	coding_exon	ENST00000216802:KtoE;ENST00000396881:KtoE;ENST00000429021:KtoE;	-	Atog	0.1	0.1818	10	3	[11,20]
chr14:23684195	PSME2	coding_exon	ENST00000216802:CtoS;ENST00000396881:CtoS;ENST00000429021:CtoS;	-	GtoC	0.1	0.1538	4	2	[10,13]
chr14:23682662	PSME2	coding_exon	ENST00000216802:AtoD;ENST00000396881:AtoD;ENST00000429021:AtoD;	-	CtoA	0.1	0.4167	7	5	[10,15]
chr14:23683262	PSME2	coding_exon	ENST00000216802:AtoD;ENST00000396881:AtoD;ENST00000429021:AtoD;	-	CtoA	0.1	0.1667	4	2	[10,12]
chr14:23682664	PSME2	coding_exon		-	GtoA	0.1081	0.225	10	7	[22,40]
chr14:23683063	PSME2	coding_exon		-	TtoG	0.102	0.1429	8	3	[19,52]
chr14:23683264	PSME2	coding_exon		-	Atog	0.1	0.125	8	2	[10,16]
chr14:23683279	PSME2	coding_exon		-	CtoG	0.1667	0.4211	11	6	[12,41]
chr14:23682413	PSME2	UTR3		-	TtoA	0.9	0.9836	7	7	[20,67]
chr17:38240075	PSME3	coding_exon		+	Atog	0.1064	0.1333	6	2	[15,47]
chr2:53976258	PSME4	mixed		-	GtoA	0.1176	0.1538	4	2	[13,17]
chr2:53999792	PSME4	mixed		-	TtoG	0.1	0.1	2	2	[10,10]
chr13:19149868	PSPC1	UTR3		-	TtoC	0.1	0.1818	3	2	[10,11]
chr7:56056319	PSPH	coding_exon	ENST00000275605:RtoS;ENST00000395471:RtoS;	-	Atot	0.6364	0.7358	2	2	[44,53]
chr10:124744163	PSTK	mixed		+	TtoC	0.1053	0.1667	2	2	[12,19]
chr1:28350077	PTAFR	mixed		-	TtoC	0.1	0.1176	3	2	[10,17]
chr19:755407	PTBP1	coding_exon	ENST00000349038:EtoG;ENST00000356948:EtoG;ENST00000394601:EtoG;	+	Atog	0.1739	0.28	3	2	[23,25]
chr19:750431	PTBP1	coding_exon		+	CtoA	0.1818	0.3684	3	2	[11,19]
chr19:762320	PTBP1	UTR3		+	CtoT	0.3534	0.4364	2	2	[110,116]
chr19:763311	PTBP1	UTR3		+	TtoC	0.1053	0.362	11	11	[18,36]
chr19:763313	PTBP1	UTR3		+	GtoA	0.1053	0.4706	13	13	[12,31]
chr2:86207937	PTCD3	mixed		+	TtoG	0.1111	0.12	5	2	[18,25]
chr2:86221715	PTCD3	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr2:86222007	PTCD3	UTR3		+	TtoA	0.1	0.1	2	2	[10,11]
chr10:89717058	PTEN	UTR3		+	Atot	0.1	0.15	3	2	[10,20]
chr10:89613600	PTEN	UTR5		+	TtoC	0.1	0.1111	3	3	[19,66]
chr8:27352808	PTK2B	coding_exon	ENST00000338238:TtoP;ENST00000346049:TtoP;ENST00000397497:TtoP;ENST00000397497:TtoP;	+	Atoc	0.1143	0.1584	2	2	[102,105]
chr8:27372811	PTK2B	UTR3		+	TtoC	0.2727	0.3	3	2	[10,11]
chr8:27239007	PTK2B	UTR5		+	CtoT	0.1579	0.3125	2	2	[16,19]
chr2:232284316	PTMA	coding_exon	ENST00000358839:EtoK;	+	GtoA	0.1333	0.16	7	3	[15,25]
chr2:232284326	PTMA	coding_exon	ENST00000341369:VtoL;ENST00000358839:VtoL;ENST00000409115:VtoL;ENST00000409115:VtoL;	+	GtoC	0.1176	0.2	9	6	[13,25]
chr2:232285767	PTMA	coding_exon	ENST00000341369:VtoI;ENST00000358839:VtoI;ENST00000409115:VtoI;ENST00000409115:VtoI;	+	GtoA	0.1818	0.3103	2	2	[11,29]
chr2:232284324	PTMA	coding_exon	ENST00000341369:VtoD;ENST00000409115:VtoD;ENST00000409321:VtoD;ENST00000409321:VtoD;	+	TtoA	0.1818	0.1818	7	2	[11,12]
chr2:232284315	PTMA	coding_exon	ENST00000341369:KtoR;ENST00000409115:KtoR;ENST00000409321:KtoR;ENST00000409321:KtoR;	+	Atog	0.1053	0.1538	10	4	[13,26]
chr2:232284937	PTMA	coding_exon	ENST00000341369:GtoC;ENST00000358839:GtoC;ENST00000409115:GtoC;ENST00000409115:GtoC;	+	GtoT	0.1	0.1538	17	4	[14,36]
chr2:232284320	PTMA	coding_exon	ENST00000341369:EtoK;ENST00000358839:GtoE;ENST00000409115:EtoK;ENST00000409115:EtoK;	+	GtoA	0.1	0.1364	11	4	[10,23]
chr2:232285469	PTMA	coding_exon	ENST00000341369:EtoG;ENST00000358839:GtoG;ENST00000409115:EtoG;ENST00000409115:EtoG;	+	Atog	0.1	0.1667	7	5	[18,42]
chr2:232285762	PTMA	coding_exon	ENST00000341369:DtoG;ENST00000358839:DtoG;ENST00000409115:DtoG;ENST00000409115:DtoG;	+	Atog	0.1111	0.3333	10	6	[12,30]
chr2:232284936	PTMA	coding_exon	ENST00000341369:DtoE;ENST00000358839:DtoE;ENST00000409115:DtoE;ENST00000409115:DtoE;	+	TtoA	0.1053	0.2143	12	5	[15,29]
chr2:232285410	PTMA	coding_exon	ENST00000341369:DtoE;ENST00000358839:DtoE;ENST00000409115:DtoE;ENST00000409115:DtoE;	+	TtoG	0.1081	0.2174	10	4	[15,40]
chr2:232285464	PTMA	coding_exon	ENST00000341369:DtoE;ENST00000358839:DtoE;ENST00000409115:DtoE;ENST00000409115:DtoE;	+	TtoG	0.1	0.1034	11	3	[29,59]
chr2:232285766	PTMA	coding_exon	ENST00000341369:DtoE;ENST00000358839:DtoE;ENST00000409115:DtoE;ENST00000409115:DtoE;	+	TtoG	0.2	0.5	3	3	[10,36]
chr2:232285793	PTMA	coding_exon	ENST00000341369:DtoE;ENST00000358839:DtoE;ENST00000409115:DtoE;ENST00000409115:DtoE;	+	CtoG	0.1111	0.1304	4	2	[18,24]
chr2:232285398	PTMA	coding_exon		+	TtoG	0.1081	0.2903	15	8	[18,67]
chr2:232281481	PTMA	mixed		+	CtoT	0.1176	0.1429	2	2	[14,17]
chr2:232281484	PTMA	mixed		+	Atog	0.1	0.1053	2	2	[10,19]
chr2:232281490	PTMA	mixed		+	TtoC	0.1429	0.1818	5	2	[11,21]
chr2:232281492	PTMA	mixed		+	CtoA	0.1395	0.4	4	4	[22,66]
chr2:232281614	PTMA	mixed		+	TtoC	0.1	0.1538	4	3	[10,26]
chr2:232281619	PTMA	mixed		+	TtoG	0.25	0.6	3	2	[10,21]
chr2:232285991	PTMA	UTR3		+	CtoA	0.1034	0.2059	6	3	[30,76]
chr2:232285992	PTMA	UTR3		+	Atog	0.1379	0.16	7	4	[13,29]
chr2:232285994	PTMA	UTR3		+	CtoA	0.1	0.3333	2	2	[10,18]
chr2:232286002	PTMA	UTR3		+	GtoA	0.1667	0.3636	2	2	[11,12]
chr2:232286059	PTMA	UTR3		+	GtoA	0.3077	0.3333	2	2	[13,15]
chr2:232286060	PTMA	UTR3		+	GtoA	0.2857	0.4167	2	2	[12,14]
chr2:232286093	PTMA	UTR3		+	Atot	0.1667	0.2143	2	2	[12,14]
chr2:232286111	PTMA	UTR3		+	Atot	0.1	0.3	6	5	[16,22]
chr2:232286112	PTMA	UTR3		+	GtoC	0.1	0.1	4	2	[10,10]
chr2:232286280	PTMA	UTR3		+	GtoA	0.1	0.1154	6	2	[10,27]
chr2:232286290	PTMA	UTR3		+	Atoc	0.1	0.2	5	2	[10,11]
chr2:232286291	PTMA	UTR3		+	Atoc	0.1	0.1429	2	2	[14,44]
chr12:6750362	PTMS	UTR3		+	TtoC	0.1	0.15	5	4	[10,20]
chr19:55055410	PTOV1	UTR3		+	GtoC	0.3333	0.6	2	2	[10,18]
chr19:55055681	PTOV1	UTR3		+	Atot	0.1111	0.3125	12	12	[10,31]
chr19:55055792	PTOV1	UTR3		+	TtoA	0.1	0.1875	4	3	[10,27]
chr15:63636158	PTPLAD1	coding_exon	ENST00000261875:VtoE;	+	TtoA	0.1053	0.125	5	2	[16,19]
chr15:63656451	PTPLAD1	UTR3		+	Atog	0.1	0.2143	2	2	[10,14]
chr15:63657271	PTPLAD1	UTR3		+	Atog	0.1	0.1538	4	2	[10,13]
chr3:124695945	PTPLB	UTR3		-	Atog	0.1	0.2	3	2	[10,10]
chr11:47549931	PTPMT1	UTR3		+	TtoC	0.125	0.1667	4	3	[12,16]
chr20:48634595	PTPN1	UTR3		+	GtoC	0.1	0.1	2	2	[10,10]
chr7:77094405	PTPN12	coding_exon		+	CtoT	0.1	0.125	2	2	[10,16]
chr7:77038379	PTPN12	mixed		+	Atoc	0.1	0.1818	3	2	[11,20]
chr2:130847659	PTPN18	mixed		+	Atog	0.1	0.1053	2	2	[10,19]
chr3:47429377	PTPN23	coding_exon	ENST00000265562:StoP;	+	TtoC	0.1	0.1	2	2	[10,10]
chr12:6940728	PTPN6	UTR3		+	TtoC	0.1	0.1875	11	5	[16,90]
chr12:6940737	PTPN6	UTR3		+	TtoA	0.1429	0.1429	7	2	[14,15]
chr15:73547227	PTPN9	UTR3		-	Atog	0.1	0.1429	3	2	[10,14]

chr20:2967286	PTPRA	UTR3			+	TtoA	0.1	0.1	5	2	[10,10]
chr1:196970974	PTPRC	coding_exon	ENST00000271610:DtoE;ENST00000348564:DtoE;ENST00000352140:DtoE;ENST00000352433:YtoD;ENST00000393964:YtoD;		+	TtoA	0.1	0.1111	8	2	[10,27]
chr19:5224570	PTPRS	coding_exon	ENST00000262963:GtoR;ENST00000348075:GtoR;ENST00000353284:GtoR;ENST00000352433:YtoD;ENST00000393964:YtoD;		-	GtoA	0.1	0.1538	2	2	[10,13]
chr5:159783876	PTTG1	coding_exon	ENST00000352433:YtoD;ENST00000393964:YtoD;		+	TtoG	0.1	0.1176	7	2	[17,20]
chr5:159787425	PTTG1	coding_exon	ENST00000352433:YtoD;ENST00000393964:YtoD;		+	CtoT	0.1053	0.1538	6	2	[13,19]
chr5:159782437	PTTG1	coding_exon	ENST00000352433:GtoR;ENST00000393964:GtoR;		+	GtoA	0.1	0.1667	2	2	[12,20]
chr1:31177027	PUM1	UTR3			-	TtoC	0.1	0.2174	10	7	[13,30]
chr2:20374865	PUM2	coding_exon	ENST00000319801:DtoA;ENST00000338086:DtoA;ENST00000361078:DtoA;ENST00000361078:DtoA;		-	AtoC	0.1	0.2	2	2	[10,10]
chr2:20312081	PUM2	UTR3			-	TtoC	0.2222	0.25	8	2	[12,18]
chr2:20312206	PUM2	UTR3			-	AtoG	0.1176	0.1538	5	2	[13,17]
chr2:20313596	PUM2	UTR3			-	AtoG	0.1333	0.3077	3	2	[13,15]
chr2:20313870	PUM2	UTR3			-	AtoG	0.1111	0.1429	2	2	[14,18]
chr2:20313872	PUM2	UTR3			-	TtoC	0.1	0.1562	7	2	[10,32]
chr7:44890578	PURB	mixed			-	GtoA	0.1	0.1667	5	3	[10,19]
chr7:104885495	PUS7	coding_exon	ENST00000356362:LtoQ;ENST00000469408:LtoQ;		-	TtoA	0.1	0.1667	2	2	[10,12]
chr11:119051119	PVRL1	coding_exon			-	CtoG	0.1	0.1	3	2	[10,10]
chr12:106630322	PWP1	UTR3			+	GtoA	0.1	0.1333	5	2	[10,15]
chr8:78074783	PXMP3	mixed			-	AtoG	0.1	0.3529	9	7	[10,24]
chr12:119136029	PXN	coding_exon	ENST00000228307:RtoQ;ENST00000267257:RtoQ;ENST00000331257:RtoQ;ENST00000228307:FtoV;ENST00000267257:FtoV;ENST00000397506:FtoV;ENST00000228307:FtoL;ENST00000267257:FtoL;ENST00000331257:FtoL;ENST00000397506:FtoL;		-	GtoA	0.1	0.1429	6	3	[10,18]
chr12:119134559	PXN	coding_exon	ENST00000228307:FtoV;ENST00000267257:FtoV;ENST00000397506:FtoV;ENST00000228307:FtoL;ENST00000267257:FtoL;ENST00000331257:FtoL;ENST00000397506:FtoL;		-	TtoG	0.1333	0.1667	4	3	[12,15]
chr12:119136337	PXN	coding_exon	ENST00000228307:FtoL;ENST00000267257:FtoL;ENST00000331257:FtoL;ENST00000397506:FtoL;		-	TtoC	0.1	0.2222	2	2	[10,10]
chr12:119134560	PXN	coding_exon	ENST00000228307:FtoL;ENST00000267257:FtoL;ENST00000331257:FtoL;ENST00000397506:FtoL;		-	CtoA	0.125	0.2308	5	3	[13,16]
chr1:1531200125	PYGO2	mixed			-	TtoC	0.1333	0.1429	5	2	[15,15]
chr1:153196741	PYGO2	UTR3			-	TtoC	0.1	0.1	3	2	[10,10]
chr1:153196770	PYGO2	UTR3			-	TtoG	0.1	0.1053	4	2	[10,19]
chr12:21493767	PYROXD1	coding_exon	ENST00000240651:ltoV;		+	AtoG	0.1	0.125	2	2	[10,16]
chr3:49117170	QARS	coding_exon	ENST00000306125:MtoL;ENST00000414533:MtoL;ENST00000420147:MtoL;ENST00000306125:MtoL;		-	AtoC	0.1	0.1	2	2	[10,10]
chr3:49108382	QARS	UTR3			-	TtoG	0.1364	0.1667	13	2	[20,22]
chr4:17103060	QDPR	coding_exon			-	TtoG	0.1	0.1053	3	2	[10,19]
chr4:17097609	QDPR	UTR3			-	AtoG	0.1538	0.3077	4	2	[13,13]
chr16:29586633	QPRT	mixed			+	AtoG	0.1176	0.1429	4	2	[14,18]
chr16:29586637	QPRT	mixed			+	AtoG	0.1053	0.1875	7	2	[16,19]
chr16:29586863	QPRT	mixed			+	AtoG	0.1053	0.1799	11	3	[35,139]
chr16:29586933	QPRT	mixed			+	AtoG	0.1077	0.1333	8	2	[15,65]
chr16:29587006	QPRT	mixed			+	AtoG	0.1	0.1765	4	2	[10,17]
chr16:29587023	QPRT	mixed			+	AtoG	0.1053	0.1364	6	2	[19,22]
chr16:29588717	QPRT	mixed			+	AtoG	0.1739	0.359	16	16	[36,130]
chr3:49045206	QRICH1	coding_exon	ENST00000357496:FtoV;ENST00000395443:FtoV;ENST00000424300:FtoV;		-	TtoG	0.1538	0.1875	6	2	[13,16]
chr6:107210183	QRSL1	coding_exon	ENST00000369046:GtoA;		+	GtoC	0.1	0.1111	2	2	[18,20]
chr6:107220594	QRSL1	UTR3			+	CtoA	0.1	0.1429	4	3	[10,14]
chr9:138239670	QSOX2	UTR3			-	AtoC	0.1	0.1111	2	2	[10,18]
chr12:55975509	R3HDM2	mixed			-	AtoT	0.1	0.1	2	2	[10,10]
chr12:55975511	R3HDM2	mixed			-	GtoT	0.1	0.1	2	2	[10,10]
chr8:37851838	RAB11FIP1	coding_exon	ENST00000287263:Yto*;ENST00000330843:Yto*;ENST00000343853:Yto*;		-	CtoA	0.125	0.1333	2	2	[15,16]
chr8:37854031	RAB11FIP1	coding_exon	ENST00000287263:StoP;ENST00000330843:StoP;ENST00000343853:StoP;		-	TtoC	0.1	0.1176	3	2	[10,17]
chr8:37836348	RAB11FIP1	UTR3			-	AtoG	0.1053	0.1667	3	2	[12,19]
chr8:37837674	RAB11FIP1	UTR3			-	TtoC	0.1	0.1	4	2	[10,10]
chr8:37838228	RAB11FIP1	UTR3			-	GtoA	0.1	0.1	2	2	[10,10]
chr1:152225281	RAB13	coding_exon	ENST00000368575:VtoA;		-	TtoC	0.1	0.125	3	2	[10,16]
chr1:152221676	RAB13	coding_exon	ENST00000368575:FtoL;		-	TtoC	0.1333	0.2308	4	3	[13,16]
chr10:27861495	RAB18	coding_exon			+	TtoC	0.1071	0.1111	4	2	[18,28]
chr10:27867031	RAB18	UTR3			+	AtoG	0.1	0.1071	3	3	[10,28]
chr2:65178665	RAB1A	coding_exon	ENST00000260638:VtoM;ENST00000398529:VtoM;ENST00000409784:VtoM;		-	GtoA	0.1786	0.2	3	2	[10,28]
chr13:109973868	RAB20	UTR3			-	TtoC	0.1333	0.1579	2	2	[15,19]
chr12:70466578	RAB21	UTR3			+	TtoA	0.1333	0.1818	3	2	[11,15]
chr20:56369014	RAB22A	UTR3			+	AtoG	0.1	0.125	3	2	[10,16]
chr15:53308160	RAB27A	coding_exon			-	TtoC	0.1111	0.1176	4	2	[10,17]
chr15:53284850	RAB27A	UTR3			-	TtoC	0.1	0.1429	4	2	[10,14]
chr4:12992236	RAB28	coding_exon	ENST00000288723:VtoL;ENST00000330852:VtoL;ENST00000338176:VtoL;		-	GtoC	0.1	0.1	2	2	[10,10]
chr8:61696010	RAB2A	UTR3			+	AtoG	0.1429	0.2727	5	5	[11,14]
chr14:20998085	RAB2B	UTR3			-	AtoG	0.1	0.1	3	2	[10,10]
chr18:9850719	RAB31	UTR3			+	AtoG	0.1	0.1111	4	3	[10,27]
chr12:119026056	RAB35	coding_exon	ENST00000229340:WtoG;ENST00000427416:WtoG;		-	TtoG	0.1111	0.125	3	2	[16,18]
chr12:119018843	RAB35	UTR3			-	AtoC	0.1	0.2	3	3	[10,30]
chr11:87486157	RAB38	UTR3			-	TtoC	0.1	0.1176	2	2	[10,17]
chr2:135594882	RAB3GAP1	coding_exon			+	TtoC	0.1	0.1	5	2	[10,10]
chr2:135624417	RAB3GAP1	coding_exon			+	AtoG	0.1053	0.125	2	2	[19,24]
chr2:135643753	RAB3GAP1	mixed			+	TtoA	0.1053	0.125	2	2	[16,19]
chr1:218450777	RAB3GAP2	coding_exon	ENST00000358951:FtoL;		-	TtoC	0.1	0.1	5	2	[10,10]
chr1:218393960	RAB3GAP2	coding_exon			-	TtoC	0.1429	0.1538	2	2	[13,14]
chr1:218389014	RAB3GAP2	UTR3			-	TtoC	0.1111	0.1538	4	2	[13,18]
chr1:218389369	RAB3GAP2	UTR3			-	AtoG	0.1	0.1667	5	3	[10,14]
chr1:218389852	RAB3GAP2	UTR3			-	AtoT	0.1	0.125	3	2	[10,16]
chr16:619125	RAB40C	UTR3			+	TtoA	0.1	0.2	2	2	[10,10]
chr1:227506500	RAB4A	UTR3			+	GtoA	0.1	0.1	2	2	[10,10]
chr3:19994854	RAB5A	coding_exon	ENST00000273047:StoP;ENST00000422422:StoP;		+	TtoC	0.1	0.1	3	2	[10,10]
chr3:19967313	RAB5A	UTR5			+	TtoC	0.1	0.1176	2	2	[10,17]
chr17:37530531	RAB5C	UTR3			-	TtoC	0.1	0.1	3	2	[10,10]
chr3:130015545	RAB7A	UTR3			+	AtoG	0.1538	0.1818	4	2	[11,13]
chr17:5205371	RABEP1	coding_exon	ENST00000262477:StoP;ENST00000341923:StoP;ENST00000408982:StoP;		+	TtoC	0.1	0.1667	4	2	[18,20]
chr17:5205320	RABEP1	coding_exon	ENST00000262477:MtoV;ENST00000341923:MtoV;ENST00000408982:MtoV;		+	AtoG	0.1	0.1111	2	2	[10,18]
chr17:5182108	RABEP1	coding_exon	ENST00000262477:DtoG;ENST00000341923:DtoG;ENST00000408982:DtoG;		+	AtoG	0.1	0.1053	3	2	[10,19]
chr17:5228442	RABEP1	UTR3			+	GtoA	0.1	0.1	2	2	[10,10]
chr17:5229475	RABEP1	UTR3			+	TtoG	0.1	0.2	6	2	[10,11]
chr9:124906839	RABGAP1	UTR3			+	AtoG	0.1	0.2	7	2	[10,10]
chr1:173113155	RABGAP1L	mixed			+	GtoA	0.1	0.2	2	2	[10,10]
chr1:173224474	RABGAP1L	mixed			+	GtoT	0.1	0.1	2	2	[10,10]
chr7:65911616	RABGEF1	coding_exon			+	TtoC	0.1053	0.1538	5	2	[13,19]
chr7:65913423	RABGEF1	UTR3			+	TtoA	0.1	0.1111	2	2	[10,10]
chr7:65913447	RABGEF1	UTR3			+	TtoC	0.1	0.1429	2	2	[14,20]
chr7:65913531	RABGEF1	UTR3			+	TtoC	0.1	0.1176	2	2	[10,17]
chr1:76033272	RABGGB	mixed			+	AtoT	0.1	0.1	2	2	[10,10]
chr22:35492134	RABL4	coding_exon	ENST00000340630:DtoE;ENST00000433985:DtoE;ENST00000453009:DtoE;		-	TtoA	0.1	0.1053	4	2	[10,19]
chr7:100745054	RABL5	UTR3			-	TtoG	0.1	0.1	2	2	[10,10]
chr7:100745057	RABL5	UTR3			-	TtoG	0.1	0.1429	2	2	[11,14]
chr7:6408652	RAC1	UTR3			+	TtoG	0.1034	0.1515	6	3	[30,43]

chr3:8898033	RAD18	UTR3		-	TtoG	0.1	0.1538	6	3	[10,13]
chr19:12924913	RAD23A	UTR3		+	AtoG	0.1	0.25	2	2	[10,17]
chr19:12925440	RAD23A	UTR3		+	TtoA	0.1111	0.1538	4	3	[10,14]
chr9:109132970	RAD23B	mixed		+	AtoG	0.1	0.1538	3	2	[10,13]
chr5:131979610	RAD50	coding_exon	ENST00000265335:LtoR;ENST00000378810:LtoR;ENST00000378823:LtoR;	+	TtoG	0.1	0.1	9	2	[10,10]
chr15:38810942	RAD51	UTR3		+	TtoC	0.125	0.1429	4	2	[15,16]
chr17:54129107	RAD51C	coding_exon		+	TtoG	0.1333	0.1538	5	3	[15,29]
chr3:51639855	RAD54L2	coding_exon		+	TtoC	0.1	0.1	3	3	[10,10]
chr11:66917741	RAD9A	coding_exon	ENST00000307980:VtoA;	+	TtoC	0.1	0.1	2	2	[10,10]
chr11:66920222	RAD9A	coding_exon	ENST00000307980:RtoT;	+	GtoC	0.1	0.1429	9	2	[10,14]
chr11:66916827	RAD9A	coding_exon	ENST00000307980:KtoQ;	+	AtoC	0.1429	0.2	4	3	[10,14]
chr20:55386498	RAE1	coding_exon	ENST00000371242:QtoR;ENST00000395840:QtoR;ENST00000395841:QtoR;	+	AtoG	0.1	0.1429	3	2	[10,14]
chr3:12600140	RAF1	UTR3		-	AtoG	0.15	0.25	6	2	[12,20]
chr3:12680550	RAF1	UTR5		-	AtoG	0.1	0.1176	3	2	[10,17]
chr3:12680552	RAF1	UTR5		-	GtoA	0.1176	0.15	3	2	[17,20]
chr1:153377556	RAG1AP1	UTR3		+	TtoG	0.1	0.2	2	2	[10,10]
chr17:17638680	RAI1	coding_exon	ENST00000261641:StoP;ENST00000315321:StoP;ENST00000353383:StoP;ENST0000039696651	+	TtoC	0.1	0.1333	2	2	[10,15]
chr7:39696651	RALA	coding_exon	ENST00000005257:EtoG;	+	AtoG	0.1	0.1111	2	2	[18,20]
chr7:39702910	RALA	coding_exon	ENST00000005257:AtoE;	+	CtoA	0.1111	0.1538	6	4	[13,24]
chr7:39629729	RALA	UTR5		+	TtoG	0.1	0.1	2	2	[10,10]
chr2:120768437	RALB	UTR3		+	AtoG	0.1	0.3	2	2	[10,10]
chr9:134963066	RALGDS	UTR3		-	TtoG	0.1	0.1	2	2	[10,11]
chr20:32131723	RALY	UTR3		+	TtoC	0.125	0.1538	12	3	[13,20]
chr20:32131727	RALY	UTR3		+	AtoG	0.1667	0.4	4	3	[10,12]
chr12:129926754	RAN	UTR3		+	AtoG	0.1034	0.12	10	2	[26,30]
chr12:129926756	RAN	UTR3		+	TtoA	0.1176	0.4286	18	16	[11,38]
chr12:129927543	RAN	UTR3		+	TtoC	0.1	0.1875	3	2	[10,16]
chr16:66319848	RANBP10	coding_exon	ENST00000317506:IttoV;ENST00000411657:IttoV;ENST00000448631:IttoV;	-	AtoG	0.1	0.1111	2	2	[10,18]
chr2:108765620	RANBP2	coding_exon	ENST00000283195:IttoG;ENST00000409491:IttoG;	+	TtoA	0.1	0.1	4	2	[10,30]
chr2:108764254	RANBP2	coding_exon		+	TtoC	0.1	0.1304	3	2	[10,23]
chr19:5868097	RANBP3	UTR3		-	TtoA	0.1	0.1818	2	2	[10,11]
chr6:13747834	RANBP9	coding_exon	ENST00000011619:StoG;ENST00000283152:StoG;	-	AtoG	0.1429	0.16	4	2	[14,25]
chr6:13765375	RANBP9	coding_exon	ENST00000011619:CtoW;ENST00000283152:CtoW;	-	TtoG	0.1	0.1538	4	2	[10,13]
chr22:39982752	RANGAP1	coding_exon	ENST00000356244:VtoG;ENST00000405383:VtoG;ENST00000405486:VtoG;ENST0000039971567	-	TtoG	0.1	0.1905	6	3	[15,21]
chr22:39971567	RANGAP1	UTR3		-	AtoG	0.1	0.3077	5	5	[10,19]
chr1:112056999	RAP1A	UTR3		+	AtoG	0.1053	0.25	3	2	[12,19]
chr1:112057002	RAP1A	UTR3		+	TtoA	0.1333	0.1905	5	2	[15,22]
chr12:67340559	RAP1B	UTR3		+	TtoG	0.1111	0.2	5	3	[10,18]
chr4:99556999	RAP1GDS1	coding_exon	ENST00000264572:KtoE;ENST00000339360:KtoE;ENST00000380158:KtoE;ENST00000460498849	+	AtoG	0.1	0.3	2	2	[10,10]
chr4:160498849	RAPGEF2	UTR3		+	TtoG	0.1	0.1	2	2	[10,10]
chr11:63060920	RARRES3	coding_exon	ENST00000255688:AtoS;ENST00000439013:AtoS;	+	GtoT	0.1	0.1	3	2	[10,10]
chr6:88296081	RARS2	coding_exon	ENST00000369536:LtoP;	-	TtoC	0.1	0.1667	2	2	[10,12]
chr5:86705874	RASA1	coding_exon	ENST00000274376:StoP;ENST00000456692:StoP;	+	TtoC	0.1538	0.1818	3	2	[11,13]
chr5:86706472	RASA1	coding_exon	ENST00000274376:StoI;ENST00000456692:StoI;	+	GtoT	0.1	0.2	2	2	[10,10]
chr5:86722551	RASA1	UTR3		+	AtoT	0.1	0.1	3	2	[10,10]
chr5:86722622	RASA1	UTR3		+	GtoT	0.1	0.1	2	2	[10,10]
chr19:15423456	RASAL3	UTR3		-	TtoA	0.1053	0.1818	3	2	[11,19]
chr19:15423458	RASAL3	UTR3		-	AtoG	0.1429	0.1923	6	3	[22,28]
chr15:36591168	RASGRP1	coding_exon	ENST00000310803:GtoC;ENST00000414708:GtoC;ENST00000415523:GtoC;ENST0000036578360	-	GtoT	0.1	0.125	4	2	[10,17]
chr15:36578360	RASGRP1	mixed		-	TtoC	0.1	0.125	3	2	[10,16]
chr3:50342730	RASSF1	UTR3		-	TtoC	0.1071	0.1176	4	2	[17,28]
chr20:4710057	RASSF2	UTR3		-	AtoG	0.1	0.125	2	2	[10,16]
chr20:4710395	RASSF2	UTR3		-	GtoT	0.1176	0.1176	5	2	[17,18]
chr12:63375251	RASSF3	UTR3		+	TtoC	0.1333	0.2	3	2	[10,15]
chr19:10288728	RAVER1	UTR3		-	AtoT	0.1	0.3077	4	2	[13,20]
chr19:10289099	RAVER1	UTR3		-	TtoA	0.1333	0.1333	6	2	[16,16]
chr13:47952304	RB1	UTR3		+	AtoG	0.1	0.125	4	2	[10,16]
chr13:47952378	RB1	UTR3		+	TtoG	0.1	0.125	4	2	[10,16]
chr1:32907434	RBBP4	coding_exon		+	AtoG	0.1	0.1429	4	2	[10,21]
chr1:203322683	RBBP5	UTR3		-	TtoC	0.1	0.1429	3	2	[10,14]
chr1:203322790	RBBP5	UTR3		-	TtoG	0.1	0.1	4	2	[10,10]
chr1:203322821	RBBP5	UTR3		-	TtoC	0.1111	0.2	3	2	[10,10]
chr16:24488024	RBBP6	coding_exon	ENST00000319715:YtoH;ENST00000348022:YtoH;	+	TtoC	0.1333	0.1333	2	2	[15,15]
chr16:24488778	RBBP6	coding_exon	ENST00000319715:RtoK;ENST00000348022:RtoK;	+	GtoA	0.1	0.1818	2	2	[10,11]
chr16:24478381	RBBP6	coding_exon		+	AtoG	0.1	0.1	2	2	[10,10]
chr20:18425732	RBBP9	coding_exon	ENST00000337227:VtoG;ENST00000339848:VtoG;	+	TtoG	0.1	0.1053	3	2	[10,19]
chr20:346449	RBCK1	mixed		+	AtoG	0.1	0.1	2	2	[10,20]
chr20:359603	RBCK1	UTR3		+	TtoC	0.1	0.25	6	3	[12,30]
chr20:35059082	RBL1	UTR3		-	TtoC	0.1	0.1	3	2	[10,10]
chr16:52053190	RBL2	coding_exon	ENST00000262133:NtoK;ENST00000379935:NtoK;	+	CtoG	0.1	0.1	2	2	[10,10]
chr16:52082170	RBL2	UTR3		+	GtoA	0.1053	0.1429	5	2	[19,21]
chr16:52082171	RBL2	UTR3		+	AtoT	0.1	0.2632	5	3	[10,20]
chr8:94816068	RBM12B	coding_exon	ENST00000329529:RtoW;	-	AtoT	0.1	0.15	4	2	[10,20]
chr8:94815132	RBM12B	coding_exon	ENST00000329529:KtoE;	-	AtoG	0.1	0.1	3	3	[10,10]
chr8:94816007	RBM12B	coding_exon	ENST00000329529:FtoS;	-	TtoC	0.1	0.1	2	2	[10,10]
chr11:66149277	RBM14	coding_exon	ENST00000310137:QtoK;	+	CtoA	0.1667	0.1923	3	2	[12,26]
chr1:110689719	RBM15	coding_exon	ENST00000369784:Kto*;	+	AtoT	0.1	0.1	2	2	[10,10]
chr6:155187140	RBM16	coding_exon		+	AtoC	0.1	0.2308	2	2	[10,14]
chr10:6187062	RBM17	coding_exon	ENST00000379888:EtoK;ENST00000418869:EtoK;ENST00000446108:EtoK;	+	GtoA	0.1034	0.1404	10	2	[57,58]
chr10:6197666	RBM17	UTR3		+	TtoC	0.1	0.1667	5	3	[10,20]
chr14:22444164	RBM23	coding_exon		-	TtoG	0.1053	0.1111	3	2	[18,19]
chr14:22440217	RBM23	UTR3		-	CtoG	0.1071	0.3529	11	5	[17,56]
chr14:22440250	RBM23	UTR3		-	GtoT	0.1042	0.3077	16	11	[13,58]
chr14:22458065	RBM23	UTR5		-	TtoG	0.1	0.1	2	2	[10,10]
chr14:72656997	RBM25	UTR3		+	TtoC	0.1053	0.1053	7	2	[19,20]
chr14:72657303	RBM25	UTR3		+	TtoC	0.1111	0.1818	7	2	[10,11]
chr13:78794485	RBM26	mixed		-	AtoG	0.1	0.1429	7	3	[10,21]
chr13:78794487	RBM26	mixed		-	GtoC	0.1111	0.1818	6	2	[11,18]
chr13:78792150	RBM26	UTR3		-	TtoC	0.1	0.1	3	2	[10,10]
chr5:145621406	RBM27	coding_exon	ENST00000265271:QtoH;	+	AtoC	0.1	0.125	3	2	[10,16]
chr5:145630787	RBM27	coding_exon		+	GtoA	0.1111	0.1333	3	2	[15,18]
chr7:127740534	RBM28	coding_exon	ENST00000223073:VtoA;ENST00000415472:VtoA;	-	TtoC	0.1111	0.2	5	2	[10,18]
chr7:155230562	RBM33	coding_exon		+	GtoA	0.1304	0.1667	3	2	[12,23]
chr1:233382672	RBM34	coding_exon	ENST00000366606:QtoR;ENST00000408888:QtoR;	-	AtoG	0.1053	0.1429	8	2	[14,19]
chr20:33790881	RBM39	coding_exon		-	CtoT	0.1667	0.3	4	3	[10,12]
chr20:33790882	RBM39	coding_exon		-	GtoA	0.1667	0.3	4	3	[10,12]

chr20:33791863	RBM39	coding_exon		-	AtoC	0.1765	0.4	4	3	[10,17]
chr20:33791902	RBM39	coding_exon		-	AtoG	0.1111	0.1429	3	2	[14,18]
chr11:66164064	RBM4	coding_exon		+	TtoC	0.1143	0.1944	8	3	[17,70]
chr11:66170391	RBM4	mixed		+	TtoG	0.1111	0.15	8	2	[18,40]
chr4:40121625	RBM47	UTR3		-	AtoG	0.1	0.1	3	2	[10,10]
chr3:50102837	RBM5	UTR5		+	CtoT	0.1	0.125	3	2	[10,16]
chr3:50073981	RBM6	coding_exon		+	CtoG	0.2	0.3333	3	2	[10,21]
chr3:50089652	RBM6	UTR3		+	TtoA	0.1	0.1	2	2	[10,22]
chr4:26039552	RBPSUH	coding_exon	ENST00000342295:LtoH;ENST00000342320:LtoH;ENST00000345843:LtoH;ENST000	+	TtoA	0.1	0.1053	2	2	[10,19]
chr4:26026243	RBPSUH	coding_exon		+	GtoA	0.1	0.1579	4	2	[10,19]
chr4:25973299	RBPSUH	mixed		+	CtoA	0.1	0.1538	2	2	[10,13]
chr4:26045636	RBPSUH	UTR3		+	TtoA	0.1	0.2105	2	2	[10,19]
chr9:124646784	RC3H2	UTR3		-	AtoC	0.1333	0.1667	2	2	[12,15]
chr13:47962103	RCBTB2	UTR3		-	GtoC	0.1	0.1	2	2	[10,30]
chr1:28709382	RCC1	UTR5		+	TtoC	0.1	0.1429	3	3	[10,16]
chr15:89305852	RCCD1	coding_exon	ENST00000300233:GtoV;ENST00000394258:GtoV;	+	GtoT	0.1	0.125	2	2	[10,16]
chr4:76626437	RCHY1	UTR3		-	AtoG	0.1	0.1	3	2	[10,10]
chr9:4850142	RCL1	coding_exon	ENST00000381728:HtoR;ENST00000381730:HtoR;ENST00000381750:HtoR;ENST000	+	AtoG	0.1	0.1429	4	2	[10,14]
chr15:75015106	RCN2	coding_exon		+	GtoA	0.1	0.1	2	2	[10,10]
chr1:209552871	RCOR3	coding_exon	ENST00000367005:EtaA;ENST00000419091:EtaA;ENST00000435653:EtaA;ENST000	+	AtoC	0.1	0.1	2	2	[10,10]
chr1:209544071	RCOR3	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr1:209555760	RCOR3	UTR3		+	GtoA	0.1	0.1818	2	2	[10,11]
chr1:165940916	RCSD1	UTR3		+	AtoG	0.125	0.5714	4	3	[14,24]
chr1:165940918	RCSD1	UTR3		+	TtoC	0.1	0.4286	3	3	[14,24]
chr1:165941778	RCSD1	UTR3		+	TtoC	0.1053	0.125	11	5	[19,36]
chr14:67213866	RDH11	UTR3		-	TtoC	0.1	0.2632	7	4	[13,20]
chr14:67213868	RDH11	UTR3		-	TtoC	0.1176	0.1818	10	2	[11,18]
chr11:109609337	RDX	coding_exon		-	AtoC	0.1	0.1667	4	3	[10,17]
chr14:23719088	REC8	coding_exon	ENST00000311457:QtoK;ENST00000447460:QtoK;	+	CtoA	0.1373	0.2	4	2	[25,51]
chr14:23712384	REC8	coding_exon	ENST00000311457:LtoQ;ENST00000447460:LtoQ;	+	TtoA	0.1	0.1765	2	2	[10,17]
chr14:23718481	REC8	coding_exon	ENST00000311457:IttoV;ENST00000447460:IttoV;	+	AtoG	0.1111	0.1304	4	2	[24,27]
chr14:23716243	REC8	coding_exon		+	AtoG	0.1	0.2	2	2	[10,10]
chr14:23716255	REC8	coding_exon		+	TtoA	0.3333	0.5	3	3	[10,16]
chr12:21545477	RECQL	UTR5		-	CtoA	0.1	0.1	2	2	[10,10]
chr12:21545510	RECQL	UTR5		-	AtoT	0.1	0.1	5	2	[10,10]
chr12:21545662	RECQL	UTR5		-	TtoG	0.1111	0.2308	2	2	[10,13]
chr8:145707516	RECQL4	UTR3		-	TtoG	0.1	0.1	5	2	[10,10]
chr17:71137150	RECQL5	coding_exon	ENST00000317905:LtoV;	-	CtoG	0.1667	0.25	4	2	[12,16]
chr17:71137149	RECQL5	coding_exon	ENST00000317905:LtoP;	-	TtoC	0.1	0.1818	2	2	[10,11]
chr10:65040033	REEP3	coding_exon		+	AtoG	0.1	0.1	2	2	[10,10]
chr11:72785333	RELT	UTR3		+	CtoA	0.1	0.1	2	2	[10,10]
chr11:72785334	RELT	UTR3		+	TtoA	0.1	0.2222	5	3	[10,10]
chr7:149697696	REPIN1	UTR5		+	AtoC	0.1	0.1818	2	2	[10,11]
chr6:139306737	REPS1	coding_exon	ENST00000258062:YtoN;ENST00000367663:YtoN;ENST00000367668:YtoN;ENST000	-	TtoA	0.1	0.1	3	2	[10,10]
chr6:139283047	REPS1	coding_exon	ENST00000258062:VtoA;ENST00000367663:VtoA;ENST00000367668:VtoA;ENST000	-	TtoC	0.1538	0.1667	5	2	[12,13]
chr6:139304192	REPS1	coding_exon	ENST00000258062:KtoE;ENST00000367663:KtoE;ENST00000367668:KtoE;ENST000	-	AtoG	0.1053	0.1818	5	2	[19,22]
chr1:8337709	RERE	UTR3		-	GtoC	0.1	0.1111	3	2	[10,18]
chr4:57490953	REST	coding_exon	ENST00000309042:CtoF;ENST00000358605:CtoF;	+	GtoT	0.1	0.1	2	2	[10,10]
chr2:85422843	RETSAT	UTR3		-	AtoG	0.1	0.1429	4	2	[10,14]
chr2:85422845	RETSAT	UTR3		-	TtoG	0.1	0.1765	8	3	[10,18]
chr2:99387535	REV1	coding_exon	ENST00000258428:LtoP;ENST00000393445:LtoP;	-	TtoC	0.1	0.125	3	2	[10,16]
chr2:99384163	REV1	coding_exon		-	TtoG	0.1	0.1	2	2	[10,10]
chr9:135261857	REXO4	UTR3		-	AtoG	0.1	0.1	2	2	[20,30]
chr4:39029482	RFC1	coding_exon	ENST00000349703:KtoE;ENST00000381897:KtoE;	-	AtoG	0.1	0.1	4	3	[10,10]
chr4:38982876	RFC1	coding_exon	ENST00000349703:IttoT;ENST00000381897:IttoT;	-	TtoC	0.1667	0.1818	2	2	[11,12]
chr4:38994963	RFC1	coding_exon		-	TtoC	0.1	0.1	5	2	[10,10]
chr4:38965698	RFC1	UTR3		-	TtoA	0.1	0.1818	2	2	[10,11]
chr4:38966417	RFC1	UTR3		-	TtoG	0.1	0.1429	2	2	[10,14]
chr4:38966664	RFC1	UTR3		-	TtoA	0.1	0.1176	4	2	[10,17]
chr12:116953656	RFC5	UTR3		+	TtoA	0.1	0.1	4	2	[10,11]
chr12:116953864	RFC5	UTR3		+	AtoG	0.1	0.2	3	2	[10,10]
chr17:30361198	RFLL	UTR3		-	TtoC	0.1667	0.1765	3	2	[12,17]
chr3:53100898	RFT1	UTR3		-	AtoG	0.1	0.1818	3	2	[10,11]
chr3:16332361	RFTN1	UTR3		-	CtoA	0.1	0.2	9	5	[10,16]
chr3:16332422	RFTN1	UTR3		-	AtoC	0.1029	0.1528	5	3	[72,136]
chr1:174316958	RFWD2	coding_exon		-	AtoG	0.1429	0.1538	8	2	[14,14]
chr1:174420447	RFWD2	mixed		-	AtoG	0.125	0.125	2	2	[16,16]
chr16:73212858	RFWD3	UTR3		-	TtoA	0.1538	0.2	2	2	[13,15]
chr16:73214533	RFWD3	UTR3		-	TtoC	0.1026	0.1905	6	3	[15,39]
chr19:13933566	RFX1	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr15:54170541	RFX7	mixed		-	CtoT	0.1	0.1	4	3	[10,10]
chr3:102766812	RG9MTD1	coding_exon	ENST00000309922:LtoR;	+	TtoG	0.1	0.1667	4	2	[10,12]
chr1:182147948	RGL1	coding_exon	ENST00000304685:StoP;ENST00000360851:StoP;ENST00000367531:StoP;	+	TtoC	0.1	0.1	2	2	[10,10]
chr1:182161906	RGL1	coding_exon	ENST00000304685:StoC;ENST00000360851:StoC;ENST00000367531:StoC;	+	AtoT	0.1	0.1	2	2	[10,10]
chr6:33367920	RGL2	coding_exon	ENST00000421215:EtaA;	-	AtoC	0.1	0.1	2	2	[10,10]
chr6:33369204	RGL2	coding_exon		-	TtoG	0.1	0.125	2	2	[11,16]
chr6:33372812	RGL2	mixed		-	GtoT	0.1	0.1	2	2	[10,10]
chr9:35744075	RGP1	UTR3		+	AtoG	0.1	0.1667	2	2	[10,12]
chr1:190815484	RGS1	UTR3		+	TtoC	0.1111	0.129	7	3	[17,31]
chr1:190815488	RGS1	UTR3		+	AtoG	0.2	0.2105	16	2	[10,20]
chr1:190815671	RGS1	UTR3		+	TtoA	0.1176	0.1667	10	2	[12,17]
chr10:121249447	RGS10	UTR3		-	TtoG	0.1146	0.1154	10	2	[27,102]
chr1:180834437	RGS16	UTR3		-	AtoG	0.1071	0.125	3	2	[16,28]
chr1:180834726	RGS16	UTR3		-	TtoC	0.1	0.1053	5	2	[10,19]
chr1:180835941	RGS16	UTR3		-	CtoA	0.1429	0.1818	6	3	[12,14]
chr20:62175086	RGS19	UTR3		-	AtoG	0.1	0.1818	4	2	[10,11]
chr20:62181092	RGS19	UTR5		-	TtoA	0.1	0.125	2	2	[10,16]
chr1:191044930	RGS2	coding_exon	ENST00000235382:TtoP;	+	AtoC	0.1	0.1	2	2	[10,11]
chr2:227568551	RHBDD1	UTR3		+	TtoA	0.1	0.1111	2	2	[10,10]
chr2:227569287	RHBDD1	UTR3		+	TtoC	0.1	0.1429	7	2	[10,14]
chr7:150795122	RHEB	UTR3		-	CtoT	0.9667	1	17	17	[32,61]
chr12:47745404	RHEBL1	mixed		-	AtoG	0.1	0.1667	2	2	[10,12]
chr12:47745441	RHEBL1	mixed		-	TtoC	0.1	0.1538	2	2	[13,20]
chr3:49371592	RHOA	UTR3		-	AtoG	0.1667	0.25	4	4	[10,16]
chr8:22931788	RHOBTB2	UTR3		+	TtoC	0.1	0.1667	5	3	[11,14]
chr1:113045277	RHOC	UTR3		-	AtoG	0.1	0.2857	6	5	[10,14]

chr1:113045280	RHOC	UTR3		-	TtoC	0.1667	0.2917	6	6	[12,149]
chr11:3804790	RHOG	mixed		-	TtoC	0.1176	0.1364	6	2	[17,22]
chr11:3804794	RHOG	mixed		-	TtoA	0.15	0.1667	3	2	[12,20]
chr4:39922176	RHOH	mixed		+	GtoA	0.1	0.1053	2	2	[10,19]
chr2:46656889	RHOQ	coding_exon	ENST00000238738:TtoA;	+	AtoG	0.1	0.2	11	3	[16,20]
chr2:46657244	RHOQ	coding_exon	ENST00000238738:NtoS;	+	AtoG	0.1	0.2	9	6	[10,23]
chr2:46656827	RHOQ	coding_exon	ENST00000238738:KtoR;	+	AtoG	0.125	0.1818	4	4	[11,26]
chr2:46623828	RHOQ	coding_exon	ENST00000238738:Atot;	+	GtoA	0.1111	0.1154	4	2	[26,27]
chr2:46656774	RHOQ	coding_exon		+	TtoC	0.1667	0.2857	5	4	[10,14]
chr2:46656828	RHOQ	coding_exon		+	AtoG	0.1429	0.1667	5	4	[12,26]
chr17:27527103	RHOT1	coding_exon	ENST00000333942:Itov;ENST00000354266:Itov;ENST00000358365:Itov;ENST0000	+	AtoG	0.3571	0.8182	4	4	[11,15]
chr17:27526465	RHOT1	coding_exon	ENST00000333942:DtoN;ENST00000354266:DtoN;ENST00000358365:DtoN;ENST0	+	GtoA	0.1818	0.9091	5	5	[10,15]
chr17:27576504	RHOT1	UTR3		+	GtoA	0.1111	0.125	4	2	[16,18]
chr16:661000	RHOT2	coding_exon	ENST00000315082:DtoE;	+	TtoA	0.1143	0.2	5	2	[25,35]
chr16:660999	RHOT2	coding_exon	ENST00000315082:DtoA;	+	AtoC	0.129	0.2381	5	2	[21,31]
chr16:664135	RHOT2	UTR3		+	TtoA	0.1053	0.1538	5	2	[13,20]
chr11:205073	RIC8A	UTR3		+	AtoG	0.15	0.1538	5	2	[13,20]
chr2:152029058	RIF1	mixed		+	AtoG	0.1	0.1053	2	2	[10,19]
chr2:152034482	RIF1	mixed		+	TtoC	0.1	0.1	5	2	[10,10]
chr1:42653052	RIMKLA	coding_exon		+	TtoC	0.1	0.1111	2	2	[18,20]
chr5:96538748	RIOK2	coding_exon	ENST00000283109:Itot;	-	TtoC	0.1	0.1	2	2	[10,10]
chr5:96528974	RIOK2	coding_exon		-	TtoA	0.1111	0.2	7	2	[10,18]
chr18:19311144	RIOK3	coding_exon	ENST00000339486:WtoR;ENST00000424813:WtoR;ENST00000453294:WtoR;	+	TtoA	0.1111	0.1429	6	4	[14,36]
chr18:19311143	RIOK3	coding_exon		+	CtoG	0.1081	0.1667	7	6	[12,56]
chr18:19298040	RIOK3	mixed		+	GtoA	0.1	0.1	3	2	[10,20]
chr18:19315455	RIOK3	UTR3		+	TtoA	0.1	0.1579	5	2	[10,19]
chr18:19315985	RIOK3	UTR3		+	TtoA	0.125	0.1818	8	2	[11,16]
chr8:90871727	RIPK2	coding_exon	ENST00000220751:Etog;	+	AtoG	0.1	0.1667	7	2	[12,40]
chr1:154136661	RIT1	UTR3		-	AtoG	0.1	0.1818	5	2	[10,11]
chr6:151796000	RMND1	mixed		-	AtoG	0.125	0.1333	4	2	[15,16]
chr2:86852259	RMND5A	coding_exon	ENST00000283632:QtoP;	+	AtoC	0.1	0.1	3	2	[10,10]
chr5:31445181	RNASEN	coding_exon	ENST00000265075:LtoQ;ENST00000344624:LtoQ;ENST00000442743:LtoQ;	-	TtoA	0.1053	0.1538	5	2	[14,19]
chr5:31562752	RNASEN	coding_exon		-	AtoG	0.1	0.1	2	2	[10,10]
chr6:16727246	RNASET2	coding_exon	ENST00000310843:YtoC;	-	AtoG	0.2	0.4	4	3	[10,11]
chr12:119482921	RNF10	coding_exon	ENST00000325954:HtoP;ENST00000413266:HtoP;ENST00000458409:HtoP;	+	AtoC	0.15	0.1905	5	2	[20,21]
chr12:119499165	RNF10	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr20:48002833	RNF114	UTR3		+	TtoC	0.1053	0.1111	7	2	[19,27]
chr20:48003503	RNF114	UTR3		+	AtoG	0.1053	0.1176	5	2	[17,19]
chr1:144398437	RNF115	coding_exon	ENST00000369291:WtoR;	+	TtoA	0.1034	0.2	8	3	[21,51]
chr11:71383533	RNF121	coding_exon	ENST00000361756:StoP;	+	TtoC	0.1	0.2143	9	2	[10,14]
chr19:598871	RNF126	UTR3		-	GtoC	0.1	0.12	2	2	[10,25]
chr5:141338332	RNF14	coding_exon	ENST00000347642:NtoS;ENST00000356143:NtoS;ENST00000394514:NtoS;ENST00	+	AtoG	0.1538	0.1667	6	2	[12,13]
chr5:141343255	RNF14	coding_exon	ENST00000347642:LtoQ;ENST00000356143:LtoQ;ENST00000394514:LtoQ;ENST00	+	TtoA	0.1333	0.1429	3	2	[14,15]
chr5:141343159	RNF14	coding_exon	ENST00000347642:LtoP;ENST00000356143:LtoP;ENST00000394514:LtoP;ENST00	+	TtoC	0.1	0.1111	2	2	[10,18]
chr5:141333490	RNF14	mixed		-	CtoT	0.1	0.25	2	2	[10,12]
chr5:158517130	RNF145	UTR3		-	GtoT	0.1	0.1053	3	2	[10,19]
chr2:101276911	RNF149	coding_exon		-	AtoG	0.1	0.1	2	2	[10,10]
chr17:4788761	RNF167	coding_exon	ENST00000262482:HtoP;ENST00000381350:HtoP;	+	AtoC	0.1111	0.1613	6	2	[31,36]
chr3:197699951	RNF168	coding_exon	ENST00000318037:Atog;	-	CtoG	0.1	0.1	4	2	[10,10]
chr11:74225412	RNF169	coding_exon	ENST00000299563:GtoR;	+	GtoA	0.1	0.1	2	2	[10,10]
chr2:85678216	RNF181	mixed		+	AtoA	0.8	0.9	3	3	[10,11]
chr2:85678215	RNF181	UTR3		+	CtoA	0.3571	0.6429	12	12	[10,25]
chr22:29913229	RNF185	coding_exon	ENST00000266252:VtoA;ENST00000326132:VtoA;ENST00000419966:VtoA;ENST00	+	TtoC	0.1	0.1	5	2	[10,10]
chr22:29913036	RNF185	UTR5		+	TtoC	0.1	0.1111	3	2	[10,18]
chr8:101338885	RNF19A	UTR3		-	TtoC	0.1	0.1429	9	3	[10,27]
chr8:101339083	RNF19A	UTR3		-	TtoC	0.1	0.1	5	2	[10,10]
chr8:101339372	RNF19A	UTR3		-	TtoG	0.1	0.125	5	2	[10,16]
chr1:183328838	RNF2	coding_exon	ENST00000367510:RtoW;	+	CtoT	0.1	0.1667	2	2	[10,12]
chr1:183328830	RNF2	coding_exon	ENST00000367510:PtoL;	+	CtoT	0.1	0.2	2	2	[10,10]
chr1:183323332	RNF2	coding_exon	ENST00000367509:NtoK;ENST00000367510:NtoK;	+	CtoA	0.1	0.2	3	3	[10,14]
chr1:183327334	RNF2	coding_exon	ENST00000367509:EtoK;ENST00000367510:EtoK;	+	GtoA	0.1	0.1	2	2	[10,10]
chr1:183327390	RNF2	coding_exon	ENST00000367509:EtoD;ENST00000367510:EtoD;	+	AtoT	0.1	0.2632	5	3	[10,19]
chr1:183327446	RNF2	coding_exon	ENST00000367509:CtoS;ENST00000367510:CtoS;	+	GtoC	0.1	0.1667	6	3	[10,12]
chr1:183327381	RNF2	coding_exon		+	AtoG	0.1	0.3	6	5	[10,20]
chr9:103337640	RNF20	coding_exon		+	AtoG	0.1	0.1	2	2	[10,10]
chr9:103365412	RNF20	UTR3		+	TtoC	0.1	0.125	3	2	[10,24]
chr17:75934795	RNF213	coding_exon	ENST00000336301:Itov;	+	AtoG	0.1818	0.2	3	2	[11,15]
chr17:75972086	RNF213	coding_exon		+	CtoA	0.1071	0.1333	2	2	[15,28]
chr7:5629239	RNF216	coding_exon	ENST00000447067:HtoP;	-	AtoC	0.1	0.2222	8	6	[10,37]
chr7:5747445	RNF216	coding_exon		-	TtoC	0.1	0.1	5	2	[10,10]
chr7:5628718	RNF216	UTR3		-	AtoG	0.1	0.1579	4	2	[10,19]
chr13:78088393	RNF219	coding_exon	ENST00000282003:Kto*;	-	AtoT	0.1	0.1	2	2	[10,10]
chr1:44874470	RNF220	coding_exon		+	GtoC	0.1	0.1	2	2	[10,10]
chr2:219237062	RNF25	coding_exon		-	TtoC	0.1	0.1	2	2	[10,10]
chr11:118713207	RNF26	mixed		+	GtoA	0.1	0.1	2	2	[10,10]
chr14:23686898	RNF31	coding_exon	ENST00000324103:MtoL;ENST00000382682:MtoL;	+	AtoC	1	1	6	6	[13,33]
chr14:23699696	RNF31	UTR3		+	AtoG	0.1667	0.25	5	2	[12,18]
chr12:120338508	RNF34	coding_exon	ENST00000354795:GtoE;ENST00000361234:GtoE;ENST00000392465:GtoE;	+	GtoA	0.1053	0.125	2	2	[16,20]
chr9:36328592	RNF38	UTR3		-	AtoG	0.1	0.2	2	2	[10,10]
chr9:36329353	RNF38	UTR3		-	TtoG	0.1	0.1429	2	2	[10,14]
chr16:30693883	RNF40	UTR3		+	TtoG	0.1087	0.25	7	6	[12,46]
chr16:30693974	RNF40	UTR3		+	TtoG	0.1111	0.1818	2	2	[11,18]
chr12:54886482	RNF41	UTR3		-	TtoC	0.1	0.1818	3	2	[10,12]
chr3:142947235	RNF7	UTR3		+	CtoA	0.1	0.7	2	2	[10,11]
chr6:37457058	RNF8	coding_exon	ENST00000373479:LtoP;	+	TtoC	0.1	0.2	2	2	[10,10]
chr6:37436229	RNF8	coding_exon		+	AtoG	0.1	0.125	2	2	[10,16]
chr6:37444708	RNF8	coding_exon		+	AtoG	0.1	0.1	2	2	[10,20]
chr6:89671197	RNGTT	coding_exon	ENST00000265607:StoA;ENST00000369475:StoA;ENST00000369485:StoA;	-	TtoG	0.1429	0.1818	4	2	[11,14]
chr6:89377239	RNGTT	UTR3		-	TtoA	0.1	0.1429	4	2	[10,14]
chr11:494825	RNH1	UTR5		-	AtoG	0.1111	0.1212	3	2	[33,54]
chr18:13754208	RNMT	UTR3		+	AtoG	0.1	0.1364	10	3	[10,22]
chr17:642180	RNMTL1	UTR3		+	TtoA	0.1111	0.1111	5	2	[10,36]
chr1:200241832	RNPEP	UTR3		+	AtoG	0.1	0.15	3	2	[10,20]
chr2:241166521	RNPEPL1	UTR3		+	AtoG	0.119	0.122	2	2	[42,42]
chr16:2254575	RNPS1	coding_exon	ENST00000320225:RtoM;ENST00000397086:RtoM;	-	GtoT	0.1017	0.2698	18	12	[32,73]
chr16:2243294	RNPS1	UTR3		-	AtoG	0.1389	0.1429	11	3	[23,49]

