

## ONCONEXT TISSUE

### RICERCA DI MUTAZIONI SOMATICHE HOTSPOT IN TUMORI SOLIDI

#### Il tumore e mutazioni somatiche.

I tumori sono patologie dovute ad alterazioni genetiche in cui la componente cellulare non risponde correttamente ai fattori che normalmente ne controllano la proliferazione. Una singola alterazione genetica non è in genere sufficiente a provocare il cancro. Infatti, i tumori sono processi multifasici: la progressione neoplastica consiste in una serie successiva di alterazioni genetiche che si accumulano.

La maggior parte dei tumori è correlata in letteratura alla presenza di mutazioni geniche somatiche<sup>1,2</sup>. Tali mutazioni somatiche si sviluppano in modo spontaneo potenzialmente in qualsiasi tipo di cellula. Queste alterazioni del DNA possono derivare da errori casuali durante la replicazione, o dall'esposizione a fattori ambientali mutageni accidentali, professionali, o dipendenti dallo stile di vita. A differenza delle varianti patogenetiche ereditabili (germline mutations) che sono presenti nella linea germinale, le mutazioni somatiche non sono trasmissibili alla progenie.

Migliaia di mutazioni somatiche, che possono influenzare l'insorgenza di un tumore, lo sviluppo di metastasi o la risposta/resistenza a un trattamento, sono state catalogate su database internazionali. L'identificazione e la comprensione di queste alterazioni del DNA nel tumore possono essere cruciali nella diagnosi del cancro e nella pianificazione del suo trattamento, dal monitoraggio della risposta alla terapia all'identificazione precoce della ripresa. Inoltre, durante la progressione di un tumore, il tessuto continua a sviluppare ulteriori nuove mutazioni e queste ultime possono influenzare la risposta agli agenti terapeutici innescando meccanismi di resistenza.

La diagnosi del cancro, richiede una serie di analisi, tra le quali la biopsia tissutale costituisce il gold standard. La strategia terapeutica contro il cancro, e il controllo della risposta terapeutica, sono convenzionalmente decisi attraverso un approccio analitico che associa la diagnostica per immagini alla caratterizzazione patologica della biopsia del tessuto.

Utilità clinica dell'analisi del ctDNA nel monitoraggio della malattia tumorale e nella medicina di precisione In letteratura è dimostrato che mutazioni somatiche in un determinato gruppo di geni sono spesso alla base dello sviluppo di diversi tipi di tumore (Tabella 2)<sup>1</sup>. Questi geni includono BRAF, la famiglia del gene RAS, EGFR, PIK3CA, FOXL2, e TP53. Mutazioni somatiche nel gene BRAF sono comunemente associate al melanoma, al linfoma non-Hodgkin, al tumore del colon-retto, al carcinoma papillare della tiroide, al carcinoma del polmone non a piccole cellule, e all'adenocarcinoma del polmone, mentre mutazioni somatiche nel gene EGFR sono stati osservate nel tumore del polmone<sup>11</sup>. Mutazioni nel gene PIK3CA sono più frequenti nel tumore del seno e del colon-retto<sup>12</sup>. Mutazioni sul gene FOXL2 sono state osservate nei tumori della granulosa, e mutazioni del gene TP53 vengono rilevate in quasi tutti tipi di cancro<sup>9</sup>.

L'osservazione di mutazioni hotspot può aiutare l'oncologo a consigliare un piano di trattamento personalizzato durante il quale eseguire il monitoraggio della risposta della malattia e il potenziale sviluppo di resistenza al farmaco. Per esempio, nei pazienti affetti da melanoma metastatico, se presente una specifica mutazione somatica sul gene BRAF (V600E), è spesso indicato il trattamento con inibitori di BRAF come dabrafenib, trametinib e vemurafenib, singolarmente o in combinazione<sup>13</sup>. Inoltre, gli inibitori di EGFR cetuximab e panitumumab si sono rivelati più utili nei pazienti con carcinoma polmonare in cui non sono presenti mutazioni sul gene KRAS (wild type) e in cui EGFR è espresso. Diversi studi clinici di rilievo hanno dimostrato che gli inibitori della tirosin-chinasi di EGFR (TKIs), afatinib e erlotinib, sono utili solo per il trattamento di pazienti i cui tumori presentano mutazioni attivanti nel dominio tirosin-chinasico del gene EGFR<sup>14</sup>.

**Table 2 – Frequenza delle mutazioni somatiche per gene e tipo di tumore**

Tipo di tumore	Gene	Frequenza delle mutazioni somatiche
Mammella	PIK3CA	26%
	TP53	23%
Colon-retto	BRAF	11%
	KRAS	36%
	NRAS	5%
	PIK3CA	14%
	TP53	45%
Endometrio	KRAS	14%
	PIK3CA	21%
	TP53	17%
Granulosa cell	FOXL2	97%
Head & Neck	EGFR	2%
	PIK3CA	7%
	TP53	38%
Tumore Renale	TP53	5%
Polmone	BRAF	1-4% 1% in Non Small Cell Lung Cancer (NSCLC)
	EGFR	29%
	KRAS	17%
	PIK3CA	4%
	TP53	34%
Melanoma	BRAF	45%
	NRAS	18%
	TP53	12%
Tumore ovarico	BRAF	7%
	FOXL2	18%
	KRAS	12%
	PIK3CA	9%
	TP53	46%
Pancreas	BRAF	2%
	KRAS	57%
	PIK3CA	2%
	TP53	36%
Prostata	BRAF	1%
	EGFR	3%
	KRAS	4%
	PIK3CA	2%
	TP53	14%
Tumore testicolare	BRAF	2%
	FOXL2	2%
	KRAS	4%
	NRAS	2%
	TP53	5%
Tiroide	BRAF	41%
	GNAS	3%
	KRAS	2%
	NRAS	7%
	PIK3CA	3%
	TP53	6%

References: COSMIC database (<http://cancer.sanger.ac.uk/cosmic>)<sup>19-25</sup>.

### Il test OncoNext Tissue™.

**OncoNext Tissue™** è un test genetico finalizzato al rilevamento di mutazioni somatiche in tumori solidi. L'esame impiega le più recenti innovazioni tecnologiche. Grazie alla tecnologia di sequenziamento Next Generation Sequencing (NGS) oggi è possibile individuare in modo estremamente sensibile la presenza di mutazioni somatiche anche da esigue quantità di tessuto tumorale.

Il rilevamento contemporaneo di diverse mutazioni permette di comprendere al meglio il profilo genomico del tumore e adottare il trattamento più idoneo.

### Come viene effettuato il test OncoNext Tissue™.

Il test si esegue su un campione di tessuto, fresco o incluso in paraffina. Il DNA viene isolato ed **amplificato mediante tecnica PCR**. Successivamente, attraverso un processo tecnologico avanzato di **sequenziamento del DNA** mediante l'impiego di tecniche di **Next Generation Sequencing (NGS)**, si sequenziano ad elevata profondità di lettura le regioni geniche elencate in Tabella 3. Le sequenze geniche ottenute vengono successivamente analizzate attraverso un'**avanzata analisi bioinformatica**, per individuare eventuali mutazioni somatiche nei geni in esame. Le mutazioni vengono interrogate mediante il **database COSMIC (Catalogue Of Somatic Mutation In Cancer)** capace di associare le mutazioni patologiche utilizzando i dati presenti nelle pubblicazioni scientifiche.

### Indicazioni per il test OncoNext Tissue™.

Il test **OncoNext Tissue™** è stato progettato per pazienti, ai quali è già stato diagnosticato un tumore, allo scopo di:

- Fornire un **profiling del tumore** per la corretta applicazione della medicina di precisione. Il test **OncoNext Tissue™** Monitor può fornire all'oncologo informazioni utili a improntare un piano di trattamento personalizzato;
- Fornire informazioni prognostiche;
- Essere di **supporto per l'inserimento di un paziente in un Clinical Trial**: si tratta di una funzione aggiuntiva del test **OncoNext Tissue™**, per profilare correttamente il paziente e la sua malattia allo scopo di individuare un eventuale studio clinico in corso per cui tale paziente rientra nei criteri di eleggibilità.

### Regioni geniche investigate.

Il test **OncoNext Tissue™** è stato progettato per il rilevamento di mutazioni somatiche hotspot in **50 geni** coinvolti in diversi tumori (tabella 3).

La selezione dei geni è stata eseguita a partire dal consenso scientifico attribuito ai geni inseriti nel pannello da organizzazioni come il National Comprehensive Cancer Network (NCCN)<sup>59</sup> e la Società Europea di Oncologia Medica (ESMO)<sup>60</sup>. Il pannello comprende geni, regioni geniche incluse le varianti a singolo nucleotide (SNV), e inserzioni/delezioni (indels) che si sono dimostrate utili nello studio molecolare del tessuto tumorale.

**Tabella 3: Geni investigati**

ABL1	EGFR	GNAS	KRAS	PTPN11
AKT1	ERBB2	GNAQ	MET	RB1
ALK	ERBB4	HNF1A	MLH1	RET
APC	EZH2	HRAS	MPL	SMAD4
ATM	FBXW7	IDH1	NOTCH1	SMARCB1
BRAF	FGFR1	JAK2	NPM1	SMO
CDH1	FGFR2	JAK3	NRAS	SRC
CDKN2A	FGFR3	IDH2	PDGFRA	STK11
CSF1R	FLT3	KDR	PIK3CA	TP53
CTNNB1	GNA11	KIT	PTEN	VHL

## Risultati ottenibili con il test OncoNext Tissue™.

Il test **OncoNext Tissue™** fornisce informazioni relative alla assenza o alla presenza nel campione analizzato di ciascuna delle mutazioni hotspot elencate in tabella 4.

- **Risultato “POSITIVO” – Presenza di una o più mutazioni:** indica che il test ha rilevato, nel DNA estratto dal campione ematico, una o più mutazioni somatiche a livello di uno (o più) geni. Le mutazioni riscontrabili tramite il test **OncoNext Tissue™** possono rientrare nelle seguenti categorie prognostiche:

- con significato patologico noto;
- **con significato benigno** in quanto sono riscontrabili in individui normali e sono prive di significato patologico;

- **con significato incerto** in quanto non ancora note o caratterizzate dalla comunità medico-scientifica. In questo caso possono essere necessari ulteriori indagini per chiarire il significato della variante.

L'identificazione di tale/i mutazione/i può avere diverse implicazioni, in relazione alla/e variante/i rilevata/e. Il nostro genetista, in sede di consulenza genetica, spiegherà in maniera dettagliata il significato del risultato del test, indirizzando il paziente ad una successiva consulenza con lo specialista oncologo.

- **Risultato “NEGATIVO” - Assenza di mutazioni:** indica che il test non ha rilevato, nel DNA estratto dal campione ematico, nessuna delle mutazioni somatiche ricercate.

- Occasionalmente, il test potrebbe produrre un **risultato non ottimale o non conclusivo**, perché il campione non soddisfa i requisiti minimi di qualità necessari per poter considerare il risultato ottenuto ottimale e, quindi, poter procedere alla relativa emissione del referto.

L'interpretazione del risultato viene personalizzata sulla base della storia clinica del paziente e, opzionalmente, può essere fornita un'indicazione sulla possibilità di inclusione di un paziente in un trial clinico sulla base dei risultati del test **OncoNext Tissue™**.

## Accuratezza del test.

Le tecniche attuali di sequenziamento del DNA producono risultati con un'accuratezza superiore al 99% (sensibilità 99%; specificità 99.9%). Benché questo test sia molto accurato bisogna sempre considerare i limiti dell'esame, di seguito descritti.

## Limiti del test OncoNext Tissue™.

- Il test **OncoNext Tissue™** analizza solo le mutazioni più frequenti dei geni investigati. In caso di tumori che, al momento del test, non abbiano sviluppato le mutazioni specifiche ricercate, queste ultime non saranno rilevate. E' quindi possibile che mutazioni in geni non testati da **OncoNext Tissue™** possano essere causa di malattia del paziente.

- L'esame non è in grado di evidenziare:

- mutazioni localizzate nelle regioni geniche non specificamente investigate;
- delezioni, inversioni o duplicazioni maggiori di 25 bp.

- Un risultato **“NEGATIVO” - Assenza di mutazioni** per i geni investigati non esclude la possibilità che siano presenti mutazioni localizzate in regione del genoma non investigate dall'esame.

- Un risultato positivo deve essere interpretato nel contesto della storia clinica del paziente e correlato allo stadio della malattia, ai risultati di imaging, ai dettagli terapeutici, e ad altri dati di laboratorio.

- In alcuni casi, il risultato di un'analisi genomica può rivelare una variante o mutazione del DNA con un significato clinico non certo o determinabile in base alle attuali conoscenze medico-scientifiche.

- L'interpretazione delle varianti genetiche si basa sulle più recenti conoscenze disponibili al momento dell'analisi. Tale interpretazione potrebbe cambiare in futuro con l'acquisizione di nuove

informazioni scientifiche e mediche sulla struttura del genoma ed influire sulla valutazione stessa delle varianti.

- Alcune di queste varianti potrebbero non essere ancora state identificate o validate dalla comunità scientifica e quindi non essere riportate come patogenetiche al momento dell'analisi.
- Limite intrinseco della metodologia NGS utilizzata è la mancanza di uniformità di coverage per ciascuna regione genica analizzata. Tale limite si traduce nella possibilità, insita nelle metodiche NGS, che specifiche mutazioni dei geni selezionati potrebbero non essere state rilevate dal test.
- Mutazioni somatiche non incluse nell'esame non saranno rilevate.
- Il test **OncoNext Tissue™** non è finalizzato all'individuazione della predisposizione ereditaria allo sviluppo dei tumori, ma rileva solo le mutazioni somatiche.

### Target coverage.

Si intende per **Target Coverage**, il numero medio di letture (reads) ottenute dal sequenziamento per ciascuna base nucleotidica costituente il gene. In generale, più è profonda la copertura di una regione più sensibile e affidabile è l'analisi. Per le varianti analizzate è necessaria una copertura di **8.000x** per il rilevamento di mutazioni di frequenza fino all'**1%**. I requisiti interni di controllo di qualità (QC) per il test **OncoNext Tissue™** impongono una **copertura maggiore di 8.000x** su più del 99% delle basi target previste per l'analisi.

### Frequenza dell'allele mutato (MAF).

La frequenza dell'allele mutato è la frequenza identificata nel campione riportata per le diverse mutazioni (sostituzioni, inserzioni e delezioni).

### Disclaimer.

I dati presentati nella relazione tecnica e nei referti sono destinati all'uso esclusivo di personale sanitario qualificato. Ogni diagnosi, consulenza, o prescrizione di trattamento in relazione ai dati contenuti nella presente relazione tecnica, o nei referti, deve essere eseguita da un operatore sanitario qualificato che tenga conto della storia clinica del singolo paziente, compresi gli esiti dei altri metodi d'analisi tradizionali (es. biopsia tumorale dei tessuti e tecniche di imaging). Le informazioni contenute nei referti e nella presente relazione tecnica sono riferibili alla data in cui gli stessi sono stati emessi; si consiglia all'operatore sanitario che prende in carico il paziente di rivalutare in un eventuale futuro la situazione emersa secondo la più recente letteratura disponibile.

Tabella 4: Principali mutazioni ricercate nel test **OncoNext Tissue™ 50 geni**

Gene	Accession number	COSMIC_ID	CDS_mut_syntax	AA_mut_syntax
ABL1	X16416	12560	c.944C>T	p.T315I
ABL1	X16416	12573	c.763G>A	p.E255K
ABL1	X16416	12574	c.764A>T	p.E255V
ABL1	X16416	12575	c.951C>G	p.F317L
ABL1	X16416	12576	c.757T>C	p.Y253H
ABL1	X16416	12577	c.749G>A	p.G250E
ABL1	X16416	12578	c.1052T>C	p.M351T
ABL1	X16416	12602	c.827A>G	p.D276G
ABL1	X16416	12604	c.1187A>G	p.H396R
ABL1	X16416	12605	c.1075T>G	p.F359V
ABL1	X16416	12608	c.730A>G	p.M244V
ABL1	X16416	12609	c.756G>C	p.Q252H
ABL1	X16416	12610	c.758A>T	p.Y253F
ABL1	X16416	12611	c.1064A>G	p.E355G
ABL1	X16416	12631	c.742C>G	p.L248V
ABL1	X16416	12632	c.756G>T	p.Q252H
ABL1	X16416	131574	c.1159T>A	p.L387M

ABL1	X16416	49071	c.1150C>A	p.L384M
ABL1	X16416	49074	c.949T>C	p.F317L
AKT1	ENST00000349310	33765	c.49G>A	p.E17K
AKT1	ENST00000349310	36918	c.145G>A	p.E49K
AKT1	ENST00000349310	41225	c.47-1G>T	p.?
AKT1	ENST00000349310	48226	c.103T>C	p.F35L
AKT1	NM_005163	NOCOSMIC173	c.517G>C	p.G173R
AKT1	NM_005163	NOCOSMIC179	c.536A>T	p.K179M
ALK	NM_004304	28054	c.3520T>G	p.F1174V
ALK	NM_004304	28055	c.3522C>A	p.F1174L
ALK	NM_004304	28056	c.3824G>A	p.R1275Q
ALK	NM_004304	28057	c.3520T>C	p.F1174L
ALK	NM_004304	28059	c.3521T>G	p.F1174C
ALK	NM_004304	28061	c.3522C>G	p.F1174L
ALK	NM_004304	28491	c.3520T>A	p.F1174I
ALK	NM_004304	99137	c.3586C>A	p.L1196M
APC	NM_000038	13113	c.3927_3931delAAAGA	p.E1309fs*4
APC	NM_000038	13121	c.4099C>T	p.Q1367*
APC	NM_000038	13123	c.4729G>T	p.E1577*
APC	NM_000038	13125	c.3340C>T	p.R1114*
APC	NM_000038	13127	c.4348C>T	p.R1450*
APC	NM_000038	13727	c.3922A>T	p.K1308*
APC	NM_000038	13728	c.3907C>T	p.Q1303*
APC	NM_000038	13864	c.4393_4394delAG	p.S1465fs*3
APC	NM_000038	13872	c.3286C>T	p.Q1096*
APC	NM_000038	13879	c.4639G>T	p.E1547*
APC	NM_000038	181848	c.4127_4128delAT	p.Y1376fs*9
APC	NM_000038	18561	c.4666_4667insA	p.T1556fs*3
APC	NM_000038	18576	c.4666delA	p.T1556fs*9
APC	NM_000038	18698	c.4126_4127delTA	p.Y1376fs*9
APC	NM_000038	18699	c.4461_4462insT	p.L1488fs*26
APC	NM_000038	18700	c.3956delC	p.P1319fs*2
APC	NM_000038	18701	c.3926_3930delAAAAG	p.E1309fs*4
APC	NM_000038	18702	c.3964G>T	p.E1322*
APC	NM_000038	18704	c.4312delA	p.T1438fs*35
APC	NM_000038	18719	c.3923_3924insA	p.E1309fs*6
APC	NM_000038	18729	c.4405C>T	p.Q1469*
APC	NM_000038	18734	c.4662_4663insA	p.T1556fs*3
APC	NM_000038	18735	c.3916G>A	p.E1306K
APC	NM_000038	18737	c.4120G>A	p.E1374K
APC	NM_000038	18738	c.4495G>A	p.G1499R
APC	NM_000038	18755	c.3928_3929delAA	p.K1310fs*4
APC	NM_000038	18758	c.4108A>T	p.K1370*
APC	NM_000038	18759	c.4033G>T	p.E1345*
APC	NM_000038	18760	c.3916G>T	p.E1306*
APC	NM_000038	18763	c.4065_4066delTT	p.S1356fs*18
APC	NM_000038	18764	c.3921_3925delAAAAG	p.E1309fs*4
APC	NM_000038	18765	c.4060_4064delTTTTTC	p.S1355fs*18
APC	NM_000038	18767	c.3920_3921delTA	p.I1307fs*7
APC	NM_000038	18775	c.3925G>T	p.E1309*
APC	NM_000038	18777	c.3944C>A	p.S1315*
APC	NM_000038	18779	c.4067C>G	p.S1356*
APC	NM_000038	18783	c.4316delC	p.P1439fs*34
APC	NM_000038	18785	c.4469delA	p.H1490fs*17
APC	NM_000038	18786	c.4476delC	p.T1493fs*14
APC	NM_000038	18796	c.3935delG	p.G1312fs*9

<b>APC</b>	NM_000038	18804	c.3943_3944insA	<b>p.S1315fs*3</b>
<b>APC</b>	NM_000038	18809	c.3920delT	<b>p.I1307fs*14</b>
<b>APC</b>	NM_000038	18817	c.3934G>T	<b>p.G1312*</b>
<b>APC</b>	NM_000038	18823	c.4328delC	<b>p.P1443fs*30</b>
<b>APC</b>	NM_000038	18825	c.4364delA	<b>p.N1455fs*18</b>
<b>APC</b>	NM_000038	18834	c.4135G>T	<b>p.E1379*</b>
<b>APC</b>	NM_000038	18836	c.4285C>T	<b>p.Q1429*</b>
<b>APC</b>	NM_000038	18838	c.4391_4394delAGAG	<b>p.E1464fs*8</b>
<b>APC</b>	NM_000038	18852	c.2626C>T	<b>p.R876*</b>
<b>APC</b>	NM_000038	18855	c.3898_3908del11	<b>p.T1301fs*10</b>
<b>APC</b>	NM_000038	18856	c.3930_3933delGATT	<b>p.I1311fs*9</b>
<b>APC</b>	NM_000038	18861	c.4128T>A	<b>p.Y1376*</b>
<b>APC</b>	NM_000038	18862	c.4132C>T	<b>p.Q1378*</b>
<b>APC</b>	NM_000038	18866	c.4668_4669insA	<b>p.I1557fs*2</b>
<b>APC</b>	NM_000038	18869	c.4308delT	<b>p.S1436fs*37</b>
<b>APC</b>	NM_000038	18873	c.4385_4386delAG	<b>p.S1465fs*3</b>
<b>APC</b>	NM_000038	18883	c.4390G>T	<b>p.E1464*</b>
<b>APC</b>	NM_000038	18885	c.4495G>T	<b>p.G1499*</b>
<b>APC</b>	NM_000038	18910	c.4126_4127insT	<b>p.Y1376fs*10</b>
<b>APC</b>	NM_000038	18927	c.4329T>A	<b>p.P1443P</b>
<b>APC</b>	NM_000038	18931	c.4392_4393delGA	<b>p.S1465fs*3</b>
<b>APC</b>	NM_000038	18935	c.3870_3871insCAGACGA	<b>p.Q1294fs*9</b>
<b>APC</b>	NM_000038	18937	c.3904_3905insT	<b>p.Q1303fs*12</b>
<b>APC</b>	NM_000038	18938	c.4040delC	<b>p.R1348fs*67</b>
<b>APC</b>	NM_000038	18942	c.3928A>T	<b>p.K1310*</b>
<b>APC</b>	NM_000038	18949	c.3942delG	<b>p.R1314fs*7</b>
<b>APC</b>	NM_000038	18950	c.3920_3924delTAAAA	<b>p.I1307fs*6</b>
<b>APC</b>	NM_000038	18960	c.3880C>T	<b>p.Q1294*</b>
<b>APC</b>	NM_000038	18961	c.3883G>T	<b>p.E1295*</b>
<b>APC</b>	NM_000038	18965	c.4477_4478insA	<b>p.T1493fs*21</b>
<b>APC</b>	NM_000038	18978	c.4667_4668insC	<b>p.I1557fs*2</b>
<b>APC</b>	NM_000038	18986	c.4066_4079del14	<b>p.G1357fs*13</b>
<b>APC</b>	NM_000038	18990	c.4122_4123delAC	<b>p.H1375fs*10</b>
<b>APC</b>	NM_000038	18997	c.4372delC	<b>p.P1458fs*15</b>
<b>APC</b>	NM_000038	18999	c.4461delT	<b>p.L1488fs*19</b>
<b>APC</b>	NM_000038	19005	c.3893_3894insTGCTAATA	<b>p.T1301fs*7</b>
<b>APC</b>	NM_000038	19020	c.4665_4666insA	<b>p.T1556fs*3</b>
<b>APC</b>	NM_000038	19021	c.4330C>T	<b>p.Q1444*</b>
<b>APC</b>	NM_000038	19033	c.4110_4111delAA	<b>p.P1372fs*2</b>
<b>APC</b>	NM_000038	19047	c.4050delA	<b>p.A1351fs*64</b>
<b>APC</b>	NM_000038	19048	c.4057G>T	<b>p.E1353*</b>
<b>APC</b>	NM_000038	19049	c.4326T>A	<b>p.P1442P</b>
<b>APC</b>	NM_000038	19052	c.4290delC	<b>p.M1431fs*42</b>
<b>APC</b>	NM_000038	19053	c.4314_4315delAC	<b>p.P1439fs*15</b>
<b>APC</b>	NM_000038	19054	c.4473delT	<b>p.F1491fs*16</b>
<b>APC</b>	NM_000038	19055	c.4537G>T	<b>p.E1513*</b>
<b>APC</b>	NM_000038	19062	c.2606delA	<b>p.N869fs*47</b>
<b>APC</b>	NM_000038	19072	c.3871C>T	<b>p.Q1291*</b>
<b>APC</b>	NM_000038	19084	c.4037C>A	<b>p.S1346*</b>
<b>APC</b>	NM_000038	19085	c.4120G>T	<b>p.E1374*</b>
<b>APC</b>	NM_000038	19093	c.4304delG	<b>p.R1435fs*38</b>
<b>APC</b>	NM_000038	19094	c.4332_4335delAACA	<b>p.T1445fs*27</b>
<b>APC</b>	NM_000038	19095	c.4351G>T	<b>p.E1451*</b>
<b>APC</b>	NM_000038	19098	c.4463delT	<b>p.L1488fs*19</b>
<b>APC</b>	NM_000038	19099	c.3949G>C	<b>p.E1317Q</b>
<b>APC</b>	NM_000038	19105	c.4466delT	<b>p.L1489fs*18</b>

APC	NM_000038	19119	c.4364_4365insA	p.N1455fs*2
APC	NM_000038	19127	c.4394_4395delGT	p.S1465fs*3
APC	NM_000038	19129	c.4339C>T	p.Q1447*
APC	NM_000038	19141	c.4393delA	p.S1465fs*8
APC	NM_000038	19145	c.3925_3929delGAAAA	p.E1309fs*4
APC	NM_000038	19148	c.4358delC	p.P1453fs*20
APC	NM_000038	19201	c.4384_4385delAA	p.K1462fs*6
APC	NM_000038	19203	c.3919_3920insA	p.I1307fs*8
APC	NM_000038	19218	c.3902C>G	p.T1301S
APC	NM_000038	19225	c.4468_4469delCA	p.H1490fs*23
APC	NM_000038	19230	c.2639T>C	p.I880T
APC	NM_000038	19236	c.4333delA	p.T1445fs*28
APC	NM_000038	19241	c.4067C>A	p.S1356*
APC	NM_000038	19253	c.3949G>T	p.E1317*
APC	NM_000038	19263	c.3922_3926delAAAGA	p.E1309fs*4
APC	NM_000038	19268	c.4132_4133delCA	p.Q1378fs*7
APC	NM_000038	19299	c.4473_4474insT	p.A1492fs*22
APC	NM_000038	19329	c.3359G>A	p.G1120E
APC	NM_000038	19330	c.2656C>T	p.Q886*
APC	NM_000038	19332	c.4391_4392delAG	p.S1465fs*3
APC	NM_000038	19340	c.4474delG	p.A1492fs*15
APC	NM_000038	19349	c.4479_4480delGG	p.E1494fs*19
APC	NM_000038	19478	c.4691T>G	p.L1564*
APC	NM_000038	19582	c.3944C>G	p.S1315*
APC	NM_000038	19594	c.4318delC	p.P1440fs*33
APC	NM_000038	19615	c.4462_4463insTA	p.L1489fs*19
APC	NM_000038	19616	c.4463T>G	p.L1488*
APC	NM_000038	19617	c.4464delA	p.L1488fs*19
APC	NM_000038	19626	c.4480delG	p.E1494fs*13
APC	NM_000038	19629	c.4489delC	p.P1497fs*10
APC	NM_000038	19652	c.4063T>C	p.S1355P
APC	NM_000038	19664	c.3919delA	p.I1307fs*1
APC	NM_000038	19667	c.4465_4466insAC	p.L1489fs*19
APC	NM_000038	19674	c.4483_4484insA	p.S1495fs*19
APC	NM_000038	19688	c.4386_4387delGA	p.S1465fs*3
APC	NM_000038	19694	c.4386_4389delGAGA	p.E1464fs*8
APC	NM_000038	19695	c.4660_4661insA	p.T1556fs*3
APC	NM_000038	19696	c.4117delC	p.P1373fs*42
APC	NM_000038	19701	c.4061_4062delTT	p.S1355fs*19
APC	NM_000038	19705	c.4303A>T	p.R1435*
APC	NM_000038	19714	c.4479delG	p.E1494fs*13
APC	NM_000038	19718	c.4660_4661insG	p.E1554fs*5
APC	NM_000038	210755	c.4343_4343delC	p.K1449fs*24
APC	NM_000038	23587	c.4097C>T	p.A1366V
APC	NM_000038	23598	c.4483delA	p.S1495fs*12
APC	NM_000038	24941	c.4477delA	p.T1493fs*14
APC	NM_000038	24946	c.4291delA	p.M1431fs*42
APC	NM_000038	24948	c.4394delG	p.S1465fs*8
APC	NM_000038	25815	c.4295_4296CA>AC	p.P1432H
APC	NM_000038	25826	c.4037C>G	p.S1346*
APC	NM_000038	25827	c.4048A>T	p.K1350*
APC	NM_000038	27993	c.4360A>G	p.K1454E
APC	NM_000038	29330	c.3897delT	p.N1300fs*5
APC	NM_000038	29331	c.4063delT	p.S1355fs*60
APC	NM_000038	30779	c.4381G>T	p.E1461*
APC	NM_000038	32201	c.3956delC	p.P1319fs*2



