Supplementary Table 1 Clinical, histological and pathological data of 86 HBV- and 90 non-HBV-related HCC**.** Shown are p Values obtained from Chi-square test based on the given clinical variable.

	HBV-associated HCC	Non-HBV-associated HCC	p Value
Age (Year)			
<60	69% (59/86)	22% (20/90)	<0.0001
≥60	31% (27/86)	78% (70/90)	
Alpha-fetoprotein [log10] (ng/mL)			
≤20	37% (28/75)	57% (47/83)	0.01
>20	63% (47/75)	43% (36/83)	
Tumor size (mm)			
≤55	51% (43/85)	47% (42/90)	ns
>55	49% (42/85)	53% (48/90)	
Number of tumor nodule(s)			
Single	76% (65/85)	84% (76/90)	ns
Multiple	24% (20/85)	16% (14/90)	

† All analyses were performed based on available data

Supplementary Table 2 List of HBV primers

Name	Sequence
P1 (1821 to 1841)	CCGGAAAGCTTGAGCTCTTCTTTTTCACCTCTGCCTAATCA
P2 (1823 to 1806)	CCGGAAAGCTTGAGCTCTTCAAAAAGTTGCATGGTGCTGG
P3 (1825 to 1841)	CTCGCTCGCCCAAATTTTTCACCTCTGCCTAATCA
P4 (1823 to 1806)	CTGGTTCGGCCCAAAAAGTTGCATGGTGCTGG
P5 (1928 to 1950)	GGAGCTACTGTGGAGTTACTCTC
P8 (67 to 90)	CTCCAGTTCAGGAACAGTAAACCC
P9 (634 to 656)	ATTCCTATGGGAGTGGGCCTCAG
P10 (1266 to 1286)	CCATACTGCGGAACTCCTAGC
P11 (2043 to 2021)	CAATGCTCAGGAGACTCTAAGGC
P12 (2400 to 2381)	CTTCGTCTGCGAGGCGAGGG
P15 (738 to 716)	ATAACTGAAAGCCAAACAGTGGG
P16 (1394 to 1372)	GCAGCACAGCCTAGCAGCCATGG
P17(2744 to2767)	CTATTTACACACTCTATGGAAGGC
P18 (3039 to 3061)	GGGGTGGAGCCCTCAGGCTCAGG
P19 (2510 to 2487)	AGGTACAGTAGAAGAATAAAGCCC
HBX3R (1751 to 1733)	GACCCTCCTCAACCCCCTC
HBX2R (1894 to 1875)	GGTTCGACACGGAACCCACC
HBS5R (840 to 820)	AGAAACCCATATGTAAATTTG
HBS3R (707 to 688)	CGGTAAACAAGTCACCAAGC
HBS2R (477 to 458)	GTTCCATACAACGGGCAAAC
HBS1F (127 to 147)	CTTCTCGAGGACTGGGGACCC
HBS2F (412 to 429)	CATCCTGCTATGCCT
HBS3F (640 to 656)	CCTATGGGAGTGGGCCT
HBX1F (1266 to 1285)	GATCCATACTGCGGAACTCC
HBX2F (1519 to 1537)	ACCACGGGGCGCACCTCTC
HBX3F (1548 to 1568)	CTCCCCGTCTGTGCCTTCTCA
HBX4F (1692 to 1713)	ACCGACCTTGAGGCATACTTCA

