

Supplementary Methods

Human Lung squamous cell carcinoma tumor specimens.

The study protocol and informed consent from all studies in this study were approved by the Ethics Committee of the Sichuan Provincial People's Hospital of University of Electronic Science and Technology, China. Informed consent in writing was obtained from each patient and the study protocol conformed to the ethical guidelines of the 1975 Declaration of Helsinki as reflected in a prior approval by the Ethics Committee of the Sichuan Provincial People's Hospital of University of Electronic Science and Technology, China. The diagnosis of LUSC was made by pathologists in the above hospitals by hematoxylin and eosin (H&E) staining according to histology plus the immunohistochemistry for chromogranin A and synaptophysin. Of the 58 patients, 58 formalin fixed paraffin embedded (FFPE) tumor samples had matched germline specimen (n=58). Whole-exome sequencing (WES) was performed on 58 LUSC FFPE tumor samples and matched germline specimen.

Whole-exome sequencing and Data processing.

DNA was extracted from each FFPE specimen (n=58) and matched germline specimen (n=58) using the Genra Puregene DNA extraction kit (Qiagen) following the protocol of the manufacturer. All sequence data was QCd for read counts, quality values, GC-content, and all other relevant parameters with FastQC (v0.10.1). The raw paired sequencing reads of human samples acquired from WES were aligned to the respective human (hg38). The alignment was performed with the BWA aligner¹ (version 0.6.1-r104). Concordant read-pairs were identified as potential PCR duplicates and were subsequently masked in the alignment file. Additionally, an estimation of human DNA library contamination was implemented to enhance sensitivity and specificity of mutation calling. SAMtools mpileup (0.1.19)² was used to locate non-reference positions in tumor and germline samples. After removal of terminal adaptor sequences and low-quality data, reads were mapped to the reference human genome (hg38) and aligned using BWA (version 0.6.1-r104). MuTect2 (3.4-46-gbc02625)³ was employed to call somatic small insertions and deletions (InDels) and single nucleotide variants (SNVs).

¹ Li,H.&Durbin,R.FastandaccurateshortreadalignmentwithBurrows-Wheeler transform. *Bioinformatics* 25, 1754 – 1760 (2009).

² Li H, Handsaker B, Wysoker A, et al. The Sequence Alignment/Map format and SAMtools. *Bioinformatics* 2009;25:2078-9.

³ Cibulskis, K. et al. Sensitive detection of somatic point mutations in impure and heterogeneous cancer samples. *Nat. Biotechnol.* 31, 213 – 219 (2013).

Table S1. The information of fifteen GDSC-LUSC cell lines.

Cell_line	TCGA_classification	IC50	IGF2R	CCLC_name	Cell_line_aliases	Gender	Source	Oncomap	Hybrid_Capture_Sequencing
EBC-1	LUSC	9.006367	WT	EBC1_LUNG		M	RIKEN	yes	yes
EPLC-272H	LUSC	2.076526	MT	EPLC272H_LUNG		M	DSMZ	yes	yes
HARA	LUSC	7.698648	MT	HARA_LUNG		M	HSRRB	yes	yes
HCC-15	LUSC	15.736582	WT	HCC15_LUNG		M	DSMZ	yes	yes
KNS-62	LUSC	3.127851	MT	KNS62_LUNG		M	HSRRB	yes	yes
LC-1 sq	LUSC	4.637701	WT	LC1SQSF_LUNG	LC-1 sq	M	RIKEN	yes	yes
LK-2	LUSC	3.109972	MT	LK2_LUNG		M	RIKEN	yes	yes
LOU-NH91	LUSC	10.295492	WT	LOUNH91_LUNG		F	DSMZ	yes	yes
NCI-H1869	LUSC	12.263493	WT	NCIH1869_LUNG	H1869	M	ATCC	yes	yes
NCI-H2170	LUSC	34.628427	WT	NCIH2170_LUNG	H2170	M	ATCC	yes	yes
NCI-H226	LUSC	13.249541	WT	NCIH226_LUNG	H226	M	ATCC	yes	yes
NCI-H520	LUSC	34.725225	WT	NCIH520_LUNG	H520	M	ATCC	yes	yes
RERF-LC-Sq1	LUSC	16.844052	WT	RERFLCSQ1_LUNG		F	HSRRB	yes	yes
SK-MES-1	LUSC	8.156505	WT	SKMES1_LUNG		M	ATCC	yes	yes
SW 900	LUSC	1.958399	WT	SW900_LUNG		M	ATCC	yes	yes

Table S2. The mutations associated with cisplatin response.

gene	Pval	Wildtype (Mean: Cisplatin IC50)	Mutation (Mean: Cisplatin IC50)	Mutation vs Wildtype
PDE3A	0.004395604	14.19749033	2.381632333	Cisplatin Sensitive
VPS13B	0.017582418	9.184076833	22.43528633	Cisplatin Resistant
AFF3	0.019047619	8.320086846	34.676826	Cisplatin Resistant
CYP4F2	0.019047619	13.34460431	2.0174625	Cisplatin Sensitive
DARS	0.019047619	8.320086846	34.676826	Cisplatin Resistant
DSG1	0.019047619	8.320086846	34.676826	Cisplatin Resistant
KIAA1731	0.019047619	13.34460431	2.0174625	Cisplatin Sensitive
MYH13	0.019047619	13.34460431	2.0174625	Cisplatin Sensitive
OR4C6	0.019047619	8.320086846	34.676826	Cisplatin Resistant
OXR1	0.019047619	13.34460431	2.0174625	Cisplatin Sensitive
PLXND1	0.019047619	13.34460431	2.0174625	Cisplatin Sensitive
ZNF423	0.019047619	13.34460431	2.0174625	Cisplatin Sensitive
DCC	0.026373626	7.583470909	23.52415025	Cisplatin Resistant
IGF2R	0.026373626	14.68198036	4.00324925	Cisplatin Sensitive
SLFN13	0.030769231	13.98405908	3.235357333	Cisplatin Sensitive
ZFYVE9	0.030769231	14.100036	2.771449667	Cisplatin Sensitive
ATP10B	0.038095238	13.26510846	2.5341855	Cisplatin Sensitive
CUBN	0.038095238	13.26510846	2.5341855	Cisplatin Sensitive
DNAH5	0.038095238	13.26510846	2.5341855	Cisplatin Sensitive
IRAK3	0.038095238	9.688115692	25.7846385	Cisplatin

POLR3A	0.038095238	9.688115692	25.7846385	Resistant Cisplatin Resistant
RALYL	0.038095238	13.26510846	2.5341855	Cisplatin Sensitive
SLC16A6	0.038095238	13.26510846	2.5341855	Cisplatin Sensitive
SORCS1	0.038095238	13.26510846	2.5341855	Cisplatin Sensitive
SYCP1	0.038095238	13.26510846	2.5341855	Cisplatin Sensitive
ZNF536	0.038095238	13.26510846	2.5341855	Cisplatin Sensitive
KLHL4	0.03956044	14.640357	4.1177135	Cisplatin Sensitive
MLL2	0.03996004	14.9995601	5.503836	Cisplatin Sensitive
LRRIQ3	0.048351648	13.72898017	4.255673	Cisplatin Sensitive
SG269	0.048351648	13.98256917	3.241317	Cisplatin Sensitive

Hugo_Sym	Entrez_Ge	Center	NCBI_Build	Chromosome	Start_Posit	End_Positi	Strand	Variant_Cl
TTN	7273	UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Nonsense
KRTAP5-8	57830	UNKNO	hg38	chr11	71538233	71538233	+	Missense
CACNA1C	775	UNKNO	hg38	chr12	2685771	2685771	+	Missense
TP53	7157	UNKNO	hg38	chr17	7673803	7673803	+	Missense
MUC16	94025	UNKNO	hg38	chr19	8979931	8979931	+	Missense
FLG		UNKNO	hg38	chr1	1.52E+08	1.52E+08	+	Missense
TTN		UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
TTN		UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Splice Site
TTN		UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
KMT2C		UNKNO	hg38	chr7	1.52E+08	1.52E+08	+	Missense
CACNA1C		UNKNO	hg38	chr12	2685755	2685755	+	Missense
CACNA1C		UNKNO	hg38	chr12	2685771	2685771	+	Missense
RP11-473M10.3		UNKNO	hg38	chr13	63746743	63746743	+	Splice Site
RP11-473M10.3		UNKNO	hg38	chr13	63746783	63746783	+	Splice Site
TP53		UNKNO	hg38	chr17	7673824	7673824	+	Nonsense
OBSCN		UNKNO	hg38	chr1	2.28E+08	2.28E+08	+	Missense
EGFR		UNKNO	hg38	chr7	55181378	55181378	+	Missense
EGFR		UNKNO	hg38	chr7	55191822	55191822	+	Missense
TP53		UNKNO	hg38	chr17	7673811	7673811	+	Missense
TTN		UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Splice Site
SYNE1		UNKNO	hg38	chr6	1.52E+08	1.52E+08	+	Missense
PRUNE2		UNKNO	hg38	chr9	76703628	76703628	+	Missense
ZFHX3		UNKNO	hg38	chr16	72950696	72950696	+	Missense
ZNF469		UNKNO	hg38	chr16	88429693	88429693	+	Missense
ZNF469		UNKNO	hg38	chr16	88434477	88434477	+	Missense
TP53		UNKNO	hg38	chr17	7676229	7676229	+	Missense
RYR1		UNKNO	hg38	chr19	38565383	38565383	+	Missense
PCNT		UNKNO	hg38	chr21	46334635	46334635	+	Missense
CACNA1C		UNKNO	hg38	chr12	2685771	2685771	+	Missense
EGFR	1956	UNKNO	hg38	chr7	55174772	55174786	+	In_Frame
TP53	7157	UNKNO	hg38	chr17	7673802	7673802	+	Missense
MUC16	94025	UNKNO	hg38	chr19	8952939	8952939	+	Missense
CACNA1C		UNKNO	hg38	chr12	2685755	2685755	+	Missense
CACNA1C		UNKNO	hg38	chr12	2685771	2685771	+	Missense
TTN	7273	UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
TTN	7273	UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
TTN	7273	UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
SYNE1	23345	UNKNO	hg38	chr6	1.52E+08	1.52E+08	+	Missense
PLEC	5339	UNKNO	hg38	chr8	1.44E+08	1.44E+08	+	Missense
CACNA1C	775	UNKNO	hg38	chr12	2582895	2582895	+	Missense
RP11-473M10.3		UNKNO	hg38	chr13	63746743	63746743	+	Splice Site
TP53	7157	UNKNO	hg38	chr17	7674252	7674252	+	Missense
NEB	4703	UNKNO	hg38	chr2	1.51E+08	1.51E+08	+	Frame Shi
NEB	4703	UNKNO	hg38	chr2	1.51E+08	1.51E+08	+	Missense
EGFR	1956	UNKNO	hg38	chr7	55191822	55191822	+	Missense
KMT2C	58508	UNKNO	hg38	chr7	1.52E+08	1.52E+08	+	Missense
ZFHX3	463	UNKNO	hg38	chr16	72958249	72958250	+	Frame Shi
TP53	7157	UNKNO	hg38	chr17	7674221	7674221	+	Missense
MUC16	94025	UNKNO	hg38	chr19	8935421	8935421	+	Missense
PCNT	5116	UNKNO	hg38	chr21	46401686	46401687	+	Frame Shi
FLG	2312	UNKNO	hg38	chr1	1.52E+08	1.52E+08	+	Missense
OBSCN	84033	UNKNO	hg38	chr1	2.28E+08	2.28E+08	+	In_Frame
TTN	7273	UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Nonsense
FAT4	79633	UNKNO	hg38	chr4	1.25E+08	1.25E+08	+	Missense
PLEC	5339	UNKNO	hg38	chr8	1.44E+08	1.44E+08	+	Frame Shi
PLEC	5339	UNKNO	hg38	chr8	1.44E+08	1.44E+08	+	Missense
KRTAP5-8	57830	UNKNO	hg38	chr11	71538146	71538146	+	Missense
RP11-473M10.3		UNKNO	hg38	chr13	63746743	63746743	+	Splice Site