<b>APC</b>	NM_000038	32442	c.4473delT	p.F1491fs*16
<b>APC</b>	NM_000038	41607	c.4090_4091insA	p.S1364fs*11
<b>APC</b>	NM_000038	41608	c.4063_4064insT	p.S1355fs*20
<b>APC</b>	NM_000038	41613	c.3925_3926insA	p.I1311fs*4
<b>APC</b>	NM_000038	41614	c.4373_4374insC	p.T1459fs*3
<b>APC</b>	NM_000038	41616	c.4654G>T	p.E1552*
<b>APC</b>	NM_000038	41618	c.4463_4466delTATT	p.L1488fs*18
<b>APC</b>	NM_000038	41619	c.4118_4118delC	p.P1373fs*42
<b>APC</b>	NM_000038	41621	c.4665_4666delAA	p.K1555fs*3
<b>APC</b>	NM_000038	41622	c.4388_4391delGAGA	p.E1464fs*8
<b>APC</b>	NM_000038	41623	c.4081_4082delCC	p.P1361fs*13
<b>APC</b>	NM_000038	99778	c.4484G>T	p.S1495I
<b>ATM</b>	NM_000051	12791	c.7996A>G	p.T2666A
<b>ATM</b>	NM_000051	12792	c.5380C>T	p.L1794L
<b>ATM</b>	NM_000051	12793	c.2542G>C	p.E848Q
<b>ATM</b>	NM_000051	12951	c.7325A>C	p.Q2442P
<b>ATM</b>	NM_000051	20404	c.7328G>A	p.R2443Q
<b>ATM</b>	NM_000051	21323	c.1009C>T	p.R337C
<b>ATM</b>	NM_000051	21624	c.9139C>T	p.R3047*
<b>ATM</b>	NM_000051	21626	c.9023G>A	p.R3008H
<b>ATM</b>	NM_000051	21636	c.8084G>C	p.G2695A
<b>ATM</b>	NM_000051	21642	c.9022C>T	p.R3008C
<b>ATM</b>	NM_000051	21679	c.8663T>C	p.I2888T
<b>ATM</b>	NM_000051	21825	c.1229T>C	p.V410A
<b>ATM</b>	NM_000051	21826	c.2572T>C	p.F858L
<b>ATM</b>	NM_000051	21918	c.5224G>C	p.A1742P
<b>ATM</b>	NM_000051	21919	c.5041A>G	p.I1681V
<b>ATM</b>	NM_000051	21920	c.5044G>T	p.D1682Y
<b>ATM</b>	NM_000051	21922	c.5821G>C	p.V1941L
<b>ATM</b>	NM_000051	21924	c.1058_1059delGT	p.C353fs*5
<b>ATM</b>	NM_000051	21930	c.8839A>T	p.T2947S
<b>ATM</b>	NM_000051	21931	c.1009C>A	p.R337S
<b>ATM</b>	NM_000051	22481	c.8174A>T	p.D2725V
<b>ATM</b>	NM_000051	22485	c.8668C>G	p.L2890V
<b>ATM</b>	NM_000051	22499	c.1810C>T	p.P604S
<b>ATM</b>	NM_000051	22507	c.3925G>A	p.A1309T
<b>BRAF</b>	NM_004333	1111	c.1390G>C	p.G464R
<b>BRAF</b>	NM_004333	1112	c.1396G>C	p.G466R
<b>BRAF</b>	NM_004333	1113	c.1405_1407GGA>AGC	p.G469S
<b>BRAF</b>	NM_004333	1115	c.1746A>G	p.I582M
<b>BRAF</b>	NM_004333	1116	c.1749T>C	p.F583F
<b>BRAF</b>	NM_004333	1117	c.1752T>C	p.L584L
<b>BRAF</b>	NM_004333	1118	c.1758A>G	p.E586E
<b>BRAF</b>	NM_004333	1119	c.1776A>G	p.I592M
<b>BRAF</b>	NM_004333	1120	c.1774A>G	p.I592V
<b>BRAF</b>	NM_004333	1121	c.1782T>A	p.D594E
<b>BRAF</b>	NM_004333	1123	c.1784T>C	p.F595S
<b>BRAF</b>	NM_004333	1124	c.1791A>G	p.L597L
<b>BRAF</b>	NM_004333	1125	c.1790T>A	p.L597Q
<b>BRAF</b>	NM_004333	1126	c.1789_1790CT>TC	p.L597S
<b>BRAF</b>	NM_004333	1127	c.1797_1799AGT>GAG	p.V600R
<b>BRAF</b>	NM_004333	1128	c.1797_1797A>TACTACG	p.T599_V600insTT
<b>BRAF</b>	NM_004333	1130	c.1798G>A	p.V600M
<b>BRAF</b>	NM_004333	1132	c.1803A>C	p.K601N
<b>BRAF</b>	NM_004333	1133	c.1799_1801delTGA	p.V600_K601>E
<b>BRAF</b>	NM_004333	1134	c.1810T>G	p.W604G

<b>BRAF</b>	NM_004333	1135	c.1813_1814AG>TT	<b>p.S605F</b>
<b>BRAF</b>	NM_004333	1136	c.1814G>A	<b>p.S605N</b>
<b>BRAF</b>	NM_004333	1137	c.1817G>A	<b>p.G606E</b>
<b>BRAF</b>	NM_004333	1138	c.1823A>G	<b>p.H608R</b>
<b>BRAF</b>	NM_004333	144982	c.1797_1798insACA	<b>p.T599_V600insT</b>
<b>BRAF</b>	NM_004333	18443	c.1799T>C	<b>p.V600A</b>
<b>BRAF</b>	NM_004333	21492	c.1357C>A	<b>p.P453T</b>
<b>BRAF</b>	NM_004333	21542	c.1813A>G	<b>p.S605G</b>
<b>BRAF</b>	NM_004333	21549	c.1793C>T	<b>p.A598V</b>
<b>BRAF</b>	NM_004333	21609	c.1761C>A	<b>p.D587E</b>
<b>BRAF</b>	NM_004333	21612	c.1783T>C	<b>p.F595L</b>
<b>BRAF</b>	NM_004333	219798	c.1798G>C	<b>p.V600L</b>
<b>BRAF</b>	NM_004333	24642	c.1411G>T	<b>p.V471F</b>
<b>BRAF</b>	NM_004333	249889	c.1798_1799GT>CA	<b>p.V600Q</b>
<b>BRAF</b>	NM_004333	26506	c.1787G>A	<b>p.G596D</b>
<b>BRAF</b>	NM_004333	26625	c.1794_1795insGTT	<b>p.A598_T599insV</b>
<b>BRAF</b>	NM_004333	27639	c.1780G>A	<b>p.D594N</b>
<b>BRAF</b>	NM_004333	27912	c.1405_1407GGA>AGT	<b>p.G469S</b>
<b>BRAF</b>	NM_004333	28010	c.1750C>T	<b>p.L584F</b>
<b>BRAF</b>	NM_004333	30594	c.1801_1803delAAA	<b>p.K601del</b>
<b>BRAF</b>	NM_004333	30730	c.1796_1797insTAC	<b>p.T599_V600insT</b>
<b>BRAF</b>	NM_004333	33729	c.1807C>T	<b>p.R603*</b>
<b>BRAF</b>	NM_004333	33808	c.1798G>T	<b>p.V600L</b>
<b>BRAF</b>	NM_004333	447	c.1385G>T	<b>p.R462I</b>
<b>BRAF</b>	NM_004333	449	c.1391G>A	<b>p.G464E</b>
<b>BRAF</b>	NM_004333	450	c.1391G>T	<b>p.G464V</b>
<b>BRAF</b>	NM_004333	451	c.1397G>T	<b>p.G466V</b>
<b>BRAF</b>	NM_004333	452	c.1397G>C	<b>p.G466A</b>
<b>BRAF</b>	NM_004333	453	c.1397G>A	<b>p.G466E</b>
<b>BRAF</b>	NM_004333	455	c.1405G>C	<b>p.G469R</b>
<b>BRAF</b>	NM_004333	457	c.1405G>A	<b>p.G469R</b>
<b>BRAF</b>	NM_004333	458	c.1405_1406GG>TC	<b>p.G469S</b>
<b>BRAF</b>	NM_004333	459	c.1406G>T	<b>p.G469V</b>
<b>BRAF</b>	NM_004333	460	c.1406G>C	<b>p.G469A</b>
<b>BRAF</b>	NM_004333	461	c.1406G>A	<b>p.G469E</b>
<b>BRAF</b>	NM_004333	462	c.1742A>G	<b>p.N581S</b>
<b>BRAF</b>	NM_004333	463	c.1756G>A	<b>p.E586K</b>
<b>BRAF</b>	NM_004333	464	c.1760A>C	<b>p.D587A</b>
<b>BRAF</b>	NM_004333	465	c.1761C>G	<b>p.D587E</b>
<b>BRAF</b>	NM_004333	466	c.1781A>T	<b>p.D594V</b>
<b>BRAF</b>	NM_004333	467	c.1781A>G	<b>p.D594G</b>
<b>BRAF</b>	NM_004333	468	c.1785T>G	<b>p.F595L</b>
<b>BRAF</b>	NM_004333	469	c.1786G>C	<b>p.G596R</b>
<b>BRAF</b>	NM_004333	470	c.1789C>G	<b>p.L597V</b>
<b>BRAF</b>	NM_004333	471	c.1790T>G	<b>p.L597R</b>
<b>BRAF</b>	NM_004333	472	c.1796C>T	<b>p.T599I</b>
<b>BRAF</b>	NM_004333	473	c.1798_1799GT>AA	<b>p.V600K</b>
<b>BRAF</b>	NM_004333	474	c.1798_1799GT>AG	<b>p.V600R</b>
<b>BRAF</b>	NM_004333	475	c.1799_1800TG>AA	<b>p.V600E</b>
<b>BRAF</b>	NM_004333	476	c.1799T>A	<b>p.V600E</b>
<b>BRAF</b>	NM_004333	477	c.1799_1800TG>AT	<b>p.V600D</b>
<b>BRAF</b>	NM_004333	478	c.1801A>G	<b>p.K601E</b>
<b>BRAF</b>	NM_004333	53198	c.1785T>A	<b>p.F595L</b>
<b>BRAF</b>	NM_004333	6137	c.1799T>G	<b>p.V600G</b>
<b>BRAF</b>	NM_004333	6262	c.1330C>T	<b>p.R444W</b>
<b>BRAF</b>	NM_004333	6265	c.1803A>T	<b>p.K601N</b>

<b>BRAF</b>	NM_004333	6267	c.1808_1810delGAT	<b>p.W604del</b>
<b>CDH1</b>	NM_004360.2	19747	c.1057G>T	<b>p.E353*</b>
<b>CDH1</b>	NM_004360.2	19748	c.1108G>C	<b>p.D370H</b>
<b>CDH1</b>	NM_004360.2	19750	c.1204G>A	<b>p.D402N</b>
<b>CDH1</b>	NM_004360.2	19751	c.1027delC	<b>p.L343fs*13</b>
<b>CDH1</b>	NM_004360.2	19753	c.1009-1G>A	<b>p.?</b>
<b>CDH1</b>	NM_004360.2	19761	c.1196_1199delCTGA	<b>p.T399fs*17</b>
<b>CDH1</b>	NM_004360.2	28934	c.240_241insGGTG	<b>p.V82fs*13</b>
<b>CDKN2A</b>	NM_000077	12468	c.236C>T	<b>p.T79I</b>
<b>CDKN2A</b>	NM_000077	12469	c.244G>A	<b>p.V82M</b>
<b>CDKN2A</b>	NM_000077	12473	c.172C>T	<b>p.R58*</b>
<b>CDKN2A</b>	NM_000077	12475	c.238C>T	<b>p.R80*</b>
<b>CDKN2A</b>	NM_000077	12476	c.341C>T	<b>p.P114L</b>
<b>CDKN2A</b>	NM_000077	12479	c.358G>T	<b>p.E120*</b>
<b>CDKN2A</b>	NM_000077	12480	c.239G>A	<b>p.R80Q</b>
<b>CDKN2A</b>	NM_000077	12481	c.329G>A	<b>p.W110*</b>
<b>CDKN2A</b>	NM_000077	12484	c.322G>A	<b>p.D108N</b>
<b>CDKN2A</b>	NM_000077	12490	c.224C>T	<b>p.P75L</b>
<b>CDKN2A</b>	NM_000077	12491	c.318G>A	<b>p.V106V</b>
<b>CDKN2A</b>	NM_000077	12493	c.303G>A	<b>p.G101G</b>
<b>CDKN2A</b>	NM_000077	12494	c.248A>C	<b>p.H83P</b>
<b>CDKN2A</b>	NM_000077	12501	c.365G>A	<b>p.G122D</b>
<b>CDKN2A</b>	NM_000077	12502	c.305C>A	<b>p.A102E</b>
<b>CDKN2A</b>	NM_000077	12503	c.334C>G	<b>p.R112G</b>
<b>CDKN2A</b>	NM_000077	12504	c.247C>T	<b>p.H83Y</b>
<b>CDKN2A</b>	NM_000077	12509	c.220G>T	<b>p.D74Y</b>
<b>CDKN2A</b>	NM_000077	12511	c.242C>A	<b>p.P81H</b>
<b>CDKN2A</b>	NM_000077	12513	c.298G>T	<b>p.A100S</b>
<b>CDKN2A</b>	NM_000077	12518	c.233_234delTC	<b>p.L78fs*41</b>
<b>CDKN2A</b>	NM_000077	12537	c.151-1G>T	<b>p.?</b>
<b>CDKN2A</b>	NM_000077	12539	c.151-2A>C	<b>p.?</b>
<b>CDKN2A</b>	NM_000077	12544	c.243_244insT	<b>p.P81fs*38</b>
<b>CDKN2A</b>	NM_000077	12547	c.330G>A	<b>p.W110*</b>
<b>CDKN2A</b>	NM_000077	12731	c.171_172CC>TT	<b>p.R58*</b>
<b>CDKN2A</b>	NM_000077	12739	c.222C>T	<b>p.D74D</b>
<b>CDKN2A</b>	NM_000077	12741	c.392G>A	<b>p.R131H</b>
<b>CDKN2A</b>	NM_000077	12746	c.199G>A	<b>p.G67S</b>
<b>CDKN2A</b>	NM_000077	12748	c.382C>T	<b>p.R128W</b>
<b>CDKN2A</b>	NM_000077	12749	c.204G>A	<b>p.A68A</b>
<b>CDKN2A</b>	NM_000077	12758	c.192G>A	<b>p.L64L</b>
<b>CDKN2A</b>	NM_000077	13221	c.387C>G	<b>p.Y129*</b>
<b>CDKN2A</b>	NM_000077	13222	c.151-2A>T	<b>p.?</b>
<b>CDKN2A</b>	NM_000077	13223	c.151-1G>A	<b>p.?</b>
<b>CDKN2A</b>	NM_000077	13224	c.242C>T	<b>p.P81L</b>
<b>CDKN2A</b>	NM_000077	13227	c.343G>T	<b>p.V115L</b>
<b>CDKN2A</b>	NM_000077	13252	c.170C>T	<b>p.A57V</b>
<b>CDKN2A</b>	NM_000077	13254	c.313delG	<b>p.D105fs*41</b>
<b>CDKN2A</b>	NM_000077	13274	c.251A>G	<b>p.D84G</b>
<b>CDKN2A</b>	NM_000077	13276	c.152T>C	<b>p.V51A</b>
<b>CDKN2A</b>	NM_000077	13280	c.200G>T	<b>p.G67V</b>
<b>CDKN2A</b>	NM_000077	13281	c.205G>T	<b>p.E69*</b>
<b>CDKN2A</b>	NM_000077	13289	c.231_232delTC	<b>p.L78fs*41</b>
<b>CDKN2A</b>	NM_000077	13294	c.376G>T	<b>p.V126F</b>
<b>CDKN2A</b>	NM_000077	13295	c.251A>T	<b>p.D84V</b>
<b>CDKN2A</b>	NM_000077	13296	c.358G>A	<b>p.E120K</b>
<b>CDKN2A</b>	NM_000077	13297	c.249_250insTT	<b>p.D84fs*63</b>

<b>CDKN2A</b>	NM_000077	13298	c.394G>C	<b>p.A132P</b>
<b>CDKN2A</b>	NM_000077	13299	c.250G>T	<b>p.D84Y</b>
<b>CDKN2A</b>	NM_000077	13300	c.355G>T	<b>p.E119*</b>
<b>CDKN2A</b>	NM_000077	13436	c.155T>A	<b>p.M52K</b>
<b>CDKN2A</b>	NM_000077	13440	c.203C>T	<b>p.A68V</b>
<b>CDKN2A</b>	NM_000077	13463	c.369T>A	<b>p.H123Q</b>
<b>CDKN2A</b>	NM_000077	13474	c.220G>A	<b>p.D74N</b>
<b>CDKN2A</b>	NM_000077	13486	c.181G>T	<b>p.E61*</b>
<b>CDKN2A</b>	NM_000077	13488	c.250G>A	<b>p.D84N</b>
<b>CDKN2A</b>	NM_000077	13489	c.322G>T	<b>p.D108Y</b>
<b>CDKN2A</b>	NM_000077	13491	c.232_233delCT	<b>p.L78fs*41</b>
<b>CDKN2A</b>	NM_000077	13493	c.174_189del16	<b>p.V59fs*82</b>
<b>CDKN2A</b>	NM_000077	13494	c.160_173del14	<b>p.M54fs*61</b>
<b>CDKN2A</b>	NM_000077	13496	c.151G>A	<b>p.V51I</b>
<b>CDKN2A</b>	NM_000077	13504	c.188T>C	<b>p.L63P</b>
<b>CDKN2A</b>	NM_000077	13505	c.316G>A	<b>p.V106M</b>
<b>CDKN2A</b>	NM_000077	13520	c.322G>C	<b>p.D108H</b>
<b>CDKN2A</b>	NM_000077	13524	c.237_238CC>TT	<b>p.R80*</b>
<b>CDKN2A</b>	NM_000077	13531	c.151-1G>A	<b>p.?</b>
<b>CDKN2A</b>	NM_000077	13534	c.373G>A	<b>p.D125N</b>
<b>CDKN2A</b>	NM_000077	13540	c.355G>C	<b>p.E119Q</b>
<b>CDKN2A</b>	NM_000077	13546	c.221A>T	<b>p.D74V</b>
<b>CDKN2A</b>	NM_000077	13548	c.364G>A	<b>p.G122S</b>
<b>CDKN2A</b>	NM_000077	13567	c.216C>A	<b>p.C72*</b>
<b>CDKN2A</b>	NM_000077	13568	c.225delC	<b>p.A76fs*70</b>
<b>CDKN2A</b>	NM_000077	13604	c.202G>A	<b>p.A68T</b>
<b>CDKN2A</b>	NM_000077	13607	c.310delC	<b>p.L104fs*42</b>
<b>CDKN2A</b>	NM_000077	13608	c.371G>A	<b>p.R124H</b>
<b>CDKN2A</b>	NM_000077	13613	c.250G>C	<b>p.D84H</b>
<b>CDKN2A</b>	NM_000077	13619	c.363delG	<b>p.G122fs*24</b>
<b>CDKN2A</b>	NM_000077	13633	c.386A>G	<b>p.Y129C</b>
<b>CDKN2A</b>	NM_000077	13642	c.228_229insT	<b>p.T77fs*43</b>
<b>CDKN2A</b>	NM_000077	13645	c.366C>A	<b>p.G122G</b>
<b>CDKN2A</b>	NM_000077	13675	c.305C>T	<b>p.A102V</b>
<b>CDKN2A</b>	NM_000077	13713	c.340C>T	<b>p.P114S</b>
<b>CDKN2A</b>	NM_000077	13717	c.206A>T	<b>p.E69V</b>
<b>CDKN2A</b>	NM_000077	13754	c.157_174del18	<b>p.M53_R58del</b>
<b>CDKN2A</b>	NM_000077	13766	c.227C>T	<b>p.A76V</b>
<b>CDKN2A</b>	NM_000077	13779	c.160_161insA	<b>p.M54fs*66</b>
<b>CDKN2A</b>	NM_000077	13782	c.187C>G	<b>p.L63V</b>
<b>CDKN2A</b>	NM_000077	13803	c.230_231delCT	<b>p.L78fs*41</b>
<b>CDKN2A</b>	NM_000077	13807	c.346G>T	<b>p.D116Y</b>
<b>CDKN2A</b>	NM_000077	13815	c.209C>T	<b>p.P70L</b>
<b>CDKN2A</b>	NM_000077	13827	c.378C>T	<b>p.V126V</b>
<b>CDKN2A</b>	NM_000077	13830	c.341C>A	<b>p.P114H</b>
<b>CDKN2A</b>	NM_000077	13965	c.156G>C	<b>p.M52I</b>
<b>CDKN2A</b>	NM_000077	13972	c.194T>C	<b>p.L65P</b>
<b>CDKN2A</b>	NM_000077	14253	c.197A>G	<b>p.H66R</b>
<b>CDKN2A</b>	NM_000077	14254	c.151-4G>C	<b>p.?</b>
<b>CDKN2A</b>	NM_000077	22559	c.169G>C	<b>p.A57P</b>
<b>CDKN2A</b>	NM_000077	22560	c.179C>T	<b>p.A60V</b>
<b>CDKN2A</b>	NM_000077	22561	c.213C>A	<b>p.N71K</b>
<b>CDKN2A</b>	NM_000077	28562	c.387C>A	<b>p.Y129*</b>
<b>CDKN2A</b>	NM_000077	28675	c.389T>C	<b>p.L130P</b>
<b>CDKN2A</b>	NM_000077	33797	c.370delC	<b>p.R124fs*22</b>
<b>CDKN2A</b>	NM_000077	33799	c.389T>G	<b>p.L130R</b>

<b>CDKN2A</b>	NM_000077	33800	c.390G>A	<b>p.L130L</b>
<b>CDKN2A</b>	NM_000077	33802	c.396G>A	<b>p.A132A</b>
<b>CDKN2A_</b> <b>ENST00000361570</b> <b>361570</b>	ENST00000361570 _v62	99935	c.404C>T	<b>p.P135L</b>
<b>CDKN2A_</b> <b>ENST00000446177</b> <b>446177</b>	ENST00000446177	99191	c.238C>T	<b>p.R80*</b>
<b>CSF1R</b>	NM_005211	946	c.902T>A	<b>p.L301*</b>
<b>CSF1R</b>	NM_005211	947	c.2906A>G	<b>p.Y969C</b>
<b>CSF1R</b>	NM_005211	948	c.2906A>T	<b>p.Y969F</b>
<b>CSF1R</b>	NM_005211	949	c.2907T>G	<b>p.Y969*</b>
<b>CSF1R</b>	NM_005211	951	c.2905T>A	<b>p.Y969N</b>
<b>CSF1R</b>	NM_005211	952	c.2905T>C	<b>p.Y969H</b>
<b>CSF1R</b>	NM_005211	954	c.902T>C	<b>p.L301S</b>
<b>CSF1R</b>	NM_005211	955	c.2907T>A	<b>p.Y969*</b>
<b>CTNNB1</b>	NM_001904	13168	c.104T>C	<b>p.I35T</b>
<b>CTNNB1</b>	NM_001904	13175	c.138G>A	<b>p.L46L</b>
<b>CTNNB1</b>	NM_001904	14256	c.73_96del124	<b>p.WQQQSYLD25?</b>
<b>CTNNB1</b>	NM_001904	17661	c.130C>G	<b>p.P44A</b>
<b>CTNNB1</b>	NM_001904	17941	c.67A>G	<b>p.S23G</b>
<b>CTNNB1</b>	NM_001904	22566	c.64G>A	<b>p.V22I</b>
<b>CTNNB1</b>	NM_001904	24746	c.112_114GGT>CCC	<b>p.G38P</b>
<b>CTNNB1</b>	NM_001904	27378	c.107A>G	<b>p.H36R</b>
<b>CTNNB1</b>	NM_001904	29289	c.125_126delCA	<b>p.T42fs*7</b>
<b>CTNNB1</b>	NM_001904	34125	c.90C>G	<b>p.Y30*</b>
<b>CTNNB1</b>	NM_001904	49161	c.43G>A	<b>p.E15K</b>
<b>CTNNB1</b>	NM_001904	5661	c.94G>T	<b>p.D32Y</b>
<b>CTNNB1</b>	NM_001904	5662	c.110C>T	<b>p.S37F</b>
<b>CTNNB1</b>	NM_001904	5663	c.133T>C	<b>p.S45P</b>
<b>CTNNB1</b>	NM_001904	5664	c.121A>G	<b>p.T41A</b>
<b>CTNNB1</b>	NM_001904	5666	c.110C>A	<b>p.S37Y</b>
<b>CTNNB1</b>	NM_001904	5667	c.134C>T	<b>p.S45F</b>
<b>CTNNB1</b>	NM_001904	5668	c.94G>C	<b>p.D32H</b>
<b>CTNNB1</b>	NM_001904	5669	c.98C>T	<b>p.S33F</b>
<b>CTNNB1</b>	NM_001904	5670	c.101G>T	<b>p.G34V</b>
<b>CTNNB1</b>	NM_001904	5671	c.101G>A	<b>p.G34E</b>
<b>CTNNB1</b>	NM_001904	5672	c.94G>A	<b>p.D32N</b>
<b>CTNNB1</b>	NM_001904	5673	c.98C>A	<b>p.S33Y</b>
<b>CTNNB1</b>	NM_001904	5674	c.104T>G	<b>p.I35S</b>
<b>CTNNB1</b>	NM_001904	5675	c.109T>G	<b>p.S37A</b>
<b>CTNNB1</b>	NM_001904	5676	c.122C>T	<b>p.T41I</b>
<b>CTNNB1</b>	NM_001904	5677	c.98C>G	<b>p.S33C</b>
<b>CTNNB1</b>	NM_001904	5678	c.107A>C	<b>p.H36P</b>
<b>CTNNB1</b>	NM_001904	5679	c.110C>G	<b>p.S37C</b>
<b>CTNNB1</b>	NM_001904	5681	c.95A>G	<b>p.D32G</b>
<b>CTNNB1</b>	NM_001904	5682	c.97T>C	<b>p.S33P</b>
<b>CTNNB1</b>	NM_001904	5683	c.97T>G	<b>p.S33A</b>
<b>CTNNB1</b>	NM_001904	5684	c.100G>C	<b>p.G34R</b>
<b>CTNNB1</b>	NM_001904	5685	c.133T>G	<b>p.S45A</b>
<b>CTNNB1</b>	NM_001904	5686	c.100G>A	<b>p.G34R</b>
<b>CTNNB1</b>	NM_001904	5687	c.109T>C	<b>p.S37P</b>
<b>CTNNB1</b>	NM_001904	5688	c.121A>C	<b>p.T41P</b>
<b>CTNNB1</b>	NM_001904	5689	c.134C>G	<b>p.S45C</b>
<b>CTNNB1</b>	NM_001904	5690	c.95A>C	<b>p.D32A</b>
<b>CTNNB1</b>	NM_001904	5691	c.95A>T	<b>p.D32V</b>

<b>CTNNB1</b>	NM_001904	5692	c.134C>A	<b>p.S45Y</b>
<b>CTNNB1</b>	NM_001904	5694	c.86C>T	<b>p.S29F</b>
<b>CTNNB1</b>	NM_001904	5696	c.125C>T	<b>p.T42I</b>
<b>CTNNB1</b>	NM_001904	5699	c.128C>T	<b>p.A43V</b>
<b>CTNNB1</b>	NM_001904	5701	c.122C>G	<b>p.T41S</b>
<b>CTNNB1</b>	NM_001904	5702	c.59C>T	<b>p.A20V</b>
<b>CTNNB1</b>	NM_001904	5703	c.106C>T	<b>p.H36Y</b>
<b>CTNNB1</b>	NM_001904	5704	c.130C>T	<b>p.P44S</b>
<b>CTNNB1</b>	NM_001904	5706	c.65T>C	<b>p.V22A</b>
<b>CTNNB1</b>	NM_001904	5708	c.119C>T	<b>p.T40I</b>
<b>CTNNB1</b>	NM_001904	5713	c.113G>A	<b>p.G38D</b>
<b>CTNNB1</b>	NM_001904	5714	c.67A>C	<b>p.S23R</b>
<b>CTNNB1</b>	NM_001904	5716	c.121A>T	<b>p.T41S</b>
<b>CTNNB1</b>	NM_001904	5717	c.123C>T	<b>p.T41T</b>
<b>CTNNB1</b>	NM_001904	5721	c.91C>T	<b>p.L31L</b>
<b>CTNNB1</b>	NM_001904	5730	c.122C>A	<b>p.T41N</b>
<b>CTNNB1</b>	NM_001904	5732	c.125C>G	<b>p.T42R</b>
<b>CTNNB1</b>	NM_001904	5738	c.61G>A	<b>p.A21T</b>
<b>CTNNB1</b>	NM_001904	5744	c.127G>C	<b>p.A43P</b>
<b>CTNNB1</b>	NM_001904	5747	c.37G>A	<b>p.A13T</b>
<b>CTNNB1</b>	NM_001904	5749	c.74G>T	<b>p.W25L</b>
<b>CTNNB1</b>	NM_001904	5753	c.116C>G	<b>p.A39G</b>
<b>CTNNB1</b>	NM_001904	5758	c.127G>A	<b>p.A43T</b>
<b>CTNNB1</b>	NM_001904	5761	c.131C>T	<b>p.P44L</b>
<b>CTNNB1</b>	NM_001904	5762	c.115G>A	<b>p.A39T</b>
<b>CTNNB1</b>	NM_001904	6050	c.64_114del51	<b>p.V22_G38del</b>
<b>CTNNB1</b>	NM_001904	6052	c.64_99del36	<b>p.V22_S33del</b>
<b>CTNNB1</b>	NM_001904	6057	c.67_99del33	<b>p.S23_S33del</b>
<b>CTNNB1</b>	NM_001904	6064	c.74_97del24	<b>p.W25_D32del</b>
<b>CTNNB1</b>	NM_001904	6076	c.88_99del12	<b>p.Y30_S33del</b>
<b>CTNNB1</b>	NM_001904	6098	c.97_98TC>CT	<b>p.S33L</b>
<b>CTNNB1</b>	NM_001904	6099	c.97_98TC>AA	<b>p.S33N</b>
<b>CTNNB1</b>	NM_001904	6140	c.120T>C	<b>p.T40T</b>
<b>EGFR</b>	NM_005228	12366	c.2572C>A	<b>p.L858M</b>
<b>EGFR</b>	NM_005228	12367	c.2237_2254del18	<b>p.E746_S752&gt;A</b>
<b>EGFR</b>	NM_005228	12369	c.2240_2254del15	<b>p.L747_T751del</b>
<b>EGFR</b>	NM_005228	12370	c.2240_2257del18	<b>p.L747_P753&gt;S</b>
<b>EGFR</b>	NM_005228	12371	c.2126A>T	<b>p.E709V</b>
<b>EGFR</b>	NM_005228	12373	c.2159C>T	<b>p.S720F</b>
<b>EGFR</b>	NM_005228	12374	c.2582T>G	<b>p.L861R</b>
<b>EGFR</b>	NM_005228	12377	c.2319_2320insCAC	<b>p.H773_V774insH</b>
<b>EGFR</b>	NM_005228	12378	c.2310_2311insGGT	<b>p.D770_N771insG</b>
<b>EGFR</b>	NM_005228	12382	c.2239_2248TTAAGAGAAG>C	<b>p.L747_A750&gt;P</b>
<b>EGFR</b>	NM_005228	12383	c.2239_2251>C	<b>p.L747_T751&gt;P</b>
<b>EGFR</b>	NM_005228	12384	c.2237_2255>T	<b>p.E746_S752&gt;V</b>
<b>EGFR</b>	NM_005228	12386	c.2237_2252>T	<b>p.E746_T751&gt;V</b>
<b>EGFR</b>	NM_005228	12427	c.2308_2309insGTT	<b>p.D770&gt;GY</b>
<b>EGFR</b>	NM_005228	12428	c.2125_2127GAA>CAT	<b>p.E709H</b>
<b>EGFR</b>	NM_005228	12429	c.2573_2574TG>GT	<b>p.L858R</b>
<b>EGFR</b>	NM_005228	12675	c.2575G>A	<b>p.A859T</b>
<b>EGFR</b>	NM_005228	12678	c.2237_2251del15	<b>p.E746_T751&gt;A</b>
<b>EGFR</b>	NM_005228	12728	c.2236_2253del18	<b>p.E746_T751del</b>
<b>EGFR</b>	NM_005228	12986	c.2429G>A	<b>p.G810D</b>
<b>EGFR</b>	NM_005228	12988	c.2125G>A	<b>p.E709K</b>
<b>EGFR</b>	NM_005228	13003	c.2310_2311insAAC	<b>p.D770_N771insN</b>
<b>EGFR</b>	NM_005228	13004	c.2310_2311insGGC	<b>p.D770_N771insG</b>