Supplementary Table 3 TaqMan® pre-designed gene expression assays

Gene symbol	Name	Assay ID
AFP	Alpha-fetoprotein	Hs00173490_m1
AMACR	Alpha-methylacyl-CoA racemase isoform 3	Hs02786742_s1
AURKA	Aurora kinase A	Hs01597773_mH
BIRC5	Baculoviral IAP repeat-containing protein 5 isoform 2	Hs00153353_m1
CCNB1	G2/mitotic-specific cyclin-B1	Hs00259126_m1
CDH2	Cadherin 2, type 1, N-cadherin (neuronal)	Hs00169953_m1
CRP	C-reactive protein	Hs00357041_m1
CYP2C9	Cytochrome P450, family 2, subfamily C, polypeptide 9	Hs00426397_m1
CYP3A7	Cytochrome P450, family 3, subfamily A, polypeptide 7	Hs00426361_m1
EPCAM	Epithelial cell adhesion molecule	Hs00158980_m1
EPHA1	EPH receptor A1	Hs00178313_m1
FABP1	Fatty acid binding protein 1, liver	Hs00155026_m1
G0S2	G0/G1 Switch Regulatory Protein 2	Hs00274783_m1
GLUL	Glutamine synthetase	Hs00374213_m1
GPC3	Glypican-3 isoform 1	Hs00170471_m1
HAL	Histidine ammonia-lyase isoform 2	Hs00157887_m1
HAMP	epcidin antimicrobial peptide	Hs00221783_m1
HN1	Hematological and neurological expressed 1	Hs00602957_m1
IGF2BP3	Insulin-like growth factor 2 mRNA-binding protein 3	Hs00365742_g1
JUP;KRT19	Keratin, type I cytoskeletal 19	Hs01051611_gH
LAMA3	Laminin, alpha 3	Hs00165042_m1
LGR5	Leucine-rich repeat-containing G-protein coupled receptor 5 isoform 2	Hs00173664_m1
MERTK	C-mer proto-oncogene tyrosine kinase	Hs00179024_m1
NEU1	Sialidase-1	Hs00166421_m1
NRCAM	Neuronal cell adhesion molecule isoform A	Hs00170554_m1
PAK2	p21 protein (Cdc42/Rac)-activated kinase 2	Hs00605586_m1
PAP/REG3A	Regenerating Islet-Derived 3 Alpha	Hs00170171_m1
PIR	Pirin (iron-binding nuclear protein)	Hs00186374_m1
RAB1A	Member RAS Oncogene Family	Hs00366313_m1
RAMP3	Receptor (G protein-coupled) activity modifying protein 3	Hs00389130_m1
RHBG	Rh family, B glycoprotein	Hs00220735_m1
SAA2	Serum amyloid A-2 protein isoform b	Hs00754237_s1
SAE1	SUMO1 activating enzyme subunit 1	Hs00271440_m1
SPP1	Secreted phosphoprotein 1/osteopontin	Hs00167093_m1
TBX3	T-box transcription factor TBX3 isoform 1	Hs00255591_m1
UGT2B7	UDP glucuronosyltransferase 2 family, polypeptide B7	Hs00426592_m1
NRAS	Neuroblastoma RAS viral (v-ras) oncogene homolog	Hs00180035_m1

Supplementary Table 4 Correlation between the HBV genotype in non-tumor tissue and the clinical data of HBV associated HCC. Shown are p Values obtained from Chi-square test based on the given clinical or viral variable.

HBV Genotype	A	B	C	D	E	p Value
Origin						
Africans	19	2	0	6	10	
Asians	1	7	7	0	0	<0.0001
Europeans	12	1	1	12	2	
Age (Years)						
< 60	27	6	6	7	10	0.01
≥ 60	5	4	2	11	2	
HDV co-infection						
No	32	10	8	17	9	0.01
Yes	0	0	0	1	3	

Supplementary Table 5 Mutations of TP53 gene, with p53 loss of- or gain of function found in HBV and non-HBV HCC.