PCNT	5116	UNKNO	hg38	chr21	46432056	46432059	+	Frame_Shi
PCNT	5116	UNKNO	hg38	chr21	46432066	46432066	+	Missense
PLEC	5339	UNKNO	hg38	chr8	1.44E+08	1.44E+08	+	Nonsense
KRTAP5-8	57830	UNKNO	hg38	chr11	71538234	71538263	+	In_Frame
PCNT	5116	UNKNO	hg38	chr21	46385960	46385960	+	Frame_Shi
PCNT	5116	UNKNO	hg38	chr21	46385961	46385961	+	Missense
FLG	2312	UNKNO	hg38	chr1	1.52E+08	1.52E+08	+	Missense
NEB	4703	UNKNO	hg38	chr2	1.52E+08	1.52E+08	+	Missense
FAT4	79633	UNKNO	hg38	chr4	1.25E+08	1.25E+08	+	Missense
SYNE1	23345	UNKNO	hg38	chr6	1.52E+08	1.52E+08	+	Splice_Site
IGF2R	3482	UNKNO	hg38	chr6	1.6E+08	1.6E+08	+	Splice_Site
IGF2R	3482	UNKNO	hg38	chr6	1.6E+08	1.6E+08	+	Missense
EGFR	1956	UNKNO	hg38	chr7	55155904	55155904	+	Missense
KMT2C	58508	UNKNO	hg38	chr7	1.52E+08	1.52E+08	+	Splice_Site
KMT2C	58508	UNKNO	hg38	chr7	1.52E+08	1.52E+08	+	Missense
PLEC	5339	UNKNO	hg38	chr8	1.44E+08	1.44E+08	+	Nonsense
TP53	7157	UNKNO	hg38	chr17	7674221	7674221	+	Missense
TTN		UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
RP11-473M10.3		UNKNO	hg38	chr13	63746743	63746743	+	Splice_Site
RP11-473M10.3		UNKNO	hg38	chr13	63746783	63746783	+	Splice_Site
ZNF469		UNKNO	hg38	chr16	88437198	88437198	+	Missense
OBSCN	84033	UNKNO	hg38	chr1	2.28E+08	2.28E+08	+	Frame_Shi
TTN	7273	UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Frame_Shi
RP11-473M10.3		UNKNO	hg38	chr13	63746743	63746743	+	Splice_Site
RP11-473M10.3		UNKNO	hg38	chr13	63746783	63746783	+	Splice_Site
MUC16		UNKNO	hg38	chr19	8858600	8858600	+	Splice_Site
FLG	2312	UNKNO	hg38	chr1	1.52E+08	1.52E+08	+	Missense
KRTAP5-8	57830	UNKNO	hg38	chr11	71538233	71538233	+	Missense
RP11-473M10.3		UNKNO	hg38	chr13	63746743	63746743	+	Splice_Site
FLG	2312	UNKNO	hg38	chr1	1.52E+08	1.52E+08	+	Missense
PLEC	5339	UNKNO	hg38	chr8	1.44E+08	1.44E+08	+	Missense
TTN	7273	UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
KMT2C	58508	UNKNO	hg38	chr7	1.52E+08	1.52E+08	+	Nonsense
KRTAP5-8	57830	UNKNO	hg38	chr11	71538204	71538233	+	In_Frame
TP53	7157	UNKNO	hg38	chr17	7673764	7673764	+	Nonsense
TP53	7157	UNKNO	hg38	chr17	7676054	7676055	+	Frame_Shi
RYR1	6261	UNKNO	hg38	chr19	38512117	38512117	+	Missense
PRUNE2	158471	UNKNO	hg38	chr9	76624467	76624467	+	Missense
KRTAP5-8	57830	UNKNO	hg38	chr11	71538232	71538261	+	In_Frame
MUC16	94025	UNKNO	hg38	chr19	8962411	8962411	+	Missense
FLG	2312	UNKNO	hg38	chr1	1.52E+08	1.52E+08	+	Missense
OBSCN	84033	UNKNO	hg38	chr1	2.28E+08	2.28E+08	+	In_Frame
ZFHX3	463	UNKNO	hg38	chr16	72957799	72957816	+	In_Frame
RP11-473M10.3		UNKNO	hg38	chr13	63746743	63746743	+	Splice_Site
KRTAP5-8	57830	UNKNO	hg38	chr11	71538232	71538261	+	In_Frame
ZFHX3	463	UNKNO	hg38	chr16	72797500	72797500	+	Nonsense
FLG	2312	UNKNO	hg38	chr1	1.52E+08	1.52E+08	+	Missense
TP53	7157	UNKNO	hg38	chr17	7674258	7674259	+	Frame_Shi
TP53	7157	UNKNO	hg38	chr17	7674259	7674260	+	Frame_Shi
EGFR	1956	UNKNO	hg38	chr7	55174775	55174789	+	In_Frame
TTN	7273	UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
EGFR	1956	UNKNO	hg38	chr7	55174772	55174786	+	In_Frame
EGFR	1956	UNKNO	hg38	chr7	55181378	55181378	+	Missense
KRTAP5-8	57830	UNKNO	hg38	chr11	71538202	71538261	+	In_Frame
CACNA1C	775	UNKNO	hg38	chr12	2504867	2504867	+	Nonsense
RP11-473M10.3		UNKNO	hg38	chr13	63746743	63746743	+	Splice_Site
FLG	2312	UNKNO	hg38	chr1	1.52E+08	1.52E+08	+	Missense
KMT2C	58508	UNKNO	hg38	chr7	1.52E+08	1.52E+08	+	Missense
ZNF469	84627	UNKNO	hg38	chr16	88429593	88429593	+	Frame_Shi
EGFR	1956	UNKNO	hg38	chr7	55191822	55191822	+	Missense

RYR1	6261	UNKNO	hg38	chr19	38489366	38489368	+	In_Frame
OBSCN	84033	UNKNO	hg38	chr1	2.28E+08	2.28E+08	+	Missense
FAT4	79633	UNKNO	hg38	chr4	1.25E+08	1.25E+08	+	Missense
EGFR	1956	UNKNO	hg38	chr7	55191822	55191822	+	Missense
ZNF469	84627	UNKNO	hg38	chr16	88433969	88433980	+	In_Frame
TP53	7157	UNKNO	hg38	chr17	7673811	7673811	+	Missense
MUC16	94025	UNKNO	hg38	chr19	8891178	8891178	+	Missense
EGFR	1956	UNKNO	hg38	chr7	55174774	55174775	+	Frame_Shi
EGFR	1956	UNKNO	hg38	chr7	55174777	55174792	+	Frame_Shi
TP53	7157	UNKNO	hg38	chr17	7670700	7670700	+	Missense
NEB	4703	UNKNO	hg38	chr2	1.52E+08	1.52E+08	+	Missense
TTN	7273	UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
TTN	7273	UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
TTN	7273	UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
TTN	7273	UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
SYNE1	23345	UNKNO	hg38	chr6	1.52E+08	1.52E+08	+	Missense
SYNE1	23345	UNKNO	hg38	chr6	1.52E+08	1.52E+08	+	Missense
PRUNE2	158471	UNKNO	hg38	chr9	76854195	76854195	+	Missense
RP11-473M10.3		UNKNO	hg38	chr13	63746743	63746743	+	Splice_Site
PCNT	5116	UNKNO	hg38	chr21	46399613	46399613	+	Missense
FLG	2312	UNKNO	hg38	chr1	1.52E+08	1.52E+08	+	Nonsense
NEB	4703	UNKNO	hg38	chr2	1.52E+08	1.52E+08	+	Frame_Shi
TTN	7273	UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
FAT4	79633	UNKNO	hg38	chr4	1.25E+08	1.25E+08	+	Missense
EGFR	1956	UNKNO	hg38	chr7	55191822	55191822	+	Missense
SYNE1	23345	UNKNO	hg38	chr6	1.52E+08	1.52E+08	+	Missense
PLEC	5339	UNKNO	hg38	chr8	1.44E+08	1.44E+08	+	Missense
PRUNE2	158471	UNKNO	hg38	chr9	76703344	76703344	+	Missense
ZNF469	84627	UNKNO	hg38	chr16	88433597	88433597	+	Missense
RYR1	6261	UNKNO	hg38	chr19	38469003	38469003	+	Missense
TTN		UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
MUC16		UNKNO	hg38	chr19	8977376	8977376	+	Missense
IGF2R	3482	UNKNO	hg38	chr6	1.6E+08	1.6E+08	+	Missense
TTN		UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
CACNA1C		UNKNO	hg38	chr12	2666736	2666736	+	Missense
MUC16		UNKNO	hg38	chr19	8863399	8863399	+	Missense
OBSCN		UNKNO	hg38	chr1	2.28E+08	2.28E+08	+	Missense
ZNF469		UNKNO	hg38	chr16	88433723	88433723	+	Missense
TP53		UNKNO	hg38	chr17	7674953	7674953	+	Missense
RYR1		UNKNO	hg38	chr19	38505893	38505893	+	Missense
OBSCN	84033	UNKNO	hg38	chr1	2.28E+08	2.28E+08	+	Missense
NEB	4703	UNKNO	hg38	chr2	1.52E+08	1.52E+08	+	Missense
TTN	7273	UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
PLEC	5339	UNKNO	hg38	chr8	1.44E+08	1.44E+08	+	Missense
PRUNE2	158471	UNKNO	hg38	chr9	76703458	76703460	+	In_Frame
KRTAP5-8	57830	UNKNO	hg38	chr11	71538530	71538530	+	Missense
MUC16	94025	UNKNO	hg38	chr19	8910493	8910493	+	Missense
RYR1	6261	UNKNO	hg38	chr19	38565769	38565769	+	Missense
FLG	2312	UNKNO	hg38	chr1	1.52E+08	1.52E+08	+	Missense
OBSCN	84033	UNKNO	hg38	chr1	2.28E+08	2.28E+08	+	Nonsense
OBSCN	84033	UNKNO	hg38	chr1	2.28E+08	2.28E+08	+	Missense
OBSCN	84033	UNKNO	hg38	chr1	2.28E+08	2.28E+08	+	Missense
NEB	4703	UNKNO	hg38	chr2	1.51E+08	1.51E+08	+	Missense
NEB	4703	UNKNO	hg38	chr2	1.52E+08	1.52E+08	+	Missense
TTN	7273	UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
TTN	7273	UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
FAT4	79633	UNKNO	hg38	chr4	1.25E+08	1.25E+08	+	Missense
SYNE1	23345	UNKNO	hg38	chr6	1.52E+08	1.52E+08	+	Missense
PLEC	5339	UNKNO	hg38	chr8	1.44E+08	1.44E+08	+	Missense
PRUNE2	158471	UNKNO	hg38	chr9	76655470	76655470	+	Missense

KRTAP5-8	57830	UNKNO	hg38	chr11	71538119	71538119	+	Missense
ZFHX3	463	UNKNO	hg38	chr16	72787502	72787502	+	Missense
ZFHX3	463	UNKNO	hg38	chr16	72796552	72796552	+	Missense
ZNF469	84627	UNKNO	hg38	chr16	88429439	88429439	+	Missense
MUC16	94025	UNKNO	hg38	chr19	8965141	8965141	+	Missense
RYR1	6261	UNKNO	hg38	chr19	38505861	38505861	+	Missense
TTN	7273	UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
KMT2C	58508	UNKNO	hg38	chr7	1.52E+08	1.52E+08	+	Missense
KMT2C	58508	UNKNO	hg38	chr7	1.52E+08	1.52E+08	+	Missense
ZFHX3	463	UNKNO	hg38	chr16	72794710	72794710	+	Missense
ZNF469	84627	UNKNO	hg38	chr16	88430387	88430387	+	Missense
MUC16	94025	UNKNO	hg38	chr19	8896089	8896089	+	Splice Site
MUC16	94025	UNKNO	hg38	chr19	8956807	8956807	+	Missense
RYR1	6261	UNKNO	hg38	chr19	38507826	38507826	+	Splice Site
FLG	2312	UNKNO	hg38	chr1	1.52E+08	1.52E+08	+	Missense
TTN	7273	UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
TTN	7273	UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
PRUNE2	158471	UNKNO	hg38	chr9	76703504	76703504	+	Missense
MUC16	94025	UNKNO	hg38	chr19	8898652	8898652	+	Missense
SYNE1	23345	UNKNO	hg38	chr6	1.52E+08	1.52E+08	+	Missense
KMT2C	58508	UNKNO	hg38	chr7	1.52E+08	1.52E+08	+	Missense
ZFHX3	463	UNKNO	hg38	chr16	72958722	72958722	+	Missense
TP53	7157	UNKNO	hg38	chr17	7675094	7675094	+	Missense
MUC16	94025	UNKNO	hg38	chr19	8861026	8861026	+	Missense
RYR1	6261	UNKNO	hg38	chr19	38585027	38585027	+	Nonsense
PCNT	5116	UNKNO	hg38	chr21	46349790	46349790	+	Missense
OBSCN		UNKNO	hg38	chr1	2.28E+08	2.28E+08	+	Missense
OBSCN		UNKNO	hg38	chr1	2.28E+08	2.28E+08	+	Missense
NEB		UNKNO	hg38	chr2	1.52E+08	1.52E+08	+	Missense
TTN		UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
TTN		UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Frame Shi
TTN		UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
TTN		UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Nonsense
TTN		UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
TTN		UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
TTN		UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
TTN		UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Splice Site
TTN		UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
TTN		UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
TTN		UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Nonsense
TTN		UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
TTN		UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
FAT4		UNKNO	hg38	chr4	1.25E+08	1.25E+08	+	Missense
PLEC		UNKNO	hg38	chr8	1.44E+08	1.44E+08	+	Missense
PRUNE2		UNKNO	hg38	chr9	76706347	76706347	+	Missense
CACNA1C		UNKNO	hg38	chr12	2606987	2606987	+	Frame Shi
TP53		UNKNO	hg38	chr17	7676040	7676040	+	Missense
MUC16		UNKNO	hg38	chr19	8964537	8964537	+	Missense
RYR1		UNKNO	hg38	chr19	38510556	38510557	+	Frame Shi
TP53	7157	UNKNO	hg38	chr17	7676097	7676097	+	Nonsense
PCNT	5116	UNKNO	hg38	chr21	46428548	46428548	+	Missense
KMT2C	58508	UNKNO	hg38	chr7	1.52E+08	1.52E+08	+	Missense
ZFHX3	463	UNKNO	hg38	chr16	72958642	72958642	+	Nonsense
MUC16	94025	UNKNO	hg38	chr19	8904971	8904971	+	Missense
MUC16	94025	UNKNO	hg38	chr19	8946438	8946438	+	Missense
EGFR		UNKNO	hg38	chr7	55174773	55174787	+	In_Frame
RYR1		UNKNO	hg38	chr19	38587386	38587386	+	Missense