<b>EGFR</b>	NM_005228	13005	c.2318A>T	<b>p.H773L</b>
<b>EGFR</b>	NM_005228	13006	c.2320G>A	<b>p.V774M</b>
<b>EGFR</b>	NM_005228	13007	c.2335_2336GG>TT	<b>p.G779F</b>
<b>EGFR</b>	NM_005228	13008	c.2612C>G	<b>p.A871G</b>
<b>EGFR</b>	NM_005228	13009	c.2126A>G	<b>p.E709G</b>
<b>EGFR</b>	NM_005228	13180	c.2188C>T	<b>p.L730F</b>
<b>EGFR</b>	NM_005228	13181	c.2198C>T	<b>p.P733L</b>
<b>EGFR</b>	NM_005228	13182	c.2203G>A	<b>p.G735S</b>
<b>EGFR</b>	NM_005228	13183	c.2225T>C	<b>p.V742A</b>
<b>EGFR</b>	NM_005228	13184	c.2236G>A	<b>p.E746K</b>
<b>EGFR</b>	NM_005228	13185	c.2252C>T	<b>p.T751I</b>
<b>EGFR</b>	NM_005228	13186	c.2255C>A	<b>p.S752Y</b>
<b>EGFR</b>	NM_005228	13188	c.2281G>A	<b>p.D761N</b>
<b>EGFR</b>	NM_005228	13189	c.2351C>T	<b>p.S784F</b>
<b>EGFR</b>	NM_005228	13190	c.2375T>C	<b>p.L792P</b>
<b>EGFR</b>	NM_005228	13192	c.2428G>A	<b>p.G810S</b>
<b>EGFR</b>	NM_005228	13197	c.2590G>A	<b>p.A864T</b>
<b>EGFR</b>	NM_005228	13199	c.2618G>A	<b>p.G873E</b>
<b>EGFR</b>	NM_005228	133189	c.2236_2256del21	<b>p.E746_S752del</b>
<b>EGFR</b>	NM_005228	133197	c.2239_2257>T	<b>p.L747_P753&gt;S</b>
<b>EGFR</b>	NM_005228	133207	c.2252_2275del24	<b>p.T751_I759del</b>
<b>EGFR</b>	NM_005228	13400	c.2457G>A	<b>p.V819V</b>
<b>EGFR</b>	NM_005228	13427	c.2126A>C	<b>p.E709A</b>
<b>EGFR</b>	NM_005228	13432	c.2193G>A	<b>p.W731*</b>
<b>EGFR</b>	NM_005228	13433	c.2318A>G	<b>p.H773R</b>
<b>EGFR</b>	NM_005228	13553	c.2572_2573CT>AG	<b>p.L858R</b>
<b>EGFR</b>	NM_005228	13556	c.2253_2276del24	<b>p.S752_I759del</b>
<b>EGFR</b>	NM_005228	13979	c.2170G>A	<b>p.G724S</b>
<b>EGFR</b>	NM_005228	14068	c.2308G>A	<b>p.D770N</b>
<b>EGFR</b>	NM_005228	14070	c.2588G>A	<b>p.G863D</b>
<b>EGFR</b>	NM_005228	14243	c.2234A>G	<b>p.K745R</b>
<b>EGFR</b>	NM_005228	17570	c.2222C>T	<b>p.P741L</b>
<b>EGFR</b>	NM_005228	18419	c.2200G>A	<b>p.E734K</b>
<b>EGFR</b>	NM_005228	18425	c.2156G>A	<b>p.G719D</b>
<b>EGFR</b>	NM_005228	18441	c.2154_2155GG>TT	<b>p.G719C</b>
<b>EGFR</b>	NM_005228	18442	c.2241_2244AAGA>CCCG	<b>p.L747_R748&gt;FP</b>
<b>EGFR</b>	NM_005228	21683	c.323G>A	<b>p.R108K</b>
<b>EGFR</b>	NM_005228	21685	c.866C>A	<b>p.A289D</b>
<b>EGFR</b>	NM_005228	21686	c.865G>A	<b>p.A289T</b>
<b>EGFR</b>	NM_005228	21687	c.866C>T	<b>p.A289V</b>
<b>EGFR</b>	NM_005228	21689	c.1787C>T	<b>p.P596L</b>
<b>EGFR</b>	NM_005228	21690	c.1793G>T	<b>p.G598V</b>
<b>EGFR</b>	NM_005228	21984	c.2281G>T	<b>p.D761Y</b>
<b>EGFR</b>	NM_005228	22940	c.2327G>A	<b>p.R776H</b>
<b>EGFR</b>	NM_005228	22954	c.2324G>A	<b>p.C775Y</b>
<b>EGFR</b>	NM_005228	22992	c.2161G>A	<b>p.G721S</b>
<b>EGFR</b>	NM_005228	23571	c.2238_2252del15	<b>p.L747_T751del</b>
<b>EGFR</b>	NM_005228	24267	c.2239_2240TT>CC	<b>p.L747P</b>
<b>EGFR</b>	NM_005228	24869	c.2235_2252del18	<b>p.E746_T751del</b>
<b>EGFR</b>	NM_005228	26038	c.2233_2247del15	<b>p.K745_E749del</b>
<b>EGFR</b>	NM_005228	26129	c.2572C>T	<b>p.L858L</b>
<b>EGFR</b>	NM_005228	26438	c.2620G>A	<b>p.G874S</b>
<b>EGFR</b>	NM_005228	26445	c.2300C>T	<b>p.A767V</b>
<b>EGFR</b>	NM_005228	26509	c.2227G>A	<b>p.A743T</b>
<b>EGFR</b>	NM_005228	26704	c.2240T>C	<b>p.L747S</b>
<b>EGFR</b>	NM_005228	27041	c.2213T>G	<b>p.V738G</b>

<b>EGFR</b>	NM_005228	27042	c.2282A>G	p.D761G
<b>EGFR</b>	NM_005228	27110	c.2356G>A	p.V786M
<b>EGFR</b>	NM_005228	28508	c.2104G>T	p.A702S
<b>EGFR</b>	NM_005228	28510	c.2162G>C	p.G721A
<b>EGFR</b>	NM_005228	28511	c.2108T>C	p.L703P
<b>EGFR</b>	NM_005228	28513	c.2350T>C	p.S784P
<b>EGFR</b>	NM_005228	28517	c.2235_2246del12	p.E746_E749del
<b>EGFR</b>	NM_005228	28601	c.2135T>C	p.F712S
<b>EGFR</b>	NM_005228	28603	c.2293G>A	p.V765M
<b>EGFR</b>	NM_005228	28605	c.2611G>A	p.A871T
<b>EGFR</b>	NM_005228	28607	c.2603A>G	p.E868G
<b>EGFR</b>	NM_005228	28610	c.2441T>C	p.L814P
<b>EGFR</b>	NM_005228	29274	c.2254T>C	p.S752P
<b>EGFR</b>	NM_005228	33725	c.2609A>G	p.H870R
<b>EGFR</b>	NM_005228	41603	c.2134T>C	p.F712L
<b>EGFR</b>	NM_005228	41663	c.2462T>C	p.I821T
<b>EGFR</b>	NM_005228	41905	c.2092G>A	p.A698T
<b>EGFR</b>	NM_005228	48922	c.2311_2312insGCGTGGACA	p.D770_N771insSV D
<b>EGFR</b>	NM_005228	53194	c.2197C>T	p.P733S
<b>EGFR</b>	NM_005228	53292	c.2608C>T	p.H870Y
<b>EGFR</b>	NM_005228	6210	c.2240_2251del12	p.L747_T751>S
<b>EGFR</b>	NM_005228	6213	c.2582T>A	p.L861Q
<b>EGFR</b>	NM_005228	6218	c.2239_2247del9	p.L747_E749del
<b>EGFR</b>	NM_005228	6220	c.2238_2255del18	p.E746_S752>D
<b>EGFR</b>	NM_005228	6223	c.2235_2249del15	p.E746_A750del
<b>EGFR</b>	NM_005228	6224	c.2573T>G	p.L858R
<b>EGFR</b>	NM_005228	6225	c.2236_2250del15	p.E746_A750del
<b>EGFR</b>	NM_005228	6226	c.2326C>T	p.R776C
<b>EGFR</b>	NM_005228	6239	c.2156G>C	p.G719A
<b>EGFR</b>	NM_005228	6240	c.2369C>T	p.T790M
<b>EGFR</b>	NM_005228	6241	c.2303G>T	p.S768I
<b>EGFR</b>	NM_005228	6242	c.2305G>T	p.V769L
<b>EGFR</b>	NM_005228	6252	c.2155G>A	p.G719S
<b>EGFR</b>	NM_005228	6253	c.2155G>T	p.G719C
<b>EGFR</b>	NM_005228	6254	c.2239_2253del15	p.L747_T751del
<b>EGFR</b>	NM_005228	6255	c.2239_2256del18	p.L747_S752del
<b>EGFR</b>	NM_005228	6256	c.2254_2277del24	p.S752_I759del
<b>EGFR</b>	NM_005228	6268	c.2257C>T	p.P753S
<b>EGFR</b>	NM_005228	85993	c.2260A>G	p.K754E
<b>EGFR</b>	NM_005228	96856	c.2252_2276>A	p.T751_I759>N
<b>EGFR</b>	NM_005228	6219	c.2248G>C	p.A750P
<b>EGFR</b>	NM_005228	12376	c.2307_2308ins9	p.V769_D770insAS V
<b>EGFR</b>	NM_005228	12381	c.2319_2320ins9	p.H773_V774insNP H
<b>EGFR</b>	NM_005228	13428	c.2311_2312ins9	p.D770_N771insSV D
<b>ERBB2</b>	NM_004448	12552	c.2326_2327insTTT	p.G776>VC
<b>ERBB2</b>	NM_004448	12553	c.2326_2327insTGT	p.G776>VC
<b>ERBB2</b>	NM_004448	13170	c.2305G>C	p.D769H
<b>ERBB2</b>	NM_004448	14060	c.2264T>C	p.L755S
<b>ERBB2</b>	NM_004448	14062	c.2329G>T	p.V777L
<b>ERBB2</b>	NM_004448	14064	c.2329G>A	p.V777M
<b>ERBB2</b>	NM_004448	14065	c.2524G>A	p.V842I
<b>ERBB2</b>	NM_004448	18609	c.2327G>T	p.G776V



<b>ERBB2</b>	NM_004448	21985	c.2632C>T	<b>p.H878Y</b>
<b>ERBB2</b>	NM_004448	26681	c.2333_2334insGGG	<b>p.G778_S779insG</b>
<b>ERBB2</b>	NM_004448	35496	c.2330T>C	<b>p.V777A</b>
<b>ERBB2</b>	NM_004448	51317	c.2301C>G	<b>p.I767M</b>
<b>ERBB2</b>	NM_004448	683	c.2263_2264TT>CC	<b>p.L755P</b>
<b>ERBB2</b>	NM_004448	685	c.2326G>A	<b>p.G776S</b>
<b>ERBB2</b>	NM_004448	681	c.2335_2336ins9	<b>p.S779_P780insVGS</b>
<b>ERBB2</b>	NM_004448	682	c.2322_2323ins12	<b>p.M774_A775insAYVM</b>
<b>ERBB2</b>	NM_004448	12556	c.2340_2341ins9	<b>p.P780_Y781insGSP</b>
<b>ERBB2</b>	NM_004448	12558	c.2325_2326ins12	<b>p.A775_G776insYVMA</b>
<b>ERBB2</b>	NM_004448	20959	c.2324_2325ins12	<b>p.A775_G776insYVMA</b>
<b>ERBB4</b>	NM_005235	108015	c.2806G>A	<b>p.G936R</b>
<b>ERBB4</b>	NM_005235	110095	c.1022C>T	<b>p.S341L</b>
<b>ERBB4</b>	NM_005235	12833	c.908C>A	<b>p.S303Y</b>
<b>ERBB4</b>	NM_005235	20392	c.419C>T	<b>p.T140I</b>
<b>ERBB4</b>	NM_005235	48361	c.2804A>T	<b>p.K935I</b>
<b>ERBB4</b>	NM_005235	48362	c.2791G>T	<b>p.D931Y</b>
<b>ERBB4</b>	NM_005235	48363	c.1853A>C	<b>p.H618P</b>
<b>ERBB4</b>	NM_005235	48364	c.1784A>T	<b>p.D595V</b>
<b>ERBB4</b>	NM_005235	48365	c.1042G>T	<b>p.V348L</b>
<b>ERBB4</b>	NM_005235	48366	c.916C>A	<b>p.R306S</b>
<b>ERBB4</b>	NM_005235	48367	c.854A>G	<b>p.Y285C</b>
<b>ERBB4</b>	NM_005235	48368	c.731C>G	<b>p.T244R</b>
<b>ERBB4</b>	NM_005235	48369	c.542A>G	<b>p.N181S</b>
<b>EZH2</b>	NM_004456.3	37028	c.1937A>T	<b>p.Y646F</b>
<b>EZH2</b>	NM_004456.3	37029	c.1937A>C	<b>p.Y646S</b>
<b>EZH2</b>	NM_004456.3	37030	c.1936T>C	<b>p.Y646H</b>
<b>EZH2</b>	NM_004456.3	37031	c.1936T>A	<b>p.Y646N</b>
<b>EZH2</b>	NM_004456.3	37032	c.1937A>G	<b>p.Y646C</b>
<b>EZH2</b>	NM_004456.3	37033	c.1920T>A	<b>p.N640K</b>
<b>EZH2</b>	NM_004456.3	88179	c.1907C>T	<b>p.P636L</b>
<b>EZH2_ENST 000003509 95</b>	ENST00000350995	139744	c.1804T>A	<b>p.Y602N</b>
<b>EZH2_ENST 000003509 95</b>	ENST00000350995	220730	c.1805A>C	<b>p.Y602S</b>
<b>EZH2_ENST 000003509 95</b>	ENST00000350995	220731	c.1805A>T	<b>p.Y602F</b>
<b>EZH2_ENST 000003509 95</b>	ENST00000350995	220732	c.1804T>C	<b>p.Y602H</b>
<b>FBXW7</b>	NM_033632.1	133115	c.1393_1394CG>TA	<b>p.R465Y</b>
<b>FBXW7</b>	NM_033632.1	22932	c.1393C>T	<b>p.R465C</b>
<b>FBXW7</b>	NM_033632.1	22965	c.1394G>A	<b>p.R465H</b>
<b>FBXW7</b>	NM_033632.1	22971	c.832C>T	<b>p.R278*</b>
<b>FBXW7</b>	NM_033632.1	22973	c.1177C>T	<b>p.R393*</b>
<b>FBXW7</b>	NM_033632.1	22974	c.1436G>A	<b>p.R479Q</b>
<b>FBXW7</b>	NM_033632.1	22975	c.1513C>T	<b>p.R505C</b>
<b>FBXW7</b>	NM_033632.1	22979	c.1745C>T	<b>p.S582L</b>
<b>FBXW7</b>	NM_033632.1	23000	c.1514G>T	<b>p.R505L</b>

<b>FBXW7</b>	NM_033632.1	25812	c.1514G>A	<b>p.R505H</b>
<b>FBXW7</b>	NM_033632.1	27055	c.1510G>A	<b>p.V504I</b>
<b>FBXW7</b>	NM_033632.1	33762	c.1394G>T	<b>p.R465L</b>
<b>FBXW7</b>	NM_033632.1	99604	c.1513C>G	<b>p.R505G</b>
<b>FBXW7_EN ST0000028 1708</b>	ENST00000281708	108572	c.1513C>T	<b>p.R505C</b>
<b>FBXW7_EN ST0000028 1708</b>	ENST00000281708	117310	c.1394G>A	<b>p.R465H</b>
<b>FBXW7_EN ST0000028 1708</b>	ENST00000281708	170727	c.1393C>T	<b>p.R465C</b>
<b>FBXW7_EN ST0000028 1708</b>	ENST00000281708	99606	c.1513C>G	<b>p.R505G</b>
<b>FBXW7_EN ST0000053 4231</b>	ENST00000534231	108571	c.796C>T	<b>p.R266C</b>
<b>FBXW7_EN ST0000053 4231</b>	ENST00000534231	117309	c.677G>A	<b>p.R226H</b>
<b>FBXW7_EN ST0000053 4231</b>	ENST00000534231	170726	c.676C>T	<b>p.R226C</b>
<b>FBXW7_EN ST0000053 4231</b>	ENST00000534231	99605	c.796C>G	<b>p.R266G</b>
<b>FBXW7_N M_018315 _2</b>	NM_018315.2	117308	c.1154G>A	<b>p.R385H</b>
<b>FBXW7_N M_018315 _2</b>	NM_018315.2	170725	c.1153C>T	<b>p.R385C</b>
<b>FBXW7_N M_018315 _2</b>	NM_018315.2	74637	c.1273C>T	<b>p.R425C</b>
<b>FBXW7_N M_018315 _2</b>	NM_018315.2	99603	c.1273C>G	<b>p.R425G</b>
<b>FGFR1</b>	NM_000604	12834	c.754C>A	<b>p.P252T</b>
<b>FGFR1</b>	NM_000604	601	c.374C>T	<b>p.S125L</b>
<b>FGFR2</b>	NM_000141.2	36901	c.929A>G	<b>p.K310R</b>
<b>FGFR2</b>	NM_000141.2	36902	c.1647T>G	<b>p.N549K</b>
<b>FGFR2</b>	NM_000141.2	36903	c.755C>G	<b>p.S252W</b>
<b>FGFR2</b>	NM_000141.2	36904	c.1124A>G	<b>p.Y375C</b>
<b>FGFR2</b>	NM_000141.2	36905	c.1115C>G	<b>p.S372C</b>
<b>FGFR2</b>	NM_000141.2	36906	c.1144T>C	<b>p.C382R</b>
<b>FGFR2</b>	NM_000141.2	36912	c.1647T>A	<b>p.N549K</b>
<b>FGFR2</b>	NM_000141.2	49170	c.758C>G	<b>p.P253R</b>
<b>FGFR3</b>	NM_000142	17461	c.1111A>T	<b>p.S371C</b>
<b>FGFR3</b>	NM_000142	24802	c.2089G>T	<b>p.G697C</b>
<b>FGFR3</b>	NM_000142	24842	c.1138G>A	<b>p.G380R</b>
<b>FGFR3</b>	NM_000142	29438	c.1921G>A	<b>p.D641N</b>
<b>FGFR3</b>	NM_000142	29446	c.753C>T	<b>p.H251H</b>
<b>FGFR3</b>	NM_000142	714	c.742C>T	<b>p.R248C</b>

<b>FGFR3</b>	NM_000142	715	c.746C>G	<b>p.S249C</b>
<b>FGFR3</b>	NM_000142	716	c.1108G>T	<b>p.G370C</b>
<b>FGFR3</b>	NM_000142	718	c.1118A>G	<b>p.Y373C</b>
<b>FGFR3</b>	NM_000142	719	c.1948A>G	<b>p.K650E</b>
<b>FGFR3</b>	NM_000142	720	c.1949A>T	<b>p.K650M</b>
<b>FGFR3</b>	NM_000142	721	c.1172C>A	<b>p.A391E</b>
<b>FGFR3</b>	NM_000142	722	c.1107G>T	<b>p.A369A</b>
<b>FGFR3</b>	NM_000142	724	c.1150T>C	<b>p.F384L</b>
<b>FGFR3</b>	NM_000142	726	c.1948A>C	<b>p.K650Q</b>
<b>FGFR3</b>	NM_000142	729	c.2381_2381T>GA	<b>p.L794fs*23</b>
<b>FGFR3</b>	NM_000142	731	c.1949A>C	<b>p.K650T</b>
<b>FLT3</b>	Z26652	158601	c.1782_1783insTCAGATAATGA GTACTTCTACGTTGATTC	<b>p.F594_R595insSDN EYFYVDF</b>
<b>FLT3</b>	Z26652	158603	c.1797_1798insCCGGCTCCTC AGATAATGAGTACTTCTACGTT GATTCAGAGAATATGAATATC GCC	<b>p.Y599_D600insPA PQIMSTSTLISENMNI A</b>
<b>FLT3</b>	Z26652	158605	c.1799_1800insATATGAATATG AATATGAATATGA	<b>p.Y599_D600insEYE YEY EY</b>
<b>FLT3</b>	Z26652	19522	c.1775T>C	<b>p.V592A</b>
<b>FLT3</b>	Z26652	19686	c.2508C>G	<b>p.I836M</b>
<b>FLT3</b>	Z26652	19692	c.2525A>G	<b>p.Y842C</b>
<b>FLT3</b>	Z26652	19836	c.2508_2510delCAT	<b>p.I836del</b>
<b>FLT3</b>	Z26652	24530	c.2506_2508ATC>TTT	<b>p.I836F</b>
<b>FLT3</b>	Z26652	24531	c.2509_2510AT>CC	<b>p.M837P</b>
<b>FLT3</b>	Z26652	25248	c.2492G>A	<b>p.G831E</b>
<b>FLT3</b>	Z26652	27650	c.2504A>C	<b>p.D835A</b>
<b>FLT3</b>	Z26652	27906	c.1796A>T	<b>p.Y599F</b>
<b>FLT3</b>	Z26652	28042	c.1352C>T	<b>p.S451F</b>
<b>FLT3</b>	Z26652	28044	c.1715A>G	<b>p.Y572C</b>
<b>FLT3</b>	Z26652	28047	c.2501G>A	<b>p.R834Q</b>
<b>FLT3</b>	Z26652	783	c.2503G>T	<b>p.D835Y</b>
<b>FLT3</b>	Z26652	784	c.2504A>T	<b>p.D835V</b>
<b>FLT3</b>	Z26652	785	c.2503G>C	<b>p.D835H</b>
<b>FLT3</b>	Z26652	786	c.2039C>T	<b>p.A680V</b>
<b>FLT3</b>	Z26652	787	c.2505T>A	<b>p.D835E</b>
<b>FLT3</b>	Z26652	788	c.2505T>G	<b>p.D835E</b>
<b>FLT3</b>	Z26652	789	c.2503G>A	<b>p.D835N</b>
<b>FLT3</b>	Z26652	796	c.2503_2505delGAT	<b>p.D835del</b>
<b>FLT3</b>	Z26652	797	c.2506_2508delATC	<b>p.I836del</b>
<b>FLT3</b>	Z26652	850	c.2520_2521insGGATCC	<b>p.S840_N841insGS</b>
<b>FLT3</b>	Z26652	19737	c.1803_1804ins81	<b>p.L601_K602ins27</b>
<b>FLT3</b>	Z26652	19790	c.1807_1808ins18	<b>p.K602_W603insYE YDLK</b>
<b>FLT3</b>	Z26652	27979	c.1788_1789ins36	<b>p.E596_Y597ins12</b>
<b>FLT3</b>	Z26652	28771	c.1811_1812ins30	<b>p.W603_E604insDR EY EYDLKW</b>
<b>FLT3</b>	Z26652	28921	c.1798_1799ins45	<b>p.Y599_D600ins15</b>
<b>GNA11</b>	NM_002067.1	52969	c.626A>T	<b>p.Q209L</b>
<b>GNA11</b>	NM_002067.1	52970	c.626A>C	<b>p.Q209P</b>
<b>GNA11</b>	NM_002067.1	238583	c.625C>A	<b>p.Q209K</b>
<b>GNA11</b>	NM_002067.1	52971	c.626_627AG>TA	<b>p.Q209L</b>
<b>GNA11</b>	NM_002067.1	52972	c.626_627AG>TT	<b>p.Q209L</b>
<b>GNAQ</b>	NM_002072.2	28757	c.626A>T	<b>p.Q209L</b>
<b>GNAQ</b>	NM_002072.2	28758	c.626A>C	<b>p.Q209P</b>
<b>GNAQ</b>	NM_002072.2	28759	c.625_626CA>TT	<b>p.Q209L</b>

<b>GNAQ</b>	NM_002072.2	132932	c.625C>A	p.Q209K
<b>GNAQ</b>	NM_002072.2	28760	c.626A>G	p.Q209R
<b>GNAQ</b>	NM_002072.2	28770	c.627A>T	p.Q209H
<b>GNAS</b>	NM_000516.3	27887	c.601C>T	p.R201C
<b>GNAS</b>	NM_000516.3	27888	c.680A>T	p.Q227L
<b>GNAS</b>	NM_000516.3	27895	c.602G>A	p.R201H
<b>GNAS</b>	NM_000516.3	27896	c.680A>G	p.Q227R
<b>GNAS</b>	NM_000516.3	27899	c.601C>A	p.R201S
<b>GNAS</b>	NM_000516.3	27900	c.681G>T	p.Q227H
<b>GNAS</b>	NM_000516.3	192557	c.699G>T	p.K233N
<b>GNAS</b>	NM_000516.3	28618	c.679C>A	p.Q227K
<b>GNAS</b>	NM_000516	NOCOSMIC227	c.679C>G	p.Q227E
<b>GNAS_EN</b>				
<b>ST0000037</b>	ENST00000371100	123397	c.2530C>T	p.R844C
<b>1100</b>				
<b>GNAS_EN</b>				
<b>ST0000037</b>	ENST00000371100	94388	c.2531G>A	p.R844H
<b>1100</b>				
<b>GNAS_EN</b>				
<b>ST0000037</b>	ENST00000371100	192558	c.2628G>T	p.K876N
<b>1100</b>				
<b>HNF1A</b>	NM_000545.3	21471	c.617G>T	p.W206L
<b>HNF1A</b>	NM_000545.3	21477	c.817A>G	p.K273E
<b>HNF1A</b>	NM_000545.3	21478	c.618G>T	p.W206C
<b>HNF1A</b>	NM_000545.3	24692	c.787C>T	p.R263C
<b>HNF1A</b>	NM_000545.3	24900	c.632A>C	p.Q211P
<b>HNF1A</b>	NM_000545.3	24915	c.607C>T	p.R203C
<b>HNF1A</b>	NM_000545.3	24918	c.618G>C	p.W206C
<b>HNF1A</b>	NM_000545.3	24923	c.779C>T	p.T260M
<b>HNF1A</b>	NM_000545.3	24931	c.620G>A	p.G207D
<b>HNF1A</b>	NM_000545.3	24933	c.815G>A	p.R272H
<b>HRAS</b>	NM_005343	249860	c.81T>C	p.H27H
<b>HRAS</b>	NM_005343	33692	c.185A>G	p.E62G
<b>HRAS</b>	NM_005343	33695	c.182_183AG>GA	p.Q61R
<b>HRAS</b>	NM_005343	479	c.33C>T	p.A11A
<b>HRAS</b>	NM_005343	480	c.34G>A	p.G12S
<b>HRAS</b>	NM_005343	481	c.34G>T	p.G12C
<b>HRAS</b>	NM_005343	482	c.34G>C	p.G12R
<b>HRAS</b>	NM_005343	483	c.35G>T	p.G12V
<b>HRAS</b>	NM_005343	484	c.35G>A	p.G12D
<b>HRAS</b>	NM_005343	485	c.35G>C	p.G12A
<b>HRAS</b>	NM_005343	486	c.37G>C	p.G13R
<b>HRAS</b>	NM_005343	487	c.37G>A	p.G13S
<b>HRAS</b>	NM_005343	488	c.37G>T	p.G13C
<b>HRAS</b>	NM_005343	489	c.38G>T	p.G13V
<b>HRAS</b>	NM_005343	490	c.38G>A	p.G13D
<b>HRAS</b>	NM_005343	496	c.181C>A	p.Q61K
<b>HRAS</b>	NM_005343	498	c.182A>T	p.Q61L
<b>HRAS</b>	NM_005343	499	c.182A>G	p.Q61R
<b>HRAS</b>	NM_005343	500	c.182A>C	p.Q61P
<b>HRAS</b>	NM_005343	501	c.182_183AG>GT	p.Q61R
<b>HRAS</b>	NM_005343	502	c.183G>T	p.Q61H
<b>HRAS</b>	NM_005343	503	c.183G>C	p.Q61H
<b>HRAS</b>	NM_005343	52978	c.182_183AG>TA	p.Q61L
<b>HRAS</b>	NM_005343	52979	c.181_182CA>AG	p.Q61R
<b>HRAS_ENS</b>	ENST00000397594	123649	c.181C>A	p.Q61K

<b>T00000397</b>					
<b>594</b>					
<b>HRAS_ENS</b>					
<b>T00000397</b>	ENST00000397594	99664	c.182A>T		<b>p.Q61L</b>
<b>594</b>					
<b>HRAS_ENS</b>					
<b>T00000397</b>	ENST00000397594	99915	c.35G>A		<b>p.G12D</b>
<b>594</b>					
<b>IDH1</b>	NM_005896.2	28746	c.395G>A		<b>p.R132H</b>
<b>IDH1</b>	NM_005896.2	28747	c.394C>T		<b>p.R132C</b>
<b>IDH1</b>	NM_005896.2	28748	c.394C>A		<b>p.R132S</b>
<b>IDH1</b>	NM_005896.2	28749	c.394C>G		<b>p.R132G</b>
<b>IDH1</b>	NM_005896.2	28750	c.395G>T		<b>p.R132L</b>
<b>IDH1</b>	NM_005896.2	86993	c.395_396GT>AC		<b>p.R132H</b>
<b>IDH1</b>	NM_005896.2	242544	c.356G>A		<b>p.R119Q</b>
<b>IDH1</b>	NM_005896.2	28751	c.394_395CG>GT		<b>p.R132V</b>
<b>IDH1</b>	NM_005896.2	51542	c.368G>A		<b>p.G123E</b>
<b>IDH1</b>	NM_005896.2	96532	c.390A>G		<b>p.I130M</b>
<b>IDH1</b>	NM_005896.2	96533	c.399T>A		<b>p.H133Q</b>
<b>IDH1</b>	NM_005896.2	96534	c.401C>A		<b>p.A134D</b>
<b>IDH1</b>	NM_005896.2	96922	c.367G>A		<b>p.G123R</b>
<b>IDH1</b>	NM_005896.2	97049	c.347A>G		<b>p.N116S</b>
<b>IDH1</b>	NM_005896	NOCOSMIC105	c.315C>T		<b>p.G105G</b>
<b>IDH2</b>	NM_002168.2	133672	c.516G>C		<b>p.R172S</b>
<b>IDH2</b>	NM_002168.2	33731	c.514A>G		<b>p.R172G</b>
<b>IDH2</b>	NM_002168.2	33732	c.515G>T		<b>p.R172M</b>
<b>IDH2</b>	NM_002168.2	33733	c.515G>A		<b>p.R172K</b>
<b>IDH2</b>	NM_002168.2	34039	c.514A>T		<b>p.R172W</b>
<b>IDH2</b>	NM_002168.2	34090	c.516G>T		<b>p.R172S</b>
<b>IDH2</b>	NM_002168.2	41590	c.419G>A		<b>p.R140Q</b>
<b>IDH2</b>	NM_002168.2	41875	c.419G>T		<b>p.R140L</b>
<b>IDH2</b>	NM_002168.2	41877	c.418C>T		<b>p.R140W</b>
<b>IDH2</b>	NM_002168.2	227366	c.415A>T		<b>p.I139F</b>
<b>IDH2</b>	NM_002168.2	86959	c.472C>A		<b>p.P158T</b>
<b>IDH2</b>	NM_002168.2	86960	c.512G>A		<b>p.G171D</b>
<b>JAK2</b>	ENST00000381652	12600	c.1849G>T		<b>p.V617F</b>
<b>JAK2</b>	ENST00000381652	25834	c.1848_1849TG>CT		<b>p.V617F</b>
<b>JAK2</b>	ENST00000381652	27063	c.1860C>A		<b>p.D620E</b>
<b>JAK2</b>	ENST00000381652	29118	c.1852T>C		<b>p.C618R</b>
<b>JAK2</b>	ENST00000381652	51411	c.1831T>G		<b>p.L611V</b>
<b>JAK3</b>	NM_000215	34196	c.420+28G>A		<b>p.?</b>
<b>JAK3</b>	NM_000215	34197	c.420+5G>A		<b>p.?</b>
<b>JAK3</b>	NM_000215	34213	c.2164G>A		<b>p.V722I</b>
<b>JAK3</b>	NM_000215	34214	c.1715C>T		<b>p.A572V</b>
<b>JAK3</b>	NM_000215	34215	c.1718C>T		<b>p.A573V</b>
<b>JAK3</b>	NM_000215	34216	c.394C>A		<b>p.P132T</b>
<b>KDR</b>	NM_002253	21091	c.743C>G		<b>p.A248G</b>
<b>KDR</b>	NM_002253	32294	c.2617G>A		<b>p.G873R</b>
<b>KDR</b>	NM_002253	32339	c.824G>T		<b>p.R275L</b>
<b>KDR</b>	NM_002253	48460	c.3629C>T		<b>p.P1210L</b>
<b>KDR</b>	NM_002253	48461	c.3434G>A		<b>p.G1145E</b>
<b>KDR</b>	NM_002253	48462	c.3418C>A		<b>p.L1140M</b>
<b>KDR</b>	NM_002253	48463	c.2951G>C		<b>p.S984T</b>
<b>KDR</b>	NM_002253	48464	c.2917G>T		<b>p.A973S</b>
<b>KDR</b>	NM_002253	48465	c.1426G>T		<b>p.V476L</b>
<b>KDR</b>	NM_002253	48875	c.3922G>T		<b>p.G1308*</b>