HCC-ID	Ensembl Gene ID	Gene symbol	Chromosome	Nucleotide (genomic hg19)	cDNA	Amino Acid	Loss of- and gain of-function*
CHC137T	ENSG00000141510	TP53	17	g.7574012C>A	c.1015G>T	p.Glu339X	Loss
CHC1210T	ENSG00000141510	TP53	17	g.7579586G>A	c.101C>T	p.Pro34Leu	Loss
CHC1987T	ENSG00000141510	TP53	17	g.7579548G>A	c.139C>T	p.Pro47Ser	Loss
CHC1205T	ENSG00000141510	TP53	17	g.7579373C>A	c.314G>T	p.Gly105Val	Loss
CHC1758T	ENSG00000141510	TP53	17	g.7578527del	c.403del	p.Cys135AlafsX35	Loss
CHC996T	ENSG00000141510	TP53	17	g.7578457C>T	c.473G>A	p.Arg158His	Loss and gain
CHC1992T	ENSG00000141510	TP53	17	g.7578443A>T	c.487T>A	p.Tyr163Asn	Loss and gain
CHC1168T	ENSG00000141510	TP53	17	g.7578406C>T	c.524G>A	p.Arg175His	Loss
CHC080T	ENSG00000141510	TP53	17	g.7578406C>A	c.524G>T	p.Arg175Leu	Loss and gain
CHC008T	ENSG00000141510	TP53	17	g.7578272G>C	c.577C>G	p.His193Asp	Loss
CHC1987T	ENSG00000141510	TP54	17	g.7578203C>T	c.646G>A	p.Val216Met	Loss
CHC024T	ENSG00000141510	TP53	17	g.7578191A>T	c.658T>A	p.Tyr220Asn	Loss
CHC254T	ENSG00000141510	TP53	17	g.7577568C>A	c.713G>T	p.Cys238Phe	Loss
CHC245T	ENSG00000141510	TP53	17	g.7577550C>T	c.731G>A	p.Gly244Asp	Loss
CHC1194T	ENSG00000141510	TP53	17	g.7577545T>C	c.736A>G	p.Met246Val	Loss and gain
CHC1208T	ENSG00000141510	TP53	17	g.7577545T>C	c.736A>G	p.Met246Val	Loss and gain
CHC402T	ENSG00000141510	TP53	17	g.7577535C>T	c.746G>A	p.Arg249Lys	NA
CHC014T	ENSG00000141510	TP53	17	g.7577534C>A	c.747G>T	p.Arg249Ser	Loss and gain
CHC016T	ENSG00000141510	TP53	17	g.7577534C>A	c.747G>T	p.Arg249Ser	Loss and gain
CHC023T	ENSG00000141510	TP53	17	g.7577534C>A	c.747G>T	p.Arg249Ser	Loss and gain
CHC043T	ENSG00000141510	TP53	17	g.7577534C>A	c.747G>T	p.Arg249Ser	Loss and gain
CHC1035T	ENSG00000141510	TP53	17	g.7577534C>A	c.747G>T	p.Arg249Ser	Loss and gain
CHC1151T	ENSG00000141510	TP53	17	g.7577534C>A	c.747G>T	p.Arg249Ser	Loss and gain
CHC1704T	ENSG00000141510	TP53	17	g.7577534C>A	c.747G>T	p.Arg249Ser	Loss and gain
CHC1735T	ENSG00000141510	TP53	17	g.7577534C>A	c.747G>T	p.Arg249Ser	Loss and gain
CHC1754T	ENSG00000141510	TP53	17	g.7577534C>A	c.747G>T	p.Arg249Ser	Loss and gain
CHC198T	ENSG00000141510	TP53	17	g.7577534C>A	c.747G>T	p.Arg249Ser	Loss and gain
CHC1998T	ENSG00000141510	TP53	17	g.7577534C>A	c.747G>T	p.Arg249Ser	Loss and gain
CHC2000T	ENSG00000141510	TP53	17	g.7577534C>A	c.747G>T	p.Arg249Ser	Loss and gain
CHC226T	ENSG00000141510	TP53	17	g.7577534C>A	c.747G>T	p.Arg249Ser	Loss and gain
CHC1989T	ENSG00000141510	TP53	17	g.7577534C>A	c.747G>T	p.Arg249Ser	Loss and gain
CHC1756T	ENSG00000141510	TP53	17	g.7577111G>A	c.827C>T	p.Ala276Val	Loss
CHC1211T	ENSG00000141510	TP53	17	g.7577058C>A	c.880G>T	p.Glu294X	Loss
CHC1984T	ENSG00000141510	TP53	17	g.7579698A>C	c.96+2T>G	splicing mutation	Loss
CHC736T	ENSG00000141510	TP53	17	g.7576852C>G	c.993+1G>C	splicing mutation	NA
CHC1061T	ENSG00000141514	TP53	17	g.7574017C>A	c.1010G>T	p.Arg337Leu	Loss
CHC1055T	ENSG00000141513	TP53	17	g.7579502_7579518dup	c.169_185dup	p.Ala63ThrfsX66	Loss
CHC304T	ENSG00000141522	TP53	17	g.7579398_7579439dup	c.248_289dup	p.Ala83_Ser96dup	Loss