chr1:154294917	ROBLD3	UTR3		+	TtoA	0.1111	0.2	3	3	[10,11]
chr3:78729988	ROBO1	UTR3		-	AtoG	0.1	0.1818	2	2	[10,11]
chr18:16818446	ROCK1	coding_exon	ENST00000399799:LtoV;	-	TtoG	0.1	0.1333	4	2	[10,15]
chr18:16849401	ROCK1	coding_exon	ENST00000399799:LtoM;	-	TtoA	0.1	0.1538	3	2	[10,13]
chr2:11240651	ROCK2	UTR3		-	AtoG	0.1	0.1818	2	2	[10,11]
chr9:114025989	ROD1	coding_exon	ENST00000343327:HtoR;ENST00000374255:HtoR;ENST00000374257:HtoR;ENST00000374257:HtoV;ENST00000374257:HtoM;	-	AtoG	0.1	0.1	3	2	[10,20]
chr9:114026264	ROD1	coding_exon	ENST00000343327:GtoV;ENST00000374255:GtoV;ENST00000374257:GtoV;ENST00000374257:HtoV;ENST00000374257:HtoM;	-	GtoT	0.1	0.1	4	2	[10,10]
chr9:114021089	ROD1	UTR3		-	AtoG	0.1	0.1515	11	4	[35,77]
chr1:152947273	RP11-274N19.1	mixed		-	AtoC	0.1273	0.1667	3	3	[18,55]
chr10:13679499	RP11-295P9.1	mixed		+	CtoA	0.1	0.1	3	2	[10,10]
chr10:13692142	RP11-295P9.1	mixed		+	AtoG	0.1	0.1538	4	2	[10,13]
chr9:114273771	RP11-32M23.1	mixed		-	AtoT	0.1	0.125	4	2	[10,16]
chr11:17206620	RP11-452G18.1	mixed		+	GtoC	0.1	0.1351	4	2	[10,38]
chr11:17206626	RP11-452G18.1	mixed		+	GtoC	0.1	0.1333	2	2	[10,16]
chr11:17206627	RP11-452G18.1	mixed		+	GtoT	0.1538	0.3	3	2	[10,13]
chr11:17206663	RP11-452G18.1	mixed		+	TtoA	0.1	0.1538	3	2	[13,31]
chr11:17206672	RP11-452G18.1	mixed		+	AtoT	0.1	0.1818	5	3	[10,11]
chr11:17206673	RP11-452G18.1	mixed		+	TtoA	0.1	0.2	6	5	[10,12]
chr10:103328649	RP11-529I10.1	mixed		+	AtoT	0.1	0.1053	4	2	[10,19]
chr9:5978482	RP11-546N22.1	mixed		-	GtoA	0.1	0.1	3	2	[10,10]
chr3:52554606	RP11-844E22.1	coding_exon		+	TtoC	0.1	0.1	5	2	[10,10]
chr22:48990776	RP3-402G11.1	coding_exon	ENST00000380903:CtoG;ENST00000400016:CtoG;	+	TtoG	0.1	0.1429	3	2	[10,14]
chr22:48989119	RP3-402G11.1	coding_exon		+	TtoC	0.1	0.1053	2	2	[10,19]
chr20:36484294	RP4-564F22.1	mixed		-	GtoT	0.1	0.1	2	2	[10,10]
chr1:87101270	RP4-604K5.1	UTR3		-	TtoG	0.1111	0.1667	6	2	[12,18]
chr20:33328542	RP4-614O4.1	mixed		-	TtoC	0.1	0.1111	4	2	[10,10]
chr20:33328566	RP4-614O4.1	mixed		-	TtoA	0.1081	0.1429	5	2	[14,37]
chr20:33330138	RP4-614O4.1	mixed		-	GtoA	0.1818	0.4	2	2	[10,12]
chr20:33330143	RP4-614O4.1	mixed		-	TtoC	0.1333	0.35	11	8	[13,35]
chr1:32414560	RP4-622L5.1	mixed		+	TtoC	0.1	0.1	2	2	[10,10]
chr20:61663214	RP4-697K14.1	coding_exon	ENST00000252889:StoP;ENST00000427522:StoP;ENST00000467148:StoP;	-	TtoC	0.1	0.1818	2	2	[10,11]
chr20:51617571	RP4-724E16.1	mixed		+	AtoC	0.1	0.1	5	2	[10,10]
chr20:51617829	RP4-724E16.1	mixed		+	AtoG	0.1	0.2	2	2	[10,11]
chr20:32331737	RP4-785G19.1	mixed		-	GtoA	0.1	0.1538	4	2	[10,26]
chr20:5512968	RP5-1022P6.1	mixed		-	AtoG	0.1	0.125	3	2	[16,30]
chr16:87332577	RP5-1142A6.1	mixed		+	AtoC	0.1	0.1	3	2	[10,10]
chr7:33105449	RP9	coding_exon	ENST00000297157:MtoK;	-	TtoA	0.1364	0.2258	3	2	[22,31]
chr7:33105467	RP9	coding_exon	ENST00000297157:GtoE;	-	GtoA	0.1667	0.2963	6	2	[18,27]
chr7:33105565	RP9	coding_exon	ENST00000297157:GtoD;	-	GtoC	0.1	0.65	8	6	[10,27]
chr7:33105498	RP9	coding_exon	ENST00000297157:AtoT;	-	GtoA	0.1111	0.125	5	2	[16,18]
chr7:33105520	RP9	coding_exon		-	CtoT	0.1333	0.6154	12	7	[15,28]
chr7:33105550	RP9	coding_exon		-	TtoC	0.1	0.825	8	8	[10,40]
chr7:7642914	RPA3	UTR3		-	TtoA	0.2308	0.2941	2	2	[13,17]
chr7:7642920	RPA3	UTR3		-	TtoC	0.125	0.2	5	2	[10,16]
chr17:5270015	RPAIN	coding_exon	ENST00000381208:GtoG;ENST00000381209:GtoG;ENST00000405578:GtoG;	+	AtoG	0.125	0.1579	9	3	[19,40]
chr15:39597542	RPAP1	coding_exon	ENST00000304330:VtoG;	-	TtoG	0.125	0.1333	2	2	[15,24]
chr15:39616112	RPAP1	coding_exon	ENST00000304330:VtoA;	-	TtoC	0.1	0.2143	2	2	[10,15]
chr15:39610627	RPAP1	coding_exon	ENST00000304330:StoT;	-	TtoA	0.1	0.1	2	2	[10,10]
chr12:46349047	RPAP3	coding_exon		-	AtoG	0.1333	0.1667	2	2	[12,15]
chr2:210589490	RPE	coding_exon		+	CtoA	0.1053	0.1111	5	2	[18,19]
chr6:35545273	RPL10A	coding_exon	ENST00000322203:VtoG;	+	TtoG	0.125	0.2	7	2	[11,16]
chr6:35546351	RPL10A	coding_exon	ENST00000322203:VtoE;	+	TtoA	0.125	0.4	12	12	[10,84]
chr6:35546357	RPL10A	coding_exon	ENST00000322203:VtoD;	+	TtoA	0.2941	0.7778	7	7	[10,40]
chr6:35544769	RPL10A	coding_exon	ENST00000322203:StoP;	+	TtoC	0.1009	0.1616	18	11	[99,233]
chr6:35546456	RPL10A	coding_exon	ENST00000322203:RtoQ;	+	GtoA	0.1364	0.1429	8	3	[14,23]
chr6:35546447	RPL10A	coding_exon	ENST00000322203:QtoR;	+	AtoG	0.1277	0.1842	10	4	[22,47]
chr6:35546096	RPL10A	coding_exon	ENST00000322203:QtoP;	+	AtoC	0.1327	0.1413	10	2	[97,102]
chr6:35546373	RPL10A	coding_exon	ENST00000322203:MtoI;	+	GtoC	0.1	0.1538	6	2	[10,13]
chr6:35545281	RPL10A	coding_exon	ENST00000322203:LtoV;	+	CtoG	0.1176	0.1667	5	2	[13,17]
chr6:35545270	RPL10A	coding_exon	ENST00000322203:LtoP;	+	TtoC	0.1111	0.2	6	3	[10,16]
chr6:35545282	RPL10A	coding_exon	ENST00000322203:LtoP;	+	TtoC	0.1111	0.4737	8	2	[10,19]
chr6:35545269	RPL10A	coding_exon	ENST00000322203:LtoM;	+	CtoA	0.125	0.1935	6	4	[13,31]
chr6:35545940	RPL10A	coding_exon	ENST00000322203:KtoR;	+	AtoG	0.1111	0.1333	7	2	[15,18]
chr6:35545976	RPL10A	coding_exon	ENST00000322203:KtoM;	+	AtoT	0.1212	0.1944	8	3	[45,72]
chr6:35545278	RPL10A	coding_exon	ENST00000322203:KtoE;	+	AtoG	0.1667	0.1818	2	2	[11,13]
chr6:35545949	RPL10A	coding_exon	ENST00000322203:AtoV;	+	CtoT	0.125	0.2222	16	6	[15,54]
chr6:35546458	RPL10A	coding_exon	ENST00000322203:AtoT;	+	GtoA	0.1	0.3636	9	8	[12,53]
chr6:35545957	RPL10A	coding_exon	ENST00000322203:AtoS;	+	GtoT	0.1053	0.1176	3	2	[17,19]
chr6:35546459	RPL10A	coding_exon	ENST00000322203:AtoD;	+	CtoA	0.2308	0.3684	6	5	[14,23]
chr6:35544432	RPL10A	coding_exon		+	AtoG	0.1	0.1	2	2	[10,10]
chr6:35544553	RPL10A	coding_exon		+	GtoT	0.1176	0.1818	5	4	[11,17]
chr6:35544937	RPL10A	coding_exon		+	AtoG	0.1	0.1333	3	2	[10,15]
chr6:35545941	RPL10A	coding_exon		+	GtoA	0.1	0.2667	11	7	[10,32]
chr6:35545947	RPL10A	coding_exon		+	TtoC	0.125	0.1765	5	2	[17,18]
chr6:35546349	RPL10A	coding_exon		+	TtoA	0.1304	0.3846	14	14	[10,98]
chr6:35546355	RPL10A	coding_exon		+	TtoA	0.1176	0.3333	7	6	[15,47]
chr6:35546457	RPL10A	coding_exon		+	GtoA	0.125	0.3571	13	12	[10,32]
chr6:35546534	RPL10A	UTR3		+	TtoA	0.8	0.9412	8	8	[10,27]
chr1:23891687	RPL11	coding_exon	ENST00000374550:QtoP;	+	AtoC	0.1005	0.1115	17	3	[260,487]
chr1:23891686	RPL11	coding_exon	ENST00000374550:QtoE;	+	CtoG	0.104	0.1706	17	3	[211,441]
chr1:23891684	RPL11	coding_exon		+	AtoT	0.619	0.8	3	3	[10,21]
chr1:23891685	RPL11	coding_exon		+	GtoT	0.1	0.2143	4	4	[10,23]
chr1:23895501	RPL11	UTR3		+	AtoG	0.1	0.3846	21	21	[12,76]
chr9:129252841	RPL12	coding_exon	ENST00000361436:PtoH;	-	CtoA	0.1667	0.2609	4	3	[43,70]
chr9:129250509	RPL12	coding_exon	ENST00000361436:NtoD;	-	AtoG	0.1084	0.1593	17	3	[173,391]
chr9:129250469	RPL12	coding_exon	ENST00000361436:MtoT;	-	TtoC	0.1119	0.1566	11	7	[64,172]
chr9:129252851	RPL12	coding_exon	ENST00000361436:KtoE;	-	AtoG	0.1429	0.1739	4	3	[78,121]
chr9:129251783	RPL12	coding_exon	ENST00000361436:ItoS;	-	TtoG	0.1026	0.1029	4	2	[68,157]
chr9:129250464	RPL12	coding_exon	ENST00000361436:HtoD;	-	CtoG	0.1101	0.1824	13	7	[45,289]
chr9:129250465	RPL12	coding_exon		-	GtoA	0.1105	0.1799	12	5	[43,265]
chr9:129250477	RPL12	coding_exon		-	TtoC	0.1011	0.1754	16	9	[58,418]
chr9:129251397	RPL12	coding_exon		-	AtoG	0.1007	0.1272	21	7	[97,216]
chr9:129251767	RPL12	coding_exon		-	TtoG	0.1333	0.1351	11	2	[32,38]
chr9:129252840	RPL12	coding_exon		-	CtoG	0.1163	0.2838	6	4	[43,76]
chr9:129249774	RPL12	UTR3		-	AtoG	0.1818	0.4	7	4	[12,16]
chr9:129249775	RPL12	UTR3		-	GtoA	0.1034	0.4167	16	12	[14,365]

chr9:129249776	RPL12	UTR3	-	GtoA	0.101	0.4118	18	16	[64,499]	
chr9:129249777	RPL12	UTR3	-	TtoA	0.1477	0.3962	9	9	[70,1092]	
chr9:129253492	RPL12	UTR5	-	GtoT	0.1296	0.2128	8	3	[47,54]	
chr9:129253493	RPL12	UTR5	-	GtoC	0.102	0.1951	7	5	[28,52]	
chr9:129253495	RPL12	UTR5	-	TtoG	0.1111	0.1667	3	2	[18,25]	
chr16:88156977	RPL13	UTR3	+	TtoC	0.1002	0.1471	19	9	[544,1204]	
chr16:88157877	RPL13	UTR3	+	AttoG	0.1	0.2353	8	4	[10,17]	
chr16:88157879	RPL13	UTR3	+	AttoG	0.1333	0.1333	3	2	[15,15]	
chr19:54686524	RPL13A	coding_exon	ENST00000391857:VtoI;	+	GtoA	0.1	0.2727	7	4	[10,21]
chr19:54686148	RPL13A	coding_exon	ENST00000391857:RtoC;	+	CtoT	0.2308	0.2667	5	2	[14,15]
chr19:54682699	RPL13A	coding_exon	ENST00000391857:MtoL;	+	AtoC	0.1	0.1765	11	8	[13,127]
chr19:54682701	RPL13A	coding_exon	ENST00000391857:MtoI;	+	GtoC	0.1287	0.4286	13	12	[19,160]
chr19:54685363	RPL13A	coding_exon	ENST00000391857:KtoQ;	+	AtoC	0.1039	0.1481	6	3	[27,97]
chr19:54685365	RPL13A	coding_exon	ENST00000391857:KtoN;	+	GtoT	0.1111	0.175	10	4	[19,124]
chr19:54685333	RPL13A	coding_exon	ENST00000391857:IttoV;	+	AttoG	0.1067	0.1366	18	7	[230,745]
chr19:54682702	RPL13A	coding_exon	ENST00000391857:AttoS;	+	GtoT	0.1171	0.44	12	12	[21,180]
chr19:54685294	RPL13A	coding_exon		+	CtoT	0.2	0.5	6	6	[12,30]
chr19:54685299	RPL13A	coding_exon		+	AttoG	0.1818	0.8571	8	8	[11,25]
chr19:54686115	RPL13A	coding_exon		+	CtoA	0.1	0.2308	3	3	[10,15]
chr19:54686529	RPL13A	coding_exon		+	CtoA	0.1	0.1667	6	3	[10,13]
chr19:54687356	RPL13A	UTR3	+	AttoG	0.1098	0.1429	6	3	[35,84]	
chr19:54687358	RPL13A	UTR3	+	AttoG	0.1176	0.1875	13	7	[16,56]	
chr19:54687359	RPL13A	UTR3	+	TtoA	0.1053	0.2609	4	3	[15,23]	
chr19:54682677	RPL13A	UTR5	+	CtoT	0.125	0.2	4	4	[10,24]	
chr19:54682689	RPL13A	UTR5	+	GtoT	0.1333	0.3077	4	2	[13,15]	
chr19:54682691	RPL13A	UTR5	+	TtoC	0.1154	0.1875	5	2	[16,27]	
chr19:54682692	RPL13A	UTR5	+	GtoC	0.1176	0.6098	12	8	[11,43]	
chr19:54682693	RPL13A	UTR5	+	CtoT	0.1538	0.55	10	6	[14,40]	
chr19:54682698	RPL13A	UTR5	+	GtoT	0.1132	0.1739	10	5	[18,116]	
chr13:53912812	RPL13AP22	UTR3	-	AttoG	0.1875	0.3043	2	2	[23,50]	
chr13:53912816	RPL13AP22	UTR3	-	TtoC	0.1667	0.1935	2	2	[30,62]	
chr12:6863341	RPL13P5	mixed		+	CtoG	0.1	0.1667	2	2	[10,18]
chr12:6863804	RPL13P5	mixed		+	TtoC	0.1	0.1	2	2	[10,10]
chr3:40474421	RPL14	coding_exon	ENST00000338970:YtoN;ENST00000396203:YtoN;ENST00000416518:YtoN;	+	TtoA	0.1667	0.1667	4	2	[13,13]
chr3:40477958	RPL14	coding_exon	ENST00000338970:Wto*;ENST00000396203:Wto*;ENST00000416518:Wto*;	+	GtoA	0.1	0.2093	12	10	[17,53]
chr3:40474416	RPL14	coding_exon	ENST00000338970:VtoG;ENST00000396203:VtoG;ENST00000416518:VtoG;	+	TtoG	0.3	0.6	7	4	[11,26]
chr3:40477970	RPL14	coding_exon	ENST00000338970:RtoQ;ENST00000396203:RtoQ;ENST00000416518:RtoQ;	+	GtoA	0.2222	0.8182	6	6	[10,14]
chr3:40478441	RPL14	coding_exon	ENST00000338970:RtoI;ENST00000396203:RtoI;	+	GtoA	0.1	0.1	6	2	[20,20]
chr3:40477969	RPL14	coding_exon	ENST00000338970:RtoG;ENST00000396203:RtoG;ENST00000416518:RtoG;	+	CtoG	0.5	0.6923	3	3	[13,14]
chr3:40475194	RPL14	coding_exon	ENST00000338970:MtoV;ENST00000396203:MtoV;ENST00000416518:MtoV;	+	AttoG	0.1	0.1667	6	3	[10,13]
chr3:40475195	RPL14	coding_exon	ENST00000338970:MtoR;ENST00000396203:MtoR;ENST00000416518:MtoR;	+	TtoG	0.1667	0.2143	5	2	[14,18]
chr3:40478156	RPL14	coding_exon	ENST00000338970:MtoI;ENST00000396203:MtoI;ENST00000416518:MtoI;	+	GtoA	0.1	0.1667	11	4	[10,34]
chr3:40475200	RPL14	coding_exon	ENST00000338970:LtoI;ENST00000396203:LtoI;ENST00000416518:LtoI;	+	CtoA	0.1	0.1212	2	2	[10,33]
chr3:40478111	RPL14	coding_exon	ENST00000338970:KtoN;ENST00000396203:KtoN;ENST00000416518:KtoN;	+	GtoT	0.1765	0.1818	5	2	[11,17]
chr3:40478148	RPL14	coding_exon	ENST00000338970:KtoE;ENST00000396203:KtoE;ENST00000416518:KtoE;	+	AttoG	0.1	0.1333	7	2	[16,22]
chr3:40478445	RPL14	coding_exon	ENST00000338970:ItoM;ENST00000396203:ItoM;ENST00000416518:ItoM;	+	AttoG	0.1	0.1	5	2	[10,20]
chr3:40478107	RPL14	coding_exon	ENST00000338970:AttoV;ENST00000396203:AttoV;ENST00000416518:AttoV;	+	CtoT	0.4	0.9	3	3	[10,14]
chr3:40478106	RPL14	coding_exon	ENST00000338970:AttoT;ENST00000396203:AttoT;ENST00000416518:AttoT;	+	GtoA	0.2	0.9091	3	3	[11,13]
chr3:40477962	RPL14	coding_exon		+	AttoG	0.1034	0.125	6	2	[16,29]
chr3:40477968	RPL14	coding_exon		+	AttoG	0.1538	0.1765	6	2	[13,18]
chr3:40478476	RPL14	mixed		+	GtoA	0.1	0.3	3	3	[10,12]
chr3:40478567	RPL14	mixed		+	CtoA	0.1364	0.2083	3	2	[66,170]
chr3:40478670	RPL14	mixed		+	TtoC	0.1525	0.2308	6	2	[27,62]
chr3:40478690	RPL14	mixed		+	AttoG	0.1818	0.5	7	6	[10,16]
chr3:40478840	RPL14	UTR3		+	AttoG	0.1765	0.3	4	2	[10,17]
chr12:61645723	RPL14P1	coding_exon	ENST00000266610:TtoS;	+	AttoT	1	1	2	2	[10,11]
chr12:61645721	RPL14P1	coding_exon	ENST00000266610:KtoR;	+	AttoG	1	1	2	2	[11,12]
chr3:23933626	RPL15	UTR5		+	TtoG	0.2105	0.6364	2	2	[11,19]
chr18:45271796	RPL17P20	coding_exon	ENST00000418495:StoP;ENST00000441578:StoP;	-	TtoC	0.1111	0.1667	4	2	[13,18]
chr18:45271908	RPL17P20	coding_exon	ENST00000418495:PtoL;ENST00000441578:PtoL;	-	CtoT	0.12	0.28	9	5	[26,92]
chr18:45271790	RPL17P20	coding_exon	ENST00000418495:LtoI;ENST00000441578:LtoI;	-	CtoA	0.1053	0.1538	5	2	[13,19]
chr18:45271178	RPL17P20	coding_exon	ENST00000332968:VtoF;ENST00000418495:VtoF;ENST00000441578:VtoF;	-	GtoT	0.1111	0.413	16	13	[36,108]
chr18:45271785	RPL17P20	coding_exon	ENST00000332968:VtoE;	-	TtoA	0.1	0.1176	2	2	[10,17]
chr18:45271177	RPL17P20	coding_exon	ENST00000332968:VtoA;ENST00000418495:VtoA;ENST00000441578:VtoA;	-	TtoC	0.1111	0.4444	15	14	[19,115]
chr18:45270877	RPL17P20	coding_exon	ENST00000332968:StoI;ENST00000418495:StoI;ENST00000441578:StoI;	-	GtoT	0.1053	0.3788	10	8	[25,68]
chr18:45271294	RPL17P20	coding_exon	ENST00000332968:NtoS;ENST00000418495:NtoS;ENST00000441578:NtoS;	-	AttoG	0.1	0.7692	4	4	[10,29]
chr18:45271293	RPL17P20	coding_exon	ENST00000332968:NtoK;ENST00000418495:NtoK;ENST00000441578:NtoK;	-	CtoA	0.6	0.7692	3	3	[10,30]
chr18:45270836	RPL17P20	coding_exon	ENST00000332968:NtoD;ENST00000418495:NtoD;ENST00000441578:NtoD;	-	AttoG	0.1	0.1	4	2	[10,10]
chr18:45270826	RPL17P20	coding_exon	ENST00000332968:LtoH;ENST00000418495:LtoH;ENST00000441578:LtoH;	-	TtoA	0.1	0.2308	3	3	[10,13]
chr18:45270884	RPL17P20	coding_exon	ENST00000332968:KtoQ;ENST00000418495:KtoQ;ENST00000441578:KtoQ;	-	AttoC	0.1429	0.2308	11	2	[21,42]
chr18:45271180	RPL17P20	coding_exon	ENST00000332968:GtoA;ENST00000418495:GtoA;ENST00000441578:GtoA;	-	GtoC	0.1	0.2069	11	6	[22,75]
chr18:45271198	RPL17P20	coding_exon	ENST00000332968:FtoS;ENST00000418495:FtoS;ENST00000441578:FtoS;	-	TtoC	0.4444	0.9091	6	6	[10,14]
chr18:45271199	RPL17P20	coding_exon	ENST00000332968:FtoL;ENST00000418495:FtoL;ENST00000441578:FtoL;	-	TtoC	0.1	0.1	3	2	[10,10]
chr18:45271782	RPL17P20	coding_exon	ENST00000332968:FtoC;	-	TtoG	0.1333	0.1429	4	2	[14,15]
chr18:45270841	RPL17P20	coding_exon	ENST00000332968:EtoG;ENST00000418495:EtoG;ENST00000441578:EtoG;	-	AttoG	0.1	0.1538	3	3	[10,27]
chr18:45270840	RPL17P20	coding_exon	ENST00000332968:EtoD;ENST00000418495:EtoD;ENST00000441578:EtoD;	-	GtoT	0.1	0.3571	11	7	[10,24]
chr18:45271168	RPL17P20	coding_exon	ENST00000332968:CtoS;ENST00000418495:CtoS;ENST00000441578:CtoS;	-	GtoC	0.1228	0.125	5	2	[56,171]
chr18:45270875	RPL17P20	coding_exon	ENST00000332968:AttoS;ENST00000418495:AttoS;ENST00000441578:AttoS;	-	GtoT	0.1	0.1429	8	2	[21,36]
chr18:45270832	RPL17P20	coding_exon	ENST00000332968:AttoD;ENST00000418495:AttoD;ENST00000441578:AttoD;	-	CtoA	0.1	0.15	3	2	[10,20]
chr18:45270825	RPL17P20	coding_exon		-	TtoG	0.2	0.2667	3	2	[10,15]
chr18:45270879	RPL17P20	coding_exon		-	GtoA	0.1316	0.1707	8	3	[37,41]
chr18:45271170	RPL17P20	coding_exon		-	GtoA	0.1231	0.1299	4	2	[66,179]
chr18:45271179	RPL17P20	coding_exon		-	AttoG	0.1039	0.2143	14	9	[29,77]
chr18:45271182	RPL17P20	coding_exon		-	TtoG	0.1111	0.2222	8	2	[18,19]
chr18:45271197	RPL17P20	coding_exon		-	CtoT	0.2308	0.7273	8	8	[10,14]
chr18:45272833	RPL17P20	UTR5		-	AttoT	0.1111	0.1944	8	2	[37,54]
chr18:45272835	RPL17P20	UTR5		-	GtoT	0.1	0.1818	9	4	[10,34]
chr18:45272837	RPL17P20	UTR5		-	AttoC	0.1429	0.48	14	8	[11,42]
chr19:53810958	RPL18	coding_exon	ENST00000084795:HtoP;	-	AttoC	0.1122	0.229	7	4	[2198,4164]
chr19:53810960	RPL18	coding_exon		-	GtoC	0.1126	0.138	4	3	[2740,4456]
chr19:17835121	RPL18A	UTR3		+	GtoA	0.1127	0.1158	12	2	[97,147]
chr19:17831735	RPL18A	UTR5		+	TtoC	0.12	0.4667	9	9	[15,68]
chr17:34612810	RPL19P12	coding_exon	ENST00000225430:VtoA;	+	TtoC	0.1068	0.2121	11	7	[204,409]
chr17:34612840	RPL19P12	coding_exon	ENST00000225430:RtoH;	+	GtoA	0.1	0.2045	8	5	[136,316]
chr17:34612101	RPL19P12	coding_exon	ENST00000225430:QtoK;	+	CtoA	0.1522	0.1538	5	2	[47,52]
chr17:34612846	RPL19P12	coding_exon	ENST00000225430:ItoQ;	+	TtoA	0.1031	0.1053	11	2	[106,139]

chr8:74366006	RPL7	coding_exon	ENST00000352983:HtoD;ENST00000396465:HtoD;ENST00000396466:HtoD;ENST00000396467:HtoD	-	CtoG	0.1176	0.25	6	4	[17,54]
chr8:74365987	RPL7	coding_exon	ENST00000352983:GtoE;ENST00000396465:GtoE;ENST00000396466:GtoE;ENST00000396467:GtoE	-	GtoA	0.1071	0.4167	5	5	[11,32]
chr8:74367095	RPL7	coding_exon	ENST00000352983:Atot;ENST00000396465:Atot;ENST00000396466:Atot;ENST00000396467:Atot	-	GtoA	0.1	0.2308	10	5	[10,20]
chr8:74366353	RPL7	coding_exon	ENST00000352983:Atos;ENST00000396465:Atos;ENST00000396466:Atos;ENST00000396467:Atos	-	GtoT	0.1	0.3077	2	2	[10,13]
chr8:74365986	RPL7	coding_exon		-	Atog	0.1111	0.4444	6	6	[10,27]
chr8:74366007	RPL7	coding_exon		-	TtoA	0.1053	0.2273	6	5	[17,57]
chr8:74367093	RPL7	coding_exon		-	Atog	0.2667	0.3636	3	2	[11,16]
chr8:74367102	RPL7	coding_exon		-	GtoA	0.125	0.25	13	2	[12,16]
chr8:74367484	RPL7	mixed		-	Atog	0.1176	0.4667	7	4	[12,18]
chr8:74367485	RPL7	mixed		-	Atog	0.1	0.4545	9	9	[10,51]
chr8:74367495	RPL7	mixed		-	Atog	0.1091	0.1111	5	2	[27,58]
chr8:74367507	RPL7	mixed		-	CtoA	0.1429	0.2941	7	3	[17,40]
chr8:74367534	RPL7	mixed		-	Atot	0.1724	0.1818	4	2	[22,30]
chr8:74367535	RPL7	mixed		-	Atoc	0.1034	0.125	6	2	[24,29]
chr8:74367545	RPL7	mixed		-	Atot	0.1176	0.1667	6	3	[12,35]
chr8:74367556	RPL7	mixed		-	Atot	0.2222	0.4	3	3	[14,20]
chr8:74365438	RPL7	UTR3		-	Atog	0.1	0.186	14	9	[14,44]
chr8:74365440	RPL7	UTR3		-	TtoG	0.1	0.25	10	5	[13,36]
chr8:74368419	RPL7	UTR5		-	CtoT	0.1	0.2727	2	2	[11,20]
chr8:74368422	RPL7	UTR5		-	CtoG	0.1818	0.2222	2	2	[10,11]
chr9:135206617	RPL7A	coding_exon	ENST00000323345:YtoD;	+	TtoG	0.1026	0.1579	9	4	[21,52]
chr9:135206293	RPL7A	coding_exon	ENST00000323345:QtoP;	+	Atoc	0.1154	0.1282	8	2	[26,41]
chr9:135206606	RPL7A	coding_exon	ENST00000323345:LtoQ;	+	TtoA	0.1184	0.1416	5	2	[79,116]
chr9:135206611	RPL7A	coding_exon	ENST00000323345:HtoD;	+	CtoG	0.1034	0.1111	7	3	[47,58]
chr9:135206928	RPL7A	coding_exon	ENST00000315731:VtoA;ENST00000323345:VtoA;ENST00000412126:VtoA;	+	TtoC	0.1358	0.1784	10	3	[180,572]
chr9:135207313	RPL7A	coding_exon	ENST00000315731:VtoA;ENST00000323345:VtoA;ENST00000412126:VtoA;	+	TtoC	0.1034	0.2353	17	5	[72,138]
chr9:135206930	RPL7A	coding_exon	ENST00000315731:TtoA;ENST00000323345:TtoA;ENST00000412126:TtoA;	+	Atog	0.1107	0.1181	15	3	[257,305]
chr9:135206280	RPL7A	coding_exon	ENST00000315731:LtoR;ENST00000323345:YtoD;ENST00000412126:LtoR;	+	TtoG	0.1111	0.1143	10	2	[65,74]
chr9:135207295	RPL7A	coding_exon	ENST00000315731:LtoR;ENST00000323345:LtoR;ENST00000412126:LtoR;	+	TtoG	0.1048	0.1361	9	2	[131,163]
chr9:135206279	RPL7A	coding_exon	ENST00000315731:LtoI;ENST00000412126:LtoI;	+	CtoA	0.1096	0.1111	12	2	[75,136]
chr9:135206953	RPL7A	coding_exon	ENST00000315731:KtoN;ENST00000323345:KtoN;ENST00000412126:KtoN;	+	Atoc	0.1111	0.1296	5	3	[54,152]
chr9:135206954	RPL7A	coding_exon	ENST00000315731:Atos;ENST00000323345:Atos;ENST00000412126:Atos;	+	GtoT	0.1132	0.1689	7	4	[53,149]
chr9:135206300	RPL7A	coding_exon		+	Atoc	0.102	0.2174	9	7	[23,49]
chr9:135206610	RPL7A	coding_exon		+	CtoA	0.1071	0.1364	8	2	[22,57]
chr9:135207245	RPL7A	coding_exon		+	Atoc	0.1176	0.1364	5	2	[17,22]
chr9:135207246	RPL7A	coding_exon		+	CtoG	0.1	0.125	7	3	[16,25]
chr9:135207676	RPL7A	coding_exon		+	Atoc	0.1111	0.25	6	4	[10,18]
chr9:135208006	RPL7A	coding_exon		+	GtoA	0.1	0.1429	5	2	[22,71]
chr9:135208009	RPL7A	coding_exon		+	Atog	0.5	0.9286	13	13	[10,39]
chr9:135205687	RPL7A	mixed		+	GtoA	0.1111	0.1304	10	4	[24,38]
chr9:135205695	RPL7A	mixed		+	Atog	0.1	0.6667	5	4	[10,19]
chr9:135205704	RPL7A	mixed		+	Atot	0.2727	0.4118	3	3	[11,17]
chr9:135205705	RPL7A	mixed		+	GtoC	0.1	0.1053	3	2	[10,20]
chr9:135205706	RPL7A	mixed		+	Atot	0.1	0.1667	7	2	[13,20]
chr9:135205708	RPL7A	mixed		+	TtoC	0.1	0.2	11	5	[10,38]
chr9:135205711	RPL7A	mixed		+	TtoC	0.1	0.3333	13	6	[16,48]
chr9:135205712	RPL7A	mixed		+	GtoT	0.1	0.2632	11	5	[10,25]
chr9:135206222	RPL7A	mixed		+	CtoA	0.1667	0.1667	2	2	[12,12]
chr9:135206225	RPL7A	mixed		+	Atot	0.1818	0.3	2	2	[10,11]
chr9:135206250	RPL7A	mixed		+	GtoC	0.1111	0.1444	6	2	[57,90]
chr9:135208075	RPL7A	UTR3		+	TtoA	0.1176	0.15	4	2	[17,20]
chr9:135208076	RPL7A	UTR3		+	Atog	0.1333	0.1739	4	2	[15,23]
chr9:135208096	RPL7A	UTR3		+	TtoC	0.1	0.1053	7	2	[10,19]
chr9:135204908	RPL7A	UTR5		+	CtoT	0.1364	0.3333	12	9	[10,41]
chr9:135204914	RPL7A	UTR5		+	CtoT	0.1103	0.1133	9	2	[417,667]
chr6:42959248	RPL7L1	coding_exon	ENST00000304734:RtoG;ENST00000493763:RtoG;	+	CtoG	0.1667	0.2609	2	2	[23,24]
chr6:42959280	RPL7L1	coding_exon		+	CtoT	0.1579	0.1765	4	2	[17,19]
chr6:42960335	RPL7L1	coding_exon		+	CtoT	0.1111	0.25	6	4	[15,27]
chr8:145985959	RPL8	UTR3		-	CtoG	0.1	0.25	10	7	[10,29]
chr8:145985960	RPL8	UTR3		-	CtoA	0.1	0.125	5	2	[10,16]
chr4:39132150	RPL9	UTR3		-	CtoA	0.8594	1	15	15	[19,101]
chr4:39132151	RPL9	UTR3		-	CtoA	0.3511	0.9158	16	16	[66,286]
chr4:39136913	RPL9	UTR5		-	Atot	0.14	0.3333	11	5	[15,50]
chr4:39136914	RPL9	UTR5		-	TtoA	0.102	0.2308	6	5	[13,49]
chr4:39136926	RPL9	UTR5		-	CtoT	0.1	0.2308	3	3	[10,18]
chr12:119119095	RPLP0P3	coding_exon	ENST00000228306:StoY;ENST00000311304:StoY;ENST00000392514:StoY;	-	CtoA	0.1	0.125	4	2	[16,20]
chr12:119119099	RPLP0P3	coding_exon	ENST00000228306:Ptot;ENST00000311304:Ptot;ENST00000392514:Ptot;	-	CtoA	0.125	0.1463	9	3	[32,42]
chr12:119120799	RPLP0P3	coding_exon	ENST00000228306:ItoV;ENST00000392514:ItoV;	-	Atog	0.1101	0.1612	17	9	[245,435]
chr12:119119539	RPLP0P3	coding_exon	ENST00000228306:EtoV;ENST00000311304:EtoV;ENST00000392514:EtoV;	-	Atot	0.1	0.2812	13	11	[28,55]
chr12:119119540	RPLP0P3	coding_exon	ENST00000228306:EtoQ;ENST00000311304:EtoQ;ENST00000392514:EtoQ;	-	GtoC	0.1091	0.2812	13	10	[30,60]
chr12:119119094	RPLP0P3	coding_exon		-	TtoA	0.1	0.1875	5	4	[10,16]
chr12:119119097	RPLP0P3	coding_exon		-	Atog	0.1429	0.1579	7	2	[14,20]
chr12:119119103	RPLP0P3	coding_exon		-	TtoA	0.125	0.1569	5	2	[42,52]
chr12:119119553	RPLP0P3	coding_exon		-	GtoT	0.125	0.1333	4	2	[16,60]
chr12:119119556	RPLP0P3	coding_exon		-	CtoT	0.1111	0.2308	7	4	[13,40]
chr12:119118906	RPLP0P3	UTR3		-	Atog	0.1	0.2727	3	2	[11,20]
chr12:119118907	RPLP0P3	UTR3		-	Atog	0.1579	0.25	3	3	[12,19]
chr12:119118912	RPLP0P3	UTR3		-	Atog	0.1304	0.3077	8	5	[10,24]
chr12:119118916	RPLP0P3	UTR3		-	Atog	0.1	0.1923	9	3	[13,26]
chr12:119118917	RPLP0P3	UTR3		-	CtoA	0.1333	0.3	10	3	[10,27]
chr12:119118931	RPLP0P3	UTR3		-	TtoA	0.1034	0.1429	9	4	[28,39]
chr12:119118942	RPLP0P3	UTR3		-	Atog	0.1053	0.1875	11	5	[39,248]
chr12:119118943	RPLP0P3	UTR3		-	CtoA	0.1279	0.2727	10	5	[48,301]
chr15:67534883	RPLP1	coding_exon	ENST00000260379:FtoV;ENST00000357790:FtoV;	+	TtoG	0.102	0.1039	13	3	[763,1126]
chr15:67534933	RPLP1	UTR3		+	Atog	0.1028	0.18	13	9	[31,113]
chr15:67534934	RPLP1	UTR3		+	Atog	0.1628	0.1739	8	2	[23,43]
chr15:67534940	RPLP1	UTR3		+	CtoA	0.1176	0.3333	4	3	[12,17]
chr15:67532218	RPLP1	UTR5		+	CtoT	0.125	0.1429	7	2	[14,16]
chr11:802873	RPLP2	UTR3		+	TtoA	0.2273	0.6	6	6	[10,37]
chr11:802874	RPLP2	UTR3		+	CtoA	0.1364	0.5455	8	8	[11,32]
chr11:799963	RPLP2	UTR5		+	CtoT	0.1	0.1562	4	2	[10,32]
chr11:799968	RPLP2	UTR5		+	CtoT	0.1045	0.1915	11	6	[48,152]
chr3:129821566	RPN1	UTR3		-	GtoT	0.1053	0.2308	6	5	[13,51]
chr3:129821777	RPN1	UTR3		-	TtoG	0.1176	0.1667	10	3	[12,18]
chr3:58277310	RPP14	coding_exon	ENST00000295959:LtoR;ENST00000445193:LtoR;ENST00000466547:LtoR;	+	TtoG	0.1	0.1176	5	2	[10,18]
chr18:31827254	RPRD1A	coding_exon	ENST00000337059:KtoM;ENST00000357384:KtoM;ENST00000399022:KtoM;	-	Atot	0.1	0.1111	3	2	[10,19]

chr18:31860863	RPRD1A	coding_exon	ENST00000319040:Etoc;ENST00000337059:Etoc;ENST00000357384:Etoc;ENST00000337059:Etoc	-	GtoC	0.1	0.1667	3	2	[12,20]
chr20:36152230	RPRD1B	UTR3		+	TtoC	0.1	0.1538	2	2	[14,20]
chr1:148710871	RPRD2	coding_exon	ENST00000369068:DtoE;ENST00000401000:DtoE;	+	CtoG	0.1	0.1	2	2	[10,10]
chr1:148711099	RPRD2	coding_exon		+	AtoG	0.1	0.1429	2	2	[10,14]
chr6:34500537	RPS10	coding_exon	ENST00000326199:YtoC;ENST00000344700:YtoC;ENST00000374053:YtoC;	-	AtoG	0.1359	0.3333	6	5	[29,110]
chr6:34500556	RPS10	coding_exon	ENST00000326199:WtoR;ENST00000344700:WtoR;ENST00000374053:WtoR;	-	TtoC	0.103	0.1576	17	4	[59,244]
chr6:34500549	RPS10	coding_exon	ENST00000326199:HtoR;ENST00000344700:HtoR;ENST00000374053:HtoR;	-	AtoG	0.1157	0.1407	9	2	[124,138]
chr6:34500550	RPS10	coding_exon	ENST00000326199:HtoD;ENST00000344700:HtoD;ENST00000374053:HtoD;	-	CtoG	0.1333	0.1589	9	3	[105,199]
chr6:34493216	RPS10	UTR3		-	AtoG	0.2308	0.3	5	2	[10,13]
chr6:34493219	RPS10	UTR3		-	AtoG	0.1023	0.2245	16	8	[50,118]
chr6:34493220	RPS10	UTR3		-	AtoG	0.1383	0.3179	19	19	[104,360]
chr19:54691503	RPS11P5	UTR5		+	CtoT	0.1148	0.1795	9	7	[39,79]
chr6:133180392	RPS12	UTR3		+	TtoC	0.1053	0.2174	11	3	[19,42]
chr6:133180394	RPS12	UTR3		+	AtoG	0.1143	0.5294	13	13	[14,67]
chr6:133180396	RPS12	UTR3		+	AtoG	0.2222	0.4167	6	6	[10,34]
chr6:133177410	RPS12	UTR5		+	TtoC	0.1	0.1	5	2	[10,10]
chr11:17052531	RPS13P2	UTR3		-	AtoG	0.1304	0.1429	3	2	[15,23]
chr11:17052532	RPS13P2	UTR3		-	AtoG	0.1538	0.1538	13	2	[13,14]
chr11:17052533	RPS13P2	UTR3		-	TtoA	0.1143	0.3333	18	12	[17,59]
chr11:17052535	RPS13P2	UTR3		-	AtoG	0.1373	0.6029	19	19	[32,158]
chr11:17052536	RPS13P2	UTR3		-	CtoA	0.1067	0.1605	13	3	[35,81]
chr11:17055773	RPS13P2	UTR5		-	GtoT	0.1239	0.2316	4	2	[235,465]
chr11:17055777	RPS13P2	UTR5		-	GtoT	0.1083	0.119	4	2	[43,121]
chr11:17055778	RPS13P2	UTR5		-	TtoC	0.15	0.3556	5	4	[21,102]
chr11:17055789	RPS13P2	UTR5		-	CtoT	0.1071	0.5152	4	3	[17,34]
chr11:17055791	RPS13P2	UTR5		-	TtoC	0.2353	0.3529	2	2	[17,18]
chr5:149803989	RPS14	UTR3		-	TtoA	0.1	0.1	6	2	[10,10]
chr5:149804000	RPS14	UTR3		-	AtoG	0.1143	0.1429	8	2	[36,49]
chr5:149809492	RPS14	UTR5		-	TtoC	0.1	0.1	5	2	[20,20]
chr16:18701786	RPS15A	UTR3		-	GtoA	0.1515	0.2941	8	4	[17,33]
chr16:18701789	RPS15A	UTR3		-	CtoA	0.1154	0.1667	11	6	[42,116]
chr16:18701790	RPS15A	UTR3		-	TtoA	0.1455	0.5	13	13	[50,235]
chr19:1391483	RPS15P5	UTR3		+	AtoG	0.104	0.1224	12	2	[99,416]
chr19:1391490	RPS15P5	UTR3		+	TtoC	0.1619	0.6364	15	15	[14,704]
chr19:1391491	RPS15P5	UTR3		+	CtoG	0.1111	0.1154	5	2	[18,26]
chr19:1389417	RPS15P5	UTR5		+	CtoT	0.1102	0.1176	6	2	[34,118]
chr19:44616013	RPS16P1	coding_exon	ENST00000251453:YtoC;ENST00000339471:Itov;	-	AtoG	0.1538	0.1538	6	2	[39,40]
chr19:44616012	RPS16P1	coding_exon	ENST00000251453:Yto*;ENST00000339471:Itos;	-	TtoG	0.1	0.2632	10	7	[19,63]
chr19:44616019	RPS16P1	coding_exon	ENST00000251453:VtoA;ENST00000339471:WtoR;	-	TtoC	0.1	0.1379	12	5	[36,139]
chr19:44616022	RPS16P1	coding_exon	ENST00000251453:LtoQ;ENST00000339471:WtoR;	-	TtoA	0.1044	0.1421	17	7	[148,320]
chr19:44616003	RPS16P1	coding_exon	ENST00000251453:KtoN;ENST00000339471:NtoI;	-	AtoT	0.1111	0.2632	9	8	[13,28]
chr19:44616004	RPS16P1	coding_exon	ENST00000251453:KtoI;ENST00000339471:NtoI;	-	AtoT	0.1053	0.3043	14	11	[10,28]
chr19:44615869	RPS16P1	coding_exon	ENST00000251453:Kto*;	-	AtoT	0.1053	0.1556	9	5	[39,74]
chr19:44615872	RPS16P1	coding_exon	ENST00000251453:Itol;ENST00000339471:RtoS;	-	AtoC	0.1818	0.5455	8	8	[11,39]
chr19:44615873	RPS16P1	coding_exon	ENST00000251453:Etod;ENST00000339471:RtoI;	-	GtoT	0.1875	0.8333	5	5	[11,31]
chr19:44615893	RPS16P1	coding_exon	ENST00000251453:DtoN;ENST00000339471:Wto*;	-	GtoA	0.1	0.1538	4	2	[10,13]
chr19:44615892	RPS16P1	coding_exon	ENST00000251453:DtoG;ENST00000339471:MtoV;	-	AtoG	0.1	0.1818	4	2	[10,11]
chr19:44615702	RPS16P1	UTR3		-	TtoA	0.15	0.3226	9	9	[10,44]
chr19:44615703	RPS16P1	UTR3		-	TtoA	0.24	0.4828	10	10	[10,56]
chr19:44618417	RPS16P1	UTR5		-	GtoT	0.1	0.1429	3	3	[10,34]
chr19:44618418	RPS16P1	UTR5		-	TtoC	0.1071	0.45	2	2	[20,29]
chr6:33352262	RPS18	UTR3		+	AtoG	0.7179	0.9286	5	5	[10,42]
chr6:33347840	RPS18	UTR5		+	CtoG	0.125	0.1765	6	2	[35,56]
chr22:38255047	RPS19BP1	UTR3		-	AtoG	0.1667	0.3077	3	3	[12,13]
chr19:47067309	RPS19P3	UTR3		+	AtoG	0.1009	0.1389	4	3	[108,327]
chr19:47067317	RPS19P3	UTR3		+	AtoG	0.1205	0.4095	22	20	[62,232]
chr16:1952779	RPS2	coding_exon	ENST00000343262:WtoR;	-	TtoC	0.1129	0.1452	12	4	[197,423]
chr16:1952848	RPS2	coding_exon	ENST00000343262:VtoL;	-	GtoT	0.1176	0.1333	2	2	[15,17]
chr16:1954358	RPS2	coding_exon	ENST00000343262:VtoI;	-	GtoA	0.1107	0.2727	12	6	[45,303]
chr16:1952657	RPS2	coding_exon	ENST00000343262:VtoG;	-	TtoG	0.1012	0.129	6	2	[32,173]
chr16:1954357	RPS2	coding_exon	ENST00000343262:VtoD;	-	TtoA	0.5217	0.7429	2	2	[24,36]
chr16:1952264	RPS2	coding_exon	ENST00000343262:TtoP;	-	AtoC	0.1102	0.1389	9	2	[124,152]
chr16:1952592	RPS2	coding_exon	ENST00000343262:StoP;	-	TtoC	0.1795	0.2667	5	3	[16,40]
chr16:1953188	RPS2	coding_exon	ENST00000343262:QtoI;	-	AtoT	0.1149	0.1714	8	2	[38,151]
chr16:1952580	RPS2	coding_exon	ENST00000343262:PtoS;	-	CtoT	0.16	0.4167	4	3	[13,25]
chr16:1952579	RPS2	coding_exon	ENST00000343262:PtoL;	-	CtoT	0.1818	0.3636	5	5	[11,23]
chr16:1952586	RPS2	coding_exon	ENST00000343262:PtoA;	-	CtoG	0.25	0.3077	2	2	[27,40]
chr16:1952504	RPS2	coding_exon	ENST00000343262:NtoT;	-	AtoC	0.1	0.2143	2	2	[10,14]
chr16:1952872	RPS2	coding_exon	ENST00000343262:LtoV;	-	CtoG	0.1111	0.2174	12	8	[23,121]
chr16:1952624	RPS2	coding_exon	ENST00000343262:LtoH;	-	TtoA	0.1211	0.129	10	2	[134,241]
chr16:1952863	RPS2	coding_exon	ENST00000343262:KtoQ;	-	AtoC	0.1333	0.4	8	8	[10,44]
chr16:1952768	RPS2	coding_exon	ENST00000343262:KtoN;	-	GtoT	0.1046	0.1732	8	5	[181,865]
chr16:1953184	RPS2	coding_exon	ENST00000343262:KtoI;	-	GtoT	0.1409	0.19	12	3	[100,149]
chr16:1952767	RPS2	coding_exon	ENST00000343262:Itol;	-	AtoC	0.101	0.1875	9	6	[209,805]
chr16:1954304	RPS2	coding_exon	ENST00000343262:Itof;	-	AtoT	0.1875	0.2	7	2	[16,31]
chr16:1952879	RPS2	coding_exon	ENST00000343262:HtoQ;	-	CtoG	0.1056	0.1508	12	5	[86,589]
chr16:1952600	RPS2	coding_exon	ENST00000343262:GtoD;	-	GtoA	0.1731	0.2222	2	2	[53,120]
chr16:1952501	RPS2	coding_exon	ENST00000343262:FtoS;	-	TtoC	0.3043	0.6377	11	10	[22,70]
chr16:1952502	RPS2	coding_exon	ENST00000343262:FtoL;	-	TtoC	0.1	0.1765	10	4	[18,55]
chr16:1952844	RPS2	coding_exon	ENST00000343262:Atov;	-	CtoT	0.1667	0.3675	7	6	[22,118]
chr16:1952500	RPS2	coding_exon		-	CtoT	0.16	0.4839	10	10	[31,108]
chr16:1952503	RPS2	coding_exon		-	CtoT	0.1	0.2778	7	6	[17,21]
chr16:1952581	RPS2	coding_exon		-	GtoT	0.1111	0.1538	2	2	[14,19]
chr16:1954353	RPS2	coding_exon		-	CtoA	0.1111	0.3636	6	4	[11,112]
chr16:1954356	RPS2	coding_exon		-	CtoG	0.1111	0.8158	11	11	[10,232]
chr16:1954544	RPS2	coding_exon		-	TtoG	0.1333	0.1667	2	2	[12,15]
chr16:1954559	RPS2	coding_exon		-	TtoC	0.1026	0.3333	2	2	[19,86]
chr16:1952079	RPS2	UTR3		-	AtoG	0.1	0.1667	5	2	[12,31]
chr16:1954820	RPS2	UTR5		-	CtoT	0.1	0.12	5	2	[25,30]
chr16:1954828	RPS2	UTR5		-	CtoT	0.125	0.1333	8	3	[16,25]
chr16:1954829	RPS2	UTR5		-	TtoG	0.25	0.75	4	4	[11,23]
chr16:1954830	RPS2	UTR5		-	TtoG	0.2	0.3	3	2	[10,11]
chr8:57149202	RPS20	coding_exon	ENST00000009589:TtoK;ENST00000427539:TtoK;	-	CtoA	0.1768	0.1964	4	3	[1319,2141]
chr8:57148173	RPS20	mixed		-	TtoA	0.2667	0.8182	6	6	[11,16]
chr8:57149606	RPS20	UTR5		-	AtoT	0.1111	0.2857	8	4	[44,58]
chr8:57149607	RPS20	UTR5		-	GtoC	0.1176	0.3333	11	5	[21,51]