KMT2C	58508	UNKNO	hg38	chr7	1.52E+08	1.52E+08	+	Missense
FLG		UNKNO	hg38	chr1	1.52E+08	1.52E+08	+	Missense
FLG		UNKNO	hg38	chr1	1.52E+08	1.52E+08	+	Missense
OBSCN		UNKNO	hg38	chr1	2.28E+08	2.28E+08	+	Missense
TTN		UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
TTN		UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Nonsense
TTN		UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Nonsense
FAT4		UNKNO	hg38	chr4	1.25E+08	1.25E+08	+	Missense
SYNE1		UNKNO	hg38	chr6	1.52E+08	1.52E+08	+	Nonsense
SYNE1		UNKNO	hg38	chr6	1.52E+08	1.52E+08	+	Missense
IGF2R		UNKNO	hg38	chr6	1.6E+08	1.6E+08	+	Missense
KMT2C		UNKNO	hg38	chr7	1.52E+08	1.52E+08	+	Missense
PRUNE2		UNKNO	hg38	chr9	76707698	76707698	+	Missense
TP53		UNKNO	hg38	chr17	7673782	7673782	+	Missense
MUC16		UNKNO	hg38	chr19	8952522	8952522	+	Missense
MUC16		UNKNO	hg38	chr19	8974664	8974664	+	Missense
MUC16		UNKNO	hg38	chr19	8975853	8975853	+	Missense
NEB	4703	UNKNO	hg38	chr2	1.52E+08	1.52E+08	+	Missense
TTN	7273	UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
TTN	7273	UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
TTN	7273	UNKNO	hg38	chr2	1.79E+08	1.79E+08	+	Missense
FAT4	79633	UNKNO	hg38	chr4	1.25E+08	1.25E+08	+	Nonsense
SYNE1	23345	UNKNO	hg38	chr6	1.52E+08	1.52E+08	+	Missense
EGFR	1956	UNKNO	hg38	chr7	55156502	55156537	+	Splice_Site
ZFHX3	463	UNKNO	hg38	chr16	72797476	72797476	+	Missense
ZFHX3	463	UNKNO	hg38	chr16	72798289	72798289	+	Missense
ZNF469	84627	UNKNO	hg38	chr16	88434470	88434470	+	Missense
MUC16	94025	UNKNO	hg38	chr19	8862940	8862940	+	Splice_Site
MUC16	94025	UNKNO	hg38	chr19	8958939	8958939	+	Missense
MUC16	94025	UNKNO	hg38	chr19	8977261	8977261	+	Missense
PCNT	5116	UNKNO	hg38	chr21	46385979	46385979	+	Missense
IGF2R	3482	UNKNO	hg38	chr6	1.61E+08	1.61E+08	+	Missense
IGF2R	3482	UNKNO	hg38	chr6	1.61E+08	1.61E+08	+	Missense
IGF2R	3482	UNKNO	hg38	chr6	1.61E+08	1.61E+08	+	Missense
IGF2R	3482	UNKNO	hg38	chr6	1.61E+08	1.61E+08	+	Missense
IGF2R	3482	UNKNO	hg38	chr6	1.6E+08	1.6E+08	+	Missense
IGF2R	3482	UNKNO	hg38	chr6	1.6E+08	1.6E+08	+	Missense
IGF2R	3482	UNKNO	hg38	chr6	1.6E+08	1.6E+08	+	Intron

Variant_Ty	Reference	Tumor_Seq	Tumor_Seqdb	SNP_RS	SNP_Val	Tumor_Sa	Matched_N	Match_Nor
SNP	C	C	A			pt2	UNKNO	UNKNO
SNP	C	C	T			pt2	UNKNO	UNKNO
SNP	C	C	T			pt2	UNKNO	UNKNO
SNP	G	G	A			pt2	UNKNO	UNKNO
SNP	G	G	A			pt2	UNKNO	UNKNO
SNP	T	T	C			pt3	UNKNO	UNKNO
SNP	C	C	G			pt3	UNKNO	UNKNO
DEL	TGGGCGA	TGGGCGA	-			pt3	UNKNO	UNKNO
SNP	C	C	G			pt3	UNKNO	UNKNO
SNP	C	C	A			pt3	UNKNO	UNKNO
SNP	G	G	A			pt3	UNKNO	UNKNO
SNP	C	C	T			pt3	UNKNO	UNKNO
SNP	C	C	T			pt3	UNKNO	UNKNO
SNP	T	T	G			pt3	UNKNO	UNKNO
SNP	C	C	A			pt3	UNKNO	UNKNO
SNP	G	G	A			pt4	UNKNO	UNKNO
SNP	C	C	T			pt4	UNKNO	UNKNO
SNP	T	T	G			pt4	UNKNO	UNKNO
SNP	A	A	G			pt4	UNKNO	UNKNO
SNP	A	A	T			pt5	UNKNO	UNKNO
SNP	T	T	C			pt5	UNKNO	UNKNO
SNP	G	G	A			pt5	UNKNO	UNKNO
SNP	C	C	T			pt5	UNKNO	UNKNO
SNP	C	C	A			pt5	UNKNO	UNKNO
SNP	G	G	A			pt5	UNKNO	UNKNO
SNP	G	G	A			pt5	UNKNO	UNKNO
SNP	C	C	A			pt5	UNKNO	UNKNO
SNP	G	G	A			pt5	UNKNO	UNKNO
SNP	C	C	T			pt7	UNKNO	UNKNO
DEL	GGAATTA	GGAATTA	-			pt9	UNKNO	UNKNO
SNP	C	C	T			pt9	UNKNO	UNKNO
SNP	G	G	A			pt9	UNKNO	UNKNO
SNP	G	G	A			pt10	UNKNO	UNKNO
SNP	C	C	T			pt10	UNKNO	UNKNO
SNP	C	C	T			pt11	UNKNO	UNKNO
SNP	C	C	A			pt11	UNKNO	UNKNO
SNP	G	G	T			pt11	UNKNO	UNKNO
SNP	A	A	G			pt11	UNKNO	UNKNO
SNP	C	C	G			pt11	UNKNO	UNKNO
SNP	G	G	A			pt11	UNKNO	UNKNO
SNP	C	C	T			pt11	UNKNO	UNKNO
SNP	C	C	G			pt11	UNKNO	UNKNO
DEL	GC	GC	-			pt12	UNKNO	UNKNO
SNP	C	C	A			pt12	UNKNO	UNKNO
SNP	T	T	G			pt12	UNKNO	UNKNO
SNP	G	G	A			pt12	UNKNO	UNKNO
DEL	CC	CC	-			pt12	UNKNO	UNKNO
SNP	G	G	A			pt12	UNKNO	UNKNO
SNP	G	G	A			pt12	UNKNO	UNKNO
DEL	GT	GT	-			pt12	UNKNO	UNKNO
SNP	C	C	T			pt13	UNKNO	UNKNO
DEL	CAC	CAC	-			pt13	UNKNO	UNKNO
SNP	G	G	A			pt13	UNKNO	UNKNO
SNP	G	G	A			pt13	UNKNO	UNKNO
DEL	CG	CG	-			pt13	UNKNO	UNKNO
SNP	G	G	T			pt13	UNKNO	UNKNO
SNP	C	C	T			pt13	UNKNO	UNKNO
SNP	C	C	T			pt13	UNKNO	UNKNO

DEL	GAGG	GAGG	-			pt13	UNKNO	UNKNO
SNP	C	C	A			pt13	UNKNO	UNKNO
SNP	C	C	A			pt14	UNKNO	UNKNO
DEL	GTGGCTC	GTGGCTC	-			pt14	UNKNO	UNKNO
DEL	C	C	-			pt14	UNKNO	UNKNO
SNP	G	G	A			pt14	UNKNO	UNKNO
DNP	TC	TC	AA			pt15	UNKNO	UNKNO
SNP	G	G	A			pt15	UNKNO	UNKNO
SNP	T	T	C			pt15	UNKNO	UNKNO
SNP	A	A	T			pt15	UNKNO	UNKNO
SNP	G	G	T			pt15	UNKNO	UNKNO
SNP	G	G	A			pt15	UNKNO	UNKNO
SNP	A	A	T			pt15	UNKNO	UNKNO
SNP	C	C	T			pt15	UNKNO	UNKNO
SNP	G	G	A			pt15	UNKNO	UNKNO
SNP	G	G	A			pt15	UNKNO	UNKNO
SNP	C	C	T			pt16	UNKNO	UNKNO
SNP	C	C	T			pt16	UNKNO	UNKNO
SNP	T	T	G			pt16	UNKNO	UNKNO
SNP	G	G	A			pt16	UNKNO	UNKNO
DEL	GGCC	GGCC	-			pt17	UNKNO	UNKNO
DEL	GGAA	GGAA	-			pt17	UNKNO	UNKNO
SNP	C	C	T			pt18	UNKNO	UNKNO
SNP	T	T	G			pt18	UNKNO	UNKNO
SNP	C	C	T			pt18	UNKNO	UNKNO
SNP	G	G	C			pt19	UNKNO	UNKNO
SNP	C	C	T			pt19	UNKNO	UNKNO
SNP	C	C	T			pt19	UNKNO	UNKNO
SNP	A	A	G			pt20	UNKNO	UNKNO
SNP	G	G	A			pt20	UNKNO	UNKNO
SNP	C	C	T			pt21	UNKNO	UNKNO
SNP	G	G	A			pt21	UNKNO	UNKNO
DEL	GTGGCTC	GTGGCTC	-			pt21	UNKNO	UNKNO
SNP	C	C	A			pt21	UNKNO	UNKNO
INS	-	-	CC			pt21	UNKNO	UNKNO
SNP	G	G	A			pt21	UNKNO	UNKNO
SNP	G	G	A			pt22	UNKNO	UNKNO
DEL	CCGTGGC	CCGTGGC	-			pt22	UNKNO	UNKNO
SNP	C	C	T			pt22	UNKNO	UNKNO
SNP	C	C	T			pt23	UNKNO	UNKNO
DEL	CCC	CCC	-			pt23	UNKNO	UNKNO
DEL	CCGCCGC	CCGCCGC	-			pt23	UNKNO	UNKNO
SNP	C	C	T			pt25	UNKNO	UNKNO
DEL	CCGTGGC	CCGTGGC	-			pt26	UNKNO	UNKNO
SNP	G	G	A			pt26	UNKNO	UNKNO
SNP	C	C	T			pt28	UNKNO	UNKNO
INS	-	-	C			pt28	UNKNO	UNKNO
INS	-	-	GTAG			pt28	UNKNO	UNKNO
DEL	ATTAAGA	ATTAAGA	-			pt29	UNKNO	UNKNO
SNP	G	G	C			pt30	UNKNO	UNKNO
DEL	GGAATTA	GGAATTA	-			pt30	UNKNO	UNKNO
SNP	C	C	T			pt30	UNKNO	UNKNO
DEL	CTGTGGC	CTGTGGC	-			pt30	UNKNO	UNKNO
SNP	G	G	A			pt30	UNKNO	UNKNO
SNP	C	C	T			pt30	UNKNO	UNKNO
SNP	T	T	G			pt31	UNKNO	UNKNO
SNP	C	C	A			pt31	UNKNO	UNKNO
DEL	C	C	-			pt31	UNKNO	UNKNO
SNP	T	T	G			pt32	UNKNO	UNKNO

SNP	G	G	A			pt56	UNKNO	UNKNO
SNP	G	G	T			pt57	UNKNO	UNKNO
SNP	G	G	T			pt57	UNKNO	UNKNO
SNP	G	G	T			pt57	UNKNO	UNKNO
SNP	G	G	A			pt57	UNKNO	UNKNO
SNP	C	C	A			pt57	UNKNO	UNKNO
SNP	C	C	A			pt57	UNKNO	UNKNO
SNP	G	G	T			pt57	UNKNO	UNKNO
SNP	C	C	A			pt57	UNKNO	UNKNO
SNP	T	T	G			pt57	UNKNO	UNKNO
SNP	G	G	T			pt57	UNKNO	UNKNO
SNP	C	C	A			pt57	UNKNO	UNKNO
SNP	C	C	G			pt57	UNKNO	UNKNO
SNP	T	T	C			pt57	UNKNO	UNKNO
SNP	A	A	G			pt57	UNKNO	UNKNO
SNP	G	G	T			pt57	UNKNO	UNKNO
SNP	G	G	T			pt57	UNKNO	UNKNO
SNP	A	A	C			pt58	UNKNO	UNKNO
SNP	G	G	A			pt58	UNKNO	UNKNO
SNP	G	G	A			pt58	UNKNO	UNKNO
SNP	G	G	A			pt58	UNKNO	UNKNO
SNP	C	C	T			pt58	UNKNO	UNKNO
SNP	C	C	T			pt58	UNKNO	UNKNO
DEL	AACGGAA	AACGGAA-				pt58	UNKNO	UNKNO
SNP	G	G	C			pt58	UNKNO	UNKNO
SNP	C	C	T			pt58	UNKNO	UNKNO
SNP	A	A	G			pt58	UNKNO	UNKNO
SNP	C	C	T			pt58	UNKNO	UNKNO
SNP	G	G	T			pt58	UNKNO	UNKNO
SNP	G	G	A			pt58	UNKNO	UNKNO
SNP	G	G	A			pt58	UNKNO	UNKNO
SNP	G	G	A			pt50	UNKNO	UNKNO
SNP	G	G	A			pt35	UNKNO	UNKNO
SNP	G	G	A			pt58	UNKNO	UNKNO
SNP	G	G	A			pt47	UNKNO	UNKNO
SNP	A	A	T			pt12	UNKNO	UNKNO
SNP	A	A	T			pt49	UNKNO	UNKNO
SNP	A	A	T			pt5	UNKNO	UNKNO
SNP	A	A	T			pt11	UNKNO	UNKNO

Sequence	Validation	Score	BAM_File	Sequencer	Tumor_Sar	Matched_N	Annotation	Protein_Ch
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.E8619*
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.R60C
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.T1918M
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.R273C
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.A403V
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.T840A
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.G20158R
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	0589042.5
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.V12774L
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.C255F
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.E1865K
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.T1870M
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	0611641.1
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	0611641.1
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.G266*
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.R4615Q
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.T790M
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.L858R
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.F270S
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	0589042.5
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.K953R
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.P2662L
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.A997T
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.S741R
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.R2336H
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.P47L
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.A4345E
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.R169H
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.T1870M
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.ELREA7
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.R273H
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.S7944L
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.E1865K
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.T1870M
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.G6913D
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.E6575D
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.T6028N
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.L3009S
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.G682R
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.G726E
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	0611641.1
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.M237I
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.R8388fs
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.Q8387H
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.L813R
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.P2944L
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.E633fs
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.R248W
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.A11845V
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.V1643fs
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.E3553K
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.4953_49
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.Q7146*
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.C4133Y
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.V4273fs
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.S4272Y
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	p.P31S
UNKNO	UNKNO	UNKNO		UNKNO	UNKNO	UNKNO	ENST0000	0611641.1

UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E2866fs
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.P2868T
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E1693*
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.GSCGG
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.D1147fs
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.V1148I
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E2212L
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R4944C
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.L2316P
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST00000367255.9	
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST00000356956.5	
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.G2066C
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.G277S
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST00000262189.10	
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.G838S
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.Q1953*
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R248W
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R14134G
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST00000611641.1	
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST00000611641.1	
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R3243H
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.P8390fs
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.L33334fs
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST00000611641.1	
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST00000611641.1	
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.A14356A
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.H1794Q
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R60C
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST00000611641.1	
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.W637R
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.A2079V
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E15807K
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R3507*
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.GSCGG
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E286*
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.S106fs
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R3073H
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.A3058V
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.RGSCGG
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.A4787T
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.G964R
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.P8884de
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.VAAAAA
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST00000611641.1	
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.RGSCGG
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.Q1728*
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.G3782R
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.N235fs
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.N235fs
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.LREAT70
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R5442G
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.ELREA70
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.T745M
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.CGSCGG
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.W380*
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST00000611641.1	
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.K679Q
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.G908C
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.A708fs
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.L813R

UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.A1913de
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R4615Q
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.C3944Y
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.L813R
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.ACSP21
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.F270S
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.P13465L
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E701fs
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.L702fs
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R337C
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.Q810K
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.S27677L
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.V21605L
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E11026K
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.A11018E
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E3458K
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.G3455D
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R17H
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	0611641.1
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.L1536F
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R826*
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.D1091fs
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E22499K
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.A673V
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.L813R
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.P5065S
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.T4232M
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.P2757T
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R2043W
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R1140L
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.S6434C
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.A1255T
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.S800L
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.L8304I
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.P1526L
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R14199C
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R744H
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E2085K
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.H193L
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E2830K
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.D5692N
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.Q3462K
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.G30829C
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.A2495S
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.2718 27
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.G159W
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.P12385H
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.G4479W
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.P3578H
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E3777*
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R7887M
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.Q8163H
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.P8361H
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.Q7516K
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.L30788I
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.P9453T
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.Q453H
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.Q2579K
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.P4Q
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.P2770H

UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.G22W
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.H3592N
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.P2044T
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.L657I
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.P3877T
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.W2819L
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.L29732I
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.P2947T
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.P2939Q
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.Q2658K
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.G973C
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.T13161T
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.L6655M
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.L2977L
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.H1794Q
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.I31909T
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.K17844N
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.S2703R
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.P13049T
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R605K
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R56Q
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E475G
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.V173E
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.Y14297F
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E4911*
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.F438L
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.N3022S
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.F5408L
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.D2461E
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R32513S
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E27668fs
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.V26281I
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E23849*
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.P21318T
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R20215M
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.D19431H
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.L16278I
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.D15067Y
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.V12150I
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R11199M
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.P11064H
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.V8258M
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E6968*
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E4056K
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.L1751F
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.G1819C
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.A1665V
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.H1976L
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.G1071fs
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R110L
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R4078M
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.F2998fs
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.W91*
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E2550K
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.G838S
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E502*
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.T12726A
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.S10111I
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.ELREA7
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.C5023Y

UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.A878V
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.H2529Q
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.S1297Y
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.V6724L
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.T20845M
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.G2092*
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E2076*
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.G4397V
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E7337*
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.Q6164P
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.S2303I
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.C983F
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.G1526R
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R280G
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.V8083A
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.L2159I
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.F1762L
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.Y2168D
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.P13936S
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.P10982S
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.P10465S
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.Q2025*
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.S3443N
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	0455089.5
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.Q1736E
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.G1465S
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.T2334A
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.V14234I
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.S5944Y
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.S1293L
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E1154K
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R2450K
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R2450K
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R2450K
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.R2450K
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E718D
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E718D
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	p.E718D
UNKNO	UNKNOWN	UNKNO	UNKNO	UNKNO	ENST0000	*1372*

NM_00603	NP_00602	O95613	PCNT_HU	pericentrin	U52962	HGNC:160	Approved	gene with p
NM_00603	NP_00602	O95613	PCNT_HU	pericentrin	U52962	HGNC:160	Approved	gene with p
NM_20138	NP_95878	Q15149	PLEC_HU	plectin	Z54367	HGNC:906	Approved	gene with p
NM_02104	NP_06638	O75690	KRA58_HU	keratin ass	AY360461	HGNC:236	Approved	gene with p
NM_00603	NP_00602	O95613	PCNT_HU	pericentrin	U52962	HGNC:160	Approved	gene with p
NM_00603	NP_00602	O95613	PCNT_HU	pericentrin	U52962	HGNC:160	Approved	gene with p
NM_00201	NP_00200	P20930	FILA_HUM	filaggrin	M24355	HGNC:374	Approved	gene with p
		P20929	NEBU_HU	nebulin	X83957	HGNC:772	Approved	gene with p
NM_02458	NP_07885	Q6V017	FAT4_HUN	FAT atypic	AY356402	HGNC:231	Approved	gene with p
NM_18296	NP_89200	Q8NF91	SYNE1_HU	spectrin re	KF458330	HGNC:170	Approved	gene with p
NM_00087	NP_00086	P11717	MPRI_HU	insulin like	Y00285	HGNC:546	Approved	gene with p
NM_00087	NP_00086	P11717	MPRI_HU	insulin like	Y00285	HGNC:546	Approved	gene with p
NM_00134	NP_00133	P00533	EGFR_HU	epidermal	KF458469	HGNC:323	Approved	gene with p
NM_17060	NP_73375	Q8NEZ4	KMT2C_HU	lysine met	AY024361	HGNC:137	Approved	gene with p
NM_17060	NP_73375	Q8NEZ4	KMT2C_HU	lysine met	AY024361	HGNC:137	Approved	gene with p
NM_20138	NP_95878	Q15149	PLEC_HU	plectin	Z54367	HGNC:906	Approved	gene with p
NM_00127	NP_00126	P04637	P53_HUM	tumor prote	X60020	HGNC:119	Approved	gene with p
NM_00127	NP_00125	Q5VST9	OBSCN_H	obscurin, c	AL670729	HGNC:157	Approved	gene with p
NM_13337	NP_59686	Q8WZ42	TITIN_HU	titin	X98115	HGNC:124	Approved	gene with p
NM_00201	NP_00200	P20930	FILA_HUM	filaggrin	M24355	HGNC:374	Approved	gene with p
NM_02104	NP_06638	O75690	KRA58_HU	keratin ass	AY360461	HGNC:236	Approved	gene with p
NM_00201	NP_00200	P20930	FILA_HUM	filaggrin	M24355	HGNC:374	Approved	gene with p
NM_20138	NP_95878	Q15149	PLEC_HU	plectin	Z54367	HGNC:906	Approved	gene with p
NM_13337	NP_59686	Q8WZ42	TITIN_HU	titin	X98115	HGNC:124	Approved	gene with p
NM_17060	NP_73375	Q8NEZ4	KMT2C_HU	lysine met	AY024361	HGNC:137	Approved	gene with p
NM_02104	NP_06638	O75690	KRA58_HU	keratin ass	AY360461	HGNC:236	Approved	gene with p
NM_00127	NP_00126	P04637	P53_HUM	tumor prote	X60020	HGNC:119	Approved	gene with p
NM_00127	NP_00126	P04637	P53_HUM	tumor prote	X60020	HGNC:119	Approved	gene with p
NM_00054	NP_00053	P21817	RYR1_HU	ryanodine	U48508	HGNC:104	Approved	gene with p
NM_01522	NP_05604	Q8WUY3	PRUN2_HU	prune hom	BC022571	HGNC:252	Approved	gene with p
NM_02104	NP_06638	O75690	KRA58_HU	keratin ass	AY360461	HGNC:236	Approved	gene with p
NM_02469	NP_07896	Q8WXI7	MUC16_HU	mucin 16, c	KF456494	HGNC:155	Approved	gene with p
NM_00201	NP_00200	P20930	FILA_HUM	filaggrin	M24355	HGNC:374	Approved	gene with p
NM_00127	NP_00125	Q5VST9	OBSCN_H	obscurin, c	AL670729	HGNC:157	Approved	gene with p
777del		Q15911	ZFHX3_HU	zinc finger homeobox		HGNC:777	Approved	gene with p
NM_02104	NP_06638	O75690	KRA58_HU	keratin ass	AY360461	HGNC:236	Approved	gene with p
		Q15911	ZFHX3_HU	zinc finger homeobox		HGNC:777	Approved	gene with p
NM_00201	NP_00200	P20930	FILA_HUM	filaggrin	M24355	HGNC:374	Approved	gene with p
NM_00127	NP_00126	P04637	P53_HUM	tumor prote	X60020	HGNC:119	Approved	gene with p
NM_00127	NP_00126	P04637	P53_HUM	tumor prote	X60020	HGNC:119	Approved	gene with p
NM_00134	NP_00133	P00533	EGFR_HU	epidermal	KF458469	HGNC:323	Approved	gene with p
NM_13337	NP_59686	Q8WZ42	TITIN_HU	titin	X98115	HGNC:124	Approved	gene with p
NM_00134	NP_00133	P00533	EGFR_HU	epidermal	KF458469	HGNC:323	Approved	gene with p
NM_00134	NP_00133	P00533	EGFR_HU	epidermal	KF458469	HGNC:323	Approved	gene with p
NM_02104	NP_06638	O75690	KRA58_HU	keratin ass	AY360461	HGNC:236	Approved	gene with p
NM_19946	NP_95563	Q13936	CAC1C_HU	calcium voltage-gated		HGNC:139	Approved	gene with p
NM_00201	NP_00200	P20930	FILA_HUM	filaggrin	M24355	HGNC:374	Approved	gene with p
NM_17060	NP_73375	Q8NEZ4	KMT2C_HU	lysine met	AY024361	HGNC:137	Approved	gene with p
		Q96JG9	ZN469_HU	zinc finger	KF456226	HGNC:232	Approved	gene with p
NM_00134	NP_00133	P00533	EGFR_HU	epidermal	KF458469	HGNC:323	Approved	gene with p

AB007862	ENSG00008812505	9	NM_006031				CCDS3359	OTTHUMG
AB007862	ENSG00008812505	9	NM_006031				CCDS3359	OTTHUMG
U53204	ENSG00008633055	8	NM_00044	939	Plakins		CCDS4376	OTTHUMG
AB126077	ENSG000015144888	NM_02104		619	Keratin ass		CCDS4168	OTTHUMG
AB007862	ENSG00008812505	9	NM_006031				CCDS3359	OTTHUMG
AB007862	ENSG00008812505	9	NM_006031				CCDS3359	OTTHUMG
XM_048104	ENSG00002740331	2	NM_00201	1350 863	S100 fusec		CCDS3086	OTTHUMG
X83957	ENSG000010051637	NM_004543					CCDS4642	OTTHUMG
AY356402	ENSG000015003449	NM_02458		24	Cadherin re		CCDS3732	OTTHUMG
AB018339	ENSG00009872452	1	NM_18296	1252	Spectrin re		CCDS5235	OTTHUMG
J03528	ENSG00000197081	NM_00087	471 1233		CD molecu		CCDS5273	OTTHUMG
J03528	ENSG00000197081	NM_00087	471 1233		CD molecu		CCDS5273	OTTHUMG
	ENSG00001505215	NM_00522		1096	Erb-b2 rec		CCDS5514	OTTHUMG
AF264750	ENSG000010819331			88 1399 48	PHD finger		CCDS5931	OTTHUMG
AF264750	ENSG000010819331			88 1399 48	PHD finger		CCDS5931	OTTHUMG
U53204	ENSG00008633055	8	NM_00044	939	Plakins		CCDS4376	OTTHUMG
AF307851	ENSG00006396087	3	NM_000546				CCDS1111	OTTHUMG
AJ002535	ENSG000011448995	NM_05284	555 722 59		Fibronectin		CCDS1570	OTTHUMG
X90568	ENSG00002129545	1	NM_13337	555 593 59	Fibronectin		CCDS5442	OTTHUMG
XM_048104	ENSG00002740331	2	NM_00201	1350 863	S100 fusec		CCDS3086	OTTHUMG
AB126077	ENSG000015144888	NM_02104		619	Keratin ass		CCDS4168	OTTHUMG
XM_048104	ENSG00002740331	2	NM_00201	1350 863	S100 fusec		CCDS3086	OTTHUMG
U53204	ENSG00008633055	8	NM_00044	939	Plakins		CCDS4376	OTTHUMG
X90568	ENSG00002129545	1	NM_13337	555 593 59	Fibronectin		CCDS5442	OTTHUMG
AF264750	ENSG000010819331			88 1399 48	PHD finger		CCDS5931	OTTHUMG
AB126077	ENSG000015144888	NM_02104		619	Keratin ass		CCDS4168	OTTHUMG
AF307851	ENSG00006396087	3	NM_000546				CCDS1111	OTTHUMG
AF307851	ENSG00006396087	3	NM_000546				CCDS1111	OTTHUMG
J05200	ENSG00001862346	16621918		287 694	Ryanodine		CCDS3301	OTTHUMG
BC019095	ENSG000016288218	NM_13881		1299	BCH doma		CCDS4798	OTTHUMG
AB126077	ENSG000015144888	NM_02104		619	Keratin ass		CCDS4168	OTTHUMG
AF414442		11369781	NM_02469		648	Mucins	CCDS54212	
XM_048104	ENSG00002740331	2	NM_00201	1350 863	S100 fusec		CCDS3086	OTTHUMG
AJ002535	ENSG000011448995	NM_05284	555 722 59		Fibronectin		CCDS1570	OTTHUMG
D10250	ENSG00001719379	7	NM_00688	529 28	ZF class hc		CCDS1090	OTTHUMG
AB126077	ENSG000015144888	NM_02104		619	Keratin ass		CCDS4168	OTTHUMG
D10250	ENSG00001719379	7	NM_00688	529 28	ZF class hc		CCDS1090	OTTHUMG
XM_048104	ENSG00002740331	2	NM_00201	1350 863	S100 fusec		CCDS3086	OTTHUMG
AF307851	ENSG00006396087	3	NM_000546				CCDS1111	OTTHUMG
AF307851	ENSG00006396087	3	NM_000546				CCDS1111	OTTHUMG
	ENSG00001505215	NM_00522		1096	Erb-b2 rec		CCDS5514	OTTHUMG
X90568	ENSG00002129545	1	NM_13337	555 593 59	Fibronectin		CCDS5442	OTTHUMG
	ENSG00001505215	NM_00522		1096	Erb-b2 rec		CCDS5514	OTTHUMG
	ENSG00001505215	NM_00522		1096	Erb-b2 rec		CCDS5514	OTTHUMG
AB126077	ENSG000015144888	NM_02104		619	Keratin ass		CCDS4168	OTTHUMG
AF070589	ENSG00001650913	1	NM_00071		1512	Calcium vd	CCDS4478	OTTHUMG
XM_048104	ENSG00002740331	2	NM_00201	1350 863	S100 fusec		CCDS3086	OTTHUMG
AF264750	ENSG000010819331			88 1399 48	PHD finger		CCDS5931	OTTHUMG
AB058761	ENSG000011347906	NG_01223		28	Zinc finger		CCDS4554	OTTHUMG
	ENSG00001505215	NM_00522		1096	Erb-b2 rec		CCDS5514	OTTHUMG