HCC-ID	Ensembl Gene ID	Gene symbol	Chromosome	Nucleotide (genomic hg19)	cDNA	Amino Acid	Loss of- and gain of-function*
CHC1607T	ENSG00000141519	TP53	17	g.7578226del	c.263del	p.Ser90ProfsX33	Loss
CHC037T	ENSG00000141512	TP53	17	g.7579420dup	c.267dup	p.Ser90LeufsX59	NA
CHC1604T	ENSG00000141518	TP53	17	g.7578496A>T	c.434T>A	p.Leu145Gln	Loss
CHC129T	ENSG00000141516	TP53	17	g.7578445A>C	c.485T>G	p.Ile162Ser	Loss
CHC208T	ENSG00000141521	TP53	17	g.7578190T>G	c.659A>C	p.Tyr220Ser	Loss
CHC154T	ENSG00000141517	TP53	17	g.7577602del	c.679del	p.Ser227LeufsX20	NA
CHC013T	ENSG00000141511	TP53	17	g.7577556C>A	c.725G>T	p.Cys242Phe	Loss
CHC1616T	ENSG00000141520	TP53	17	g.7577536T>C	c.745A>G	p.Arg249Gly	Loss
CHC126T	ENSG00000141515	TP53	17	g.7577085C>T	c.853G>A	p.Glu285Lys	Loss
CHC314T	ENSG00000141523	TP53	17	g.7578395G>A	c.535C>T	p.His179Tyr	Loss and gain
CHC793T	ENSG00000141524	TP53	17	g.7573982C>A	c.1045G>T	p.Glu349X	Loss

*According to IARC TP53 database (*http://p53.iarc.fr*)

Supplementary Table 6 Mutations of different genes found in HBV and non-HBV HCC.