chr8:57149612	RPS20	UTR5	-	AtoG	0.1	0.12	7	2	[10,26]
chr8:57149615	RPS20	UTR5	-	TtoG	0.1111	0.1538	3	2	[13,19]
chr8:57149619	RPS20	UTR5	-	CtoT	0.5455	0.8	3	3	[10,12]
chr20:60396971	RPS21	UTR3	+	AtoG	0.3636	0.6	3	3	[10,12]
chr5:81606948	RPS23	UTR3	-	AtoG	0.1111	0.1429	5	2	[14,18]
chr5:81607022	RPS23	UTR3	-	CtoT	0.1	0.1818	2	2	[10,11]
chr5:81607637	RPS23	UTR3	-	AtoG	0.1	0.25	4	2	[10,12]
chr5:81607640	RPS23	UTR3	-	AtoG	0.1241	0.1932	15	15	[91,613]
chr10:79469965	RPS24	mixed	+	CtoA	0.6538	0.9792	16	16	[17,90]
chr10:79470461	RPS24	mixed	+	AtoG	0.1111	0.2143	12	7	[11,34]
chr10:79470463	RPS24	mixed	+	GtoA	0.1	0.2727	10	6	[10,22]
chr10:79470467	RPS24	mixed	+	CtoA	0.1111	0.2222	4	4	[10,18]
chr10:79470468	RPS24	mixed	+	TtoA	0.1	0.1111	2	2	[10,22]
chr11:118393360	RPS25P8	coding_exon	-	AtoC	0.1	0.3	4	2	[10,10]
chr11:118393405	RPS25P8	coding_exon	-	AtoC	0.1	0.1818	10	4	[10,35]
chr11:118393428	RPS25P8	coding_exon	-	AtoT	0.1071	0.3	6	4	[10,29]
chr11:118393429	RPS25P8	coding_exon	-	AtoC	0.1	0.3636	8	5	[11,31]
chr11:118393375	RPS25P8	coding_exon	-	AtoG	0.1034	0.28	13	7	[15,33]
chr11:118393425	RPS25P8	coding_exon	-	TtoC	0.1	0.3077	16	10	[10,48]
chr11:118393365	RPS25P8	coding_exon	-	TtoA	0.1	0.25	10	4	[10,16]
chr11:118393885	RPS25P8	coding_exon	-	AtoG	0.1111	0.2632	14	10	[15,64]
chr11:118393886	RPS25P8	coding_exon	-	AtoG	0.2	0.5938	15	15	[29,107]
chr11:118393892	RPS25P8	coding_exon	-	AtoG	0.1111	0.1163	11	2	[86,91]
chr11:118393897	RPS25P8	coding_exon	-	GtoA	0.1021	0.1087	13	2	[190,238]
chr11:118393355	RPS25P8	coding_exon	-	AtoG	0.2222	0.4444	3	3	[10,22]
chr11:118393376	RPS25P8	coding_exon	-	CtoA	0.1111	0.1875	4	2	[16,27]
chr11:118393887	RPS25P8	coding_exon	-	CtoG	0.1026	0.125	11	4	[41,81]
chr11:118394250	RPS25P8	UTR5	-	AtoC	0.1065	0.1304	10	3	[186,295]
chr11:118394263	RPS25P8	UTR5	-	CtoT	0.2222	0.6552	15	15	[12,53]
chr11:118394265	RPS25P8	UTR5	-	TtoG	0.1	0.3	5	3	[10,12]
chr1:152230320	RPS27	coding_exon	+	CtoG	0.1111	0.1333	7	2	[15,18]
chr1:152230319	RPS27	coding_exon	+	CtoG	0.1667	0.1818	4	2	[11,12]
chr1:152230681	RPS27	mixed	+	CtoT	0.1111	0.2262	17	6	[46,191]
chr1:152230683	RPS27	mixed	+	AtoT	0.1273	0.1685	16	2	[59,92]
chr1:152230727	RPS27	mixed	+	CtoG	0.1172	0.1719	3	2	[64,285]
chr1:152230731	RPS27	mixed	+	AtoC	0.1092	0.6415	8	6	[20,120]
chr1:152230743	RPS27	mixed	+	CtoA	0.1081	0.125	7	2	[34,39]
chr1:152230746	RPS27	mixed	+	CtoA	0.1364	0.1875	5	3	[16,22]
chr1:152231239	RPS27	UTR3	+	AtoG	0.1016	0.125	19	8	[179,511]
chr1:152231248	RPS27	UTR3	+	AtoC	0.1053	0.4	10	3	[10,19]
chr2:55316245	RPS27A	UTR3	+	TtoA	0.1	0.3793	11	11	[29,139]
chr2:55316248	RPS27A	UTR3	+	CtoA	0.1014	0.2273	13	5	[22,70]
chr2:55316249	RPS27A	UTR3	+	AtoG	0.1053	0.3333	11	6	[15,42]
chr2:55316250	RPS27A	UTR3	+	TtoA	0.1667	0.3333	4	4	[12,18]
chr2:55316251	RPS27A	UTR3	+	TtoA	0.1	0.1667	3	2	[11,18]
chr2:55313335	RPS27A	UTR5	+	AtoC	0.1	0.1071	6	2	[28,30]
chr19:18547045	RPS27AP11	UTR3	+	GtoA	0.1016	0.1268	15	3	[188,491]
chr19:18547050	RPS27AP11	UTR3	+	AtoG	0.1467	0.3011	17	17	[110,246]
chr19:18547053	RPS27AP11	UTR3	+	TtoA	0.1176	0.1667	6	2	[18,31]
chr19:18543670	RPS27AP11	UTR5	+	CtoT	0.1538	0.4615	5	3	[13,47]
chr19:18543705	RPS27AP11	UTR5	+	GtoT	0.1	0.1416	2	2	[30,113]
chr19:8292549	RPS28	coding_exon	+	GtoA	0.1	0.1154	4	3	[19,26]
chr19:8292589	RPS28	coding_exon	+	TtoA	0.3889	0.4	2	2	[10,19]
chr19:8292590	RPS28	coding_exon	+	AtoG	0.1	0.4	3	3	[10,22]
chr19:8293248	RPS28	mixed	+	TtoC	0.1019	0.1286	16	8	[143,513]
chr19:8293264	RPS28	UTR3	+	TtoA	0.1333	0.1875	9	2	[16,16]
chr19:8293265	RPS28	UTR3	+	TtoG	0.1143	0.2667	4	2	[16,37]
chr19:8292395	RPS28	UTR5	+	AtoC	0.1667	0.2	3	2	[20,36]
chr14:49120045	RPS29	mixed	-	CtoA	0.1	0.3333	3	3	[10,17]
chr14:49122821	RPS29	UTR5	-	GtoC	0.1003	0.1338	8	2	[341,804]
chr14:49122838	RPS29	UTR5	-	CtoT	0.1053	0.1111	7	2	[10,19]
chr14:49122839	RPS29	UTR5	-	AtoT	0.1111	0.2	3	2	[11,19]
chr14:49122844	RPS29	UTR5	-	CtoT	0.125	0.2308	5	3	[11,16]
chr4:152243599	RPS3AP47	coding_exon	+	GtoA	0.1	0.6389	6	6	[15,55]
chr4:152243671	RPS3AP47	coding_exon	+	GtoA	0.1034	0.3333	15	14	[14,93]
chr4:152243669	RPS3AP47	coding_exon	+	TtoA	0.1	0.3077	15	12	[14,86]
chr4:152243651	RPS3AP47	coding_exon	+	CtoA	0.1042	0.1628	10	2	[47,51]
chr4:152243602	RPS3AP47	coding_exon	+	CtoT	0.1333	0.549	6	6	[31,80]
chr4:152243597	RPS3AP47	coding_exon	+	AtoC	0.1538	0.1667	4	2	[12,14]
chr4:152243598	RPS3AP47	coding_exon	+	GtoT	0.125	0.1875	5	5	[20,32]
chr4:152243676	RPS3AP47	coding_exon	+	TtoA	0.1765	0.2727	4	2	[11,17]
chr4:152240306	RPS3AP47	coding_exon	+	AtoG	0.16	0.3333	2	2	[10,26]
chr4:152243665	RPS3AP47	coding_exon	+	GtoA	0.1304	0.1333	10	3	[30,92]
chr4:152243666	RPS3AP47	coding_exon	+	AtoG	0.1111	0.1429	8	7	[24,77]
chr4:152240304	RPS3AP47	coding_exon	+	CtoA	0.1	0.2	2	2	[10,15]
chr4:152243517	RPS3AP47	coding_exon	+	CtoT	0.1	0.1538	2	2	[10,13]
chr4:152245218	RPS3AP47	UTR3	+	AtoG	0.1188	0.1717	21	19	[280,1215]
chr4:152245240	RPS3AP47	UTR3	+	TtoA	0.1714	0.625	12	12	[10,35]
chr4:152245241	RPS3AP47	UTR3	+	GtoA	0.1429	0.5	11	10	[10,19]
chr4:152245243	RPS3AP47	UTR3	+	TtoA	0.6923	1	3	3	[13,15]
chr4:152240239	RPS3AP47	UTR5	+	CtoA	0.1087	0.3333	3	2	[15,46]
chr11:74794379	RPS3P3	mixed	+	AtoG	0.1	0.32	13	11	[16,73]
chr11:74788227	RPS3P3	UTR5	+	GtoT	0.1163	0.1957	6	3	[46,81]
chr19:63590462	RPS5	UTR5	+	AtoG	0.1364	0.1667	5	2	[13,24]
chr19:63590467	RPS5	UTR5	+	GtoC	0.1	0.2973	5	4	[19,50]
chr9:19366626	RPS6	coding_exon	-	CtoT	0.1078	0.1555	9	3	[340,978]
chr9:19368918	RPS6	mixed	-	AtoT	0.1111	0.5385	4	4	[10,14]
chr9:19368920	RPS6	mixed	-	GtoT	0.2	0.5455	4	4	[10,13]
chr9:19366252	RPS6	UTR3	-	TtoA	0.8462	0.8889	3	3	[10,14]
chr9:19366257	RPS6	UTR3	-	TtoC	0.1034	0.1667	9	5	[16,48]
chr9:19370225	RPS6	UTR5	-	GtoC	0.1579	0.2143	3	2	[14,19]
chr17:55342754	RPS6KB1	coding_exon	+	TtoC	0.1	0.1	4	2	[10,10]
chr17:55344934	RPS6KB1	coding_exon	+	GtoA	0.1538	0.1818	3	2	[11,13]
chr2:3605726	RPS7	coding_exon	+	GtoA	0.1	0.3846	3	3	[10,13]
chr2:3605727	RPS7	coding_exon	+	TtoG	0.3636	0.3846	2	2	[11,13]
chr2:3606381	RPS7	UTR3	+	AtoG	0.125	0.1579	13	2	[20,25]

chr2:3606382	RPS7	UTR3		+	GtoA	0.1356	0.5	17	13	[10,59]
chr2:3606383	RPS7	UTR3		+	TtoA	0.9	1	12	12	[10,26]
chr2:3600909	RPS7	UTR5		+	AtoT	0.2	0.25	2	2	[15,24]
chr2:3600912	RPS7	UTR5		+	GtoA	0.2174	0.2857	2	2	[14,23]
chr1:45014133	RPS8	coding_exon		+	GtoC	0.1176	0.1818	3	2	[11,17]
chr1:45014192	RPS8	coding_exon		+	CtoA	0.1379	0.1579	3	2	[19,29]
chr1:45014193	RPS8	coding_exon		+	TtoG	0.1	0.1333	8	3	[15,20]
chr1:45015263	RPS8	coding_exon		+	AtoG	0.1176	0.1333	2	2	[15,17]
chr1:45016998	RPS8	UTR3		+	CtoA	0.3135	0.6118	19	19	[124,503]
chr1:45016999	RPS8	UTR3		+	AtoG	0.1032	0.1523	13	8	[93,258]
chr1:45017000	RPS8	UTR3		+	TtoA	0.1316	0.3163	19	19	[37,110]
chr1:45013829	RPS8	UTR5		+	GtoC	0.1	0.3	7	5	[10,23]
chr1:45013832	RPS8	UTR5		+	TtoG	0.1176	0.1923	6	5	[17,34]
chr19:59402406	RPS9	mixed		+	TtoG	0.2143	0.4286	5	2	[14,14]
chr19:59403320	RPS9	UTR3		+	CtoA	0.1017	0.3968	10	10	[26,93]
chr19:59403321	RPS9	UTR3		+	TtoG	0.7857	0.9394	3	3	[15,35]
chr19:59396540	RPS9	UTR5		+	CtoT	0.12	0.1714	5	2	[26,25]
chr3:39428505	RPSA	coding_exon	ENST00000301821:WtoR;ENST00000415859:WtoR;ENST00000443003:WtoR;	+	TtoC	0.1538	0.1739	2	2	[14,23]
chr3:39425192	RPSA	coding_exon	ENST00000301821:StoR;ENST00000415859:StoR;ENST00000443003:StoR;	+	TtoA	0.1034	0.5417	13	12	[15,65]
chr3:39425202	RPSA	coding_exon	ENST00000301821:StoP;ENST00000415859:StoP;ENST00000443003:StoP;	+	TtoC	0.1364	0.5455	10	10	[11,37]
chr3:39427301	RPSA	coding_exon	ENST00000301821:RtoL;ENST00000415859:RtoL;ENST00000443003:RtoL;	+	GtoT	0.1176	0.1905	5	3	[14,21]
chr3:39425205	RPSA	coding_exon	ENST00000301821:RtoG;ENST00000415859:RtoG;ENST00000443003:RtoG;	+	AtoG	0.1364	0.1818	3	2	[11,22]
chr3:39425116	RPSA	coding_exon	ENST00000301821:NtoT;ENST00000415859:NtoT;ENST00000443003:NtoT;	+	AtoC	0.1	0.1111	3	2	[10,10]
chr3:39427358	RPSA	coding_exon	ENST00000301821:LtoH;ENST00000415859:LtoH;ENST00000443003:LtoH;	+	TtoA	0.1	0.48	3	3	[10,26]
chr3:39425118	RPSA	coding_exon	ENST00000301821:LtoF;ENST00000415859:LtoF;ENST00000443003:LtoF;	+	CtoT	0.1111	0.1875	5	2	[16,18]
chr3:39425196	RPSA	coding_exon	ENST00000301821:IttoL;ENST00000415859:IttoL;ENST00000443003:IttoL;	+	AtoC	0.1463	0.1538	6	2	[14,41]
chr3:39428418	RPSA	coding_exon	ENST00000301821:EtoQ;ENST00000415859:EtoQ;ENST00000443003:EtoQ;	+	GtoC	0.2	0.3846	3	3	[10,14]
chr3:39424185	RPSA	coding_exon	ENST00000301821:EtoK;ENST00000415859:EtoK;ENST00000443003:EtoK;	+	GtoA	0.1667	0.5	4	4	[10,15]
chr3:39427348	RPSA	coding_exon	ENST00000301821:EtoK;ENST00000415859:EtoK;ENST00000443003:EtoK;	+	GtoA	0.1111	0.1154	2	2	[27,27]
chr3:39424186	RPSA	coding_exon	ENST00000301821:EtoG;ENST00000415859:EtoG;ENST00000443003:EtoG;	+	AtoG	0.4167	0.4545	2	2	[11,13]
chr3:39427350	RPSA	coding_exon	ENST00000301821:EtoD;ENST00000415859:EtoD;ENST00000443003:EtoD;	+	GtoT	0.3333	0.5	6	5	[16,48]
chr3:39425117	RPSA	coding_exon		+	TtoC	0.1	0.2	5	3	[10,17]
chr3:39427299	RPSA	coding_exon		+	CtoT	0.2778	0.3636	2	2	[11,20]
chr3:39427359	RPSA	coding_exon		+	TtoG	0.1818	0.5789	3	3	[12,29]
chr3:39428426	RPSA	coding_exon		+	AtoG	0.1	0.1111	5	2	[10,18]
chr3:39423250	RPSA	UTR5		+	GtoT	0.1	0.2609	13	6	[18,49]
chr3:39423253	RPSA	UTR5		+	GtoC	0.1176	0.2097	10	6	[11,63]
chr17:76546121	RPTOR	coding_exon	ENST00000306801:VtoG;	+	TtoG	0.1111	0.1429	4	2	[14,18]
chr3:9858733	RPUSD3	coding_exon	ENST00000287624:LtoP;ENST00000383820:LtoP;ENST00000424438:LtoP;ENST00000424438:LtoP;	-	TtoC	0.1	0.1818	3	2	[11,20]
chr11:125577537	RPUSD4	UTR3		-	CtoG	0.2	0.25	2	2	[10,12]
chr11:125577538	RPUSD4	UTR3		-	CtoA	0.1	0.1	2	2	[10,10]
chr2:219168276	RQCD1	UTR3		+	TtoC	0.1111	0.1818	7	2	[12,19]
chr1:39095307	RRAGC	coding_exon	ENST00000373001:LtoR;	-	TtoG	0.1111	0.1538	3	2	[10,13]
chr1:39076856	RRAGC	UTR3		-	AtoG	0.125	0.1304	7	2	[16,23]
chr6:90134588	RRAGD	coding_exon	ENST00000359203:VtoA;ENST00000369415:VtoA;	-	TtoC	0.1	0.1875	3	2	[10,16]
chr6:90134607	RRAGD	coding_exon	ENST00000359203:IttoV;ENST00000369415:IttoV;	-	AtoG	0.1	0.1333	3	2	[10,15]
chr6:90131749	RRAGD	UTR3		-	GtoT	0.1	0.1818	2	2	[10,11]
chr6:90133093	RRAGD	UTR3		-	TtoC	0.1	0.1364	3	2	[10,22]
chr6:90134401	RRAGD	UTR3		-	AtoC	0.1176	0.1364	3	2	[17,24]
chr20:17571632	RRBP1	coding_exon	ENST00000246043:WtoR;ENST00000360807:WtoR;ENST00000377807:WtoR;ENST00000377807:WtoR;	-	TtoC	0.1	0.1	2	2	[20,21]
chr20:17565286	RRBP1	coding_exon	ENST00000246043:VtoG;ENST00000360807:VtoG;ENST00000377807:VtoG;ENST00000377807:VtoG;	-	TtoG	0.1143	0.1389	7	2	[36,36]
chr20:17588409	RRBP1	coding_exon		-	AtoG	0.1053	0.1538	4	2	[19,26]
chr20:17588436	RRBP1	coding_exon		-	GtoC	0.129	0.1765	4	2	[17,31]
chr20:17588712	RRBP1	coding_exon		-	AtoG	0.125	0.1429	2	2	[14,16]
chr20:17542591	RRBP1	UTR3		-	AtoC	0.1	0.1667	2	2	[10,18]
chr6:7194611	RREB1	UTR3		+	CtoA	0.1	0.1	2	2	[10,10]
chr11:4087481	RRM1	coding_exon	ENST00000300738:DtoG;	+	AtoG	0.1429	0.1667	4	2	[12,14]
chr11:4116310	RRM1	UTR3		+	AtoG	0.1111	0.15	9	2	[18,20]
chr11:4116404	RRM1	UTR3		+	GtoA	0.1	0.1667	5	3	[10,24]
chr8:103320232	RRM2B	coding_exon	ENST00000251810:EtoG;ENST00000395910:EtoG;ENST00000395912:EtoG;	-	AtoG	0.1	0.2727	5	3	[10,12]
chr10:99106846	RRP12	coding_exon	ENST00000315563:PtoA;ENST00000370992:PtoA;ENST00000414986:PtoA;	-	CtoG	0.1333	0.1429	3	2	[15,21]
chr21:43931210	RRP1B	coding_exon	ENST00000340648:KtoN;ENST00000446602:KtoN;	-	AtoT	0.1	0.1	4	3	[10,10]
chr21:43921153	RRP1B	coding_exon		+	TtoC	0.1	0.1818	2	2	[10,11]
chr11:6578547	RRP8	coding_exon	ENST00000254605:VtoG;	-	TtoG	0.125	0.2	10	2	[10,16]
chr11:6579148	RRP8	coding_exon	ENST00000254605:MtoV;	-	AtoG	0.1	0.1	2	2	[10,10]
chr11:6578771	RRP8	coding_exon		-	TtoA	0.1	0.1176	5	2	[17,20]
chr17:45917274	RSAD1	UTR3		+	TtoC	0.1	0.1	3	2	[10,10]
chr1:114121418	RSBN1	coding_exon	ENST00000261441:VtoE;ENST00000369581:VtoE;ENST00000434941:VtoE;	-	TtoA	0.1	0.1	2	2	[10,10]
chr7:77245901	RSBN1L	coding_exon	ENST00000334955:QtoL;ENST00000445288:QtoL;	+	AtoT	0.1	0.1818	5	3	[10,11]
chr11:77055653	RSF1	coding_exon	ENST00000308488:VtoE;ENST00000360355:VtoE;	-	TtoA	0.1	0.1333	4	3	[10,15]
chr11:77090647	RSF1	coding_exon	ENST00000308488:CtoW;ENST00000360355:CtoW;	-	TtoG	0.1	0.1	2	2	[10,10]
chr11:77090422	RSF1	coding_exon		-	TtoC	0.1	0.1818	6	2	[10,12]
chr11:77153306	RSF1	coding_exon		-	AtoG	0.1	0.1	3	2	[10,10]
chr15:53261579	RSL24D1	UTR3		-	TtoC	0.1667	0.2	6	2	[16,25]
chr16:55830329	RSPRY1	coding_exon	ENST00000394420:CtoR;	+	TtoC	0.1	0.1143	10	2	[20,37]
chr16:55830959	RSPRY1	UTR3		+	AtoG	0.1	0.1429	5	3	[10,20]
chr16:55831451	RSPRY1	UTR3		+	GtoT	0.1	0.125	3	2	[10,16]
chr3:159555357	RSRC1	coding_exon		+	CtoG	0.1	0.1429	2	2	[10,14]
chr12:121561613	RSRC2	coding_exon		-	TtoA	0.1111	0.1667	7	2	[12,18]
chr20:61791568	RTEL1	mixed		+	TtoC	0.1	0.1	2	2	[10,20]
chr20:61797980	RTEL1	mixed		+	TtoA	0.1	0.1111	3	2	[10,18]
chr15:39555229	RTF1	coding_exon	ENST00000389628:TtoA;ENST00000389629:TtoA;	+	AtoG	0.1538	0.1875	5	3	[13,16]
chr15:39561772	RTF1	UTR3		+	AtoG	0.1	0.1667	9	3	[10,36]
chr15:39562005	RTF1	UTR3		+	TtoC	0.1538	0.1818	2	2	[11,13]
chr15:39562303	RTF1	UTR3		+	TtoC	0.1	0.1111	3	2	[10,10]
chr2:55052858	RTN4	UTR3		-	AtoG	0.1	0.1	6	2	[10,20]
chr2:55053068	RTN4	UTR3		-	TtoA	0.1143	0.2558	10	4	[22,50]
chr18:65849150	RTTN	mixed		-	AtoG	0.1	0.1	2	2	[10,10]
chr5:178922212	RUFY1	coding_exon	ENST00000319449:EtoD;ENST00000360569:EtoD;ENST00000377001:EtoD;ENST00000377001:EtoD;	+	GtoT	0.1	0.1	2	2	[10,10]
chr4:17869427	RUFY3	coding_exon	ENST00000226328:RtoS;ENST00000381006:RtoS;ENST00000417478:RtoS;	+	AtoT	0.1	0.1	3	2	[10,10]
chr17:38398758	RUND1	UTR3		+	AtoG	0.1	0.1	3	2	[10,10]
chr1:25101550	RUNX3	coding_exon	ENST00000308873:TtoP;ENST00000338888:TtoP;ENST00000399916:TtoP;ENST00000399916:TtoP;	-	AtoC	0.12	0.1325	2	2	[50,83]
chr1:25098688	RUNX3	UTR3		-	AtoG	0.1	0.1905	4	3	[21,34]
chr21:29300679	RWDD2B	coding_exon	ENST00000493196:LtoH;	-	TtoA	0.1	0.1	2	2	[10,10]
chr21:29300060	RWDD2B	UTR3		-	GtoA	0.1176	0.25	2	2	[12,17]
chr6:33271217	RXRB	coding_exon	ENST00000374685:LtoV;	-	CtoG	0.1	0.1818	3	2	[10,11]

chr6:33272189	RXRB	coding_exon	ENST00000374680:StoR;ENST00000374683:StoR;ENST00000374685:StoR;	-	CtoG	0.1818	0.2143	2	2	[11,14]
chr3:72507252	RYBP	mixed		-	TtoA	0.1	0.1	2	2	[10,10]
chr3:72578347	RYBP	mixed		-	AtoG	0.1	0.1053	4	2	[10,19]
chr3:135377154	RYK	mixed		-	GtoA	0.1	0.1667	4	2	[10,12]
chr3:135377161	RYK	mixed		-	CtoT	0.1	0.1538	3	2	[10,13]
chr3:135377199	RYK	mixed		-	CtoT	0.1	0.2	3	2	[10,10]
chr3:135377503	RYK	mixed		-	GtoC	0.1538	0.3	4	2	[10,13]
chr3:135377562	RYK	mixed		-	GtoA	0.1	0.2308	6	4	[10,14]
chr1:151865532	S100A13	coding_exon	ENST00000339556:Etov;ENST00000368699:Etov;ENST00000392622:Etov;ENST00000392622:Etov;	-	AtoT	0.1	0.1	3	2	[10,10]
chr1:151773732	S100A6	UTR3		-	TtoA	0.1429	0.1786	4	3	[14,30]
chr1:151773736	S100A6	UTR3		-	TtoC	0.1	0.1111	5	2	[10,18]
chr1:33094594	S100PBP	UTR3		+	AtoG	0.1	0.1538	3	2	[10,13]
chr1:33095858	S100PBP	UTR3		+	AtoG	0.1111	0.1667	5	2	[12,18]
chr1:33096420	S100PBP	UTR3		+	TtoA	0.1	0.1053	4	2	[10,20]
chr1:33096584	S100PBP	UTR3		+	TtoA	0.1	0.1667	2	2	[10,12]
chr1:101479127	S1PR1	mixed		+	AtoC	0.1	0.1053	4	2	[11,19]
chr19:10196386	S1PR2	coding_exon	ENST00000317726:StoP;	-	TtoC	0.1	0.1111	6	2	[10,18]
chr11:18061854	SAAL1	coding_exon	ENST00000300013:VtoE;	-	TtoA	0.1429	0.2	4	2	[14,15]
chr19:5551233	SAFB2	mixed		-	AtoG	0.1	0.1579	3	2	[19,20]
chr19:44552461	SAMD4B	coding_exon	ENST00000314471:WtoR;ENST00000392067:WtoR;ENST00000429637:WtoR;	+	TtoC	0.1333	0.1667	2	2	[12,15]
chr19:44558285	SAMD4B	coding_exon	ENST00000314471:StoC;ENST00000392067:StoC;ENST00000429637:StoC;	+	AtoT	0.1	0.1	3	2	[10,10]
chr19:44566972	SAMD4B	UTR3		+	TtoA	0.1333	0.2	9	2	[11,15]
chr7:92599575	SAMD9L	coding_exon		-	TtoG	0.1	0.1429	2	2	[11,15]
chr7:92600325	SAMD9L	coding_exon		-	AtoG	0.1	0.1	2	2	[10,10]
chr7:92614371	SAMD9L	mixed		-	TtoG	0.1818	0.2667	2	2	[11,15]
chr22:42723719	SAMM50	UTR3		+	TtoC	0.1143	0.129	7	2	[31,35]
chr2:128484371	SAP130	mixed		-	AtoT	0.1	0.1	3	2	[10,10]
chr2:128484410	SAP130	mixed		-	GtoC	0.1	0.1	2	2	[10,10]
chr4:174531208	SAP30	coding_exon		+	TtoG	0.1053	0.1111	2	2	[18,19]
chr11:68138735	SAP53	mixed		+	TtoC	0.1	0.1	3	2	[10,10]
chr10:71587625	SAR1A	mixed		-	TtoC	0.1	0.1212	8	3	[33,41]
chr5:133970241	SAR1B	UTR3		-	TtoA	0.1	0.1	6	2	[10,10]
chr17:23732349	SARM1	coding_exon	ENST00000457710:RtoG;	+	AtoG	0.1	0.1	5	2	[10,10]
chr17:23712397	SARM1	coding_exon		+	TtoG	0.1	0.1154	5	2	[10,26]
chr17:23712406	SARM1	coding_exon		+	TtoC	0.1053	0.125	6	3	[16,19]
chr17:23749308	SARM1	UTR3		+	GtoA	0.1	0.1818	2	2	[10,22]
chr12:54437413	SARNP	UTR3		-	AtoG	0.1429	0.1579	7	2	[19,21]
chr1:109582267	SAR5	UTR3		+	TtoA	0.1	0.1111	9	2	[10,18]
chr11:65503086	SART1	UTR3		+	TtoC	0.1053	0.1818	2	2	[11,19]
chr12:107440630	SART3	UTR3		-	TtoC	0.1	0.2308	9	5	[13,31]
chr1:100322132	SASS6	UTR3		-	AtoT	0.1	0.1	2	2	[10,10]
chr17:7470988	SAT2	coding_exon	ENST00000269298:RtoL;ENST00000380466:RtoL;	-	GtoT	0.1429	0.1667	8	2	[12,21]
chr17:7470833	SAT2	coding_exon	ENST00000269298:QtoP;ENST00000380466:QtoP;	-	AtoC	0.1176	0.125	3	2	[16,17]
chr12:122374283	SBNO1	coding_exon		-	GtoA	0.1	0.1923	8	3	[10,26]
chr12:122380955	SBNO1	coding_exon		-	TtoC	0.1	0.1	2	2	[10,10]
chr4:166478499	SC4MOL	mixed		+	TtoA	0.1	0.1	4	2	[10,10]
chr11:120683711	SC50L	UTR3		+	AtoG	0.1111	0.2	3	2	[10,18]
chr15:72923597	SCAMP2	UTR3		-	TtoC	0.1111	0.1818	3	3	[11,27]
chr19:1868815	SCAMP4	coding_exon	ENST00000316097:WtoG;ENST00000409472:WtoG;	+	TtoG	0.1	0.3571	2	2	[10,14]
chr20:34004962	SCAND1	mixed		-	GtoA	0.1	0.3333	2	2	[10,27]
chr20:34004964	SCAND1	mixed		-	GtoA	0.2	0.2667	3	2	[10,15]
chr15:74808127	SCAPER	coding_exon	ENST00000324767:KtoE;	-	AtoG	0.1	0.1176	3	3	[10,20]
chr4:77299169	SCARB2	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr4:83770861	SCD5	UTR3		-	CtoT	0.8182	0.9048	2	2	[12,21]
chr4:83770862	SCD5	UTR3		-	CtoA	0.7143	0.9667	3	3	[14,30]
chr4:30274668	SCFD1	UTR3		+	TtoA	0.1667	0.25	9	2	[12,12]
chr2:238672027	SCLY	UTR3		+	GtoA	0.1429	0.2222	3	2	[14,18]
chr1:41265988	SCMH1	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr17:10524865	SCO1	UTR3		-	AtoC	0.1	0.2059	3	2	[10,34]
chr1:53289233	SCP2	UTR3		+	TtoA	0.1	0.1538	3	2	[10,13]
chr17:52429335	SCPEP1	coding_exon	ENST00000262288:VtoE;ENST00000393142:VtoE;	+	TtoA	0.1053	0.1111	8	2	[18,19]
chr17:52438738	SCPEP1	UTR3		+	TtoA	0.1	0.1538	7	3	[13,20]
chr17:52438760	SCPEP1	coding_exon		+	AtoG	0.1429	0.2	2	2	[10,14]
chr8:144946904	SCRIB	coding_exon	ENST00000320476:VtoG;ENST00000356994:VtoG;ENST00000377533:VtoG;ENST00000377533:VtoG;	-	TtoG	0.1	0.1053	2	2	[10,19]
chr8:144945463	SCRIB	coding_exon	ENST00000320476:PtoL;ENST00000356994:PtoL;ENST00000377533:PtoL;ENST00000377533:PtoL;	-	CtoT	0.5233	0.5816	2	2	[86,98]
chr7:29926423	SCRN1	UTR3		-	AtoG	0.1333	0.2222	3	2	[15,19]
chr17:43270472	SCRN2	mixed		-	GtoA	0.1	0.1176	2	2	[10,17]
chr11:65054753	SCYL1	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr12:99253752	SCYL2	coding_exon		+	AtoG	0.1111	0.1538	5	2	[13,18]
chr4:77110515	SDAD1	coding_exon	ENST00000356260:StoL;ENST00000395710:StoL;ENST00000395711:StoL;	-	CtoT	0.1	0.1667	6	4	[17,30]
chr4:77101207	SDAD1	coding_exon	ENST00000356260:RtoW;ENST00000395710:RtoW;ENST00000395711:RtoW;	-	CtoT	0.1111	0.2105	7	3	[17,27]
chr4:77097566	SDAD1	coding_exon	ENST00000356260:RtoP;ENST00000395710:RtoP;ENST00000395711:RtoP;	-	GtoC	0.1053	0.2308	13	4	[13,19]
chr4:77105948	SDAD1	coding_exon	ENST00000356260:PtoH;ENST00000395710:PtoH;ENST00000395711:PtoH;	-	CtoA	0.12	0.1429	6	2	[21,25]
chr4:77100260	SDAD1	coding_exon	ENST00000356260:NtoS;ENST00000395710:NtoS;ENST00000395711:NtoS;	-	AtoG	0.1034	0.1875	11	4	[14,29]
chr4:77101479	SDAD1	coding_exon	ENST00000356260:NtoK;ENST00000395710:NtoK;ENST00000395711:NtoK;	-	TtoA	0.1	0.1	3	2	[10,10]
chr4:77101389	SDAD1	coding_exon	ENST00000356260:KtoN;ENST00000395710:KtoN;ENST00000395711:KtoN;	-	GtoT	0.1	0.15	6	3	[10,20]
chr4:77110510	SDAD1	coding_exon	ENST00000356260:ItoV;ENST00000395710:ItoV;ENST00000395711:ItoV;	-	AtoG	0.1905	0.2	6	2	[15,21]
chr4:77101251	SDAD1	coding_exon	ENST00000356260:HtoR;ENST00000395710:HtoR;ENST00000395711:HtoR;	-	AtoG	0.1053	0.1429	6	3	[14,19]
chr4:77101250	SDAD1	coding_exon	ENST00000356260:HtoQ;ENST00000395710:HtoQ;ENST00000395711:HtoQ;	-	CtoG	0.1111	0.1176	7	2	[17,18]
chr4:77098044	SDAD1	coding_exon	ENST00000356260:DtoN;ENST00000395710:DtoN;ENST00000395711:DtoN;	-	GtoA	0.1	0.1	4	2	[10,20]
chr4:77100305	SDAD1	coding_exon	ENST00000356260:DtoG;ENST00000395710:DtoG;ENST00000395711:DtoG;	-	AtoG	0.1	0.2727	7	6	[10,22]
chr4:77100265	SDAD1	coding_exon		-	AtoG	0.1304	0.2	12	4	[15,23]
chr4:77100355	SDAD1	coding_exon		-	GtoA	0.1111	0.2	9	4	[10,18]
chr4:77109569	SDAD1	coding_exon		-	GtoA	0.1	0.2	8	4	[10,15]
chr4:77113536	SDAD1	coding_exon		-	GtoA	0.1	0.1818	4	2	[10,11]
chr4:77115950	SDAD1	coding_exon		-	AtoT	0.1	0.1818	4	2	[10,11]
chr4:77090877	SDAD1	UTR3		-	GtoA	0.1333	0.2	6	2	[15,15]
chr8:59651158	SDCBP	coding_exon	ENST00000260130:LtoR;ENST00000413219:LtoR;ENST00000422546:LtoR;ENST00000422546:LtoR;	+	TtoG	0.1	0.1154	4	2	[10,26]
chr5:64349990	SDCCAG10	UTR3		+	GtoA	0.1667	0.1667	2	2	[12,12]
chr9:138420251	SDCCAG3	coding_exon	ENST00000298537:LtoV;ENST00000357365:LtoV;ENST00000371722:LtoV;ENST00000371722:LtoV;	-	CtoG	0.1429	0.3077	9	4	[12,18]
chr9:138422142	SDCCAG3	coding_exon	ENST00000298537:LtoP;ENST00000357365:LtoP;ENST00000371722:LtoP;ENST00000371722:LtoP;	-	TtoC	0.1053	0.1304	7	2	[19,23]
chr1:241534687	SDCCAG8	coding_exon	ENST00000343783:QtoR;ENST00000355875:QtoR;ENST00000366541:QtoR;ENST00000366541:QtoR;	+	AtoG	0.1	0.1	2	2	[10,10]
chr1:241504500	SDCCAG8	coding_exon		+	TtoA	0.1	0.1	2	2	[10,10]
chr17:23999991	SDF2	UTR3		-	TtoG	0.1111	0.2	12	7	[14,30]
chr1:159598931	SDHC	mixed		+	GtoC	0.5116	0.6364	2	2	[33,45]
chr1:159599463	SDHC	UTR3		+	GtoA	0.1064	0.129	4	2	[31,47]

chr1:159599464	SDHC	UTR3		+	AtoG	0.125	0.1364	5	2	[32,44]
chr15:83013828	SEC11B	UTR3		-	TtoC	0.1	0.2105	10	3	[12,22]
chr17:72721729	SEC14L1	mixed		+	AtoG	0.1	0.1053	2	2	[10,19]
chr17:72722428	SEC14L1	mixed		+	AtoG	0.1	0.1333	6	3	[10,20]
chr17:72722451	SEC14L1	mixed		+	TtoC	0.125	0.125	2	2	[16,17]
chr17:72723138	SEC14L1	mixed		+	CtoA	0.4571	0.5221	2	2	[70,113]
chr9:138486320	SEC16A	mixed		-	AtoG	0.1	0.1053	2	2	[10,19]
chr9:138488805	SEC16A	mixed		-	AtoG	0.1	0.1111	2	2	[10,10]
chr9:138455418	SEC16A	UTR3		-	AtoG	0.1	0.4167	16	12	[18,45]
chr9:138455444	SEC16A	UTR3		-	AtoG	0.1	0.3	9	6	[10,56]
chr9:138455703	SEC16A	UTR3		-	AtoG	0.1	0.5333	14	12	[15,35]
chr9:138455787	SEC16A	UTR3		-	AtoG	0.1667	0.1765	3	2	[12,17]
chr9:138455876	SEC16A	UTR3		-	AtoG	0.1333	0.1364	4	2	[15,22]
chr3:42564887	SEC22C	UTR3		-	AtoG	0.1	0.1	2	2	[10,11]
chr14:38572269	SEC23A	coding_exon		-	TtoA	0.1429	0.1538	5	2	[13,14]
chr20:18461350	SEC23B	coding_exon	ENST00000262544:VtoI;ENST00000336714:VtoI;ENST00000377465:VtoI;ENST0000	+	GtoA	0.4103	0.5	2	2	[12,118]
chr10:121682611	SEC23IP	coding_exon	ENST00000369075:KtoE;	+	AtoG	0.1	0.1538	2	2	[10,13]
chr5:134061637	SEC24A	coding_exon	ENST00000398844:CtoR;	+	TtoC	0.1	0.1579	5	2	[10,19]
chr5:134084670	SEC24A	coding_exon		+	AtoC	0.1	0.1429	4	2	[10,14]
chr10:75200209	SEC24C	mixed		+	TtoC	0.1111	0.1176	2	2	[10,17]
chr4:119864125	SEC24D	mixed		-	TtoA	0.1176	0.1333	6	2	[15,17]
chr4:83967590	SEC31A	coding_exon	ENST00000264405:NtoD;ENST00000311785:NtoD;ENST00000348405:NtoD;ENST0	-	AtoG	0.1	0.1148	12	2	[61,61]
chr4:83967678	SEC31A	coding_exon		-	AtoC	0.1129	0.1698	5	4	[51,62]
chr4:84003546	SEC31A	mixed		-	TtoA	0.125	0.1667	3	2	[13,16]
chr10:102239485	SEC31B	coding_exon	ENST00000370345:AtoS;	-	GtoT	0.1	0.1	2	2	[10,10]
chr10:102236764	SEC31B	UTR3		-	TtoC	0.1	0.1429	2	2	[10,14]
chr3:129254409	SEC61A1	mixed		+	CtoT	0.125	0.1304	2	2	[17,23]
chr3:129271279	SEC61A1	UTR3		+	AtoG	0.1111	0.1143	7	2	[27,35]
chr10:12246320	SEC61A2	coding_exon	ENST00000298428:LtoR;ENST00000379020:LtoR;ENST00000379033:LtoR;	+	TtoG	0.1	0.1	2	2	[10,10]
chr10:12249578	SEC61A2	coding_exon		+	AtoT	0.3	0.6	3	3	[10,11]
chr9:101032694	SEC61B	UTR3		+	TtoA	0.1111	0.1111	2	2	[10,10]
chr9:101032659	SEC61B	UTR3		+	AtoG	0.1053	0.3	2	2	[10,20]
chr7:54787499	SEC61G	UTR3		-	GtoT	0.1304	0.3	3	2	[10,23]
chr3:171176184	SEC62	coding_exon	ENST00000337002:VtoD;ENST00000480708:VtoD;	+	TtoA	0.1	0.1351	11	2	[40,41]
chr3:171188810	SEC62	coding_exon	ENST00000337002:CtoW;ENST00000480708:CtoW;	+	TtoG	0.1053	0.1071	2	2	[19,28]
chr3:171193691	SEC62	UTR3		+	TtoC	0.1	0.2	7	4	[10,17]
chr6:108321458	SEC63	coding_exon	ENST00000369002:Lto*;	-	TtoA	0.1	0.1	2	2	[10,10]
chr6:108298846	SEC63	UTR3		-	TtoC	0.1	0.1538	5	2	[10,26]
chr6:108299387	SEC63	UTR3		-	TtoG	0.1	0.1	4	2	[10,10]
chr18:12977017	SEH1L	mixed		+	TtoC	0.1	0.1429	2	2	[10,14]
chr18:12977399	SEH1L	UTR3		+	TtoG	0.1	0.1	3	2	[10,10]
chr14:81042186	SEL1L	coding_exon	ENST00000336735:WtoR;	-	TtoC	0.1	0.1818	4	3	[10,19]
chr14:81009716	SEL1L	UTR3		-	TtoA	0.1	0.2	5	4	[10,17]
chr1:154413017	SEMA4A	coding_exon	ENST00000355014:FtoI;ENST00000368282:FtoI;ENST00000368283:FtoI;ENST0000	+	TtoA	0.1176	0.1304	2	2	[18,23]
chr2:96893831	SEMA4C	coding_exon		-	GtoC	0.1	0.1818	3	2	[10,11]
chr9:91183884	SEMA4D	coding_exon	ENST00000343780:NtoS;ENST00000356444:NtoS;ENST00000422704:NtoS;ENST00	-	AtoG	0.1	0.1429	2	2	[10,14]
chr9:91183080	SEMA4D	mixed		-	TtoG	0.1	0.1053	8	2	[10,19]
chr9:91183086	SEMA4D	mixed		-	TtoC	0.1	0.1364	5	2	[10,24]
chr12:46723944	SENP1	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr12:46724158	SENP1	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr3:186812133	SENP2	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr3:186830879	SENP2	UTR3		+	TtoC	0.1	0.1111	3	2	[10,27]
chr3:186831068	SENP2	UTR3		+	TtoC	0.1	0.1	3	2	[10,10]
chr3:186831165	SENP2	UTR3		+	TtoA	0.125	0.1429	6	2	[14,17]
chr3:198143489	SENP5	UTR3		+	TtoA	0.1	0.1	2	2	[10,10]
chr4:78152073	SEPT11	coding_exon	ENST00000264893:VtoA;	+	TtoC	0.1	0.1471	6	2	[20,34]
chr4:78160765	SEPT11	coding_exon	ENST00000264893:TtoP;	+	AtoC	0.1	0.1429	7	2	[14,40]
chr4:78174717	SEPT11	UTR3		+	AtoG	0.1154	0.1864	8	3	[38,59]
chr4:78174749	SEPT11	UTR3		+	TtoC	0.1	0.1429	4	2	[14,30]
chr4:78176072	SEPT11	UTR3		+	TtoC	0.1034	0.1429	7	2	[14,29]
chr4:78176438	SEPT11	UTR3		+	AtoG	0.1	0.2	11	5	[10,18]
chr4:78176494	SEPT11	UTR3		+	GtoT	0.1	0.1	3	2	[10,20]
chr4:78178391	SEPT11	UTR3		+	TtoA	0.1	0.1053	4	2	[11,20]
chr2:241940596	SEPT2	UTR3		+	TtoC	0.125	0.1429	6	2	[14,24]
chr7:35807406	SEPT7	mixed		+	GtoC	1	1	4	4	[15,23]
chr5:132120562	SEPT8	mixed		-	TtoC	0.1	0.1	4	2	[10,10]
chr17:73008263	SEPT9	UTR3		+	GtoA	0.1	0.1111	9	2	[10,18]
chr16:1928445	SEPX1	UTR3		-	TtoG	0.1111	0.1538	5	3	[18,27]
chr15:41874100	SERF2	coding_exon		+	AtoG	0.1	0.2727	2	2	[10,11]
chr15:41873538	SERF2	mixed		+	TtoA	0.1111	0.1875	3	3	[10,16]
chr15:41873539	SERF2	mixed		+	TtoA	0.1	0.2143	2	2	[10,14]
chr11:17966785	SERGEF	coding_exon	ENST00000265965:HtoR;	-	AtoG	0.1667	0.2	5	2	[10,12]
chr1:31678493	SERINC2	coding_exon	ENST00000373709:VtoE;ENST00000373710:VtoE;	+	TtoA	0.1	0.1961	4	3	[20,51]
chr1:31680044	SERINC2	UTR3		+	CtoG	0.2308	0.4364	4	4	[12,55]
chr20:42560841	SERINC3	UTR3		-	TtoC	0.1	0.2667	2	2	[15,20]
chr3:151744247	SERP1	UTR3		-	CtoT	0.1364	0.1667	7	2	[12,22]
chr3:151744258	SERP1	UTR3		-	TtoA	0.1176	0.2727	3	3	[11,35]
chr3:151744392	SERP1	UTR3		-	TtoA	0.1081	0.1379	5	3	[22,37]
chr3:151764816	SERP1	UTR5		-	TtoC	0.1111	0.25	14	7	[16,27]
chr3:151772449	SERP1	UTR5		-	TtoC	0.1026	0.12	3	2	[25,39]
chr3:151784481	SERP1	UTR5		-	TtoC	0.1053	0.1111	5	2	[19,27]
chr19:45620630	SERTAD1	coding_exon	ENST00000357949:LtoM;	-	CtoA	0.1	0.1	2	2	[10,10]
chr2:64713895	SERTAD2	mixed		-	CtoA	0.1429	0.1818	2	2	[11,14]
chr2:64714901	SERTAD2	mixed		-	TtoG	0.1111	0.1538	6	2	[13,18]
chr19:45639352	SERTAD3	coding_exon	ENST00000322354:VtoG;ENST00000392028:VtoG;	-	TtoG	0.1	0.1	4	2	[10,10]
chr1:28468296	SES2N	coding_exon	ENST00000253063:RtoW;	+	CtoT	0.4545	0.5714	2	2	[11,14]
chr9:130493976	SET	coding_exon	ENST00000322030:StoR;ENST00000372686:StoR;ENST00000372688:StoR;ENST000	+	TtoA	0.1	0.2308	7	4	[10,19]
chr9:130495808	SET	coding_exon	ENST00000322030:StoI;ENST00000372686:StoI;ENST00000372688:StoI;ENST0000	+	GtoT	0.1818	0.2	6	2	[11,15]
chr9:130494020	SET	coding_exon	ENST00000322030:QtoR;ENST00000372686:QtoR;ENST00000372688:QtoR;ENST0	+	AtoG	0.125	0.25	8	4	[14,28]
chr9:130494007	SET	coding_exon	ENST00000322030:NtoH;ENST00000372686:NtoH;ENST00000372688:NtoH;ENST0	+	AtoC	0.1	0.1	3	2	[10,10]
chr9:130494014	SET	coding_exon	ENST00000322030:LtoP;ENST00000372686:LtoP;ENST00000372688:LtoP;ENST00	+	TtoC	0.3571	0.5	6	6	[11,28]
chr9:130493960	SET	coding_exon	ENST00000322030:LtoH;ENST00000372686:LtoH;ENST00000372688:LtoH;ENST00	+	TtoA	0.1053	0.25	3	3	[20,21]
chr9:130494055	SET	coding_exon	ENST00000322030:KtoE;ENST00000372686:KtoE;ENST00000372688:KtoE;ENST00	+	AtoG	0.125	0.125	9	2	[16,49]
chr9:130494830	SET	coding_exon	ENST00000322030:FtoI;ENST00000372686:FtoI;ENST00000372688:FtoI;ENST0000	+	TtoA	0.1034	0.1143	10	2	[31,38]
chr9:130494828	SET	coding_exon	ENST00000322030:EtoG;ENST00000372686:EtoG;ENST00000372688:EtoG;ENST0	+	AtoG	0.1176	0.1746	7	3	[17,63]
chr9:130494836	SET	coding_exon	ENST00000322030:DtoN;ENST00000372686:DtoN;ENST00000372688:DtoN;ENST0	+	GtoA	0.1667	0.4	3	3	[10,12]