KDR	NM_002253	48977	c.4063_4065delCCT	p.P1355del
KIT	NM_000222	1145	c.153C>G	p.G51G
KIT	NM_000222	1146	c.154G>A	p.D52N
KIT	NM_000222	1155	c.1588G>A	p.V530I
KIT	NM_000222	1169	c.1651_1665del15	p.P551_V555del
KIT	NM_000222	1177	c.1653_1670del18	p.M552_W557del
KIT	NM_000222	1179	c.1654_1659delATGTAT	p.M552_Y553del
KIT	NM_000222	1180	c.1654_1671del18	p.M552_W557del
KIT	NM_000222	1181	c.1654_1662del9	p.M552_E554del
KIT	NM_000222	1183	c.1654A>C	p.M552L
KIT	NM_000222	1187	c.1656_1670del15	p.Y553_W557del
KIT	NM_000222	1189	c.1657_1668del12	p.Y553_Q556del
KIT	NM_000222	1190	c.1657_1674del18	p.Y553_K558del
KIT	NM_000222	1192	c.1660_1674del15	p.E554_K558del
KIT	NM_000222	1194	c.1662_1685del24	p.V555_E562del
KIT	NM_000222	1198	c.1663_1677del15	p.V555_V559del
KIT	NM_000222	1199	c.1663_1674del12	p.V555_K558del
KIT	NM_000222	1200	c.1663_1713del51	p.V555_I571del
KIT	NM_000222	1201	c.1663_1668delGTACAG	p.V555_Q556del
KIT	NM_000222	1202	c.1663_1680del18	p.V555_V560del
KIT	NM_000222	1203	c.1663_1719del57	p.V555_P573del
KIT	NM_000222	1204	c.1666_1680del15	p.Q556_V560del
KIT	NM_000222	1205	c.1666_1728del63	p.Q556_L576del
KIT	NM_000222	1210	c.1667_1672delAGTGGA	p.W557_K558del
KIT	NM_000222	1211	c.1668_1673delGTGGAA	p.W557_K558del
KIT	NM_000222	1213	c.1668_1679del12	p.Q556_V560>H
KIT	NM_000222	1216	c.1669T>A	p.W557R
KIT	NM_000222	1217	c.1669_1674delTGGAAAG	p.W557_K558del
KIT	NM_000222	1218	c.1669_1677del9	p.W557_V559del
KIT	NM_000222	1219	c.1669T>C	p.W557R
KIT	NM_000222	1220	c.1669_1671delTGG	p.W557del
KIT	NM_000222	1221	c.1669T>G	p.W557G
KIT	NM_000222	1223	c.1669_1680del12	p.W557_V560del
KIT	NM_000222	1226	c.1670_1675delGGAAGG	p.W557_V559>F
KIT	NM_000222	1227	c.1670G>C	p.W557S
KIT	NM_000222	1229	c.1670_1717del48	p.W557_P573>S
KIT	NM_000222	1232	c.1671_1679del9	p.W557_V560>C
KIT	NM_000222	1233	c.1671_1676delGAAGGT	p.W557_V559>C
KIT	NM_000222	1234	c.1672_1680del9	p.K558_V560del
KIT	NM_000222	1235	c.1672_1677delAAGGT	p.K558_V559del
KIT	NM_000222	1238	c.1672_1692del21	p.K558_N564del
KIT	NM_000222	1239	c.1672_1686del15	p.K558_E562del
KIT	NM_000222	1241	c.1673_1678delAGGTTG	p.K558_V560>I
KIT	NM_000222	1243	c.1674G>A	p.K558K
KIT	NM_000222	1245	c.1674_1674G>TCCT	p.K558>NP
KIT	NM_000222	1247	c.1675_1677delGTT	p.V559del
KIT	NM_000222	1248	c.1675_1680delGTTGTT	p.V559_V560del
KIT	NM_000222	1249	c.1675_1695del21	p.V559_G565del
KIT	NM_000222	1250	c.1675_1683del9	p.V559_E561del
KIT	NM_000222	1251	c.1675G>A	p.V559I
KIT	NM_000222	1252	c.1676T>A	p.V559D
KIT	NM_000222	1253	c.1676T>G	p.V559G
KIT	NM_000222	1254	c.1676_1684del9	p.V559_E561del
KIT	NM_000222	1255	c.1676T>C	p.V559A
KIT	NM_000222	1256	c.1678_1680delGTT	p.V560del
KIT	NM_000222	1257	c.1679T>A	p.V560D

KIT	NM_000222	1258	c.1679_1681delTTG	p.V560del
KIT	NM_000222	1260	c.1679T>G	p.V560G
KIT	NM_000222	1264	c.1681G>A	p.E561K
KIT	NM_000222	1265	c.1683G>A	p.E561E
KIT	NM_000222	12706	c.1961T>C	p.V654A
KIT	NM_000222	12708	c.2009C>T	p.T670I
KIT	NM_000222	12709	c.2460T>A	p.D820E
KIT	NM_000222	1270	c.1690_1728del39	p.N564_L576del
KIT	NM_000222	12710	c.2458G>T	p.D820Y
KIT	NM_000222	12711	c.2447A>G	p.D816G
KIT	NM_000222	1273	c.1696A>G	p.N566D
KIT	NM_000222	1275	c.1698C>T	p.N566N
KIT	NM_000222	1277	c.1702T>G	p.Y568D
KIT	NM_000222	1285	c.1708_1728del21	p.Y570_L576del
KIT	NM_000222	1289	c.1726_1728delCTT	p.L576del
KIT	NM_000222	1290	c.1727T>C	p.L576P
KIT	NM_000222	1293	c.1729C>T	p.P577S
KIT	NM_000222	1294	c.1735_1737delGAT	p.D579del
KIT	NM_000222	1297	c.1751T>C	p.F584S
KIT	NM_000222	1299	c.1755C>T	p.P585P
KIT	NM_000222	1304	c.1924A>G	p.K642E
KIT	NM_000222	1306	c.2143_2145delAGC	p.S715del
KIT	NM_000222	1310	c.2446G>T	p.D816Y
KIT	NM_000222	1311	c.2446G>C	p.D816H
KIT	NM_000222	1312	c.2446_2447GA>TT	p.D816F
KIT	NM_000222	1314	c.2447A>T	p.D816V
KIT	NM_000222	1315	c.2453A>G	p.K818R
KIT	NM_000222	1316	c.2459A>G	p.D820G
KIT	NM_000222	1317	c.2459A>T	p.D820V
KIT	NM_000222	1321	c.2466T>A	p.N822K
KIT	NM_000222	1322	c.2466T>G	p.N822K
KIT	NM_000222	1323	c.2474T>C	p.V825A
KIT	NM_000222	1324	c.2515G>A	p.E839K
KIT	NM_000222	1326	c.1509_1510insGCCTAT	p.Y503_F504insAY
KIT	NM_000222	1327	c.1654_1668del15	p.M552_Q556del
KIT	NM_000222	1328	c.1655_1672del18	p.M552_W557del
KIT	NM_000222	1329	c.1661_1675del15	p.E554_K558del
KIT	NM_000222	1330	c.1667_1681del15	p.W557_E561del
KIT	NM_000222	1332	c.1669_1683del15	p.W557_E561del
KIT	NM_000222	1333	c.1679_1680TT>AG	p.V560E
KIT	NM_000222	1334	c.1702_1722del21	p.Y568_T574del
KIT	NM_000222	133754	c.1711_1728del18	p.I571_L576del
KIT	NM_000222	133763	c.1657T>A	p.Y553N
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KIT	NM_000222	133767	c.2558G>A	p.W853*
KIT	NM_000222	17944	c.1660G>A	p.E554K
KIT	NM_000222	17946	c.1684G>A	p.E562K
KIT	NM_000222	18681	c.2467T>G	p.Y823D
KIT	NM_000222	18682	c.2468A>G	p.Y823C
KIT	NM_000222	18896	c.1673_1687del15	p.K558_E562del
KIT	NM_000222	19029	c.1701T>A	p.N567K
KIT	NM_000222	19109	c.2464A>T	p.N822Y
KIT	NM_000222	19110	c.2473G>A	p.V825I
KIT	NM_000222	19285	c.2448C>G	p.D816E
KIT	NM_000222	19293	c.2008_2009AC>GA	p.T670E
KIT	NM_000222	19310	c.1669_1674delTGGAAAG	p.W557_K558del

KIT	NM_000222	21976	c.1673_1674insTCC	p.K558>NP
KIT	NM_000222	21978	c.1671_1673GAA>TCC	p.W557_K558>CP
KIT	NM_000222	21979	c.2446_2447GA>AT	p.D816I
KIT	NM_000222	21983	c.1638A>G	p.K546K
KIT	NM_000222	22275	c.1658_1720del63	p.Y553_T574>S
KIT	NM_000222	22379	c.2458G>C	p.D820H
KIT	NM_000222	23418	c.?-?del?	p.Q556_K558del
KIT	NM_000222	23560	c.1690_1734del45	p.N564_Y578del
KIT	NM_000222	24748	c.1669_1672TGGA>G	p.W557_K558>E
KIT	NM_000222	25064	c.1928T>C	p.V643A
KIT	NM_000222	27069	c.1674_1679delGGTTGT	p.K558_V560>N
KIT	NM_000222	27909	c.1656_1673del18	p.Y553_K558>
KIT	NM_000222	27910	c.2433T>C	p.F811F
KIT	NM_000222	28026	c.1621A>C	p.M541L
KIT	NM_000222	28637	c.1672_1676AAGGT>TCTTC	p.K558_V559>SS
KIT	NM_000222	29015	c.1673A>G	p.K558R
KIT	NM_000222	29442	c.1687_1728del42	p.I563_L576del
KIT	NM_000222	30551	c.1672A>G	p.K558E
KIT	NM_000222	33965	c.1652C>T	p.P551L
KIT	NM_000222	33966	c.1726C>T	p.L576F
KIT	NM_000222	36293	c.1678_1728del51	p.V560_L576del
KIT	NM_000222	36305	c.1745G>A	p.W582*
KIT	NM_000222	36311	c.1655_1660delTGTATG	p.M552_E554>K
KIT	NM_000222	36313	c.1746G>A	p.W582*
KIT	NM_000222	96868	c.1655_1666del12	p.M552_Q556>K
KIT	NM_000222	96883	c.1718C>T	p.P573L
KIT	NM_000222	96885	c.1526A>T	p.K509I
KIT	NM_000222	96888	c.1714G>A	p.D572N
KRAS	NM_004985	12654	c.30_31insGGA	p.G10_A11insG
KRAS	NM_004985	12655	c.36_37insGGT	p.G12_G13insG
KRAS	NM_004985	12703	c.57G>C	p.L19F
KRAS	NM_004985	12721	c.38_39GC>TT	p.G13V
KRAS	NM_004985	12722	c.40G>A	p.V14I
KRAS	NM_004985	12729	c.180_181TC>CA	p.Q61K
KRAS	NM_004985	14209	c.35_36GT>AC	p.G12D
KRAS	NM_004985	19404	c.436G>A	p.A146T
KRAS	NM_004985	19900	c.437C>T	p.A146V
KRAS	NM_004985	19905	c.436G>C	p.A146P
KRAS	NM_004985	19940	c.351A>C	p.K117N
KRAS	NM_004985	20818	c.57G>T	p.L19F
KRAS	NM_004985	219781	c.39_40insGGC	p.G13_V14insG
KRAS	NM_004985	25081	c.34_35GG>TA	p.G12Y
KRAS	NM_004985	28518	c.176C>G	p.A59G
KRAS	NM_004985	28519	c.351A>T	p.K117N
KRAS	NM_004985	34144	c.34_35GG>AT	p.G12I
KRAS	NM_004985	36281	c.34_36GGT>TGG	p.G12W
KRAS	NM_004985	507	c.24A>G	p.V8V
KRAS	NM_004985	510	c.31G>C	p.A11P
KRAS	NM_004985	511	c.32C>T	p.A11V
KRAS	NM_004985	512	c.34_35GG>TT	p.G12F
KRAS	NM_004985	513	c.34_36GGT>TGC	p.G12C
KRAS	NM_004985	514	c.34_35GG>CT	p.G12L
KRAS	NM_004985	515	c.35_36GT>TC	p.G12V
KRAS	NM_004985	516	c.34G>T	p.G12C
KRAS	NM_004985	517	c.34G>A	p.G12S
KRAS	NM_004985	518	c.34G>C	p.G12R



<b>KRAS</b>	NM_004985	519	c.35_36GT>AA	<b>p.G12E</b>
<b>KRAS</b>	NM_004985	520	c.35G>T	<b>p.G12V</b>
<b>KRAS</b>	NM_004985	521	c.35G>A	<b>p.G12D</b>
<b>KRAS</b>	NM_004985	522	c.35G>C	<b>p.G12A</b>
<b>KRAS</b>	NM_004985	523	c.36T>C	<b>p.G12G</b>
<b>KRAS</b>	NM_004985	524	c.36T>A	<b>p.G12G</b>
<b>KRAS</b>	NM_004985	526	c.37_39GGC>CGT	<b>p.G13R</b>
<b>KRAS</b>	NM_004985	527	c.37G>T	<b>p.G13C</b>
<b>KRAS</b>	NM_004985	528	c.37G>A	<b>p.G13S</b>
<b>KRAS</b>	NM_004985	529	c.37G>C	<b>p.G13R</b>
<b>KRAS</b>	NM_004985	530	c.38_39GC>TG	<b>p.G13V</b>
<b>KRAS</b>	NM_004985	531	c.38_39GC>AT	<b>p.G13D</b>
<b>KRAS</b>	NM_004985	532	c.38G>A	<b>p.G13D</b>
<b>KRAS</b>	NM_004985	533	c.38G>C	<b>p.G13A</b>
<b>KRAS</b>	NM_004985	534	c.38G>T	<b>p.G13V</b>
<b>KRAS</b>	NM_004985	535	c.39C>G	<b>p.G13G</b>
<b>KRAS</b>	NM_004985	536	c.39C>T	<b>p.G13G</b>
<b>KRAS</b>	NM_004985	537	c.39C>A	<b>p.G13G</b>
<b>KRAS</b>	NM_004985	538	c.43G>A	<b>p.G15S</b>
<b>KRAS</b>	NM_004985	542	c.53C>A	<b>p.A18D</b>
<b>KRAS</b>	NM_004985	543	c.64C>A	<b>p.Q22K</b>
<b>KRAS</b>	NM_004985	546	c.175G>A	<b>p.A59T</b>
<b>KRAS</b>	NM_004985	547	c.176C>A	<b>p.A59E</b>
<b>KRAS</b>	NM_004985	549	c.181C>A	<b>p.Q61K</b>
<b>KRAS</b>	NM_004985	550	c.181C>G	<b>p.Q61E</b>
<b>KRAS</b>	NM_004985	551	c.182A>C	<b>p.Q61P</b>
<b>KRAS</b>	NM_004985	552	c.182A>G	<b>p.Q61R</b>
<b>KRAS</b>	NM_004985	553	c.182A>T	<b>p.Q61L</b>
<b>KRAS</b>	NM_004985	554	c.183A>C	<b>p.Q61H</b>
<b>KRAS</b>	NM_004985	555	c.183A>T	<b>p.Q61H</b>
<b>KRAS</b>	NM_004985	87280	c.38_39GC>AA	<b>p.G13E</b>
<b>KRAS</b>	NM_004985	87281	c.36_37TG>AT	<b>p.G13C</b>
<b>KRAS</b>	NM_004985	87288	c.173C>T	<b>p.T58I</b>
<b>KRAS</b>	NM_004985	87298	c.180_181TC>AA	<b>p.Q61K</b>
<b>KRAS</b>	NM_004985	87301	c.33_34insGGAGCT	<b>p.A11_G12insGA</b>
<b>MET</b>	NM_000245	690	c.3742T>C	<b>p.Y1248H</b>
<b>MET</b>	NM_000245	691	c.3803T>C	<b>p.M1268T</b>
<b>MET</b>	NM_000245	696	c.3334C>T	<b>p.H1112Y</b>
<b>MET</b>	NM_000245	699	c.3743A>G	<b>p.Y1248C</b>
<b>MET</b>	NM_000245	700	c.3757T>G	<b>p.Y1253D</b>
<b>MET</b>	NM_000245	703	c.3335A>G	<b>p.H1112R</b>
<b>MET</b>	NM_000245	706	c.504G>T	<b>p.E168D</b>
<b>MET</b>	NM_000245	707	c.3029C>T	<b>p.T1010I</b>
<b>MET</b>	NM_000245	710	c.1124A>G	<b>p.N375S</b>
<b>MET</b>	NM_000245	201908	c.3350A>G	<b>p.D1117G</b>
<b>MET</b>	NM_000245	29636	c.2942_3082del141	<b>p.982_1028del47</b>
<b>MET</b>	NM_000245	49015	c.2942-20del22	<b>p.?</b>
<b>MET</b>	NM_000245	697	c.3370C>G	<b>p.H1124D</b>
<b>MET</b>	NM_000245	698	c.3335A>T	<b>p.H1112L</b>
<b>MET</b>	NM_000245	701	c.3390G>A	<b>p.L1130L</b>
<b>MET</b>	NM_000245	702	c.3352A>T	<b>p.N1118Y</b>
<b>MET</b>	NM_001127500	NOCOSMIC848	c.2543A>C	<b>p.Y848S</b>
<b>MET</b>	NM_001127500	NOCOSMIC988	c.2962C>T	<b>p.R988C</b>
<b>MLH1</b>	NM_000249.2	26085	c.1151T>A	<b>p.V384D</b>
<b>MPL</b>	NM_005373.1	142839	c.1544G>C	<b>p.W515S</b>
<b>MPL</b>	NM_005373.1	18918	c.1544G>T	<b>p.W515L</b>

<b>MPL</b>	NM_005373.1	19193	c.1543_1544TG>AA	<b>p.W515K</b>
<b>MPL</b>	NM_005373.1	27286	c.1514G>A	<b>p.S505N</b>
<b>MPL</b>	NM_005373.1	27287	c.1516G>A	<b>p.A506T</b>
<b>MPL</b>	NM_005373.1	27289	c.1543_1544TG>GC	<b>p.W515A</b>
<b>MPL</b>	NM_005373.1	27290	c.1555G>A	<b>p.A519T</b>
<b>MPL</b>	NM_005373.1	28487	c.1543_1545TGG>AAA	<b>p.W515K</b>
<b>MPL</b>	NM_005373.1	29008	c.1543T>A	<b>p.W515R</b>
<b>MPL</b>	NM_005373.1	43212	c.1543T>C	<b>p.W515R</b>
<b>NOTCH1</b>	NM_017617.2	12771	c.4802T>C	<b>p.L1601P</b>
<b>NOTCH1</b>	NM_017617.2	12772	c.4724T>C	<b>p.L1575P</b>
<b>NOTCH1</b>	NM_017617.2	12776	c.7378C>T	<b>p.Q2460*</b>
<b>NOTCH1</b>	NM_017617.2	13040	c.5030T>A	<b>p.V1677D</b>
<b>NOTCH1</b>	NM_017617.2	13042	c.4781T>C	<b>p.L1594P</b>
<b>NOTCH1</b>	NM_017617.2	13046	c.4757T>C	<b>p.L1586P</b>
<b>NOTCH1</b>	NM_017617.2	13047	c.4735_4737delGTG	<b>p.V1579del</b>
<b>NOTCH1</b>	NM_017617.2	13048	c.5036T>C	<b>p.L1679P</b>
<b>NOTCH1</b>	NM_017617.2	13050	c.4778T>C	<b>p.F1593S</b>
<b>NOTCH1</b>	NM_017617.2	13053	c.4796G>C	<b>p.R1599P</b>
<b>NOTCH1</b>	NM_017617.2	13061	c.7321C>T	<b>p.Q2441*</b>
<b>NOTCH1</b>	NM_017617.2	13070	c.7389delC	<b>p.P2463fs*15</b>
<b>NOTCH1</b>	NM_017617.2	13081	c.7403C>A	<b>p.S2468*</b>
<b>NOTCH1</b>	NM_017617.2	24673	c.4724T>C	<b>p.L1575P</b>
<b>NOTCH1</b>	NM_017617.2	24886	c.7390delG	<b>p.A2464fs*14</b>
<b>NOTCH1</b>	NM_017617.2	24888	c.4790T>A	<b>p.L1597H</b>
<b>NOTCH1</b>	NM_017617.2	25836	c.4730T>A	<b>p.V1577E</b>
<b>NOTCH1</b>	NM_017617.2	25839	c.4757T>G	<b>p.L1586R</b>
<b>NOTCH1</b>	NM_017617.2	28524	c.4802T>A	<b>p.L1601Q</b>
<b>NOTCH1</b>	NM_017617.2	28662	c.7402_7403insGG	<b>p.S2468fs*11</b>
<b>NPM1</b>	NM_002520.4	158600	c.861_862insTGCA	<b>p.W288fs*&gt;9</b>
<b>NPM1</b>	NM_002520.4	158604	c.859_860insTCTG	<b>p.W288fs*&gt;9</b>
<b>NPM1</b>	NM_002520.4	17559	c.863_864insTCTG	<b>p.W288fs*12</b>
<b>NPM1</b>	NM_002520.4	17571	c.863_864insCATG	<b>p.W288fs*12</b>
<b>NPM1</b>	NM_002520.4	17572	c.863_864insCGTG	<b>p.W288fs*12</b>
<b>NPM1</b>	NM_002520.4	17573	c.863_864insCCTG	<b>p.W288fs*12</b>
<b>NPM1</b>	NM_002520.4	19317	c.863_864insGCCA	<b>p.Q289fs*11</b>
<b>NPM1</b>	NM_002520.4	19318	c.885+11delT	<b>p.?</b>
<b>NPM1</b>	NM_002520.4	20806	c.863_864insCCGG	<b>p.W288fs*12</b>
<b>NPM1</b>	NM_002520.4	20809	c.863_864insCCAG	<b>p.W288fs*12</b>
<b>NPM1</b>	NM_002520.4	20810	c.863_864insTTTG	<b>p.W288fs*12</b>
<b>NPM1</b>	NM_002520.4	20811	c.863_864insCTTG	<b>p.W288fs*12</b>
<b>NPM1</b>	NM_002520.4	20813	c.863_864insTCGG	<b>p.W288fs*12</b>
<b>NPM1</b>	NM_002520.4	20814	c.863_864insCAGA	<b>p.W288fs*12</b>
<b>NPM1</b>	NM_002520.4	20815	c.863_864insTATG	<b>p.W288fs*12</b>
<b>NPM1</b>	NM_002520.4	20841	c.863_864insTAAG	<b>p.W288fs*12</b>
<b>NPM1</b>	NM_002520.4	20851	c.867_868insAGAC	<b>p.W290fs*10</b>
<b>NPM1</b>	NM_002520.4	20855	c.863_864insTGTG	<b>p.W288fs*12</b>
<b>NPM1</b>	NM_002520.4	20856	c.863_864insTCAG	<b>p.W288fs*12</b>
<b>NPM1</b>	NM_002520.4	20861	c.861_862insTGCT	<b>p.W288fs*12</b>
<b>NPM1</b>	NM_002520.4	25119	c.863_864insTACG	<b>p.W288fs*10</b>
<b>NPM1</b>	NM_002520.4	27065	c.863_864insTAGG	<b>p.W288fs*12</b>
<b>NPM1</b>	NM_002520.4	27084	c.867_868insCGGC	<b>p.W290fs*10</b>
<b>NPM1</b>	NM_002520.4	28072	c.868T>G	<b>p.W290G</b>
<b>NPM1</b>	NM_002520.4	28937	c.860_861insCTGC	<b>p.W288fs*12</b>
<b>NPM1</b>	NM_002520.4	33980	c.863_864insCCGA	<b>p.W288fs*10</b>
<b>NPM1</b>	NM_002520.4	33981	c.867_868insAGGC	<b>p.W290fs*8</b>
<b>NPM1</b>	NM_002520.4	85977	c.867_868insAGGA	<b>p.W290fs*8</b>

<b>NRAS</b>	NM_002524	12723	c.34_35GG>AA	<b>p.G12N</b>
<b>NRAS</b>	NM_002524	12725	c.181_182CA>TT	<b>p.Q61L</b>
<b>NRAS</b>	NM_002524	12730	c.180_181AC>TA	<b>p.Q61K</b>
<b>NRAS</b>	NM_002524	28673	c.179G>A	<b>p.G60E</b>
<b>NRAS</b>	NM_002524	30646	c.182_183AA>TG	<b>p.Q61L</b>
<b>NRAS</b>	NM_002524	33693	c.182_183AA>GG	<b>p.Q61R</b>
<b>NRAS</b>	NM_002524	53223	c.181_183CAA>AAG	<b>p.Q61K</b>
<b>NRAS</b>	NM_002524	558	c.31G>A	<b>p.A11T</b>
<b>NRAS</b>	NM_002524	561	c.34G>C	<b>p.G12R</b>
<b>NRAS</b>	NM_002524	562	c.34G>T	<b>p.G12C</b>
<b>NRAS</b>	NM_002524	563	c.34G>A	<b>p.G12S</b>
<b>NRAS</b>	NM_002524	564	c.35G>A	<b>p.G12D</b>
<b>NRAS</b>	NM_002524	565	c.35G>C	<b>p.G12A</b>
<b>NRAS</b>	NM_002524	566	c.35G>T	<b>p.G12V</b>
<b>NRAS</b>	NM_002524	567	c.36T>C	<b>p.G12G</b>
<b>NRAS</b>	NM_002524	569	c.37G>C	<b>p.G13R</b>
<b>NRAS</b>	NM_002524	570	c.37G>T	<b>p.G13C</b>
<b>NRAS</b>	NM_002524	571	c.37G>A	<b>p.G13S</b>
<b>NRAS</b>	NM_002524	572	c.38_39GT>TC	<b>p.G13V</b>
<b>NRAS</b>	NM_002524	573	c.38G>A	<b>p.G13D</b>
<b>NRAS</b>	NM_002524	574	c.38G>T	<b>p.G13V</b>
<b>NRAS</b>	NM_002524	575	c.38G>C	<b>p.G13A</b>
<b>NRAS</b>	NM_002524	576	c.39T>C	<b>p.G13G</b>
<b>NRAS</b>	NM_002524	577	c.52G>A	<b>p.A18T</b>
<b>NRAS</b>	NM_002524	579	c.181_182CA>AG	<b>p.Q61R</b>
<b>NRAS</b>	NM_002524	580	c.181C>A	<b>p.Q61K</b>
<b>NRAS</b>	NM_002524	581	c.181C>G	<b>p.Q61E</b>
<b>NRAS</b>	NM_002524	582	c.182A>C	<b>p.Q61P</b>
<b>NRAS</b>	NM_002524	583	c.182A>T	<b>p.Q61L</b>
<b>NRAS</b>	NM_002524	584	c.182A>G	<b>p.Q61R</b>
<b>NRAS</b>	NM_002524	585	c.183A>T	<b>p.Q61H</b>
<b>NRAS</b>	NM_002524	586	c.183A>C	<b>p.Q61H</b>
<b>NRAS</b>	NM_002524	587	c.183A>G	<b>p.Q61Q</b>
<b>NRAS</b>	NM_002524	589	c.193A>T	<b>p.S65C</b>
<b>NRAS</b>	NM_002524	27174	c.436G>A	<b>p.A146T</b>
<b>PDGFRA</b>	NM_006206	12396	c.2524G>T	<b>p.D842Y</b>
<b>PDGFRA</b>	NM_006206	12397	c.2524_2526GAC>TAT	<b>p.D842Y</b>
<b>PDGFRA</b>	NM_006206	12398	c.2524_2525GA>AT	<b>p.D842I</b>
<b>PDGFRA</b>	NM_006206	12399	c.2536G>T	<b>p.D846Y</b>
<b>PDGFRA</b>	NM_006206	12400	c.2527_2538del12	<b>p.I843_D846del</b>
<b>PDGFRA</b>	NM_006206	12401	c.2524_2532del9	<b>p.D842_M844del</b>
<b>PDGFRA</b>	NM_006206	12402	c.2530_2541del12	<b>p.M844_S847del</b>
<b>PDGFRA</b>	NM_006206	12405	c.2521_2526delAGAGAC	<b>p.R841_D842del</b>
<b>PDGFRA</b>	NM_006206	12406	c.2524_2526delGAC	<b>p.D842del</b>
<b>PDGFRA</b>	NM_006206	12407	c.2528_2539del12	<b>p.I843_S847&gt;T</b>
<b>PDGFRA</b>	NM_006206	12408	c.2526_2538>G	<b>p.D842_D846&gt;E</b>
<b>PDGFRA</b>	NM_006206	12411	c.2524_2536>A	<b>p.D842_D846&gt;N</b>
<b>PDGFRA</b>	NM_006206	12417	c.1697_1711del15	<b>p.S566_E571&gt;K</b>
<b>PDGFRA</b>	NM_006206	12418	c.1698_1712del15	<b>p.S566_E571&gt;R</b>
<b>PDGFRA</b>	NM_006206	21973	c.1659_1664delGAGGTA	<b>p.R554_Y555del</b>
<b>PDGFRA</b>	NM_006206	22413	c.2472C>T	<b>p.V824V</b>
<b>PDGFRA</b>	NM_006206	22414	c.1977C>G	<b>p.N659K</b>
<b>PDGFRA</b>	NM_006206	22415	c.1977C>A	<b>p.N659K</b>
<b>PDGFRA</b>	NM_006206	22416	c.1975A>T	<b>p.N659Y</b>
<b>PDGFRA</b>	NM_006206	28053	c.1694_1695insA	<b>p.S566fs*6</b>
<b>PDGFRA</b>	NM_006206	736	c.2525A>T	<b>p.D842V</b>

<b>PDGFRA</b>	NM_006206	737	c.2524_2535del12	<b>p.D842_H845del</b>
<b>PDGFRA</b>	NM_006206	739	c.1682T>A	<b>p.V561D</b>
<b>PDGFRA</b>	NM_006206	741	c.1678_1692del15	<b>p.R560_S564del</b>
<b>PDGFRA</b>	NM_006206	743	c.2021C>T	<b>p.T674I</b>
<b>PDGFRA</b>	NM_006206	96892	c.2526_2537del12	<b>p.I843_D846del</b>
<b>PIK3CA</b>	NM_006218.1	12458	c.1634A>C	<b>p.E545A</b>
<b>PIK3CA</b>	NM_006218.1	12459	c.1637A>G	<b>p.Q546R</b>
<b>PIK3CA</b>	NM_006218.1	12461	c.3062A>G	<b>p.Y1021C</b>
<b>PIK3CA</b>	NM_006218.1	12463	c.3128T>C	<b>p.M1043T</b>
<b>PIK3CA</b>	NM_006218.1	12464	c.3204_3205insA	<b>p.N1068fs*4</b>
<b>PIK3CA</b>	NM_006218.1	12580	c.333G>C	<b>p.K111N</b>
<b>PIK3CA</b>	NM_006218.1	12582	c.1252G>A	<b>p.E418K</b>
<b>PIK3CA</b>	NM_006218.1	12584	c.1357G>A	<b>p.E453K</b>
<b>PIK3CA</b>	NM_006218.1	12590	c.3073A>T	<b>p.T1025S</b>
<b>PIK3CA</b>	NM_006218.1	12591	c.3127A>G	<b>p.M1043V</b>
<b>PIK3CA</b>	NM_006218.1	12592	c.3132T>A	<b>p.N1044K</b>
<b>PIK3CA</b>	NM_006218.1	12597	c.3145G>C	<b>p.G1049R</b>
<b>PIK3CA</b>	NM_006218.1	13570	c.331A>G	<b>p.K111E</b>
<b>PIK3CA</b>	NM_006218.1	13594	c.3068G>A	<b>p.R1023Q</b>
<b>PIK3CA</b>	NM_006218.1	17442	c.1624G>C	<b>p.E542Q</b>
<b>PIK3CA</b>	NM_006218.1	17444	c.3061T>C	<b>p.Y1021H</b>
<b>PIK3CA</b>	NM_006218.1	17445	c.3104C>T	<b>p.A1035V</b>
<b>PIK3CA</b>	NM_006218.1	17449	c.3207A>G	<b>p.*1069_*1069insW KDN*</b>
<b>PIK3CA</b>	NM_006218.1	21451	c.3075C>T	<b>p.T1025T</b>
<b>PIK3CA</b>	NM_006218.1	21462	c.971C>T	<b>p.T324I</b>
<b>PIK3CA</b>	NM_006218.1	22540	c.1031T>G	<b>p.V344G</b>
<b>PIK3CA</b>	NM_006218.1	24712	c.1638G>T	<b>p.Q546H</b>
<b>PIK3CA</b>	NM_006218.1	24714	c.3141T>G	<b>p.H1047Q</b>
<b>PIK3CA</b>	NM_006218.1	249872	c.1631C>A	<b>p.T544N</b>
<b>PIK3CA</b>	NM_006218.1	249908	c.3207+29T>C	<b>p.?</b>
<b>PIK3CA</b>	NM_006218.1	25041	c.1637A>T	<b>p.Q546L</b>
<b>PIK3CA</b>	NM_006218.1	25085	c.3120G>A	<b>p.M1040I</b>
<b>PIK3CA</b>	NM_006218.1	25086	c.3133G>A	<b>p.D1045N</b>
<b>PIK3CA</b>	NM_006218.1	27133	c.1633G>C	<b>p.E545Q</b>
<b>PIK3CA</b>	NM_006218.1	27134	c.3130A>G	<b>p.N1044D</b>
<b>PIK3CA</b>	NM_006218.1	27155	c.1634A>T	<b>p.E545V</b>
<b>PIK3CA</b>	NM_006218.1	27156	c.3137C>A	<b>p.A1046E</b>
<b>PIK3CA</b>	NM_006218.1	27158	c.3146G>C	<b>p.G1049A</b>
<b>PIK3CA</b>	NM_006218.1	27273	c.3136G>A	<b>p.A1046T</b>
<b>PIK3CA</b>	NM_006218.1	27374	c.1635G>C	<b>p.E545D</b>
<b>PIK3CA</b>	NM_006218.1	27502	c.241G>A	<b>p.E81K</b>
<b>PIK3CA</b>	NM_006218.1	27505	c.333G>T	<b>p.K111N</b>
<b>PIK3CA</b>	NM_006218.1	28938	c.3059C>T	<b>p.A1020V</b>
<b>PIK3CA</b>	NM_006218.1	29110	c.3115T>C	<b>p.F1039L</b>
<b>PIK3CA</b>	NM_006218.1	29313	c.3129G>A	<b>p.M1043I</b>
<b>PIK3CA</b>	NM_006218.1	36285	c.3074C>T	<b>p.T1025I</b>
<b>PIK3CA</b>	NM_006218.1	36286	c.3085G>C	<b>p.D1029H</b>
<b>PIK3CA</b>	NM_006218.1	36289	c.3143A>G	<b>p.H1048R</b>
<b>PIK3CA</b>	NM_006218.1	6147	c.1636C>G	<b>p.Q546E</b>
<b>PIK3CA</b>	NM_006218.1	746	c.263G>A	<b>p.R88Q</b>
<b>PIK3CA</b>	NM_006218.1	754	c.1035T>A	<b>p.N345K</b>
<b>PIK3CA</b>	NM_006218.1	757	c.1258T>C	<b>p.C420R</b>
<b>PIK3CA</b>	NM_006218.1	759	c.1616C>G	<b>p.P539R</b>
<b>PIK3CA</b>	NM_006218.1	760	c.1624G>A	<b>p.E542K</b>
<b>PIK3CA</b>	NM_006218.1	762	c.1625A>T	<b>p.E542V</b>