HCC-ID	Ensembl Gene ID	Gene symbol	Chromosome	Nucleotide (genomic hg19)	cDNA	Amino Acid
CHC012T	ENSG00000168310	IRF2	4	Homozygous deletion	Deletion	Deletion
CHC018T	ENSG00000168310	IRF2	4	Homozygous deletion	Deletion	Deletion
CHC034T	ENSG00000168310	IRF2	4	Homozygous deletion	Deletion	Deletion
CHC239T	ENSG00000168310	IRF2	4	Homozygous deletion	Deletion	Deletion
CHC339T	ENSG00000168310	IRF2	4	g.185329422_185329435del	c.412-6_419del	Splicing mutation
CHC398T	ENSG00000168310	IRF2	4	g.185339323T>G	c.409A>C	p.Lys137Gln
CHC1982T	ENSG00000168036	CTNNB1	3	g.41266112T>C	c.109T>C	p.Ser37Pro
CHC252T	ENSG00000168036	CTNNB1	3	g.41268766A>T	c.1004A>T	p.Lys335Ile
CHC1208T	ENSG00000168036	CTNNB1	3	g.41266106_41266117del	c.103_114del	p.Ile35_Gly38del
CHC609T	ENSG00000168036	CTNNB1	3	g.41266113C>G	c.110C>G	p.Ser37Cys
CHC1991T	ENSG00000168036	CTNNB1	3	g.41274911T>A	c.1161T>A	p.Asn387Lys
CHC1702T	ENSG00000168036	CTNNB1	3	g.41274911T>G	c.1161T>G	p.Asn387Lys
CHC1756T	ENSG00000168036	CTNNB1	3	g.41266125C>T	c.122C>T	p.Thr41Ile
CHC1982T	ENSG00000168036	CTNNB1	3	g.41266013A>G	c.14-4A>G	exon 3 deletion
CHC1142T	ENSG00000168036	CTNNB1	3	g.41266050_41266603del	c.47_400del	p.Pro16_Lys133del
CHC1760T	ENSG00000168036	CTNNB1	3	g.41266097G>C	c.94G>C	p.Asp32His
CHC1989T	ENSG00000168036	CTNNB1	3	g.41266097G>T	c.94G>T	p.Asp32Tyr
CHC1717T	ENSG00000168036	CTNNB1	3	g.41266098A>G	c.95A>G	p.Asp32Gly
CHC335T	ENSG00000168036	CTNNB1	3	g.41266100T>C	c.97T>C	p.Ser33Pro
CHC996T	ENSG00000168036	CTNNB1	3	g.41266101C>G	c.98C>G	p.Ser33Cys
CHC1603T	ENSG00000168036	CTNNB1	3	g.41268766A>T	c.1004A>T	p.Lys335Ile
CHC230T	ENSG00000168036	CTNNB1	3	g.41265566_41266581del	c.1004A>T	p.Lys335Ile
CHC429T	ENSG00000168036	CTNNB1	3	g.41266103G>A	c.100G>A	p.Gly34Arg
CHC469T	ENSG00000168036	CTNNB1	3	g.41266103G>A	c.100G>A	p.Gly34Arg
CHC305T	ENSG00000168036	CTNNB1	3	g.41266106_41266117del	c.103_114del	p.Ile35_Gly38del
CHC168T	ENSG00000168036	CTNNB1	3	g.41266107T>G	c.104T>G	p.Ile35Ser
CHC1553T	ENSG00000168036	CTNNB1	3	g.41266110A>C	c.107A>C	p.His36Pro
CHC433T	ENSG00000168036	CTNNB1	3	g.41274899G>T	c.1149G>T	p.Trp383Cys
CHC983T	ENSG00000168036	CTNNB1	3	g.41274899G>T	c.1149G>T	p.Trp383Cys
CHC399T	ENSG00000168036	CTNNB1	3	g.41266124A>G	c.121A>G	p.Thr41Ala
CHC437T	ENSG00000168036	CTNNB1	3	g.41266124A>G	c.121A>G	p.Thr41Ala
CHC430T	ENSG00000168036	CTNNB1	3	g.41266125C>A	c.122C>A	p.Thr41Asn
CHC614T	ENSG00000168036	CTNNB1	3	g.41266125C>A	c.122C>A	p.Thr41Asn
CHC051T	ENSG00000168036	CTNNB1	3	g.41266129_41266134dup	c.126_131dup	p.Ala43_Pro44dup
CHC013T	ENSG00000168036	CTNNB1	3	g.41266136T>C	c.133T>C	p.Ser45Pro
CHC028T	ENSG00000168036	CTNNB1	3	g.41266136T>C	c.133T>C	p.Ser45Pro