J05200	ENSG00001862346,16621918	287 694	Ryanodine	CCDS3301	OTTHUMG
AJ002535	ENSG000011448995,NM_05284:555 722 59		Fibronectin	CCDS1570	OTTHUMG
AY356402	ENSG000015003449,NM_02458:	24	Cadherin re	CCDS3732	OTTHUMG
AB058761	ENSG00001505215,NM_00522:	1096	Erb-b2 rec	CCDS5514	OTTHUMG
AF307851	ENSG000011347906,NG_01223:	28	Zinc finger	CCDS4554	OTTHUMG
AF414442	ENSG00006396087,3NM_000546			CCDS1111	OTTHUMG
	11369781,NM_02469:	648	Mucins	CCDS54212	
	ENSG00001505215,NM_00522:	1096	Erb-b2 rec	CCDS5514	OTTHUMG
	ENSG00001505215,NM_00522:	1096	Erb-b2 rec	CCDS5514	OTTHUMG
AF307851	ENSG00006396087,3NM_000546			CCDS1111	OTTHUMG
X83957	ENSG000010051637,NM_004543			CCDS4642	OTTHUMG
X90568	ENSG00002129545,1NM_13337:555 593 59		Fibronectin	CCDS5442	OTTHUMG
X90568	ENSG00002129545,1NM_13337:555 593 59		Fibronectin	CCDS5442	OTTHUMG
X90568	ENSG00002129545,1NM_13337:555 593 59		Fibronectin	CCDS5442	OTTHUMG
X90568	ENSG00002129545,1NM_13337:555 593 59		Fibronectin	CCDS5442	OTTHUMG
AB018339	ENSG00009872452,1NM_18296:	1252	Spectrin re	CCDS5235	OTTHUMG
AB018339	ENSG00009872452,1NM_18296:	1252	Spectrin re	CCDS5235	OTTHUMG
BC019095	ENSG000016288218,NM_13881:	1299	BCH doma	CCDS4798	OTTHUMG
AB007862	ENSG00008812505,9NM_006031			CCDS3359	OTTHUMG
XM_048104	ENSG00002740331,2NM_00201:1350 863		S100 fusec	CCDS3086	OTTHUMG
X83957	ENSG000010051637,NM_004543			CCDS4642	OTTHUMG
X90568	ENSG00002129545,1NM_13337:555 593 59		Fibronectin	CCDS5442	OTTHUMG
AY356402	ENSG000015003449,NM_02458:	24	Cadherin re	CCDS3732	OTTHUMG
	ENSG00001505215,NM_00522:	1096	Erb-b2 rec	CCDS5514	OTTHUMG
AB018339	ENSG00009872452,1NM_18296:	1252	Spectrin re	CCDS5235	OTTHUMG
U53204	ENSG00008633055,8NM_00044:	939	Plakins	CCDS4376	OTTHUMG
BC019095	ENSG000016288218,NM_13881:	1299	BCH doma	CCDS4798	OTTHUMG
AB058761	ENSG000011347906,NG_01223:	28	Zinc finger	CCDS4554	OTTHUMG
J05200	ENSG00001862346,16621918	287 694	Ryanodine	CCDS3301	OTTHUMG
J03528	ENSG00000197081,NM_00087:471 1233		CD molecu	CCDS5273	OTTHUMG
AJ002535	ENSG000011448995,NM_05284:555 722 59		Fibronectin	CCDS1570	OTTHUMG
X83957	ENSG000010051637,NM_004543			CCDS4642	OTTHUMG
X90568	ENSG00002129545,1NM_13337:555 593 59		Fibronectin	CCDS5442	OTTHUMG
U53204	ENSG00008633055,8NM_00044:	939	Plakins	CCDS4376	OTTHUMG
BC019095	ENSG000016288218,NM_13881:	1299	BCH doma	CCDS4798	OTTHUMG
AB126077	ENSG000015144888,NM_02104:	619	Keratin ass	CCDS4168	OTTHUMG
AF414442	ENSG000011369781,NM_02469:	648	Mucins	CCDS54212	
J05200	ENSG00001862346,16621918	287 694	Ryanodine	CCDS3301	OTTHUMG
XM_048104	ENSG00002740331,2NM_00201:1350 863		S100 fusec	CCDS3086	OTTHUMG
AJ002535	ENSG000011448995,NM_05284:555 722 59		Fibronectin	CCDS1570	OTTHUMG
AJ002535	ENSG000011448995,NM_05284:555 722 59		Fibronectin	CCDS1570	OTTHUMG
AJ002535	ENSG000011448995,NM_05284:555 722 59		Fibronectin	CCDS1570	OTTHUMG
X83957	ENSG000010051637,NM_004543			CCDS4642	OTTHUMG
X83957	ENSG000010051637,NM_004543			CCDS4642	OTTHUMG
X90568	ENSG00002129545,1NM_13337:555 593 59		Fibronectin	CCDS5442	OTTHUMG
X90568	ENSG00002129545,1NM_13337:555 593 59		Fibronectin	CCDS5442	OTTHUMG
AY356402	ENSG000015003449,NM_02458:	24	Cadherin re	CCDS3732	OTTHUMG
AB018339	ENSG00009872452,1NM_18296:	1252	Spectrin re	CCDS5235	OTTHUMG
U53204	ENSG00008633055,8NM_00044:	939	Plakins	CCDS4376	OTTHUMG
BC019095	ENSG000016288218,NM_13881:	1299	BCH doma	CCDS4798	OTTHUMG

605925	NM_00131	O95613	ENSG000Guc002zji.4		O43152 Q7Z7C9
605925	NM_00131	O95613	ENSG000Guc002zji.4		O43152 Q7Z7C9
601282	NM_00044	Q15149	ENSG000Guc064rfy.1	hg38	Q15148 Q16640 Q6S376 Q6S377
000000575	NM_02104	O75690	ENSG000Guc001oqr.1		Q6L8G7 Q6UTX6
605925	NM_00131	O95613	ENSG000Guc002zji.4		O43152 Q7Z7C9
605925	NM_00131	O95613	ENSG000Guc002zji.4		O43152 Q7Z7C9
135940	NM_00201	P20930	ENSG000Guc001ezu.1		Q01720 Q5T583 Q9UC71
161650	NM_00116	P20929	ENSG000Guc031rpp.1	hg38	F8WCL5 F8WCP0 Q15346 Q53Q
612411	NM_00129	Q6V017	ENSG000Guc003ifj.5		A8K5Z6 B5MDG4 Q3LIA6 Q8TCK
608441	NM_03307	Q8NF91	ENSG000Guc003qou.4		E7EQI5 O94890 Q5JV19 Q5JV22
147280	NM_00087	P11717	ENSG000Guc003qta.4		Q7Z7G9 Q96PT5
147280	NM_00087	P11717	ENSG000Guc003qta.4		Q7Z7G9 Q96PT5
131550	NM_00522	P00533	ENSG000Guc003tqk.4		O00688 O00732 P06268 Q14225
606833	NM_17060	Q8NEZ4	ENSG00000055609		Q8NC02 Q8NDF6 Q9H9P4 Q9NR
606833	NM_17060	Q8NEZ4	ENSG00000055609		Q8NC02 Q8NDF6 Q9H9P4 Q9NR
601282	NM_00044	Q15149	ENSG000Guc064rfy.1	hg38	Q15148 Q16640 Q6S376 Q6S377
191170	NM_00054	P04637	ENSG000Guc060aur.1		Q15086 Q15087 Q15088 Q16535
				hg38	
608616	NM_00109	Q5VST9	ENSG000Guc001hsq.2	hg38	Q2A664 Q5T7G8 Q5T7G9 Q5VST9
188840	NM_00125	Q8WZ42	ENSG000Guc031rqc.3		A6NKB1 E7EQE6 E7ET18 K7EN
135940	NM_00201	P20930	ENSG000Guc001ezu.1		Q01720 Q5T583 Q9UC71
000000575	NM_02104	O75690	ENSG000Guc001oqr.1		Q6L8G7 Q6UTX6
135940	NM_00201	P20930	ENSG000Guc001ezu.1		Q01720 Q5T583 Q9UC71
601282	NM_00044	Q15149	ENSG000Guc064rfy.1		Q15148 Q16640 Q6S376 Q6S377
188840	NM_00125	Q8WZ42	ENSG000Guc031rqc.3		A6NKB1 E7EQE6 E7ET18 K7EN
606833	NM_17060	Q8NEZ4	ENSG00000055609		Q8NC02 Q8NDF6 Q9H9P4 Q9NR
000000575	NM_02104	O75690	ENSG000Guc001oqr.1		Q6L8G7 Q6UTX6
191170	NM_00054	P04637	ENSG000Guc060aur.1		Q15086 Q15087 Q15088 Q16535
191170	NM_00054	P04637	ENSG000Guc060aur.1		Q15086 Q15087 Q15088 Q16535
180901	NM_00054	P21817	ENSG000Guc002oit.4		Q16314 Q16368 Q9NPK1 Q9P1U
610691	NM_00130	Q8WUY3	ENSG000Guc010mpk.1	hg38	B3KYC4 B4DQH8 O15073 Q58A6
000000575	NM_02104	O75690	ENSG000Guc001oqr.1		Q6L8G7 Q6UTX6
606154	NM_02469	Q8WXI7	ENSG000Guc002mkp.3		Q6ZQW5 Q96RK2
135940	NM_00201	P20930	ENSG000Guc001ezu.1		Q01720 Q5T583 Q9UC71
608616	NM_00109	Q5VST9	ENSG000Guc001hsq.2	hg38	Q2A664 Q5T7G8 Q5T7G9 Q5VST9
104155	NM_00116	Q15911	ENSG000Guc002fck.4		D3DWS8 O15101 Q13719
000000575	NM_02104	O75690	ENSG000Guc001oqr.1		Q6L8G7 Q6UTX6
104155	NM_00116	Q15911	ENSG000Guc002fck.4		D3DWS8 O15101 Q13719
135940	NM_00201	P20930	ENSG000Guc001ezu.1		Q01720 Q5T583 Q9UC71
191170	NM_00054	P04637	ENSG000Guc060aur.1		Q15086 Q15087 Q15088 Q16535
191170	NM_00054	P04637	ENSG000Guc060aur.1		Q15086 Q15087 Q15088 Q16535
131550	NM_00522	P00533	ENSG000Guc003tqk.4		O00688 O00732 P06268 Q14225
188840	NM_00125	Q8WZ42	ENSG000Guc031rqc.3		A6NKB1 E7EQE6 E7ET18 K7EN
131550	NM_00522	P00533	ENSG000Guc003tqk.4		O00688 O00732 P06268 Q14225
131550	NM_00522	P00533	ENSG000Guc003tqk.4	hg38	O00688 O00732 P06268 Q14225
000000575	NM_02104	O75690	ENSG000Guc001oqr.1		Q6L8G7 Q6UTX6
114205	NM_00071	Q13936	ENSG000Guc001qkl.3		B2RUT3 E9PDJ0 Q13917 Q13918
135940	NM_00201	P20930	ENSG000Guc001ezu.1		Q01720 Q5T583 Q9UC71
606833	NM_17060	Q8NEZ4	ENSG00000055609		Q8NC02 Q8NDF6 Q9H9P4 Q9NR
612078	NM_00112	Q96JG9	ENSG000Guc002fku.2	hg38	
131550	NM_00522	P00533	ENSG000Guc003tqk.4	hg38	O00688 O00732 P06268 Q14225