PIK3CA	NM_006218.1	763	c.1633G>A	p.E545K
PIK3CA	NM_006218.1	764	c.1634A>G	p.E545G
PIK3CA	NM_006218.1	765	c.1635G>T	p.E545D
PIK3CA	NM_006218.1	766	c.1636C>A	p.Q546K
PIK3CA	NM_006218.1	767	c.1637A>C	p.Q546P
PIK3CA	NM_006218.1	769	c.2702G>T	p.C901F
PIK3CA	NM_006218.1	770	c.2725T>C	p.F909L
PIK3CA	NM_006218.1	771	c.3073A>G	p.T1025A
PIK3CA	NM_006218.1	772	c.3074C>A	p.T1025N
PIK3CA	NM_006218.1	773	c.3129G>T	p.M1043I
PIK3CA	NM_006218.1	774	c.3139C>T	p.H1047Y
PIK3CA	NM_006218.1	775	c.3140A>G	p.H1047R
PIK3CA	NM_006218.1	776	c.3140A>T	p.H1047L
PIK3CA	NM_006218.1	777	c.3145G>A	p.G1049S
PIK3CA	NM_006218.1	778	c.2102A>C	p.H701P
PIK3CA	NM_006218.1	94984	c.3129G>C	p.M1043I
PIK3CA	NM_006218.1	125368	c.344G>T	p.R115L
PIK3CA	NM_006218.1	12579	c.178C>A	p.Q60K
PIK3CA	NM_006218.1	12589	c.2727C>G	p.F909L
PIK3CA	NM_006218.1	14052	c.332A>G	p.K111R
PIK3CA	NM_006218.1	163484	c.238G>A	p.E80K
PIK3CA	NM_006218.1	166154	c.337_342delCTCAAT	p.L113_N114delLN
PIK3CA	NM_006218.1	21448	c.337_339delCTC	p.L113del
PIK3CA	NM_006218.1	230020	c.1396C>T	p.P466S
PIK3CA	NM_006218.1	24710	c.325_327delGAA	p.E109del
PIK3CA	NM_006218.1	24711	c.335T>A	p.I112N
PIK3CA	NM_006218.1	27490	c.333_335delGAT	p.K111_I112>N
PIK3CA	NM_006218.1	27497	c.323G>A	p.R108H
PIK3CA	NM_006218.1	27499	c.321_323delCCG	p.R108del
PIK3CA	NM_006218.1	39166	c.223C>G	p.Q75E
PIK3CA	NM_006218.1	41785	c.1371C>G	p.N457K
PIK3CA	NM_006218.1	51258	c.1221C>G	p.C407W
PIK3CA	NM_006218.1	51259	c.341_342insCCTCAA	p.N114_R115insLN
PIK3CA	NM_006218.1	6145	c.328G>A	p.E110K
PIK3CA	NM_006218.1	6149	c.1214C>T	p.S405F
PIK3CA	NM_006218.1	6150	c.1352_1366del15	p.G451_L456>V
PIK3CA	NM_006218.1	749	c.323G>C	p.R108P
PIK3CA	NM_006218.1	750	c.332_334delAGA	p.K111del
PIK3CA	NM_006218.1	758	c.1357G>C	p.E453Q
PIK3CA	NM_006218.1	86045	c.1358A>C	p.E453A
PIK3CA	NM_006218.1	86949	c.1404+10T>G	p.?
PIK3CA	NM_006218.1	86950	c.1404+2_1404+3insT	p.?
PIK3CA	NM_006218.1	87210	c.1252-14C>A	p.?
PIK3CA_E NST000002 63967	ENST00000263967	125370	c.1633G>A	p.E545K
PIK3CA_E NST000002 63967	ENST00000263967	94985	c.3129G>C	p.M1043I
PIK3CA_E NST000002 63967	ENST00000263967	94986	c.3140A>G	p.H1047R
PIK3CA_E NST000002 63967	ENST00000263967	94987	c.3140A>T	p.H1047L
PTEN	NM_000314.4	13135	c.323T>G	p.L108R

PTEN	NM_000314.4	133713	c.780_780delA	p.K260fs*6
PTEN	NM_000314.4	13452	c.863delA	p.E288fs*3
PTEN	NM_000314.4	13981	c.752G>A	p.G251D
PTEN	NM_000314.4	14087	c.165_209del45	p.?
PTEN	NM_000314.4	17564	c.766G>A	p.E256K
PTEN	NM_000314.4	18663	c.385G>T	p.G129*
PTEN	NM_000314.4	19564	c.1026+1G>T	p.?
PTEN	NM_000314.4	23626	c.962_963insA	p.N323fs*2
PTEN	NM_000314.4	23643	c.315T>G	p.C105W
PTEN	NM_000314.4	23644	c.743C>G	p.P248?
PTEN	NM_000314.4	23657	c.1015C>T	p.P339S
PTEN	NM_000314.4	26404	c.723_724insT	p.E242fs*1
PTEN	NM_000314.4	28884	c.377C>A	p.A126D
PTEN	NM_000314.4	28897	c.520T>G	p.Y174D
PTEN	NM_000314.4	28906	c.871G>T	p.E291*
PTEN	NM_000314.4	28914	c.878delG	p.G293fs*14
PTEN	NM_000314.4	30622	c.795delA	p.K267fs*9
PTEN	NM_000314.4	33702	c.530A>G	p.Y177C
PTEN	NM_000314.4	39615	c.950_953delTACT	p.L318fs*2
PTEN	NM_000314.4	41768	c.179_179delA	p.K60fs*39
PTEN	NM_000314.4	43075	c.787A>T	p.K263*
PTEN	NM_000314.4	43077	c.203A>G	p.Y68C
PTEN	NM_000314.4	43098	c.969delT	p.N323fs*21
PTEN	NM_000314.4	4885	c.1011_1014delTTCT	p.F337fs*6
PTEN	NM_000314.4	4889	c.202_203delTA	p.Y68fs*5
PTEN	NM_000314.4	4894	c.952_955delCTTA	p.L318fs*2
PTEN	NM_000314.4	4896	c.956_959delCTTT	p.T319fs*24
PTEN	NM_000314.4	4898	c.950_953delTACT	p.V317fs*3
PTEN	NM_000314.4	4899	c.951_954delACTT	p.V317fs*3
PTEN	NM_000314.4	4903	c.954_957delTACT	p.L318fs*2
PTEN	NM_000314.4	4907	c.364_368delATTCA	p.I122fs*2
PTEN	NM_000314.4	4908	c.760_764delAAAGT	p.K254fs*42
PTEN	NM_000314.4	4912	c.750_751delTG	p.C250fs*2
PTEN	NM_000314.4	4916	c.953_956delTTAC	p.L318fs*2
PTEN	NM_000314.4	4929	c.17_18delAA	p.K6fs*4
PTEN	NM_000314.4	4931	c.881_885delGTCTA	p.S294fs*2
PTEN	NM_000314.4	4932	c.987_990delTAAA	p.N329fs*14
PTEN	NM_000314.4	4937	c.16_17delAA	p.K6fs*4
PTEN	NM_000314.4	4942	c.187_188delAA	p.N63fs*10
PTEN	NM_000314.4	4943	c.950_954delTACTT	p.V317fs*6
PTEN	NM_000314.4	4958	c.955_958delACTT	p.T319fs*1
PTEN	NM_000314.4	4969	c.526_528delTAT	p.Y176del
PTEN	NM_000314.4	4976	c.49_51delCAA	p.Q17del
PTEN	NM_000314.4	4982	c.955_957delACT	p.T319del
PTEN	NM_000314.4	4986	c.741_742insA	p.P248fs*5
PTEN	NM_000314.4	4990	c.968_969insA	p.N323fs*2
PTEN	NM_000314.4	4994	c.963_964insA	p.T321fs*3
PTEN	NM_000314.4	5000	c.170_171insT	p.L57fs*6
PTEN	NM_000314.4	5008	c.955_956insA	p.T319fs*6
PTEN	NM_000314.4	5025	c.742_743insC	p.P248fs*5
PTEN	NM_000314.4	5026	c.742_743insA	p.P248fs*5
PTEN	NM_000314.4	5032	c.394G>A	p.G132S
PTEN	NM_000314.4	5033	c.389G>A	p.R130Q
PTEN	NM_000314.4	5036	c.202T>C	p.Y68H
PTEN	NM_000314.4	5037	c.37A>G	p.K13E
PTEN	NM_000314.4	5039	c.518G>A	p.R173H

<b>PTEN</b>	NM_000314.4	5041	c.377C>T	<b>p.A126V</b>
<b>PTEN</b>	NM_000314.4	5042	c.182A>G	<b>p.H61R</b>
<b>PTEN</b>	NM_000314.4	5044	c.397G>A	<b>p.V133I</b>
<b>PTEN</b>	NM_000314.4	5045	c.509G>A	<b>p.S170N</b>
<b>PTEN</b>	NM_000314.4	5048	c.196A>G	<b>p.K66E</b>
<b>PTEN</b>	NM_000314.4	5049	c.29G>A	<b>p.S10N</b>
<b>PTEN</b>	NM_000314.4	5051	c.376G>A	<b>p.A126T</b>
<b>PTEN</b>	NM_000314.4	5052	c.499A>G	<b>p.T167A</b>
<b>PTEN</b>	NM_000314.4	5078	c.367C>T	<b>p.H123Y</b>
<b>PTEN</b>	NM_000314.4	5082	c.373A>G	<b>p.K125E</b>
<b>PTEN</b>	NM_000314.4	5089	c.517C>T	<b>p.R173C</b>
<b>PTEN</b>	NM_000314.4	5091	c.493G>A	<b>p.G165R</b>
<b>PTEN</b>	NM_000314.4	5092	c.385G>A	<b>p.G129R</b>
<b>PTEN</b>	NM_000314.4	5093	c.992A>G	<b>p.D331G</b>
<b>PTEN</b>	NM_000314.4	5101	c.40A>G	<b>p.R14G</b>
<b>PTEN</b>	NM_000314.4	5106	c.335T>C	<b>p.L112P</b>
<b>PTEN</b>	NM_000314.4	5111	c.737C>T	<b>p.P246L</b>
<b>PTEN</b>	NM_000314.4	5113	c.314G>A	<b>p.C105Y</b>
<b>PTEN</b>	NM_000314.4	5114	c.494G>A	<b>p.G165E</b>
<b>PTEN</b>	NM_000314.4	5121	c.331T>C	<b>p.W111R</b>
<b>PTEN</b>	NM_000314.4	5123	c.395G>A	<b>p.G132D</b>
<b>PTEN</b>	NM_000314.4	5125	c.755A>G	<b>p.D252G</b>
<b>PTEN</b>	NM_000314.4	5127	c.170T>C	<b>p.L57S</b>
<b>PTEN</b>	NM_000314.4	5133	c.47A>G	<b>p.Y16C</b>
<b>PTEN</b>	NM_000314.4	5143	c.380G>A	<b>p.G127E</b>
<b>PTEN</b>	NM_000314.4	5149	c.511C>T	<b>p.Q171*</b>
<b>PTEN</b>	NM_000314.4	5150	c.640C>T	<b>p.Q214*</b>
<b>PTEN</b>	NM_000314.4	5151	c.1003C>T	<b>p.R335*</b>
<b>PTEN</b>	NM_000314.4	5152	c.388C>T	<b>p.R130*</b>
<b>PTEN</b>	NM_000314.4	5153	c.49C>T	<b>p.Q17*</b>
<b>PTEN</b>	NM_000314.4	5156	c.892C>T	<b>p.Q298*</b>
<b>PTEN</b>	NM_000314.4	5157	c.332G>A	<b>p.W111*</b>
<b>PTEN</b>	NM_000314.4	5159	c.733C>T	<b>p.Q245*</b>
<b>PTEN</b>	NM_000314.4	5160	c.781C>T	<b>p.Q261*</b>
<b>PTEN</b>	NM_000314.4	5161	c.328C>T	<b>p.Q110*</b>
<b>PTEN</b>	NM_000314.4	5191	c.198G>T	<b>p.K66N</b>
<b>PTEN</b>	NM_000314.4	5193	c.384G>T	<b>p.K128N</b>
<b>PTEN</b>	NM_000314.4	5199	c.334C>G	<b>p.L112V</b>
<b>PTEN</b>	NM_000314.4	5200	c.511C>G	<b>p.Q171E</b>
<b>PTEN</b>	NM_000314.4	5211	c.376G>C	<b>p.A126P</b>
<b>PTEN</b>	NM_000314.4	5212	c.319G>T	<b>p.D107Y</b>
<b>PTEN</b>	NM_000314.4	5214	c.361G>C	<b>p.A121P</b>
<b>PTEN</b>	NM_000314.4	5216	c.389G>T	<b>p.R130L</b>
<b>PTEN</b>	NM_000314.4	5218	c.509G>T	<b>p.S170I</b>
<b>PTEN</b>	NM_000314.4	5219	c.388C>G	<b>p.R130G</b>
<b>PTEN</b>	NM_000314.4	5220	c.751G>T	<b>p.G251C</b>
<b>PTEN</b>	NM_000314.4	5224	c.370T>A	<b>p.C124S</b>
<b>PTEN</b>	NM_000314.4	5230	c.758T>A	<b>p.I253N</b>
<b>PTEN</b>	NM_000314.4	5232	c.44G>T	<b>p.R15I</b>
<b>PTEN</b>	NM_000314.4	5244	c.512A>C	<b>p.Q171P</b>
<b>PTEN</b>	NM_000314.4	5246	c.754G>T	<b>p.D252Y</b>
<b>PTEN</b>	NM_000314.4	5253	c.170T>G	<b>p.L57W</b>
<b>PTEN</b>	NM_000314.4	5255	c.1021T>G	<b>p.F341V</b>
<b>PTEN</b>	NM_000314.4	5257	c.166T>G	<b>p.F56V</b>
<b>PTEN</b>	NM_000314.4	5266	c.314G>T	<b>p.C105F</b>
<b>PTEN</b>	NM_000314.4	5270	c.45A>T	<b>p.R15S</b>

<b>PTEN</b>	NM_000314.4	5271	c.371G>C	<b>p.C124S</b>
<b>PTEN</b>	NM_000314.4	5273	c.362C>A	<b>p.A121E</b>
<b>PTEN</b>	NM_000314.4	5277	c.389G>C	<b>p.R130P</b>
<b>PTEN</b>	NM_000314.4	5290	c.1008C>G	<b>p.Y336*</b>
<b>PTEN</b>	NM_000314.4	5292	c.703G>T	<b>p.E235*</b>
<b>PTEN</b>	NM_000314.4	5296	c.195C>A	<b>p.Y65*</b>
<b>PTEN</b>	NM_000314.4	5298	c.19G>T	<b>p.E7*</b>
<b>PTEN</b>	NM_000314.4	5313	c.176C>A	<b>p.S59*</b>
<b>PTEN</b>	NM_000314.4	5314	c.862G>T	<b>p.E288*</b>
<b>PTEN</b>	NM_000314.4	5317	c.195C>G	<b>p.Y65*</b>
<b>PTEN</b>	NM_000314.4	53243	c.964_964delA	<b>p.N323fs*21</b>
<b>PTEN</b>	NM_000314.4	5775	c.1002_1003CC>TT	<b>p.R335*</b>
<b>PTEN</b>	NM_000314.4	5801	c.968delA	<b>p.N323fs*21</b>
<b>PTEN</b>	NM_000314.4	5811	c.188delA	<b>p.N63fs*36</b>
<b>PTEN</b>	NM_000314.4	5812	c.391delA	<b>p.T131fs*3</b>
<b>PTEN</b>	NM_000314.4	5814	c.993delC	<b>p.D331fs*13</b>
<b>PTEN</b>	NM_000314.4	5816	c.867delA	<b>p.V290fs*1</b>
<b>PTEN</b>	NM_000314.4	5817	c.389delG	<b>p.R130fs*4</b>
<b>PTEN</b>	NM_000314.4	5822	c.738delG	<b>p.P246fs*10</b>
<b>PTEN</b>	NM_000314.4	5823	c.963delA	<b>p.T321fs*23</b>
<b>PTEN</b>	NM_000314.4	5824	c.370delT	<b>p.C124fs*10</b>
<b>PTEN</b>	NM_000314.4	5825	c.517delC	<b>p.R173fs*10</b>
<b>PTEN</b>	NM_000314.4	5840	c.321_326delTCTTGA	<b>p.L108_D109del</b>
<b>PTEN</b>	NM_000314.4	5841	c.348delC	<b>p.D116fs*18</b>
<b>PTEN</b>	NM_000314.4	5842	c.357delT	<b>p.V119fs*15</b>
<b>PTEN</b>	NM_000314.4	5844	c.383_391del9	<b>p.K128_R130del</b>
<b>PTEN</b>	NM_000314.4	5869	c.1009delT	<b>p.F337fs*7</b>
<b>PTEN</b>	NM_000314.4	5878	c.46_47insT	<b>p.Y16fs*28</b>
<b>PTEN</b>	NM_000314.4	5885	c.353_354insA	<b>p.H118fs*8</b>
<b>PTEN</b>	NM_000314.4	5887	c.711_712insAA	<b>p.K237fs*19</b>
<b>PTEN</b>	NM_000314.4	5888	c.723_724insTT	<b>p.E242fs*15</b>
<b>PTEN</b>	NM_000314.4	5907	c.493-12delT	<b>p.?</b>
<b>PTEN</b>	NM_000314.4	5915	c.1-9C>G	<b>p.?</b>
<b>PTEN</b>	NM_000314.4	5916	c.209+5G>A	<b>p.?</b>
<b>PTEN</b>	NM_000314.4	5957	c.1026+1G>T	<b>p.?</b>
<b>PTEN</b>	NM_000314.4	5958	c.165-1G>T	<b>p.?</b>
<b>PTEN</b>	NM_000314.4	5959	c.165-2A>C	<b>p.?</b>
<b>PTEN</b>	NM_000314.4	5960	c.165-1G>A	<b>p.?</b>
<b>PTEN</b>	NM_000314.4	5961	c.493-1G>A	<b>p.?</b>
<b>PTEN</b>	NM_000314.4	5974	c.209+1G>C	<b>p.?</b>
<b>PTEN</b>	NM_000314.4	5975	c.209+1delGT	<b>p.?</b>
<b>PTEN</b>	NM_000314.4	5976	c.209+1G>T	<b>p.?</b>
<b>PTEN</b>	NM_000314.4	5979	c.209+1delGTAA	<b>p.?</b>
<b>PTEN</b>	NM_000314.4	6206	c.314G>C	<b>p.C105S</b>
<b>PTEN</b>	NM_000314.4	87314	c.797_797delA	<b>p.K267fs*9</b>
<b>PTEN</b>	NM_000314.4	88109	c.724G>T	<b>p.E242*</b>
<b>PTPN11</b>	NM_002834.3	13000	c.226G>A	<b>p.E76K</b>
<b>PTPN11</b>	NM_002834.3	13010	c.178G>C	<b>p.G60R</b>
<b>PTPN11</b>	NM_002834.3	13011	c.181G>T	<b>p.D61Y</b>
<b>PTPN11</b>	NM_002834.3	13012	c.181G>A	<b>p.D61N</b>
<b>PTPN11</b>	NM_002834.3	13013	c.205G>A	<b>p.E69K</b>
<b>PTPN11</b>	NM_002834.3	13014	c.214G>A	<b>p.A72T</b>
<b>PTPN11</b>	NM_002834.3	13015	c.215C>T	<b>p.A72V</b>
<b>PTPN11</b>	NM_002834.3	13016	c.226G>C	<b>p.E76Q</b>
<b>PTPN11</b>	NM_002834.3	13017	c.227A>G	<b>p.E76G</b>
<b>PTPN11</b>	NM_002834.3	13019	c.218C>T	<b>p.T73I</b>



<b>PTPN11</b>	NM_002834.3	13020	c.1504T>C	<b>p.S502P</b>
<b>PTPN11</b>	NM_002834.3	13021	c.1508G>A	<b>p.G503E</b>
<b>PTPN11</b>	NM_002834.3	13022	c.182A>T	<b>p.D61V</b>
<b>PTPN11</b>	NM_002834.3	13023	c.1505C>T	<b>p.S502L</b>
<b>PTPN11</b>	NM_002834.3	13025	c.227A>T	<b>p.E76V</b>
<b>PTPN11</b>	NM_002834.3	13026	c.227A>C	<b>p.E76A</b>
<b>PTPN11</b>	NM_002834.3	13027	c.1508G>C	<b>p.G503A</b>
<b>PTPN11</b>	NM_002834.3	13028	c.179G>T	<b>p.G60V</b>
<b>PTPN11</b>	NM_002834.3	13029	c.213T>A	<b>p.F71L</b>
<b>PTPN11</b>	NM_002834.3	13031	c.1528C>A	<b>p.Q510K</b>
<b>PTPN11</b>	NM_002834.3	13032	c.172A>T	<b>p.N58Y</b>
<b>PTPN11</b>	NM_002834.3	13034	c.1472C>T	<b>p.P491L</b>
<b>PTPN11</b>	NM_002834.3	13035	c.215C>A	<b>p.A72D</b>
<b>PTPN11</b>	NM_002834.3	13039	c.211T>C	<b>p.F71L</b>
<b>PTPN11</b>	NM_002834.3	13993	c.155C>G	<b>p.T52S</b>
<b>PTPN11</b>	NM_002834.3	14269	c.182A>G	<b>p.D61G</b>
<b>PTPN11</b>	NM_002834.3	14271	c.1508G>T	<b>p.G503V</b>
<b>PTPN11</b>	NM_002834.3	20900	c.181G>C	<b>p.D61H</b>
<b>RB1</b>	NM_000321	1042	c.2107-2A>G	<b>p.?</b>
<b>RB1</b>	NM_000321	13117	c.2053C>T	<b>p.Q685*</b>
<b>RB1</b>	NM_000321	28816	c.940-2A>T	<b>p.?</b>
<b>RB1</b>	NM_000321	861	c.1981C>T	<b>p.R661W</b>
<b>RB1</b>	NM_000321	868	c.2242G>T	<b>p.E748*</b>
<b>RB1</b>	NM_000321	869	c.1980_1983delCCGG	<b>p.L660fs*2</b>
<b>RB1</b>	NM_000321	870	c.2028_2040del13	<b>p.L676fs*16</b>
<b>RB1</b>	NM_000321	879	c.1072C>T	<b>p.R358*</b>
<b>RB1</b>	NM_000321	883	c.2117G>T	<b>p.C706F</b>
<b>RB1</b>	NM_000321	887	c.1654C>T	<b>p.R552*</b>
<b>RB1</b>	NM_000321	888	c.1666C>T	<b>p.R556*</b>
<b>RB1</b>	NM_000321	890	c.409G>T	<b>p.E137*</b>
<b>RB1</b>	NM_000321	891	c.958C>T	<b>p.R320*</b>
<b>RB1</b>	NM_000321	892	c.1735C>T	<b>p.R579*</b>
<b>RB1</b>	NM_000321	895	c.1363C>T	<b>p.R455*</b>
<b>RB1</b>	NM_000321	915	c.596T>A	<b>p.L199*</b>
<b>RB1</b>	NM_000321	916	c.2261T>G	<b>p.V754G</b>
<b>RB1</b>	NM_000321	940	c.2143A>T	<b>p.K715*</b>
<b>RET</b>	NM_020975	133167	c.2647G>T	<b>p.A883S</b>
<b>RET</b>	NM_020975	21338	c.2304G>C	<b>p.E768D</b>
<b>RET</b>	NM_020975	27040	c.1886_1891delTGTGCG	<b>p.L629_D631&gt;H</b>
<b>RET</b>	NM_020975	29803	c.1852T>C	<b>p.C618R</b>
<b>RET</b>	NM_020975	29804	c.1858T>C	<b>p.C620R</b>
<b>RET</b>	NM_020975	964	c.1888T>C	<b>p.C630R</b>
<b>RET</b>	NM_020975	965	c.2753T>C	<b>p.M918T</b>
<b>RET</b>	NM_020975	966	c.1900T>C	<b>p.C634R</b>
<b>RET</b>	NM_020975	968	c.1894_1899delGAGCTG	<b>p.E632_L633del</b>
<b>RET</b>	NM_020975	974	c.1901G>A	<b>p.C634Y</b>
<b>RET</b>	NM_020975	975	c.1902C>G	<b>p.C634W</b>
<b>RET</b>	NM_020975	977	c.2647_2648GC>TT	<b>p.A883F</b>
<b>RET</b>	NM_020975	978	c.1892A>G	<b>p.D631G</b>
<b>RET</b>	NM_020975	981	c.2646_2648AGC>TTT	<b>p.A883F</b>
<b>RET</b>	NM_020975	982	c.1895_1897delAGC	<b>p.E632_L633&gt;V</b>
<b>RET</b>	NM_020975	983	c.1893_1898delCGAGCT	<b>p.D631_L633&gt;E</b>
<b>RET</b>	NM_020975	984	c.1834_1860del27	<b>p.F612_C620del</b>
<b>SMAD4</b>	NM_005359.3	13115	c.431C>G	<b>p.S144*</b>
<b>SMAD4</b>	NM_005359.3	14057	c.733C>T	<b>p.Q245*</b>
<b>SMAD4</b>	NM_005359.3	14096	c.1333C>T	<b>p.R445*</b>

<b>SMAD4</b>	NM_005359.3	14105	c.1394_1395insT	<b>p.A466fs*28</b>
<b>SMAD4</b>	NM_005359.3	14110	c.989A>C	<b>p.E330A</b>
<b>SMAD4</b>	NM_005359.3	14111	c.1028C>G	<b>p.S343*</b>
<b>SMAD4</b>	NM_005359.3	14113	c.1490G>A	<b>p.R497H</b>
<b>SMAD4</b>	NM_005359.3	14115	c.1569C>G	<b>p.C523W</b>
<b>SMAD4</b>	NM_005359.3	14118	c.502G>T	<b>p.G168*</b>
<b>SMAD4</b>	NM_005359.3	14121	c.1015_1029del15	<b>p.F339_S343del</b>
<b>SMAD4</b>	NM_005359.3	14122	c.1082G>A	<b>p.R361H</b>
<b>SMAD4</b>	NM_005359.3	14124	c.1341_1365del25	<b>p.Q448fs*20</b>
<b>SMAD4</b>	NM_005359.3	14126	c.1519A>C	<b>p.K507Q</b>
<b>SMAD4</b>	NM_005359.3	14129	c.1543A>T	<b>p.R515*</b>
<b>SMAD4</b>	NM_005359.3	14134	c.1576G>T	<b>p.E526*</b>
<b>SMAD4</b>	NM_005359.3	14135	c.1051G>C	<b>p.D351H</b>
<b>SMAD4</b>	NM_005359.3	14140	c.1081C>T	<b>p.R361C</b>
<b>SMAD4</b>	NM_005359.3	14163	c.931C>T	<b>p.Q311*</b>
<b>SMAD4</b>	NM_005359.3	14167	c.955+5G>C	<b>p.?</b>
<b>SMAD4</b>	NM_005359.3	14174	c.1072G>T	<b>p.G358*</b>
<b>SMAD4</b>	NM_005359.3	14175	c.1236C>G	<b>p.Y412*</b>
<b>SMAD4</b>	NM_005359.3	14177	c.1546_1553delCAGAGCAT	<b>p.S517fs*7</b>
<b>SMAD4</b>	NM_005359.3	14215	c.353C>T	<b>p.A118V</b>
<b>SMAD4</b>	NM_005359.3	14216	c.363_364insA	<b>p.C123fs*2</b>
<b>SMAD4</b>	NM_005359.3	14217	c.776_777delCT	<b>p.T259fs*4</b>
<b>SMAD4</b>	NM_005359.3	14220	c.1058A>G	<b>p.Y353C</b>
<b>SMAD4</b>	NM_005359.3	14221	c.1496G>A	<b>p.C499Y</b>
<b>SMAD4</b>	NM_005359.3	14223	c.1229_1230insCA	<b>p.Q410fs*6</b>
<b>SMAD4</b>	NM_005359.3	14232	c.1064A>G	<b>p.D355G</b>
<b>SMAD4</b>	NM_005359.3	14249	c.1156G>C	<b>p.G386R</b>
<b>SMAD4</b>	NM_005359.3	25274	c.366_367insA	<b>p.C123fs*2</b>
<b>SMARCB1</b>	NM_003073.2	1002	c.118C>T	<b>p.R40*</b>
<b>SMARCB1</b>	NM_003073.2	1057	c.1148delC	<b>p.P383fs</b>
<b>SMARCB1</b>	NM_003073.2	1060	c.1144delG	<b>p.A382fs*4</b>
<b>SMARCB1</b>	NM_003073.2	1090	c.1119-41G>A	<b>p.?</b>
<b>SMARCB1</b>	NM_003073.2	24595	c.157C>T	<b>p.R53*</b>
<b>SMARCB1</b>	NM_003073.2	29382	c.1143delG	<b>p.A382fs*5</b>
<b>SMARCB1</b>	NM_003073.2	29495	c.1145delC	<b>p.P383fs*4</b>
<b>SMARCB1</b>	NM_003073.2	989	c.1130G>A	<b>p.R377H</b>
<b>SMARCB1</b>	NM_003073.2	991	c.141C>A	<b>p.Y47*</b>
<b>SMARCB1</b>	NM_003073.2	992	c.472C>T	<b>p.R158*</b>
<b>SMARCB1</b>	NM_003073.2	993	c.601C>T	<b>p.R201*</b>
<b>SMO</b>	NM_005631.3	13145	c.595C>T	<b>p.R199W</b>
<b>SMO</b>	NM_005631.3	13146	c.1604G>T	<b>p.W535L</b>
<b>SMO</b>	NM_005631.3	13147	c.970G>A	<b>p.A324T</b>
<b>SMO</b>	NM_005631.3	13148	c.1210G>A	<b>p.V404M</b>
<b>SMO</b>	NM_005631.3	13150	c.1918A>G	<b>p.T640A</b>
<b>SRC</b>	NM_005417	1369	c.1591C>T	<b>p.Q531*</b>
<b>STK11</b>	NM_000455	12924	c.842delC	<b>p.P281fs*6</b>
<b>STK11</b>	NM_000455	12925	c.109C>T	<b>p.Q37*</b>
<b>STK11</b>	NM_000455	18652	c.996G>A	<b>p.W332*</b>
<b>STK11</b>	NM_000455	20857	c.787_790delTTGT	<b>p.F264fs*22</b>
<b>STK11</b>	NM_000455	20871	c.837delC	<b>p.P281fs*6</b>
<b>STK11</b>	NM_000455	20874	c.180C>G	<b>p.Y60*</b>
<b>STK11</b>	NM_000455	20943	c.508C>T	<b>p.Q170*</b>
<b>STK11</b>	NM_000455	20944	c.580G>T	<b>p.D194Y</b>
<b>STK11</b>	NM_000455	20957	c.581A>T	<b>p.D194V</b>
<b>STK11</b>	NM_000455	21212	c.169delG	<b>p.E57fs*7</b>
<b>STK11</b>	NM_000455	21354	c.511G>A	<b>p.G171S</b>