chr9:130493958	SET	coding_exon		+	AtoG	0.1212	0.1333	4	3	[15,33]
chr9:130493973	SET	coding_exon		+	CtoG	0.1	0.1379	7	2	[10,29]
chr9:130494024	SET	coding_exon		+	AtoT	0.1	0.1818	4	3	[10,15]
chr9:130494826	SET	coding_exon		+	AtoG	0.1008	0.1135	16	3	[123,170]
chr9:130494835	SET	coding_exon		+	AtoG	0.1	0.1818	3	2	[10,11]
chr9:130495806	SET	coding_exon		+	GtoA	0.1	0.1538	6	3	[11,17]
chr9:130495809	SET	coding_exon		+	CtoT	0.1333	0.1429	3	2	[14,15]
chr3:47102786	SETD2	coding_exon	ENST00000409792:LtoP;ENST00000451092:LtoP;	-	TtoC	0.1	0.1	3	2	[10,10]
chr3:47104731	SETD2	coding_exon	ENST00000409792:EtoG;ENST00000451092:EtoG;	-	AtoG	0.1	0.1538	2	2	[10,13]
chr3:47133155	SETD2	coding_exon		-	TtoC	0.1	0.1	3	2	[10,10]
chr14:98940332	SETD3	coding_exon	ENST00000331768:VtoE;	-	TtoA	0.1	0.2	4	2	[10,15]
chr14:99001881	SETD3	coding_exon		-	TtoC	0.1	0.1364	4	2	[10,23]
chr14:98934703	SETD3	UTR3		-	TtoG	0.1	0.1176	6	2	[10,34]
chr3:9461810	SETD5	coding_exon	ENST00000302463:EtoD;ENST00000402198:EtoD;ENST00000402466:EtoD;ENST00000302463:DtoE;ENST00000402198:DtoE;ENST00000402466:DtoE;ENST00000302463:DtoE;	+	AtoC	0.15	0.1667	2	2	[12,20]
chr3:9452419	SETD5	coding_exon	ENST00000302463:DtoE;ENST00000402198:DtoE;ENST00000402466:DtoE;ENST00000302463:DtoE;	+	TtoG	0.1	0.1	2	2	[10,10]
chr3:9493173	SETD5	UTR3		+	GtoA	0.1	0.1481	2	2	[10,27]
chr16:57109574	SETD6	mixed		+	CtoT	0.1	0.1	2	2	[10,10]
chr1:149167073	SETDB1	coding_exon	ENST00000271640:RtoG;ENST00000368960:RtoG;ENST00000368962:RtoG;ENST00000271640:NtoT;ENST00000368969:NtoT;	+	AtoG	0.1	0.1	4	2	[10,10]
chr1:149186107	SETDB1	coding_exon	ENST00000271640:NtoT;ENST00000368969:NtoT;	+	AtoC	0.1	0.3529	2	2	[10,17]
chr1:149203504	SETDB1	UTR3		+	CtoT	0.1034	0.5833	3	2	[12,29]
chr9:134191681	SETX	coding_exon	ENST00000224140:KtoE;ENST00000372169:KtoE;ENST00000393220:KtoE;	-	AtoG	0.1	0.1111	2	2	[10,18]
chr9:134192354	SETX	coding_exon	ENST00000224140:EtoD;ENST00000372169:EtoD;ENST00000393220:EtoD;	-	GtoT	0.1	0.1	2	2	[10,10]
chr9:134191892	SETX	coding_exon		-	AtoC	0.1	0.2	3	3	[10,17]
chr9:134127389	SETX	mixed		-	TtoA	0.1	0.1176	3	2	[10,17]
chr9:134128238	SETX	mixed		-	GtoA	0.1111	0.125	9	2	[16,27]
chr9:134128536	SETX	mixed		-	TtoC	0.1429	0.1538	4	2	[13,14]
chr11:64288663	SF1	UTR3		-	GtoA	0.1	0.1333	3	3	[10,20]
chr11:64289398	SF1	UTR3		-	TtoA	0.125	0.1429	5	2	[14,40]
chr2:197965283	SF3B1	coding_exon	ENST00000335508:YtoN;	-	TtoA	0.1071	0.3529	9	4	[13,29]
chr2:197965044	SF3B1	UTR3		-	GtoA	0.1	0.1818	4	2	[10,22]
chr11:65583054	SF3B2	coding_exon	ENST00000322535:NtoD;	+	AtoG	0.1029	0.1538	7	2	[9,68]
chr19:19268854	SF4	coding_exon	ENST00000247001:LtoP;	-	TtoC	0.1053	0.1111	4	2	[18,19]
chr22:30311089	SF11	coding_exon	ENST00000400288:LtoQ;ENST00000400289:LtoQ;ENST00000414585:LtoQ;ENST00000400288:QtoR;	+	TtoA	0.1	0.125	3	2	[16,20]
chr22:30344465	SF11	UTR3		+	AtoG	0.1	0.25	2	2	[10,12]
chr10:7241336	SFMBT2	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr10:7242216	SFMBT2	UTR3		-	TtoG	0.1	0.1	3	2	[10,10]
chr10:7242269	SFMBT2	UTR3		-	TtoC	0.1429	0.1667	2	2	[12,14]
chr10:7243962	SFMBT2	UTR3		-	AtoC	0.1	0.1	2	2	[10,10]
chr1:35414580	SFPQ	mixed		-	AtoG	0.1525	0.3571	3	3	[12,65]
chr1:35416221	SFPQ	mixed		-	AtoG	0.1	0.25	2	2	[10,12]
chr1:35416796	SFPQ	mixed		-	GtoT	0.1	0.1	2	2	[10,10]
chr1:35417582	SFPQ	mixed		-	TtoC	0.1	0.2	8	2	[10,11]
chr1:35422397	SFPQ	UTR3		-	AtoT	0.1111	0.1579	7	3	[25,77]
chr1:35422398	SFPQ	UTR3		-	TtoC	0.1029	0.1507	4	3	[29,73]
chr17:53436363	SFRS1	UTR3		-	AtoT	0.1143	0.1304	3	2	[35,116]
chr5:65511360	SFRS12	UTR3		+	TtoC	0.1	0.3077	7	4	[10,15]
chr5:65512148	SFRS12	UTR3		+	CtoA	0.1	0.1333	2	2	[10,15]
chr19:18997211	SFRS14	coding_exon	ENST00000330854:FtoV;ENST00000337018:FtoV;ENST00000392342:FtoV;ENST00000330854:QtoR;	-	TtoG	0.1111	0.25	3	2	[10,12]
chr19:18964881	SFRS14	UTR3		-	TtoG	0.1	0.1	2	2	[10,10]
chr19:18965446	SFRS14	UTR3		-	GtoT	0.1111	0.1667	6	2	[13,18]
chr21:31995967	SFRS15	coding_exon	ENST00000286835:GtoV;ENST00000399804:GtoV;ENST00000419806:GtoV;ENST00000286835:QtoR;	-	GtoT	0.1	0.1	2	2	[10,11]
chr21:31995179	SFRS15	coding_exon		-	GtoA	0.125	0.1667	7	2	[12,16]
chr21:32000515	SFRS15	coding_exon		-	TtoC	0.1333	0.1579	2	2	[15,19]
chr6:99955144	SFRS18	coding_exon	ENST00000369239:Sto*;ENST00000438806:Sto*;	-	CtoA	0.1	0.3636	9	4	[10,17]
chr6:99955140	SFRS18	coding_exon		-	GtoA	0.12	0.4	4	4	[10,47]
chr6:99954772	SFRS18	UTR3		-	AtoG	0.1053	0.1667	8	4	[13,19]
chr17:72242735	SFRS2	UTR3		-	TtoG	0.1071	0.1154	7	2	[26,28]
chr17:72242736	SFRS2	UTR3		-	TtoC	0.1042	0.1154	12	2	[27,48]
chr17:72242747	SFRS2	UTR3		-	TtoA	0.1154	0.2	16	6	[21,84]
chr17:72243448	SFRS2	UTR3		-	GtoA	0.1053	0.375	13	5	[15,32]
chr11:94441462	SFRS2B	mixed		+	CtoA	0.1176	0.125	3	2	[16,17]
chr11:94441463	SFRS2B	mixed		+	CtoA	0.1053	0.1875	4	2	[16,19]
chr12:44606989	SFRS2IP	coding_exon	ENST00000369367:QtoR;	-	AtoG	0.1	0.2	6	2	[10,10]
chr6:36670130	SFRS3	UTR5		+	GtoC	0.1	0.2	4	3	[10,20]
chr6:36670131	SFRS3	UTR5		+	AtoT	0.1111	0.2	3	3	[10,18]
chr1:29346996	SFRS4	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr14:69308438	SFRS5	UTR3		+	CtoA	0.1333	0.4545	5	4	[11,21]
chr14:69303727	SFRS5	UTR5		+	TtoA	0.1	0.1	3	2	[10,10]
chr14:69303847	SFRS5	UTR5		+	CtoG	0.1111	0.1333	7	4	[17,36]
chr14:69303848	SFRS5	UTR5		+	GtoT	0.1026	0.129	8	3	[17,39]
chr20:41524166	SFRS6	UTR3		+	TtoC	0.1	0.1053	4	2	[10,19]
chr20:41524171	SFRS6	UTR3		+	TtoA	0.1	0.1818	4	2	[11,11]
chr20:41525617	SFRS6	UTR3		+	TtoA	0.1176	0.125	4	2	[17,17]
chr12:130776121	SFRS8	coding_exon		+	GtoA	0.1	0.1538	5	2	[13,20]
chr12:130807102	SFRS8	coding_exon		+	AtoG	0.1111	0.1111	2	2	[18,27]
chr12:119383892	SFRS9	UTR3		-	AtoG	0.1429	0.2727	7	6	[10,17]
chr12:119383894	SFRS9	UTR3		-	CtoA	0.1282	0.1667	8	2	[13,39]
chr6:166658051	SFT2D1	mixed		-	TtoG	0.1084	0.2097	14	10	[40,163]
chr1:166467730	SFT2D2	coding_exon	ENST00000271375:LtoQ;ENST00000367825:LtoQ;ENST00000367829:LtoQ;	+	TtoA	0.1	0.1	4	2	[10,10]
chr5:174887433	SFXN1	UTR3		+	TtoC	0.1	0.1081	3	2	[10,37]
chr10:104485618	SFXN2	coding_exon	ENST00000369893:FtoL;	+	CtoG	0.1	0.1	2	2	[10,10]
chr10:104487689	SFXN2	UTR3		+	GtoA	0.1	0.3333	4	2	[12,20]
chr10:104487858	SFXN2	UTR3		+	AtoG	0.1	0.1538	2	2	[10,13]
chr10:104487872	SFXN2	UTR3		+	AtoG	0.1538	0.1667	2	2	[12,13]
chr10:120895771	SFXN4	mixed		-	AtoG	0.1111	0.1176	4	2	[17,18]
chr7:94055951	SGCE	coding_exon	ENST00000265735:QtoR;ENST00000379889:QtoR;ENST00000415788:QtoR;ENST00000265735:QtoR;	-	AtoG	0.1	0.1	3	2	[10,10]
chr6:134533920	SGK1	coding_exon		-	AtoG	0.1	0.1429	2	2	[10,14]
chr10:51773471	SGMS1	coding_exon	ENST00000361781:LtoQ;	-	TtoA	0.1	0.1	3	2	[10,20]
chr2:201144344	SGOL2	coding_exon	ENST00000357799:CtoS;	+	TtoA	0.1	0.2	2	2	[10,10]
chr10:72308323	SGPL1	UTR3		+	AtoG	0.1	0.1429	3	2	[10,14]
chr17:75797934	SGSH	UTR3		-	TtoC	0.1026	0.1739	6	5	[19,39]
chr17:75797956	SGSH	UTR3		-	GtoA	0.1667	0.2	3	2	[12,15]
chr22:39134968	SGSM3	coding_exon	ENST00000248929:NtoS;ENST00000454798:NtoS;	+	AtoG	0.1	0.1667	9	2	[12,21]
chr22:39132451	SGSM3	mixed		+	TtoC	0.1163	0.1667	6	2	[12,43]
chr16:28787871	SH2B1	coding_exon	ENST00000337120:QtoR;ENST00000359285:QtoR;ENST00000395532:QtoR;	+	AtoG	0.125	0.1667	6	3	[13,18]
chr16:28788191	SH2B1	coding_exon	ENST00000337120:DtoA;ENST00000359285:DtoA;ENST00000395532:DtoA;	+	AtoC	0.1	0.1	2	2	[10,10]

chr16:28792291	SH2B1	mixed		+	AtaC	0.1	0.1	2	2	[10,10]
chr12:110370178	SH2B3	coding_exon	ENST00000341259:NtoD;	+	AtaG	0.125	0.15	2	2	[16,20]
chr12:110371229	SH2B3	UTR3		+	TtoC	0.1333	0.1667	4	2	[12,15]
chr12:110372045	SH2B3	UTR3		+	AtaG	0.1	0.1	2	2	[10,10]
chr12:110372534	SH2B3	UTR3		+	TtoG	0.1176	0.125	6	2	[16,18]
chr9:129580700	SH2D3C	coding_exon	ENST00000314830:KtoE;	-	AtaG	0.1	0.1818	2	2	[10,11]
chr9:129541783	SH2D3C	coding_exon		-	GtoA	0.1	0.1111	2	2	[10,18]
chr9:129553300	SH2D3C	mixed		-	CtoA	0.1	0.1	2	2	[10,10]
chr4:2796651	SH3BP2	coding_exon	ENST00000356331:StoG;ENST00000442312:StoG;ENST00000452765:StoG;	+	AtaG	0.12	0.1538	6	3	[13,25]
chr4:2801116	SH3BP2	coding_exon	ENST00000356331:KtoE;ENST00000435136:KtoE;ENST00000442312:KtoE;ENST00000452765:KtoE;	+	AtaG	0.1	0.1	2	2	[10,10]
chr3:15271888	SH3BP5	UTR3		-	TtoG	0.1667	0.6	5	4	[12,30]
chr3:15272510	SH3BP5	UTR3		-	AtaG	0.1	0.1	3	2	[10,10]
chr1:247073175	SH3BP5L	coding_exon		-	GtoC	0.1	0.1	2	2	[10,10]
chr1:247072344	SH3BP5L	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr17:40837419	SH3D20	coding_exon	ENST00000376922:RtoK;ENST00000428638:RtoK;ENST00000442348:RtoK;ENST00000452765:RtoK;	-	GtoA	0.1429	0.2	2	2	[10,21]
chr1:86981578	SH3GLB1	UTR3		+	TtoA	0.1176	0.1818	7	4	[12,17]
chr10:105352305	SH3PXD2A	coding_exon	ENST00000315994:GtoV;ENST0000035946:GtoV;ENST00000369774:GtoV;	-	GtoT	0.1	0.1	2	2	[10,20]
chr4:8288125	SH3TC1	coding_exon		+	TtoG	0.1	0.1111	3	2	[10,18]
chr16:45174955	SHCBP1	coding_exon	ENST00000303383:QtoR;	-	AtaG	0.1	0.1053	2	2	[10,19]
chr16:45209136	SHCBP1	coding_exon	ENST00000303383:EtoK;	-	GtoA	0.1	0.1	3	2	[10,10]
chr12:55914777	SHMT2	UTR3		+	CtoA	0.1739	0.5714	14	14	[15,85]
chr12:55914778	SHMT2	UTR3		+	CtoA	0.1	0.2778	16	10	[10,37]
chr10:112735472	SHOC2	coding_exon	ENST00000369452:DtoA;	+	AtaC	0.1	0.1429	2	2	[10,14]
chr10:112713902	SHOC2	UTR5		+	AtaG	0.1	0.2727	4	2	[11,20]
chr3:72944533	SHO1	coding_exon	ENST00000325599:TtoA;ENST00000463369:TtoA;	-	AtaG	0.1	0.1	2	2	[10,10]
chr5:132186255	SHROOM1	UTR3		-	CtoT	0.1	0.1	2	2	[10,10]
chr11:124011655	SIAE	UTR3		-	TtoG	0.1111	0.2143	2	2	[10,15]
chr11:124011656	SIAE	UTR3		-	TtoG	0.1333	0.2727	2	2	[11,15]
chr3:114827716	SIDT1	coding_exon	ENST00000264852:HtoQ;ENST00000393830:HtoQ;	+	CtoG	0.1	0.25	6	3	[12,20]
chr3:114827717	SIDT1	coding_exon	ENST00000264852:FtoI;ENST00000393830:FtoI;	+	TtoA	0.1111	0.2727	6	4	[11,18]
chr11:116571805	SIDT2	mixed		+	CtoG	0.1	0.1	7	2	[20,50]
chr19:56612378	SIGLEC10	coding_exon	ENST00000339313:VtoE;ENST00000353836:VtoE;ENST00000432469:VtoE;ENST00000442312:VtoE;	-	TtoA	0.1	0.1	2	2	[10,10]
chr11:111100406	SIK2	UTR3		+	AtaT	0.1	0.1	2	2	[10,10]
chr1:115115165	SIKE1	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr15:73449306	SIN3A	UTR3		-	AtaG	0.1	0.1667	2	2	[10,12]
chr15:73451163	SIN3A	UTR3		-	AtaC	0.1	0.15	9	2	[10,20]
chr14:38675563	SIP1	UTR3		+	TtoC	0.1	0.1667	4	2	[10,13]
chr14:71241751	SIPA1L1	coding_exon	ENST00000358550:StoG;ENST00000381232:StoG;	+	AtaG	0.1111	0.1176	2	2	[17,18]
chr19:43271249	SIPA1L3	coding_exon	ENST00000222345:VtoG;	+	TtoG	0.1	0.1333	3	3	[15,30]
chr19:43264917	SIPA1L3	coding_exon	ENST00000222345:LtoP;	+	TtoC	0.1667	0.2	2	2	[15,42]
chr19:43264929	SIPA1L3	coding_exon	ENST00000222345:DtoG;	+	AtaG	0.1667	0.3	2	2	[10,12]
chr20:1853479	SIRPA	coding_exon	ENST00000356025:LtoQ;ENST00000358771:LtoQ;ENST00000400068:LtoQ;ENST00000400068:LtoQ;	+	TtoA	0.1	0.1	2	2	[10,11]
chr6:13720083	SIRT5	UTR3		+	TtoC	0.1	0.2	4	3	[10,11]
chr17:77465692	SIRT7	coding_exon	ENST00000328666:TtoP;	-	AtaC	0.1	0.1	2	2	[10,10]
chr9:35640389	SIT1	coding_exon	ENST00000259608:VtoG;	-	TtoG	0.1111	0.125	3	2	[10,24]
chr9:35639326	SIT1	UTR3		-	TtoC	0.1053	0.2143	13	4	[14,42]
chr17:43594930	SKAP1	coding_exon	ENST00000336915:VtoG;	-	TtoG	0.1	0.1739	11	6	[18,65]
chr7:26676315	SKAP2	coding_exon	ENST00000345317:WtoG;	-	TtoG	0.1	0.1818	4	2	[10,33]
chr7:26675112	SKAP2	UTR3		-	CtoG	0.1	0.1176	3	2	[10,17]
chr6:32036080	SKIV2L	coding_exon	ENST00000375394:LtoP;ENST00000433155:LtoP;	+	TtoC	0.1	0.1176	4	2	[10,17]
chr5:54655746	SKIV2L2	coding_exon	ENST00000230640:VtoG;	+	TtoG	0.1	0.1538	3	2	[10,13]
chr5:54639611	SKIV2L2	coding_exon	ENST00000230640:FtoI;	+	TtoC	0.1429	0.1579	2	2	[14,19]
chr5:133524650	SKP1	coding_exon	ENST00000328392:RtoQ;ENST00000353411:RtoQ;	-	GtoA	0.1176	0.125	2	2	[16,34]
chr5:133524643	SKP1	coding_exon		-	TtoC	0.1034	0.1333	2	2	[15,29]
chr13:77235440	SLAIN1	UTR3		+	TtoC	0.1071	0.1538	7	2	[13,28]
chr4:48118832	SLAIN2	coding_exon	ENST00000264313:WtoL;	+	GtoT	0.1	0.1579	2	2	[10,19]
chr4:48118930	SLAIN2	UTR3		+	AtaG	0.1333	0.1429	5	2	[14,16]
chr4:48120669	SLAIN2	UTR3		+	AtaG	0.1	0.1	2	2	[10,10]
chr1:158759594	SLAMF6	coding_exon	ENST00000368055:FtoV;ENST00000368057:FtoV;ENST00000368059:FtoV;	-	TtoG	0.1429	0.2308	5	3	[21,26]
chr1:158725583	SLAMF6	coding_exon		-	AtaC	0.1	0.1667	11	2	[12,30]
chr1:158987193	SLAMF7	coding_exon		+	GtoA	0.1111	0.1364	3	2	[18,22]
chr1:158987465	SLAMF7	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr16:66537236	SLC12A4	mixed		-	CtoA	0.1	0.1	2	2	[20,20]
chr15:32334843	SLC12A6	coding_exon	ENST00000290209:EtoG;ENST00000354181:EtoG;ENST00000397702:EtoG;ENST00000397702:EtoG;	-	AtaG	0.1	0.1111	2	2	[10,18]
chr15:32316252	SLC12A6	coding_exon		-	GtoA	0.1	0.1053	2	2	[10,19]
chr15:32310901	SLC12A6	UTR3		-	AtaG	0.1	0.1333	3	3	[10,19]
chr15:32311054	SLC12A6	UTR3		-	TtoC	0.1	0.1667	3	2	[10,12]
chr3:126284763	SLC12A8	UTR3		-	AtaG	0.1111	0.2	7	4	[10,18]
chr3:126284764	SLC12A8	UTR3		-	AtaG	0.1053	0.2	10	5	[10,37]
chr11:60463685	SLC15A3	mixed		-	AtaG	0.1176	0.1818	2	2	[17,22]
chr12:127843784	SLC15A4	UTR3		-	TtoC	0.125	0.1346	8	2	[32,52]
chr1:113261772	SLC16A1	coding_exon	ENST00000369626:HtoR;	-	AtaG	0.1	0.1111	3	2	[18,21]
chr1:113273340	SLC16A1	coding_exon		-	AtaG	0.1429	0.1538	2	2	[13,14]
chr1:113256688	SLC16A1	UTR3		-	TtoC	0.1034	0.1111	5	3	[18,29]
chr1:113256877	SLC16A1	UTR3		-	GtoA	0.1053	0.1333	3	2	[15,19]
chr1:113256882	SLC16A1	UTR3		-	AtaG	0.1	0.1765	5	3	[10,19]
chr17:77790645	SLC16A3	UTR3		+	CtoA	0.1852	0.3667	11	10	[10,33]
chr17:77790646	SLC16A3	UTR3		+	CtoA	0.1818	0.7	8	8	[10,24]
chr17:77790647	SLC16A3	UTR3		+	AtaG	0.1667	0.2667	4	3	[12,18]
chr20:61069309	SLC17A9	UTR3		+	AtaC	0.2	0.2	4	2	[20,25]
chr2:65103604	SLC1A4	UTR3		+	AtaT	0.1	0.1	2	2	[10,10]
chr2:113132905	SLC20A1	coding_exon	ENST00000272542:LtoV;ENST00000409095:LtoV;	+	TtoG	0.1	0.2143	6	3	[10,15]
chr2:113137494	SLC20A1	UTR3		+	GtoA	0.1	0.1818	2	2	[10,11]
chr5:138733093	SLC23A1	UTR3		-	AtaC	0.1	0.1304	8	2	[20,23]
chr20:4803311	SLC23A2	coding_exon	ENST00000338244:YtoD;ENST00000379324:YtoD;ENST00000379333:YtoD;ENST00000379333:YtoD;	-	TtoG	0.1	0.1	2	2	[10,10]
chr20:4791482	SLC23A2	coding_exon	ENST00000338244:StoR;ENST00000379324:StoR;ENST00000379333:StoR;ENST00000379333:StoR;	-	CtoA	0.1	0.1176	2	2	[10,17]
chr20:4899564	SLC23A2	UTR5		-	TtoC	0.1	0.1	2	2	[10,20]
chr22:17543395	SLC25A1	UTR3		-	TtoC	0.1429	0.3077	5	2	[13,14]
chr22:17543578	SLC25A1	UTR3		-	CtoT	0.1075	0.9286	12	9	[13,134]
chr22:17543581	SLC25A1	UTR3		-	TtoA	0.1176	0.1667	4	3	[17,26]
chr17:77297298	SLC25A10	coding_exon	ENST00000331531:KtoN;ENST00000350690:KtoN;	+	GtoT	0.1053	0.1429	3	2	[14,19]
chr2:173252334	SLC25A12	coding_exon	ENST00000422440:Gto*;	-	GtoT	0.1	0.12	3	2	[20,25]
chr7:95599065	SLC25A13	coding_exon	ENST00000265631:HtoR;ENST00000416240:HtoR;	-	AtaG	0.1	0.1429	2	2	[10,14]
chr10:69916954	SLC25A16	coding_exon		-	TtoC	0.1	0.125	7	2	[10,16]
chr22:39520485	SLC25A17	coding_exon	ENST00000435456:EtoG;	-	AtaG	0.1	0.1	2	2	[10,10]
chr22:39496235	SLC25A17	UTR3		-	CtoA	0.1	0.1	2	2	[10,10]

chr11:783553	SLC25A22	coding_exon	ENST00000320230:FtoS;	-	TtoC	0.1	0.1333	3	2	[10,15]
chr19:6392862	SLC25A23	mixed		-	AtoG	0.1029	0.2273	5	5	[18,68]
chr14:99834934	SLC25A29	coding_exon	ENST00000359232:KtoQ;	-	AtoC	0.1	0.3636	2	2	[10,11]
chr12:97519606	SLC25A3	UTR3		+	AtoG	0.1471	0.2727	9	6	[11,34]
chr3:142177823	SLC25A36	coding_exon		+	AtoG	0.1538	0.1538	6	2	[13,13]
chr3:142178168	SLC25A36	UTR3		+	GtoA	0.1	0.2222	2	2	[10,18]
chr3:142178523	SLC25A36	UTR3		+	TtoA	0.1	0.1	3	2	[10,10]
chr3:142179474	SLC25A36	UTR3		+	CtoA	0.1053	0.1667	2	2	[18,19]
chr3:142179501	SLC25A36	UTR3		+	AtoG	0.1	0.1	3	2	[10,10]
chr3:142180718	SLC25A36	UTR3		+	TtoC	0.1111	0.15	4	2	[18,20]
chr8:23484816	SLC25A37	coding_exon	ENST00000290075:YtoD;	+	TtoG	0.1	0.1538	2	2	[10,13]
chr8:23485230	SLC25A37	coding_exon	ENST00000290075:StoP;	+	TtoC	0.1	0.1905	2	2	[10,21]
chr19:19079768	SLC25A42	coding_exon	ENST00000318596:HtoR;ENST00000454460:HtoR;	+	AtoG	0.1	0.1	2	2	[10,10]
chr11:64906534	SLC25A45	UTR5		-	TtoA	0.1667	0.2	2	2	[10,18]
chr5:110126597	SLC25A46	UTR3		+	GtoA	0.1034	0.1579	4	2	[19,29]
chr3:48643688	SLC26A6	coding_exon	ENST00000337000:VtoA;ENST00000358747:VtoA;ENST00000383733:VtoA;ENST00000383733:VtoA;	-	TtoC	0.1	0.1	2	2	[10,10]
chr3:48638405	SLC26A6	UTR3		-	CtoG	0.1	0.1	2	2	[10,20]
chr9:130144397	SLC27A4	mixed		+	GtoT	0.7692	1	8	8	[11,19]
chr9:130144398	SLC27A4	mixed		+	AtoC	0.8182	1	8	8	[10,19]
chr9:130144453	SLC27A4	mixed		+	CtoA	0.9091	1	15	15	[33,434]
chr9:130144454	SLC27A4	mixed		+	AtoG	0.9643	1	14	14	[38,431]
chr19:63702079	SLC27A5	coding_exon	ENST00000263093:VtoA;ENST00000415559:VtoA;	-	TtoC	0.1	0.2	6	3	[10,20]
chr6:44308691	SLC29A1	coding_exon	ENST00000313248:LtoP;ENST00000371708:LtoP;ENST00000371713:LtoP;ENST00000371713:LtoP;	+	TtoC	0.1	0.2	4	2	[10,10]
chr6:44306069	SLC29A1	coding_exon		+	TtoC	0.1176	0.125	3	2	[16,17]
chr6:44301776	SLC29A1	mixed		+	GtoC	0.1	0.1111	2	2	[10,18]
chr6:44301779	SLC29A1	mixed		+	CtoG	0.1429	0.2	2	2	[10,14]
chr22:22567409	SLC2A11	mixed		+	TtoA	0.5	0.7222	6	6	[13,52]
chr22:22567411	SLC2A11	mixed		+	GtoA	0.2308	0.6	12	12	[10,33]
chr22:22567412	SLC2A11	mixed		+	GtoA	0.2308	0.3077	5	5	[10,17]
chr4:41783780	SLC30A9	UTR3		+	AtoT	0.1667	0.1818	3	3	[11,12]
chr4:41783830	SLC30A9	UTR3		+	CtoA	0.1739	0.25	4	2	[12,23]
chr6:88278411	SLC35A1	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr17:45133802	SLC35B1	UTR3		-	TtoC	0.12	0.1538	10	3	[14,25]
chr6:44330143	SLC35B2	UTR3		-	TtoC	0.1333	0.3636	11	9	[11,20]
chr6:44330144	SLC35B2	UTR3		-	TtoA	0.1	0.1333	5	3	[10,16]
chr6:8373210	SLC35B3	coding_exon		-	TtoC	0.1	0.1	2	2	[10,10]
chr7:133634834	SLC35B4	coding_exon		-	AtoG	0.1	0.1111	2	2	[10,10]
chr7:133635543	SLC35B4	coding_exon		-	AtoG	0.1	0.1538	3	2	[10,13]
chr11:45789026	SLC35C1	coding_exon	ENST00000314134:LtoH;ENST00000442528:LtoH;ENST00000456334:LtoH;	+	TtoA	0.1	0.1	3	2	[10,10]
chr1:67241316	SLC35D1	UTR3		-	TtoG	0.1	0.1	2	2	[10,10]
chr21:42874066	SLC37A1	UTR3		+	TtoC	0.12	0.1429	2	2	[14,26]
chr11:118400313	SLC37A4	UTR3		-	TtoC	0.1	0.2727	6	2	[11,20]
chr11:118405349	SLC37A4	UTR5		-	AtoG	0.1176	0.1429	5	2	[17,21]
chr12:44869108	SLC38A1	coding_exon	ENST00000354341:WtoR;ENST00000398637:LtoS;ENST00000439706:LtoS;	-	TtoC	0.1	0.1	2	2	[10,10]
chr12:44865532	SLC38A1	UTR3		-	GtoA	0.1	0.2143	3	2	[10,14]
chr12:44866431	SLC38A1	UTR3		-	AtoG	0.1	0.1176	2	2	[10,17]
chr17:76864428	SLC38A10	coding_exon	ENST00000288439:VtoG;ENST00000374759:VtoG;	-	TtoG	0.1071	0.2	4	3	[15,28]
chr17:76839651	SLC38A10	coding_exon	ENST00000288439:MtoL;	-	AtoT	0.1	0.1875	4	2	[10,16]
chr17:76834368	SLC38A10	coding_exon		-	TtoG	0.1	0.1	2	2	[10,10]
chr12:45046995	SLC38A2	coding_exon	ENST00000256689:AtoD;ENST00000395444:AtoD;	-	CtoA	0.1	0.2	2	2	[10,10]
chr12:45046994	SLC38A2	coding_exon		-	TtoG	0.1	0.2	3	2	[10,10]
chr1:152198283	SLC39A1	UTR3		-	AtoG	0.1	0.1154	8	2	[26,30]
chr17:68154824	SLC39A11	UTR3		-	TtoG	0.1	0.2	2	2	[10,10]
chr11:47393418	SLC39A13	coding_exon		+	CtoA	0.1	0.1	3	2	[10,10]
chr8:22333086	SLC39A14	coding_exon	ENST00000289952:LtoP;ENST00000359741:LtoP;ENST00000381237:LtoP;	+	TtoC	0.1	0.1818	4	3	[10,11]
chr8:22321881	SLC39A14	coding_exon		+	GtoA	0.1	0.1	3	2	[10,10]
chr8:22335911	SLC39A14	mixed		+	GtoC	0.1	0.1111	4	2	[10,18]
chr8:22335912	SLC39A14	mixed		+	AtoT	0.1053	0.1176	4	2	[17,19]
chr19:2683575	SLC39A3	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr4:103401953	SLC39A8	mixed		-	AtoG	0.1667	0.2	3	2	[10,12]
chr14:68997542	SLC39A9	UTR3		+	GtoT	0.1	0.2	3	2	[15,20]
chr14:68998166	SLC39A9	UTR3		+	GtoA	0.5417	0.8125	2	2	[16,24]
chr3:127208179	SLC41A3	mixed		-	TtoG	0.1	0.1	3	2	[10,10]
chr11:57018067	SLC43A1	coding_exon		-	GtoA	0.1	0.1	3	2	[10,10]
chr11:56948064	SLC43A3	coding_exon	ENST00000352187:TtoP;ENST00000395123:TtoP;ENST00000395124:TtoP;ENST00000395124:TtoP;	-	AtoC	0.1127	0.2041	8	4	[49,71]
chr11:56948067	SLC43A3	coding_exon	ENST00000352187:TtoP;ENST00000395123:TtoP;ENST00000395124:TtoP;ENST00000395124:TtoP;	-	AtoC	0.1	0.1017	4	2	[10,59]
chr11:56945044	SLC43A3	coding_exon	ENST00000352187:StoP;ENST00000395123:StoP;ENST00000395124:StoP;ENST00000395124:StoP;	-	TtoC	0.12	0.2174	9	5	[15,62]
chr11:56931742	SLC43A3	UTR3		-	AtoC	0.1169	0.25	4	2	[32,77]
chr19:10609707	SLC44A2	coding_exon	ENST00000335757:VtoG;ENST00000407327:VtoG;	+	TtoG	0.1	0.2308	6	3	[13,21]
chr2:27764390	SLC4A1AP	coding_exon		+	AtoG	0.1	0.1	2	2	[10,10]
chr2:27771134	SLC4A1AP	UTR3		+	AtoG	0.1	0.1818	3	2	[10,12]
chr3:27390757	SLC4A7	UTR3		-	TtoC	0.1	0.1538	2	2	[10,13]
chr3:14484623	SLC6A6	coding_exon	ENST00000360861:LtoR;ENST00000454876:LtoR;	+	TtoG	0.1	0.2	2	2	[10,10]
chr13:28983497	SLC7A1	UTR3		-	CtoG	0.1176	0.1429	4	2	[14,17]
chr13:28984192	SLC7A1	UTR3		-	TtoA	0.1	0.1818	2	2	[10,11]
chr13:28984975	SLC7A1	UTR3		-	AtoC	0.1	0.1154	2	2	[10,26]
chr16:86430826	SLC7A5	coding_exon	ENST00000261622:StoP;	-	TtoC	0.1176	0.1818	2	2	[11,17]
chr16:86424074	SLC7A5	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr16:66888213	SLC7A6	mixed		+	GtoA	0.1	0.1	2	2	[10,10]
chr16:66858121	SLC7A6	UTR5		+	GtoT	0.1	0.1667	6	2	[10,18]
chr16:66866097	SLC7A6	UTR5		+	CtoA	0.1	0.1538	3	2	[13,20]
chr14:22313165	SLC7A7	coding_exon	ENST00000285850:LtoV;ENST00000397528:LtoV;ENST00000397529:LtoV;ENST00000397529:LtoV;	-	CtoG	0.1053	0.1111	5	2	[18,19]
chr14:22313163	SLC7A7	coding_exon		-	CtoA	0.1	0.1111	5	2	[18,20]
chr1:27308608	SLC9A1	coding_exon	ENST00000263980:MtoT;ENST00000374086:MtoT;	-	TtoC	0.1	0.1818	2	2	[10,11]
chr20:47865033	SLC9A8	coding_exon		+	GtoA	0.1	0.1	2	2	[10,10]
chr17:30796721	SLFN13	coding_exon	ENST00000285013:RtoK;	-	GtoA	0.1	0.1	3	2	[10,10]
chr18:12417110	SLMO1	coding_exon	ENST00000336990:MtoR;ENST00000430510:MtoR;ENST00000440960:MtoR;	+	TtoG	0.1	0.1818	2	2	[10,11]
chr15:57011912	SLTM	coding_exon	ENST00000249735:DtoG;ENST00000380516:DtoG;	-	AtoG	0.1	0.1538	2	2	[10,13]
chr15:57011905	SLTM	coding_exon	ENST00000249735:DtoE;ENST00000380516:DtoE;	-	TtoA	0.1	0.1176	4	2	[10,17]
chr15:56972482	SLTM	mixed		-	AtoG	0.1176	0.125	2	2	[16,17]
chr15:56958590	SLTM	UTR3		-	TtoC	0.1	0.1875	8	3	[10,23]
chr5:159772046	SLU7	coding_exon	ENST00000297151:VtoA;	-	TtoC	0.1765	0.1818	3	2	[11,17]
chr5:159761412	SLU7	UTR3		-	TtoC	0.1	0.2222	6	3	[10,27]
chr4:146694412	SMAD1	coding_exon	ENST00000302085:EtoK;ENST00000394092:EtoK;	+	GtoA	0.1	0.1	3	2	[10,10]
chr18:43620821	SMAD2	UTR3		-	TtoC	0.1	0.1579	3	2	[10,19]
chr18:46859750	SMAD4	UTR3		+	AtoG	0.1	0.1111	3	2	[10,18]

chr4:144693779	SMARCA5	coding_exon	ENST00000283131:KtoE;	+	AtoG	0.1111	0.125	4	2	[32,45]
chr2:217005833	SMARCAL1	coding_exon	ENST00000357276:EtoD;ENST00000358207:EtoD;	+	GtoT	0.1	0.1	2	2	[10,10]
chr22:22506685	SMARCB1	UTR3		+	TtoC	0.2	0.3	3	3	[11,50]
chr3:47603812	SMARCC1	UTR3		-	TtoA	0.1538	0.4444	7	7	[13,25]
chr12:54843803	SMARCC2	coding_exon		-	CtoT	0.1333	0.5294	2	2	[15,34]
chr12:54842514	SMARCC2	UTR3		-	TtoG	0.1111	0.1111	3	2	[10,19]
chr12:54843337	SMARCC2	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr12:48768597	SMARCD1	coding_exon		+	TtoA	0.1	0.1111	4	2	[10,10]
chr12:48780648	SMARCD1	UTR3		+	TtoC	0.1	0.1667	4	3	[10,16]
chr17:36038551	SMARCE1	UTR3		-	TtoG	0.1111	0.1765	2	2	[17,18]
chr9:105898288	SMC2	coding_exon		+	TtoC	0.1	0.1667	3	3	[10,12]
chr9:105941952	SMC2	UTR3		+	AtoG	0.1	0.1	3	2	[10,10]
chr9:105942547	SMC2	UTR3		+	TtoG	0.1	0.1	3	2	[10,10]
chr10:112350812	SMC3	coding_exon	ENST00000361804:TtoP;	+	AtoC	0.1	0.2143	4	2	[10,14]
chr3:161603194	SMC4	coding_exon	ENST00000344722:KtoE;ENST00000357388:KtoE;ENST00000360111:KtoE;ENST00000361138:LtoR;	+	AtoG	0.1	0.1429	7	4	[10,37]
chr9:72152671	SMC5	coding_exon	ENST00000361138:LtoR;	+	TtoG	0.1	0.1	4	2	[10,10]
chr9:72182840	SMC5	coding_exon	ENST00000361138:DtoE;	+	TtoA	0.1	0.1053	2	2	[10,19]
chr2:17748038	SMC6	coding_exon	ENST00000351948:DtoA;ENST00000381272:DtoA;ENST00000402989:DtoA;ENST00000351948:AtoS;ENST00000381272:AtoS;ENST00000402989:AtoS;ENST00000351948:GtoT;	-	AtoC	0.1	0.1429	2	2	[10,14]
chr2:17748009	SMC6	coding_exon	ENST00000351948:AtoS;ENST00000381272:AtoS;ENST00000402989:AtoS;ENST00000351948:GtoT;	-	GtoT	0.1	0.1818	2	2	[10,11]
chr2:17741064	SMC6	coding_exon	ENST00000351948:AtoS;ENST00000381272:AtoS;ENST00000402989:AtoS;ENST00000351948:GtoT;	-	AtoG	0.1	0.1053	2	2	[10,19]
chr14:90998922	SMEK1	coding_exon	ENST00000337238:LtoP;ENST00000417249:LtoP;ENST00000417427:LtoP;ENST00000337238:KtoN;ENST00000417249:KtoN;ENST00000417427:KtoN;ENST00000337238:CtoS;ENST00000417249:CtoS;ENST00000417427:CtoS;ENST00000337238:TtoC;	-	TtoC	0.1	0.1	3	2	[10,10]
chr14:91026850	SMEK1	coding_exon	ENST00000337238:KtoN;ENST00000417249:KtoN;ENST00000417427:KtoN;ENST00000337238:CtoS;ENST00000417249:CtoS;ENST00000417427:CtoS;ENST00000337238:TtoC;	-	AtoT	0.1	0.1	3	3	[10,10]
chr14:91006934	SMEK1	coding_exon	ENST00000337238:CtoS;ENST00000417249:CtoS;ENST00000417427:CtoS;ENST00000337238:TtoC;	-	TtoA	0.1176	0.2	4	2	[10,17]
chr14:91012031	SMEK1	coding_exon	ENST00000337238:CtoS;ENST00000417249:CtoS;ENST00000417427:CtoS;ENST00000337238:TtoC;	-	TtoA	0.1	0.1	4	2	[10,10]
chr2:55648888	SMEK2	coding_exon		-	TtoC	0.1111	0.125	3	2	[16,19]
chr2:55679492	SMEK2	mixed		-	TtoC	0.1	0.1667	5	3	[10,19]
chr16:18736292	SMG1	coding_exon	ENST00000389467:VtoA;ENST00000446231:VtoA;	-	TtoC	0.1	0.3	5	2	[10,10]
chr16:18724828	SMG1	UTR3		-	TtoC	0.1	0.1053	3	2	[10,19]
chr16:18726245	SMG1	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr16:18726406	SMG1	UTR3		-	AtoG	0.1	0.1429	4	2	[10,14]
chr1:154502445	SMG5	coding_exon	ENST00000361813:StoP;	-	TtoC	0.1	0.1034	4	2	[30,30]
chr17:2150225	SMG6	coding_exon	ENST00000263073:VtoD;	-	TtoA	0.1	0.1	2	2	[10,10]
chr17:2149529	SMG6	coding_exon	ENST00000263073:GtoV;	-	GtoT	0.1	0.1	2	2	[10,10]
chr17:1910694	SMG6	UTR3		-	AtoC	0.1538	0.1667	2	2	[12,13]
chr1:18177857	SMG7	coding_exon	ENST00000347615:VtoA;ENST00000367537:VtoA;ENST00000367539:VtoA;ENST00000347615:TtoC;	+	TtoC	0.1	0.1	3	2	[10,10]
chr1:181778011	SMG7	coding_exon	ENST00000347615:VtoA;ENST00000367537:VtoA;ENST00000367539:VtoA;ENST00000347615:TtoC;	+	AtoG	0.1	0.2	2	2	[10,10]
chr1:181787775	SMG7	UTR3		+	TtoC	0.1053	0.1053	3	2	[19,19]
chr10:112047322	SMNDC1	coding_exon	ENST00000369592:MtoV;ENST00000369603:MtoV;	-	AtoG	0.1	0.125	3	2	[16,20]
chr10:112045103	SMNDC1	coding_exon	ENST00000369592:EtoG;ENST00000369603:EtoG;	-	AtoG	0.1	0.1	5	2	[10,10]
chr12:52862127	SMUG1	mixed		-	TtoC	0.1	0.1	4	3	[10,10]
chr7:98483363	SMURF1	coding_exon		-	TtoC	0.1	0.2	2	2	[10,10]
chr17:1633184	SMYD4	coding_exon	ENST00000305513:AtoS;	-	CtoA	0.1	0.1	2	2	[10,10]
chr2:73304614	SMYD5	coding_exon		+	TtoC	0.1	0.1111	3	2	[10,18]
chr9:15454515	SNAPC3	UTR3		+	GtoA	0.1364	0.1379	2	2	[22,29]
chr9:15455450	SNAPC3	UTR3		+	AtoT	0.1111	0.1667	4	2	[12,18]
chr9:138406795	SNAPC4	coding_exon	ENST00000298532:NtoK;	-	CtoG	0.1	0.1	2	2	[10,10]
chr9:138396321	SNAPC4	coding_exon	ENST00000298532:LtoR;	-	TtoG	0.1	0.1	2	2	[10,10]
chr7:127519882	SND1	UTR3		+	GtoA	0.3077	0.7895	6	5	[10,19]
chr17:44362774	SNF8	UTR3		-	GtoA	0.1071	0.125	4	2	[16,28]
chr17:44362776	SNF8	UTR3		-	TtoC	0.1071	0.28	8	5	[23,55]
chr1:28778910	SNHG12	coding_exon		-	TtoG	0.15	0.1538	5	2	[13,20]
chr1:3775939	SNIP1	coding_exon	ENST00000296215:StoS;ENST00000436196:StoS;	-	CtoA	0.1	0.1053	2	2	[10,19]
chr1:37790860	SNIP1	coding_exon	ENST00000296215:StoS;ENST00000436196:StoS;	-	TtoC	0.1667	0.2	2	2	[10,12]
chr16:11680101	SNN	mixed		+	TtoA	0.1	0.2	5	3	[10,28]
chr11:93106225	SNORA32	UTR3		-	CtoT	0.1	0.1	2	2	[10,10]
chr11:93114221	SNORA32	UTR5		-	GtoC	0.1389	0.2632	4	2	[19,36]
chr9:138739019	SNORA43	mixed		-	TtoA	0.1111	0.12	6	2	[18,25]
chr1:28707203	SNORA73A	mixed		+	AtoC	0.1818	0.2727	2	2	[11,11]
chr6:86443929	SNORD50B	mixed		-	TtoA	0.1212	0.1707	11	5	[26,65]
chr6:86444573	SNORD50B	mixed		-	GtoA	0.1071	0.3333	20	20	[28,132]
chr6:86444628	SNORD50B	mixed		-	CtoT	0.1154	0.2703	21	20	[16,78]
chr3:43364348	SNRK	coding_exon		+	TtoC	0.1	0.3	2	2	[10,10]
chr2:96307286	SNRNP200	coding_exon	ENST00000323853:EtoK;	-	GtoA	0.1176	0.125	5	2	[16,17]
chr2:96314648	SNRNP200	coding_exon	ENST00000323853:EtoD;	-	GtoC	0.1	0.1143	3	2	[10,35]
chr12:122516477	SNRNP35	coding_exon	ENST00000412157:GtoE;ENST00000438124:GtoE;	+	GtoA	0.1111	0.125	7	4	[16,35]
chr19:45298188	SNRNP70	mixed		+	CtoT	0.1	0.1	2	2	[10,10]
chr19:45963119	SNRPA	UTR3		+	GtoA	0.1	0.1538	2	2	[10,13]
chr19:45948962	SNRPA	UTR5		+	GtoT	0.1	0.1304	7	2	[10,23]
chr20:2391822	SNRPB	coding_exon	ENST00000303103:TtoP;ENST00000336808:HtoP;ENST00000339610:TtoP;ENST00000303103:CtoG;	-	AtoC	0.1119	0.3542	3	2	[48,144]
chr20:16669826	SNRPB2	UTR3		+	CtoG	0.1	0.1	4	2	[10,10]
chr22:23298086	SNRPD3	UTR3		+	TtoC	0.1	0.2188	9	4	[10,32]
chr22:23298088	SNRPD3	UTR3		+	GtoA	0.1364	0.1667	6	3	[13,22]
chr1:202099460	SNRPE	coding_exon	ENST00000367208:ItoK;ENST00000414487:ItoK;	+	TtoA	0.1	0.125	9	2	[16,21]
chr1:202099466	SNRPE	coding_exon	ENST00000367208:GtoD;ENST00000414487:GtoD;	+	GtoA	0.1304	0.3	8	7	[10,23]
chr1:202099468	SNRPE	coding_exon	ENST00000367208:CtoG;ENST00000414487:CtoG;	+	TtoG	0.2727	0.4167	2	2	[12,13]
chr1:202099467	SNRPE	coding_exon	ENST00000367208:CtoG;ENST00000414487:CtoG;	+	CtoG	0.1429	0.5	10	8	[10,21]
chr1:202099416	SNRPE	mixed		+	AtoC	0.1	0.3438	13	12	[10,47]
chr12:94783990	SNRPF	UTR3		+	TtoC	0.1096	0.1429	8	4	[35,75]
chr14:77253732	SNW1	UTR3		-	TtoC	0.1	0.2	3	3	[10,15]
chr15:62222571	SNX1	UTR3		+	AtoC	0.1	0.2	2	2	[10,10]
chr7:26378143	SNX10	coding_exon		+	AtoG	0.1667	0.2	3	2	[12,15]
chr17:43554582	SNX11	UTR3		+	AtoG	0.1739	0.2	3	2	[15,23]
chr6:86313628	SNX14	mixed		-	AtoG	0.1	0.1	2	2	[10,10]
chr11:64562788	SNX15	coding_exon	ENST00000301886:QtoR;ENST00000377244:QtoR;	+	AtoG	0.1111	0.125	2	2	[16,18]
chr11:130251712	SNX19	UTR3		-	CtoA	0.1176	0.1333	3	2	[15,17]
chr15:62235061	SNX22	UTR3		+	AtoG	0.1	0.2143	2	2	[10,14]
chr15:62235089	SNX22	UTR3		+	AtoG	0.1	0.2667	4	3	[14,22]
chr15:62235578	SNX22	UTR3		+	GtoA	0.1	0.1538	5	4	[10,20]
chr4:186504735	SNX25	coding_exon		+	TtoA	0.1	0.1053	6	2	[11,20]
chr4:186509688	SNX25	coding_exon		+	GtoA	0.1	0.2105	10	3	[19,20]
chr1:149936600	SNX27	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr1:149937582	SNX27	UTR3		+	TtoG	0.1	0.1	3	2	[10,10]
chr1:149937718	SNX27	UTR3		+	TtoA	0.1	0.1	4	2	[10,10]
chr16:12062956	SNX29	coding_exon	ENST0000030630:StoS;ENST00000323433:StoS;	+	TtoC	0.1429	0.2	5	2	[10,14]
chr16:12570807	SNX29	UTR3		+	TtoG	0.1	0.1	2	2	[10,10]
chr16:12571932	SNX29	UTR3		+	TtoC	0.1333	0.1818	5	3	[11,17]

chr16:12572516	SNX29	UTR3		+	TtoC	0.1	0.1111	2	2	[10,18]
chr16:12574317	SNX29	UTR3		+	AtoG	0.1	0.1333	4	2	[15,20]
chr16:12575449	SNX29	UTR3		+	TtoA	0.1	0.1111	2	2	[10,10]
chr20:17889859	SNX5	coding_exon		-	TtoC	0.1	0.1	4	2	[10,10]
chr20:17889969	SNX5	coding_exon		-	TtoG	0.1333	0.2	3	2	[10,15]
chr20:17870497	SNX5	UTR3		-	AtoG	0.1333	0.1667	4	2	[13,15]
chr14:34148653	SNX6	mixed		-	TtoC	0.1	0.1	3	2	[10,10]
chr1:177584669	SOAT1	coding_exon	ENST00000367619:LtoQ;	+	TtoA	0.1	0.1	5	2	[10,11]
chr16:11255859	SOCS1	mixed		-	TtoG	0.2	0.2857	2	2	[11,14]
chr12:92493367	SOCS2	UTR3		+	GtoA	0.1	0.1	2	2	[10,10]
chr14:54580002	SOCS4	coding_exon	ENST00000395472:TtoS;	+	AtoT	0.1	0.1333	2	2	[10,15]
chr14:54580000	SOCS4	coding_exon	ENST00000395472:Stol;	+	GtoT	0.1	0.125	2	2	[10,16]
chr21:31962835	SOD1	UTR3		+	TtoA	0.1091	0.2121	11	3	[33,55]
chr21:31962851	SOD1	UTR3		+	TtoA	0.1053	0.2143	13	5	[14,30]
chr6:160023556	SOD2	coding_exon	ENST00000337404:WtoR;ENST00000367054:WtoR;ENST00000367055:WtoR;ENST00000367056:WtoR;	-	TtoC	0.1	0.1429	7	2	[14,30]
chr6:160020236	SOD2	UTR3		-	TtoC	0.1538	0.1667	7	2	[12,13]
chr16:536967	SOLH	coding_exon	ENST00000219611:VtoA;ENST00000397687:VtoA;	+	TtoC	0.1	0.1	2	2	[10,10]
chr21:33853781	SON	coding_exon	ENST00000300278:AtoT;ENST00000321758:AtoT;ENST00000356577:AtoT;ENST00000356578:AtoT;	+	GtoA	0.963	1	16	16	[18,92]
chr21:33845126	SON	coding_exon		+	AtoG	0.1071	0.1154	8	2	[26,28]
chr21:33845189	SON	coding_exon		+	AtoG	0.1026	0.1667	8	4	[39,60]
chr11:121003630	SORL1	coding_exon	ENST00000260197:NtoT;	+	AtoC	0.1026	0.1739	3	3	[17,39]
chr11:121006940	SORL1	UTR3		+	AtoG	0.5968	0.6145	2	2	[62,83]
chr11:121007309	SORL1	UTR3		+	AtoT	0.1	0.1538	3	2	[10,13]
chr2:39065512	SOS1	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr6:21702335	SOX4	mixed		+	GtoA	0.1	0.4286	4	4	[10,20]
chr6:21706340	SOX4	mixed		+	CtoG	0.1	0.1364	2	2	[10,22]
chr8:10660372	SOX7	coding_exon		-	TtoC	0.1	0.1	2	2	[10,10]
chr12:52091095	SP1	coding_exon	ENST00000327443:VtoA;ENST00000426431:VtoA;	+	TtoC	0.1176	0.1667	5	2	[12,17]
chr12:52092474	SP1	UTR3		+	TtoC	0.1	0.2	11	2	[10,20]
chr12:52092478	SP1	UTR3		+	CtoA	0.1	0.1	3	2	[10,10]
chr12:52093657	SP1	UTR3		+	AtoC	0.1538	0.3	2	2	[10,13]
chr2:231016021	SP100	mixed		+	TtoC	0.125	0.2222	9	2	[19,32]
chr2:230820959	SP140	coding_exon	ENST00000343805:NtoS;ENST00000392045:NtoS;	+	AtoG	0.1154	0.1765	4	2	[26,52]
chr2:230821013	SP140	coding_exon	ENST00000343805:GtoA;ENST00000392045:GtoA;	+	GtoC	0.1702	0.2308	4	2	[13,47]
chr2:230842533	SP140	coding_exon	ENST00000343805:EtoG;ENST00000350136:EtoG;ENST00000392045:EtoG;	+	AtoG	0.1	0.1333	4	2	[10,15]
chr2:230821010	SP140	coding_exon	ENST00000343805:EtoA;ENST00000392045:EtoA;	+	AtoC	0.1	0.2115	6	3	[16,52]
chr2:230867268	SP140	coding_exon		+	GtoA	0.1	0.1111	7	2	[10,27]
chr2:230811861	SP140	mixed		+	TtoC	0.1	0.1765	5	2	[10,18]
chr1:118303607	SPAG17	UTR3		-	AtoG	0.1	0.2308	6	2	[10,13]
chr1:118303771	SPAG17	UTR3		-	AtoG	0.1	0.1538	4	2	[10,13]
chr17:4803353	SPAG7	UTR3		-	AtoT	0.1159	0.1183	3	2	[69,94]
chr17:46409499	SPAG9	coding_exon	ENST00000262013:NtoK;ENST00000357122:NtoK;ENST00000357804:NtoK;ENST00000357805:NtoK;	-	TtoG	0.1	0.1053	2	2	[10,19]
chr17:46398403	SPAG9	mixed		-	TtoG	0.1	0.1	2	2	[10,10]
chr20:47955361	SPATA2	UTR3		-	AtoC	0.1	0.1	3	2	[10,10]
chr12:48170773	SPATS2	coding_exon	ENST00000321898:KtoE;ENST00000447889:KtoE;	+	AtoG	0.1	0.3077	2	2	[10,13]
chr2:201045948	SPATS2L	coding_exon		+	AtoC	0.1	0.1	2	2	[10,10]
chr2:200962241	SPATS2L	mixed		+	TtoC	0.1	0.1429	4	2	[10,14]
chr3:52717136	SPCS1	UTR3		+	AtoG	0.1	0.1333	6	2	[15,20]
chr4:177487849	SPCS3	UTR3		+	CtoT	0.1	0.1667	2	2	[10,12]
chr4:177489232	SPCS3	UTR3		+	AtoG	0.1529	0.6667	14	12	[12,85]
chr4:177489320	SPCS3	UTR3		+	AtoG	0.2667	0.4	3	3	[10,15]
chr4:177489321	SPCS3	UTR3		+	AtoG	0.5455	0.6364	2	2	[11,11]
chr2:28876095	SPDYA	mixed		+	AtoG	0.1	0.1667	4	2	[10,12]
chr2:28876570	SPDYA	mixed		+	AtoG	0.1176	0.2857	6	2	[14,18]
chr2:28877607	SPDYA	mixed		+	TtoC	0.1111	0.1538	5	2	[18,27]
chr2:28878852	SPDYA	mixed		+	AtoG	0.1	0.1875	4	3	[10,16]
chr2:28926752	SPDYA	UTR3		+	AtoC	0.1	0.1	2	2	[10,10]
chr1:16130247	SPEN	coding_exon	ENST00000375759:VtoG;	+	TtoG	0.1667	0.4286	4	2	[14,18]
chr1:16131219	SPEN	coding_exon	ENST00000375759:NtoS;	+	AtoG	0.1	0.125	4	2	[10,16]
chr1:16128026	SPEN	coding_exon	ENST00000375759:KtoE;	+	AtoG	0.1	0.1053	6	2	[10,19]
chr1:16134682	SPEN	coding_exon		+	TtoC	0.1	0.1176	3	3	[10,17]
chr1:16139027	SPEN	UTR3		+	AtoG	0.1	0.1	6	2	[10,20]
chr15:42644127	SPG11	coding_exon	ENST00000261866:QtoR;	-	AtoG	0.1	0.1579	7	2	[10,20]
chr15:42688050	SPG11	coding_exon	ENST00000261866:PtoS;ENST00000427534:PtoS;	-	CtoT	0.1111	0.1333	7	2	[10,15]
chr15:42694889	SPG11	coding_exon	ENST00000261866:LtoP;ENST00000427534:LtoP;	-	TtoC	0.1111	0.1429	2	2	[14,18]
chr15:42648993	SPG11	coding_exon		-	AtoT	0.1304	0.2	4	2	[10,23]
chr15:63043098	SPG21	coding_exon		-	CtoT	0.4355	0.5263	2	2	[38,62]
chr15:63042463	SPG21	UTR3		-	TtoC	0.1429	0.1818	3	2	[11,14]
chr15:63042681	SPG21	UTR3		-	TtoA	0.1176	0.1667	4	3	[13,18]
chr16:88151154	SPG7	UTR3		+	TtoA	0.1053	0.1579	9	4	[18,28]
chr19:53823345	SPHK2	mixed		+	GtoA	0.1	0.1818	6	2	[10,11]
chr19:53825196	SPHK2	mixed		+	AtoC	0.1	0.1	2	2	[10,10]
chr19:55624056	SPIB	UTR3		+	TtoC	0.1176	0.2	6	3	[10,35]
chr19:55624061	SPIB	UTR3		+	GtoA	0.1	0.2143	2	2	[14,20]
chr9:90281292	SPIN1	UTR3		+	TtoG	0.1	0.1	2	2	[10,10]
chr16:28894164	SPNS1	mixed		+	TtoG	0.1	0.2143	3	2	[10,14]
chr17:45032054	SPOP	UTR3		-	TtoC	0.1053	0.119	7	3	[17,42]
chr17:45032379	SPOP	UTR3		-	GtoA	0.1176	0.1212	7	2	[17,33]
chr12:51754766	SPRYD3	coding_exon	ENST00000301463:CtoW;	-	TtoG	0.15	0.786	3	2	[20,28]
chr12:51745167	SPRYD3	UTR3		-	TtoA	0.1333	0.1818	4	2	[11,15]
chr9:130368914	SPTAN1	mixed		+	GtoT	0.1	0.1667	2	2	[10,12]
chr2:54730317	SPTBN1	coding_exon	ENST0000033896:VtoG;ENST00000356805:VtoG;	+	TtoG	0.1	0.1538	2	2	[10,13]
chr2:54749427	SPTBN1	UTR3		+	AtoG	0.1	0.2	6	3	[16,20]
chr2:54749429	SPTBN1	UTR3		+	AtoG	0.1053	0.1538	6	3	[14,19]
chr2:54749843	SPTBN1	UTR3		+	TtoA	0.1	0.1875	8	3	[11,16]
chr9:93834113	SPTLC1	UTR3		-	TtoC	0.1	0.1	3	2	[10,10]
chr14:77043171	SPTLC2	UTR3		-	AtoT	0.1	0.1176	4	2	[10,17]
chr11:18584633	SPTY2D1	UTR3		-	GtoA	0.3	0.3077	2	2	[10,13]
chr8:126088879	SQLE	coding_exon	ENST00000265896:QtoE;	+	CtoG	0.3	0.5	3	3	[10,14]
chr8:126088873	SQLE	coding_exon	ENST00000265896:GtoV;	+	GtoT	0.3	0.6364	8	8	[10,21]
chr15:43770696	SQRDL	UTR3		+	TtoA	0.1	0.1905	4	2	[10,21]
chr3:144228695	SR140	coding_exon	ENST00000319822:LtoP;ENST00000397933:LtoP;ENST00000429264:LtoP;ENST00000429265:LtoP;	+	TtoC	0.1	0.1	2	2	[10,10]
chr3:144222915	SR140	mixed		+	GtoT	0.1	0.15	3	2	[10,20]
chr3:144258183	SR140	UTR3		+	TtoC	0.1	0.1	3	2	[10,10]
chr2:45499048	SRBD1	coding_exon	ENST00000263736:FtoV;	-	TtoG	0.1	0.1176	3	2	[10,18]
chr20:35465447	SRC	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]