HCC-ID	Ensembl Gene ID	Gene symbol	Chromosome	Nucleotide (genomic hg19)	cDNA	Amino Acid
CHC1040T	ENSG00000168036	CTNNB1	3	g.41266136T>C	c.133T>C	p.Ser45Pro
CHC115T	ENSG00000168036	CTNNB1	3	g.41266136T>C	c.133T>C	p.Ser45Pro
CHC164T	ENSG00000168036	CTNNB1	3	g.41266136T>C	c.133T>C	p.Ser45Pro
CHC302T	ENSG00000168036	CTNNB1	3	g.41266136T>C	c.133T>C	p.Ser45Pro
CHC1041T	ENSG00000168036	CTNNB1	3	g.41266136T>G	c.133T>G	p.Ser45Ala
CHC121T	ENSG00000168036	CTNNB1	3	g.41266136T>G	c.133T>G	p.Ser45Ala
CHC197T	ENSG00000168036	CTNNB1	3	g.41266137C>A	c.134C>A	p.Ser45Tyr
CHC1566T	ENSG00000168036	CTNNB1	3	g.41266137C>T	c.134C>T	p.Ser45Phe
CHC1584T	ENSG00000168036	CTNNB1	3	g.41265926_41266306del	c.14-91_241+62del	exon 3 deletion
CHC211T	ENSG00000168036	CTNNB1	3	g.41265926_41266306del	c.14-91_241+62del	exon 3 deletion
CHC433T	ENSG00000168036	CTNNB1	3	g.41242294A>G	c.874A>G	p.Lys292Glu
CHC059T	ENSG00000168036	CTNNB1	3	g.41266098A>C	c.95A>C	p.Asp32Ala
CHC1069T	ENSG00000168036	CTNNB1	3	g.41266098A>C	c.95A>C	p.Asp32Ala
CHC1545T	ENSG00000168036	CTNNB1	3	g.41266098A>G	c.95A>G	p.Asp32Gly
CHC361TA	ENSG00000168036	CTNNB1	3	g.41266098A>G	c.95A>G	p.Asp32Gly
CHC037T	ENSG00000168036	CTNNB1	3	g.41266098A>T	c.95A>T	p.Asp32Val
CHC097T	ENSG00000168036	CTNNB1	3	g.41266100T>C	c.97T>C	p.Ser33Pro
CHC1146T	ENSG00000168036	CTNNB1	3	g.41266100T>C	c.97T>C	p.Ser33Pro
CHC1565T	ENSG00000168036	CTNNB1	3	g.41266101C>G	c.98C>G	p.Ser33Cys
CHC242T	ENSG00000168036	CTNNB1	3	g.41266101C>G	c.98C>G	p.Ser33Cys
CHC301T	ENSG00000168036	CTNNB1	3	g.41266101C>G	c.98C>G	p.Ser33Cys
CHC432T	ENSG00000168036	CTNNB1	3	g.41266101C>G	c.98C>G	p.Ser33Cys
CHC798T	ENSG00000168036	CTNNB1	3	g.41266101C>G	c.98C>G	p.Ser33Cys
CHC1052T	ENSG00000168036	CTNNB1	3	g.41266101C>T	c.98C>T	p.Ser33Phe
CHC130T	ENSG00000168036	CTNNB1	3	g.41266101C>T	c.98C>T	p.Ser33Phe
CHC1983T	ENSG00000103126	AXIN1	16	g.360071T>A	c.1020-2A>T	splicing mutation
CHC079T	ENSG00000103126	AXIN1	16	g.354370_354373del	c.1185_1188del	p.Leu396ArgfsX17
CHC736T	ENSG00000103126	AXIN1	16	g.348223G>T	c.1283C>A	p.Ser428X
CHC237T	ENSG00000103126	AXIN1	16	g.348122C>T	c.1384G>A	p.Ala462Thr
CHC1154T	ENSG00000103126	AXIN1	16	g.347929G>A	c.1577C>T	p.Ala526Val
CHC226T	ENSG00000103126	AXIN1	16	g.347764_347765del	c.1741_1742del	p.Ser581CysfsX9
CHC250T	ENSG00000103126	AXIN1	16	g.347143G>T	c.1868C>A	p.Ser623X
CHC080T	ENSG00000103126	AXIN1	16	g.396664C>A	c.362G>T	p.Cys121Phe
CHC018T	ENSG00000103126	AXIN1	16	g.396458G>A	c.568C>T	p.Gln190X
CHC1758T	ENSG00000103126	AXIN1	16	g.396233C>A	c.793G>T	p.Gly265X
CHC2000T	ENSG00000103126	AXIN1	16	g.396941C>A	c.85G>T	p.Glu29X
CHC204T	ENSG00000103126	AXIN1	16	g.364661del	c.901del	p.Val301SerfsX113
CHC237T	ENSG00000103126	AXIN1	16	g.364557_364563dup	c.999_1005dup	p.Thr336ValfsX17