STK11	NM_000455	21355	c.842C>T	p.P281L
STK11	NM_000455	21359	c.595G>A	p.E199K
STK11	NM_000455	21360	c.1062C>G	p.F354L
STK11	NM_000455	21378	c.96C>G	p.T32T
STK11	NM_000455	25229	c.595G>T	p.E199*
STK11	NM_000455	25847	c.580G>A	p.D194N
STK11	NM_000455	25851	c.842_843insC	p.L282fs*3
STK11	NM_000455	27316	c.475C>T	p.Q159*
STK11	NM_000455	27322	c.180delC	p.Y60fs*1
STK11	NM_000455	28298	c.841_842>T	p.P281fs*6
STK11	NM_000455	29005	c.816C>T	p.Y272Y
STK11	NM_000455	48786	c.587G>T	p.G196V
TP53	NM_000546	10645	c.527G>T	p.C176F
TP53	NM_000546	10646	c.725G>A	p.C242Y
TP53	NM_000546	10647	c.404G>T	p.C135F
TP53	NM_000546	10648	c.524G>A	p.R175H
TP53	NM_000546	10650	c.529C>T	p.P177S
TP53	NM_000546	10651	c.530C>G	p.P177R
TP53	NM_000546	10654	c.637C>T	p.R213*
TP53	NM_000546	10656	c.742C>T	p.R248W
TP53	NM_000546	10659	c.817C>T	p.R273C
TP53	NM_000546	10660	c.818G>A	p.R273H
TP53	NM_000546	10662	c.743G>A	p.R248Q
TP53	NM_000546	10663	c.916C>T	p.R306*
TP53	NM_000546	10667	c.646G>A	p.V216M
TP53	NM_000546	10668	c.745A>G	p.R249G
TP53	NM_000546	10670	c.469G>T	p.V157F
TP53	NM_000546	10672	c.577C>T	p.H193Y
TP53	NM_000546	10684	c.403T>C	p.C135R
TP53	NM_000546	10687	c.527G>A	p.C176Y
TP53	NM_000546	10690	c.473G>A	p.R158H
TP53	NM_000546	10701	c.824G>T	p.C275F
TP53	NM_000546	10704	c.844C>T	p.R282W
TP53	NM_000546	10705	c.586C>T	p.R196*
TP53	NM_000546	10706	c.548C>G	p.S183*
TP53	NM_000546	10709	c.722C>G	p.S241C
TP53	NM_000546	10710	c.892G>T	p.E298*
TP53	NM_000546	10714	c.473G>T	p.R158L
TP53	NM_000546	10715	c.695T>A	p.I232N
TP53	NM_000546	10716	c.329G>T	p.R110L
TP53	NM_000546	10718	c.524G>T	p.R175L
TP53	NM_000546	10719	c.811G>A	p.E271K
TP53	NM_000546	10722	c.853G>A	p.E285K
TP53	NM_000546	10724	c.839G>C	p.R280T
TP53	NM_000546	10725	c.701A>G	p.Y234C
TP53	NM_000546	10726	c.856G>A	p.E286K
TP53	NM_000546	10728	c.839G>A	p.R280K
TP53	NM_000546	10731	c.707A>G	p.Y236C
TP53	NM_000546	10733	c.574C>T	p.Q192*
TP53	NM_000546	10735	c.638G>A	p.R213Q
TP53	NM_000546	10738	c.542G>A	p.R181H
TP53	NM_000546	10739	c.481G>A	p.A161T
TP53	NM_000546	10742	c.578A>G	p.H193R
TP53	NM_000546	10743	c.848G>C	p.R283P
TP53	NM_000546	10749	c.830G>T	p.C277F
TP53	NM_000546	10750	c.490A>T	p.K164*

TP53	NM_000546	10756	c.827C>T	p.A276V
TP53	NM_000546	10757	c.738G>C	p.M246I
TP53	NM_000546	10758	c.659A>G	p.Y220C
TP53	NM_000546	10760	c.467G>C	p.R156P
TP53	NM_000546	10762	c.490A>G	p.K164E
TP53	NM_000546	10768	c.535C>T	p.H179Y
TP53	NM_000546	10769	c.820G>T	p.V274F
TP53	NM_000546	10770	c.1045G>T	p.E349*
TP53	NM_000546	10771	c.749C>T	p.P250L
TP53	NM_000546	10777	c.715A>G	p.N239D
TP53	NM_000546	10779	c.818G>T	p.R273L
TP53	NM_000546	10785	c.747G>C	p.R249S
TP53	NM_000546	10788	c.764T>G	p.I255S
TP53	NM_000546	10790	c.455C>T	p.P152L
TP53	NM_000546	10794	c.796G>A	p.G266R
TP53	NM_000546	10801	c.404G>A	p.C135Y
TP53	NM_000546	10804	c.610G>T	p.E204*
TP53	NM_000546	10808	c.488A>G	p.Y163C
TP53	NM_000546	10810	c.725G>T	p.C242F
TP53	NM_000546	10812	c.722C>T	p.S241F
TP53	NM_000546	10813	c.394A>G	p.K132E
TP53	NM_000546	10814	c.832C>G	p.P278A
TP53	NM_000546	10817	c.747G>T	p.R249S
TP53	NM_000546	10834	c.711G>A	p.M237I
TP53	NM_000546	10856	c.880G>T	p.E294*
TP53	NM_000546	10859	c.814G>T	p.V272L
TP53	NM_000546	10862	c.378C>G	p.Y126*
TP53	NM_000546	10863	c.833C>T	p.P278L
TP53	NM_000546	10867	c.797G>A	p.G266E
TP53	NM_000546	10870	c.523C>G	p.R175G
TP53	NM_000546	10883	c.731G>A	p.G244D
TP53	NM_000546	10886	c.310C>T	p.Q104*
TP53	NM_000546	10887	c.833C>G	p.P278R
TP53	NM_000546	10888	c.378C>A	p.Y126*
TP53	NM_000546	10889	c.536A>G	p.H179R
TP53	NM_000546	10891	c.814G>A	p.V272M
TP53	NM_000546	10893	c.824G>A	p.C275Y
TP53	NM_000546	10911	c.847C>T	p.R283C
TP53	NM_000546	10912	c.463A>C	p.T155P
TP53	NM_000546	10931	c.751A>C	p.I251L
TP53	NM_000546	10935	c.722C>A	p.S241Y
TP53	NM_000546	10939	c.832C>T	p.P278S
TP53	NM_000546	10941	c.730G>A	p.G244S
TP53	NM_000546	10943	c.841G>C	p.D281H
TP53	NM_000546	10957	c.733G>C	p.G245R
TP53	NM_000546	10958	c.797G>T	p.G266V
TP53	NM_000546	10991	c.396G>T	p.K132N
TP53	NM_000546	10992	c.844C>G	p.R282G
TP53	NM_000546	10995	c.580C>T	p.L194F
TP53	NM_000546	10996	c.511G>T	p.E171*
TP53	NM_000546	11011	c.794T>C	p.L265P
TP53	NM_000546	11059	c.713G>A	p.C238Y
TP53	NM_000546	11063	c.711G>T	p.M237I
TP53	NM_000546	11066	c.578A>T	p.H193L
TP53	NM_000546	11071	c.1009C>T	p.R337C
TP53	NM_000546	11073	c.1024C>T	p.R342*

<b>TP53</b>	NM_000546	11078	c.1027G>T	<b>p.E343*</b>
<b>TP53</b>	NM_000546	11081	c.733G>T	<b>p.G245C</b>
<b>TP53</b>	NM_000546	11084	c.517G>A	<b>p.V173M</b>
<b>TP53</b>	NM_000546	11087	c.472C>G	<b>p.R158G</b>
<b>TP53</b>	NM_000546	11089	c.584T>C	<b>p.I195T</b>
<b>TP53</b>	NM_000546	11090	c.541C>T	<b>p.R181C</b>
<b>TP53</b>	NM_000546	11114	c.528C>G	<b>p.C176W</b>
<b>TP53</b>	NM_000546	11123	c.838A>G	<b>p.R280G</b>
<b>TP53</b>	NM_000546	11133	c.725G>C	<b>p.C242S</b>
<b>TP53</b>	NM_000546	11148	c.476C>T	<b>p.A159V</b>
<b>TP53</b>	NM_000546	11152	c.700T>C	<b>p.Y234H</b>
<b>TP53</b>	NM_000546	11166	c.406C>T	<b>p.Q136*</b>
<b>TP53</b>	NM_000546	11181	c.764T>C	<b>p.I255T</b>
<b>TP53</b>	NM_000546	11183	c.799C>T	<b>p.R267W</b>
<b>TP53</b>	NM_000546	11196	c.734G>T	<b>p.G245V</b>
<b>TP53</b>	NM_000546	11205	c.796G>C	<b>p.G266R</b>
<b>TP53</b>	NM_000546	11210	c.646G>T	<b>p.V216L</b>
<b>TP53</b>	NM_000546	11213	c.752T>C	<b>p.I251T</b>
<b>TP53</b>	NM_000546	11218	c.464C>A	<b>p.T155N</b>
<b>TP53</b>	NM_000546	11224	c.394A>C	<b>p.K132Q</b>
<b>TP53</b>	NM_000546	11232	c.842A>G	<b>p.D281G</b>
<b>TP53</b>	NM_000546	11244	c.764T>A	<b>p.I255N</b>
<b>TP53</b>	NM_000546	11249	c.537T>G	<b>p.H179Q</b>
<b>TP53</b>	NM_000546	11250	c.329G>C	<b>p.R110P</b>
<b>TP53</b>	NM_000546	11286	c.1015G>T	<b>p.E339*</b>
<b>TP53</b>	NM_000546	11287	c.839G>T	<b>p.R280I</b>
<b>TP53</b>	NM_000546	11290	c.625A>T	<b>p.R209*</b>
<b>TP53</b>	NM_000546	11291	c.1006G>T	<b>p.E336*</b>
<b>TP53</b>	NM_000546	11305	c.809T>C	<b>p.F270S</b>
<b>TP53</b>	NM_000546	11307	c.643A>T	<b>p.S215C</b>
<b>TP53</b>	NM_000546	11319	c.402T>G	<b>p.F134L</b>
<b>TP53</b>	NM_000546	11323	c.482C>A	<b>p.A161D</b>
<b>TP53</b>	NM_000546	11333	c.499C>T	<b>p.Q167*</b>
<b>TP53</b>	NM_000546	11351	c.614A>T	<b>p.Y205F</b>
<b>TP53</b>	NM_000546	11355	c.737T>C	<b>p.M246T</b>
<b>TP53</b>	NM_000546	11356	c.726C>G	<b>p.C242W</b>
<b>TP53</b>	NM_000546	11369	c.492G>T	<b>p.K164N</b>
<b>TP53</b>	NM_000546	11374	c.752T>A	<b>p.I251N</b>
<b>TP53</b>	NM_000546	11376	c.737T>G	<b>p.M246R</b>
<b>TP53</b>	NM_000546	11392	c.800G>C	<b>p.R267P</b>
<b>TP53</b>	NM_000546	11411	c.1010G>T	<b>p.R337L</b>
<b>TP53</b>	NM_000546	11448	c.321C>G	<b>p.Y107*</b>
<b>TP53</b>	NM_000546	11449	c.388C>T	<b>p.L130F</b>
<b>TP53</b>	NM_000546	11450	c.644G>T	<b>p.S215I</b>
<b>TP53</b>	NM_000546	11462	c.388C>G	<b>p.L130V</b>
<b>TP53</b>	NM_000546	11483	c.848G>A	<b>p.R283H</b>
<b>TP53</b>	NM_000546	11491	c.743G>C	<b>p.R248P</b>
<b>TP53</b>	NM_000546	11496	c.476C>A	<b>p.A159D</b>
<b>TP53</b>	NM_000546	11501	c.823T>G	<b>p.C275G</b>
<b>TP53</b>	NM_000546	11508	c.497C>A	<b>p.S166*</b>
<b>TP53</b>	NM_000546	11514	c.1001G>T	<b>p.G334V</b>
<b>TP53</b>	NM_000546	11516	c.841G>T	<b>p.D281Y</b>
<b>TP53</b>	NM_000546	11517	c.377A>G	<b>p.Y126C</b>
<b>TP53</b>	NM_000546	11524	c.730G>T	<b>p.G244C</b>
<b>TP53</b>	NM_000546	11542	c.703A>G	<b>p.N235D</b>
<b>TP53</b>	NM_000546	11564	c.742C>G	<b>p.R248G</b>

TP53	NM_000546	11582	c.395A>G	p.K132R
TP53	NM_000546	11606	c.31G>C	p.E11Q
TP53	NM_000546	11665	c.842A>C	p.D281A
TP53	NM_000546	11717	c.548C>A	p.S183*
TP53	NM_000546	11738	c.724T>C	p.C242R
TP53	NM_000546	11781	c.398T>A	p.M133K
TP53	NM_000546	11847	c.658T>G	p.Y220D
TP53	NM_000546	11860	c.638G>C	p.R213P
TP53	NM_000546	11929	c.760_761AT>GA	p.I254D
TP53	NM_000546	11966	c.485T>A	p.I162N
TP53	NM_000546	11998	c.534C>A	p.H178Q
TP53	NM_000546	12013	c.731G>C	p.G244A
TP53	NM_000546	12296	c.292C>T	p.P98S
TP53	NM_000546	13119	c.322_324delGGT	p.G108del
TP53	NM_000546	13120	c.626_627delGA	p.R209fs*6
TP53	NM_000546	13421	c.814delG	p.V272fs*73
TP53	NM_000546	146240	c.806_808delGCT	p.S269_F270>I
TP53	NM_000546	18597	c.1024delC	p.R342fs*3
TP53	NM_000546	18610	c.267delC	p.S90fs*33
TP53	NM_000546	18657	c.560-2A>G	p.?
TP53	NM_000546	21572	c.376-1G>A	p.?
TP53	NM_000546	22908	c.376-1G>T	p.?
TP53	NM_000546	249845	c.377_377delA	p.Y126fs*44
TP53	NM_000546	39293	c.734G>A	p.G245D
TP53	NM_000546	39455	c.569delC	p.P190fs*57
TP53	NM_000546	40942	c.380C>T	p.S127F
TP53	NM_000546	42811	c.641A>G	p.H214R
TP53	NM_000546	42813	c.313G>T	p.G105C
TP53	NM_000546	43054	c.518T>G	p.V173G
TP53	NM_000546	43533	c.391A>T	p.N131Y
TP53	NM_000546	43535	c.391A>C	p.N131H
TP53	NM_000546	43537	c.565G>A	p.A189T
TP53	NM_000546	43541	c.559+3G>C	p.?
TP53	NM_000546	43544	c.260C>A	p.P87Q
TP53	NM_000546	43545	c.503A>G	p.H168R
TP53	NM_000546	43548	c.467G>T	p.R156L
TP53	NM_000546	43550	c.694A>T	p.I232F
TP53	NM_000546	43555	c.736A>G	p.M246V
TP53	NM_000546	43559	c.517G>T	p.V173L
TP53	NM_000546	43564	c.708C>A	p.Y236*
TP53	NM_000546	43565	c.857A>G	p.E286G
TP53	NM_000546	43570	c.529_546del18	p.P177_C182delPH HERC
TP53	NM_000546	43582	c.454C>T	p.P152S
TP53	NM_000546	43584	c.534_535CC>TT	p.H179Y
TP53	NM_000546	43585	c.843_844CC>TT	p.R282W
TP53	NM_000546	43587	c.832_833CC>TT	p.P278F
TP53	NM_000546	43588	c.740A>C	p.N247T
TP53	NM_000546	43592	c.395A>T	p.K132M
TP53	NM_000546	43594	c.605G>A	p.R202H
TP53	NM_000546	43596	c.841G>A	p.D281N
TP53	NM_000546	43597	c.538G>T	p.E180*
TP53	NM_000546	43599	c.607G>A	p.V203M
TP53	NM_000546	43602	c.706T>G	p.Y236D
TP53	NM_000546	43606	c.734G>A	p.G245D
TP53	NM_000546	43608	c.605G>C	p.R202P

TP53	NM_000546	43614	c.854A>C	p.E285A
TP53	NM_000546	43615	c.473G>C	p.R158P
TP53	NM_000546	43616	c.704A>G	p.N235S
TP53	NM_000546	43621	c.809T>G	p.F270C
TP53	NM_000546	43623	c.581T>A	p.L194H
TP53	NM_000546	43624	c.875A>G	p.K292R
TP53	NM_000546	43625	c.469G>A	p.V157I
TP53	NM_000546	43626	c.475G>A	p.A159T
TP53	NM_000546	43629	c.745A>T	p.R249W
TP53	NM_000546	43632	c.493C>T	p.Q165*
TP53	NM_000546	43635	c.536A>T	p.H179L
TP53	NM_000546	43641	c.628delA	p.N210fs*37
TP53	NM_000546	43642	c.613T>C	p.Y205H
TP53	NM_000546	43645	c.721delT	p.S241fs*6
TP53	NM_000546	43648	c.685_686delTG	p.C229fs*10
TP53	NM_000546	43650	c.638G>T	p.R213L
TP53	NM_000546	43651	c.763A>T	p.I255F
TP53	NM_000546	43652	c.731G>T	p.G244V
TP53	NM_000546	43656	c.732C>G	p.G244G
TP53	NM_000546	43657	c.569C>T	p.P190L
TP53	NM_000546	43660	c.719G>T	p.S240I
TP53	NM_000546	43661	c.394delA	p.K132fs*38
TP53	NM_000546	43663	c.826G>C	p.A276P
TP53	NM_000546	43665	c.746G>C	p.R249T
TP53	NM_000546	43666	c.462C>T	p.G154G
TP53	NM_000546	43667	c.820G>A	p.V274I
TP53	NM_000546	43670	c.465C>T	p.T155T
TP53	NM_000546	43674	c.835G>T	p.G279W
TP53	NM_000546	43675	c.457C>T	p.P153S
TP53	NM_000546	43678	c.305C>T	p.T102I
TP53	NM_000546	43679	c.531C>T	p.P177P
TP53	NM_000546	43680	c.523C>T	p.R175C
TP53	NM_000546	43681	c.647T>G	p.V216G
TP53	NM_000546	43682	c.328C>T	p.R110C
TP53	NM_000546	43683	c.758C>T	p.T253I
TP53	NM_000546	43684	c.720T>G	p.S240R
TP53	NM_000546	43687	c.641A>G	p.H214R
TP53	NM_000546	43688	c.265C>T	p.P89S
TP53	NM_000546	43689	c.482C>T	p.A161V
TP53	NM_000546	43690	c.592G>A	p.E198K
TP53	NM_000546	43692	c.460G>A	p.G154S
TP53	NM_000546	43695	c.748C>T	p.P250S
TP53	NM_000546	43697	c.832C>A	p.P278T
TP53	NM_000546	43698	c.566C>G	p.A189G
TP53	NM_000546	43700	c.712T>A	p.C238S
TP53	NM_000546	43702	c.571C>T	p.P191S
TP53	NM_000546	43704	c.405C>T	p.C135C
TP53	NM_000546	43706	c.811G>C	p.E271Q
TP53	NM_000546	43709	c.500A>G	p.Q167R
TP53	NM_000546	43710	c.468delC	p.V157fs*13
TP53	NM_000546	43714	c.836G>A	p.G279E
TP53	NM_000546	43723	c.398T>C	p.M133T
TP53	NM_000546	43725	c.862A>T	p.N288Y
TP53	NM_000546	43726	c.727A>T	p.M243L
TP53	NM_000546	43728	c.543C>T	p.R181R
TP53	NM_000546	43730	c.398T>G	p.M133R

<b>TP53</b>	NM_000546	43732	c.517delG	<b>p.V173fs*1</b>
<b>TP53</b>	NM_000546	43734	c.528C>A	<b>p.C176*</b>
<b>TP53</b>	NM_000546	43737	c.830G>A	<b>p.C277Y</b>
<b>TP53</b>	NM_000546	43739	c.467G>A	<b>p.R156H</b>
<b>TP53</b>	NM_000546	43743	c.914A>G	<b>p.K305R</b>
<b>TP53</b>	NM_000546	43744	c.466C>A	<b>p.R156S</b>
<b>TP53</b>	NM_000546	43746	c.881A>G	<b>p.E294G</b>
<b>TP53</b>	NM_000546	43747	c.872A>G	<b>p.K291R</b>
<b>TP53</b>	NM_000546	43749	c.595G>A	<b>p.G199R</b>
<b>TP53</b>	NM_000546	43750	c.811G>T	<b>p.E271*</b>
<b>TP53</b>	NM_000546	43753	c.560-1G>A	<b>p.?</b>
<b>TP53</b>	NM_000546	43755	c.833C>A	<b>p.P278H</b>
<b>TP53</b>	NM_000546	43761	c.612G>A	<b>p.E204E</b>
<b>TP53</b>	NM_000546	43765	c.727A>C	<b>p.M243L</b>
<b>TP53</b>	NM_000546	43766	c.899C>T	<b>p.P300L</b>
<b>TP53</b>	NM_000546	43767	c.406C>G	<b>p.Q136E</b>
<b>TP53</b>	NM_000546	43768	c.700T>G	<b>p.Y234D</b>
<b>TP53</b>	NM_000546	43772	c.538G>A	<b>p.E180K</b>
<b>TP53</b>	NM_000546	43773	c.913A>T	<b>p.K305*</b>
<b>TP53</b>	NM_000546	43776	c.861G>A	<b>p.E287E</b>
<b>TP53</b>	NM_000546	43777	c.603G>C	<b>p.L201F</b>
<b>TP53</b>	NM_000546	43778	c.713G>T	<b>p.C238F</b>
<b>TP53</b>	NM_000546	43779	c.589G>A	<b>p.V197M</b>
<b>TP53</b>	NM_000546	43781	c.472delC	<b>p.R158fs*12</b>
<b>TP53</b>	NM_000546	43782	c.576G>A	<b>p.Q192Q</b>
<b>TP53</b>	NM_000546	43787	c.217G>A	<b>p.V73M</b>
<b>TP53</b>	NM_000546	43793	c.617T>A	<b>p.L206*</b>
<b>TP53</b>	NM_000546	43795	c.1023delC	<b>p.R342fs*3</b>
<b>TP53</b>	NM_000546	43797	c.550G>C	<b>p.D184H</b>
<b>TP53</b>	NM_000546	43801	c.716A>C	<b>p.N239T</b>
<b>TP53</b>	NM_000546	43806	c.689C>A	<b>p.T230N</b>
<b>TP53</b>	NM_000546	43807	c.637delC	<b>p.R213fs*34</b>
<b>TP53</b>	NM_000546	43809	c.808T>A	<b>p.F270I</b>
<b>TP53</b>	NM_000546	43814	c.587G>C	<b>p.R196P</b>
<b>TP53</b>	NM_000546	43820	c.489C>G	<b>p.Y163*</b>
<b>TP53</b>	NM_000546	43823	c.825T>G	<b>p.C275W</b>
<b>TP53</b>	NM_000546	43826	c.706T>A	<b>p.Y236N</b>
<b>TP53</b>	NM_000546	43827	c.581T>C	<b>p.L194P</b>
<b>TP53</b>	NM_000546	43828	c.544T>A	<b>p.C182S</b>
<b>TP53</b>	NM_000546	43829	c.752T>G	<b>p.I251S</b>
<b>TP53</b>	NM_000546	43831	c.472_475delCGCG	<b>p.R158fs*11</b>
<b>TP53</b>	NM_000546	43833	c.578A>C	<b>p.H193P</b>
<b>TP53</b>	NM_000546	43836	c.475G>C	<b>p.A159P</b>
<b>TP53</b>	NM_000546	43837	c.843C>G	<b>p.D281E</b>
<b>TP53</b>	NM_000546	43841	c.560-1G>T	<b>p.?</b>
<b>TP53</b>	NM_000546	43843	c.817C>G	<b>p.R273G</b>
<b>TP53</b>	NM_000546	43844	c.613T>G	<b>p.Y205D</b>
<b>TP53</b>	NM_000546	43846	c.487T>C	<b>p.Y163H</b>
<b>TP53</b>	NM_000546	43848	c.472C>T	<b>p.R158C</b>
<b>TP53</b>	NM_000546	43850	c.659A>C	<b>p.Y220S</b>
<b>TP53</b>	NM_000546	43851	c.506T>C	<b>p.M169T</b>
<b>TP53</b>	NM_000546	43853	c.684C>G	<b>p.D228E</b>
<b>TP53</b>	NM_000546	43859	c.598delA	<b>p.N200fs*47</b>
<b>TP53</b>	NM_000546	43860	c.704A>T	<b>p.N235I</b>
<b>TP53</b>	NM_000546	43861	c.502C>T	<b>p.H168Y</b>
<b>TP53</b>	NM_000546	43862	c.683A>C	<b>p.D228A</b>



<b>TP53</b>	NM_000546	43864	c.739A>T	<b>p.N247Y</b>
<b>TP53</b>	NM_000546	43865	c.701A>C	<b>p.Y234S</b>
<b>TP53</b>	NM_000546	43868	c.689C>T	<b>p.T230I</b>
<b>TP53</b>	NM_000546	43871	c.746G>T	<b>p.R249M</b>
<b>TP53</b>	NM_000546	43872	c.560-1G>C	<b>p.?</b>
<b>TP53</b>	NM_000546	43879	c.812A>G	<b>p.E271G</b>
<b>TP53</b>	NM_000546	43881	c.757A>T	<b>p.T253S</b>
<b>TP53</b>	NM_000546	43882	c.1010G>A	<b>p.R337H</b>
<b>TP53</b>	NM_000546	43889	c.691A>T	<b>p.T231S</b>
<b>TP53</b>	NM_000546	43891	c.480G>A	<b>p.M160I</b>
<b>TP53</b>	NM_000546	43896	c.818G>C	<b>p.R273P</b>
<b>TP53</b>	NM_000546	43898	c.485T>G	<b>p.I162S</b>
<b>TP53</b>	NM_000546	43900	c.376T>G	<b>p.Y126D</b>
<b>TP53</b>	NM_000546	43902	c.823T>C	<b>p.C275R</b>
<b>TP53</b>	NM_000546	43903	c.470T>G	<b>p.V157G</b>
<b>TP53</b>	NM_000546	43905	c.590T>G	<b>p.V197G</b>
<b>TP53</b>	NM_000546	43906	c.843C>A	<b>p.D281E</b>
<b>TP53</b>	NM_000546	43909	c.817C>A	<b>p.R273S</b>
<b>TP53</b>	NM_000546	43910	c.245C>T	<b>p.P82L</b>
<b>TP53</b>	NM_000546	43912	c.395A>C	<b>p.K132T</b>
<b>TP53</b>	NM_000546	43915	c.886C>T	<b>p.H296Y</b>
<b>TP53</b>	NM_000546	43918	c.809T>A	<b>p.F270Y</b>
<b>TP53</b>	NM_000546	43919	c.856G>T	<b>p.E286*</b>
<b>TP53</b>	NM_000546	43920	c.680C>T	<b>p.S227F</b>
<b>TP53</b>	NM_000546	43923	c.800G>A	<b>p.R267Q</b>
<b>TP53</b>	NM_000546	43927	c.559+9C>T	<b>p.?</b>
<b>TP53</b>	NM_000546	43928	c.615T>A	<b>p.Y205*</b>
<b>TP53</b>	NM_000546	43929	c.582T>C	<b>p.L194L</b>
<b>TP53</b>	NM_000546	43931	c.523C>A	<b>p.R175S</b>
<b>TP53</b>	NM_000546	43934	c.471C>A	<b>p.V157V</b>
<b>TP53</b>	NM_000546	43935	c.577C>A	<b>p.H193N</b>
<b>TP53</b>	NM_000546	43936	c.857A>T	<b>p.E286V</b>
<b>TP53</b>	NM_000546	43939	c.632C>T	<b>p.T211I</b>
<b>TP53</b>	NM_000546	43940	c.474C>T	<b>p.R158R</b>
<b>TP53</b>	NM_000546	43941	c.400T>G	<b>p.F134V</b>
<b>TP53</b>	NM_000546	43945	c.821T>G	<b>p.V274G</b>
<b>TP53</b>	NM_000546	43947	c.614A>G	<b>p.Y205C</b>
<b>TP53</b>	NM_000546	43949	c.401T>G	<b>p.F134C</b>
<b>TP53</b>	NM_000546	43951	c.643A>G	<b>p.S215G</b>
<b>TP53</b>	NM_000546	43952	c.710T>A	<b>p.M237K</b>
<b>TP53</b>	NM_000546	43955	c.514G>A	<b>p.V172I</b>
<b>TP53</b>	NM_000546	43956	c.700T>A	<b>p.Y234N</b>
<b>TP53</b>	NM_000546	43957	c.750C>T	<b>p.P250P</b>
<b>TP53</b>	NM_000546	43958	c.843C>T	<b>p.D281D</b>
<b>TP53</b>	NM_000546	43960	c.683A>G	<b>p.D228G</b>
<b>TP53</b>	NM_000546	43962	c.805A>G	<b>p.S269G</b>
<b>TP53</b>	NM_000546	43963	c.396G>C	<b>p.K132N</b>
<b>TP53</b>	NM_000546	43964	c.459C>T	<b>p.P153P</b>
<b>TP53</b>	NM_000546	43965	c.734G>C	<b>p.G245A</b>
<b>TP53</b>	NM_000546	43967	c.751A>T	<b>p.I251F</b>
<b>TP53</b>	NM_000546	43968	c.866T>C	<b>p.L289P</b>
<b>TP53</b>	NM_000546	43970	c.380C>A	<b>p.S127Y</b>
<b>TP53</b>	NM_000546	43973	c.718A>G	<b>p.S240G</b>
<b>TP53</b>	NM_000546	43977	c.849C>T	<b>p.R283R</b>
<b>TP53</b>	NM_000546	43978	c.529delC	<b>p.H178fs*69</b>
<b>TP53</b>	NM_000546	43979	c.802A>C	<b>p.N268H</b>

TP53	NM_000546	43980	c.691A>G	p.T231A
TP53	NM_000546	43986	c.908G>A	p.S303N
TP53	NM_000546	43987	c.622G>A	p.D208N
TP53	NM_000546	43988	c.905G>A	p.G302E
TP53	NM_000546	43989	c.596G>A	p.G199E
TP53	NM_000546	43990	c.610G>A	p.E204K
TP53	NM_000546	43995	c.740A>T	p.N247I
TP53	NM_000546	44002	c.577C>G	p.H193D
TP53	NM_000546	44004	c.569C>G	p.P190R
TP53	NM_000546	44005	c.835delG	p.R280fs*65
TP53	NM_000546	44009	c.463_470delACCCGCGT	p.T155fs*23
TP53	NM_000546	44011	c.610delG	p.E204fs*43
TP53	NM_000546	44017	c.869G>A	p.R290H
TP53	NM_000546	44018	c.214C>T	p.R72C
TP53	NM_000546	44019	c.226_270del45	p.A76_S90del15
TP53	NM_000546	44023	c.560G>A	p.G187D
TP53	NM_000546	44026	c.559G>A	p.G187S
TP53	NM_000546	44029	c.550G>A	p.D184N
TP53	NM_000546	44030	c.760A>G	p.I254V
TP53	NM_000546	44032	c.298C>T	p.Q100*
TP53	NM_000546	44033	c.464C>T	p.T155I
TP53	NM_000546	44035	c.496T>C	p.S166P
TP53	NM_000546	44036	c.296C>T	p.S99F
TP53	NM_000546	44037	c.322G>A	p.G108S
TP53	NM_000546	44048	c.280T>A	p.S94T
TP53	NM_000546	44054	c.754C>T	p.L252F
TP53	NM_000546	44057	c.517G>C	p.V173L
TP53	NM_000546	44058	c.761T>C	p.I254T
TP53	NM_000546	44061	c.456G>A	p.P152P
TP53	NM_000546	44063	c.389T>G	p.L130R
TP53	NM_000546	44064	c.748delC	p.I251fs*94
TP53	NM_000546	44067	c.721T>A	p.S241T
TP53	NM_000546	44068	c.532C>A	p.H178N
TP53	NM_000546	44070	c.1031T>C	p.L344P
TP53	NM_000546	44072	c.706_708delTAC	p.Y236del
TP53	NM_000546	44074	c.605_606GT>CG	p.R202P
TP53	NM_000546	44075	c.251C>G	p.A84G
TP53	NM_000546	44076	c.655C>T	p.P219S
TP53	NM_000546	44091	c.746G>A	p.R249K
TP53	NM_000546	44092	c.794T>G	p.L265R
TP53	NM_000546	44093	c.644G>A	p.S215N
TP53	NM_000546	44094	c.716A>G	p.N239S
TP53	NM_000546	44096	c.748C>G	p.P250A
TP53	NM_000546	44097	c.530C>T	p.P177L
TP53	NM_000546	44102	c.637C>G	p.R213G
TP53	NM_000546	44103	c.737T>A	p.M246K
TP53	NM_000546	44112	c.640C>T	p.H214Y
TP53	NM_000546	44113	c.693C>T	p.T231T
TP53	NM_000546	44114	c.826G>A	p.A276T
TP53	NM_000546	44119	c.483C>T	p.A161A
TP53	NM_000546	44120	c.532C>T	p.H178Y
TP53	NM_000546	44124	c.751delA	p.I251fs*94
TP53	NM_000546	44125	c.486C>G	p.I162M
TP53	NM_000546	44126	c.507G>A	p.M169I
TP53	NM_000546	44127	c.880G>A	p.E294K
TP53	NM_000546	44128	c.879G>A	p.G293G