chr20:35467045	SRC	UTR3		+	TtoC	0.1176	0.1818	3	2	[11,17]
chr20:35467047	SRC	UTR3		+	CtoT	0.1	0.1429	2	2	[10,14]
chr5:6705099	SRD5A1	coding_exon		+	AtoG	0.1	0.1	3	2	[10,10]
chr6:43255121	SRF	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr6:43255183	SRF	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr6:43256221	SRF	UTR3		+	TtoA	0.1	0.1667	7	4	[10,25]
chr5:121384079	SRFBP1	coding_exon		+	AtoG	0.1	0.1818	2	2	[10,11]
chr3:9401522	SRGAP3	mixed		-	AtoT	0.1	0.2	2	2	[10,10]
chr10:70534516	SRGN	UTR3		+	TtoA	0.1053	0.1789	16	7	[57,364]
chr10:70534567	SRGN	UTR3		+	AtoG	0.1	0.2667	5	3	[10,15]
chr7:87673614	SRI	UTR3		-	TtoG	0.1	0.2727	3	2	[10,11]
chr1:11037245	SRM	UTR3		-	TtoC	0.1091	0.1111	8	2	[28,58]
chr1:11037319	SRM	UTR3		-	AtoC	0.1047	0.2424	4	3	[76,100]
chr15:38115530	SRP14	UTR3		-	CtoA	0.1	0.1429	6	2	[10,14]
chr5:112226171	SRP19	coding_exon	ENST00000282999:itoV;ENST00000445150:itoV;	+	AtoG	0.1	0.1176	5	2	[11,17]
chr5:112231330	SRP19	UTR3		+	TtoA	0.1	0.2222	3	2	[10,20]
chr14:34568095	SRP54	coding_exon	ENST00000216774:FtoI;	+	TtoA	0.1034	0.1429	10	3	[28,33]
chr6:35946141	SRPK1	mixed		-	TtoC	0.1	0.1786	5	2	[10,28]
chr7:104574277	SRPK2	coding_exon	ENST00000357311:EtoG;ENST00000393651:EtoG;ENST00000457338:EtoG;ENST00000457338:EtoG;	-	AtoG	0.1	0.1667	7	3	[10,24]
chr7:104553953	SRPK2	coding_exon		-	TtoC	0.1	0.1538	6	3	[10,13]
chr7:104570960	SRPK2	coding_exon		-	GtoA	0.1	0.1034	2	2	[10,29]
chr7:104539879	SRPK2	mixed		-	AtoG	0.1	0.1	3	2	[10,10]
chr7:104541012	SRPK2	mixed		-	TtoC	0.1176	0.1818	8	3	[11,17]
chr11:125638087	SRPR	UTR3		-	AtoG	0.1176	0.1875	10	5	[16,54]
chr17:2173206	SRR	coding_exon		+	TtoC	0.1	0.1176	3	2	[10,34]
chr22:25216103	SRRD	coding_exon	ENST00000215917:StoP;	+	TtoC	0.1	0.1429	3	2	[10,14]
chr16:2753090	SRRM2	coding_exon	ENST00000301740:StoP;ENST00000382301:StoP;	+	TtoC	0.1429	0.1538	2	2	[13,14]
chr16:2761381	SRRM2	UTR3		+	TtoA	0.1	0.1429	11	5	[16,37]
chr20:575645	SRXN1	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr7:141096703	SSBP1	UTR3		+	AtoG	0.1071	0.3171	11	8	[13,43]
chr7:141084636	SSBP1	UTR5		+	AtoG	0.1	0.1176	3	2	[17,20]
chr12:107705168	SSH1	UTR3		-	TtoC	0.1176	0.125	3	2	[16,17]
chr6:7243173	SSR1	coding_exon	ENST00000244763:QtoH;ENST00000397511:QtoH;ENST00000462112:QtoH;ENST00000462112:QtoH;	-	AtoC	0.1538	0.5526	4	3	[13,68]
chr6:7232801	SSR1	mixed		-	TtoG	0.1765	0.2222	4	2	[10,17]
chr6:7234118	SSR1	mixed		-	TtoA	0.1579	0.1818	8	2	[11,19]
chr6:7234323	SSR1	mixed		-	TtoG	0.1	0.1429	4	2	[10,14]
chr6:7234754	SSR1	mixed		-	AtoT	0.1111	0.1429	6	3	[14,18]
chr6:7234755	SSR1	mixed		-	GtoA	0.1111	0.1538	2	2	[13,18]
chr6:7234957	SSR1	mixed		-	GtoC	0.1053	0.8636	10	9	[19,148]
chr1:154245469	SSR2	UTR3		-	AtoG	0.1034	0.2	3	3	[10,29]
chr3:157741562	SSR3	UTR3		-	AtoG	0.1429	0.2	4	3	[10,21]
chr3:157742482	SSR3	UTR3		-	TtoC	0.1	0.2727	4	2	[10,22]
chr3:157743528	SSR3	UTR3		-	TtoG	0.1034	0.1071	6	2	[28,32]
chr11:56850049	SSRP1	UTR3		-	TtoC	0.1	0.2	2	2	[10,20]
chr11:56850051	SSRP1	UTR3		-	AtoG	0.1	0.1333	4	3	[10,20]
chr22:39576817	ST13	coding_exon	ENST00000216218:VtoL;	-	GtoT	0.125	0.1579	3	2	[16,19]
chr22:39566639	ST13	coding_exon	ENST00000216218:TtoS;	-	AtoT	0.1	0.1	3	2	[10,10]
chr22:39576789	ST13	coding_exon	ENST00000216218:Sto*;	-	CtoA	0.1	0.1	2	2	[10,10]
chr22:39556794	ST13	coding_exon	ENST00000216218:QtoR;	-	AtoG	0.1	0.1622	8	4	[18,37]
chr22:39570797	ST13	coding_exon	ENST00000216218:NtoY;	-	AtoT	0.1818	0.2	2	2	[10,11]
chr22:39556845	ST13	coding_exon	ENST00000216218:KtoR;	-	AtoG	0.1	0.2	8	4	[10,18]
chr22:39556846	ST13	coding_exon	ENST00000216218:KtoE;	-	AtoG	0.1	0.2222	11	5	[10,18]
chr22:39576820	ST13	coding_exon	ENST00000216218:KtoE;	-	AtoG	0.1	0.1	9	2	[10,20]
chr22:39556849	ST13	coding_exon	ENST00000216218:itoV;	-	AtoG	0.2	0.2	7	2	[10,16]
chr22:39561775	ST13	coding_exon	ENST00000216218:itoV;	-	AtoG	0.1765	0.8	2	2	[10,17]
chr22:39556843	ST13	coding_exon	ENST00000216218:EtoK;	-	GtoA	0.1111	0.2	4	2	[11,19]
chr22:39556852	ST13	coding_exon	ENST00000216218:EtoK;	-	GtoA	0.1111	0.1667	13	4	[18,24]
chr22:39555618	ST13	coding_exon	ENST00000216218:Eto*;	-	GtoT	0.1053	0.1111	5	2	[19,27]
chr22:39566612	ST13	coding_exon	ENST00000216218:DtoH;	-	GtoC	0.1	0.2	2	2	[10,15]
chr22:39561577	ST13	coding_exon	ENST00000216218:CtoR;	-	TtoC	0.1538	0.2222	2	2	[10,13]
chr22:39558575	ST13	coding_exon	ENST00000216218:CtoG;	-	TtoG	0.1333	0.2222	2	2	[10,15]
chr22:39561567	ST13	coding_exon	ENST00000216218:Atod;	-	CtoA	0.1	0.2308	2	2	[10,13]
chr22:39556790	ST13	coding_exon		-	GtoA	0.1053	0.1765	5	3	[18,19]
chr22:39556853	ST13	coding_exon		-	AtoG	0.1	0.2917	10	4	[21,30]
chr22:39558576	ST13	coding_exon		-	CtoA	0.1538	0.2	4	3	[10,13]
chr22:39561776	ST13	coding_exon		-	CtoT	0.125	0.8	2	2	[10,17]
chr22:39570792	ST13	coding_exon		-	GtoA	0.2	0.6364	4	3	[10,18]
chr22:39574251	ST13	coding_exon		-	TtoC	0.1	0.1111	3	2	[10,10]
chr22:39576803	ST13	coding_exon		-	TtoC	0.1	0.1	6	2	[10,20]
chr22:39576824	ST13	coding_exon		-	TtoG	0.1053	0.2	3	2	[10,19]
chr22:39582470	ST13	coding_exon		-	CtoT	0.1333	0.35	2	2	[15,20]
chr16:68971437	ST3GAL2	UTR3		-	TtoG	0.1	0.2143	2	2	[30,42]
chr1:44168563	ST3GAL3	UTR3		+	AtoG	0.1	0.2143	3	2	[10,14]
chr3:99975517	ST3GAL6	coding_exon	ENST00000265261:KtoR;ENST00000394162:NtoS;ENST00000468553:KtoR;ENST00000468553:KtoR;	+	AtoG	0.1	0.1333	2	2	[10,15]
chr3:99989678	ST3GAL6	coding_exon		+	TtoA	0.1	0.1	3	2	[10,10]
chr3:188277458	ST6GAL1	UTR3		+	GtoT	0.1111	0.2667	7	5	[12,20]
chr3:188279021	ST6GAL1	UTR3		+	TtoC	0.1053	0.1333	3	2	[15,19]
chr9:129687425	ST6GALNAC6	UTR3		-	TtoC	0.1176	0.3636	6	2	[11,17]
chr7:116657174	ST7	UTR3		+	AtoC	0.1	0.1111	3	2	[18,40]
chr5:100249964	ST8SIA4	coding_exon	ENST00000231461:StoN;ENST00000451528:StoN;	-	GtoA	0.1	0.2	2	2	[10,16]
chr5:100175732	ST8SIA4	coding_exon		-	TtoG	0.1667	0.1667	3	2	[12,18]
chr3:52533448	STAB1	UTR3		+	AtoG	0.2941	0.3333	3	3	[16,18]
chr2:73943437	STAMBIP	UTR3		+	AtoG	0.1111	0.1176	8	3	[17,18]
chr2:73909693	STAMBIP	UTR5		+	GtoA	0.1	0.1	2	2	[10,10]
chr10:90672089	STAMBPL1	coding_exon		+	GtoA	0.1	0.1	2	2	[10,10]
chr4:68155059	STAP1	UTR3		+	TtoG	0.1	0.1	2	2	[10,10]
chr19:4276419	STAP2	coding_exon	ENST00000314714:PtoR;ENST00000424810:PtoR;	-	CtoG	0.1	0.1	4	2	[10,10]
chr11:72146577	STARD10	coding_exon	ENST00000334805:KtoE;	-	AtoG	0.1429	0.2	2	2	[10,14]
chr11:72181570	STARD10	UTR5		-	CtoA	0.2727	0.6	2	2	[10,11]
chr7:38220534	STARD3NL	coding_exon	ENST0000009041:YtoN;ENST00000396013:YtoN;ENST00000434197:YtoN;	+	TtoA	0.1	0.1053	3	2	[10,19]
chr5:110864628	STARD4	coding_exon	ENST00000296632:VtoA;ENST00000455172:VtoA;	-	TtoC	0.1	0.1875	5	2	[10,16]
chr5:110861974	STARD4	UTR3		-	TtoG	0.1	0.1818	10	4	[10,21]
chr2:96214907	STARD7	UTR3		-	TtoC	0.1111	0.15	4	2	[20,27]
chr2:96215657	STARD7	UTR3		-	CtoG	0.1	0.1	3	2	[10,10]
chr15:40774217	STARD9	coding_exon	ENST00000290607:YtoN;	+	TtoA	1	1	5	5	[11,15]
chr15:40774218	STARD9	coding_exon	ENST00000290607:YtoC;	+	AtoG	1	1	6	6	[10,15]

chr15:40799948	STARD9	UTR3		+	TtoG	0.1	0.1	3	2	[10,10]
chr2:191562622	STAT1	coding_exon	ENST00000361099:LtoR;ENST00000392322:LtoR;ENST00000392323:LtoR;ENST000	-	TtoG	0.1053	0.2222	2	2	[10,19]
chr2:191548543	STAT1	mixed		-	TtoA	0.1	0.1	4	2	[10,10]
chr2:191548548	STAT1	mixed		-	TtoC	0.1	0.1333	3	2	[10,15]
chr12:55031383	STAT2	coding_exon	ENST00000314128:NtoH;	-	AtoC	0.1	0.2	4	2	[10,10]
chr12:55036254	STAT2	coding_exon	ENST00000314128:GtoC;ENST00000418572:GtoC;	-	GtoT	0.125	0.125	2	2	[16,32]
chr12:55023940	STAT2	coding_exon		-	AtoC	0.1053	0.1053	3	2	[19,19]
chr12:55029217	STAT2	coding_exon		-	TtoG	0.1	0.15	2	2	[20,20]
chr12:55040109	STAT2	UTR5		-	GtoT	0.1282	0.2692	5	3	[16,39]
chr17:37270748	STAT3	UTR3		-	CtoA	0.1111	0.3182	12	7	[11,22]
chr17:37270749	STAT3	UTR3		-	GtoC	0.1	0.3043	9	5	[10,23]
chr17:37604972	STAT5B	UTR3		-	AtoG	0.1053	0.1333	7	2	[15,21]
chr17:37605808	STAT5B	UTR3		-	AtoG	0.1	0.1333	3	2	[10,15]
chr17:37607201	STAT5B	UTR3		-	TtoA	0.125	0.1818	7	2	[11,17]
chr12:55784520	STAT6	coding_exon	ENST00000300134:QtoH;ENST00000454075:QtoH;	-	GtoT	0.1053	0.1818	3	3	[11,19]
chr12:55784517	STAT6	coding_exon		-	CtoT	0.1667	0.2609	3	3	[12,23]
chr20:47163518	STAU1	UTR3		-	TtoA	0.1333	0.1818	9	3	[11,16]
chr20:47163519	STAU1	UTR3		-	AtoG	0.1304	0.2	10	2	[24,26]
chr8:74814651	STAU2	UTR5		-	CtoA	0.1	0.1	2	2	[10,10]
chr5:172676993	STC2	UTR3		-	TtoG	0.1	0.1	3	2	[10,20]
chr1:47488521	STIL	UTR3		-	AtoG	0.1	0.1538	4	3	[10,17]
chr1:47488535	STIL	UTR3		-	AtoG	0.1	0.1429	9	3	[14,20]
chr1:47488759	STIL	UTR3		-	TtoC	0.1	0.1538	4	2	[10,13]
chr11:4070486	STIM1	UTR3		+	AtoC	0.12	0.2	4	3	[10,25]
chr5:171403227	STK10	UTR3		-	TtoA	0.1	0.6	5	5	[10,22]
chr19:1169495	STK11	coding_exon	ENST00000326873:KtoE;ENST00000405031:KtoE;	+	AtoG	0.1	0.125	4	2	[10,16]
chr2:196709057	STK17B	UTR3		-	TtoG	0.2222	0.4167	2	2	[10,12]
chr2:242083263	STK25	UTR3		-	TtoC	0.1143	0.125	4	2	[16,38]
chr20:2076920	STK35	UTR3		+	CtoT	0.1	0.1	3	2	[10,10]
chr6:36572509	STK38	coding_exon		-	AtoG	0.1	0.1	3	2	[10,10]
chr12:27368333	STK38L	UTR3		+	AtoG	0.1111	0.1579	7	4	[13,19]
chr20:43139440	STK4	UTR3		+	GtoC	0.1	0.1538	5	2	[10,13]
chr1:36579878	STK40	UTR3		-	TtoG	0.1333	0.2	3	2	[10,15]
chr1:26099639	STMN1	mixed		-	AtoG	0.1053	0.1143	10	2	[19,35]
chr1:26099643	STMN1	mixed		-	TtoC	0.125	0.1429	8	2	[16,22]
chr9:123143263	STOM	UTR3		-	GtoA	0.1	0.1111	4	2	[10,18]
chr9:35089897	STOML2	UTR3		-	AtoG	0.1	0.2	7	5	[10,30]
chr9:35089901	STOML2	UTR3		-	TtoC	0.1	0.1818	10	2	[10,11]
chr2:201960891	STRADB	mixed		+	AtoG	0.1	0.1176	2	2	[10,17]
chr9:124911853	STRBP	mixed		-	CtoA	0.1	0.1	3	2	[10,10]
chr9:124927236	STRBP	UTR3		-	CtoA	0.1	0.1053	2	2	[10,19]
chr19:51923097	STRN4	coding_exon		-	TtoC	0.1	0.1053	2	2	[19,20]
chr19:51914761	STRN4	UTR3		-	TtoC	0.1	0.1304	4	2	[10,23]
chr19:51914873	STRN4	UTR3		-	TtoC	0.1333	0.1538	3	2	[13,16]
chr3:31640336	STT3B	coding_exon	ENST00000295770:LtoP;	+	TtoC	0.1	0.1	7	2	[20,20]
chr3:31641527	STT3B	coding_exon		+	TtoC	0.1081	0.1481	3	2	[27,37]
chr3:31654084	STT3B	UTR3		+	TtoC	0.1	0.1333	4	2	[10,15]
chr1:28021329	STX12	coding_exon	ENST00000373939:KtoE;ENST00000373943:KtoE;	+	AtoG	0.1	0.2	3	2	[10,11]
chr1:28022441	STX12	UTR3		+	TtoA	0.1	0.1818	2	2	[10,11]
chr1:28023332	STX12	UTR3		+	AtoG	0.1	0.1333	2	2	[10,15]
chr20:56686042	STX16	mixed		+	TtoA	0.1	0.2	6	2	[10,11]
chr20:56686362	STX16	mixed		+	TtoG	0.1053	0.1818	11	6	[11,26]
chr9:101772026	STX17	UTR3		+	TtoG	0.1	0.1	2	2	[10,10]
chr4:4472476	STX18	UTR3		-	AtoC	0.1	0.25	5	3	[20,22]
chr11:62349350	STX5	coding_exon	ENST00000294179:VtoA;ENST00000377897:VtoA;ENST00000394690:VtoA;	-	TtoC	0.125	0.25	4	2	[12,16]
chr11:62348609	STX5	coding_exon		-	TtoC	0.1	0.125	2	2	[10,16]
chr1:179209341	STX6	UTR3		-	AtoG	0.1667	0.1818	6	2	[11,12]
chr6:132821017	STX7	UTR3		-	TtoC	0.1111	0.1111	9	3	[18,28]
chr6:132821264	STX7	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr7:75463606	STYXL1	UTR3		-	TtoA	0.1111	0.125	2	2	[16,19]
chr2:84530347	SUCLG1	coding_exon		-	TtoC	0.1111	0.15	6	3	[27,61]
chr2:84504190	SUCLG1	UTR3		-	AtoG	0.1	0.1538	7	2	[10,13]
chr3:67651413	SUCLG2	coding_exon	ENST00000307227:QtoR;ENST00000492795:QtoR;ENST00000493112:QtoR;	-	AtoG	0.1053	0.1111	2	2	[18,19]
chr12:117338634	SUDS3	UTR3		+	AtoG	0.1	0.1538	4	2	[10,13]
chr17:70682473	SUMO2	coding_exon	ENST00000420826:QtoR;	-	AtoG	0.1	0.303	12	10	[16,43]
chr17:70682470	SUMO2	coding_exon	ENST00000420826:PtoQ;	-	CtoA	0.1	0.1333	6	2	[10,15]
chr17:70682467	SUMO2	coding_exon	ENST00000420826:ItoN;	-	TtoA	0.1	0.1818	5	2	[10,12]
chr17:70682477	SUMO2	coding_exon	ENST00000420826:GtoR;	-	GtoA	0.1034	0.1739	5	3	[18,58]
chr17:70688860	SUMO2	coding_exon	ENST00000314523:NtoD;ENST00000420826:NtoD;	-	AtoG	0.1538	0.5	6	5	[11,14]
chr17:70688861	SUMO2	coding_exon	ENST00000314523:EtoD;ENST00000420826:EtoD;	-	GtoT	0.1111	0.129	5	2	[10,33]
chr17:70682469	SUMO2	coding_exon		-	AtoG	0.1316	0.1429	7	3	[14,38]
chr17:70682472	SUMO2	coding_exon		-	AtoG	0.1053	0.1333	4	2	[16,19]
chr17:70688759	SUMO2	coding_exon		-	TtoC	0.1	0.1818	5	3	[10,24]
chr17:70675650	SUMO2	UTR3		-	CtoA	0.1176	0.125	3	2	[17,24]
chr17:70690580	SUMO2	UTR5		-	TtoG	0.1	0.1034	4	2	[21,30]
chr17:70690582	SUMO2	UTR5		-	GtoT	0.1111	0.2105	5	4	[17,20]
chr19:44655806	SUPT5H	coding_exon	ENST00000359191:QtoH;ENST00000378524:QtoH;ENST00000402194:QtoH;ENST0	+	GtoT	0.1	0.1	3	2	[10,10]
chr19:44651248	SUPT5H	coding_exon		+	TtoC	0.1	0.1765	3	2	[10,17]
chr17:24037503	SUPT6H	coding_exon	ENST00000314616:LtoQ;	+	TtoA	0.1	0.1176	5	2	[17,30]
chr2:27729555	SUPT7L	UTR3		-	AtoG	0.1	0.1	4	2	[10,10]
chr9:135208500	SURF1	UTR3		-	TtoC	0.1	0.1333	7	3	[10,15]
chr9:135218264	SURF4	UTR3		-	AtoG	0.1154	0.1333	5	2	[15,26]
chr9:135219393	SURF4	UTR3		-	AtoG	0.1071	0.1667	8	4	[24,92]
chr9:135187707	SURF6	UTR3		-	AtoG	0.1111	0.1818	13	3	[18,33]
chr9:113843279	SUSD1	UTR3		-	TtoC	0.1	0.2	3	2	[10,10]
chr10:14978886	SUV39H2	coding_exon	ENST00000313519:WtoC;ENST00000354919:WtoC;ENST00000378325:WtoC;ENST	+	GtoT	0.1	0.1	2	2	[10,10]
chr10:14984422	SUV39H2	coding_exon	ENST00000313519:ItoV;ENST00000354919:ItoV;ENST00000378325:ItoV;ENST0000	+	AtoG	0.1	0.5	7	6	[10,13]
chr10:14983226	SUV39H2	coding_exon	ENST00000313519:ItoK;ENST00000354919:ItoK;ENST00000378325:ItoK;ENST0000	+	TtoA	0.1	0.2	4	3	[10,16]
chr10:14984472	SUV39H2	coding_exon		+	AtoT	0.1364	0.2105	8	3	[17,22]
chr11:67689887	SUV420H1	mixed		-	TtoC	0.1	0.1818	4	2	[10,11]
chr17:27345710	SUZ12	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr17:27351751	SUZ12	UTR3		+	CtoA	0.1	0.1333	2	2	[10,15]
chr11:22801178	SVIP	UTR3		-	TtoG	0.1	0.1	8	3	[10,10]
chr11:9728955	SWAP70	UTR3		+	TtoA	0.1042	0.1231	8	4	[19,66]
chr11:9729191	SWAP70	UTR3		+	CtoA	0.1667	0.2727	8	2	[11,12]
chr11:9729192	SWAP70	UTR3		+	TtoG	0.1	0.1818	4	2	[10,11]

chr11:9729479	SWAP70	UTR3		+	GtoA	0.1053	0.1333	2	2	[15,19]
chr11:9729846	SWAP70	UTR3		+	AtoG	0.1	0.1176	8	3	[10,17]
chr1:25422288	SYF2	UTR3		-	AtoG	0.1	0.1333	5	2	[15,20]
chr9:92699607	SYK	UTR3		+	TtoG	0.1	0.1765	6	3	[10,17]
chr9:92700130	SYK	UTR3		+	TtoC	0.72	0.8421	3	2	[19,25]
chr6:86377191	SYNCRIP	UTR3		-	TtoA	0.1	0.1429	3	2	[10,14]
chr14:63666304	SYNE2	mixed		+	AtoG	0.1	0.1818	3	2	[10,11]
chr14:63762251	SYNE2	UTR3		+	TtoC	0.1	0.1053	2	2	[10,19]
chr17:73680400	SYNGR2	UTR3		+	TtoA	0.1	0.1	2	2	[10,10]
chr5:150018957	SYNPO	UTR3		+	TtoC	0.1	0.1818	3	3	[10,12]
chr7:105519476	SYPL1	UTR3		-	AtoG	0.1	0.1176	4	2	[10,17]
chr1:154121060	SYT11	UTR3		+	TtoC	0.1	0.1	3	2	[10,10]
chr1:27549519	SYTL1	coding_exon	ENST00000318074:VtoM;ENST00000485269:VtoM;	+	GtoA	0.1	0.1	2	2	[10,20]
chr8:38815167	TACC1	mixed		+	CtoA	0.1111	0.125	2	2	[16,18]
chr8:38824796	TACC1	mixed		+	GtoA	0.1333	0.1667	10	3	[12,30]
chr8:38826592	TACC1	mixed		+	TtoA	0.1	0.1538	7	3	[13,20]
chr8:38829600	TACC1	UTR3		+	TtoC	0.1	0.1818	6	2	[10,11]
chr4:1716608	TACC3	UTR3		+	AtoG	0.1	0.1667	4	2	[12,20]
chr1:165098091	TADA1L	coding_exon		-	TtoC	0.1	0.1818	3	2	[10,11]
chr17:32911177	TADA2L	coding_exon	ENST00000225396:Eto*;ENST00000394395:Eto*;	+	GtoT	0.1	0.1	2	2	[10,10]
chr17:32911266	TADA2L	UTR3		+	TtoC	0.1	0.1	6	2	[10,10]
chr3:9796668	TADA3L	UTR3		-	TtoG	0.1	0.1111	4	2	[10,10]
chr3:9796669	TADA3L	UTR3		-	CtoA	0.1	0.1	2	2	[10,10]
chr3:9796675	TADA3L	UTR3		-	TtoA	0.1111	0.1667	5	2	[12,18]
chr11:6588677	TAF10	UTR3		-	TtoC	0.1724	0.2222	4	2	[10,32]
chr16:82771451	TAF1C	coding_exon	ENST00000341690:FtoV;ENST00000378541:FtoV;	-	TtoG	0.1	0.2222	6	3	[10,12]
chr8:120864878	TAF2	coding_exon	ENST00000378164:LtoR;	-	TtoG	0.1	0.1875	5	2	[10,16]
chr8:120864879	TAF2	coding_exon	ENST00000378164:Lto;	-	CtoA	0.1818	0.2	4	2	[11,15]
chr10:8046647	TAF3	coding_exon	ENST00000344293:StoA;	+	TtoG	0.1	0.1	2	2	[10,10]
chr10:8047059	TAF3	coding_exon	ENST00000344293:KtoR;	+	AtoG	0.1	0.1333	2	2	[10,15]
chr20:59984698	TAF4	coding_exon	ENST00000252996:LtoP;	-	TtoC	0.1	0.1818	3	2	[10,11]
chr20:59984604	TAF4	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr18:22223928	TAF4B	coding_exon	ENST00000269142:RtoQ;ENST00000418698:RtoQ;	+	GtoA	0.1	0.1818	2	2	[10,11]
chr10:105138803	TAF5	UTR3		+	AtoG	0.102	0.1538	17	4	[49,115]
chr1:227816747	TAF5L	coding_exon	ENST00000258281:StoP;ENST00000366674:StoP;ENST00000366675:StoP;ENST00000366676:StoP;	-	TtoC	0.1667	0.9167	4	4	[11,15]
chr1:227816795	TAF5L	coding_exon	ENST00000258281:RtoW;ENST00000366674:RtoW;ENST00000366675:RtoW;ENST00000366676:RtoW;	-	CtoT	0.12	0.1	10	9	[17,41]
chr1:227805007	TAF5L	coding_exon	ENST00000258281:RtoH;ENST00000366675:RtoH;ENST00000366676:RtoH;	-	GtoA	0.1429	0.5	8	7	[10,23]
chr1:227805040	TAF5L	coding_exon	ENST00000258281:RtoH;ENST00000366675:RtoH;ENST00000366676:RtoH;	-	GtoA	0.25	0.8235	9	6	[16,24]
chr1:227805277	TAF5L	coding_exon	ENST00000258281:QtoP;ENST00000366675:QtoP;ENST00000366676:QtoP;	-	AtoC	0.1818	0.2308	4	3	[10,13]
chr1:227816831	TAF5L	coding_exon	ENST00000258281:QtoE;ENST00000366674:QtoE;ENST00000366675:QtoE;ENST00000366676:QtoE;	-	CtoG	0.1	0.1333	7	2	[10,15]
chr1:227804989	TAF5L	coding_exon	ENST00000258281:NtoS;ENST00000366675:NtoS;ENST00000366676:NtoS;	-	AtoG	0.1	0.3125	5	3	[10,16]
chr1:227805147	TAF5L	coding_exon	ENST00000258281:NtoK;ENST00000366675:NtoK;ENST00000366676:NtoK;	-	TtoA	0.1	0.3077	6	5	[10,20]
chr1:227805051	TAF5L	coding_exon	ENST00000258281:KtoN;ENST00000366675:KtoN;ENST00000366676:KtoN;	-	GtoT	0.1111	0.875	9	8	[12,21]
chr1:227805133	TAF5L	coding_exon	ENST00000258281:DtoG;ENST00000366675:DtoG;ENST00000366676:DtoG;	-	AtoG	0.125	0.3636	5	3	[11,16]
chr1:227812541	TAF5L	coding_exon	ENST00000258281:Atov;ENST00000366675:Atov;ENST00000366676:Atov;	-	CtoT	0.1111	0.3	8	5	[11,23]
chr1:227804649	TAF5L	coding_exon		-	TtoC	0.1	0.25	3	2	[10,12]
chr1:227804703	TAF5L	coding_exon		-	CtoT	0.25	0.8	8	6	[10,12]
chr1:227805132	TAF5L	coding_exon		-	TtoC	0.1	0.4615	4	3	[10,17]
chr1:227805249	TAF5L	coding_exon		-	CtoT	0.2	0.4545	7	4	[10,14]
chr1:227812477	TAF5L	coding_exon		-	TtoC	0.1667	0.4	5	2	[10,12]
chr1:227812525	TAF5L	coding_exon		-	AtoG	0.1364	0.95	13	9	[10,25]
chr1:227816775	TAF5L	coding_exon		-	TtoC	0.2	0.9667	12	12	[10,30]
chr1:227816826	TAF5L	coding_exon		-	TtoC	0.1	0.4	4	3	[13,20]
chr11:62302917	TAF6L	coding_exon	ENST00000294168:VtoG;	+	TtoG	0.2	0.2	4	2	[10,10]
chr5:140678801	TAF7	mixed		-	AtoG	0.1176	0.125	3	2	[17,32]
chr6:42144294	TAF8	coding_exon	ENST00000372977:TtoA;ENST00000372982:TtoA;ENST00000456846:TtoA;ENST00000456847:TtoA;	+	AtoG	0.1	0.1	2	2	[10,10]
chr6:42154560	TAF8	mixed		+	AtoG	0.2	0.2941	3	2	[10,17]
chr2:161769448	TANK	coding_exon	ENST00000259075:CtoW;ENST00000392749:CtoW;ENST00000402568:CtoW;ENST00000402569:CtoW;	+	TtoG	0.1	0.1818	6	3	[10,20]
chr6:32904359	TAP2	mixed		-	AtoG	0.1429	0.2222	4	2	[10,14]
chr6:32904464	TAP2	mixed		-	TtoC	0.1364	0.2	4	3	[10,22]
chr6:33375451	TAPBP	UTR3		-	AtoG	0.1176	0.3529	3	3	[10,18]
chr6:33375454	TAPBP	UTR3		-	TtoC	0.1429	0.2	5	2	[15,22]
chr6:33375456	TAPBP	UTR3		-	CtoA	0.1111	0.1429	5	3	[14,32]
chr6:33375458	TAPBP	UTR3		-	TtoA	0.1	0.2222	6	6	[12,31]
chr6:33377372	TAPBP	UTR3		-	CtoT	0.1053	0.2	6	3	[10,19]
chr12:6438360	TAPBPL	coding_exon	ENST00000266556:QtoR;	+	AtoG	0.1111	0.1667	2	2	[10,12]
chr12:6440363	TAPBPL	coding_exon	ENST00000266556:QtoP;	+	AtoC	0.1034	0.2308	8	6	[13,31]
chr1:232635855	TARBP1	coding_exon	ENST0000040877:GtoD;	-	GtoA	0.1	0.1	3	2	[10,10]
chr1:232609044	TARBP1	coding_exon		-	AtoG	0.1765	0.2	2	2	[10,17]
chr1:232652888	TARBP1	coding_exon		-	TtoG	0.1	0.1	4	2	[10,10]
chr12:52186392	TARBP2	UTR3		+	TtoC	0.1	0.2667	6	3	[10,19]
chr5:33490881	TARS	coding_exon		+	TtoC	0.1026	0.1111	2	2	[18,40]
chr5:33503844	TARS	UTR3		+	TtoC	0.1017	0.1154	11	3	[26,118]
chr8:125570061	TATDN1	coding_exon	ENST00000276692:NtoK;	-	TtoA	0.1	0.1111	3	2	[10,27]
chr3:10295145	TATDN2	coding_exon	ENST00000287652:QtoR;ENST00000448281:QtoR;	+	AtoG	0.1176	0.1818	2	2	[11,17]
chr3:10297280	TATDN2	UTR3		+	GtoA	0.1	0.1	2	2	[10,10]
chr3:10297809	TATDN2	UTR3		+	TtoA	0.1053	0.1429	7	2	[19,21]
chr1:211055212	TATDN3	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr7:27834942	TAX1BP1	coding_exon	ENST00000265393:HtoR;ENST00000396319:HtoR;ENST00000409980:HtoR;ENST00000409981:HtoR;	+	AtoG	0.1	0.2632	15	10	[17,31]
chr4:37699642	TBC1D1	coding_exon	ENST00000261439:VtoG;	+	TtoG	0.1	0.1	2	2	[10,10]
chr4:37696428	TBC1D1	coding_exon	ENST00000261439:KtoR;	+	AtoG	0.1053	0.1875	2	2	[16,19]
chr19:55082637	TBC1D17	coding_exon	ENST00000221543:WtoG;	+	TtoG	0.125	0.1538	4	2	[13,16]
chr19:55073638	TBC1D17	coding_exon	ENST00000221543:KtoN;	+	GtoT	0.1	0.1333	5	2	[10,15]
chr19:55077221	TBC1D17	coding_exon		+	AtoG	0.1176	0.1786	4	2	[17,28]
chr20:365065	TBC1D20	UTR3		-	TtoC	0.1	0.125	3	2	[10,16]
chr22:45949498	TBC1D22A	UTR3		+	CtoA	0.1	0.1	2	2	[10,10]
chr22:45949579	TBC1D22A	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr3:17391143	TBC1D5	coding_exon	ENST00000253692:YtoS;ENST00000429383:YtoS;ENST00000429924:YtoS;ENST00000429925:YtoS;	-	AtoC	0.1	0.1	3	2	[10,10]
chr3:17373779	TBC1D5	UTR3		-	TtoA	0.1111	0.1765	15	2	[18,37]
chr3:17174068	TBC1D5	UTR3		-	GtoC	0.1	0.1481	4	3	[20,27]
chr3:17174552	TBC1D5	UTR3		-	AtoC	0.1333	0.15	3	2	[15,20]
chr3:17176481	TBC1D5	UTR3		-	AtoG	0.1	0.1	3	2	[10,10]
chr2:101001892	TBC1D8	coding_exon		-	AtoC	0.1538	0.1818	3	2	[11,13]
chr2:100989214	TBC1D8	mixed		-	AtoT	0.1	0.2308	3	2	[10,14]
chr2:100989313	TBC1D8	mixed		-	GtoT	0.1118	0.5185	15	15	[27,471]
chr2:100989314	TBC1D8	mixed		-	AtoT	0.3671	0.8333	10	10	[13,170]

chr2:100989315	TBC1D8	mixed		-	AtoT	0.1304	0.5882	11	11	[13,64]
chr2:100989317	TBC1D8	mixed		-	TtoC	0.2105	0.25	6	3	[10,21]
chr5:179222356	TBC1D9B	UTR3		-	AtoG	0.1	0.1176	2	2	[10,18]
chr5:179222881	TBCA	UTR3		-	TtoC	0.1	0.1538	5	2	[10,13]
chr1:233644522	TBCE	coding_exon	ENST00000366601:TtoP;ENST00000406207:TtoP;	+	AtoC	0.1	0.1	2	2	[10,10]
chr12:63177068	TBK1	coding_exon		+	AtoG	0.1	0.1	4	2	[10,10]
chr7:72626777	TBL2	coding_exon	ENST00000305632:QtoK;ENST00000432538:QtoK;ENST00000452475:QtoK;	-	CtoA	0.1	0.1	3	2	[10,10]
chr7:72622801	TBL2	coding_exon	ENST00000305632:LtoR;ENST00000432538:LtoR;	-	TtoG	0.1	0.125	4	2	[10,16]
chr6:134350162	TBPL1	UTR3		+	AtoG	0.1111	0.1667	3	2	[13,18]
chr8:55054254	TCEA1P2	coding_exon	ENST00000396401:RtoW;ENST00000399633:RtoW;	-	CtoT	0.129	0.2097	5	3	[31,83]
chr8:55063271	TCEA1P2	coding_exon	ENST00000396401:RtoQ;ENST00000399633:RtoQ;	-	GtoA	0.1176	0.2407	4	4	[57,108]
chr20:62168771	TCEA2	coding_exon		+	CtoA	0.1	0.1	2	2	[10,10]
chr20:62165690	TCEA2	mixed		+	GtoA	0.125	0.25	3	2	[12,16]
chr20:62168274	TCEA2	mixed		+	AtoT	0.1176	0.3333	8	6	[12,22]
chr20:62168276	TCEA2	mixed		+	GtoA	0.1	0.2	7	4	[10,20]
chr8:75021435	TCEB1	coding_exon	ENST00000284811:NtoS;	-	AtoG	0.1	0.1667	7	2	[10,12]
chr8:75021440	TCEB1	coding_exon		-	TtoC	0.1143	0.1778	12	4	[35,54]
chr16:2761989	TCEB2	mixed		-	AtoC	0.1	0.925	9	5	[23,161]
chr1:23950016	TCEB3	coding_exon	ENST00000374536:YtoN;ENST00000418390:YtoN;	+	TtoA	0.1	0.1176	2	2	[10,17]
chr1:23958813	TCEB3	UTR3		+	AtoC	0.1176	0.1429	4	2	[15,17]
chr5:145863275	TCERG1	coding_exon	ENST00000296702:YtoH;ENST00000394421:YtoH;	+	TtoC	0.1	0.1111	4	2	[10,20]
chr5:145839650	TCERG1	coding_exon	ENST00000296702:QtoR;ENST00000394421:QtoR;	+	AtoG	0.1111	0.2	5	3	[10,26]
chr15:55367486	TCF12	UTR3		+	AtoG	0.1	0.1818	3	2	[10,11]
chr22:40940121	TCF20	mixed		-	TtoC	0.1	0.1	2	2	[10,10]
chr22:40940737	TCF20	mixed		-	CtoT	0.1	0.4286	3	2	[10,21]
chr18:51045271	TCF4	UTR3		-	TtoC	0.1667	0.1818	3	2	[11,19]
chr18:51045932	TCF4	UTR3		-	CtoG	0.1	0.1667	3	3	[10,15]
chr18:51045966	TCF4	UTR3		-	AtoG	0.1071	0.1111	4	2	[18,29]
chr5:133502627	TCF7	coding_exon	ENST00000321584:WtoR;ENST00000321603:WtoR;ENST00000340914:WtoR;ENST00000321584:StoT;ENST00000321603:StoT;ENST00000340914:StoT;ENST00000321584:FtoS;ENST00000321603:FtoS;ENST00000340914:FtoS;ENST00000321584:FtoL;ENST00000321603:FtoL;ENST00000340914:FtoL;ENST00000321584:YtoN;ENST00000321603:YtoN;ENST00000340914:YtoN;	+	TtoA	0.1	0.2059	9	6	[29,110]
chr5:133502625	TCF7	coding_exon	ENST00000321584:StoT;ENST00000321603:StoT;ENST00000340914:StoT;ENST00000321584:FtoS;ENST00000321603:FtoS;ENST00000340914:FtoS;ENST00000321584:FtoL;ENST00000321603:FtoL;ENST00000340914:FtoL;ENST00000321584:YtoN;ENST00000321603:YtoN;ENST00000340914:YtoN;	+	GtoC	0.1111	0.1667	8	2	[12,54]
chr5:133505777	TCF7	coding_exon	ENST00000321584:FtoS;ENST00000321603:FtoS;ENST00000340914:FtoS;ENST00000321584:FtoL;ENST00000321603:FtoL;ENST00000340914:FtoL;ENST00000321584:YtoN;ENST00000321603:YtoN;ENST00000340914:YtoN;	+	TtoC	0.1053	0.119	8	2	[42,135]
chr5:133505776	TCF7	coding_exon	ENST00000321584:FtoL;ENST00000321603:FtoL;ENST00000340914:FtoL;ENST00000321584:YtoN;ENST00000321603:YtoN;ENST00000340914:YtoN;	+	TtoC	0.1	0.2121	12	9	[13,116]
chr5:133511214	TCF7	UTR3		+	TtoC	0.125	0.1429	5	2	[16,29]
chr12:108830883	TCHP	coding_exon	ENST00000312777:LtoP;ENST00000405876:LtoP;	+	TtoC	0.1	0.1429	8	2	[10,14]
chr12:108826930	TCHP	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr11:67567074	TCIRG1	coding_exon	ENST00000265686:NtoS;	+	AtoG	0.1765	0.3636	6	4	[11,34]
chr11:67574934	TCIRG1	UTR3		+	TtoC	0.1111	0.3333	7	5	[10,36]
chr11:33063141	TCP11L1	coding_exon	ENST00000324357:LtoF;	+	CtoT	0.1	0.1667	2	2	[10,12]
chr11:33062920	TCP11L1	coding_exon		+	AtoC	0.1	0.1	2	2	[10,10]
chr11:33063140	TCP11L1	coding_exon		+	TtoC	0.1	0.1818	2	2	[10,11]
chr14:89503492	TDP1	mixed		+	TtoC	0.1	0.1	3	2	[10,10]
chr9:99233120	TDRD7	mixed		+	GtoC	0.1	0.1	2	2	[10,10]
chr9:99262707	TDRD7	mixed		+	GtoA	0.1	0.1429	2	2	[10,14]
chr4:47835790	TEC	coding_exon		-	TtoC	0.1515	0.2	3	3	[15,33]
chr7:97683578	TECPR1	UTR3		-	TtoG	0.1	0.1765	2	2	[10,17]
chr16:1485608	TELO2	mixed		+	TtoG	0.1176	0.1538	3	2	[13,17]
chr14:19904217	TEP1	UTR3		-	AtoG	0.1	0.1429	3	2	[10,14]
chr14:19904223	TEP1	UTR3		-	AtoG	0.1304	0.2	2	2	[20,23]
chr14:19904333	TEP1	UTR3		-	AtoG	0.1333	0.2727	2	2	[12,15]
chr14:19904355	TEP1	UTR3		-	AtoG	0.1818	0.3	5	3	[10,11]
chr14:19904356	TEP1	UTR3		-	AtoG	0.1	0.25	7	5	[10,14]
chr14:19904361	TEP1	UTR3		-	AtoG	0.1	0.1538	3	2	[10,13]
chr14:19904897	TEP1	UTR3		-	AtoG	0.1667	0.1538	2	2	[10,12]
chr14:19904900	TEP1	UTR3		-	AtoG	0.4615	0.6154	2	2	[13,13]
chr14:19904936	TEP1	UTR3		-	AtoG	0.1	0.2	2	2	[10,10]
chr14:19904940	TEP1	UTR3		-	AtoG	0.1	0.1818	2	2	[10,11]
chr14:19904954	TEP1	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr14:19904979	TEP1	UTR3		-	AtoG	0.1667	0.3846	4	4	[10,13]
chr14:19906382	TEP1	UTR3		-	AtoG	0.1	0.3	2	2	[10,10]
chr16:67958431	TERF2	coding_exon	ENST00000254942:RtoG;	-	AtoG	0.1	0.1	2	2	[10,10]
chr16:67976039	TERF2	coding_exon	ENST00000254942:EtoA;	-	AtoC	0.1	0.12	3	2	[20,25]
chr16:67952893	TERF2	coding_exon		-	AtoG	0.1	0.1333	3	2	[15,20]
chr1:45582824	TESK2	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr4:106416808	TET2	mixed		+	TtoC	0.1	0.12	2	2	[10,25]
chr4:106419942	TET2	UTR3		+	AtoG	0.1	0.1818	9	2	[11,11]
chr2:74186008	TET3	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr2:74186728	TET3	UTR3		+	CtoT	0.1	0.1818	2	2	[10,11]
chr2:74187616	TET3	UTR3		+	AtoG	0.1	0.1818	4	3	[10,19]
chr2:74187761	TET3	UTR3		+	AtoG	0.1	0.1333	2	2	[15,20]
chr2:74188482	TET3	UTR3		+	AtoG	0.1	0.1429	3	2	[10,14]
chr2:74188494	TET3	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr9:102151371	TEX10	coding_exon		-	CtoT	0.1	0.1	3	2	[10,10]
chr9:102104278	TEX10	UTR3		-	TtoC	0.1	0.1111	3	3	[10,18]
chr17:59579446	TEX2	UTR3		-	GtoA	0.1	0.2	3	2	[10,10]
chr15:54508385	TEX9	UTR3		+	AtoG	0.1818	0.3	2	2	[10,11]
chr10:59815388	TFAM	coding_exon	ENST00000373895:CtoW;ENST00000487519:CtoW;	+	TtoG	0.1	0.1304	3	2	[23,40]
chr12:49775054	TFCP2	UTR3		-	TtoC	0.1	0.1538	11	4	[10,27]
chr3:143153121	TFDP2	UTR3		-	TtoC	0.1	0.1111	2	2	[10,18]
chr6:41759705	TFEB	UTR3		-	CtoG	0.2	0.2174	2	2	[10,24]
chr3:101950110	TFG	UTR3		+	TtoC	0.1273	0.2222	4	2	[18,55]
chr19:46528658	TGFBI	UTR3		-	CtoA	0.4	0.5714	3	3	[10,17]
chr1:91921247	TGFBR3	UTR3		-	TtoC	0.1538	0.1538	3	2	[13,13]
chr2:105263286	TGFBRAP1	coding_exon	ENST00000258449:LtoQ;ENST00000393359:LtoQ;	-	AtoA	0.1429	0.1538	3	2	[13,14]
chr2:105248849	TGFBRAP1	UTR3		-	AtoC	0.1	0.1	2	2	[10,10]
chr2:105250011	TGFBRAP1	UTR3		-	TtoC	0.1	0.1429	2	2	[10,14]
chr20:34652727	TGIF2	coding_exon	ENST00000373872:IttoV;ENST00000373874:IttoV;	+	AtoG	0.1111	0.1875	3	2	[16,27]
chr20:34652798	TGIF2	coding_exon		+	TtoA	0.1538	0.2143	7	2	[13,14]
chr20:34654000	TGIF2	UTR3		+	CtoA	0.1667	0.1667	5	2	[12,12]
chr20:34655683	TGIF2	UTR3		+	AtoG	0.1053	0.1053	9	2	[19,19]
chr2:85400243	TGOLN2	UTR3		-	TtoC	0.1111	0.1176	7	2	[17,28]
chr2:85401235	TGOLN2	UTR3		-	AtoT	0.1	0.1	2	2	[10,20]
chr2:85401584	TGOLN2	UTR3		-	CtoA	0.1667	0.2727	3	2	[11,12]
chr2:85403272	TGOLN2	UTR3		-	TtoC	0.1667	0.1875	5	2	[16,19]
chr2:85403333	TGOLN2	UTR3		-	AtoG	0.1	0.1111	4	2	[10,18]
chr8:56900347	TGS1	UTR3		+	TtoG	0.1	0.2	2	2	[10,10]
chr20:57002211	TH1L	coding_exon		+	TtoG	0.1154	0.1579	2	2	[19,26]