180901	NM_00054	P21817	ENSG000Guc002oit.4	hg38	Q16314 Q16368 Q9NPK1 Q9P1U
608616	NM_00109	Q5VST9	ENSG000Guc001hsq.2		Q2A664 Q5T7G8 Q5T7G9 Q5VST9
612411	NM_00129	Q6V017	ENSG000Guc003ifj.5		A8K5Z6 B5MDG4 Q3LIA6 Q8TCK
131550	NM_00522	P00533	ENSG000Guc003tqk.4	hg38	O00688 O00732 P06268 Q14225
612078	NM_00112	Q96JG9	ENSG000Guc002fku.2	hg38	
191170	NM_00054	P04637	ENSG000Guc060aur.1		Q15086 Q15087 Q15088 Q16535
606154	NM_02469	Q8WXI7	ENSG000Guc002mkp.3		Q6ZQW5 Q96RK2
131550	NM_00522	P00533	ENSG000Guc003tqk.4		O00688 O00732 P06268 Q14225
131550	NM_00522	P00533	ENSG000Guc003tqk.4		O00688 O00732 P06268 Q14225
191170	NM_00054	P04637	ENSG000Guc060aur.1		Q15086 Q15087 Q15088 Q16535
161650	NM_00116	P20929	ENSG000Guc031rpp.1		F8WCL5 F8WCP0 Q15346 Q53Q
188840	NM_00125	Q8WZ42	ENSG000Guc031rqc.3		A6NKB1 E7EQE6 E7ET18 K7ENY
188840	NM_00125	Q8WZ42	ENSG000Guc031rqc.3		A6NKB1 E7EQE6 E7ET18 K7ENY
188840	NM_00125	Q8WZ42	ENSG000Guc031rqc.3		A6NKB1 E7EQE6 E7ET18 K7ENY
188840	NM_00125	Q8WZ42	ENSG000Guc031rqc.3		A6NKB1 E7EQE6 E7ET18 K7ENY
608441	NM_03307	Q8NF91	ENSG000Guc003qou.4		E7EQI5 O94890 Q5JV19 Q5JV22
608441	NM_03307	Q8NF91	ENSG000Guc003qou.4		E7EQI5 O94890 Q5JV19 Q5JV22
610691	NM_00130	Q8WUY3	ENSG000Guc010mpk.4		B3KYC4 B4DQH8 O15073 Q58A6
605925	NM_00131	O95613	ENSG000Guc002zji.4		O43152 Q7Z7C9
135940	NM_00201	P20930	ENSG000Guc001ezu.1		Q01720 Q5T583 Q9UC71
161650	NM_00116	P20929	ENSG000Guc031rpp.1		F8WCL5 F8WCP0 Q15346 Q53Q
188840	NM_00125	Q8WZ42	ENSG000Guc031rqc.3		A6NKB1 E7EQE6 E7ET18 K7ENY
612411	NM_00129	Q6V017	ENSG000Guc003ifj.5		A8K5Z6 B5MDG4 Q3LIA6 Q8TCK
131550	NM_00522	P00533	ENSG000Guc003tqk.4	hg38	O00688 O00732 P06268 Q14225
608441	NM_03307	Q8NF91	ENSG000Guc003qou.4		E7EQI5 O94890 Q5JV19 Q5JV22
601282	NM_00044	Q15149	ENSG000Guc064rfy.1	hg38	Q15148 Q16640 Q6S376 Q6S377
610691	NM_00130	Q8WUY3	ENSG000Guc010mpk.4		B3KYC4 B4DQH8 O15073 Q58A6
612078	NM_00112	Q96JG9	ENSG000Guc002fku.2	hg38	
180901	NM_00054	P21817	ENSG000Guc002oit.4		Q16314 Q16368 Q9NPK1 Q9P1U
147280	NM_00087	P11717	ENSG000Guc003qta.4		Q7Z7G9 Q96PT5
			hg38		
608616	NM_00109	Q5VST9	ENSG000Guc001hsq.2		Q2A664 Q5T7G8 Q5T7G9 Q5VST9
161650	NM_00116	P20929	ENSG000Guc031rpp.1		F8WCL5 F8WCP0 Q15346 Q53Q
188840	NM_00125	Q8WZ42	ENSG000Guc031rqc.3		A6NKB1 E7EQE6 E7ET18 K7ENY
601282	NM_00044	Q15149	ENSG000Guc064rfy.1		Q15148 Q16640 Q6S376 Q6S377
610691	NM_00130	Q8WUY3	ENSG000Guc010mpk.4		B3KYC4 B4DQH8 O15073 Q58A6
000000575	NM_02104	O75690	ENSG000Guc001oqr.1		Q6L8G7 Q6UTX6
606154	NM_02469	Q8WXI7	ENSG000Guc002mkp.3		Q6ZQW5 Q96RK2
180901	NM_00054	P21817	ENSG000Guc002oit.4	hg38	Q16314 Q16368 Q9NPK1 Q9P1U
135940	NM_00201	P20930	ENSG000Guc001ezu.1		Q01720 Q5T583 Q9UC71
608616	NM_00109	Q5VST9	ENSG000Guc001hsq.2	hg38	Q2A664 Q5T7G8 Q5T7G9 Q5VST9
608616	NM_00109	Q5VST9	ENSG000Guc001hsq.2	hg38	Q2A664 Q5T7G8 Q5T7G9 Q5VST9
608616	NM_00109	Q5VST9	ENSG000Guc001hsq.2	hg38	Q2A664 Q5T7G8 Q5T7G9 Q5VST9
161650	NM_00116	P20929	ENSG000Guc031rpp.1		F8WCL5 F8WCP0 Q15346 Q53Q
161650	NM_00116	P20929	ENSG000Guc031rpp.1		F8WCL5 F8WCP0 Q15346 Q53Q
188840	NM_00125	Q8WZ42	ENSG000Guc031rqc.3		A6NKB1 E7EQE6 E7ET18 K7ENY
188840	NM_00125	Q8WZ42	ENSG000Guc031rqc.3		A6NKB1 E7EQE6 E7ET18 K7ENY
612411	NM_00129	Q6V017	ENSG000Guc003ifj.5	hg38	A8K5Z6 B5MDG4 Q3LIA6 Q8TCK
608441	NM_03307	Q8NF91	ENSG000Guc003qou.4		E7EQI5 O94890 Q5JV19 Q5JV22
601282	NM_00044	Q15149	ENSG000Guc064rfy.1	hg38	Q15148 Q16640 Q6S376 Q6S377
610691	NM_00130	Q8WUY3	ENSG000Guc010mpk.4	hg38	B3KYC4 B4DQH8 O15073 Q58A6

chr1_a	bechr1_a	bechr1_a	bechr1_a	bechr1_a	bechr1_a	bechr1_a	bechr1_a	bechr1_b	bechr1_b	bechr1_b	
71	Q10465	Q10466	Q15598	Q2XUS3	Q32Q60	Q4U1Z6	Q4ZG20	Q6NSG0	Q6PDB1	Q6PJP0	Q7KYM2
3	Q13919	Q13920	Q13921	Q13922	Q13923	Q13924	Q13925	Q13926	Q13927	Q13928	Q13929
Q16807	Q16808	Q16809	Q16810	Q16811	Q16848	Q2XN98	Q3LRW1	Q3LRW2	Q3LRW3	Q3LRW4	Q3
Q68GS5	Q92795	Q9BZS2	Q9GZX1	Q9H2C9	Q9H3C9	Q9UMD7	Q9UMD8	Q9UMG5			
Q16807	Q16808	Q16809	Q16810	Q16811	Q16848	Q2XN98	Q3LRW1	Q3LRW2	Q3LRW3	Q3LRW4	Q3
71	Q10465	Q10466	Q15598	Q2XUS3	Q32Q60	Q4U1Z6	Q4ZG20	Q6NSG0	Q6PDB1	Q6PJP0	Q7KYM2
71	Q10465	Q10466	Q15598	Q2XUS3	Q32Q60	Q4U1Z6	Q4ZG20	Q6NSG0	Q6PDB1	Q6PJP0	Q7KYM2
71	Q10465	Q10466	Q15598	Q2XUS3	Q32Q60	Q4U1Z6	Q4ZG20	Q6NSG0	Q6PDB1	Q6PJP0	Q7KYM2
Q8N9P7	Q8TCP1	Q8WWW6	Q8WWW7	Q8WXF6	Q96N17	Q9C0A7	Q9H525	Q9H526	Q9NS36	Q9NU8	
	Q6S378	Q6S379	Q6S380	Q6S381	Q6S382	Q6S383					
3	Q13919	Q13920	Q13921	Q13922	Q13923	Q13924	Q13925	Q13926	Q13927	Q13928	Q13929
Q16807	Q16808	Q16809	Q16810	Q16811	Q16848	Q2XN98	Q3LRW1	Q3LRW2	Q3LRW3	Q3LRW4	Q3
Q2	Q53TG8										
Q2	Q53TG8										
Q68GS5	Q92795	Q9BZS2	Q9GZX1	Q9H2C9	Q9H3C9	Q9UMD7	Q9UMD8	Q9UMG5			
13	Q9P222	Q9UDR7									
Q16807	Q16808	Q16809	Q16810	Q16811	Q16848	Q2XN98	Q3LRW1	Q3LRW2	Q3LRW3	Q3LRW4	Q3
J2	Q86YC7	Q8NHN0	Q8NHN1	Q8NHN2	Q8NHN3	Q8NHN4	Q8NHN5	Q8NHN6	Q8NHN7	Q8NHN8	Q8N
71	Q10465	Q10466	Q15598	Q2XUS3	Q32Q60	Q4U1Z6	Q4ZG20	Q6NSG0	Q6PDB1	Q6PJP0	Q7KYM2
7	Q9H5T6										
	Q6S378	Q6S379	Q6S380	Q6S381	Q6S382	Q6S383					
	Q6S378	Q6S379	Q6S380	Q6S381	Q6S382	Q6S383					