TP53	NM_000546	44129	c.729G>A	p.M243I
TP53	NM_000546	44130	c.477C>T	p.A159A
TP53	NM_000546	44131	c.879G>C	p.G293G
TP53	NM_000546	44132	c.708C>T	p.Y236Y
TP53	NM_000546	44133	c.859G>T	p.E287*
TP53	NM_000546	44134	c.528delC	p.H178fs*69
TP53	NM_000546	44135	c.724T>G	p.C242G
TP53	NM_000546	44140	c.596G>T	p.G199V
TP53	NM_000546	44142	c.377A>C	p.Y126S
TP53	NM_000546	44146	c.526T>A	p.C176S
TP53	NM_000546	44151	c.535C>A	p.H179N
TP53	NM_000546	44152	c.542G>T	p.R181L
TP53	NM_000546	44156	c.810T>A	p.F270L
TP53	NM_000546	44157	c.601delT	p.L201fs*46
TP53	NM_000546	44162	c.635_636delTT	p.F212fs*3
TP53	NM_000546	44165	c.903A>G	p.P301P
TP53	NM_000546	44167	c.908G>C	p.S303T
TP53	NM_000546	44169	c.614A>C	p.Y205S
TP53	NM_000546	44171	c.840A>T	p.R280S
TP53	NM_000546	44172	c.572C>G	p.P191R
TP53	NM_000546	44174	c.604C>A	p.R202S
TP53	NM_000546	44175	c.644G>C	p.S215T
TP53	NM_000546	44183	c.715delA	p.N239fs*8
TP53	NM_000546	44185	c.555C>A	p.S185R
TP53	NM_000546	44192	c.272G>A	p.W91*
TP53	NM_000546	44194	c.251C>T	p.A84V
TP53	NM_000546	44198	c.653T>G	p.V218G
TP53	NM_000546	44200	c.242C>T	p.T81I
TP53	NM_000546	44202	c.550G>T	p.D184Y
TP53	NM_000546	44206	c.399G>T	p.M133I
TP53	NM_000546	44207	c.874delA	p.E294fs*51
TP53	NM_000546	44212	c.391_393delAAC	p.N131del
TP53	NM_000546	44214	c.537T>A	p.H179Q
TP53	NM_000546	44215	c.533A>C	p.H178P
TP53	NM_000546	44216	c.487T>G	p.Y163D
TP53	NM_000546	44217	c.718delA	p.S240fs*7
TP53	NM_000546	44218	c.536A>C	p.H179P
TP53	NM_000546	44219	c.405C>G	p.C135W
TP53	NM_000546	44221	c.730G>C	p.G244R
TP53	NM_000546	44224	c.721T>G	p.S241A
TP53	NM_000546	44225	c.859G>A	p.E287K
TP53	NM_000546	44226	c.380C>T	p.S127F
TP53	NM_000546	44227	c.854A>T	p.E285V
TP53	NM_000546	44229	c.515T>A	p.V172D
TP53	NM_000546	44230	c.481delG	p.A161fs*9
TP53	NM_000546	44231	c.262delG	p.A88fs*35
TP53	NM_000546	44233	c.840A>C	p.R280S
TP53	NM_000546	44234	c.571_573delCCT	p.P191del
TP53	NM_000546	44236	c.806G>A	p.S269N
TP53	NM_000546	44237	c.904delG	p.S303fs*42
TP53	NM_000546	44238	c.631A>G	p.T211A
TP53	NM_000546	44239	c.647delT	p.V216fs*31
TP53	NM_000546	44240	c.514G>T	p.V172F
TP53	NM_000546	44241	c.592G>T	p.E198*
TP53	NM_000546	44247	c.754_756delCTC	p.L252del
TP53	NM_000546	44249	c.623A>T	p.D208V

TP53	NM_000546	44250	c.856G>C	p.E286Q
TP53	NM_000546	44257	c.301delA	p.T102fs*21
TP53	NM_000546	44262	c.808T>C	p.F270L
TP53	NM_000546	44267	c.472_477delCGCGCC	p.R158_A159delRA
TP53	NM_000546	44268	c.559+1G>T	p.?
TP53	NM_000546	44271	c.688A>C	p.T230P
TP53	NM_000546	44274	c.647T>A	p.V216E
TP53	NM_000546	44275	c.499_500delCA	p.Q167fs*13
TP53	NM_000546	44282	c.496T>G	p.S166A
TP53	NM_000546	44287	c.229C>G	p.P77A
TP53	NM_000546	44289	c.497C>T	p.S166L
TP53	NM_000546	44290	c.763A>G	p.I255V
TP53	NM_000546	44292	c.858A>G	p.E286E
TP53	NM_000546	44294	c.815T>C	p.V272A
TP53	NM_000546	44297	c.376-3C>T	p.?
TP53	NM_000546	44298	c.462C>A	p.G154G
TP53	NM_000546	44299	c.501G>A	p.Q167Q
TP53	NM_000546	44300	c.548C>T	p.S183L
TP53	NM_000546	44301	c.468C>G	p.R156R
TP53	NM_000546	44303	c.463A>G	p.T155A
TP53	NM_000546	44305	c.479T>A	p.M160K
TP53	NM_000546	44306	c.845G>C	p.R282P
TP53	NM_000546	44308	c.494A>G	p.Q165R
TP53	NM_000546	44310	c.738G>A	p.M246I
TP53	NM_000546	44312	c.511G>A	p.E171K
TP53	NM_000546	44313	c.686G>A	p.C229Y
TP53	NM_000546	44317	c.653T>A	p.V218E
TP53	NM_000546	44319	c.405C>A	p.C135*
TP53	NM_000546	44320	c.484A>T	p.I162F
TP53	NM_000546	44321	c.712T>C	p.C238R
TP53	NM_000546	44322	c.728T>A	p.M243K
TP53	NM_000546	44326	c.706T>C	p.Y236H
TP53	NM_000546	44327	c.518T>C	p.V173A
TP53	NM_000546	44328	c.478A>G	p.M160V
TP53	NM_000546	44329	c.470T>A	p.V157D
TP53	NM_000546	44334	c.649G>T	p.V217L
TP53	NM_000546	44336	c.499delC	p.Q167fs*3
TP53	NM_000546	44338	c.845G>A	p.R282Q
TP53	NM_000546	44343	c.547T>C	p.S183P
TP53	NM_000546	44345	c.915G>T	p.K305N
TP53	NM_000546	44346	c.875A>C	p.K292T
TP53	NM_000546	44349	c.566C>T	p.A189V
TP53	NM_000546	44350	c.699C>G	p.H233Q
TP53	NM_000546	44351	c.572C>T	p.P191L
TP53	NM_000546	44352	c.850A>C	p.T284P
TP53	NM_000546	44358	c.634delT	p.R213fs*34
TP53	NM_000546	44360	c.686_687delGT	p.C229fs*10
TP53	NM_000546	44365	c.607G>T	p.V203L
TP53	NM_000546	44367	c.458C>T	p.P153L
TP53	NM_000546	44371	c.631delA	p.T211fs*36
TP53	NM_000546	44372	c.640delC	p.H214fs*33
TP53	NM_000546	44375	c.650T>G	p.V217G
TP53	NM_000546	44378	c.726C>A	p.C242*
TP53	NM_000546	44380	c.376T>A	p.Y126N
TP53	NM_000546	44383	c.518T>G	p.V173G
TP53	NM_000546	44384	c.510G>A	p.T170T

TP53	NM_000546	44387	c.491A>C	p.K164T
TP53	NM_000546	44388	c.853G>T	p.E285*
TP53	NM_000546	44390	c.838A>T	p.R280*
TP53	NM_000546	44391	c.489C>T	p.Y163Y
TP53	NM_000546	44393	c.821T>C	p.V274A
TP53	NM_000546	44396	c.382delC	p.P128fs*42
TP53	NM_000546	44397	c.382C>T	p.P128S
TP53	NM_000546	44398	c.682G>A	p.D228N
TP53	NM_000546	44399	c.677G>T	p.G226V
TP53	NM_000546	44405	c.376_396del21	p.Y126_K132delYS PALNK
TP53	NM_000546	44407	c.642T>G	p.H214Q
TP53	NM_000546	44411	c.608T>A	p.V203E
TP53	NM_000546	44412	c.882G>A	p.E294E
TP53	NM_000546	44413	c.484A>G	p.I162V
TP53	NM_000546	44415	c.711G>C	p.M237I
TP53	NM_000546	44416	c.459C>A	p.P153P
TP53	NM_000546	44417	c.910delA	p.T304fs*41
TP53	NM_000546	44424	c.590T>A	p.V197E
TP53	NM_000546	44426	c.568C>G	p.P190A
TP53	NM_000546	44428	c.741C>T	p.N247N
TP53	NM_000546	44431	c.505A>G	p.M169V
TP53	NM_000546	44433	c.872A>C	p.K291T
TP53	NM_000546	44438	c.568C>A	p.P190T
TP53	NM_000546	44439	c.656C>T	p.P219L
TP53	NM_000546	44441	c.813G>C	p.E271D
TP53	NM_000546	44443	c.820G>C	p.V274L
TP53	NM_000546	44446	c.873G>C	p.K291N
TP53	NM_000546	44447	c.287C>T	p.S96F
TP53	NM_000546	44448	c.821T>A	p.V274D
TP53	NM_000546	44451	c.874A>G	p.K292E
TP53	NM_000546	44453	c.309C>G	p.Y103*
TP53	NM_000546	44457	c.751_759delATCCTCACC	p.I251_T253delIILT
TP53	NM_000546	44458	c.688_698del11	p.T230fs*6
TP53	NM_000546	44460	c.757_760delACCA	p.T253fs*91
TP53	NM_000546	44463	c.848G>T	p.R283L
TP53	NM_000546	44464	c.749_750CC>AG	p.P250Q
TP53	NM_000546	44467	c.497C>G	p.S166*
TP53	NM_000546	44469	c.812A>T	p.E271V
TP53	NM_000546	44470	c.845G>T	p.R282L
TP53	NM_000546	44474	c.392A>G	p.N131S
TP53	NM_000546	44475	c.871A>T	p.K291*
TP53	NM_000546	44476	c.749C>A	p.P250H
TP53	NM_000546	44481	c.313G>T	p.G105C
TP53	NM_000546	44492	c.273G>A	p.W91*
TP53	NM_000546	44495	c.559+2T>A	p.?
TP53	NM_000546	44502	c.599A>G	p.N200S
TP53	NM_000546	44505	c.660T>G	p.Y220*
TP53	NM_000546	44506	c.401T>C	p.F134S
TP53	NM_000546	44510	c.717C>G	p.N239K
TP53	NM_000546	44511	c.753C>A	p.I251I
TP53	NM_000546	44512	c.740A>G	p.N247S
TP53	NM_000546	44513	c.732C>A	p.G244G
TP53	NM_000546	44514	c.728T>G	p.M243R
TP53	NM_000546	44517	c.519G>A	p.V173V
TP53	NM_000546	44518	c.522G>A	p.R174R

<b>TP53</b>	NM_000546	44521	c.490A>C	<b>p.K164Q</b>
<b>TP53</b>	NM_000546	44522	c.887A>T	<b>p.H296L</b>
<b>TP53</b>	NM_000546	44523	c.863A>G	<b>p.N288S</b>
<b>TP53</b>	NM_000546	44524	c.521G>A	<b>p.R174K</b>
<b>TP53</b>	NM_000546	44525	c.709A>G	<b>p.M237V</b>
<b>TP53</b>	NM_000546	44526	c.471C>T	<b>p.V157V</b>
<b>TP53</b>	NM_000546	44535	c.761T>A	<b>p.I254N</b>
<b>TP53</b>	NM_000546	44536	c.728T>C	<b>p.M243T</b>
<b>TP53</b>	NM_000546	44537	c.595G>T	<b>p.G199*</b>
<b>TP53</b>	NM_000546	44539	c.584T>G	<b>p.I195S</b>
<b>TP53</b>	NM_000546	44541	c.754delC	<b>p.L252fs*93</b>
<b>TP53</b>	NM_000546	44544	c.766A>G	<b>p.T256A</b>
<b>TP53</b>	NM_000546	44546	c.545G>A	<b>p.C182Y</b>
<b>TP53</b>	NM_000546	44547	c.677G>A	<b>p.G226D</b>
<b>TP53</b>	NM_000546	44550	c.386C>T	<b>p.A129V</b>
<b>TP53</b>	NM_000546	44552	c.509C>T	<b>p.T170M</b>
<b>TP53</b>	NM_000546	44561	c.454C>A	<b>p.P152T</b>
<b>TP53</b>	NM_000546	44563	c.544T>C	<b>p.C182R</b>
<b>TP53</b>	NM_000546	44565	c.907A>T	<b>p.S303C</b>
<b>TP53</b>	NM_000546	44566	c.525C>G	<b>p.R175R</b>
<b>TP53</b>	NM_000546	44567	c.647T>C	<b>p.V216A</b>
<b>TP53</b>	NM_000546	44568	c.840A>G	<b>p.R280R</b>
<b>TP53</b>	NM_000546	44569	c.588A>G	<b>p.R196R</b>
<b>TP53</b>	NM_000546	44571	c.581T>G	<b>p.L194R</b>
<b>TP53</b>	NM_000546	44578	c.721T>C	<b>p.S241P</b>
<b>TP53</b>	NM_000546	44580	c.815T>A	<b>p.V272E</b>
<b>TP53</b>	NM_000546	44585	c.655delC	<b>p.Y220fs*27</b>
<b>TP53</b>	NM_000546	44589	c.393_395delCAA	<b>p.N131del</b>
<b>TP53</b>	NM_000546	44599	c.587G>A	<b>p.R196Q</b>
<b>TP53</b>	NM_000546	44601	c.695T>C	<b>p.I232T</b>
<b>TP53</b>	NM_000546	44603	c.835G>A	<b>p.G279R</b>
<b>TP53</b>	NM_000546	44607	c.646_648delGTG	<b>p.V216del</b>
<b>TP53</b>	NM_000546	44609	c.748_749CC>TT	<b>p.P250F</b>
<b>TP53</b>	NM_000546	44613	c.455C>A	<b>p.P152Q</b>
<b>TP53</b>	NM_000546	44615	c.586C>A	<b>p.R196R</b>
<b>TP53</b>	NM_000546	44621	c.718A>T	<b>p.S240C</b>
<b>TP53</b>	NM_000546	44622	c.694A>G	<b>p.I232V</b>
<b>TP53</b>	NM_000546	44623	c.487T>A	<b>p.Y163N</b>
<b>TP53</b>	NM_000546	44625	c.747G>A	<b>p.R249R</b>
<b>TP53</b>	NM_000546	44633	c.583A>T	<b>p.I195F</b>
<b>TP53</b>	NM_000546	44637	c.658T>C	<b>p.Y220H</b>
<b>TP53</b>	NM_000546	44638	c.640_647delCATAGTGT	<b>p.H214fs*5</b>
<b>TP53</b>	NM_000546	44639	c.869G>T	<b>p.R290L</b>
<b>TP53</b>	NM_000546	44641	c.394A>T	<b>p.K132*</b>
<b>TP53</b>	NM_000546	44642	c.733delG	<b>p.G245fs*2</b>
<b>TP53</b>	NM_000546	44643	c.404G>C	<b>p.C135S</b>
<b>TP53</b>	NM_000546	44645	c.527G>C	<b>p.C176S</b>
<b>TP53</b>	NM_000546	44647	c.717C>A	<b>p.N239K</b>
<b>TP53</b>	NM_000546	44650	c.751_753delATC	<b>p.I251del</b>
<b>TP53</b>	NM_000546	44651	c.856_863delGAAGAGAA	<b>p.E286fs*17</b>
<b>TP53</b>	NM_000546	44653	c.713G>C	<b>p.C238S</b>
<b>TP53</b>	NM_000546	44654	c.400T>C	<b>p.F134L</b>
<b>TP53</b>	NM_000546	44657	c.722delC	<b>p.C242fs*5</b>
<b>TP53</b>	NM_000546	44659	c.532delC	<b>p.H178fs*69</b>
<b>TP53</b>	NM_000546	44661	c.632C>A	<b>p.T211N</b>
<b>TP53</b>	NM_000546	44662	c.766A>T	<b>p.T256S</b>

TP53	NM_000546	44664	c.736_750del15	p.M246_P250delIM NRRP
TP53	NM_000546	44665	c.568_570delCCT	p.P190del
TP53	NM_000546	44670	c.400delT	p.C135fs*35
TP53	NM_000546	44672	c.658T>A	p.Y220N
TP53	NM_000546	44673	c.284C>T	p.S95F
TP53	NM_000546	44676	c.714T>G	p.C238W
TP53	NM_000546	44681	c.293C>T	p.P98L
TP53	NM_000546	44682	c.568C>T	p.P190S
TP53	NM_000546	44683	c.652G>A	p.V218M
TP53	NM_000546	44687	c.379T>C	p.S127P
TP53	NM_000546	44689	c.657C>T	p.P219P
TP53	NM_000546	44692	c.526T>G	p.C176G
TP53	NM_000546	44693	c.707A>C	p.Y236S
TP53	NM_000546	44694	c.486C>A	p.I162I
TP53	NM_000546	44695	c.634_635delTT	p.F212fs*3
TP53	NM_000546	44700	c.556G>A	p.D186N
TP53	NM_000546	44701	c.817delC	p.R273fs*72
TP53	NM_000546	44705	c.697C>T	p.H233Y
TP53	NM_000546	44707	c.609G>A	p.V203V
TP53	NM_000546	44709	c.855G>A	p.E285E
TP53	NM_000546	44714	c.553A>G	p.S185G
TP53	NM_000546	44715	c.460G>T	p.G154C
TP53	NM_000546	44724	c.846G>A	p.R282R
TP53	NM_000546	44725	c.522delG	p.R174fs*73
TP53	NM_000546	44726	c.460_466delGGCACCC	p.G154fs*14
TP53	NM_000546	44729	c.898C>T	p.P300S
TP53	NM_000546	44730	c.529_545del17	p.P177fs*3
TP53	NM_000546	44732	c.512A>G	p.E171G
TP53	NM_000546	44735	c.825T>C	p.C275C
TP53	NM_000546	44737	c.860A>G	p.E287G
TP53	NM_000546	44742	c.523_540del18	p.R175_E180delRC PHHE
TP53	NM_000546	44749	c.453C>T	p.P151P
TP53	NM_000546	44750	c.883C>T	p.P295S
TP53	NM_000546	44753	c.901C>T	p.P301S
TP53	NM_000546	44757	c.586delC	p.R196fs*51
TP53	NM_000546	44759	c.526delT	p.C176fs*71
TP53	NM_000546	44769	c.755T>C	p.L252P
TP53	NM_000546	44774	c.376_393del18	p.Y126_N131delYS PALN
TP53	NM_000546	44776	c.535C>G	p.H179D
TP53	NM_000546	44782	c.520A>T	p.R174W
TP53	NM_000546	44784	c.703_705delAAC	p.N235del
TP53	NM_000546	44787	c.732C>T	p.G244G
TP53	NM_000546	44788	c.454C>G	p.P152A
TP53	NM_000546	44793	c.537T>C	p.H179H
TP53	NM_000546	44794	c.392A>T	p.N131I
TP53	NM_000546	44801	c.503A>T	p.H168L
TP53	NM_000546	44808	c.503A>C	p.H168P
TP53	NM_000546	44817	c.661G>T	p.E221*
TP53	NM_000546	44818	c.531C>G	p.P177P
TP53	NM_000546	44820	c.692C>T	p.T231I
TP53	NM_000546	44829	c.403T>G	p.C135G
TP53	NM_000546	44830	c.1066G>T	p.G356W
TP53	NM_000546	44832	c.1096T>G	p.S366A

TP53	NM_000546	44835	c.852A>T	p.T284T
TP53	NM_000546	44837	c.556G>C	p.D186H
TP53	NM_000546	44838	c.720T>C	p.S240S
TP53	NM_000546	44841	c.491A>T	p.K164M
TP53	NM_000546	44842	c.478A>C	p.M160L
TP53	NM_000546	44843	c.759C>T	p.T253T
TP53	NM_000546	44844	c.727A>G	p.M243V
TP53	NM_000546	44845	c.591G>A	p.V197V
TP53	NM_000546	44846	c.636T>A	p.F212L
TP53	NM_000546	44848	c.579T>C	p.H193H
TP53	NM_000546	44849	c.575A>G	p.Q192R
TP53	NM_000546	44850	c.494A>T	p.Q165L
TP53	NM_000546	44851	c.494A>C	p.Q165P
TP53	NM_000546	44852	c.617delT	p.L206fs*41
TP53	NM_000546	44853	c.661G>A	p.E221K
TP53	NM_000546	44854	c.655C>A	p.P219T
TP53	NM_000546	44861	c.490delA	p.K164fs*6
TP53	NM_000546	44868	c.804C>T	p.N268N
TP53	NM_000546	44870	c.815T>G	p.V272G
TP53	NM_000546	44871	c.833delC	p.P278fs*67
TP53	NM_000546	44877	c.584T>A	p.I195N
TP53	NM_000546	44879	c.1033delA	p.N345fs*25
TP53	NM_000546	44886	c.807C>T	p.S269S
TP53	NM_000546	44887	c.644delG	p.S215fs*32
TP53	NM_000546	44891	c.796G>T	p.G266*
TP53	NM_000546	44896	c.835_838delGGGA	p.G279fs*65
TP53	NM_000546	44897	c.871_889delI9	p.K291fs*48
TP53	NM_000546	44900	c.735C>T	p.G245G
TP53	NM_000546	44901	c.532C>G	p.H178D
TP53	NM_000546	44903	c.736delA	p.M246fs*1
TP53	NM_000546	44908	c.743_744GG>AA	p.R248Q
TP53	NM_000546	44910	c.403T>A	p.C135S
TP53	NM_000546	44916	c.746delG	p.R249fs*96
TP53	NM_000546	44918	c.844C>A	p.R282R
TP53	NM_000546	44920	c.742C>A	p.R248R
TP53	NM_000546	44921	c.748_756delCCCATCCTC	p.P250_L252delPIL
TP53	NM_000546	44923	c.565G>C	p.A189P
TP53	NM_000546	44924	c.615T>G	p.Y205*
TP53	NM_000546	44925	c.605G>T	p.R202L
TP53	NM_000546	44929	c.650T>A	p.V217E
TP53	NM_000546	44930	c.653T>C	p.V218A
TP53	NM_000546	44933	c.376-4A>G	p.?
TP53	NM_000546	44935	c.724T>A	p.C242S
TP53	NM_000546	44940	c.730delG	p.G244fs*3
TP53	NM_000546	44948	c.526T>C	p.C176R
TP53	NM_000546	44953	c.700_702delTAC	p.Y234del
TP53	NM_000546	44956	c.808T>G	p.F270V
TP53	NM_000546	44960	c.708C>G	p.Y236*
TP53	NM_000546	44964	c.719G>C	p.S240T
TP53	NM_000546	44965	c.709A>T	p.M237L
TP53	NM_000546	44966	c.385G>A	p.A129T
TP53	NM_000546	44971	c.534C>T	p.H178H
TP53	NM_000546	44972	c.831T>A	p.C277*
TP53	NM_000546	44973	c.516T>C	p.V172V
TP53	NM_000546	44979	c.645T>G	p.S215R
TP53	NM_000546	44986	c.302A>G	p.K101R



TP53	NM_000546	44996	c.515T>C	p.V172A
TP53	NM_000546	45005	c.739A>G	p.N247D
TP53	NM_000546	45015	c.380_381CC>TT	p.S127F
TP53	NM_000546	45017	c.722_723CC>TT	p.S241F
TP53	NM_000546	45019	c.471_472CC>TT	p.R158C
TP53	NM_000546	45021	c.585_586CC>TT	p.R196*
TP53	NM_000546	45025	c.488A>C	p.Y163S
TP53	NM_000546	45026	c.560-2A>T	p.?
TP53	NM_000546	45028	c.684C>T	p.D228D
TP53	NM_000546	45029	c.565_591del27	p.A189_V197delAP
TP53	NM_000546	45032	c.710T>G	PQHILRV
TP53	NM_000546	45034	c.748_749CC>AA	p.M237R
TP53	NM_000546	45035	c.761T>G	p.P250N
TP53	NM_000546	45040	c.321C>A	p.I254S
TP53	NM_000546	45044	c.576G>T	p.Y107*
TP53	NM_000546	45045	c.695T>G	p.Q192H
TP53	NM_000546	45046	c.542G>C	p.I232S
TP53	NM_000546	45047	c.515T>G	p.R181P
TP53	NM_000546	45050	c.871A>G	p.V172G
TP53	NM_000546	45051	c.597A>G	p.K291E
TP53	NM_000546	45055	c.715_720delAACAGT	p.G199G
TP53	NM_000546	45057	c.475delG	p.N239_S240delINS
TP53	NM_000546	45069	c.886delC	p.A159fs*11
TP53	NM_000546	45074	c.829T>G	p.H296fs*49
TP53	NM_000546	45077	c.390C>T	p.C277G
TP53	NM_000546	45084	c.744G>A	p.L130L
TP53	NM_000546	45089	c.407A>C	p.R248R
TP53	NM_000546	45091	c.755T>A	p.Q136P
TP53	NM_000546	45101	c.913_915AAG>TAA	p.L252H
TP53	NM_000546	45103	c.492G>A	p.K305*
TP53	NM_000546	45109	c.831T>C	p.K164K
TP53	NM_000546	45110	c.650T>C	p.C277C
TP53	NM_000546	45111	c.469_473delGTCCG	p.V217A
TP53	NM_000546	45114	c.702C>A	p.V157fs*22
TP53	NM_000546	45115	c.640C>G	p.Y234*
TP53	NM_000546	45116	c.742delC	p.H214D
TP53	NM_000546	45120	c.469G>C	p.R248fs*97
TP53	NM_000546	45122	c.645T>A	p.V157L
TP53	NM_000546	45128	c.911C>T	p.S215R
TP53	NM_000546	45131	c.383C>T	p.T304I
TP53	NM_000546	45134	c.715_726del12	p.P128L
TP53	NM_000546	45138	c.853G>C	p.N239_C242delINS
TP53	NM_000546	45140	c.572_574delCTC	SC
TP53	NM_000546	45154	c.466C>G	p.E285Q
TP53	NM_000546	45157	c.688delA	p.P191del
TP53	NM_000546	45162	c.709delA	p.R156G
TP53	NM_000546	45168	c.722_724delCCT	p.T230fs*17
TP53	NM_000546	45169	c.326T>C	p.M237fs*10
TP53	NM_000546	45172	c.703A>T	p.S241del
TP53	NM_000546	45178	c.832delC	p.F109S
TP53	NM_000546	45179	c.313G>C	p.N235Y
TP53	NM_000546	45184	c.902delC	p.P278fs*67
TP53	NM_000546	45187	c.490_499del10	p.G105R
TP53	NM_000546	45188	c.847delC	p.P301fs*44
TP53	NM_000546	45188	c.847delC	p.K164fs*3
TP53	NM_000546	45188	c.847delC	p.R283fs*62

TP53	NM_000546	45194	c.487delT	p.Y163fs*7
TP53	NM_000546	45198	c.555C>T	p.S185S
TP53	NM_000546	45200	c.233C>T	p.A78V
TP53	NM_000546	45233	c.884C>T	p.P295L
TP53	NM_000546	45240	c.560G>T	p.G187V
TP53	NM_000546	45248	c.805A>T	p.S269C
TP53	NM_000546	45253	c.611A>G	p.E204G
TP53	NM_000546	45257	c.626G>C	p.R209T
TP53	NM_000546	45261	c.720T>A	p.S240R
TP53	NM_000546	45268	c.827C>A	p.A276D
TP53	NM_000546	45275	c.559G>T	p.G187C
TP53	NM_000546	45276	c.1025G>C	p.R342P
TP53	NM_000546	45277	c.856delG	p.E286fs*59
TP53	NM_000546	45278	c.1025G>A	p.R342Q
TP53	NM_000546	45284	c.813G>A	p.E271E
TP53	NM_000546	45286	c.475G>T	p.A159S
TP53	NM_000546	45288	c.217G>C	p.V73L
TP53	NM_000546	45293	c.407A>G	p.Q136R
TP53	NM_000546	45297	c.810T>G	p.F270L
TP53	NM_000546	45299	c.831T>G	p.C277W
TP53	NM_000546	45306	c.886C>A	p.H296N
TP53	NM_000546	45307	c.309C>A	p.Y103*
TP53	NM_000546	45308	c.607delG	p.V203fs*44
TP53	NM_000546	45311	c.898C>G	p.P300A
TP53	NM_000546	45314	c.553delA	p.S185fs*62
TP53	NM_000546	45320	c.569delC	p.P190fs*57
TP53	NM_000546	45322	c.757A>G	p.T253A
TP53	NM_000546	45326	c.530C>A	p.P177H
TP53	NM_000546	45329	c.710T>C	p.M237T
TP53	NM_000546	45332	c.885T>C	p.P295P
TP53	NM_000546	45338	c.552T>C	p.D184D
TP53	NM_000546	45341	c.571delC	p.P191fs*56
TP53	NM_000546	45342	c.500A>T	p.Q167L
TP53	NM_000546	45364	c.376-1delG	p.?
TP53	NM_000546	45372	c.540G>T	p.E180D
TP53	NM_000546	45393	c.793C>A	p.L265M
TP53	NM_000546	45394	c.687T>A	p.C229*
TP53	NM_000546	45399	c.526_543del18	p.C176_R181delCP HHER
TP53	NM_000546	45407	c.751A>G	p.I251V
TP53	NM_000546	45410	c.733_734GG>AA	p.G245N
TP53	NM_000546	45411	c.489C>A	p.Y163*
TP53	NM_000546	45413	c.824G>C	p.C275S
TP53	NM_000546	45416	c.524G>C	p.R175P
TP53	NM_000546	45417	c.877G>A	p.G293R
TP53	NM_000546	45438	c.626delG	p.R209fs*38
TP53	NM_000546	45440	c.567C>T	p.A189A
TP53	NM_000546	45441	c.629A>G	p.N210S
TP53	NM_000546	45446	c.865C>T	p.L289F
TP53	NM_000546	45449	c.592G>C	p.E198Q
TP53	NM_000546	45459	c.862delA	p.N288fs*57
TP53	NM_000546	45467	c.826G>T	p.A276S
TP53	NM_000546	45479	c.504C>T	p.H168H
TP53	NM_000546	45487	c.898delC	p.P301fs*44
TP53	NM_000546	45488	c.797G>C	p.G266A
TP53	NM_000546	45489	c.603G>T	p.L201F