chr20:57003340	TH1L	UTR3		+	TtoC	0.1207	0.125	2	2	[16,58]
chr2:43565935	THADA	mixed		-	TtoG	0.1	0.1	3	2	[10,10]
chr2:43657845	THADA	mixed		-	TtoC	0.1	0.125	2	2	[10,16]
chr8:42812440	THAP1	mixed		-	AtoG	0.1	0.1429	2	2	[10,14]
chr5:157100121	THG1L	UTR3		+	GtoT	0.1	0.1	2	2	[10,10]
chr18:205461	THOC1	coding_exon	ENST00000261600:EtoG;	-	AtoG	0.1	0.1053	3	2	[10,19]
chr18:214941	THOC1	coding_exon		-	AtoG	0.1176	0.2	4	3	[10,17]
chr17:77439215	THOC4	UTR3		-	AtoG	0.1538	0.2727	5	4	[11,29]
chr22:28280818	THOC5	mixed		-	AtoG	0.1905	0.2	4	2	[10,23]
chr22:28276747	THOC5	UTR5		-	TtoC	0.1	0.1176	2	2	[10,17]
chr3:63794745	THOC7	UTR3		-	AtoG	0.1429	0.3077	3	2	[14,21]
chr3:63794746	THOC7	UTR3		-	TtoA	0.1	0.3333	7	6	[10,25]
chr14:23095991	THTPA	coding_exon	ENST00000288014:Wto*;ENST00000404535:Wto*;	+	GtoA	0.1	0.1111	3	2	[10,18]
chr11:133623444	THYN1	UTR3		-	TtoC	0.1053	0.125	3	2	[19,24]
chr2:70296010	TIA1	coding_exon		-	AtoG	0.1852	0.2727	7	5	[11,27]
chr10:121324599	TIAL1	UTR3		-	AtoG	0.1	0.1875	5	2	[16,20]
chr10:121325088	TIAL1	UTR3		-	TtoC	0.12	0.16	8	2	[25,25]
chr10:121346278	TIAL1	UTR5		-	TtoC	0.1	0.1333	2	2	[10,15]
chr10:121346302	TIAL1	UTR5		-	TtoC	0.125	0.1429	2	2	[14,16]
chr19:4768255	TICAM1	mixed		-	TtoG	0.1	0.1176	3	2	[10,17]
chr4:113417379	TIFA	UTR3		-	TtoC	0.1	0.1538	2	2	[10,13]
chr16:3281438	TIGD7	coding_exon		-	TtoC	0.1	0.1	4	2	[10,10]
chr12:55113684	TIMELESS	coding_exon	ENST00000229201:QtoE;ENST00000447258:QtoE;ENST00000452204:QtoE;	-	CtoG	0.1	0.1538	4	3	[10,19]
chr12:55110172	TIMELESS	coding_exon	ENST00000229201:LtoR;ENST00000452204:LtoR;	-	TtoG	0.1	0.1	6	2	[10,20]
chr1:200205474	TIMM17A	UTR3		+	TtoC	0.1	0.1053	9	2	[20,20]
chr1:200205848	TIMM17A	UTR3		+	GtoA	0.1333	0.2727	6	3	[11,15]
chr19:7912052	TIMM44	coding_exon	ENST00000270538:StoP;	-	TtoC	0.1	0.1	2	2	[10,10]
chr19:44672403	TIMM50	UTR3		+	CtoA	0.1053	0.1111	11	2	[20,27]
chr11:111461089	TIMM8B	UTR3		-	AtoG	0.1111	0.1333	3	2	[10,15]
chr14:57945251	TIMM9	UTR3		-	TtoC	0.1304	0.2727	4	3	[11,23]
chr5:74108390	TINP1	UTR3		+	TtoA	0.1538	0.1538	2	2	[14,14]
chr3:157906651	TIPARP	UTR3		+	TtoA	0.1	0.1667	3	2	[10,24]
chr3:157906784	TIPARP	UTR3		+	TtoC	0.1	0.1	5	2	[10,20]
chr3:157907057	TIPARP	UTR3		+	TtoG	0.1667	0.25	2	2	[12,12]
chr1:166437840	TIPRL	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr9:71059014	TJP2	coding_exon	ENST00000348208:StoR;ENST00000377245:StoR;	+	TtoG	0.125	0.1923	7	2	[26,32]
chr9:71021127	TJP2	coding_exon	ENST00000265384:HtoR;ENST00000348208:HtoR;ENST00000377245:HtoR;ENST00000377245:HtoR;	+	AtoG	0.1	0.1176	4	2	[17,20]
chr9:71059585	TJP2	UTR3		+	TtoG	0.1	0.1	4	2	[10,10]
chr9:71059704	TJP2	UTR3		+	AtoG	0.1	0.1	3	2	[10,10]
chr15:68140022	TLE3	coding_exon		-	GtoC	0.5	0.6818	2	2	[20,22]
chr15:68128220	TLE3	UTR3		-	GtoC	0.6087	1	2	2	[18,23]
chr15:68128959	TLE3	UTR3		-	TtoA	0.1538	0.1667	2	2	[12,13]
chr9:81526478	TLE4	coding_exon	ENST00000265284:QtoR;ENST00000376534:QtoR;ENST00000376537:QtoR;ENST00000376538:QtoR;	+	AtoG	0.1	0.1	2	2	[10,10]
chr2:171625911	TLK1	coding_exon	ENST00000360843:TtoK;ENST00000431350:TtoK;ENST00000434911:TtoK;ENST00000434911:TtoK;	-	CtoA	0.1	0.1053	3	2	[10,19]
chr2:171566881	TLK1	UTR3		-	TtoC	0.1	0.1	4	2	[10,30]
chr4:38451585	TLR10	mixed		-	TtoC	0.1	0.1	8	2	[10,11]
chr4:38451644	TLR10	mixed		-	AtoG	0.1	0.1053	5	2	[19,42]
chr4:38452205	TLR10	mixed		-	TtoA	0.1	0.1	5	2	[10,10]
chr8:38967612	TM2D2	UTR3		-	AtoG	0.1	0.1176	3	2	[10,17]
chr15:100000036	TM2D3	mixed		-	AtoG	0.1818	0.2	2	2	[11,11]
chr15:100000134	TM2D3	mixed		-	TtoG	0.1	0.1	6	2	[10,11]
chr15:99999696	TM2D3	mixed		-	TtoC	0.1	0.1875	7	2	[11,34]
chr14:23728490	TM9SF1	coding_exon	ENST00000261789:YtoH;	-	TtoC	0.1	0.1111	3	2	[10,18]
chr14:23728668	TM9SF1	coding_exon		-	TtoC	0.1	0.1429	2	2	[10,14]
chr13:98986947	TM9SF2	coding_exon	ENST00000376387:CtoW;ENST00000419976:CtoW;	+	TtoG	0.1111	0.1429	4	2	[21,27]
chr10:98277818	TM9SF3	coding_exon	ENST00000371142:VtoL;	-	GtoT	0.1	0.1538	3	2	[10,13]
chr10:98326517	TM9SF3	coding_exon		-	TtoC	0.1	0.1333	3	2	[10,16]
chr10:98271524	TM9SF3	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr20:30217134	TM9SF4	UTR3		+	TtoA	0.1	0.1429	3	2	[10,14]
chr12:64818213	TMBIM4	coding_exon	ENST00000286424:FtoV;ENST00000358230:FtoV;	-	TtoG	0.1667	0.2	7	3	[10,20]
chr12:64825959	TMBIM4	coding_exon		-	TtoA	0.1111	0.2	2	2	[10,18]
chr12:48444753	TMBIM6	UTR3		+	AtoG	0.125	0.1667	5	3	[12,16]
chr12:48444943	TMBIM6	UTR3		+	TtoA	0.1	0.125	4	3	[10,17]
chr17:73634582	TMC6	UTR5		-	AtoG	0.125	0.1333	4	2	[16,17]
chr17:73648510	TMC8	mixed		+	CtoG	0.1053	0.1429	6	2	[21,58]
chr12:93486056	TMCC3	UTR3		-	TtoA	0.1	0.1	3	2	[10,10]
chr12:93486843	TMCC3	UTR3		-	TtoC	0.1	0.1429	3	2	[10,14]
chr12:93487576	TMCC3	UTR3		-	CtoG	0.1	0.1	3	2	[10,10]
chr12:93487629	TMCC3	UTR3		-	AtoT	0.1	0.1	2	2	[10,10]
chr1:163963330	TMCO1	UTR3		-	TtoA	0.1	0.2	3	3	[10,13]
chr1:163963423	TMCO1	UTR3		-	AtoG	0.1154	0.1176	3	2	[17,26]
chr1:163963586	TMCO1	UTR3		-	TtoG	0.1	0.25	4	2	[16,30]
chr13:113250638	TMCO3	coding_exon	ENST00000434316:VtoA;	+	TtoC	0.1	0.1	2	2	[10,10]
chr1:19881598	TMCO4	UTR3		-	CtoA	0.1	0.1	3	2	[10,20]
chr19:10806612	TMED1	coding_exon	ENST00000214869:Kto*;	-	AtoT	0.1176	0.1667	3	2	[12,17]
chr12:122648347	TMED2	UTR3		+	CtoT	0.1176	0.3	5	3	[10,20]
chr12:122648616	TMED2	UTR3		+	TtoC	0.1538	0.2727	5	4	[10,27]
chr15:77402236	TMED3	mixed		+	TtoC	0.1026	0.1429	4	3	[14,39]
chr7:44585147	TMED4	UTR3		-	TtoA	0.1	0.1333	5	2	[10,15]
chr1:93390075	TMED5	UTR3		-	TtoC	0.1053	0.1667	3	2	[12,19]
chr5:114978496	TMED7	UTR3		-	CtoA	0.1	0.1	2	2	[10,10]
chr5:176955703	TMED9	UTR3		+	TtoA	0.1	0.3	11	6	[10,14]
chr17:39444108	TMEM101	UTR3		-	TtoC	0.1	0.2	3	3	[10,11]
chr17:39444746	TMEM101	UTR3		-	TtoG	0.1	0.1818	4	2	[11,11]
chr17:7279915	TMEM102	coding_exon	ENST00000323206:MtoV;ENST00000396568:MtoV;	+	AtoG	0.1	0.1	2	2	[10,10]
chr17:7279683	TMEM102	UTR5		+	TtoA	0.1	0.1053	2	2	[10,19]
chr12:46648732	TMEM106C	UTR3		+	TtoA	0.1	0.1333	13	4	[15,53]
chr11:60446230	TMEM109	mixed		+	AtoC	0.1034	0.1818	4	3	[11,34]
chr3:52864466	TMEM110	coding_exon		-	TtoC	0.1	0.1	3	2	[10,10]
chr7:75454245	TMEM120A	UTR3		-	AtoG	0.1429	0.1875	3	2	[15,16]
chr11:101774764	TMEM123	UTR3		-	TtoA	0.2273	0.2727	5	2	[23,24]
chr11:85039029	TMEM126A	coding_exon	ENST00000304511:EtoK;	+	GtoA	0.1053	0.1667	3	2	[12,19]
chr11:85045182	TMEM126A	coding_exon	ENST00000304511:Eto*;	+	GtoT	0.1	0.1	3	2	[10,10]
chr11:85022907	TMEM126B	coding_exon		+	TtoC	0.1	0.1034	2	2	[10,29]
chr11:85017308	TMEM126B	mixed		+	GtoT	0.1	0.1905	4	2	[10,21]
chr2:96284382	TMEM127	coding_exon	ENST00000258439:StoP;ENST00000432959:StoP;ENST00000435268:StoP;	-	TtoC	0.1071	0.1667	6	2	[18,28]

chr2:96280671	TMEM127	UTR3		-	AtoC	0.1	0.1	3	2	[10,10]
chr2:97749012	TMEM131	coding_exon	ENST00000186436:StoG;ENST00000409062:StoG;ENST00000409721:StoG;ENST00000409721:NtoD;ENST00000409721:StoP;	-	AtoG	0.1	0.1818	4	2	[11,22]
chr2:97779138	TMEM131	coding_exon	ENST00000186436:NtoD;ENST00000409062:NtoD;ENST00000409721:NtoD;ENST00000409721:StoP;	-	AtoG	0.1	0.1	4	2	[10,10]
chr2:97779280	TMEM131	coding_exon		-	AtoG	0.1818	0.1875	2	2	[11,16]
chr2:97739987	TMEM131	UTR3		-	CtoA	0.1111	0.1333	5	2	[15,18]
chr11:60461131	TMEM132A	UTR3		+	GtoT	0.1111	0.4	4	4	[10,33]
chr11:60461161	TMEM132A	UTR3		+	AtoT	0.1154	0.1333	11	2	[15,27]
chr11:60888545	TMEM138	coding_exon	ENST00000278826:VtoA;ENST00000451389:VtoA;	+	TtoC	0.1	0.125	2	2	[10,16]
chr6:10864792	TMEM148	mixed		+	CtoG	0.1	0.1667	7	3	[10,16]
chr16:21089346	TMEM159	coding_exon	ENST00000233047:StoP;ENST00000261388:StoP;ENST00000451578:StoP;	+	TtoC	0.1	0.125	2	2	[16,20]
chr19:19093436	TMEM161A	coding_exon	ENST00000162044:VtoG;ENST00000450333:VtoG;	-	TtoG	0.1	0.1	3	2	[10,11]
chr7:112194256	TMEM168	UTR3		-	TtoG	0.1	0.1	2	2	[10,10]
chr11:62314375	TMEM179B	UTR3		+	GtoT	0.1	0.1	2	2	[10,10]
chr2:665530	TMEM18	coding_exon	ENST00000281017:Itot;ENST00000355654:Itot;ENST00000405941:Itot;	-	TtoC	0.1	0.1111	6	2	[10,18]
chr1:201259253	TMEM183A	UTR3		+	TtoC	0.1	0.1176	5	2	[10,17]
chr20:48180834	TMEM189	coding_exon	ENST00000371650:TtoR;ENST00000371652:TtoR;ENST00000371656:TtoR;	-	CtoG	0.1538	0.1667	2	2	[12,13]
chr20:48174263	TMEM189-UBE2	coding_exon		-	TtoG	0.1333	0.2	5	2	[10,15]
chr12:70376561	TMEM19	coding_exon	ENST00000266673:StoL;ENST00000422859:StoL;	+	CtoT	0.1	0.1	2	2	[10,10]
chr12:70381040	TMEM19	coding_exon	ENST00000266673:*toG;	+	TtoG	0.1	0.1	2	2	[10,10]
chr12:70383459	TMEM19	UTR3		+	GtoC	0.1	0.2667	2	2	[10,15]
chr6:130804361	TMEM200A	mixed		+	TtoC	0.1	0.2	2	2	[10,10]
chr6:130804437	TMEM200A	mixed		+	TtoC	0.1176	0.125	2	2	[16,17]
chr16:65820512	TMEM208	coding_exon		+	TtoC	0.1	0.1	6	2	[30,31]
chr2:27118048	TMEM214	UTR3		+	GtoA	0.1	0.1538	3	2	[10,13]
chr11:60922636	TMEM216	UTR3		+	AtoG	0.1	0.1	3	2	[10,11]
chr1:27534906	TMEM222	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr1:27535317	TMEM222	UTR3		+	AtoC	0.1429	0.15	4	2	[20,35]
chr11:62314951	TMEM223	coding_exon	ENST00000307366:LtoP;	-	TtoC	0.1111	0.1818	3	2	[11,18]
chr11:117920912	TMEM25	coding_exon		+	TtoC	0.1	0.1	3	2	[10,10]
chr1:32313201	TMEM39B	mixed		+	TtoC	0.1	0.15	2	2	[10,20]
chr1:32340633	TMEM39B	mixed		+	AtoC	0.1	0.1	4	2	[10,10]
chr3:186692132	TMEM41A	mixed		-	AtoG	0.1	0.1667	2	2	[10,12]
chr3:186690313	TMEM41A	UTR3		-	TtoC	0.1	0.1333	3	2	[10,16]
chr3:186690411	TMEM41A	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr3:186691945	TMEM41A	UTR3		-	CtoG	0.1	0.1	5	2	[10,10]
chr11:9258931	TMEM41B	UTR3		-	TtoA	0.1	0.2	3	2	[10,10]
chr3:14159333	TMEM43	UTR3		+	AtoC	0.1	0.1333	2	2	[10,15]
chr3:195789996	TMEM44	UTR3		-	AtoG	0.1	0.1053	2	2	[10,19]
chr1:54031515	TMEM48	coding_exon	ENST00000360494:VtoA;ENST00000371429:VtoA;	-	TtoC	0.1111	0.1429	3	2	[15,19]
chr1:54003881	TMEM48	UTR3		-	AtoG	0.1	0.125	4	2	[10,17]
chr1:54006015	TMEM48	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr1:25559867	TMEM50A	UTR3		+	AtoG	0.129	0.1579	11	2	[19,31]
chr1:25559996	TMEM50A	UTR3		+	AtoC	0.1	0.1765	2	2	[10,17]
chr14:19995967	TMEM55B	UTR3		-	TtoG	0.1	0.1111	3	2	[10,18]
chr7:77261655	TMEM60	mixed		-	TtoC	0.1	0.1	2	2	[10,10]
chr1:224101458	TMEM63A	coding_exon	ENST00000366835:VtoC;	-	AtoG	0.1	0.1	2	2	[10,10]
chr1:224100917	TMEM63A	UTR3		-	AtoC	0.1	0.1053	2	2	[10,19]
chr1:45931502	TMEM69	coding_exon	ENST00000372025:RtoG;	+	AtoG	0.1	0.1053	2	2	[10,19]
chr1:45932366	TMEM69	UTR3		+	CtoG	0.1538	0.4167	3	2	[12,13]
chr1:45929325	TMEM69	UTR5		+	AtoG	0.1	0.1111	2	2	[10,18]
chr8:75056314	TMEM70	mixed		+	TtoC	0.1	0.1333	4	2	[15,20]
chr1:154529302	TMEM79	mixed		+	TtoA	0.125	0.1333	4	2	[15,16]
chr15:32309380	TMEM85	UTR3		+	AtoC	0.3333	0.36	2	2	[12,25]
chr2:112563702	TMEM87B	coding_exon	ENST00000283206:VtoG;	+	TtoG	0.1	0.1	2	2	[10,10]
chr2:112563713	TMEM87B	coding_exon	ENST00000283206:GtoR;	+	GtoA	0.1	0.1538	2	2	[10,13]
chr2:112590158	TMEM87B	coding_exon		+	TtoA	0.1	0.1	2	2	[10,10]
chr1:199370968	TMEM9	UTR3		-	TtoC	0.1034	0.1053	5	2	[19,29]
chr19:46584162	TMEM91	coding_exon		+	AtoG	0.1	0.1136	3	2	[10,46]
chr17:23670508	TMEM97	mixed		+	AtoC	0.1	0.125	2	2	[10,16]
chr17:36244500	TMEM99	mixed		+	TtoA	0.1	0.1111	3	2	[10,10]
chr9:99371094	TMOD1	coding_exon	ENST00000259365:Atot;ENST00000375175:Atot;ENST00000395211:AtotD;	+	CtoA	0.1	0.1333	3	2	[10,15]
chr12:97466038	TMPO	UTR3		+	AtoG	0.1	0.1429	5	2	[10,14]
chr4:91978817	TMSL3	UTR3		-	CtoA	0.1818	0.4737	6	6	[11,25]
chr4:91978820	TMSL3	UTR3		-	CtoG	0.4	0.7	7	7	[10,22]
chr4:91978822	TMSL3	UTR3		-	GtoA	0.1053	0.2381	7	4	[11,22]
chr4:91978825	TMSL3	UTR3		-	TtoC	0.1667	0.2	2	2	[10,12]
chr14:50776897	TMX1	coding_exon	ENST00000457354:DtoG;	+	AtoG	0.1034	0.3	2	2	[10,29]
chr11:57261663	TMX2	coding_exon	ENST00000278422:VtoA;ENST00000319399:VtoA;ENST00000378312:VtoA;	+	TtoC	0.1026	0.1471	10	4	[34,47]
chr11:57263060	TMX2	coding_exon	ENST00000278422:VtoA;ENST00000319399:VtoA;ENST00000378312:VtoA;	+	TtoC	0.1311	0.2373	10	6	[59,98]
chr11:57262014	TMX2	coding_exon	ENST00000278422:TtoA;ENST00000319399:TtoA;	+	AtoG	0.1154	0.2917	17	16	[10,70]
chr11:57264277	TMX2	coding_exon	ENST00000278422:NtoS;ENST00000319399:TtoA;ENST00000378312:NtoS;	+	AtoG	0.1111	0.2222	16	9	[25,46]
chr11:57262429	TMX2	coding_exon	ENST00000278422:LtoP;ENST00000319399:LtoP;ENST00000378312:LtoP;	+	TtoC	0.1053	0.1765	7	2	[17,19]
chr11:57263051	TMX2	coding_exon	ENST00000278422:KtoT;ENST00000319399:KtoT;ENST00000378312:KtoT;	+	AtoC	0.1067	0.1373	9	5	[51,76]
chr11:57262732	TMX2	coding_exon	ENST00000278422:KtoN;ENST00000319399:KtoN;ENST00000378312:KtoN;	+	GtoC	0.1034	0.4762	14	12	[21,68]
chr11:57263209	TMX2	coding_exon	ENST00000278422:KtoN;ENST00000319399:KtoN;ENST00000378312:KtoN;	+	GtoT	0.1	0.2308	13	10	[13,105]
chr11:57263268	TMX2	coding_exon	ENST00000278422:Itot;ENST00000319399:Itot;ENST00000378312:Itot;	+	TtoC	0.1	0.1176	5	2	[34,50]
chr11:57263022	TMX2	coding_exon		+	AtoG	0.1017	0.2826	12	10	[36,96]
chr11:57264200	TMX2	coding_exon		+	AtoG	0.12	0.25	12	8	[14,70]
chr11:57264361	TMX2	mixed		+	GtoA	0.1	0.1282	12	2	[39,40]
chr11:57264495	TMX2	mixed		+	TtoG	0.12	0.1379	8	2	[50,58]
chr11:57264520	TMX2	mixed		+	TtoC	0.1	0.2093	10	8	[20,55]
chr11:57264525	TMX2	UTR3		+	CtoT	0.1	0.1458	14	4	[10,57]
chr11:57264620	TMX2	UTR3		+	GtoC	0.1111	0.1111	9	2	[27,36]
chr11:57264655	TMX2	UTR3		+	TtoC	0.1	0.1786	6	4	[27,36]
chr11:57264754	TMX2	UTR3		+	CtoG	0.1087	0.2333	11	6	[30,46]
chr11:57264813	TMX2	UTR3		+	CtoT	0.1	0.1579	8	3	[20,30]
chr11:57264963	TMX2	UTR3		+	AtoC	0.1111	0.2	12	9	[23,72]
chr11:57264993	TMX2	UTR3		+	GtoA	0.1429	0.1667	5	2	[12,14]
chr17:23696143	TNFAIP1	UTR3		+	TtoC	0.1	0.1	5	4	[10,10]
chr14:102662521	TNFAIP2	UTR5		+	AtoG	0.1	0.1	3	2	[10,10]
chr6:138245696	TNFAIP3	UTR3		+	GtoA	0.1034	0.1136	6	2	[29,44]
chr5:118757301	TNFAIP8	UTR3		+	TtoC	0.1111	0.1111	5	2	[27,27]
chr8:22941851	TNFRSF10B	coding_exon	ENST00000276431:VtoG;ENST00000347739:VtoG;	-	TtoG	0.1071	0.2778	4	2	[18,28]
chr8:22937706	TNFRSF10B	coding_exon	ENST00000276431:Atot;ENST00000347739:Atot;	-	GtoT	0.1	0.1053	2	2	[10,19]
chr1:2479130	TNFRSF14	mixed		+	GtoA	0.4545	0.9	2	2	[10,11]
chr1:2481124	TNFRSF14	mixed		+	GtoT	0.1831	0.6957	13	13	[11,88]

chr1:2481126	TNFRSF14	mixed		+	TtoC	0.2857	0.75	14	14	[13,84]
chr1:2481159	TNFRSF14	mixed		+	CtoA	0.1111	0.2727	14	11	[11,62]
chr1:2481272	TNFRSF14	mixed		+	TtoC	0.1	0.1	3	2	[10,10]
chr1:2481920	TNFRSF14	mixed		+	GtoC	0.88	1	5	5	[10,25]
chr1:2482999	TNFRSF14	mixed		+	AtoG	0.7647	1	5	5	[11,38]
chr1:2483161	TNFRSF14	mixed		+	AtoG	0.102	0.4	12	8	[11,75]
chr1:2484161	TNFRSF14	mixed		+	GtoC	1	1	7	7	[13,25]
chr1:2484509	TNFRSF14	mixed		+	AtoG	0.1176	0.3333	5	5	[10,37]
chr1:2484510	TNFRSF14	mixed		+	CtoG	0.1111	0.7857	14	14	[11,63]
chr1:1129079	TNFRSF18	mixed		-	TtoC	1	1	4	4	[10,52]
chr13:23141023	TNFRSF19	coding_exon		+	AtoG	0.1	0.1	2	2	[10,10]
chr1:12189688	TNFRSF1B	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr1:12087127	TNFRSF8	coding_exon	ENST00000263932:CtoS;	+	TtoA	0.1	0.1	4	2	[10,21]
chr1:12120884	TNFRSF8	mixed		+	TtoC	0.4255	0.4583	2	2	[24,47]
chr1:12126187	TNFRSF8	UTR3		+	GtoC	1	1	12	12	[20,114]
chr13:42079714	TNFSF11	UTR3		+	GtoA	0.1	0.2	2	2	[10,10]
chr1:171421293	TNFSF4	UTR3		-	GtoC	0.1111	0.1333	3	2	[15,18]
chr1:171421296	TNFSF4	UTR3		-	AtoG	0.125	0.1579	3	2	[16,19]
chr1:171421837	TNFSF4	UTR3		-	TtoG	0.1	0.1	4	2	[10,10]
chr3:172377839	TNIK	coding_exon	ENST00000284483:TtoP;ENST00000341852:TtoP;ENST00000357327:TtoP;ENST000	-	AtoC	0.1	0.1379	5	2	[10,29]
chr3:172263105	TNIK	UTR3		-	AtoT	0.1	0.1	3	3	[10,10]
chr5:150389702	TNIP1	UTR3		-	GtoA	0.25	0.5556	3	3	[17,22]
chr5:150424881	TNIP1	UTR5		-	GtoC	0.1176	0.2168	12	7	[13,143]
chr5:150446840	TNIP1	UTR5		-	AtoG	0.1127	0.35	13	12	[11,124]
chr5:150446842	TNIP1	UTR5		-	CtoT	0.1	0.1818	8	2	[10,22]
chr4:2713203	TNIP2	UTR3		-	TtoG	0.1	0.1	2	2	[10,10]
chr5:72224726	TNPO1	mixed		+	TtoG	0.1	0.1111	3	2	[10,19]
chr5:72236968	TNPO1	mixed		+	GtoA	0.1	0.1	3	2	[10,10]
chr5:72245663	TNPO1	UTR3		+	AtoC	0.1481	0.2143	4	2	[14,27]
chr5:72245865	TNPO1	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr19:12692719	TNPO2	coding_exon	ENST00000356861:TtoP;ENST00000420511:TtoP;ENST00000425528:TtoP;ENST000	-	AtoC	0.1667	0.3	3	2	[10,12]
chr19:12671029	TNPO2	UTR3		-	TtoG	0.1	0.1579	2	2	[10,19]
chr16:24708572	TNRC6A	mixed		+	TtoC	0.1	0.1818	2	2	[10,11]
chr16:24709958	TNRC6A	mixed		+	TtoC	0.1	0.125	7	3	[10,24]
chr16:24710452	TNRC6A	mixed		+	TtoC	0.1	0.1053	2	2	[10,20]
chr16:24739039	TNRC6A	mixed		+	TtoC	0.1	0.1	4	2	[10,10]
chr16:24742800	TNRC6A	UTR3		+	CtoG	0.1	0.1111	3	2	[10,18]
chr16:24743217	TNRC6A	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr16:24743220	TNRC6A	UTR3		+	AtoG	0.1111	0.1667	5	2	[10,12]
chr16:24744920	TNRC6A	UTR3		+	AtoT	0.1	0.1	2	2	[10,10]
chr22:38988075	TNRC6B	coding_exon	ENST00000301923:AtoS;ENST00000335727:AtoS;ENST00000400140:AtoS;ENST000	+	GtoT	0.1	0.1053	2	2	[19,20]
chr22:38991047	TNRC6B	coding_exon		+	TtoC	0.1111	0.1176	3	2	[17,18]
chr22:39051093	TNRC6B	UTR3		+	AtoG	0.1	0.125	3	2	[10,16]
chr22:40161496	TOB2	mixed		-	CtoA	0.1	0.1	2	2	[10,10]
chr22:40161538	TOB2	mixed		-	AtoG	0.1	0.1	3	3	[10,10]
chr1:45580673	TOE1	coding_exon	ENST00000372090:TtoP;	+	AtoC	0.1	0.1	2	2	[10,10]
chr1:45581259	TOE1	coding_exon	ENST00000372090:StoP;	+	TtoC	0.1	0.1818	2	2	[10,11]
chr1:45581847	TOE1	coding_exon		+	CtoT	0.1333	0.1429	4	2	[14,15]
chr1:233352271	TOMM20	coding_exon	ENST00000366607:LtoR;	-	TtoG	0.1176	0.1579	4	2	[17,19]
chr1:233352272	TOMM20	coding_exon	ENST00000366607:LtoI;	-	CtoA	0.1111	0.1875	4	2	[16,18]
chr6:41865601	TOMM6	UTR3		+	AtoG	0.1026	0.2143	8	3	[10,39]
chr7:22819117	TOMM7	UTR3		-	TtoA	0.7778	1	7	7	[10,22]
chr3:101566086	TOMM70A	UTR3		-	AtoC	0.1	0.1	2	2	[10,10]
chr3:101566930	TOMM70A	UTR3		-	TtoG	0.1	0.1111	4	2	[18,20]
chr8:144462975	TOP1MT	UTR3		-	TtoG	0.1	0.1	2	2	[10,11]
chr17:35799931	TOP2A	coding_exon	ENST00000348049:TtoP;ENST00000357601:TtoP;ENST00000423485:TtoP;ENST000	-	AtoC	0.1667	0.2143	5	2	[14,18]
chr17:35818397	TOP2A	coding_exon	ENST00000348049:CtoW;ENST00000357601:CtoW;ENST00000423485:CtoW;ENST	-	TtoG	0.1053	0.1304	4	3	[19,51]
chr17:35798427	TOP2A	UTR3		-	TtoC	0.1667	0.2	4	2	[11,12]
chr3:25632010	TOP2B	coding_exon		-	AtoG	0.1111	0.2	7	3	[10,36]
chr3:25636501	TOP2B	coding_exon		-	AtoG	0.1	0.1333	2	2	[15,20]
chr3:25635806	TOP2B	coding_exon		-	TtoC	0.1	0.1	2	2	[10,10]
chr17:18124664	TOP3A	coding_exon		-	TtoC	0.1111	0.1429	3	2	[21,27]
chr22:20643014	TOP3B	coding_exon	ENST00000357179:PtoT;ENST00000398789:PtoT;ENST00000398793:PtoT;ENST000	-	CtoA	0.1	0.1	2	2	[10,10]
chr3:134819748	TOPBP1	coding_exon		-	GtoA	0.1	0.1667	3	2	[10,12]
chr3:134829994	TOPBP1	coding_exon		-	AtoG	0.1	0.1111	7	3	[10,19]
chr9:131620637	TOR1A	coding_exon	ENST00000351698:VtoG;ENST00000427355:VtoG;ENST00000437532:VtoG;	-	TtoG	0.1081	0.1176	3	2	[34,37]
chr1:178144365	TOR1AIP1	coding_exon	ENST00000271583:StoP;ENST00000367610:StoP;ENST00000398836:StoP;	+	TtoC	0.1	0.1	2	2	[10,10]
chr1:178101321	TOR1AIP2	UTR5		-	AtoT	0.1	0.1	2	2	[10,10]
chr8:59913386	TOX	coding_exon		-	GtoA	0.1	0.1333	2	2	[10,15]
chr14:21037118	TOX4	UTR3		+	GtoA	0.1	0.1351	7	4	[27,50]
chr14:21037119	TOX4	UTR3		+	AtoT	0.1034	0.1515	8	5	[28,46]
chr14:21037123	TOX4	UTR3		+	TtoC	0.1	0.1538	3	2	[10,13]
chr17:7512915	TP53	mixed		-	GtoA	0.1081	0.1538	5	2	[13,37]
chr17:7512918	TP53	mixed		-	TtoC	0.1	0.1346	7	4	[16,52]
chr15:41500018	TP53BP1	coding_exon		-	TtoC	0.1	0.1	2	2	[10,10]
chr15:41511987	TP53BP1	coding_exon		-	AtoG	0.1	0.1	2	2	[10,20]
chr1:222034730	TP53BP2	UTR3		-	GtoT	0.1	0.1	2	2	[10,10]
chr8:96008084	TP53INP1	UTR3		-	AtoG	0.1	0.1111	2	2	[10,27]
chr1:3642190	TP73	UTR3		+	AtoG	0.1	0.125	2	2	[10,16]
chr12:112214120	TPCN1	coding_exon	ENST00000335509:YtoS;ENST00000392569:YtoS;	+	AtoC	0.15	0.1667	2	2	[12,20]
chr12:1122190119	TPCN1	coding_exon	ENST00000335509:IttoT;ENST00000392569:IttoT;ENST00000428632:IttoT;	+	TtoC	0.1	0.1176	2	2	[10,17]
chr12:112220286	TPCN1	UTR3		+	TtoC	0.1	0.2	2	2	[10,10]
chr8:81112650	TPD52	UTR3		-	AtoG	0.1	0.125	4	2	[10,16]
chr8:81112762	TPD52	UTR3		-	TtoA	0.1053	0.1538	4	2	[13,19]
chr1:152411160	TPM3	coding_exon	ENST00000328159:NtoS;ENST00000330188:NtoS;ENST00000341372:NtoS;ENST000	-	AtoG	0.1071	0.1538	7	3	[13,28]
chr1:152411155	TPM3	coding_exon	ENST00000328159:KtoE;ENST00000330188:KtoE;ENST00000341372:KtoE;ENST000	-	AtoG	0.1429	0.2	3	2	[10,15]
chr1:152411150	TPM3	coding_exon	ENST00000328159:Cto*;ENST00000330188:Cto*;ENST00000341372:Cto*;ENST000	-	TtoA	0.1	0.1	4	2	[10,10]
chr1:152412062	TPM3	coding_exon	ENST00000271850:VtoA;ENST00000302206:VtoA;ENST00000312970:VtoA;ENST000	-	TtoC	0.1	0.1389	6	2	[20,37]
chr1:152412281	TPM3	coding_exon	ENST00000271850:NtoS;ENST00000302206:NtoS;ENST00000312970:NtoS;ENST000	-	AtoG	0.1071	0.1176	4	2	[17,28]
chr1:152412215	TPM3	coding_exon	ENST00000271850:IttoT;ENST00000302206:IttoT;ENST00000312970:IttoT;ENST00000	-	TtoC	0.1111	0.2308	3	3	[13,18]
chr1:152412239	TPM3	coding_exon	ENST00000271850:IttoS;ENST00000302206:IttoS;ENST00000312970:IttoS;ENST00000	-	TtoG	0.1	0.3	6	2	[10,10]
chr1:152412243	TPM3	coding_exon	ENST00000271850:EtoK;ENST00000302206:EtoK;ENST00000312970:EtoK;ENST000	-	GtoA	0.1071	0.1429	10	4	[14,28]
chr1:152422191	TPM3	mixed		-	TtoG	0.1136	0.1698	7	3	[55,98]
chr1:152422288	TPM3	mixed		-	TtoG	0.1	0.1333	6	3	[15,41]
chr6:18257293	TPMT	coding_exon	ENST00000309983:DtoE;	-	TtoA	0.1	0.1	4	2	[10,10]
chr13:102099337	TPP2	coding_exon	ENST00000376052:LtoH;ENST00000376065:LtoH;	+	TtoA	0.1053	0.2	2	2	[10,19]

chr13:102124646	TPP2	coding_exon	ENST00000376052:KtoN;ENST00000376065:KtoN;	+	AtoT	0.1111	0.1304	7	2	[23,27]
chr13:102088664	TPP2	coding_exon		+	AtoG	0.125	0.1579	5	2	[16,19]
chr1:184570123	TPR	coding_exon		-	AtoG	0.1	0.1333	4	2	[10,15]
chr1:184579723	TPR	coding_exon		-	TtoC	0.1053	0.1818	7	3	[11,26]
chr2:73817938	TPRKB	UTR5		-	TtoA	0.1111	0.25	7	7	[11,21]
chr2:73817939	TPRKB	UTR5		-	AtoT	0.1333	0.2222	7	7	[11,25]
chr22:25258688	TPST2	coding_exon		-	AtoC	0.1	0.1176	2	2	[10,17]
chr22:25252230	TPST2	UTR3		-	TtoC	0.1111	0.12	5	3	[17,25]
chr13:44809009	TPT1	mixed		-	TtoC	0.1053	0.1923	13	6	[13,39]
chr13:44809310	TPT1	mixed		-	TtoA	0.1268	0.1887	10	4	[55,149]
chr13:44809311	TPT1	mixed		-	TtoA	0.1176	0.3857	16	6	[52,160]
chr7:23512284	TRA2A	coding_exon	ENST00000297071:Yto*;	-	CtoA	0.1087	0.125	9	2	[47,56]
chr7:23510965	TRA2A	UTR3		-	TtoC	0.1	0.1	7	2	[10,10]
chr3:187117952	TRA2B	UTR3		-	TtoA	0.1	0.1304	6	2	[20,23]
chr14:22086302	TRAC	coding_exon	ENST00000442641:DtoA;ENST00000452868:DtoA;	+	AtoC	0.1	0.1	2	2	[11,20]
chr14:22064519	TRAC	coding_exon		+	TtoA	0.3889	0.9	2	2	[10,18]
chr14:22090527	TRAC	UTR3		+	TtoG	0.1	0.2609	5	4	[14,23]
chr14:22090531	TRAC	UTR3		+	CtoA	0.1625	0.4118	9	8	[17,80]
chr14:22090659	TRAC	UTR3		+	AtoG	0.1071	0.2	3	2	[20,28]
chr14:22090663	TRAC	UTR3		+	CtoT	0.1053	0.4211	7	7	[19,39]
chr14:22090937	TRAC	UTR3		+	AtoG	0.1333	0.6	4	4	[10,25]
chr9:122706067	TRAF1	UTR3		-	TtoA	0.1136	0.119	4	2	[42,46]
chr9:122706090	TRAF1	UTR3		-	AtoG	0.1558	0.2941	11	10	[17,77]
chr9:122728248	TRAF1	UTR5		-	CtoT	0.1176	0.1379	4	2	[17,29]
chr9:122728838	TRAF1	UTR5		-	TtoC	0.1	0.1818	3	2	[10,11]
chr9:122730531	TRAF1	UTR5		-	TtoG	0.1	0.1	3	2	[10,10]
chr6:111986886	TRAF3IP2	UTR3		-	TtoC	0.1	0.1333	5	4	[10,16]
chr1:208003344	TRAF3IP3	mixed		+	TtoG	0.1	0.1	3	2	[20,20]
chr1:209612973	TRAF5	UTR3		+	GtoA	0.1	0.1	2	2	[10,10]
chr1:209614039	TRAF5	UTR3		+	AtoG	0.1	0.1667	6	3	[10,26]
chr16:2166941	TRAF7	UTR3		+	GtoA	0.1	0.1364	10	4	[10,30]
chr16:2166945	TRAF7	UTR3		+	TtoG	0.1765	0.2308	2	2	[14,17]
chr3:42226478	TRAK1	coding_exon	ENST00000327628:StoT;ENST00000341421:StoT;ENST00000396175:StoT;	+	TtoA	0.1	0.1	4	2	[20,20]
chr2:201959283	TRAK2	coding_exon		-	TtoC	0.1	0.2	3	2	[10,10]
chr2:201959354	TRAK2	coding_exon		-	TtoC	0.1	0.1	2	2	[10,10]
chr8:71649744	TRAM1	coding_exon	ENST00000262213:NtoD;	-	AtoG	0.1	0.1667	8	3	[10,20]
chr8:71649751	TRAM1	coding_exon		-	TtoC	0.1	0.1333	5	3	[15,20]
chr8:71649690	TRAM1	UTR3		-	AtoG	0.1667	0.1667	3	2	[12,12]
chr8:71649695	TRAM1	UTR3		-	TtoC	0.1364	0.2	4	2	[10,22]
chr21:44331164	TRAPPC10	coding_exon	ENST00000291574:HtoD;	+	CtoG	0.1	0.1	3	2	[10,10]
chr21:44348551	TRAPPC10	UTR3		+	AtoG	0.1667	0.1667	8	2	[12,24]
chr21:44348578	TRAPPC10	UTR3		+	TtoC	0.1	0.2	5	3	[10,15]
chr21:44348825	TRAPPC10	UTR3		+	TtoA	0.1	0.1111	5	2	[18,20]
chr1:36375039	TRAPPC3	UTR3		-	TtoC	0.1	0.1538	8	2	[26,30]
chr19:7653738	TRAPPC5	coding_exon	ENST00000317378:PtoR;ENST00000426877:PtoR;ENST00000452406:PtoR;	+	CtoG	0.1	0.1818	5	3	[10,16]
chr19:50358031	TRAPPC6A	UTR3		-	AtoG	0.1	0.125	4	2	[10,17]
chr19:50358032	TRAPPC6A	UTR3		-	AtoG	0.1176	0.2222	7	3	[10,22]
chr8:141476920	TRAPPC9	coding_exon	ENST00000301226:VtoD;ENST00000389327:VtoD;ENST00000389328:VtoD;ENST00000389329:VtoD;	-	TtoA	0.1	0.1	2	2	[10,10]
chr8:141379822	TRAPPC9	coding_exon	ENST00000301226:StoP;ENST00000389327:StoP;ENST00000389328:StoP;ENST00000389329:StoP;	-	TtoC	0.125	0.1429	3	2	[14,16]
chr6:41267629	TREML2	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr6:42312059	TRETF1	coding_exon		-	AtoG	0.1	0.1429	3	2	[10,14]
chr3:48482845	TREX1	UTR5		+	TtoA	0.1	0.1667	2	2	[10,12]
chr8:126515030	TRIB1	coding_exon	ENST00000311922:EtoA;	+	AtoC	0.1	0.2273	5	2	[10,22]
chr8:126515031	TRIB1	coding_exon		+	GtoA	0.1	0.2759	3	2	[10,29]
chr8:126517907	TRIB1	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr8:126518926	TRIB1	UTR3		+	TtoC	0.1	0.1579	5	3	[10,19]
chr20:324969	TRIB3	coding_exon	ENST00000217233:StoP;ENST00000422053:StoP;	+	TtoC	0.1	0.1111	2	2	[10,10]
chr1:226648685	TRIM11	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr13:49485011	TRIM13	coding_exon	ENST00000298772:WtoR;ENST00000356017:WtoR;ENST00000420995:WtoR;	+	TtoC	0.1	0.2	6	3	[10,16]
chr11:4362819	TRIM21	UTR3		-	GtoT	0.1	0.1176	3	2	[10,17]
chr11:5687113	TRIM22	coding_exon	ENST00000379965:FtoI;ENST00000455293:FtoI;	+	TtoA	0.1	0.2	8	3	[26,40]
chr11:5688321	TRIM22	UTR3		+	TtoC	0.1	0.12	5	2	[10,25]
chr7:137920843	TRIM24	mixed		+	AtoG	0.1	0.2308	6	3	[10,14]
chr17:52328287	TRIM25	coding_exon		-	TtoA	0.1111	0.1429	8	3	[18,21]
chr17:52321345	TRIM25	UTR3		-	TtoG	0.1	0.3571	4	3	[10,14]
chr17:52321523	TRIM25	UTR3		-	TtoA	0.1	0.1538	4	2	[10,13]
chr17:52322250	TRIM25	UTR3		-	TtoC	0.1667	0.3	8	3	[11,12]
chr6:30262240	TRIM26	coding_exon	ENST00000437089:TtoP;ENST00000453195:TtoP;ENST00000454678:TtoP;	-	AtoC	0.1111	0.1818	3	2	[11,18]
chr6:28978802	TRIM27	UTR3		-	GtoA	0.1	0.1176	5	2	[10,17]
chr19:63751305	TRIM28	coding_exon		+	TtoC	0.9964	1	13	13	[12,457]
chr1:114771400	TRIM33	coding_exon	ENST00000358465:DtoY;ENST00000369543:DtoY;ENST00000450349:DtoY;	-	GtoT	0.1	0.125	2	2	[10,16]
chr1:114741396	TRIM33	UTR3		-	TtoC	0.1	0.1364	3	2	[20,22]
chr11:5620229	TRIM34	coding_exon	ENST00000354852:LtoR;ENST00000380089:LtoR;ENST00000396866:LtoR;	+	TtoG	0.1	0.1176	3	2	[10,18]
chr8:27207575	TRIM35	coding_exon	ENST00000305364:LtoP;ENST00000380544:LtoP;	-	TtoC	0.1111	0.1429	3	2	[14,18]
chr17:54464226	TRIM37	coding_exon	ENST00000262294:StoR;ENST00000376149:StoR;ENST00000393066:StoR;	-	CtoA	0.1	0.1	2	2	[10,10]
chr17:54493232	TRIM37	coding_exon	ENST00000262294:RtoQ;ENST00000376149:RtoQ;ENST00000393066:RtoQ;	-	GtoA	0.1	0.1	2	2	[10,10]
chr17:54473958	TRIM37	coding_exon	ENST00000262294:AtoG;ENST00000376149:AtoG;ENST00000393066:AtoG;	-	CtoG	0.1	0.1	2	2	[10,10]
chr6:26092511	TRIM38	UTR3		+	TtoC	0.1429	0.1818	2	2	[11,14]
chr5:180594306	TRIM41	coding_exon		+	TtoG	0.1	0.1429	2	2	[10,14]
chr5:180583543	TRIM41	UTR5		+	TtoC	0.1	0.1667	2	2	[10,12]
chr11:35785193	TRIM44	UTR3		+	GtoA	0.1	0.125	5	3	[10,18]
chr11:5642188	TRIM5	mixed		-	TtoG	0.1	0.1379	5	2	[11,29]
chr11:5642304	TRIM5	mixed		-	TtoC	0.1	0.1	2	2	[10,10]
chr5:180615158	TRIM52	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr7:100518122	TRIM56	mixed		+	AtoG	0.1154	0.1667	2	2	[12,26]
chr7:100519861	TRIM56	mixed		+	AtoC	0.1	0.2727	2	2	[10,11]
chr17:71400176	TRIM65	coding_exon	ENST00000269383:NtoD;	-	AtoG	0.1	0.2	2	2	[10,10]
chr11:4577424	TRIM68	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr15:42835949	TRIM69	coding_exon	ENST00000329464:HtoP;ENST00000338264:HtoP;	+	AtoC	0.1	0.1	2	2	[10,10]
chr15:42838344	TRIM69	coding_exon		+	AtoG	0.2	0.2	5	2	[10,10]
chr5:14454138	TRIO	coding_exon	ENST00000344204:RtoG;	+	AtoG	0.1818	0.1818	4	2	[11,11]
chr5:14440693	TRIO	coding_exon		+	GtoA	0.1	0.1	2	2	[10,10]
chr5:14562061	TRIO	UTR3		+	AtoG	0.1071	0.1818	5	2	[11,28]
chr22:36495094	TRIOBP	coding_exon	ENST00000403663:LtoR;ENST00000406386:LtoR;	+	TtoG	0.1	0.1818	2	2	[10,11]
chr2:230366078	TRIP12	coding_exon		-	TtoG	0.125	0.1429	2	2	[14,16]
chr2:230378826	TRIP12	coding_exon		-	TtoC	0.1176	0.125	4	2	[16,17]

chr5:970673	TRIP13	UTR3		+	AtoG	0.1	0.1818	5	3	[10,19]
chr15:62503283	TRIP4	coding_exon	ENST00000261884:RtoS;	+	GtoT	0.1	0.1	2	2	[10,10]
chr1:40082465	TRIT1	coding_exon	ENST00000046894:TtoP;ENST00000316891:TtoP;ENST00000372818:TtoP;ENST000	-	AtoC	0.1	0.3	6	5	[10,19]
chr1:40082466	TRIT1	coding_exon		-	TtoC	0.2143	0.25	3	2	[12,14]
chr1:40079821	TRIT1	UTR3		-	GtoC	0.1	0.1	2	2	[10,11]
chr11:63841598	TRMT112	UTR5		-	CtoT	0.1053	0.2	4	2	[10,21]
chr22:18482600	TRMT2A	coding_exon	ENST00000252136:StoC;ENST00000403707:StoC;ENST00000404751:StoC;ENST000	-	CtoG	0.1111	0.1333	3	2	[15,18]
chr14:103071673	TRMT61A	UTR3		+	TtoC	0.1538	0.1667	2	2	[12,13]
chr1:28763847	TRNAU1AP	coding_exon		+	TtoC	0.4545	0.5	3	3	[20,41]
chr3:3145769	TRNT1	coding_exon		+	TtoC	0.1	0.125	5	2	[10,16]
chr12:48004250	TROAP	coding_exon	ENST00000380327:PtoL;	+	CtoT	0.1	0.1	2	2	[10,10]
chr12:48009104	TROAP	coding_exon	ENST00000257909:LtoQ;	+	TtoA	0.1333	0.1667	3	2	[12,15]
chr1:191327453	TROVE2	UTR3		+	TtoC	0.1	0.1429	3	3	[10,14]
chr11:63747878	TRPT1	UTR3		-	AtoT	0.1111	0.5	3	3	[13,18]
chr7:98440883	TRRAP	coding_exon	ENST00000355540:TtoS;ENST00000359863:TtoS;ENST00000446306:TtoS;	+	AtoT	0.1	0.1429	5	2	[20,21]
chr7:98385762	TRRAP	coding_exon	ENST00000355540:LtoM;ENST00000359863:LtoM;ENST00000446306:LtoM;	+	CtoA	0.1	0.1	2	2	[10,10]
chr7:98419917	TRRAP	coding_exon		+	GtoA	0.1538	0.1818	2	2	[11,13]
chr9:134766013	TSC1	coding_exon	ENST00000298552:MtoI;ENST00000440111:MtoI;	-	GtoT	0.1	0.1	2	2	[10,10]
chr9:134757546	TSC1	UTR3		-	AtoC	0.1	0.1	2	2	[10,10]
chr19:59389129	TSEN34	mixed		+	TtoC	0.1	0.125	7	3	[16,20]
chr2:122239660	TSN	UTR3		+	TtoC	0.1	0.1111	4	2	[10,18]
chr2:122241860	TSN	UTR3		+	TtoC	0.1	0.2	2	2	[10,10]
chr10:82268927	TSPAN14	mixed		+	AtoC	0.1	0.2	2	2	[10,10]
chr10:82270930	TSPAN14	UTR3		+	TtoG	0.1	0.1	2	2	[10,10]
chr12:56425874	TSPAN31	coding_exon	ENST00000257910:GtoE;	+	GtoA	0.1111	0.1111	2	2	[18,18]
chr12:56426683	TSPAN31	coding_exon		+	TtoC	0.1	0.1176	3	2	[17,30]
chr6:116705493	TSPYL1	mixed		-	TtoC	0.125	0.4	4	2	[10,32]
chr6:116678345	TSPYL5	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr2:3171809	TSSC1	UTR3		-	TtoC	0.1111	0.2143	2	2	[10,14]
chr5:159409183	TTC1	coding_exon	ENST00000231238:LtoP;	+	TtoC	0.1	0.1176	9	3	[11,34]
chr5:159425080	TTC1	UTR3		+	TtoC	0.1333	0.1944	8	2	[15,36]
chr1:229156761	TTC13	coding_exon	ENST00000366661:VtoL;ENST00000366662:VtoL;ENST00000414259:VtoL;	-	GtoC	0.1	0.1	2	2	[10,10]
chr1:229108707	TTC13	UTR3		-	TtoC	0.1	0.1	3	2	[10,10]
chr2:3362545	TTC15	UTR5		+	CtoA	0.3571	0.5833	2	2	[12,14]
chr11:43379671	TTC17	coding_exon	ENST0000039989:VtoA;ENST00000299240:VtoA;	+	TtoC	0.1	0.1	3	2	[10,10]
chr11:43421492	TTC17	coding_exon	ENST0000039989:NtoD;ENST00000299240:NtoD;	+	AtoG	0.1538	0.25	5	2	[12,13]
chr11:43385591	TTC17	coding_exon	ENST0000039989:LtoH;ENST00000299240:LtoH;	+	TtoA	0.1	0.1	3	2	[10,10]
chr11:43429389	TTC17	coding_exon	ENST0000039989:KtoQ;	+	AtoC	0.1	0.1111	3	2	[10,18]
chr11:43383663	TTC17	coding_exon		+	TtoA	0.1	0.1176	3	2	[10,17]
chr17:15869086	TTC19	coding_exon	ENST00000261647:LtoS;ENST00000395886:LtoS;	+	TtoC	0.1	0.1	2	2	[10,10]
chr17:15872746	TTC19	mixed		+	TtoC	0.1	0.1	5	2	[10,10]
chr2:32781430	TTC27	coding_exon	ENST00000317907:LtoP;	+	TtoC	0.1	0.1111	3	2	[18,20]
chr21:37382487	TTC3	coding_exon		+	AtoC	0.1	0.1333	2	2	[10,15]
chr2:74571304	TTC31	coding_exon	ENST00000233623:LtoR;ENST00000410003:LtoR;ENST00000441635:LtoR;ENST000	+	TtoG	0.1	0.1	3	2	[10,10]
chr2:74564044	TTC31	mixed		+	AtoG	0.1	0.1818	2	2	[10,11]
chr5:94831285	TTC37	coding_exon	ENST00000358746:VtoG;	-	TtoG	0.1429	0.25	7	4	[13,17]
chr5:94839858	TTC37	coding_exon		-	AtoG	0.1	0.1053	2	2	[19,21]
chr5:94878511	TTC37	coding_exon		-	TtoC	0.1	0.2	5	2	[10,10]
chr22:45048594	TTC38	coding_exon	ENST00000381031:QtoL;ENST00000445282:QtoL;	+	AtoT	0.1	0.1	3	2	[10,10]
chr14:70204058	TTC9	coding_exon	ENST00000256367:VtoA;	+	TtoC	0.1	0.1333	3	2	[10,15]
chr14:70209015	TTC9	UTR3		+	TtoG	0.1	0.25	3	3	[10,12]
chr1:117446471	TTF2	UTR3		+	AtoT	0.1	0.1538	3	2	[10,27]
chr1:117446472	TTF2	UTR3		+	CtoG	0.1034	0.1892	2	2	[29,37]
chr3:9845644	TTL3	coding_exon	ENST00000336674:NtoK;ENST00000383827:NtoK;ENST00000397241:NtoK;ENST000	+	CtoG	0.1	0.2	6	3	[10,25]
chr3:9836868	TTL3	mixed		+	GtoA	0.1	0.5	2	2	[10,18]
chr3:9851962	TTL3	mixed		+	TtoG	0.1333	0.2143	2	2	[15,15]
chr3:9852063	TTL3	mixed		+	CtoG	0.1111	0.2	2	2	[10,10]
chr2:219320123	TTL4	coding_exon	ENST00000258398:WtoG;ENST00000392102:WtoG;ENST00000457313:WtoG;	+	TtoG	0.1	0.1	4	2	[10,10]
chr2:219320620	TTL4	coding_exon	ENST00000258398:VtoD;ENST00000392102:VtoD;ENST00000442769:VtoD;ENST000	+	TtoA	0.1	0.1538	3	2	[10,13]
chr2:219325818	TTL4	coding_exon	ENST00000258398:QtoL;ENST00000392102:QtoL;ENST00000442769:QtoL;ENST000	+	AtoT	0.1	0.1053	5	2	[10,19]
chr2:219323031	TTL4	coding_exon	ENST00000258398:LtoI;ENST00000392102:LtoI;ENST00000442769:LtoI;ENST00000	+	CtoA	0.1	0.1	3	2	[10,10]
chr2:219320598	TTL4	coding_exon	ENST00000258398:KtoQ;ENST00000392102:KtoQ;ENST00000442769:KtoQ;ENST000	+	AtoC	0.1	0.1111	4	2	[10,18]
chr14:75418959	TTL5	coding_exon	ENST00000286653:Etog;ENST00000298832:Etog;ENST00000393826:Etog;ENST000	+	AtoG	0.1	0.1	2	2	[10,10]
chr14:75490797	TTL5	UTR3		+	AtoC	0.1	0.2	2	2	[10,10]
chr6:24759129	TRAP	coding_exon	ENST00000341060:FtoV;ENST00000378198:FtoV;	-	TtoG	0.1176	0.3077	2	2	[13,17]
chr7:2670787	TTYH3	UTR3		+	AtoG	0.1	0.1053	2	2	[19,20]
chr2:219823757	TUBA1	coding_exon	ENST00000248437:VtoG;ENST0000032858:*toE;ENST00000392088:VtoG;	-	TtoG	0.1	0.1579	5	2	[10,19]
chr2:219823647	TUBA1	coding_exon	ENST00000248437:StoG;ENST00000392088:StoG;	-	AtoG	0.1333	0.15	3	3	[21,32]
chr2:219823746	TUBA1	coding_exon	ENST00000248437:PtoT;ENST00000392088:PtoT;	-	CtoA	0.1053	0.1111	4	2	[19,19]
chr2:219823379	TUBA1	coding_exon	ENST00000248437:Etog;ENST00000392088:Etog;	-	AtoG	0.1019	0.1161	2	2	[110,159]
chr2:219823744	TUBA1	coding_exon		-	CtoT	0.1304	0.1818	6	3	[18,23]
chr2:219823747	TUBA1	coding_exon		-	TtoC	0.1	0.1429	11	4	[10,19]
chr12:47953350	TUBA1C	mixed		+	TtoA	0.2	0.3333	3	2	[10,16]
chr12:47953351	TUBA1C	mixed		+	AtoG	0.1875	0.4167	5	5	[10,26]
chr22:16993661	TUBA8	coding_exon	ENST00000316027:KtoE;ENST00000330423:KtoE;	+	AtoG	0.1	0.1429	2	2	[10,14]
chr6:3098927	TUBB2A	UTR3		-	TtoA	0.1	0.1	2	2	[10,10]
chr6:3172731	TUBB2B	coding_exon	ENST00000259818:Itot;	-	AtoC	0.2143	0.2941	2	2	[14,18]
chr6:3169822	TUBB2B	UTR3		-	CtoT	0.1875	0.6	10	10	[10,81]
chr6:3169832	TUBB2B	UTR3		-	TtoC	0.1	0.3171	9	8	[10,61]
chr6:3169833	TUBB2B	UTR3		-	CtoA	0.1176	0.122	5	2	[17,42]
chr9:139257264	TUBB2C	coding_exon	ENST00000340384:VtoA;	+	TtoC	0.1739	0.2188	7	2	[24,33]
chr9:139257297	TUBB2C	coding_exon	ENST00000340384:GtoD;	+	GtoA	0.1	0.2	2	2	[10,10]
chr17:38019201	TUBG1	coding_exon	ENST00000251413:DtoG;	+	AtoG	0.1111	0.125	2	2	[16,18]
chr10:134947452	TUBGCP2	coding_exon	ENST00000252936:VtoA;ENST00000368562:VtoA;ENST00000368563:VtoA;ENST000	-	TtoC	0.1026	0.1379	8	2	[29,39]
chr15:20421386	TUBGCP5	coding_exon	ENST00000283645:VtoL;ENST00000453949:VtoL;	+	GtoC	0.1	0.25	3	2	[10,12]
chr15:20423847	TUBGCP5	coding_exon	ENST00000283645:StoT;ENST00000453949:StoT;	+	TtoA	0.1	0.1	2	2	[10,10]
chr15:20400374	TUBGCP5	coding_exon	ENST00000283645:LtoP;ENST00000453949:LtoP;	+	TtoC	0.1	0.1	2	2	[10,10]
chr22:49007379	TUBGCP6	coding_exon	ENST00000248846:VtoS;ENST00000413101:VtoS;ENST00000439308:VtoS;	-	AtoC	0.1	0.1	4	2	[10,10]
chr22:49001977	TUBGCP6	coding_exon	ENST00000248846:StoA;ENST00000413101:StoA;ENST00000439308:StoA;	-	TtoG	0.1	0.1	2	2	[10,11]
chr16:28761607	TUFM	UTR3		-	CtoA	0.4706	0.8	4	4	[11,18]
chr16:28761608	TUFM	UTR3		-	GtoA	0.5217	0.9412	9	9	[10,25]
chr16:28761609	TUFM	UTR3		-	AtoG	0.1304	0.2727	13	9	[11,30]
chr3:50362103	TUSC4	mixed		-	AtoC	0.1	0.1538	2	2	[10,13]
chr3:50362452	TUSC4	mixed		-	TtoA	0.1	0.1	2	2	[10,10]
chr11:62090860	TUT1	coding_exon	ENST00000329251:PtoR;ENST00000378019:PtoR;ENST00000424909:PtoA;	-	CtoG	0.1111	0.2	5	3	[12,18]
chr11:62090863	TUT1	coding_exon	ENST00000329251:LtoP;ENST00000378019:LtoP;ENST00000424909:CtoR;	-	TtoC	0.1579	0.2252	8	3	[27,116]