|Q6S378|Q6S379|Q6S380|Q6S381|Q6S382|Q6S383

Q2|Q53TG8

7|Q9H5T6

|Q8N9P7|Q8TCP1|Q8WWW6|Q8WWW7|Q8WXF6|Q96N17|Q9C0A7|Q9H525|Q9H526|Q9NS36|Q9NU

Q68GS5|Q92795|Q9BZS2|Q9GZX1|Q9H2C9|Q9H3C9|Q9UMD7|Q9UMD8|Q9UMG5

13|Q9P222|Q9UDR7

13|Q9P222|Q9UDR7

|Q6S378|Q6S379|Q6S380|Q6S381|Q6S382|Q6S383

Q16807|Q16808|Q16809|Q16810|Q16811|Q16848|Q2XN98|Q3LRW1|Q3LRW2|Q3LRW3|Q3LRW4|Q3

|2|Q86YC7|Q8NHN0|Q8NHN1|Q8NHN2|Q8NHN3|Q8NHN4|Q8NHN5|Q8NHN6|Q8NHN7|Q8NHN8|Q8N

71|Q10465|Q10466|Q15598|Q2XUS3|Q32Q60|Q4U1Z6|Q4ZG20|Q6NSG0|Q6PDB1|Q6PJP0|Q7KYM2|

|Q6S378|Q6S379|Q6S380|Q6S381|Q6S382|Q6S383

71|Q10465|Q10466|Q15598|Q2XUS3|Q32Q60|Q4U1Z6|Q4ZG20|Q6NSG0|Q6PDB1|Q6PJP0|Q7KYM2|

13|Q9P222|Q9UDR7

Q16807|Q16808|Q16809|Q16810|Q16811|Q16848|Q2XN98|Q3LRW1|Q3LRW2|Q3LRW3|Q3LRW4|Q3

Q16807|Q16808|Q16809|Q16810|Q16811|Q16848|Q2XN98|Q3LRW1|Q3LRW2|Q3LRW3|Q3LRW4|Q3

4

|3|Q5JUB6|Q5T304|Q5T476|Q6T2V6|Q6T2V7|Q8N665

|2|Q86YC7|Q8NHN0|Q8NHN1|Q8NHN2|Q8NHN3|Q8NHN4|Q8NHN5|Q8NHN6|Q8NHN7|Q8NHN8|Q8N

Q16807|Q16808|Q16809|Q16810|Q16811|Q16848|Q2XN98|Q3LRW1|Q3LRW2|Q3LRW3|Q3LRW4|Q3

Q16807|Q16808|Q16809|Q16810|Q16811|Q16848|Q2XN98|Q3LRW1|Q3LRW2|Q3LRW3|Q3LRW4|Q3

Q68GS5|Q92795|Q9BZS2|Q9GZX1|Q9H2C9|Q9H3C9|Q9UMD7|Q9UMD8|Q9UMG5

71|Q10465|Q10466|Q15598|Q2XUS3|Q32Q60|Q4U1Z6|Q4ZG20|Q6NSG0|Q6PDB1|Q6PJP0|Q7KYM2|

Q68GS5|Q92795|Q9BZS2|Q9GZX1|Q9H2C9|Q9H3C9|Q9UMD7|Q9UMD8|Q9UMG5

Q68GS5|Q92795|Q9BZS2|Q9GZX1|Q9H2C9|Q9H3C9|Q9UMD7|Q9UMD8|Q9UMG5

3|Q13919|Q13920|Q13921|Q13922|Q13923|Q13924|Q13925|Q13926|Q13927|Q13928|Q13929|Q13930

13|Q9P222|Q9UDR7

Q68GS5|Q92795|Q9BZS2|Q9GZX1|Q9H2C9|Q9H3C9|Q9UMD7|Q9UMD8|Q9UMG5

4

J2|Q86YC7|Q8NHN0|Q8NHN1|Q8NHN2|Q8NHN3|Q8NHN4|Q8NHN5|Q8NHN6|Q8NHN7|Q8NHN8|Q8N7|Q9H5T6

Q68GS5|Q92795|Q9BZS2|Q9GZX1|Q9H2C9|Q9H3C9|Q9UMD7|Q9UMD8|Q9UMG5

Q16807|Q16808|Q16809|Q16810|Q16811|Q16848|Q2XN98|Q3LRW1|Q3LRW2|Q3LRW3|Q3LRW4|Q3

Q68GS5|Q92795|Q9BZS2|Q9GZX1|Q9H2C9|Q9H3C9|Q9UMD7|Q9UMD8|Q9UMG5

Q68GS5|Q92795|Q9BZS2|Q9GZX1|Q9H2C9|Q9H3C9|Q9UMD7|Q9UMD8|Q9UMG5

Q16807|Q16808|Q16809|Q16810|Q16811|Q16848|Q2XN98|Q3LRW1|Q3LRW2|Q3LRW3|Q3LRW4|Q3Q2|Q53TG8

/1|Q10465|Q10466|Q15598|Q2XUS3|Q32Q60|Q4U1Z6|Q4ZG20|Q6NSG0|Q6PDB1|Q6PJP0|Q7KYM2|Q

/1|Q10465|Q10466|Q15598|Q2XUS3|Q32Q60|Q4U1Z6|Q4ZG20|Q6NSG0|Q6PDB1|Q6PJP0|Q7KYM2|Q

/1|Q10465|Q10466|Q15598|Q2XUS3|Q32Q60|Q4U1Z6|Q4ZG20|Q6NSG0|Q6PDB1|Q6PJP0|Q7KYM2|Q

/1|Q10465|Q10466|Q15598|Q2XUS3|Q32Q60|Q4U1Z6|Q4ZG20|Q6NSG0|Q6PDB1|Q6PJP0|Q7KYM2|Q

Q8N9P7|Q8TCP1|Q8WWW6|Q8WWW7|Q8WXF6|Q96N17|Q9C0A7|Q9H525|Q9H526|Q9NS36|Q9NU

Q8N9P7|Q8TCP1|Q8WWW6|Q8WWW7|Q8WXF6|Q96N17|Q9C0A7|Q9H525|Q9H526|Q9NS36|Q9NU

3|Q5JUB6|Q5T304|Q5T476|Q6T2V6|Q6T2V7|Q8N665

Q2|Q53TG8

/1|Q10465|Q10466|Q15598|Q2XUS3|Q32Q60|Q4U1Z6|Q4ZG20|Q6NSG0|Q6PDB1|Q6PJP0|Q7KYM2|Q7|Q9H5T6

Q68GS5|Q92795|Q9BZS2|Q9GZX1|Q9H2C9|Q9H3C9|Q9UMD7|Q9UMD8|Q9UMG5

Q8N9P7|Q8TCP1|Q8WWW6|Q8WWW7|Q8WXF6|Q96N17|Q9C0A7|Q9H525|Q9H526|Q9NS36|Q9NU

|Q6S378|Q6S379|Q6S380|Q6S381|Q6S382|Q6S383

3|Q5JUB6|Q5T304|Q5T476|Q6T2V6|Q6T2V7|Q8N665

4

J2|Q86YC7|Q8NHN0|Q8NHN1|Q8NHN2|Q8NHN3|Q8NHN4|Q8NHN5|Q8NHN6|Q8NHN7|Q8NHN8|Q8N

Q2|Q53TG8

/1|Q10465|Q10466|Q15598|Q2XUS3|Q32Q60|Q4U1Z6|Q4ZG20|Q6NSG0|Q6PDB1|Q6PJP0|Q7KYM2|Q

|Q6S378|Q6S379|Q6S380|Q6S381|Q6S382|Q6S383

3|Q5JUB6|Q5T304|Q5T476|Q6T2V6|Q6T2V7|Q8N665

4

J2|Q86YC7|Q8NHN0|Q8NHN1|Q8NHN2|Q8NHN3|Q8NHN4|Q8NHN5|Q8NHN6|Q8NHN7|Q8NHN8|Q8N

J2|Q86YC7|Q8NHN0|Q8NHN1|Q8NHN2|Q8NHN3|Q8NHN4|Q8NHN5|Q8NHN6|Q8NHN7|Q8NHN8|Q8N

J2|Q86YC7|Q8NHN0|Q8NHN1|Q8NHN2|Q8NHN3|Q8NHN4|Q8NHN5|Q8NHN6|Q8NHN7|Q8NHN8|Q8N

Q2|Q53TG8

Q2|Q53TG8

/1|Q10465|Q10466|Q15598|Q2XUS3|Q32Q60|Q4U1Z6|Q4ZG20|Q6NSG0|Q6PDB1|Q6PJP0|Q7KYM2|Q

/1|Q10465|Q10466|Q15598|Q2XUS3|Q32Q60|Q4U1Z6|Q4ZG20|Q6NSG0|Q6PDB1|Q6PJP0|Q7KYM2|Q

7|Q9H5T6

Q8N9P7|Q8TCP1|Q8WWW6|Q8WWW7|Q8WXF6|Q96N17|Q9C0A7|Q9H525|Q9H526|Q9NS36|Q9NU

|Q6S378|Q6S379|Q6S380|Q6S381|Q6S382|Q6S383

3|Q5JUB6|Q5T304|Q5T476|Q6T2V6|Q6T2V7|Q8N665

4

71|Q10465|Q10466|Q15598|Q2XUS3|Q32Q60|Q4U1Z6|Q4ZG20|Q6NSG0|Q6PDB1|Q6PJP0|Q7KYM2|
13|Q9P222|Q9UDR7
13|Q9P222|Q9UDR7

4

71|Q10465|Q10466|Q15598|Q2XUS3|Q32Q60|Q4U1Z6|Q4ZG20|Q6NSG0|Q6PDB1|Q6PJP0|Q7KYM2|
71|Q10465|Q10466|Q15598|Q2XUS3|Q32Q60|Q4U1Z6|Q4ZG20|Q6NSG0|Q6PDB1|Q6PJP0|Q7KYM2|
3|Q5JUB6|Q5T304|Q5T476|Q6T2V6|Q6T2V7|Q8N665

Q8N9P7|Q8TCP1|Q8WWW6|Q8WWW7|Q8WXF6|Q96N17|Q9C0A7|Q9H525|Q9H526|Q9NS36|Q9NU5
13|Q9P222|Q9UDR7

Q16807|Q16808|Q16809|Q16810|Q16811|Q16848|Q2XN98|Q3LRW1|Q3LRW2|Q3LRW3|Q3LRW4|Q3

4

Q16807|Q16808|Q16809|Q16810|Q16811|Q16848|Q2XN98|Q3LRW1|Q3LRW2|Q3LRW3|Q3LRW4|Q3
13|Q9P222|Q9UDR7

13|Q9P222|Q9UDR7

Q2|Q53TG8

/1|Q10465|Q10466|Q15598|Q2XUS3|Q32Q60|Q4U1Z6|Q4ZG20|Q6NSG0|Q6PDB1|Q6PJP0|Q7KYM2|

/1|Q10465|Q10466|Q15598|Q2XUS3|Q32Q60|Q4U1Z6|Q4ZG20|Q6NSG0|Q6PDB1|Q6PJP0|Q7KYM2|

/1|Q10465|Q10466|Q15598|Q2XUS3|Q32Q60|Q4U1Z6|Q4ZG20|Q6NSG0|Q6PDB1|Q6PJP0|Q7KYM2|

7|Q9H5T6

|Q8N9P7|Q8TCP1|Q8WWW6|Q8WWW7|Q8WXF6|Q96N17|Q9C0A7|Q9H525|Q9H526|Q9NS36|Q9NU

Q68GS5|Q92795|Q9BZS2|Q9GZX1|Q9H2C9|Q9H3C9|Q9UMD7|Q9UMD8|Q9UMG5

										FALSE	FALSE
HN9 Q96AA2 Q9HCD3 Q9HCL6										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
LRW5 Q86UG1 Q8J016 Q99659 Q9BTM4 Q9HAQ8 Q9NP68 Q9NPJ2 Q9NZD0										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
LRW5 Q86UG1 Q8J016 Q99659 Q9BTM4 Q9HAQ8 Q9NP68 Q9NPJ2 Q9NZD0										FALSE	FALSE
										FALSE	FALSE
Q7KYN4 Q7KYN5 Q7LDM3 Q7Z2X3 Q8TCG8 Q8WZ42 Q8WZ51 Q8WZ52 Q8W										FALSE	FALSE
Q7KYN4 Q7KYN5 Q7LDM3 Q7Z2X3 Q8TCG8 Q8WZ42 Q8WZ51 Q8WZ52 Q8W										FALSE	FALSE
Q7KYN4 Q7KYN5 Q7LDM3 Q7Z2X3 Q8TCG8 Q8WZ42 Q8WZ51 Q8WZ52 Q8W										FALSE	FALSE
Q7KYN4 Q7KYN5 Q7LDM3 Q7Z2X3 Q8TCG8 Q8WZ42 Q8WZ51 Q8WZ52 Q8W										FALSE	FALSE
50 Q9UJ06 Q9UJ07 Q9ULF8										FALSE	FALSE
50 Q9UJ06 Q9UJ07 Q9ULF8										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
Q7KYN4 Q7KYN5 Q7LDM3 Q7Z2X3 Q8TCG8 Q8WZ42 Q8WZ51 Q8WZ52 Q8W										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
50 Q9UJ06 Q9UJ07 Q9ULF8										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
HN9 Q96AA2 Q9HCD3 Q9HCL6										FALSE	FALSE
										FALSE	FALSE
Q7KYN4 Q7KYN5 Q7LDM3 Q7Z2X3 Q8TCG8 Q8WZ42 Q8WZ51 Q8WZ52 Q8W										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
HN9 Q96AA2 Q9HCD3 Q9HCL6										FALSE	FALSE
HN9 Q96AA2 Q9HCD3 Q9HCL6										FALSE	FALSE
HN9 Q96AA2 Q9HCD3 Q9HCL6										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
Q7KYN4 Q7KYN5 Q7LDM3 Q7Z2X3 Q8TCG8 Q8WZ42 Q8WZ51 Q8WZ52 Q8W										FALSE	FALSE
Q7KYN4 Q7KYN5 Q7LDM3 Q7Z2X3 Q8TCG8 Q8WZ42 Q8WZ51 Q8WZ52 Q8W										FALSE	FALSE
										FALSE	FALSE
50 Q9UJ06 Q9UJ07 Q9ULF8										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE
										FALSE	FALSE

dbSNP_U3	dbSNP_U5	dbSNP_VC	dbSNP_VF	dbSNP_W	dbSNP_W	dbSNP_db	HGNC_Ent	dbSNP_RS
FALSE	FALSE				FALSE		7273	
FALSE	FALSE				FALSE		57830	
FALSE	FALSE				FALSE		775	
FALSE	FALSE				FALSE		7157	
FALSE	FALSE				FALSE		94025	
FALSE	FALSE				FALSE			
FALSE	FALSE				FALSE			
FALSE	FALSE				FALSE			
FALSE	FALSE				FALSE			
FALSE	FALSE				FALSE			
FALSE	FALSE				FALSE			
FALSE	FALSE				FALSE			
FALSE	FALSE				FALSE			
FALSE	FALSE				FALSE			
FALSE	FALSE				FALSE			
FALSE	FALSE				FALSE			
FALSE	FALSE				FALSE			
FALSE	FALSE				FALSE			
FALSE	FALSE				FALSE			
FALSE	FALSE				FALSE			
FALSE	FALSE				FALSE			
FALSE	FALSE				FALSE			
FALSE	FALSE				FALSE			
FALSE	FALSE				FALSE			
FALSE	FALSE				FALSE			
FALSE	FALSE				FALSE			
FALSE	FALSE				FALSE			
FALSE	FALSE				FALSE		1956	
FALSE	FALSE				FALSE		7157	
FALSE	FALSE				FALSE		94025	
FALSE	FALSE				FALSE			
FALSE	FALSE				FALSE			
FALSE	FALSE				FALSE		7273	
FALSE	FALSE				FALSE		7273	
FALSE	FALSE				FALSE		7273	
FALSE	FALSE				FALSE		23345	
FALSE	FALSE				FALSE		5339	
FALSE	FALSE				FALSE		775	
FALSE	FALSE				FALSE			
FALSE	FALSE				FALSE		7157	
FALSE	FALSE				FALSE		4703	
FALSE	FALSE				FALSE		4703	
FALSE	FALSE				FALSE		1956	
FALSE	FALSE				FALSE		58508	
FALSE	FALSE				FALSE		463	
FALSE	FALSE				FALSE		7157	
FALSE	FALSE				FALSE		94025	
FALSE	FALSE				FALSE		5116	
FALSE	FALSE				FALSE		2312	
FALSE	FALSE				FALSE		84033	
FALSE	FALSE				FALSE		7273	
FALSE	FALSE				FALSE		79633	
FALSE	FALSE				FALSE		5339	
FALSE	FALSE				FALSE		5339	
FALSE	FALSE				FALSE		57830	
FALSE	FALSE				FALSE			

FALSE	FALSE			FALSE	5116
FALSE	FALSE			FALSE	5116
FALSE	FALSE			FALSE	5339
FALSE	FALSE			FALSE	57830
FALSE	FALSE			FALSE	5116
FALSE	FALSE			FALSE	5116
FALSE	FALSE			FALSE	2312
FALSE	FALSE			FALSE	4703
FALSE	FALSE			FALSE	79633
FALSE	FALSE			FALSE	23345
FALSE	FALSE			FALSE	3482
FALSE	FALSE			FALSE	3482
FALSE	FALSE			FALSE	1956
FALSE	FALSE			FALSE	58508
FALSE	FALSE			FALSE	58508
FALSE	FALSE			FALSE	5339
FALSE	FALSE			FALSE	7157
FALSE	FALSE			FALSE	
FALSE	FALSE			FALSE	
FALSE	FALSE			FALSE	
FALSE	FALSE			FALSE	
FALSE	FALSE			FALSE	84033
FALSE	FALSE			FALSE	7273
FALSE	FALSE			FALSE	
FALSE	FALSE			FALSE	
FALSE	FALSE			FALSE	
FALSE	FALSE			FALSE	2312
FALSE	FALSE			FALSE	57830
FALSE	FALSE			FALSE	
FALSE	FALSE			FALSE	2312
FALSE	FALSE			FALSE	5339
FALSE	FALSE			FALSE	7273
FALSE	FALSE			FALSE	58508
FALSE	FALSE			FALSE	57830
FALSE	FALSE			FALSE	7157
FALSE	FALSE			FALSE	7157
FALSE	FALSE			FALSE	6261
FALSE	FALSE			FALSE	158471
FALSE	FALSE			FALSE	57830
FALSE	FALSE			FALSE	94025
FALSE	FALSE			FALSE	2312
FALSE	FALSE			FALSE	84033
FALSE	FALSE			FALSE	463
FALSE	FALSE			FALSE	
FALSE	FALSE			FALSE	57830
FALSE	FALSE			FALSE	463
FALSE	FALSE			FALSE	2312
FALSE	FALSE			FALSE	7157
FALSE	FALSE			FALSE	7157
FALSE	FALSE			FALSE	1956
FALSE	FALSE			FALSE	7273
FALSE	FALSE			FALSE	1956
FALSE	FALSE			FALSE	1956
FALSE	FALSE			FALSE	57830
FALSE	FALSE			FALSE	775
FALSE	FALSE			FALSE	
FALSE	FALSE			FALSE	2312
FALSE	FALSE			FALSE	58508
FALSE	FALSE			FALSE	84627
FALSE	FALSE			FALSE	1956