TP53	NM_000546	45490	c.507G>T	p.M169I
TP53	NM_000546	45491	c.822T>G	p.V274V
TP53	NM_000546	45494	c.888_889CC>TT	p.H297Y
TP53	NM_000546	45500	c.281C>A	p.S94*
TP53	NM_000546	45505	c.455C>G	p.P152R
TP53	NM_000546	45506	c.460_461GG>AT	p.G154I
TP53	NM_000546	45507	c.806G>C	p.S269T
TP53	NM_000546	45509	c.321C>T	p.Y107Y
TP53	NM_000546	45511	c.645T>C	p.S215S
TP53	NM_000546	45515	c.525C>T	p.R175R
TP53	NM_000546	45516	c.662A>G	p.E221G
TP53	NM_000546	45519	c.620A>G	p.D207G
TP53	NM_000546	45529	c.683A>T	p.D228V
TP53	NM_000546	45534	c.882G>T	p.E294D
TP53	NM_000546	45536	c.1061A>G	p.Q354R
TP53	NM_000546	45541	c.510G>T	p.T170T
TP53	NM_000546	45543	c.743_744GG>TT	p.R248L
TP53	NM_000546	45546	c.901delC	p.P301fs*44
TP53	NM_000546	45548	c.721_723delTCC	p.S241del
TP53	NM_000546	45551	c.469_471delGTC	p.V157del
TP53	NM_000546	45562	c.546C>A	p.C182*
TP53	NM_000546	45583	c.514_559del46	p.V173fs*59
TP53	NM_000546	45586	c.397delA	p.M133fs*37
TP53	NM_000546	45594	c.453C>G	p.P151P
TP53	NM_000546	45607	c.676G>A	p.G226S
TP53	NM_000546	45611	c.876A>C	p.K292N
TP53	NM_000546	45612	c.685T>C	p.C229R
TP53	NM_000546	45620	c.704A>C	p.N235T
TP53	NM_000546	45622	c.461G>A	p.G154D
TP53	NM_000546	45626	c.501G>T	p.Q167H
TP53	NM_000546	45627	c.486C>T	p.I162I
TP53	NM_000546	45631	c.688A>T	p.T230S
TP53	NM_000546	45632	c.741C>A	p.N247K
TP53	NM_000546	45639	c.1024delC	p.R342fs*3
TP53	NM_000546	45647	c.760A>T	p.I254F
TP53	NM_000546	45649	c.854A>G	p.E285G
TP53	NM_000546	45654	c.685_699del15	p.C229_H233delCT TIH
TP53	NM_000546	45660	c.457C>A	p.P153T
TP53	NM_000546	45670	c.877delG	p.E294fs*51
TP53	NM_000546	45671	c.521G>T	p.R174M
TP53	NM_000546	45672	c.376-2A>G	p.?
TP53	NM_000546	45674	c.480G>T	p.M160I
TP53	NM_000546	45677	c.714T>A	p.C238*
TP53	NM_000546	45679	c.868C>T	p.R290C
TP53	NM_000546	45685	c.613T>A	p.Y205N
TP53	NM_000546	45688	c.867C>T	p.L289L
TP53	NM_000546	45691	c.726C>T	p.C242C
TP53	NM_000546	45695	c.827C>G	p.A276G
TP53	NM_000546	45703	c.634T>A	p.F212I
TP53	NM_000546	45706	c.801G>T	p.R267R
TP53	NM_000546	45707	c.624C>A	p.D208E
TP53	NM_000546	45711	c.559+2T>G	p.?
TP53	NM_000546	45728	c.850A>G	p.T284A
TP53	NM_000546	45729	c.842A>T	p.D281V
TP53	NM_000546	45735	c.744G>C	p.R248R

TP53	NM_000546	45739	c.677G>C	p.G226A
TP53	NM_000546	45751	c.511G>C	p.E171Q
TP53	NM_000546	45777	c.633delT	p.R213fs*34
TP53	NM_000546	45784	c.691delA	p.T231fs*16
TP53	NM_000546	45786	c.682G>T	p.D228Y
TP53	NM_000546	45796	c.623A>G	p.D208G
TP53	NM_000546	45801	c.312delG	p.G105fs*18
TP53	NM_000546	45803	c.889C>T	p.H297Y
TP53	NM_000546	45809	c.376-1G>C	p.?
TP53	NM_000546	45820	c.893A>T	p.E298V
TP53	NM_000546	45823	c.558T>C	p.D186D
TP53	NM_000546	45824	c.880G>C	p.E294Q
TP53	NM_000546	45838	c.556delG	p.D186fs*61
TP53	NM_000546	45843	c.838_843delAGAGAC	p.R280_D281delRD
TP53	NM_000546	45851	c.624C>G	p.D208E
TP53	NM_000546	45862	c.710delT	p.M237fs*10
TP53	NM_000546	45868	c.678C>T	p.G226G
TP53	NM_000546	45870	c.715A>T	p.N239Y
TP53	NM_000546	45882	c.391delA	p.N131fs*39
TP53	NM_000546	45891	c.847_866del20	p.R283fs*16
TP53	NM_000546	45896	c.466delC	p.R156fs*14
TP53	NM_000546	45898	c.814G>C	p.V272L
TP53	NM_000546	45906	c.514delG	p.V172fs*2
TP53	NM_000546	45918	c.253C>T	p.P85S
TP53	NM_000546	45944	c.318C>G	p.S106R
TP53	NM_000546	45959	c.698A>T	p.H233L
TP53	NM_000546	45980	c.757A>C	p.T253P
TP53	NM_000546	45985	c.215G>A	p.R72H
TP53	NM_000546	45992	c.736A>T	p.M246L
TP53	NM_000546	45995	c.626G>A	p.R209K
TP53	NM_000546	45998	c.906G>C	p.G302G
TP53	NM_000546	46000	c.643A>C	p.S215R
TP53	NM_000546	46001	c.466_486del21	p.R156_I162delRVR AMAI
TP53	NM_000546	46015	c.1043T>A	p.L348*
TP53	NM_000546	46031	c.697C>G	p.H233D
TP53	NM_000546	46032	c.836G>T	p.G279V
TP53	NM_000546	46035	c.847C>G	p.R283G
TP53	NM_000546	46049	c.376-2A>C	p.?
TP53	NM_000546	46059	c.560-3T>G	p.?
TP53	NM_000546	46074	c.604C>T	p.R202C
TP53	NM_000546	46095	c.511delG	p.E171fs*3
TP53	NM_000546	46103	c.319T>G	p.Y107D
TP53	NM_000546	46107	c.599A>T	p.N200I
TP53	NM_000546	46114	c.389T>A	p.L130H
TP53	NM_000546	46115	c.329G>A	p.R110H
TP53	NM_000546	46124	c.466C>T	p.R156C
TP53	NM_000546	46131	c.380delC	p.P128fs*42
TP53	NM_000546	46136	c.738G>T	p.M246I
TP53	NM_000546	46163	c.534C>G	p.H178Q
TP53	NM_000546	46207	c.910A>G	p.T304A
TP53	NM_000546	46208	c.859_872del14	p.N288fs*13
TP53	NM_000546	46211	c.633T>C	p.T211T
TP53	NM_000546	46212	c.589G>T	p.V197L
TP53	NM_000546	46214	c.635T>C	p.F212S
TP53	NM_000546	46224	c.873G>A	p.K291K

TP53	NM_000546	46228	c.729G>C	p.M243I
TP53	NM_000546	46265	c.224C>G	p.P75R
TP53	NM_000546	46284	c.837G>A	p.G279G
TP53	NM_000546	46288	c.546C>T	p.C182C
TP53	NM_000546	46336	c.712T>G	p.C238G
TP53	NM_000546	46348	c.1044G>T	p.L348F
TP53	NM_000546	46393	c.520_536del17	p.R174fs*1
TP53	NM_000546	51646	c.498_499insC	p.Q167fs*14
TP53	NM_000546	53285	c.379T>A	p.S127T
TP53	NM_000546	6482	c.625_626delAG	p.R209fs*6
TP53	NM_000546	6496	c.652_654delGTG	p.V218del
TP53	NM_000546	6530	c.723delC	p.C242fs*5
TP53	NM_000546	6545	c.741_742CC>TT	p.R248W
TP53	NM_000546	6546	c.741_742CC>AT	p.N247_R248>KW
TP53	NM_000546	6549	c.743G>T	p.R248L
TP53	NM_000546	6621	c.880delG	p.E294fs*51
TP53	NM_000546	6815	c.461G>T	p.G154V
TP53	NM_000546	6900	c.376-1G>A	p.?
TP53	NM_000546	6901	c.559+1G>A	p.?
TP53	NM_000546	69195	c.714_715insT	p.N239fs*1
TP53	NM_000546	6932	c.733G>A	p.G245S
TP53	NM_000546	85574	c.291_295delCCCTT	p.S99fs*48
TP53	NM_000546	87513	c.902_903insC	p.G302fs*4
TP53	NM_000546	96575	c.625_634del10	p.R209fs*35
TP53_ENST				
000002693	ENST00000269305	111498	c.532delC	p.H178fs*69
05				
TP53_ENST				
000002693	ENST00000269305	111724	c.572_574delCTC	p.P191delP
05				
TP53_ENST				
000002693	ENST00000269305	116674	c.707A>G	p.Y236C
05				
TP53_ENST				
000002693	ENST00000269305	117398	c.527G>T	p.C176F
05				
TP53_ENST				
000002693	ENST00000269305	117949	c.574C>T	p.Q192*
05				
TP53_ENST				
000002693	ENST00000269305	118013	c.592G>T	p.E198*
05				
TP53_ENST				
000002693	ENST00000269305	120007	c.742C>T	p.R248W
05				
TP53_ENST				
000002693	ENST00000269305	121035	c.733G>A	p.G245S
05				
TP53_ENST				
000002693	ENST00000269305	121042	c.517G>C	p.V173L
05				
TP53_ENST				
000002693	ENST00000269305	126981	c.880G>T	p.E294*
05				
TP53_ENST				
000002693	ENST00000269305	129830	c.839G>A	p.R280K

05	TP53_ENST	000002693	ENST00000269305	129831	c.833C>T	p.P278L
05	TP53_ENST	000002693	ENST00000269305	129848	c.535C>T	p.H179Y
05	TP53_ENST	000002693	ENST00000269305	129852	c.488A>G	p.Y163C
05	TP53_ENST	000002693	ENST00000269305	129856	c.455C>T	p.P152L
05	TP53_ENST	000002693	ENST00000269305	131478	c.747G>T	p.R249S
05	TP53_ENST	000002693	ENST00000269305	131480	c.469G>T	p.V157F
05	TP53_ENST	000002693	ENST00000269305	131534	c.559+1G>A	p.?
05	TP53_ENST	000002693	ENST00000269305	137087	c.853G>A	p.E285K
05	TP53_ENST	000002693	ENST00000269305	139044	c.832C>T	p.P278S
05	TP53_ENST	000002693	ENST00000269305	165073	c.701A>G	p.Y234C
05	TP53_ENST	000002693	ENST00000269305	165075	c.820G>T	p.V274F
05	TP53_ENST	000002693	ENST00000269305	165084	c.824G>A	p.C275Y
05	TP53_ENST	000002693	ENST00000269305	179804	c.799C>T	p.R267W
05	TP53_ENST	000002693	ENST00000269305	179806	c.734G>A	p.G245D
05	TP53_ENST	000002693	ENST00000269305	179823	c.528C>A	p.C176*
05	TP53_ENST	000002693	ENST00000269305	220766	c.319T>G	p.Y107D
05	TP53_ENST	000002693	ENST00000269305	220779	c.473G>A	p.R158H
05	TP53_ENST	000002693	ENST00000269305	220783	c.376T>G	p.Y126D
05	TP53_ENST	000002693	ENST00000269305	241998	c.638G>T	p.R213L

<b>000002693</b>					
<b>05</b>					
<b>TP53_ENST</b>					
<b>000002693</b>	ENST00000269305	99601	c.404G>A		<b>p.C135Y</b>
<b>05</b>					
<b>TP53_ENST</b>					
<b>000002693</b>	ENST00000269305	99602	c.743G>A		<b>p.R248Q</b>
<b>05</b>					
<b>TP53_ENST</b>					
<b>000002693</b>	ENST00000269305	99618	c.637C>T		<b>p.R213*</b>
<b>05</b>					
<b>TP53_ENST</b>					
<b>000002693</b>	ENST00000269305	99626	c.713G>T		<b>p.C238F</b>
<b>05</b>					
<b>TP53_ENST</b>					
<b>000002693</b>	ENST00000269305	99641	c.517G>T		<b>p.V173L</b>
<b>05</b>					
<b>TP53_ENST</b>					
<b>000002693</b>	ENST00000269305	99648	c.711G>A		<b>p.M237I</b>
<b>05</b>					
<b>TP53_ENST</b>					
<b>000002693</b>	ENST00000269305	99668	c.586C>T		<b>p.R196*</b>
<b>05</b>					
<b>TP53_ENST</b>					
<b>000002693</b>	ENST00000269305	99720	c.659A>G		<b>p.Y220C</b>
<b>05</b>					
<b>TP53_ENST</b>					
<b>000002693</b>	ENST00000269305	99721	c.1024C>T		<b>p.R342*</b>
<b>05</b>					
<b>TP53_ENST</b>					
<b>000002693</b>	ENST00000269305	99725	c.832C>G		<b>p.P278A</b>
<b>05</b>					
<b>TP53_ENST</b>					
<b>000002693</b>	ENST00000269305	99729	c.818G>A		<b>p.R273H</b>
<b>05</b>					
<b>TP53_ENST</b>					
<b>000002693</b>	ENST00000269305	99914	c.524G>A		<b>p.R175H</b>
<b>05</b>					
<b>TP53_ENST</b>					
<b>000002693</b>	ENST00000269305	99919	c.578A>T		<b>p.H193L</b>
<b>05</b>					
<b>TP53_ENST</b>					
<b>000002693</b>	ENST00000269305	99924	c.856G>A		<b>p.E286K</b>
<b>05</b>					
<b>TP53_ENST</b>					
<b>000002693</b>	ENST00000269305	99925	c.844C>T		<b>p.R282W</b>
<b>05</b>					
<b>TP53_ENST</b>					
<b>000002693</b>	ENST00000269305	99929	c.329G>T		<b>p.R110L</b>
<b>05</b>					
<b>TP53_ENST</b>					
<b>000002693</b>	ENST00000269305	99932	c.824G>T		<b>p.C275F</b>
<b>05</b>					
<b>TP53_ENST</b>					
<b>000002693</b>	ENST00000269305	99933	c.817C>T		<b>p.R273C</b>
<b>05</b>					

TP53_ENST 00000269305 05	ENST00000269305	99946	c.378C>G	p.Y126*
TP53_ENST 00000269305 05	ENST00000269305	99947	c.916C>T	p.R306*
TP53_ENST 00000269305 05	ENST00000269305	99950	c.814G>A	p.V272M
TP53_ENST 00000269305 05	ENST00000269305	99952	c.797G>T	p.G266V
TP53_ENST 00000413465 65	ENST00000413465	111495	c.532delC	p.H178fs*69
TP53_ENST 00000413465 65	ENST00000413465	111721	c.572_574delCTC	p.P191delP
TP53_ENST 00000413465 65	ENST00000413465	116672	c.707A>G	p.Y236C
TP53_ENST 00000413465 65	ENST00000413465	117395	c.527G>T	p.C176F
TP53_ENST 00000413465 65	ENST00000413465	117946	c.574C>T	p.Q192*
TP53_ENST 00000413465 65	ENST00000413465	118010	c.592G>T	p.E198*
TP53_ENST 00000413465 65	ENST00000413465	120005	c.742C>T	p.R248W
TP53_ENST 00000413465 65	ENST00000413465	121036	c.733G>A	p.G245S
TP53_ENST 00000413465 65	ENST00000413465	121043	c.517G>C	p.V173L
TP53_ENST 00000413465 65	ENST00000413465	129849	c.535C>T	p.H179Y
TP53_ENST 00000413465 65	ENST00000413465	129853	c.488A>G	p.Y163C
TP53_ENST 00000413465 65	ENST00000413465	129857	c.455C>T	p.P152L
TP53_ENST 00000413465 65	ENST00000413465	131479	c.747G>T	p.R249S
TP53_ENST 00000413465 65	ENST00000413465	131481	c.469G>T	p.V157F
TP53_ENST 00000413465	ENST00000413465	131535	c.559+1G>A	p.?



65	TP53_ENST				
000004134	ENST00000413465	165072	c.701A>G		p.Y234C
65	TP53_ENST				
000004134	ENST00000413465	179805	c.734G>A		p.G245D
65	TP53_ENST				
000004134	ENST00000413465	179822	c.528C>A		p.C176*
65	TP53_ENST				
000004134	ENST00000413465	220765	c.319T>G		p.Y107D
65	TP53_ENST				
000004134	ENST00000413465	220778	c.473G>A		p.R158H
65	TP53_ENST				
000004134	ENST00000413465	220782	c.376T>G		p.Y126D
65	TP53_ENST				
000004134	ENST00000413465	241997	c.638G>T		p.R213L
65	TP53_ENST				
000004134	ENST00000413465	98964	c.517G>A		p.V173M
65	TP53_ENST				
000004134	ENST00000413465	99020	c.743G>A		p.R248Q
65	TP53_ENST				
000004134	ENST00000413465	99022	c.524G>A		p.R175H
65	TP53_ENST				
000004134	ENST00000413465	99598	c.404G>A		p.C135Y
65	TP53_ENST				
000004134	ENST00000413465	99615	c.637C>T		p.R213*
65	TP53_ENST				
000004134	ENST00000413465	99624	c.713G>T		p.C238F
65	TP53_ENST				
000004134	ENST00000413465	99638	c.517G>T		p.V173L
65	TP53_ENST				
000004134	ENST00000413465	99646	c.711G>A		p.M237I
65	TP53_ENST				
000004134	ENST00000413465	99665	c.586C>T		p.R196*
65	TP53_ENST				
000004134	ENST00000413465	99718	c.659A>G		p.Y220C
65	TP53_ENST				
000004134	ENST00000413465	99916	c.578A>T		p.H193L
65	TP53_ENST				
000004134	ENST00000413465	99928	c.329G>T		p.R110L

000004134 65 TP53_ENST	ENST00000413465	99944	c.378C>G	p.Y126*
000004134 65 TP53_ENST	ENST00000414315	111496	c.136delC	p.H46fs*>45
000004134 15 TP53_ENST	ENST00000414315	111722	c.176_178delCTC	p.P59delP
000004134 15 TP53_ENST	ENST00000414315	117396	c.131G>T	p.C44F
000004134 15 TP53_ENST	ENST00000414315	117947	c.178C>T	p.Q60*
000004134 15 TP53_ENST	ENST00000414315	118011	c.196G>T	p.E66*
000004134 15 TP53_ENST	ENST00000414315	121045	c.121G>C	p.V41L
000004134 15 TP53_ENST	ENST00000414315	129851	c.139C>T	p.H47Y
000004134 15 TP53_ENST	ENST00000414315	129855	c.92A>G	p.Y31C
000004134 15 TP53_ENST	ENST00000414315	129859	c.59C>T	p.P20L
000004134 15 TP53_ENST	ENST00000414315	131483	c.73G>T	p.V25F
000004134 15 TP53_ENST	ENST00000414315	131537	c.163+1G>A	p.?
000004134 15 TP53_ENST	ENST00000414315	179824	c.132C>A	p.C44*
000004134 15 TP53_ENST	ENST00000414315	220780	c.77G>A	p.R26H
000004134 15 TP53_ENST	ENST00000414315	241999	c.242G>T	p.R81L
000004134 15 TP53_ENST	ENST00000414315	98965	c.121G>A	p.V41M
000004134 15 TP53_ENST	ENST00000414315	99023	c.128G>A	p.R43H
000004134 15 TP53_ENST	ENST00000414315	99599	c.8G>A	p.C3Y

TP53_ENST 000004143 15	ENST00000414315	99616	c.241C>T	p.R81*
TP53_ENST 000004143 15	ENST00000414315	99639	c.121G>T	p.V41L
TP53_ENST 000004143 15	ENST00000414315	99666	c.190C>T	p.R64*
TP53_ENST 000004143 15	ENST00000414315	99917	c.182A>T	p.H61L
TP53_ENST 000005458 58	ENST00000545858	111497	c.253delC	p.H85fs*69
TP53_ENST 000005458 58	ENST00000545858	111723	c.293_295delCTC	p.P98delP
TP53_ENST 000005458 58	ENST00000545858	116673	c.428A>G	p.Y143C
TP53_ENST 000005458 58	ENST00000545858	117397	c.248G>T	p.C83F
TP53_ENST 000005458 58	ENST00000545858	117948	c.295C>T	p.Q99*
TP53_ENST 000005458 58	ENST00000545858	118012	c.313G>T	p.E105*
TP53_ENST 000005458 58	ENST00000545858	120006	c.463C>T	p.R155W
TP53_ENST 000005458 58	ENST00000545858	121037	c.454G>A	p.G152S
TP53_ENST 000005458 58	ENST00000545858	121044	c.238G>C	p.V80L
TP53_ENST 000005458 58	ENST00000545858	129850	c.256C>T	p.H86Y
TP53_ENST 000005458 58	ENST00000545858	129854	c.209A>G	p.Y70C
TP53_ENST 000005458 58	ENST00000545858	129858	c.176C>T	p.P59L
TP53_ENST 000005458 58	ENST00000545858	131482	c.190G>T	p.V64F
TP53_ENST 000005458 58	ENST00000545858	131536	c.280+1G>A	p.?
TP53_ENST 000005458	ENST00000545858	165074	c.422A>G	p.Y141C

58					
TP53_ENST					
000005458	ENST00000545858	179807	c.455G>A		<b>p.G152D</b>
58					
TP53_ENST					
000005458	ENST00000545858	179825	c.249C>A		<b>p.C83*</b>
58					
TP53_ENST					
000005458	ENST00000545858	220781	c.194G>A		<b>p.R65H</b>
58					
TP53_ENST					
000005458	ENST00000545858	220784	c.97T>G		<b>p.Y33D</b>
58					
TP53_ENST					
000005458	ENST00000545858	242000	c.359G>T		<b>p.R120L</b>
58					
TP53_ENST					
000005458	ENST00000545858	98966	c.238G>A		<b>p.V80M</b>
58					
TP53_ENST					
000005458	ENST00000545858	99021	c.464G>A		<b>p.R155Q</b>
58					
TP53_ENST					
000005458	ENST00000545858	99024	c.245G>A		<b>p.R82H</b>
58					
TP53_ENST					
000005458	ENST00000545858	99600	c.125G>A		<b>p.C42Y</b>
58					
TP53_ENST					
000005458	ENST00000545858	99617	c.358C>T		<b>p.R120*</b>
58					
TP53_ENST					
000005458	ENST00000545858	99625	c.434G>T		<b>p.C145F</b>
58					
TP53_ENST					
000005458	ENST00000545858	99640	c.238G>T		<b>p.V80L</b>
58					
TP53_ENST					
000005458	ENST00000545858	99647	c.432G>A		<b>p.M144I</b>
58					
TP53_ENST					
000005458	ENST00000545858	99667	c.307C>T		<b>p.R103*</b>
58					
TP53_ENST					
000005458	ENST00000545858	99719	c.380A>G		<b>p.Y127C</b>
58					
TP53_ENST					
000005458	ENST00000545858	99918	c.299A>T		<b>p.H100L</b>
58					
TP53_ENST					
000005458	ENST00000545858	99945	c.99C>G		<b>p.Y33*</b>
58					
VHL	NM_000551.2	14279	c.405delA		<b>p.L135fs*24</b>
VHL	NM_000551.2	14284	c.429C>G		<b>p.D143E</b>
VHL	NM_000551.2	14302	c.391delA		<b>p.N131fs*28</b>
VHL	NM_000551.2	14305	c.266T>A		<b>p.L89H</b>

VHL	NM_000551.2	14307	c.496G>A	p.V166I
VHL	NM_000551.2	14309	c.478G>A	p.E160K
VHL	NM_000551.2	14310	c.349T>C	p.W117R
VHL	NM_000551.2	14311	c.499C>T	p.R167W
VHL	NM_000551.2	14312	c.353T>C	p.L118P
VHL	NM_000551.2	14325	c.294C>G	p.Y98*
VHL	NM_000551.2	14328	c.351G>T	p.W117C
VHL	NM_000551.2	14346	c.266T>C	p.L89P
VHL	NM_000551.2	14348	c.301C>T	p.L101L
VHL	NM_000551.2	14349	c.259_264delGTATGG	p.V87_W88del
VHL	NM_000551.2	14355	c.488T>C	p.L163P
VHL	NM_000551.2	14356	c.394C>T	p.Q132*
VHL	NM_000551.2	14362	c.383T>G	p.L128R
VHL	NM_000551.2	14368	c.473T>A	p.L158Q
VHL	NM_000551.2	14373	c.400G>T	p.E134*
VHL	NM_000551.2	14374	c.513G>C	p.K171N
VHL	NM_000551.2	14375	c.343C>T	p.H115Y
VHL	NM_000551.2	14376	c.464-1G>A	p.?
VHL	NM_000551.2	14382	c.245G>C	p.R82P
VHL	NM_000551.2	14383	c.413C>G	p.P138R
VHL	NM_000551.2	14386	c.309delT	p.G104fs*55
VHL	NM_000551.2	14387	c.473T>C	p.L158P
VHL	NM_000551.2	14390	c.269A>T	p.N90I
VHL	NM_000551.2	14391	c.469delA	p.T157fs*2
VHL	NM_000551.2	14392	c.377A>G	p.D126G
VHL	NM_000551.2	14393	c.311delG	p.G104fs*55
VHL	NM_000551.2	14397	c.490C>T	p.Q164*
VHL	NM_000551.2	14399	c.351G>A	p.W117*
VHL	NM_000551.2	14404	c.266T>G	p.L89R
VHL	NM_000551.2	14405	c.257C>A	p.P86H
VHL	NM_000551.2	14406	c.404delT	p.L135fs*24
VHL	NM_000551.2	14407	c.388G>C	p.V130L
VHL	NM_000551.2	14408	c.485G>A	p.C162Y
VHL	NM_000551.2	14410	c.440delT	p.F148fs*11
VHL	NM_000551.2	14412	c.431delG	p.G144fs*15
VHL	NM_000551.2	14413	c.426_429delTGAC	p.G144fs*14
VHL	NM_000551.2	14414	c.310delG	p.G104fs*55
VHL	NM_000551.2	14415	c.381delG	p.L128fs*31
VHL	NM_000551.2	14419	c.488delT	p.L163fs*7
VHL	NM_000551.2	14437	c.464-1G>C	p.?
VHL	NM_000551.2	144971	c.244C>G	p.R82G
VHL	NM_000551.2	17612	c.481C>T	p.R161*
VHL	NM_000551.2	17644	c.363T>G	p.D121E
VHL	NM_000551.2	17647	c.414delA	p.S139fs*20
VHL	NM_000551.2	17648	c.423delT	p.N141fs*18
VHL	NM_000551.2	17649	c.436delC	p.P146fs*13
VHL	NM_000551.2	17657	c.472C>G	p.L158V
VHL	NM_000551.2	17658	c.286C>T	p.Q96*
VHL	NM_000551.2	17662	c.492G>T	p.Q164H
VHL	NM_000551.2	17676	c.498delC	p.R167fs*3
VHL	NM_000551.2	17678	c.344delA	p.H115fs*44
VHL	NM_000551.2	17699	c.284C>G	p.P95R
VHL	NM_000551.2	17721	c.241C>T	p.P81S
VHL	NM_000551.2	17735	c.444delT	p.F148fs*11
VHL	NM_000551.2	17752	c.343C>A	p.H115N
VHL	NM_000551.2	17757	c.390delT	p.N131fs*28

VHL	NM_000551.2	17759	c.393_396delCCAA	p.N131fs*27
VHL	NM_000551.2	17764	c.408delT	p.F136fs*23
VHL	NM_000551.2	17765	c.409delG	p.V137fs*22
VHL	NM_000551.2	17767	c.417T>A	p.S139S
VHL	NM_000551.2	17769	c.437delC	p.P146fs*13
VHL	NM_000551.2	17770	c.501delG	p.S168fs*2
VHL	NM_000551.2	17786	c.497T>G	p.V166G
VHL	NM_000551.2	17805	c.471T>A	p.T157T
VHL	NM_000551.2	17807	c.264G>C	p.W88C
VHL	NM_000551.2	17837	c.506T>C	p.L169P
VHL	NM_000551.2	17844	c.464delT	p.V155fs*4
VHL	NM_000551.2	17857	c.395delA	p.T133fs*26
VHL	NM_000551.2	17859	c.254T>C	p.L85P
VHL	NM_000551.2	17862	c.350G>A	p.W117*
VHL	NM_000551.2	17881	c.262T>A	p.W88R
VHL	NM_000551.2	17882	c.269delA	p.N90fs*69
VHL	NM_000551.2	17885	c.293A>T	p.Y98F
VHL	NM_000551.2	17886	c.296delC	p.P99fs*60
VHL	NM_000551.2	17895	c.369delG	p.T124fs*35
VHL	NM_000551.2	17904	c.422_423insA	p.N141fs*3
VHL	NM_000551.2	17909	c.482G>C	p.R161P
VHL	NM_000551.2	17913	c.497T>A	p.V166D
VHL	NM_000551.2	17953	c.262T>C	p.W88R
VHL	NM_000551.2	17956	c.291delC	p.Y98fs*61
VHL	NM_000551.2	17958	c.294C>A	p.Y98*
VHL	NM_000551.2	17967	c.365C>A	p.A122E
VHL	NM_000551.2	17974	c.438T>C	p.P146P
VHL	NM_000551.2	17982	c.496G>T	p.V166F
VHL	NM_000551.2	17983	c.500G>A	p.R167Q
VHL	NM_000551.2	17988	c.341-1G>T	p.?
VHL	NM_000551.2	18009	c.362A>G	p.D121G
VHL	NM_000551.2	18014	c.405_406insT	p.V137fs*7
VHL	NM_000551.2	18022	c.357C>G	p.F119L
VHL	NM_000551.2	18023	c.486C>G	p.C162W
VHL	NM_000551.2	18025	c.470C>T	p.T157I
VHL	NM_000551.2	18028	c.257C>T	p.P86L
VHL	NM_000551.2	18051	c.424delG	p.V142fs*17
VHL	NM_000551.2	18059	c.406delT	p.F136fs*23
VHL	NM_000551.2	18070	c.263G>A	p.W88*
VHL	NM_000551.2	18073	c.484T>C	p.C162R
VHL	NM_000551.2	18075	c.478G>T	p.E160*
VHL	NM_000551.2	18080	c.277G>C	p.G93R
VHL	NM_000551.2	18192	c.350G>T	p.W117L
VHL	NM_000551.2	18212	c.491A>C	p.Q164P
VHL	NM_000551.2	18215	c.426delT	p.V142fs*17
VHL	NM_000551.2	18255	c.302T>C	p.L101P
VHL	NM_000551.2	18276	c.406T>G	p.F136V
VHL	NM_000551.2	18286	c.390_391insT	p.N131fs*2
VHL	NM_000551.2	18290	c.341-1G>A	p.?
VHL	NM_000551.2	18346	c.341G>C	p.G114A
VHL	NM_000551.2	18350	c.256C>T	p.P86S
VHL	NM_000551.2	18379	c.505C>T	p.L169L
VHL	NM_000551.2	18415	c.263G>C	p.W88S
VHL	NM_000551.2	22469	c.467delA	p.Y156fs*3
VHL	NM_000551.2	249586	c.412_425delCCATCTCTCAAT GT	p.P138fs*1

<b>VHL</b>	NM_000551.2	25675	c.464-1G>T	<b>p.?</b>
<b>VHL</b>	NM_000551.2	25676	c.485G>T	<b>p.C162F</b>
<b>VHL</b>	NM_000551.2	25682	c.430G>T	<b>p.G144*</b>
<b>VHL</b>	NM_000551.2	25719	c.383T>C	<b>p.L128P</b>
<b>VHL</b>	NM_000551.2	25720	c.393C>G	<b>p.N131K</b>
<b>VHL</b>	NM_000551.2	26785	c.263delG	<b>p.W88fs*71</b>
<b>VHL</b>	NM_000551.2	30295	c.341-2A>G	<b>p.?</b>
<b>VHL</b>	NM_000551.2	34019	c.361G>T	<b>p.D121Y</b>
<b>VHL</b>	NM_000551.2	34030	c.477delA	<b>p.E160fs*10</b>

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