chr11:62100289	TUT1	coding_exon	ENST00000278279:StoF;ENST00000476907:StoF;	-	CtoT	0.1	0.125	4	3	[10,24]
chr11:62100960	TUT1	coding_exon	ENST00000278279:KtoT;ENST00000476907:KtoT;	-	AtoC	0.16	0.1852	2	2	[25,27]
chr11:62100288	TUT1	coding_exon		-	CtoT	0.1176	0.12	3	2	[17,25]
chr11:62083776	TUT1	mixed		-	CtoG	0.1562	0.1667	5	2	[13,33]
chr11:62083780	TUT1	mixed		-	GtoT	0.1224	0.2353	8	4	[18,57]
chr11:62083784	TUT1	mixed		-	GtoA	0.1167	0.1515	4	3	[34,61]
chr11:62083794	TUT1	mixed		-	AtoT	0.1154	0.6701	12	10	[22,206]
chr11:62083795	TUT1	mixed		-	TtoA	0.12	0.5161	7	7	[15,88]
chr11:62083796	TUT1	mixed		-	GtoA	0.14	0.2097	7	3	[54,237]
chr11:62083844	TUT1	mixed		-	GtoT	0.1168	0.3849	15	14	[46,281]
chr11:62083845	TUT1	mixed		-	GtoC	0.1441	0.487	15	14	[47,262]
chr11:62083859	TUT1	mixed		-	CtoT	0.1176	0.16	5	2	[17,25]
chr11:62083867	TUT1	mixed		-	GtoC	0.12	0.2432	12	8	[23,40]
chr11:62083868	TUT1	mixed		-	GtoT	0.2143	0.6364	10	10	[11,26]
chr11:62083869	TUT1	mixed		-	AtoC	0.25	0.5714	6	5	[10,15]
chr11:62083870	TUT1	mixed		-	CtoT	0.1	0.1111	2	2	[10,11]
chr11:62097909	TUT1	mixed		-	CtoT	0.1143	0.1429	4	2	[15,36]
chr11:62083653	TUT1	UTR3		-	TtoG	0.2105	0.8	14	12	[11,45]
chr11:62083654	TUT1	UTR3		-	AtoG	0.1	0.2455	11	5	[11,114]
chr3:52231463	TWF2	coding_exon	ENST00000423623:QtoE;	-	CtoG	0.1	0.125	2	2	[10,16]
chr3:52231327	TWF2	coding_exon	ENST00000423623:LtoP;	-	TtoC	0.1538	0.2222	5	2	[10,13]
chr3:52232866	TWF2	coding_exon	ENST00000423623:LtoP;	-	TtoC	0.1	0.1	3	2	[10,10]
chr3:52237700	TWF2	mixed		-	TtoC	0.1538	0.2941	2	2	[13,18]
chr7:19710969	TWISTNB	coding_exon		-	CtoA	0.1	0.3636	2	2	[10,11]
chr7:19703700	TWISTNB	UTR3		-	AtoG	0.1	0.1364	4	2	[10,22]
chr18:9386541	TWSG1	coding_exon	ENST00000262120:KtoE;	+	AtoG	0.125	0.1429	2	2	[14,16]
chr18:9391249	TWSG1	UTR3		+	TtoC	0.1	0.2	3	2	[10,15]
chr9:112046131	TXN	UTR3		-	TtoG	0.1	0.1667	4	2	[11,12]
chr9:112046230	TXN	UTR3		-	AtoG	0.1205	0.1562	6	2	[32,83]
chr16:11732006	TXNDC11	coding_exon	ENST00000283033:YtoS;ENST00000356957:YtoS;ENST00000436567:YtoS;	-	AtoC	0.1	0.1818	2	2	[10,11]
chr16:11680612	TXNDC11	coding_exon		-	AtoC	0.1724	0.2	3	2	[11,29]
chr16:11732131	TXNDC11	coding_exon		-	TtoC	0.1	0.1	3	2	[10,10]
chr1:52271754	TXNDC12	coding_exon		-	GtoT	0.1	0.1	2	2	[10,10]
chr1:52258451	TXNDC12	UTR3		-	AtoG	0.1	0.125	8	2	[10,17]
chr6:7826803	TXNDC5	UTR3		-	AtoG	0.1	0.1538	4	2	[11,13]
chr6:7826823	TXNDC5	UTR3		-	TtoA	0.1	0.15	4	3	[10,20]
chr6:7826824	TXNDC5	UTR3		-	TtoC	0.125	0.2174	5	3	[11,23]
chr18:75834500	TXNL4A	UTR3		-	GtoA	0.1053	0.1607	15	9	[15,56]
chr16:70685368	TXNL4B	UTR5		-	GtoC	0.5	0.7143	3	2	[14,22]
chr12:103267884	TXNRD1	UTR3		+	AtoG	0.1429	0.1538	4	2	[13,14]
chr10:71573723	TYSND1	coding_exon	ENST00000287078:IttoN;	-	TtoA	0.1	0.1	2	2	[10,10]
chr1:75003126	TYW3	UTR3		+	GtoA	0.1	0.1667	2	2	[12,20]
chr21:43387726	U2AF1	coding_exon	ENST00000291552:GtoS;ENST00000380276:GtoS;ENST00000398137:GtoS;ENST00000412391:KtoQ;	-	GtoA	0.125	0.2	4	3	[15,16]
chr21:43386191	U2AF1	UTR3		-	CtoA	0.1	0.1111	7	3	[10,20]
chr19:40927066	U2AF1L4	coding_exon	ENST00000292879:KtoQ;ENST00000378975:KtoQ;ENST00000412391:KtoQ;	-	AtoC	0.1	0.1364	2	2	[10,22]
chr1:160835975	UAP1	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr4:68182570	UBA6	coding_exon		-	AtoC	0.1	0.1	2	2	[10,10]
chr4:68165569	UBA6	UTR3		-	TtoA	0.125	0.1429	3	2	[14,17]
chr4:68166798	UBA6	UTR3		-	TtoG	0.1	0.1176	7	2	[10,17]
chr4:68167023	UBA6	UTR3		-	TtoA	0.1	0.2	3	3	[10,13]
chr3:49822700	UBA7	coding_exon	ENST00000333486:RtoG;	-	CtoG	0.1111	0.1667	4	2	[12,28]
chr3:49823476	UBA7	coding_exon	ENST00000333486:LtoP;	-	TtoC	0.1154	0.1875	7	3	[16,26]
chr3:49822701	UBA7	coding_exon		-	CtoA	0.1	0.15	3	2	[10,20]
chr9:137976767	UBAC1	coding_exon	ENST00000371756:EttoD;	-	GtoT	0.1	0.3636	3	2	[10,11]
chr13:98744799	UBAC2	coding_exon		+	AtoG	0.1	0.1875	5	2	[10,16]
chr13:98745188	UBAC2	coding_exon		+	AtoG	0.1163	0.1875	3	2	[16,86]
chr13:98836540	UBAC2	UTR3		+	TtoG	0.1053	0.1333	8	2	[16,19]
chr13:98836543	UBAC2	UTR3		+	AtoC	0.1111	0.1818	4	2	[11,18]
chr9:34241521	UBAP1	coding_exon		+	AtoT	0.1	0.1818	2	2	[10,11]
chr9:33931683	UBAP2	coding_exon		-	TtoA	0.1	0.1	6	2	[10,10]
chr9:33912543	UBAP2	mixed		-	TtoC	0.1	0.1875	4	2	[16,30]
chr9:33961733	UBAP2	mixed		-	TtoG	0.1333	0.2727	2	2	[11,15]
chr9:33979112	UBAP2	mixed		-	AtoG	0.1	0.1538	3	2	[10,13]
chr9:33911857	UBAP2	UTR3		-	GtoA	0.1	0.25	2	2	[10,16]
chr1:152493139	UBAP2L	coding_exon	ENST00000271877:YtoD;ENST00000343815:YtoD;ENST00000361546:YtoD;ENST00000412391:KtoQ;	+	TtoG	0.1	0.15	2	2	[10,20]
chr1:152509609	UBAP2L	mixed		+	TtoC	0.1	0.1	3	2	[10,20]
chr1:152509844	UBAP2L	mixed		+	GtoA	0.1	0.1429	3	2	[10,15]
chr12:123963624	UBC	coding_exon	ENST00000339647:EttoV;	-	AtoT	0.1	0.3571	2	2	[10,15]
chr12:123965130	UBC	UTR5		-	TtoG	0.5	0.5207	2	2	[216,218]
chr20:43875250	UBE2C	mixed		+	TtoC	0.1	0.1538	8	3	[10,18]
chr5:138987384	UBE2D2	UTR3		+	AtoG	0.1	0.2	7	5	[12,30]
chr4:103936250	UBE2D3	mixed		-	TtoA	0.1	0.1	6	2	[10,10]
chr7:43958911	UBE2D4	UTR3		+	AtoG	0.1	0.1429	2	2	[10,14]
chr3:23907153	UBE2E1	UTR3		+	TtoA	0.1429	0.175	12	6	[12,41]
chr3:23907154	UBE2E1	UTR3		+	TtoA	0.1053	0.1818	3	2	[12,19]
chr3:23907462	UBE2E1	UTR3		+	TtoA	0.1053	0.1176	2	2	[17,19]
chr3:23907801	UBE2E1	UTR3		+	CtoA	0.2143	0.3636	3	2	[11,14]
chr2:181635945	UBE2E3	UTR3		+	TtoA	0.1429	0.1818	2	2	[11,14]
chr21:45013514	UBE2G2	UTR3		-	AtoG	0.125	0.1282	11	2	[24,39]
chr21:45015596	UBE2G2	UTR3		-	CtoT	0.1	0.125	3	2	[11,16]
chr1:1181354	UBE2J2	coding_exon		-	AtoG	0.125	0.1333	6	2	[15,16]
chr4:39456637	UBE2K	UTR3		+	TtoA	0.1111	0.1429	4	2	[10,14]
chr4:39456704	UBE2K	UTR3		+	AtoT	0.1	0.1	2	2	[10,10]
chr4:39457196	UBE2K	UTR3		+	AtoG	0.1	0.1818	4	3	[10,11]
chr4:39460063	UBE2K	UTR3		+	TtoC	0.1	0.1	4	2	[10,10]
chr22:20306124	UBE2L3	UTR3		+	TtoA	0.122	0.1429	8	2	[28,41]
chr22:20306287	UBE2L3	UTR3		+	GtoA	0.2	0.4	5	3	[10,12]
chr22:20307187	UBE2L3	UTR3		+	TtoA	0.1	0.1818	3	3	[10,12]
chr17:71913209	UBE2O	coding_exon	ENST00000319380:VtoA;	-	TtoC	0.1429	0.1429	4	2	[14,15]
chr17:71906596	UBE2O	coding_exon	ENST00000319380:NtoT;	-	AtoC	0.1	0.1818	2	2	[10,11]
chr17:71897481	UBE2O	UTR3		-	CtoA	0.1	0.1364	5	2	[10,22]
chr17:71898341	UBE2O	UTR3		-	GtoA	0.1	0.1818	3	2	[10,11]
chr1:152788695	UBE2Q1	UTR3		-	TtoC	0.1	0.1	3	2	[10,10]
chr15:73970362	UBE2Q2	coding_exon	ENST00000267938:NtoK;ENST00000426727:NtoK;	+	TtoA	0.1	0.1818	2	2	[10,22]
chr15:73978852	UBE2Q2	coding_exon	ENST00000267938:*toE;ENST00000338677:LtoR;ENST00000426727:*toE;	+	TtoG	0.1	0.2143	3	2	[10,14]
chr15:73979041	UBE2Q2	UTR3		+	TtoG	0.1	0.1538	2	2	[10,13]

chr9:33907951	UBE2R2	UTR3		+	TtoA	0.1053	0.1053	3	2	[19,19]
chr9:33907971	UBE2R2	UTR3		+	TtoG	0.1	0.1	2	2	[10,10]
chr9:33908120	UBE2R2	UTR3		+	CtoA	0.1	0.1	2	2	[10,10]
chr9:33908167	UBE2R2	UTR3		+	GtoT	0.1	0.1	3	2	[10,10]
chr9:33909509	UBE2R2	UTR3		+	AtoG	0.1	0.125	2	2	[17,20]
chr9:33909906	UBE2R2	UTR3		+	GtoA	0.1	0.1429	3	2	[10,14]
chr19:60604496	UBE2S	UTR3		-	TtoC	0.1111	0.1765	4	2	[17,18]
chr8:49136065	UBE2V2	UTR3		+	AtoG	0.1333	0.1818	3	2	[11,15]
chr8:49136622	UBE2V2	UTR3		+	TtoA	0.1176	0.125	7	2	[16,17]
chr17:44361069	UBE2Z	UTR3		+	AtoT	0.1525	0.1951	2	2	[41,59]
chr17:44361072	UBE2Z	UTR3		+	GtoA	0.102	0.1463	4	3	[41,49]
chr15:23135408	UBE3A	coding_exon	ENST00000232165:ItaN;ENST00000397954:ItaN;ENST00000438097:ItaN;	-	TtoA	0.1	0.1111	6	2	[10,18]
chr12:108456956	UBE3B	coding_exon	ENST00000342494:FtoV;ENST00000434735:FtoV;	+	TtoG	0.1	0.2	4	3	[10,10]
chr12:108425340	UBE3B	mixed		+	TtoA	0.1	0.1111	2	2	[10,10]
chr11:117755577	UBE4A	coding_exon	ENST00000252108:VtoG;ENST00000431736:VtoG;	+	TtoG	0.1	0.1	2	2	[10,10]
chr11:117741019	UBE4A	coding_exon	ENST00000252108:EtaG;ENST00000431736:EtaG;	+	AtoG	0.1	0.1333	2	2	[10,15]
chr11:117749520	UBE4A	coding_exon		+	TtoC	0.1	0.1	2	2	[10,10]
chr1:10109491	UBE4B	coding_exon	ENST00000253251:LtoP;ENST00000343090:LtoP;ENST00000377157:LtoP;	+	TtoC	0.1	0.1818	5	2	[10,11]
chr1:10162617	UBE4B	UTR3		+	AtoC	0.1	0.1	2	2	[10,10]
chr16:23485812	UBFD1	coding_exon	ENST00000219638:RtoQ;ENST00000395878:RtoQ;	+	GtoA	0.1	0.1176	2	2	[10,17]
chr16:23491807	UBFD1	UTR3		+	TtoC	0.1111	0.1304	3	2	[18,23]
chr16:23493091	UBFD1	UTR3		+	AtoG	0.1	0.1	2	2	[10,30]
chr1:11268804	UBIAD1	mixed		+	TtoC	0.1	0.1111	2	2	[10,18]
chr1:11270684	UBIAD1	mixed		+	AtoT	0.1	0.1	3	2	[10,10]
chr19:9801782	UBL5	UTR3		+	TtoA	0.1	0.1429	5	2	[10,14]
chr19:9801792	UBL5	UTR3		+	CtoA	0.1	0.3333	5	4	[10,14]
chr16:4850859	UBN1	coding_exon	ENST00000262376:LtoV;ENST00000396658:LtoV;	+	TtoG	0.1	0.1	3	2	[10,10]
chr16:4860319	UBN1	coding_exon		+	TtoC	0.1	0.1111	4	2	[10,10]
chr16:4872304	UBN1	UTR3		+	TtoC	0.1667	0.3	2	2	[11,12]
chr20:3075395	UBOX5	UTR5		-	AtoT	0.1	0.125	4	2	[10,16]
chr20:3075399	UBOX5	UTR5		-	TtoA	0.1	0.1	2	2	[10,10]
chr20:3075673	UBOX5	UTR5		-	GtoT	0.1111	0.1818	2	2	[11,18]
chr20:33419376	UBP1	coding_exon	ENST00000283628:TtoP;ENST00000283629:TtoP;ENST00000447368:TtoP;	-	AtoC	0.1538	0.1765	4	2	[13,17]
chr9:85464773	UBQLN1	UTR3		-	TtoA	0.1053	0.125	5	2	[16,19]
chr9:85465140	UBQLN1	UTR3		-	AtoG	0.1	0.1	5	2	[10,10]
chr9:85465645	UBQLN1	UTR3		-	AtoG	0.1	0.2857	5	5	[10,14]
chr9:85465823	UBQLN1	UTR3		-	TtoA	0.1176	0.2222	5	2	[10,17]
chr9:85466238	UBQLN1	UTR3		-	AtoG	0.1	0.1304	3	2	[10,23]
chr9:85466244	UBQLN1	UTR3		-	TtoC	0.1429	0.2	7	2	[10,14]
chr15:41031783	UBR1	mixed		-	TtoG	0.1	0.1	2	2	[10,10]
chr6:42734521	UBR2	coding_exon	ENST00000372899:StoP;ENST00000372901:StoP;	+	TtoC	0.1	0.1538	2	2	[10,13]
chr1:19313988	UBR4	mixed		-	CtoA	0.1	0.1	2	2	[10,10]
chr1:19338300	UBR4	mixed		-	TtoC	0.1	0.1176	4	2	[10,17]
chr1:19349698	UBR4	mixed		-	TtoG	0.1176	0.1667	2	2	[12,17]
chr1:19354011	UBR4	mixed		-	TtoG	0.1	0.1	2	2	[10,10]
chr1:19367221	UBR4	mixed		-	TtoC	0.1	0.1333	2	2	[10,15]
chr8:103380890	UBR5	coding_exon		-	TtoC	0.1	0.1765	2	2	[18,30]
chr8:103334916	UBR5	UTR3		-	TtoC	0.1429	0.2	8	2	[14,15]
chr8:103335331	UBR5	UTR3		-	TtoA	0.1	0.1818	2	2	[10,11]
chr8:103335333	UBR5	UTR3		-	AtoG	0.1111	0.1818	5	2	[11,18]
chr8:103335340	UBR5	UTR3		-	AtoG	0.1282	0.1875	11	2	[16,42]
chr5:171571571	UBTD2	coding_exon		-	TtoC	0.1	0.1538	2	2	[10,13]
chr5:171570809	UBTD2	UTR3		-	TtoA	0.1	0.1	5	2	[10,10]
chr17:39638194	UBTF	UTR3		-	TtoC	0.125	0.1364	8	2	[17,22]
chr17:39638439	UBTF	UTR3		-	GtoT	0.1	0.1	2	2	[10,10]
chr11:62200556	UBXN1	UTR3		-	AtoG	0.1429	0.3636	6	4	[11,27]
chr11:62200558	UBXN1	UTR3		-	TtoG	0.1	0.1111	10	4	[10,11]
chr2:136256946	UBXN4	UTR3		+	TtoC	0.1	0.1333	4	2	[10,15]
chr19:4396026	UBXN6	UTR3		-	AtoG	0.1	0.1333	5	3	[10,15]
chr3:197579392	UBXN7	coding_exon		-	TtoC	0.1	0.1	2	2	[10,10]
chr3:197560125	UBXN7	UTR3		-	TtoG	0.1	0.1176	2	2	[10,17]
chr3:197563393	UBXN7	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr3:197565587	UBXN7	UTR3		-	TtoC	0.1	0.1667	5	2	[10,18]
chr3:197566737	UBXN7	UTR3		-	GtoA	0.1	0.1	3	2	[10,10]
chr3:197567808	UBXN7	UTR3		-	TtoC	0.1	0.2	3	2	[10,10]
chr9:133389038	UCK1	UTR3		-	AtoG	0.1	0.25	4	2	[10,12]
chr9:133389205	UCK1	UTR3		-	CtoA	0.1	0.1	2	2	[10,10]
chr1:164147043	UCK2	mixed		+	TtoA	0.1	0.1053	2	2	[10,20]
chr1:159390403	UFC1	UTR5		+	TtoC	0.1	0.1	4	2	[10,10]
chr1:159390405	UFC1	UTR5		+	GtoC	0.1053	0.125	4	2	[16,19]
chr4:186573326	UFSP2	coding_exon	ENST00000264689:GtoC;	-	GtoT	0.1	0.2	4	2	[10,20]
chr4:186576644	UFSP2	coding_exon	ENST00000264689:EtaG;	-	AtoG	0.1053	0.1333	3	2	[15,19]
chr9:113734421	UGCG	coding_exon		+	AtoG	0.1	0.2143	5	3	[10,29]
chr9:113735965	UGCG	UTR3		+	GtoC	0.1667	0.3664	2	2	[12,33]
chr2:128644385	UGCGL1	coding_exon	ENST00000259253:VtoG;ENST00000375990:VtoG;	+	TtoG	0.1	0.1538	3	2	[10,13]
chr2:128665458	UGCGL1	UTR3		+	AtoC	0.1	0.1	3	2	[10,10]
chr2:128665459	UGCGL1	UTR3		+	CtoA	0.1	0.1	3	2	[10,10]
chr2:128665548	UGCGL1	UTR3		+	AtoC	0.1667	0.2308	2	2	[12,13]
chr2:128667961	UGCGL1	UTR3		+	AtoG	0.1818	0.2	4	2	[10,11]
chr2:128667962	UGCGL1	UTR3		+	AtoG	0.1	0.3	4	2	[10,10]
chr2:128667981	UGCGL1	UTR3		+	AtoG	0.1	0.2857	4	4	[10,15]
chr2:128668146	UGCGL1	UTR3		+	CtoT	0.1	0.1	3	2	[10,10]
chr4:39182503	UGDH	coding_exon	ENST00000316423:StoP;	-	TtoC	0.1053	0.1333	2	2	[15,19]
chr4:39183718	UGDH	coding_exon	ENST00000316423:ItaV;	-	AtoG	0.1	0.1053	4	2	[10,19]
chr4:39177391	UGDH	UTR3		-	TtoA	0.1429	0.2	2	2	[10,21]
chr1:160759243	UHMK1	UTR3		+	TtoG	0.1176	0.1538	4	2	[13,17]
chr1:160760238	UHMK1	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr1:160760506	UHMK1	UTR3		+	TtoA	0.1	0.125	2	2	[10,16]
chr6:34958759	UHRF1BP1	mixed		+	TtoG	0.1	0.125	3	2	[10,16]
chr6:34958835	UHRF1BP1	mixed		+	GtoC	0.1026	0.1379	3	2	[29,39]
chr9:6467643	UHRF2	coding_exon	ENST00000276893:DtoA;	+	AtoC	0.1	0.1111	3	2	[10,10]
chr9:6467752	UHRF2	coding_exon		+	TtoA	0.1	0.1176	12	2	[10,17]
chr9:6496343	UHRF2	UTR3		+	AtoG	0.1176	0.1875	6	2	[17,18]
chr5:176317737	UIMC1	coding_exon	ENST00000274827:TtoP;ENST00000323774:TtoP;ENST00000377219:TtoP;ENST00000377219:TtoP;	-	AtoC	0.1	0.1538	4	3	[10,14]
chr5:176264756	UIMC1	UTR3		-	AtoG	0.1429	0.2	3	2	[10,14]
chr12:130972938	ULK1	UTR3		+	CtoT	0.1	0.1	2	2	[10,10]

chr17:23897898	UNC119	UTR3		-	TtoC	0.125	0.14	13	2	[16,51]
chr12:119642517	UNC119B	UTR3		+	GtoA	0.1	0.1	2	2	[10,10]
chr12:119643422	UNC119B	UTR3		+	AtoG	0.1	0.1333	2	2	[10,15]
chr12:119644454	UNC119B	UTR3		+	TtoA	0.1	0.1	4	2	[10,10]
chr12:119645409	UNC119B	UTR3		+	TtoA	0.1	0.1	4	2	[10,10]
chr15:89292383	UNC45A	coding_exon	ENST00000268159:CtoG;ENST00000394275:CtoG;ENST00000418476:CtoG;	+	TtoG	0.1071	0.1379	8	5	[17,34]
chr7:866403	UNC84A	coding_exon	ENST00000297445:DtoA;ENST00000389574:DtoA;ENST00000401592:DtoA;ENST00000401592:DtoA;	+	AtoC	0.1	0.1	3	2	[10,10]
chr7:849655	UNC84A	coding_exon		+	AtoG	0.1	0.1	2	2	[10,10]
chr22:37467521	UNC84B	mixed		-	AtoT	0.1667	0.1667	3	2	[12,12]
chr19:18838385	UPF1	UTR3		+	TtoA	0.1538	0.1818	9	2	[11,14]
chr10:12111023	UPF2	coding_exon	ENST00000313977:LtoQ;ENST00000356352:LtoQ;ENST00000357604:LtoQ;ENST00000357604:LtoQ;	-	TtoA	0.1	0.1	2	2	[10,10]
chr10:12024748	UPF2	coding_exon		-	TtoC	0.1053	0.1875	7	2	[17,19]
chr10:12002929	UPF2	UTR3		-	AtoG	0.1	0.1053	2	2	[10,20]
chr13:114075083	UPF3A	coding_exon	ENST00000351487:LtoI;ENST00000375299:LtoI;	+	CtoA	0.1765	0.2	4	2	[10,17]
chr11:118334142	UPK2	coding_exon	ENST00000264031:StoP;	+	TtoC	0.1	0.1818	3	2	[10,11]
chr19:1549046	UQCR	UTR3		-	TtoA	0.1111	0.5	14	12	[10,25]
chr19:1549049	UQCR	UTR3		-	TtoC	0.1	0.125	6	3	[32,55]
chr1:46555033	UQCRH	UTR3		+	AtoG	0.1034	0.1579	14	7	[19,78]
chr5:132231273	UQCRR	UTR3		+	TtoC	0.1	0.1683	21	9	[44,181]
chr5:132231279	UQCRR	UTR3		+	CtoA	0.5833	0.9565	10	10	[10,24]
chr21:32638838	URB1	coding_exon	ENST00000382751:LtoP;	-	TtoC	0.1	0.1111	5	2	[10,20]
chr1:227861653	URB2	coding_exon	ENST00000258243:RtoG;	+	AtoG	0.1	0.1818	2	2	[10,11]
chr9:130189970	URM1	mixed		+	CtoA	0.1	0.1	2	2	[10,10]
chr1:159275769	USF1	UTR3		-	AtoG	0.1091	0.3077	7	2	[13,61]
chr19:40462472	USF2	UTR3		+	TtoG	0.125	0.175	3	3	[23,80]
chr4:76952367	USO1	mixed		+	AtoC	0.1	0.1429	4	2	[14,20]
chr1:62679833	USP1	coding_exon	ENST00000339950:LtoP;ENST00000371146:LtoP;ENST00000433771:LtoP;	+	TtoC	0.1316	0.1579	5	3	[13,38]
chr1:62689705	USP1	UTR3		+	GtoA	0.1	0.1	2	2	[10,20]
chr18:201850	USP14	UTR3		+	TtoA	0.1176	0.2308	6	2	[13,17]
chr18:203566	USP14	UTR3		+	AtoT	0.1	0.1	2	2	[10,10]
chr12:61001528	USP15	coding_exon		+	AtoG	0.1	0.1538	3	2	[10,13]
chr21:29348066	USP16	coding_exon	ENST00000334352:StoP;ENST00000399975:StoP;ENST00000399976:StoP;	+	TtoC	0.125	0.1538	5	2	[13,16]
chr21:29341218	USP16	coding_exon		+	TtoA	0.1	0.1	2	2	[10,10]
chr21:29343014	USP16	coding_exon		+	TtoA	0.1	0.1429	4	2	[10,14]
chr9:131683148	USP20	UTR3		+	GtoT	0.1	0.1	3	2	[10,10]
chr1:159401311	USP21	coding_exon	ENST00000289865:PtoT;ENST00000368001:PtoT;ENST00000368002:PtoT;ENST00000368002:PtoT;	+	CtoA	0.1	0.1	2	2	[10,10]
chr1:159400606	USP21	coding_exon	ENST00000289865:LtoP;ENST00000368001:LtoP;ENST00000368002:LtoP;ENST00000368002:LtoP;	+	TtoC	0.1111	0.125	6	2	[16,18]
chr17:20845949	USP22	UTR3		-	TtoG	0.1765	0.2	2	2	[20,34]
chr17:20845950	USP22	UTR3		-	AtoT	0.2105	0.2222	3	2	[19,36]
chr17:20846416	USP22	UTR3		-	TtoG	0.1176	0.2353	2	2	[17,17]
chr1:55304792	USP24	UTR3		-	CtoA	0.1	0.1818	2	2	[10,11]
chr21:16172871	USP25	UTR3		+	AtoG	0.1	0.1333	4	2	[10,16]
chr11:113179779	USP28	coding_exon	ENST00000003302:Kto*;ENST00000260188:Kto*;	-	AtoT	0.1	0.1	5	2	[10,10]
chr11:113179802	USP28	coding_exon	ENST00000003302:HtoR;ENST00000260188:HtoR;	-	AtoG	0.1	0.1053	2	2	[10,19]
chr11:113185176	USP28	coding_exon		-	AtoG	0.1176	0.1538	2	2	[13,17]
chr15:61667673	USP3	coding_exon	ENST00000268049:KtoQ;ENST00000380324:KtoQ;	+	AtoC	0.1333	0.1667	4	2	[12,15]
chr15:61667625	USP3	coding_exon	ENST00000268049:KtoE;ENST00000380324:KtoE;	+	AtoG	0.125	0.2	3	2	[10,16]
chr15:61633032	USP3	mixed		+	AtoG	0.1	0.1429	2	2	[14,20]
chr17:55668306	USP32	coding_exon	ENST00000300896:QtoR;	-	AtoG	0.1333	0.2	6	2	[10,15]
chr1:77934329	USP33	UTR3		-	GtoA	0.1	0.1667	3	2	[10,12]
chr1:77934594	USP33	UTR3		-	TtoA	0.1	0.1111	2	2	[10,18]
chr2:61329192	USP34	coding_exon	ENST00000263989:YtoN;ENST00000398569:YtoN;ENST00000398571:YtoN;ENST00000398571:YtoN;	-	TtoA	0.1053	0.2	2	2	[10,19]
chr2:61460860	USP34	coding_exon	ENST00000263989:YtoC;ENST00000398569:YtoC;ENST00000398571:YtoC;ENST00000398571:YtoC;	-	AtoG	0.1	0.1	2	2	[10,10]
chr2:61307751	USP34	coding_exon	ENST00000263989:MtoK;ENST00000398569:MtoK;ENST00000398571:MtoK;ENST00000398571:MtoK;	-	TtoA	0.1	0.1	3	2	[10,10]
chr2:61271269	USP34	coding_exon	ENST00000263989:LtoH;ENST00000398569:LtoH;ENST00000398571:LtoH;ENST00000398571:LtoH;	-	TtoA	0.1	0.1111	2	2	[10,18]
chr2:61284927	USP34	coding_exon	ENST00000263989:CtoR;ENST00000398569:CtoR;ENST00000398571:CtoR;ENST00000398571:CtoR;	-	TtoC	0.125	0.1333	4	2	[15,16]
chr2:61269637	USP34	coding_exon		-	TtoC	0.1	0.1	4	2	[10,20]
chr11:77598785	USP35	coding_exon	ENST00000263311:IttoV;ENST00000441408:IttoV;	+	AtoG	0.1	0.2	2	2	[10,10]
chr17:74310156	USP36	coding_exon	ENST00000312010:KtoR;ENST00000449938:KtoR;	-	AtoG	0.1	0.2857	5	5	[10,17]
chr17:74321540	USP36	coding_exon	ENST00000312010:GtoV;ENST00000449938:GtoV;	-	GtoT	0.1	0.1	2	2	[10,10]
chr4:144360913	USP38	coding_exon	ENST00000307017:AtoS;	+	GtoT	0.1	0.125	4	2	[10,16]
chr4:144360912	USP38	coding_exon		+	TtoC	0.1	0.1538	3	2	[10,13]
chr4:144361071	USP38	UTR3		+	TtoC	0.1	0.1	3	2	[10,10]
chr2:85689195	USP39	mixed		+	CtoT	0.1	0.125	4	2	[16,20]
chr3:49310394	USP4	coding_exon	ENST00000265560:VtoA;ENST00000351842:VtoA;	-	TtoC	0.1	0.2	7	3	[17,25]
chr3:49347937	USP4	coding_exon		-	TtoC	0.125	0.1333	3	2	[15,24]
chr3:49290593	USP4	UTR3		-	CtoA	0.2727	0.3077	3	2	[11,13]
chr3:49290596	USP4	UTR3		-	AtoG	0.1	0.1429	3	2	[10,14]
chr11:11921087	USP47	coding_exon		+	GtoA	0.1111	0.1765	5	3	[17,18]
chr1:21878313	USP48	UTR3		-	GtoC	0.1053	0.125	2	2	[16,19]
chr1:21878317	USP48	UTR3		-	TtoA	0.1111	0.1176	3	2	[17,18]
chr10:11563873	USP6NL	coding_exon	ENST00000277575:LtoP;ENST00000379237:LtoP;	-	TtoC	0.1	0.1429	2	2	[10,14]
chr10:11544797	USP6NL	coding_exon		-	CtoA	0.1	0.1333	3	2	[10,15]
chr10:11543644	USP6NL	UTR3		-	CtoA	0.1	0.1	2	2	[10,10]
chr16:8893522	USP7	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr15:48538595	USP8	coding_exon	ENST00000307179:TtoA;ENST00000396444:TtoA;ENST00000425032:TtoA;ENST00000425032:TtoA;	+	AtoG	0.1	0.1053	3	2	[10,19]
chr15:48575461	USP8	coding_exon	ENST00000307179:GtoV;ENST00000396444:GtoV;ENST00000425032:GtoV;ENST00000425032:GtoV;	+	GtoT	0.2	0.2	2	2	[10,10]
chr15:48578726	USP8	UTR3		+	TtoC	0.1111	0.1538	2	2	[13,18]
chr15:48579099	USP8	UTR3		+	AtoC	0.1	0.125	2	2	[10,16]
chr5:72900123	UTP15	coding_exon		+	TtoC	0.1	0.1111	2	2	[10,18]
chr12:100235527	UTP20	coding_exon	ENST00000261637:QtoR;	+	AtoG	0.1538	0.2	2	2	[10,14]
chr12:100303985	UTP20	coding_exon	ENST00000261637:KtoE;	+	AtoG	0.1	0.1	2	2	[10,10]
chr8:117853115	UTP23	coding_exon		+	TtoC	0.1538	0.1538	2	2	[13,13]
chr4:7174729	UTP3	mixed		+	TtoA	0.1	0.2222	2	2	[10,10]
chr6:144853857	UTRN	coding_exon	ENST00000367545:KtoE;	+	AtoG	0.1	0.1	2	2	[10,10]
chr6:145213839	UTRN	UTR3		+	GtoA	0.1	0.125	2	2	[10,16]
chr11:75531073	UVRAG	UTR3		+	TtoC	0.4038	0.5435	3	3	[41,53]
chr11:75531161	UVRAG	UTR3		+	AtoG	0.1	0.125	4	2	[10,16]
chr11:75531210	UVRAG	UTR3		+	AtoG	0.1154	0.1765	2	2	[18,26]
chr2:106076917	UXS1	coding_exon	ENST00000283148:StoR;ENST00000409032:StoR;ENST00000409501:StoR;	-	CtoA	0.1	0.1176	4	2	[10,17]
chr2:106076273	UXS1	UTR3		-	GtoA	0.1	0.1176	4	2	[10,17]
chr16:69288661	VAC14	coding_exon	ENST00000261776:EtoK;	-	GtoA	0.1	0.1	3	2	[10,10]
chr12:6443526	VAMP1	mixed		-	TtoG	0.1333	0.1765	6	2	[15,17]
chr12:6441902	VAMP1	UTR3		-	TtoC	0.1	0.1333	5	3	[10,19]
chr17:8003892	VAMP2	UTR3		-	TtoA	0.1	0.1053	3	2	[10,19]
chr17:7763942	VAMP3	UTR3		+	TtoC	0.1	0.1	3	2	[10,10]

chr2:85662660	VAMP8	UTR3		+	TtoC	0.1	0.3	6	3	[10,16]
chr18:9944453	VAPA	UTR3		+	TtoC	0.1	0.1333	7	3	[10,16]
chr18:9946548	VAPA	UTR3		+	AtoG	0.1	0.1	3	2	[10,10]
chr20:56453317	VAP8	UTR3		+	AtoG	0.1	0.1667	2	2	[10,12]
chr6:31855000	VARS	mixed		-	TtoG	0.1154	0.1333	2	2	[30,52]
chr6:31853295	VARS	UTR3		-	AtoG	0.1429	0.2	6	2	[15,28]
chr1:211201216	VASH2	mixed		+	TtoA	0.1	0.125	3	2	[10,16]
chr1:211229083	VASH2	UTR3		+	AtoT	0.1	0.1	2	2	[10,10]
chr1:211230888	VASH2	UTR3		+	CtoA	0.1429	0.1818	2	2	[11,14]
chr17:38421074	VAT1	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr17:38421078	VAT1	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr19:6808303	VAV1	UTR3		+	AtoG	0.1	0.1176	5	2	[17,20]
chr10:75548065	VCL	UTR3		+	GtoA	0.1538	0.2	3	2	[10,13]
chr10:75548070	VCL	UTR3		+	CtoG	0.1	0.1818	2	2	[10,11]
chr10:75548345	VCL	UTR3		+	AtoG	0.1	0.1111	3	3	[10,18]
chr9:35046558	VCP	UTR3		-	CtoA	0.1111	0.375	8	4	[11,18]
chr9:35046559	VCP	UTR3		-	GtoA	0.1613	0.4762	13	10	[15,31]
chr5:133335505	VDAC1	UTR3		-	AtoG	0.2222	0.4545	2	2	[10,11]
chr5:133335507	VDAC1	UTR3		-	TtoC	0.1481	0.2	2	2	[15,28]
chr10:76661042	VDAC2	UTR3		+	CtoA	0.1071	0.25	13	8	[12,29]
chr12:46523451	VDR	UTR3		-	TtoC	0.1	0.1	2	2	[10,10]
chr6:43861518	VEGFA	UTR3		+	TtoC	0.1429	0.1429	2	2	[14,14]
chr17:53414251	VEZF1	coding_exon		-	AtoG	0.1	0.1	2	2	[10,10]
chr12:94200455	VEZT	coding_exon	ENST00000261219:QtoR;ENST00000397792:QtoR;ENST00000397796:QtoR;ENST00000397797:QtoR	+	AtoG	0.1333	0.1667	4	2	[12,15]
chr3:11574200	VGLL4	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr3:11574486	VGLL4	UTR3		-	AtoG	0.1053	0.1333	4	2	[15,19]
chr3:10167484	VHL	UTR3		+	AtoG	0.1538	0.1818	2	2	[11,13]
chr6:159106766	VIL2	UTR3		-	GtoA	0.1667	0.4375	5	5	[12,19]
chr6:159106767	VIL2	UTR3		-	CtoA	0.1818	0.6	11	9	[10,19]
chr6:159106768	VIL2	UTR3		-	AtoG	0.1333	0.25	14	9	[12,24]
chr6:159106938	VIL2	UTR3		-	TtoA	0.102	0.1207	6	2	[49,58]
chr6:159106946	VIL2	UTR3		-	TtoG	0.102	0.1613	4	3	[31,49]
chr6:159107351	VIL2	UTR3		-	AtoG	0.1034	0.1579	8	2	[19,29]
chr6:159107353	VIL2	UTR3		-	AtoG	0.1132	0.1607	17	8	[48,161]
chr6:159107865	VIL2	UTR3		-	CtoT	0.125	0.44	7	6	[21,40]
chr6:159107869	VIL2	UTR3		-	GtoT	0.3256	0.4286	3	3	[16,43]
chr7:65058004	VKORC1L1	UTR3		+	TtoA	0.1	0.1	2	2	[10,10]
chr6:133115319	VNN2	coding_exon	ENST00000326499:TtoR;ENST00000335846:TtoR;ENST00000392389:TtoR;	-	CtoG	0.1	0.1	2	2	[10,10]
chr6:133112676	VNN2	mixed		-	AtoG	0.1	0.1333	2	2	[10,15]
chr22:22425173	VPREB3	coding_exon	ENST00000248948:StoP;ENST00000398465:StoP;	-	TtoC	0.125	0.2	3	2	[15,16]
chr11:118449156	VPS11	mixed		+	AtoT	0.1	0.1	4	2	[10,10]
chr9:79175641	VPS13A	coding_exon	ENST00000355766:IttoV;ENST00000357409:IttoV;ENST00000360280:IttoV;ENST00000360281:IttoV	+	AtoG	0.1333	0.1429	3	2	[14,15]
chr9:79148957	VPS13A	coding_exon		+	TtoC	0.1333	0.1667	2	2	[12,15]
chr9:79221924	VPS13A	UTR3		+	TtoA	0.1111	0.1538	2	2	[13,18]
chr15:59935848	VPS13C	coding_exon	ENST00000249837:WtoR;ENST00000261517:WtoR;	-	TtoC	0.1111	0.1333	6	2	[16,19]
chr15:59963741	VPS13C	coding_exon	ENST00000249837:VtoM;ENST00000261517:VtoM;ENST00000395898:VtoM;	-	GtoA	0.1	0.1818	3	2	[10,11]
chr1:12382911	VPS13D	coding_exon		+	CtoG	0.1	0.1	2	2	[10,10]
chr20:2790498	VPS16A	coding_exon	ENST00000380445:VtoA;	+	TtoC	0.1	0.1154	4	2	[10,26]
chr15:38982702	VPS18	coding_exon	ENST00000220509:QtoH;	+	GtoT	0.1	0.1538	2	2	[10,13]
chr15:38974338	VPS18	coding_exon	ENST00000220509:IttoT;	+	TtoC	0.1	0.1	2	2	[10,10]
chr15:38983228	VPS18	UTR3		+	TtoC	0.1	0.1053	4	2	[10,19]
chr2:86585374	VPS24	UTR3		-	CtoG	0.1	0.1	3	2	[10,10]
chr10:70592265	VPS26A	coding_exon	ENST00000263559:TtoS;ENST00000373382:TtoS;ENST00000395098:TtoS;	+	AtoT	0.1	0.1538	2	2	[10,13]
chr10:70601993	VPS26A	UTR3		+	TtoA	0.1	0.1	6	2	[10,10]
chr10:70602196	VPS26A	UTR3		+	TtoA	0.1053	0.1538	3	2	[13,19]
chr10:70602468	VPS26A	UTR3		+	TtoA	0.1	0.2308	12	3	[10,13]
chr11:133620758	VPS26B	UTR3		+	TtoG	0.1	0.1	3	2	[10,10]
chr8:145619817	VPS28	UTR3		-	TtoC	0.1	0.2	7	5	[15,81]
chr15:89358076	VPS33B	coding_exon	ENST00000333371:Rto*;	-	CtoT	0.1	0.1	2	2	[10,10]
chr15:89350915	VPS33B	coding_exon	ENST00000333371:LtoR;	-	TtoG	0.1	0.1	5	2	[10,10]
chr15:89352198	VPS33B	coding_exon	ENST00000333371:DtoG;	-	AtoG	0.1	0.1053	2	2	[10,19]
chr16:45249577	VPS35	UTR3		-	TtoC	0.1	0.1429	2	2	[10,14]
chr13:51886706	VPS36	UTR3		-	AtoC	0.1	0.1	2	2	[10,10]
chr11:60654544	VPS37C	UTR3		-	GtoT	0.1	0.1	2	2	[10,10]
chr15:40264099	VPS39	coding_exon	ENST00000318006:VtoG;ENST00000348544:VtoG;	-	TtoG	0.1667	0.2	5	3	[11,20]
chr15:40257947	VPS39	coding_exon	ENST00000318006:StoP;ENST00000348544:StoP;	-	TtoC	0.1	0.1	2	2	[10,30]
chr15:40257770	VPS39	coding_exon	ENST00000318006:MtoL;ENST00000348544:MtoL;	-	AtoT	0.1	0.1667	2	2	[10,12]
chr15:40245254	VPS39	coding_exon	ENST00000318006:LtoP;ENST00000348544:LtoP;	-	TtoC	0.1053	0.1333	2	2	[15,19]
chr15:40238205	VPS39	UTR3		-	AtoG	0.1	0.2	2	2	[10,10]
chr15:40240051	VPS39	UTR3		-	AtoG	0.1	0.2	3	2	[10,10]
chr15:40240191	VPS39	UTR3		-	TtoG	0.1071	0.1111	4	2	[18,28]
chr7:38732163	VPS41	UTR3		-	GtoA	0.1	0.1	4	2	[10,20]
chr1:148349275	VPS45	coding_exon	ENST00000369130:YtoN;	+	TtoA	0.1	0.1	3	2	[10,10]
chr1:148307414	VPS45	coding_exon	ENST00000369130:LtoR;	+	TtoG	0.1	0.1	3	2	[10,10]
chr17:451863	VPS53	mixed		-	AtoG	0.1176	0.1333	2	2	[15,17]
chr17:368529	VPS53	UTR3		-	AtoG	0.1	0.2	7	3	[10,10]
chr2:58240005	VRK2	coding_exon	ENST00000340157:RtoS;ENST00000412104:RtoS;ENST00000423109:RtoS;ENST00000423110:RtoS;	+	AtoT	0.1053	0.125	4	2	[19,24]
chr2:58169009	VRK2	coding_exon	ENST00000340157:GtoV;ENST00000394539:GtoV;ENST00000412104:GtoV;ENST00000423110:GtoV;	+	GtoT	0.1	0.1	2	2	[10,10]
chr2:58240371	VRK2	UTR3		+	TtoC	0.1333	0.1538	5	2	[14,16]
chr19:55215713	VRK3	UTR5		-	GtoT	0.1	0.1	3	2	[10,11]
chr6:142529113	VTA1	coding_exon		+	TtoC	0.1176	0.1429	5	2	[17,21]
chr6:142581753	VTA1	UTR3		+	AtoG	0.1	0.1	3	2	[10,20]
chr6:142582297	VTA1	UTR3		+	TtoC	0.1	0.1538	5	3	[10,13]
chr10:114566744	VTI1A	UTR3		+	GtoA	0.4167	0.4706	3	2	[12,17]
chr11:60783195	VWCE	coding_exon	ENST00000301770:LtoP;ENST00000335613:LtoP;	-	TtoC	0.1176	0.1818	2	2	[11,17]
chr10:28919740	WAC	coding_exon	ENST00000347934:TtoP;ENST00000354911:TtoP;ENST00000375646:TtoP;ENST00000375647:TtoP;	+	AtoC	0.1	0.1622	5	4	[20,41]
chr10:28948876	WAC	UTR3		+	TtoC	0.1	0.25	4	3	[10,18]
chr10:88249736	WAPAL	mixed		-	CtoA	0.1	0.1	2	2	[10,10]
chr10:88250260	WAPAL	mixed		-	TtoA	0.1	0.1667	4	2	[10,18]
chr10:88186996	WAPAL	UTR3		-	TtoC	0.1	0.125	6	3	[10,18]
chr14:99869879	WARS	UTR3		-	CtoA	0.1818	0.5	8	8	[10,16]
chr14:99870601	WARS	UTR3		-	AtoG	0.1042	0.122	9	2	[41,97]
chr1:119420524	WARS2	coding_exon	ENST00000235521:EttoG;ENST00000369426:EttoG;	-	AtoG	0.1	0.2727	3	2	[10,12]
chr1:119377362	WARS2	mixed		-	TtoC	0.1053	0.1304	3	2	[19,23]
chr1:119376964	WARS2	UTR3		-	TtoC	0.1	0.1667	2	2	[10,12]
chr2:74541517	WBP1	UTR3		+	GtoA	0.1	0.125	4	2	[10,16]