FALSE	FALSE			FALSE	6261
FALSE	FALSE			FALSE	84033
FALSE	FALSE			FALSE	79633
FALSE	FALSE			FALSE	1956
FALSE	FALSE			FALSE	84627
FALSE	FALSE			FALSE	7157
FALSE	FALSE			FALSE	94025
FALSE	FALSE			FALSE	1956
FALSE	FALSE			FALSE	1956
FALSE	FALSE			FALSE	7157
FALSE	FALSE			FALSE	4703
FALSE	FALSE			FALSE	7273
FALSE	FALSE			FALSE	7273
FALSE	FALSE			FALSE	7273
FALSE	FALSE			FALSE	7273
FALSE	FALSE			FALSE	23345
FALSE	FALSE			FALSE	23345
FALSE	FALSE			FALSE	158471
FALSE	FALSE			FALSE	
FALSE	FALSE			FALSE	5116
FALSE	FALSE			FALSE	2312
FALSE	FALSE			FALSE	4703
FALSE	FALSE			FALSE	7273
FALSE	FALSE			FALSE	79633
FALSE	FALSE			FALSE	1956
FALSE	FALSE			FALSE	23345
FALSE	FALSE			FALSE	5339
FALSE	FALSE			FALSE	158471
FALSE	FALSE			FALSE	84627
FALSE	FALSE			FALSE	6261
FALSE	FALSE			FALSE	
FALSE	FALSE			FALSE	
FALSE	FALSE			FALSE	3482
FALSE	FALSE			FALSE	
FALSE	FALSE			FALSE	
FALSE	FALSE			FALSE	
FALSE	FALSE			FALSE	
FALSE	FALSE			FALSE	
FALSE	FALSE			FALSE	
FALSE	FALSE			FALSE	
FALSE	FALSE			FALSE	84033
FALSE	FALSE			FALSE	4703
FALSE	FALSE			FALSE	7273
FALSE	FALSE			FALSE	5339
FALSE	FALSE			FALSE	158471
FALSE	FALSE			FALSE	57830
FALSE	FALSE			FALSE	94025
FALSE	FALSE			FALSE	6261
FALSE	FALSE			FALSE	2312
FALSE	FALSE			FALSE	84033
FALSE	FALSE			FALSE	84033
FALSE	FALSE			FALSE	84033
FALSE	FALSE			FALSE	4703
FALSE	FALSE			FALSE	4703
FALSE	FALSE			FALSE	7273
FALSE	FALSE			FALSE	7273
FALSE	FALSE			FALSE	79633
FALSE	FALSE			FALSE	23345
FALSE	FALSE			FALSE	5339
FALSE	FALSE			FALSE	158471

dbSNP_VLDP	ECNT	NLOD	RPA	RU	STR	id	
FALSE	945	1	37.23			pt2	
FALSE	2105	1	59.05			pt2	
FALSE	1280	2	35.47			pt2	
FALSE	760	1	41.48			pt2	
FALSE	539	1	20.97			pt2	
FALSE	1044	2	88.75			pt3	
FALSE	381	1	25.88			pt3	
FALSE	573	2	40.92			pt3	
FALSE	421	1	39.13			pt3	
FALSE	255	1	13.85			pt3	
FALSE	614	2	30.61			pt3	
FALSE	619	2	33.36			pt3	
FALSE	222	2	23.78			pt3	
FALSE	259	2	27.99			pt3	
FALSE	405	1	29.45			pt3	
FALSE	670	1	41.34			pt4	
FALSE	474	1	22.73			pt4	
FALSE	307	1	9.63			pt4	
FALSE	395	1	20.97			pt4	
FALSE	625	1	29.15			pt5	
FALSE	339	2	14.15			pt5	
FALSE	806	1	25.88			pt5	
FALSE	714	1	29.41			pt5	
FALSE	817	1	34.62			pt5	
FALSE	866	2	25.88			pt5	
FALSE	922	1	38.83			pt5	
FALSE	70	1	3.61			pt5	
FALSE	446	2	16.5			pt5	
FALSE	605	2	24.96			pt7	
FALSE	908	1	23.68			pt9	
FALSE	467	1	25.49			pt9	
FALSE	978	1	49.57			pt9	
FALSE	280	2	16.25			pt10	
FALSE	280	2	17.76			pt10	
FALSE	524	1	19.26			pt11	
FALSE	991	1	24.52			pt11	
FALSE	524	1	30.96			pt11	
FALSE	642	1	16.25			pt11	
FALSE	602	1	24.94			pt11	
FALSE	1015	1	38.44			pt11	
FALSE	226	2	16.25			pt11	
FALSE	501	1	20.42			pt11	
FALSE	672	2	21.35	[2, 1]	GC	TRUE	pt12
FALSE	659	2	21.36				pt12
FALSE	930	1	16.21				pt12
FALSE	754	1	37.22				pt12
FALSE	1226	1	41.51	[4, 2]	C	TRUE	pt12
FALSE	609	1	21.67				pt12
FALSE	492	1	27.69				pt12
FALSE	294	1	12.91				pt12
FALSE	1114	1	43.6				pt13
FALSE	517	1	20.76				pt13
FALSE	837	1	32.76				pt13
FALSE	353	1	10.23				pt13
FALSE	2120	2	69.17				pt13
FALSE	2090	2	69.19				pt13
FALSE	856	1	35.16				pt13
FALSE	252	2	20.08				pt13

FALSE	728	2	25.48				pt13
FALSE	724	2	24.73				pt13
FALSE	162	1	7.78				pt14
FALSE	1912	1	55.13				pt14
FALSE	199	2	13.24				pt14
FALSE	195	2	13.24				pt14
FALSE	3279	1	90				pt15
FALSE	234	1	11.42				pt15
FALSE	514	1	13.85				pt15
FALSE	782	1	25.49				pt15
FALSE	68	1	6.62				pt15
FALSE	150	1	8.68				pt15
FALSE	536	1	22.27				pt15
FALSE	345	2	23.73				pt15
FALSE	483	2	25.75				pt15
FALSE	273	2	13.5				pt15
FALSE	556	1	21.58				pt15
FALSE	310	1	17.05				pt16
FALSE	179	2	17.16				pt16
FALSE	257	2	19.22				pt16
FALSE	413	1	19.56				pt16
FALSE	752	2	16.48				pt17
FALSE	253	1	19.25				pt17
FALSE	140	2	16.56				pt18
FALSE	147	2	14.75				pt18
FALSE	281	1	17.15				pt18
FALSE	1023	1	51.83				pt19
FALSE	1751	1	57.74				pt19
FALSE	224	2	19.57				pt19
FALSE	985	2	19.86				pt20
FALSE	407	1	15.35				pt20
FALSE	396	1	25.75				pt21
FALSE	487	1	24.23				pt21
FALSE	1305	1	54.35				pt21
FALSE	460	1	20.47				pt21
FALSE	408	1	19.29	[3, 5]	C	TRUE	pt21
FALSE	731	1	21.61				pt21
FALSE	616	1	27.39				pt22
FALSE	2130	1	41.28				pt22
FALSE	861	1	36.41				pt22
FALSE	2043	1	139.98				pt23
FALSE	327	2	16.24				pt23
FALSE	1145	2	64.11				pt23
FALSE	184	2	19.87				pt25
FALSE	2208	2	76.8				pt26
FALSE	443	1	21.97				pt26
FALSE	1212	1	68.14				pt28
FALSE	712	2	35.52				pt28
FALSE	708	2	35.49				pt28
FALSE	694	1	15.15				pt29
FALSE	442	1	17.46				pt30
FALSE	675	1	13.18				pt30
FALSE	564	1	15.65				pt30
FALSE	2429	1	58.87				pt30
FALSE	471	1	9.88				pt30
FALSE	302	2	19.87				pt30
FALSE	1427	1	60.81				pt31
FALSE	119	1	6.28				pt31
FALSE	795	2	24.67				pt31
FALSE	445	1	18.96				pt32

FALSE	586	1	36.64	[2, 1]	GCA	TRUE	pt32
FALSE	936	1	40.52				pt33
FALSE	183	1	11.99				pt33
FALSE	546	1	10.23				pt33
FALSE	305	1	21.02				pt33
FALSE	439	1	20.97				pt33
FALSE	468	1	24.03				pt33
FALSE	441	2	12.04				pt34
FALSE	467	2	12.34				pt34
FALSE	333	1	17.16				pt34
FALSE	295	1	35.33				pt35
FALSE	270	1	34.91				pt35
FALSE	256	1	33.06				pt35
FALSE	332	2	36.53				pt35
FALSE	350	2	37.93				pt35
FALSE	164	2	18.82				pt35
FALSE	181	2	19.22				pt35
FALSE	246	1	25.23				pt35
FALSE	176	2	22.88				pt35
FALSE	76	1	8.68				pt35
FALSE	1102	1	59.44				pt36
FALSE	265	1	25.23	[6, 7]	T	TRUE	pt36
FALSE	544	1	43.55				pt36
FALSE	615	1	51.13				pt36
FALSE	325	1	21.97				pt36
FALSE	568	1	30.4				pt38
FALSE	519	1	44.37				pt38
FALSE	386	1	18.84				pt38
FALSE	430	1	44.46				pt38
FALSE	268	1	23.46				pt38
FALSE	226	1	50.73				pt39
FALSE	178	1	23.18				pt39
FALSE	205	1	12.2				pt42
FALSE	497	1	34.87				pt43
FALSE	451	1	33.32				pt43
FALSE	360	1	28.54				pt43
FALSE	876	1	27.39				pt44
FALSE	1231	1	45.41				pt44
FALSE	894	1	50.22				pt44
FALSE	219	1	10.23				pt44
FALSE	41	1	3.01				pt45
FALSE	247	1	17.76				pt45
FALSE	370	1	31.55				pt45
FALSE	256	1	15.05				pt45
FALSE	449	2	35.9				pt45
FALSE	538	1	46.07				pt45
FALSE	600	1	49.09				pt45
FALSE	250	2	19.56				pt45
FALSE	742	2	54.02				pt46
FALSE	847	2	56.89				pt46
FALSE	600	2	40.47				pt46
FALSE	277	1	21.99				pt46
FALSE	1079	2	69.23				pt46
FALSE	313	1	24.33				pt46
FALSE	408	1	24.29				pt46
FALSE	327	2	25.26				pt46
FALSE	1104	2	85.82				pt46
FALSE	284	1	20.01				pt46
FALSE	310	2	16.8				pt46
FALSE	334	1	19.86				pt46

FALSE	387	1	26.04				pt46
FALSE	490	2	35.48				pt46
FALSE	142	1	10.22				pt46
FALSE	654	2	52.61				pt46
FALSE	438	1	33.72				pt46
FALSE	279	2	18.31				pt46
FALSE	484	2	23.14				pt47
FALSE	720	2	39.38				pt47
FALSE	621	2	34.01				pt47
FALSE	1080	1	59.25				pt47
FALSE	443	1	21.97				pt47
FALSE	383	1	25.28				pt47
FALSE	558	2	31.09				pt47
FALSE	542	1	25.1				pt47
FALSE	1558	1	51.83				pt48
FALSE	639	1	41.23				pt48
FALSE	552	1	43.9				pt48
FALSE	610	1	24.29				pt48
FALSE	1020	1	25.58				pt48
FALSE	562	2	26.19				pt49
FALSE	167	2	10.84				pt49
FALSE	173	2	20.47				pt49
FALSE	827	1	49.31				pt49
FALSE	671	1	46.47				pt49
FALSE	1011	1	52.61				pt49
FALSE	600	1	27.95				pt49
FALSE	433	1	27.68				pt50
FALSE	315	1	29.19				pt50
FALSE	149	1	13.24				pt50
FALSE	213	1	15.64				pt50
FALSE	385	1	33.63	[2, 1]	C	TRUE	pt50
FALSE	277	1	24.63				pt50
FALSE	259	1	18.96				pt50
FALSE	551	1	38.48				pt50
FALSE	269	1	18.82				pt50
FALSE	388	1	37.32				pt50
FALSE	355	1	35.51				pt50
FALSE	372	1	33.41				pt50
FALSE	284	1	25.59				pt50
FALSE	203	1	22.27				pt50
FALSE	146	1	13.84				pt50
FALSE	266	1	22.23				pt50
FALSE	277	1	20.47				pt50
FALSE	405	1	40.03				pt50
FALSE	302	1	27.39				pt50
FALSE	294	1	31				pt50
FALSE	62	1	6.02				pt50
FALSE	333	1	33.89				pt50
FALSE	335	1	26.44				pt50
FALSE	259	1	24.37				pt50
FALSE	303	1	22.88				pt50
FALSE	449	1	27.38	[3, 4]	T	TRUE	pt50
FALSE	273	1	27				pt51
FALSE	198	1	20.16				pt51
FALSE	604	1	22.27				pt52
FALSE	903	1	37.32				pt52
FALSE	1345	1	55.27				pt52
FALSE	428	1	13.86				pt52
FALSE	147	1	30.08				pt54
FALSE	76	1	14.45				pt54

FALSE	296	2	8.13			pt56
FALSE	1967	1	165.71			pt57
FALSE	1756	1	118.9			pt57
FALSE	282	1	21.06			pt57
FALSE	716	1	67.56			pt57
FALSE	504	2	43.3			pt57
FALSE	498	2	35.27			pt57
FALSE	434	1	46			pt57
FALSE	329	1	36.67			pt57
FALSE	415	1	54.44			pt57
FALSE	274	1	22.23			pt57
FALSE	379	1	57.19			pt57
FALSE	355	1	29.62			pt57
FALSE	278	1	24.68			pt57
FALSE	717	1	60.17			pt57
FALSE	419	1	24.08			pt57
FALSE	551	1	44.55			pt57
FALSE	291	1	34.43			pt58
FALSE	111	1	15.05			pt58
FALSE	135	1	8.68			pt58
FALSE	193	1	8.43			pt58
FALSE	359	1	40.03			pt58
FALSE	186	1	13.24			pt58
FALSE	204	2	15.97			pt58
FALSE	309	2	17.22			pt58
FALSE	237	1	21.58			pt58
FALSE	477	2	18.3			pt58
FALSE	105	2	9.63			pt58
FALSE	295	1	28.9			pt58
FALSE	292	1	25.89			pt58
FALSE	233	1	7.52			pt58
FALSE	68	1	6.62			pt50
FALSE	150	1	8.68			pt35
FALSE	150	1	8.68			pt58
FALSE	150	1	8.68			pt47
FALSE	150	1	8.68			pt12
FALSE	150	1	8.68			pt49
FALSE	150	1	8.68			pt5
FALSE	150	1	8.68			pt11