chr12:14835457	WBP11	coding_exon	ENST00000261167:FtoV;	-	TtoG	0.1	0.125	9	2	[10,17]
chr13:40555106	WBP4	UTR3		+	AtoG	0.1	0.2143	4	2	[10,14]
chr7:72739087	WBSCR22	coding_exon	ENST00000265758:CtoW;ENST00000420399:CtoW;ENST00000423166:CtoW;ENST	+	TtoG	0.119	0.129	9	3	[32,43]
chr2:224455014	WDFY1	coding_exon	ENST00000233055:GtoE;ENST00000352510:GtoE;	-	GtoA	0.125	0.1875	3	2	[16,16]
chr2:224451226	WDFY1	UTR3		-	TtoG	0.1111	0.2143	3	3	[14,18]
chr13:51223550	WDFY2	coding_exon	ENST00000298125:EtoK;	+	GtoA	0.1429	0.3	4	2	[10,14]
chr10:49601539	WDFY4	mixed		+	TtoG	0.1	0.1	4	2	[10,10]
chr10:49563048	WDFY4	UTR5		+	TtoC	0.1	0.1111	2	2	[10,18]
chr14:54499297	WDHD1	coding_exon	ENST00000359167:Wto*;ENST00000360586:Wto*;ENST00000421192:Wto*;	-	GtoA	0.1053	0.125	2	2	[16,19]
chr14:54477941	WDHD1	UTR3		-	TtoC	0.1	0.2	4	2	[10,11]
chr19:945557	WDR18	UTR3		+	CtoA	0.16	0.1818	3	2	[11,25]
chr14:101745162	WDR20	coding_exon	ENST00000299135:HtoR;ENST00000335263:HtoR;ENST00000342702:HtoR;ENST00	+	AtoG	0.1	0.1	2	2	[10,10]
chr14:101745788	WDR20	coding_exon	ENST00000299135:Gto*;ENST00000335263:Gto*;ENST00000342702:Gto*;ENST00	+	GtoT	0.1	0.1429	2	2	[10,14]
chr14:23662253	WDR23	mixed		+	CtoA	0.1	0.2333	6	4	[35,70]
chr1:222688102	WDR26	mixed		-	TtoG	0.1429	0.1429	2	2	[14,14]
chr1:222643885	WDR26	UTR3		-	TtoG	0.1111	0.125	3	2	[10,16]
chr1:222643886	WDR26	UTR3		-	TtoC	0.1	0.125	3	2	[10,16]
chr1:118278808	WDR3	coding_exon	ENST00000349139:RtoG;	+	AtoG	0.1	0.1538	3	2	[10,13]
chr1:118286656	WDR3	coding_exon		+	CtoA	0.1429	0.2	6	2	[10,14]
chr9:37851913	WDR32	UTR3		+	GtoC	0.1	0.1	2	2	[10,10]
chr2:128198479	WDR33	coding_exon	ENST00000322313:KtoR;	-	AtoG	0.1	0.1818	2	2	[10,11]
chr2:128196772	WDR33	coding_exon	ENST00000322313:KtoE;	-	AtoG	0.1	0.1	2	2	[10,10]
chr2:128239019	WDR33	coding_exon	ENST00000322313:HtoL;ENST00000393006:HtoL;ENST00000409658:HtoL;	-	AtoT	0.125	0.25	4	2	[12,16]
chr2:128177554	WDR33	UTR3		-	AtoG	0.1	0.1	3	2	[10,10]
chr2:128180152	WDR33	UTR3		-	CtoA	0.1	0.2	3	2	[15,20]
chr2:20001014	WDR35	coding_exon		-	TtoG	0.1	0.1	3	2	[10,10]
chr10:1160194	WDR37	coding_exon	ENST00000263150:NtoK;ENST00000358220:NtoK;ENST00000416775:NtoK;	+	CtoA	0.1	0.1	2	2	[10,10]
chr10:1166263	WDR37	UTR3		+	CtoA	0.1	0.1	2	2	[10,10]
chr5:76772461	WDR41	mixed		-	AtoG	0.1111	0.1538	9	2	[10,13]
chr5:76764463	WDR41	UTR3		-	TtoA	0.1	0.1	3	2	[10,10]
chr1:158456474	WDR42A	coding_exon		-	AtoG	0.1	0.1	2	2	[10,10]
chr2:29011949	WDR43	coding_exon	ENST00000407426:LtoP;	+	TtoC	0.1	0.1429	2	2	[10,14]
chr2:28982886	WDR43	coding_exon	ENST00000407426:CtoW;	+	TtoG	0.1429	0.1818	3	2	[11,14]
chr2:29023563	WDR43	UTR3		+	GtoA	0.1	0.1667	2	2	[10,12]
chr3:39113029	WDR48	mixed		+	AtoG	0.1053	0.1176	2	2	[17,19]
chr3:39111685	WDR48	UTR3		+	TtoG	0.1	0.1	2	2	[10,10]
chr3:52155016	WDR51A	coding_exon	ENST00000296484:FtoV;ENST00000394970:FtoV;ENST00000474012:FtoV;	-	TtoG	0.1	0.125	3	2	[10,16]
chr3:52134187	WDR51A	coding_exon		-	TtoC	0.1	0.1	2	2	[10,10]
chr12:88373938	WDR51B	UTR3		-	GtoA	0.1	0.1538	2	2	[10,13]
chr16:73509347	WDR59	coding_exon	ENST00000262144:VtoG;	-	TtoG	0.1	0.1429	7	2	[31,35]
chr16:73515337	WDR59	coding_exon	ENST00000262144:KtoN;	-	GtoT	0.1	0.1	4	2	[10,10]
chr16:73495377	WDR59	coding_exon	ENST00000205064:VtoG;ENST00000262144:VtoG;	-	TtoG	0.125	0.1818	3	2	[11,16]
chr16:73479578	WDR59	coding_exon	ENST00000205064:HtoR;ENST00000262144:HtoR;	-	AtoG	0.1176	0.1333	6	2	[15,17]
chr3:49024505	WDR6	coding_exon		+	TtoG	0.1071	0.2105	4	2	[19,28]
chr7:158376784	WDR60	coding_exon	ENST00000407559:VtoG;	+	TtoG	0.1	0.1	2	2	[10,10]
chr5:37515706	WDR70	coding_exon	ENST00000265107:StoP;	+	TtoC	0.1	0.1667	3	2	[10,12]
chr5:37432309	WDR70	coding_exon		+	TtoA	0.1	0.1667	5	2	[10,13]
chr5:37788474	WDR70	UTR3		+	TtoC	0.1	0.1429	7	4	[10,14]
chr2:190048187	WDR75	coding_exon		+	TtoA	0.1053	0.125	5	3	[16,20]
chr15:41919191	WDR76	coding_exon		+	AtoC	0.1	0.1304	3	2	[10,23]
chr15:41921919	WDR76	coding_exon		+	TtoC	0.1	0.1111	4	2	[10,18]
chr17:1580933	WDR81	mixed		+	CtoA	0.1	0.1538	2	2	[10,13]
chr9:139578784	WDR85	coding_exon	ENST00000277540:HtoR;	-	AtoG	0.1	0.125	4	2	[17,21]
chr7:150705895	WDR86	mixed		-	AtoG	0.1	0.1111	6	3	[10,19]
chr14:63135679	WDR89	mixed		-	TtoA	0.1	0.2	2	2	[10,10]
chr16:656120	WDR90	coding_exon	ENST00000293879:TtoS;ENST00000315764:TtoS;	+	CtoG	0.1	0.1176	3	2	[10,17]
chr16:655684	WDR90	coding_exon	ENST00000293879:NtoS;ENST00000315764:NtoS;	+	AtoG	0.1	0.1818	3	3	[10,21]
chr7:134524638	WDR91	coding_exon	ENST00000326099:FtoS;ENST00000344400:FtoS;ENST00000354475:FtoS;ENST0000	-	TtoC	0.1154	0.1395	9	2	[43,78]
chr7:134524637	WDR91	coding_exon	ENST00000326099:FtoL;ENST00000344400:FtoL;ENST00000354475:FtoL;ENST0000	-	TtoA	0.1071	0.1628	8	4	[18,83]
chr7:134519530	WDR91	UTR3		-	TtoG	0.1053	0.1667	4	2	[12,19]
chr7:134519901	WDR91	UTR3		-	TtoC	0.1	0.125	2	2	[10,16]
chr2:68218038	WDR92	coding_exon	ENST00000295121:IttoK;ENST00000295122:IttoK;ENST00000406245:IttoK;ENST0000	-	TtoA	0.1	0.1667	4	3	[10,14]
chr2:159813262	WDSUB1	coding_exon		-	AtoT	0.1	0.1	2	2	[10,10]
chr1:27507299	WDTCT1	UTR3		+	TtoA	0.1	0.1	3	2	[10,11]
chr8:124517875	WDYHV1	coding_exon	ENST00000287387:DtoA;	+	AtoC	0.1	0.1	2	2	[10,20]
chr15:81296511	WHAMM	coding_exon	ENST00000234505:VtoG;ENST00000286760:VtoG;	+	TtoG	0.1	0.1	2	2	[10,10]
chr4:1952282	WHSC1	UTR3		+	TtoC	0.1	0.125	3	2	[10,16]
chr4:1953485	WHSC1	UTR3		+	TtoA	0.1	0.125	4	2	[10,16]
chr4:1954266	WHSC2	UTR3		-	TtoC	0.125	0.2	4	3	[10,19]
chr12:54581816	WIBG	UTR3		-	TtoG	0.1143	0.7	2	2	[11,35]
chr17:35688016	WIPF2	UTR3		+	TtoC	0.1	0.1818	3	2	[10,11]
chr17:35688392	WIPF2	UTR3		+	GtoA	0.1	0.1	3	2	[10,10]
chr17:35689265	WIPF2	UTR3		+	AtoG	0.1	0.1176	6	2	[10,18]
chr17:35689823	WIPF2	UTR3		+	TtoG	0.1	0.1111	3	2	[10,18]
chr17:35691004	WIPF2	UTR3		+	TtoC	0.1	0.1818	2	2	[10,11]
chr7:5237210	WIPI2	UTR3		+	AtoG	0.1053	0.1579	6	3	[13,19]
chr7:5237212	WIPI2	UTR3		+	AtoG	0.1333	0.1429	3	2	[15,15]
chr7:5237330	WIPI2	UTR3		+	TtoC	0.1111	0.1111	3	2	[10,18]
chr12:860397	WNK1	coding_exon	ENST00000315939:TtoA;ENST00000340908:TtoA;	+	AtoG	0.1	0.1	2	2	[10,10]
chr12:793097	WNK1	coding_exon	ENST00000252477:QtoR;ENST00000315939:QtoR;ENST00000447667:QtoR;	+	AtoG	0.1053	0.125	5	2	[16,19]
chr12:733498	WNK1	coding_exon	ENST00000252477:PtoR;ENST00000315939:PtoR;ENST00000447667:PtoR;	+	CtoG	0.1111	0.2	2	2	[10,19]
chr12:850692	WNK1	coding_exon	ENST00000252477:AttoP;ENST00000315939:AttoP;ENST00000340908:AttoP;	+	GtoC	0.1538	0.1905	5	2	[13,21]
chr12:861482	WNK1	coding_exon		+	AtoG	0.1304	0.1818	8	3	[11,23]
chr12:888267	WNK1	UTR3		+	TtoC	0.1	0.1818	4	2	[12,20]
chr12:888667	WNK1	UTR3		+	AtoC	0.1111	0.1333	2	2	[15,27]
chr12:889253	WNK1	UTR3		+	TtoC	0.5333	0.6667	3	3	[18,43]
chr17:7546837	WRAP53	coding_exon	ENST00000316024:StoP;ENST00000396463:StoP;ENST00000431639:StoP;ENST0000	+	TtoC	0.1176	0.1667	3	2	[12,17]
chr21:39685572	WRB	coding_exon		+	TtoC	0.1	0.1053	6	2	[10,38]
chr8:31144228	WRN	coding_exon		+	TtoC	0.1	0.2	2	2	[10,25]
chr6:2730716	WRNIP1	UTR3		+	TtoC	0.1	0.2	4	2	[20,40]
chr17:22664527	WSB1	UTR3		+	TtoC	0.1111	0.1667	3	2	[18,27]
chr12:116955128	WSB2	UTR3		-	CtoG	0.1	0.1429	2	2	[10,14]
chr12:116955130	WSB2	UTR3		-	TtoG	0.1333	0.1875	2	2	[15,16]
chr12:116956005	WSB2	UTR3		-	TtoC	0.1071	0.1333	2	2	[15,30]
chr6:160097091	WTAP	UTR3		+	TtoA	0.1	0.1818	4	2	[10,11]
chr16:68479460	WWP2	coding_exon	ENST00000356003:TtoP;ENST00000359154:TtoP;ENST00000448661:TtoP;	+	AtoC	0.1	0.2143	3	3	[10,16]

chr16:68500214	WWP2	coding_exon	ENST00000356003:NtoD;ENST00000359154:NtoD;ENST00000448661:NtoD;	+	AtoG	0.1	0.1429	2	2	[10,14]
chr17:6604641	XAF1	coding_exon	ENST00000346752:KtoE;ENST00000348844:KtoE;ENST00000361842:KtoE;ENST00000361842:KtoE;	+	AtoG	0.1	0.1429	5	2	[10,14]
chr17:6617325	XAF1	UTR3		+	TtoG	0.1	0.1667	5	2	[10,12]
chr22:27520547	XBP1	UTR3		-	GtoA	0.1304	0.1333	2	2	[15,23]
chr3:14172876	XPC	mixed		-	GtoC	0.2	0.3077	3	3	[10,14]
chr3:14175116	XPC	mixed		-	TtoG	0.125	0.1333	5	2	[15,16]
chr10:111630641	XPMPF1	coding_exon		-	CtoT	0.4375	0.7083	2	2	[24,32]
chr2:61573087	XPO1	coding_exon	ENST00000195419:KtoE;ENST00000401558:KtoE;ENST00000403576:KtoE;ENST00000403576:KtoE;	-	AtoG	0.1053	0.1333	7	2	[15,19]
chr2:61582645	XPO1	coding_exon	ENST00000195419:IttoT;ENST00000401558:IttoT;ENST00000403576:IttoT;ENST00000403576:IttoT;	-	TtoC	0.1	0.1111	4	2	[10,18]
chr2:61618424	XPO1	UTR5		-	GtoT	0.1	0.1875	6	3	[10,18]
chr13:20271447	XPO4	coding_exon	ENST00000255305:WtoR;ENST00000400602:WtoR;	-	TtoC	0.1429	0.1667	2	2	[12,14]
chr8:21919093	XPO7	UTR3		+	AtoG	0.1111	0.1579	10	4	[19,23]
chr12:63128326	XPOT	UTR3		+	TtoC	0.1	0.1667	5	4	[12,20]
chr12:63128436	XPOT	UTR3		+	TtoC	0.1	0.1429	2	2	[10,14]
chr12:63128641	XPOT	UTR3		+	AtoG	0.1	0.1667	3	2	[12,20]
chr1:179606619	XPR1	coding_exon	ENST00000367589:GtoC;ENST00000367590:GtoC;	+	GtoT	0.1	0.1	2	2	[10,10]
chr1:179120874	XPR1	UTR3		+	TtoG	0.1	0.1	2	2	[10,10]
chr1:179121495	XPR1	UTR3		+	GtoT	0.1	0.1	2	2	[10,10]
chr14:103243262	XRCC3	coding_exon	ENST00000352127:HtoQ;ENST00000440302:HtoQ;ENST00000445556:HtoQ;	-	CtoA	0.1	0.1176	2	2	[10,17]
chr2:216778386	XRCC5	UTR3		+	AtoG	0.1176	0.2	12	4	[14,17]
chr2:216779239	XRCC5	UTR3		+	TtoA	0.1667	0.2308	8	3	[13,18]
chr2:216682334	XRCC5	UTR5		+	AtoT	0.1	0.1667	3	2	[10,12]
chr2:40389974	XRCC6	UTR3		+	CtoA	0.1034	0.2903	10	7	[27,46]
chr2:40389975	XRCC6	UTR3		+	CtoT	0.1071	0.2	8	6	[17,36]
chr3:143513340	XRN1	coding_exon		-	TtoA	0.1	0.1	3	2	[10,10]
chr11:74230144	XRRA1	UTR3		-	TtoA	0.1	0.1	3	2	[10,10]
chr17:45793483	XYLT2	UTR3		+	AtoG	0.1	0.1667	2	2	[10,12]
chr1:42935014	YBX1	coding_exon	ENST00000318612:NtoD;ENST00000321358:NtoD;	+	AtoG	0.101	0.1011	11	2	[89,107]
chr1:42935447	YBX1	coding_exon	ENST00000318612:NtoD;ENST00000321358:NtoD;	+	AtoG	0.1	0.2308	4	2	[10,13]
chr1:42935438	YBX1	coding_exon	ENST00000318612:GtoS;ENST00000321358:GtoS;	+	GtoA	0.1111	0.1282	13	4	[27,67]
chr1:42935491	YBX1	coding_exon	ENST00000318612:CtoY;ENST00000321358:MtoI;	+	GtoA	0.1	0.2727	8	5	[10,12]
chr1:42935442	YBX1	coding_exon	ENST00000318612:AtoD;ENST00000321358:AtoD;	+	CtoA	0.1	0.3077	9	5	[10,26]
chr1:42935443	YBX1	coding_exon		+	TtoA	0.1176	0.1667	11	3	[13,17]
chr22:20312408	YDJC	UTR3		-	TtoA	0.1	0.3158	4	2	[10,20]
chr3:184952733	YEATS2	coding_exon	ENST00000305135:KtoT;ENST00000421660:KtoT;	+	AtoC	0.1111	0.2	7	3	[10,18]
chr3:184952732	YEATS2	coding_exon	ENST00000305135:KtoE;ENST00000421660:KtoE;	+	AtoG	0.1	0.1333	3	2	[10,15]
chr3:184986627	YEATS2	coding_exon		+	AtoG	0.1	0.1429	4	2	[10,14]
chr18:746699	YES1	coding_exon		-	GtoA	0.1818	1	7	6	[11,31]
chr19:43487887	YIF1B	mixed		-	TtoG	0.12	0.125	4	2	[24,26]
chr19:43487598	YIF1B	UTR3		-	AtoG	0.1	0.1429	5	3	[10,16]
chr2:32386216	YIPF4	UTR3		+	GtoT	0.1	0.1	2	2	[10,10]
chr5:143525295	YIPF5	coding_exon	ENST00000274496:QtoH;ENST00000377986:QtoH;ENST00000448443:QtoH;	-	AtoC	0.1053	0.1176	2	2	[17,19]
chr5:143519163	YIPF5	mixed		-	TtoC	0.1	0.1667	2	2	[10,12]
chr5:143519949	YIPF5	mixed		-	TtoA	0.125	0.1818	2	2	[11,16]
chr7:44218718	YKT6	UTR3		+	TtoG	0.1667	0.2	2	2	[16,18]
chr7:44220123	YKT6	UTR3		+	CtoG	0.5319	0.5714	2	2	[47,98]
chr14:74318071	YLPM1	coding_exon		+	TtoC	0.1	0.1667	2	2	[10,12]
chr1:38041920	YRDC	UTR3		-	CtoG	0.1	0.1	2	2	[11,11]
chr4:68862400	YTHDC1	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr4:68862406	YTHDC1	UTR3		-	TtoG	0.1	0.1	8	2	[10,22]
chr5:112954796	YTHDC2	coding_exon	ENST00000161863:IttoV;	+	AtoG	0.1667	0.1765	4	2	[12,17]
chr20:61297592	YTHDF1	UTR3		-	AtoG	0.1176	0.1429	5	3	[14,17]
chr20:61298365	YTHDF1	UTR3		-	CtoG	0.1	0.1333	3	2	[10,15]
chr20:61298366	YTHDF1	UTR3		-	CtoA	0.1	0.1333	3	2	[10,15]
chr17:1195095	YWHAE	UTR3		-	AtoG	0.1275	0.1364	11	2	[45,102]
chr17:1195352	YWHAE	UTR3		-	GtoT	0.15	0.3793	6	6	[14,40]
chr17:1195353	YWHAE	UTR3		-	GtoT	0.1	0.2083	8	5	[10,28]
chr7:75794539	YWHAG	UTR3		-	TtoC	0.1	0.1429	2	2	[10,14]
chr22:30683342	YWHAH	UTR3		+	AtoG	0.1429	0.1818	6	2	[11,21]
chr14:99814191	YY1	UTR3		+	AtoG	0.1111	0.1875	7	3	[11,18]
chr14:99817006	YY1	UTR3		+	TtoA	0.1	0.1333	3	2	[10,15]
chr22:36381969	Z83844.4	mixed		-	AtoT	0.1176	0.1364	8	2	[17,23]
chr20:43140205	Z93016.1	mixed		+	AtoG	0.2	0.2	2	2	[10,11]
chr20:43140622	Z93016.1	mixed		+	CtoT	0.1	0.1053	3	2	[10,19]
chr6:34360625	Z98036.1	mixed		+	AtoG	0.1	0.1	2	2	[10,10]
chr14:64058309	ZBTB1	coding_exon	ENST00000358738:CtoS;	+	TtoA	0.1	0.1053	2	2	[10,19]
chr14:64058968	ZBTB1	coding_exon		+	AtoG	0.1	0.1333	4	3	[10,15]
chr6:151727342	ZBTB2	UTR3		-	AtoG	0.1	0.2	6	2	[10,10]
chr6:33390372	ZBTB2	UTR3		-	AtoG	0.1	0.2	4	2	[10,10]
chr14:64026892	ZBTB25	coding_exon	ENST00000261683:HtoR;ENST00000394715:HtoR;	-	AtoG	0.1538	0.1667	4	2	[12,14]
chr14:64024018	ZBTB25	coding_exon		-	CtoG	0.1	0.1	2	2	[10,10]
chr19:40898247	ZBTB32	coding_exon	ENST00000262630:QtoH;ENST00000392197:QtoH;	+	GtoC	0.1	0.1333	8	3	[15,57]
chr19:40898744	ZBTB32	coding_exon	ENST00000262630:HtoP;ENST00000392197:HtoP;	+	AtoC	0.1053	0.1707	4	2	[19,41]
chr19:40898882	ZBTB32	coding_exon		+	GtoT	1	1	13	13	[21,136]
chr3:142647519	ZBTB38	coding_exon	ENST00000441582:IttoN;	+	TtoA	0.1	0.1	2	2	[10,10]
chr3:142647514	ZBTB38	coding_exon		+	AtoG	0.1176	0.3	8	3	[10,17]
chr3:142648706	ZBTB38	mixed		+	CtoT	0.1	0.1	3	2	[10,10]
chr17:7303719	ZBTB4	UTR3		-	TtoC	0.1667	0.2	4	2	[11,12]
chr17:7305208	ZBTB4	UTR3		-	TtoC	0.1	0.1	5	2	[10,10]
chr17:7305735	ZBTB4	UTR3		-	AtoG	0.1176	0.2143	2	2	[14,17]
chr1:22701478	ZBTB40	coding_exon	ENST00000375647:LtoP;ENST00000404138:LtoP;	+	TtoC	0.1	0.1	2	2	[10,10]
chr11:129614934	ZBTB44	coding_exon		-	TtoC	0.1	0.1667	2	2	[10,12]
chr11:129606810	ZBTB44	UTR3		-	TtoC	0.1	0.1667	2	2	[10,12]
chr1:6571666	ZBTB48	coding_exon	ENST00000377674:VtoA;	+	TtoC	0.1053	0.3	2	2	[10,19]
chr1:6570948	ZBTB48	coding_exon	ENST00000377674:TtoA;	+	AtoG	0.1	0.1	2	2	[10,10]
chr9:37429528	ZBTB5	mixed		-	TtoG	0.1	0.1	2	2	[10,10]
chr19:3997533	ZBTB7A	UTR3		-	GtoA	0.1	0.1364	6	2	[10,22]
chr1:32872237	ZBTB80S	coding_exon	ENST00000373501:LtoP;ENST00000468695:LtoP;	-	TtoC	0.1333	0.1818	5	2	[11,16]
chr1:32888721	ZBTB80S	mixed		-	AtoT	0.1	0.1	2	2	[10,10]
chr1:202083159	ZC3H11A	coding_exon	ENST00000332127:QtoK;ENST00000367210:QtoK;ENST00000367212:QtoK;ENST00000367212:QtoK;	+	CtoA	0.1111	0.1538	5	2	[13,18]
chr1:202032052	ZC3H11A	UTR5		+	TtoA	0.1	0.1667	3	2	[10,12]
chr1:202032061	ZC3H11A	UTR5		+	GtoT	0.1	0.1	2	2	[10,10]
chr6:149811911	ZC3H12D	UTR3		-	AtoG	0.1	0.3333	5	5	[10,18]
chr6:149813084	ZC3H12D	UTR3		-	TtoA	0.1	0.1667	3	2	[10,12]
chr14:88109084	ZC3H14	coding_exon	ENST00000251038:StoP;ENST00000302216:StoP;ENST00000336693:StoP;ENST00000336693:StoP;	+	TtoC	0.1	0.1	4	2	[10,10]
chr2:187077158	ZC3H15	coding_exon	ENST00000337859:IttoS;	+	TtoG	0.1071	0.1818	3	3	[11,29]

chr8:144691720	ZC3H3	coding_exon		-	TtoC	0.1	0.1667	2	2	[10,12]
chr19:52259453	ZC3H4	UTR3		-	TtoC	0.1	0.1333	3	2	[10,15]
chr19:52259871	ZC3H4	UTR3		-	TtoC	0.1	0.1429	2	2	[10,14]
chr16:11768835	ZC3H7A	coding_exon	ENST00000355758:Wto*;ENST00000396516:Wto*;	-	GtoA	0.1111	0.1579	3	2	[18,19]
chr16:11766917	ZC3H7A	coding_exon	ENST00000355758:NtoD;ENST00000396516:NtoD;	-	AtoG	0.1	0.1463	5	2	[41,50]
chr16:11764908	ZC3H7A	coding_exon	ENST00000355758:CtoW;ENST00000396516:CtoW;	-	TtoG	0.1026	0.1282	3	2	[39,39]
chr16:11772207	ZC3H7A	coding_exon		-	TtoA	0.1	0.125	3	2	[10,16]
chr16:11752319	ZC3H7A	UTR3		-	AtoG	0.1333	0.1875	9	2	[16,16]
chr16:11752668	ZC3H7A	UTR3		-	TtoC	0.1111	0.1818	5	2	[18,22]
chr22:40072086	ZC3H7B	coding_exon		+	TtoG	0.1	0.2308	3	2	[10,13]
chr7:138414923	ZC3HAV1	coding_exon	ENST00000242351:VtoA;ENST00000464606:VtoA;ENST00000471652:VtoA;	-	TtoC	0.1	0.1	2	2	[10,10]
chr1:52684260	ZCCHC11	coding_exon		-	TtoG	0.1	0.1429	3	2	[10,14]
chr18:58396140	ZCCHC2	UTR3		+	TtoC	0.1	0.1333	2	2	[10,15]
chr9:88128231	ZCCHC6	coding_exon	ENST00000277141:KtoE;ENST00000375960:KtoE;ENST00000375961:KtoE;ENST000	-	AtoG	0.1	0.1429	2	2	[10,14]
chr9:37344748	ZCCHC7	coding_exon		+	TtoC	0.1667	0.1818	4	2	[11,12]
chr12:121524058	ZCCHC8	coding_exon	ENST00000336229:IttoK;	-	TtoA	0.1333	0.1818	3	2	[11,15]
chr12:121528402	ZCCHC8	coding_exon		-	AtoG	0.1	0.1818	3	2	[10,11]
chr12:121532062	ZCCHC8	coding_exon		-	TtoA	0.1	0.1	3	2	[10,10]
chr12:121523769	ZCCHC8	UTR3		-	TtoG	0.1	0.1	2	2	[10,10]
chr5:80644197	ZCCHC9	coding_exon	ENST00000254037:QtoR;ENST00000380199:QtoR;ENST00000407610:QtoR;ENST000	+	AtoG	0.1053	0.1667	6	4	[13,22]
chr5:80636504	ZCCHC9	coding_exon	ENST00000254037:HtoN;ENST00000380199:HtoN;ENST00000407610:HtoN;ENST000	+	CtoA	0.1	0.1818	2	2	[10,11]
chr5:80663686	ZCCHC9	coding_exon		+	AtoG	0.1176	0.45	2	2	[17,40]
chr5:80644368	ZCCHC9	UTR3		+	AtoG	0.1111	0.2222	10	4	[14,27]
chr1:27051883	ZDHHC18	coding_exon	ENST00000374141:YtoS;ENST00000374142:YtoS;	+	AtoC	0.1053	0.3	4	2	[30,38]
chr3:44943305	ZDHHC3	coding_exon		-	TtoG	0.1176	0.125	7	2	[16,18]
chr11:57222844	ZDHHC5	coding_exon	ENST00000287169:TtoP;	+	AtoC	0.1111	0.2	3	2	[10,18]
chr11:57196665	ZDHHC5	UTR5		+	TtoC	0.1	0.2	3	2	[10,10]
chr11:57196834	ZDHHC5	UTR5		+	TtoA	0.1	0.1	5	2	[10,21]
chr16:83566621	ZDHHC7	UTR3		-	TtoG	0.1	0.1	3	2	[10,11]
chr10:31850289	ZEB1	coding_exon	ENST00000320985:TtoP;ENST00000437844:TtoP;ENST00000446923:TtoP;	+	AtoC	0.1	0.1111	2	2	[10,10]
chr10:31824722	ZEB1	coding_exon	ENST00000320985:RtoG;ENST00000446923:RtoG;	+	AtoG	1	1	5	5	[12,28]
chr10:31831369	ZEB1	coding_exon	ENST00000320985:AtoD;ENST00000437844:AtoD;ENST00000446923:AtoD;	+	CtoA	0.1	0.1	2	2	[10,10]
chr9:130555307	ZER1	coding_exon	ENST00000291900:StoP;	-	TtoC	0.1	0.1538	2	2	[10,13]
chr9:130537448	ZER1	coding_exon	ENST00000291900:TtoP;	-	TtoC	0.1	0.1	2	2	[10,10]
chr9:130554928	ZER1	coding_exon		-	CtoT	0.1	0.1	2	2	[10,20]
chr7:1159101	ZFAND2A	mixed		-	TtoC	0.1	0.2	5	2	[10,10]
chr6:38229303	ZFAND3	UTR3		+	TtoG	0.1	0.1429	9	3	[14,61]
chr9:74156396	ZFAND5	UTR3		-	GtoA	0.8667	1	6	6	[13,34]
chr9:74156452	ZFAND5	UTR3		-	AtoG	0.8	1	6	6	[13,30]
chr9:74156457	ZFAND5	UTR3		-	TtoC	0.8824	1	6	6	[10,20]
chr9:74159377	ZFAND5	UTR3		-	TtoC	0.2	0.25	2	2	[10,12]
chr8:135665258	ZFAT	coding_exon	ENST00000377838:DtoE;ENST00000429442:DtoE;	-	TtoA	0.1111	0.2143	8	4	[14,38]
chr8:135665259	ZFAT	coding_exon	ENST00000377838:DtoA;ENST00000429442:DtoA;	-	AtoC	0.1111	0.2143	7	2	[14,36]
chr12:70290744	ZFC3H1	coding_exon	ENST00000378743:DtoH;	-	GtoC	0.1333	0.1667	6	3	[12,15]
chr12:70290742	ZFC3H1	coding_exon	ENST00000378743:DtoE;	-	TtoG	0.1111	0.2308	7	5	[13,18]
chr12:70290045	ZFC3H1	UTR3		-	TtoC	0.1818	0.3	2	2	[10,11]
chr15:40527593	ZFP106	coding_exon	ENST00000263805:QtoR;ENST00000434903:QtoR;	-	AtoG	0.1	0.2308	5	3	[10,27]
chr15:40518150	ZFP106	coding_exon	ENST00000263805:EtoK;ENST00000434903:EtoK;	-	GtoA	0.1	0.1111	3	2	[10,18]
chr15:40492508	ZFP106	UTR3		-	TtoC	0.1	0.125	4	2	[10,16]
chr15:40495111	ZFP106	UTR3		-	GtoT	0.1111	0.1667	2	2	[10,18]
chr15:40495522	ZFP106	UTR3		-	TtoC	0.1	0.2	7	2	[10,15]
chr14:68326341	ZFP36L1	coding_exon	ENST00000336440:TtoP;ENST00000435246:TtoP;ENST00000439696:TtoP;	-	AtoC	0.1111	0.1818	2	2	[11,18]
chr14:68326936	ZFP36L1	coding_exon		-	TtoC	0.1	0.1067	11	4	[48,90]
chr14:68324189	ZFP36L1	UTR3		-	AtoC	0.2	0.4	2	2	[10,15]
chr14:68324239	ZFP36L1	UTR3		-	TtoC	0.1	0.2222	14	8	[10,62]
chr5:180207311	ZFP62	mixed		-	AtoC	0.1	0.1	2	2	[10,10]
chr16:67157887	ZFP90	UTR3		+	CtoG	0.1	0.1	2	2	[10,10]
chr16:67158133	ZFP90	UTR3		+	TtoC	0.1	0.1	2	2	[10,10]
chr11:58134014	ZFP91	coding_exon	ENST00000316059:RtoQ;	+	GtoA	0.1333	0.48	2	2	[16,25]
chr11:58138282	ZFP91	coding_exon	ENST00000316059:HtoR;	+	AtoG	0.1	0.1111	2	2	[10,18]
chr11:58141943	ZFP91	UTR3		+	TtoC	0.1	0.1333	4	2	[10,16]
chr11:58141984	ZFP91	UTR3		+	CtoA	0.1429	0.2	3	2	[10,14]
chr11:58142134	ZFP91	UTR3		+	TtoC	0.1	0.1	4	2	[10,10]
chr11:58144746	ZFP91	UTR3		+	AtoG	0.1	0.1	5	3	[10,10]
chr11:64608423	ZFPL1	UTR5		+	TtoC	0.1	0.1481	3	2	[10,27]
chr5:32431151	ZFR	coding_exon	ENST00000265069:DtoA;ENST00000382126:DtoA;	-	AtoC	0.1	0.1	4	2	[10,10]
chr3:15098906	ZFYVE20	mixed		-	AtoG	0.1	0.1	2	2	[10,10]
chr3:15086634	ZFYVE20	UTR3		-	TtoC	0.1	0.1	3	2	[10,10]
chr3:15087086	ZFYVE20	UTR3		-	AtoG	0.1	0.1	2	2	[10,10]
chr14:67317990	ZFYVE26	coding_exon	ENST00000347230:GtoA;ENST00000411699:GtoA;	-	GtoC	0.1	0.1	2	2	[10,20]
chr14:67284595	ZFYVE26	mixed		-	AtoG	0.1	0.1176	2	2	[10,17]
chr20:61810645	ZGPAT	coding_exon	ENST00000328969:VtoE;ENST00000355969:VtoE;ENST00000357119:VtoE;ENST000	+	TtoA	0.1	0.1333	5	2	[10,16]
chr7:99470075	ZKSCAN1	UTR3		+	TtoC	0.1053	0.1818	4	2	[11,19]
chr5:140066178	ZMAT2	UTR3		+	TtoA	0.1111	0.1111	13	2	[18,28]
chr3:180218544	ZMAT3	UTR3		-	TtoC	0.1	0.1667	7	2	[10,12]
chr3:180224958	ZMAT3	UTR3		-	AtoG	0.1538	0.1818	4	3	[11,13]
chr10:80745567	ZMIZ1	UTR3		+	TtoA	0.1	0.1	4	2	[10,10]
chr10:80746037	ZMIZ1	UTR3		+	TtoC	0.1	0.1538	7	4	[15,39]
chr7:44774819	ZMIZ2	UTR3		+	CtoG	0.1	0.1111	9	2	[10,18]
chr1:35643236	ZMYM4	coding_exon	ENST00000314607:VtoG;ENST00000373297:VtoG;	+	TtoG	0.1	0.1	2	2	[10,10]
chr1:35637697	ZMYM4	coding_exon	ENST00000314607:QtoL;ENST00000373297:QtoL;	+	AtoT	0.1	0.1	3	2	[10,10]
chr1:35657824	ZMYM4	coding_exon	ENST00000314607:KtoE;ENST00000373297:KtoE;	+	AtoG	0.1	0.125	3	2	[10,16]
chr9:39596556	ZMYND19	UTR3		-	GtoT	0.1	0.1	3	2	[10,10]
chr20:45271767	ZMYND8	UTR3		-	AtoG	0.1	0.1034	9	2	[29,30]
chr20:45272121	ZMYND8	UTR3		-	GtoA	0.1	0.1579	10	5	[17,23]
chr19:19649776	ZNF101	coding_exon	ENST00000318110:TtoI;	+	CtoT	0.1	0.1	2	2	[10,10]
chr20:18244546	ZNF133	coding_exon	ENST00000316358:EtoK;ENST00000377671:EtoK;ENST00000396026:EtoK;ENST000	+	GtoA	0.1	0.1111	2	2	[10,18]
chr19:62824552	ZNF134	coding_exon	ENST00000396161:HtoP;	+	AtoC	0.1	0.1053	4	2	[10,19]
chr19:62824763	ZNF134	UTR3		+	AtoG	0.1	0.1	2	2	[10,10]
chr2:219215275	ZNF142	coding_exon	ENST00000336124:HtoP;ENST00000396788:HtoP;ENST00000411696:HtoP;ENST000	-	AtoC	0.1	0.2	2	2	[10,10]
chr2:219215249	ZNF142	coding_exon	ENST00000336124:AtoS;ENST00000396788:AtoS;ENST00000411696:AtoS;ENST000	-	GtoT	0.1	0.1429	2	2	[10,14]
chr11:9452117	ZNF143	coding_exon	ENST00000299606:YtoD;ENST00000396597:YtoD;ENST00000396602:YtoD;ENST000	+	TtoG	0.1	0.1429	2	2	[10,14]
chr11:9452115	ZNF143	coding_exon	ENST00000299606:AtoD;ENST00000396597:AtoD;ENST00000396602:AtoD;ENST000	+	CtoA	0.1	0.1	2	2	[10,10]
chr19:41419600	ZNF146	coding_exon	ENST00000301233:KtoE;ENST00000428827:KtoE;ENST00000443387:KtoE;ENST000	+	AtoG	0.1	0.125	3	2	[10,17]
chr3:126435414	ZNF148	coding_exon	ENST00000360647:DtoE;ENST00000484491:DtoE;ENST00000485866:DtoE;ENST000	-	CtoA	0.1	0.1667	4	3	[10,32]
chr3:126435415	ZNF148	coding_exon	ENST00000360647:DtoA;ENST00000484491:DtoA;ENST00000485866:DtoA;ENST000	-	AtoC	0.1	0.125	2	2	[10,24]

chr6:28303212	ZNF193	coding_exon	ENST00000252207:VtoG;ENST00000425468:VtoG;	+	TtoG	0.1538	0.2	2	2	[10,13]
chr11:3336964	ZNF195	coding_exon	ENST0000005082:QtoR;ENST00000343338:QtoR;ENST00000354599:QtoR;ENST00000005082:KtoN;ENST00000343338:KtoN;ENST00000354599:KtoN;ENST00000005082:KtoE;ENST00000343338:KtoE;ENST00000354599:KtoE;ENST00000005082:EttoD;ENST00000343338:EttoD;ENST00000354599:EttoD;ENST00000005082:EttoA;ENST00000343338:EttoA;ENST00000354599:EttoA;	-	AttoG	0.1	0.1111	2	2	[10,18]
chr11:3337107	ZNF195	coding_exon	ENST00000005082:KtoN;ENST00000343338:KtoN;ENST00000354599:KtoN;ENST00000005082:KtoE;ENST00000343338:KtoE;ENST00000354599:KtoE;ENST00000005082:EttoD;ENST00000343338:EttoD;ENST00000354599:EttoD;ENST00000005082:EttoA;ENST00000343338:EttoA;ENST00000354599:EttoA;	-	GtoT	0.1	0.1	3	2	[10,10]
chr11:3337751	ZNF195	coding_exon	ENST00000005082:KtoE;ENST00000343338:KtoE;ENST00000354599:KtoE;ENST00000005082:EttoD;ENST00000343338:EttoD;ENST00000354599:EttoD;ENST00000005082:EttoA;ENST00000343338:EttoA;ENST00000354599:EttoA;	-	AttoG	0.1	0.1818	2	2	[10,11]
chr11:3337572	ZNF195	coding_exon	ENST00000005082:EttoD;ENST00000343338:EttoD;ENST00000354599:EttoD;ENST00000005082:EttoA;ENST00000343338:EttoA;ENST00000354599:EttoA;	-	AttoC	0.1	0.1	2	2	[10,10]
chr11:3337269	ZNF195	coding_exon	ENST00000005082:EttoD;ENST00000343338:EttoD;ENST00000354599:EttoD;ENST00000005082:EttoA;ENST00000343338:EttoA;ENST00000354599:EttoA;	-	CtoA	0.1	0.1	2	2	[10,10]
chr11:3338310	ZNF195	coding_exon	ENST00000005082:EttoD;ENST00000343338:EttoD;ENST00000354599:EttoD;ENST00000005082:EttoA;ENST00000343338:EttoA;ENST00000354599:EttoA;	-	AttoG	0.1	0.25	5	2	[10,12]
chr11:3336317	ZNF195	UTR3	ENST00000005082:EttoD;ENST00000343338:EttoD;ENST00000354599:EttoD;ENST00000005082:EttoA;ENST00000343338:EttoA;ENST00000354599:EttoA;	-	AttoG	0.1	0.1818	2	2	[10,12]
chr17:27732449	ZNF207	UTR3	ENST00000005082:EttoD;ENST00000343338:EttoD;ENST00000354599:EttoD;ENST00000005082:EttoA;ENST00000343338:EttoA;ENST00000354599:EttoA;	+	TtoC	0.1	0.125	2	2	[10,17]
chr19:62845045	ZNF211	coding_exon	ENST00000240731:KtoR;ENST00000299871:KtoR;ENST00000347302:KtoR;ENST00000005082:KtoN;ENST00000343338:KtoN;ENST00000354599:KtoN;ENST00000005082:KtoE;ENST00000343338:KtoE;ENST00000354599:KtoE;ENST00000005082:EttoD;ENST00000343338:EttoD;ENST00000354599:EttoD;ENST00000005082:EttoA;ENST00000343338:EttoA;ENST00000354599:EttoA;	+	AttoG	0.1	0.1538	2	2	[10,13]
chr17:148583249	ZNF212	UTR3	ENST00000005082:EttoD;ENST00000343338:EttoD;ENST00000354599:EttoD;ENST00000005082:EttoA;ENST00000343338:EttoA;ENST00000354599:EttoA;	+	GtoA	0.1	0.1	2	2	[10,10]
chr16:3132365	ZNF213	UTR3	ENST00000005082:EttoD;ENST00000343338:EttoD;ENST00000354599:EttoD;ENST00000005082:EttoA;ENST00000343338:EttoA;ENST00000354599:EttoA;	+	AttoC	0.2	0.3333	4	3	[10,12]
chr16:3132453	ZNF213	UTR3	ENST00000005082:EttoD;ENST00000343338:EttoD;ENST00000354599:EttoD;ENST00000005082:EttoA;ENST00000343338:EttoA;ENST00000354599:EttoA;	+	TtoC	0.1	0.1	2	2	[10,10]
chr16:3132478	ZNF213	UTR3	ENST00000005082:EttoD;ENST00000343338:EttoD;ENST00000354599:EttoD;ENST00000005082:EttoA;ENST00000343338:EttoA;ENST00000354599:EttoA;	+	CtoT	0.1818	0.3333	4	3	[10,24]
chr20:51626913	ZNF217	mixed	ENST00000005082:EttoD;ENST00000343338:EttoD;ENST00000354599:EttoD;ENST00000005082:EttoA;ENST00000343338:EttoA;ENST00000354599:EttoA;	-	TtoC	0.1	0.1875	2	2	[10,16]
chr20:51631441	ZNF217	mixed	ENST00000005082:EttoD;ENST00000343338:EttoD;ENST00000354599:EttoD;ENST00000005082:EttoA;ENST00000343338:EttoA;ENST00000354599:EttoA;	-	AttoG	0.1333	0.1333	2	2	[15,15]
chr19:49304271	ZNF225	mixed	ENST00000005082:EttoD;ENST00000343338:EttoD;ENST00000354599:EttoD;ENST00000005082:EttoA;ENST00000343338:EttoA;ENST00000354599:EttoA;	+	AttoC	0.1	0.1053	2	2	[10,19]
chr19:49368112	ZNF226	coding_exon	ENST00000300823:AttoG;ENST00000337433:AttoG;ENST00000413984:AttoG;ENST00000005082:KtoN;ENST00000343338:KtoN;ENST00000354599:KtoN;ENST00000005082:KtoE;ENST00000343338:KtoE;ENST00000354599:KtoE;ENST00000005082:EttoD;ENST00000343338:EttoD;ENST00000354599:EttoD;ENST00000005082:EttoA;ENST00000343338:EttoA;ENST00000354599:EttoA;	+	CtoG	0.1	0.1053	3	2	[10,19]
chr19:49366028	ZNF226	UTR5	ENST00000300823:AttoG;ENST00000337433:AttoG;ENST00000413984:AttoG;ENST00000005082:KtoN;ENST00000343338:KtoN;ENST00000354599:KtoN;ENST00000005082:KtoE;ENST00000343338:KtoE;ENST00000354599:KtoE;ENST00000005082:EttoD;ENST00000343338:EttoD;ENST00000354599:EttoD;ENST00000005082:EttoA;ENST00000343338:EttoA;ENST00000354599:EttoA;	+	TtoG	0.1	0.1	3	2	[10,10]
chr19:49424467	ZNF227	coding_exon	ENST00000313040:VtoG;	+	TtoG	0.1	0.25	3	3	[10,14]
chr19:49431590	ZNF227	coding_exon	ENST00000313040:FtoL;	+	CtoA	0.1	0.1	2	2	[10,10]
chr17:4953459	ZNF232	coding_exon	ENST00000250076:VtoG;ENST00000381274:VtoG;ENST00000416429:VtoG;	-	TtoG	0.125	0.2	3	2	[10,16]
chr11:116154489	ZNF259	UTR3	ENST00000250076:VtoG;ENST00000381274:VtoG;ENST00000416429:VtoG;	-	TtoC	0.1818	0.3	5	2	[10,11]
chr16:3280309	ZNF263	coding_exon	ENST00000219069:KtoR;	+	AttoG	0.1	0.1	2	2	[10,10]
chr16:3280363	ZNF263	coding_exon	ENST00000219069:KtoR;	+	TtoC	0.1	0.1	2	2	[10,10]
chr19:9385869	ZNF266	coding_exon	ENST00000361151:EttoD;ENST00000361451:EttoD;ENST00000393865:EttoD;ENST00000005082:KtoN;ENST00000343338:KtoN;ENST00000354599:KtoN;ENST00000005082:KtoE;ENST00000343338:KtoE;ENST00000354599:KtoE;ENST00000005082:EttoD;ENST00000343338:EttoD;ENST00000354599:EttoD;ENST00000005082:EttoA;ENST00000343338:EttoA;ENST00000354599:EttoA;	-	GtoT	0.1	0.1	2	2	[10,10]
chr19:9385422	ZNF266	coding_exon	ENST00000361151:EttoD;ENST00000361451:EttoD;ENST00000393865:EttoD;ENST00000005082:KtoN;ENST00000343338:KtoN;ENST00000354599:KtoN;ENST00000005082:KtoE;ENST00000343338:KtoE;ENST00000354599:KtoE;ENST00000005082:EttoD;ENST00000343338:EttoD;ENST00000354599:EttoD;ENST00000005082:EttoA;ENST00000343338:EttoA;ENST00000354599:EttoA;	-	TtoC	0.1053	0.1333	3	2	[15,19]
chr19:9406835	ZNF266	UTR5	ENST00000361151:EttoD;ENST00000361451:EttoD;ENST00000393865:EttoD;ENST00000005082:KtoN;ENST00000343338:KtoN;ENST00000354599:KtoN;ENST00000005082:KtoE;ENST00000343338:KtoE;ENST00000354599:KtoE;ENST00000005082:EttoD;ENST00000343338:EttoD;ENST00000354599:EttoD;ENST00000005082:EttoA;ENST00000343338:EttoA;ENST00000354599:EttoA;	-	CtoG	0.1	0.2	4	4	[10,10]
chr16:31833523	ZNF267	coding_exon	ENST00000300870:QtoR;ENST00000394846:QtoR;	+	AttoG	0.1	0.125	2	2	[10,16]
chr16:31840004	ZNF267	coding_exon	ENST00000300870:QtoR;ENST00000394846:QtoR;	+	AttoC	0.1	0.1	3	2	[10,10]
chr19:63415345	ZNF274	coding_exon	ENST00000326804:EttoG;ENST00000345813:EttoG;ENST00000424679:EttoG;	+	AttoG	0.1	0.1	2	2	[10,10]
chr16:88332010	ZNF276	coding_exon	ENST00000289816:HtoP;ENST00000443381:HtoP;ENST00000446326:HtoP;	+	AttoC	0.1154	0.1333	2	2	[16,27]
chr19:58262554	ZNF28	mixed	ENST00000289816:HtoP;ENST00000443381:HtoP;ENST00000446326:HtoP;	-	TtoC	0.125	0.1818	5	3	[11,16]
chr19:58263869	ZNF28	mixed	ENST00000289816:HtoP;ENST00000443381:HtoP;ENST00000446326:HtoP;	-	CtoA	0.1	0.1	2	2	[10,10]
chr11:198644281	ZNF281	coding_exon	ENST00000289816:HtoP;ENST00000443381:HtoP;ENST00000446326:HtoP;	-	TtoA	0.1	0.1	2	2	[10,10]
chr11:198642703	ZNF281	UTR3	ENST00000289816:HtoP;ENST00000443381:HtoP;ENST00000446326:HtoP;	-	AttoG	0.1	0.1818	2	2	[10,11]
chr7:148553389	ZNF282	UTR3	ENST00000289816:HtoP;ENST00000443381:HtoP;ENST00000446326:HtoP;	+	AttoC	0.1	0.1	2	2	[10,10]
chr6:88024545	ZNF292	coding_exon	ENST00000289816:HtoP;ENST00000443381:HtoP;ENST00000446326:HtoP;	+	TtoG	0.1	0.1333	3	2	[10,15]
chr6:88026537	ZNF292	coding_exon	ENST00000289816:HtoP;ENST00000443381:HtoP;ENST00000446326:HtoP;	+	TtoC	0.1111	0.2	5	2	[10,18]
chr6:88029921	ZNF292	UTR3	ENST00000289816:HtoP;ENST00000443381:HtoP;ENST00000446326:HtoP;	+	TtoC	0.1	0.1538	3	3	[10,15]
chr19:50266832	ZNF296	coding_exon	ENST00000303809:HtoP;	-	AttoC	0.1	0.2	4	3	[10,17]
chr7:99511125	ZNF3	coding_exon	ENST00000303809:HtoP;	-	TtoG	0.1	0.1	3	2	[10,10]
chr7:99505829	ZNF3	mixed	ENST00000303809:HtoP;	-	AttoG	0.1	0.1	2	2	[10,10]
chr19:9127656	ZNF317	mixed	ENST00000303809:HtoP;	+	TtoC	0.1	0.1	2	2	[10,10]
chr6:43415638	ZNF318	coding_exon	ENST00000361428:LtoP;	-	TtoC	0.1176	0.125	5	2	[16,17]
chr6:43432983	ZNF318	coding_exon	ENST00000361428:LtoP;	-	TtoG	0.1	0.1	3	2	[20,70]
chr19:63676190	ZNF324	UTR3	ENST00000361428:LtoP;	+	AttoG	0.1	0.2	2	2	[10,10]
chr20:44015919	ZNF335	coding_exon	ENST00000322927:TtoA;ENST00000426788:TtoA;	-	AttoG	0.1	0.1	2	2	[10,10]
chr20:44019645	ZNF335	coding_exon	ENST00000322927:TtoA;ENST00000426788:TtoA;	-	GtoT	0.1	0.1	2	2	[10,10]
chr20:2399416	ZNF343	mixed	ENST00000322927:TtoA;ENST00000426788:TtoA;	-	CtoT	0.2	0.375	5	2	[10,16]
chr20:2399417	ZNF343	mixed	ENST00000322927:TtoA;ENST00000426788:TtoA;	-	GtoC	0.1111	0.3	3	2	[11,27]
chr19:7490433	ZNF358	mixed	ENST00000322927:TtoA;ENST00000426788:TtoA;	+	TtoC	0.1	0.1	2	2	[10,10]
chr12:53049247	ZNF385A	UTR3	ENST00000322927:TtoA;ENST00000426788:TtoA;	-	AttoT	0.1111	0.125	3	2	[10,17]
chr12:53049817	ZNF385A	UTR3	ENST00000322927:TtoA;ENST00000426788:TtoA;	-	TtoG	0.1	0.1053	3	2	[10,19]
chr8:28259198	ZNF395	UTR3	ENST00000322927:TtoA;ENST00000426788:TtoA;	-	CtoA	0.1154	0.2069	6	3	[23,29]
chr8:28259199	ZNF395	UTR3	ENST00000322927:TtoA;ENST00000426788:TtoA;	-	GtoA	0.1481	0.25	5	3	[11,27]
chr8:28259213	ZNF395	UTR3	ENST00000322927:TtoA;ENST00000426788:TtoA;	-	CtoA	0.1	0.2778	4	3	[18,20]
chr18:70906466	ZNF407	UTR3	ENST00000322927:TtoA;ENST00000426788:TtoA;	+	GtoT	0.1	0.1176	2	2	[10,17]
chr11:46682899	ZNF408	coding_exon	ENST00000311764:CtoF;	+	GtoT	0.1	0.1538	3	2	[10,13]
chr14:73430377	ZNF410	mixed	ENST00000311764:CtoF;	+	TtoA	0.1	0.125	4	2	[11,16]
chr14:73457490	ZNF410	mixed	ENST00000311764:CtoF;	+	GtoT	0.1	0.1	2	2	[10,10]
chr14:73458559	ZNF410	mixed	ENST00000311764:CtoF;	+	TtoG	0.1176	0.1667	8	2	[17,20]
chr14:73468454	ZNF410	UTR3	ENST00000311764:CtoF;	+	GtoA	0.1	0.1	3	2	[10,10]
chr19:57495492	ZNF480	mixed	ENST00000311764:CtoF;	+	AttoT	0.1	0.2	2	2	[10,10]
chr19:12600325	ZNF490	mixed	ENST00000311764:CtoF;	-	AttoC	0.1	0.1333	2	2	[10,15]
chr1:245558614	ZNF496	coding_exon	ENST00000294753:DtoN;ENST00000366498:DtoN;	-	GtoA	0.1	0.1	3	2	[10,10]
chr20:62076933	ZNF512B	UTR5	ENST00000294753:DtoN;ENST00000366498:DtoN;	-	TtoC	0.1	0.125	7	4	[10,20]
chr20:62134890	ZNF512B	UTR5	ENST00000294753:DtoN;ENST00000366498:DtoN;	-	AttoG	0.1	0.2308	7	4	[10,25]
chr19:63465342	ZNF544	coding_exon	ENST00000269829:YtoN;ENST00000415203:YtoN;	+	TtoA	0.1	0.1818	2	2	[11,11]
chr19:63465678	ZNF544	coding_exon	ENST00000269829:YtoN;ENST00000415203:YtoN;	+	TtoC	0.1	0.1	3	2	[10,10]
chr19:63449959	ZNF544	coding_exon	ENST00000269829:YtoN;ENST00000415203:YtoN;	+	GtoA	0.1	0.1	2	2	[10,10]
chr19:63466351	ZNF544	UTR3	ENST00000269829:YtoN;ENST00000415203:YtoN;	+	AttoG	0.1818	0.1818	8	2	[11,11]
chr19:62601842	ZNF548	coding_exon	ENST00000269829:YtoN;ENST00000415203:YtoN;	+	AttoG	0.1	0.1	2	2	[10,10]
chr19:8784894	ZNF558	coding_exon	ENST00000269829:YtoN;ENST00000415203:YtoN;	-	TtoC	0.1	0.1667	3	2	[10,12]
chr19:9315305	ZNF559									

chr7:149726569	ZNF775	UTR3		+	TtoG	0.1667	0.1667	4	2	[12,12]
chr7:148764694	ZNF777	coding_exon	ENST00000247930:MtoR;ENST00000314683:MtoR;ENST00000440594:MtoR;	-	TtoG	0.1	0.1	2	2	[10,10]
chr19:45279616	ZNF780A	coding_exon	ENST00000340963:EtoG;ENST00000392041:EtoG;ENST00000414720:EtoG;ENST00000434415:LtoQ;	-	AtoG	0.1	0.1111	3	2	[10,10]
chr7:148594886	ZNF783	coding_exon	ENST00000434415:LtoQ;	+	TtoA	0.1818	0.5	5	5	[10,13]
chr7:148594881	ZNF783	coding_exon		+	TtoC	0.1667	0.3077	3	3	[12,14]
chr7:148612383	ZNF783	UTR3		+	AtoG	0.1	0.1	3	2	[10,11]
chr16:30504056	ZNF785	coding_exon	ENST00000321694:KtoN;ENST00000395216:KtoN;ENST00000395222:KtoN;ENST00000395222:KtoN;	-	AtoT	0.1	0.1	2	2	[10,10]
chr7:98929859	ZNF789	coding_exon		+	CtoT	0.6667	0.6818	2	2	[15,22]
chr7:98930031	ZNF789	coding_exon		+	CtoT	0.1	0.1	2	2	[10,10]
chr19:58147881	ZNF816A	coding_exon	ENST00000357666:NtoI;ENST00000444460:NtoI;	-	AtoT	0.1111	0.1818	2	2	[11,18]
chr19:58147854	ZNF816A	coding_exon	ENST00000357666:AtoD;ENST00000444460:AtoD;	-	CtoA	0.1	0.1	4	2	[10,10]
chr19:58147853	ZNF816A	coding_exon		-	TtoC	0.1	0.5455	4	4	[10,13]
chr4:146902053	ZNF827	UTR3		-	CtoA	0.1	0.1	2	2	[10,10]
chr17:30313808	ZNF830	coding_exon		+	AtoG	0.1333	0.2	2	2	[10,15]
chr14:101871819	ZNF839	mixed		+	TtoC	0.1	0.4	2	2	[10,10]
chr20:47297337	ZNFX1	coding_exon		-	TtoC	0.1111	0.1538	4	2	[13,27]
chr20:47320856	ZNFX1	coding_exon		-	TtoA	0.1	0.1	3	2	[10,10]
chr20:47296589	ZNFX1	mixed		-	TtoC	0.1	0.1111	5	3	[10,18]
chr7:100648182	ZNHIT1	UTR5		+	AtoT	0.1818	0.2	3	2	[10,11]
chr17:31916665	ZNHIT3	coding_exon		+	GtoT	0.1081	0.1333	3	2	[15,37]
chr17:31922792	ZNHIT3	coding_exon		+	TtoC	0.1111	0.1304	9	3	[17,23]
chr17:31925556	ZNHIT3	UTR3		+	AtoG	0.1071	0.1212	9	2	[28,34]
chr10:126660276	ZRANB1	coding_exon	ENST00000359653:TtoR;	+	CtoG	0.1	0.1	2	2	[10,10]
chr10:126652861	ZRANB1	coding_exon	ENST00000359653:LtoQ;	+	TtoA	0.1	0.1	2	2	[10,10]
chr10:126664498	ZRANB1	UTR3		+	AtoG	0.1	0.1	3	2	[10,10]
chr1:71310809	ZRANB2	coding_exon		-	TtoC	0.1	0.1429	5	2	[14,20]
chr1:71302642	ZRANB2	UTR3		-	TtoC	0.1	0.1	4	2	[10,20]
chr1:71303151	ZRANB2	UTR3		-	AtoG	0.2	0.2857	3	2	[10,14]
chr15:41438514	ZSCAN29	UTR3		-	AtoG	0.1	0.1429	3	2	[10,14]
chr17:15822112	ZSWIM7	coding_exon		-	TtoC	0.1	0.1	2	2	[10,10]
chr15:64612378	ZWILCH	coding_exon		+	TtoC	0.2	0.3	2	2	[10,10]
chr15:64627743	ZWILCH	UTR3		+	CtoG	0.1	0.125	2	2	[10,16]
chr10:57787465	ZWINT	UTR3		-	TtoA	0.1034	0.1429	6	4	[19,34]
chr10:57787551	ZWINT	UTR3		-	GtoC	0.1429	0.3333	6	5	[32,46]
chr3:127663592	ZXDC	coding_exon	ENST00000336332:StoP;ENST00000389709:StoP;ENST00000435595:StoP;	-	TtoC	0.1	0.125	4	3	[10,17]
chr1:53131485	ZYG11A	UTR3		+	TtoG	0.1	0.1	3	2	[10,10]
chr17:3904101	ZZEF1	coding_exon		-	AtoG	0.1	0.1	2	2	[10,10]
chr17:3908117	ZZEF1	coding_exon		-	CtoA	0.1	0.1	2	2	[10,10]
chr1:77814393	ZZZ3	coding_exon	ENST00000370798:DtoA;ENST00000370801:DtoA;ENST00000420374:DtoA;	-	AtoC	0.1	0.1	2	2	[10,10]

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