HCC-ID	Ensembl Gene ID	Gene symbol	Chromosome	Nucleotide (genomic hg19)	cDNA	Amino Acid
CHC012T	ENSG00000103126	AXIN1	16	Homozygous deletion	Deletion	Deletion
CHC314T	ENSG00000103126	AXIN1	16	g.360068del	c.1021del	p.Asp341MetfsX73
CHC1052T	ENSG00000103126	AXIN1	16	g.397014T>G	c.12A>C	p.Gln4His
CHC1190T	ENSG00000103126	AXIN1	16	g.347909G>A	c.1597C>T	p.Arg533X
CHC1065T	ENSG00000103126	AXIN1	16	g.354326dup	c.1232dup	p.Arg412AlafsX12
CHC1053T	ENSG00000103126	AXIN1	16	g.347930C>T	c.1576G>A	p.Ala526Thr
CHC1201T	ENSG00000103126	AXIN1	16	g.347903C>T	c.1603G>A	p.Val535Ile
CHC434T	ENSG00000103126	AXIN1	16	g.347772G>T	c.1734C>A	p.Tyr578X
CHC1545T	ENSG00000103126	AXIN1	16	g.347168C>T	c.1843G>A	p.Ala615Thr
CHC1585T	ENSG00000103126	AXIN1	16	g.341227del	c.2257del	p.Val753TyrfsX48
CHC438T	ENSG00000103126	AXIN1	16	g.396962G>A	c.64C>T	p.Arg22X
CHC031T	ENSG00000103126	AXIN1	16	Homozygous deletion	Deletion	Deletion
CHC1199T	ENSG00000103126	AXIN1	16	Homozygous deletion	Deletion	Deletion
CHC1168T	ENSG00000117713	ARID1A	1	g.27024008_27024009insG	c.1114_1115insG	p.Gln372ArgfsX28
CHC1211T	ENSG00000117713	ARID1A	1	g.27023020_27023022dup	c.126_128dup	p.Ala45dup
CHC1754T	ENSG00000117713	ARID1A	1	g.27023020_27023022dup	c.126_128dup	p.Ala45dup
CHC241T	ENSG00000117713	ARID1A	1	g.27089501dup	c.2457dup	p.Asn820GlnfsX52
CHC014T	ENSG00000117713	ARID1A	1	g.27089676C>T	c.2632C>T	p.Gln878X
CHC1758T	ENSG00000117713	ARID1A	1	g.27023253_27023266del	c.359_372del	p.Pro120ArgfsX275
CHC339T	ENSG00000117713	ARID1A	1	g.27106159delinsAA	c.5770delinsAA	p.Glu1924LysfsX5
CHC335T	ENSG00000117713	ARID1A	1	g.27106649G>A	c.6260G>A	p.Gly2087Glu
CHC433T	ENSG00000117713	ARID1A	1	g.27023909del	c.1015del	p.Ala339LeufsX24
CHC434T	ENSG00000117713	ARID1A	1	g.27023923_27023937del	c.1029_1043del	p.Ala345_Ala349del
CHC155T	ENSG00000117713	ARID1A	1	g.27056173dup	c.1169dup	p.Met390IlefsX10
CHC1040T	ENSG00000117713	ARID1A	1	g.27056214C>T	c.1210C>T	p.Gln404X
CHC445T	ENSG00000117713	ARID1A	1	g.27087897_27087911delinsT	c.2184_2198delinsT	p.Pro729GlyfsX83
CHC121T	ENSG00000117713	ARID1A	1	g.27023209_27023228del	c.315_334del	p.Asn106ProfsX4
CHC1053T	ENSG00000117713	ARID1A	1	g.27023214_27023223del	c.320_329del	p.Ala107GlyfsX4
CHC437T	ENSG00000117713	ARID1A	1	g.27097692dup	c.3281dup	p.Gln1095AlafsX10
CHC983T	ENSG00000117713	ARID1A	1	g.27099008C>T	c.3424C>T	p.Gln1142X
CHC205T	ENSG00000117713	ARID1A	1	g.27099939_27099964delinsG	c.3818_3843delinsG	p.Met1273ArgfsX8
CHC230T	ENSG00000117713	ARID1A	1	g.27023381G>A	c.487G>A	p.Ala163Thr
CHC211T	ENSG00000117713	ARID1A	1	g.27106934_27106953del	c.6545_6564del	p.Ala2182GlufsX36
CHC013T	ENSG00000117713	ARID1A	1	g.27106961_27106969del	c.6572_6580del	p.Ser2191_Gly2193del
CHC031T	ENSG00000117713	ARID1A	1	Homozygous deletion	Deletion	Deletion
CHC079T	ENSG00000189079	ARID2	12	g.46231205G>C	c.1120+5G>C	Splicing mutation

HCC-ID	Ensembl Gene ID	Gene symbol	Chromosome	Nucleotide (genomic hg19)	cDNA	Amino Acid
CHC1999T	ENSG00000189079	ARID2	12	g.46231425T>C	c.1265T>C	p.Leu422Pro
CHC024T	ENSG00000189079	ARID2	12	g.46233199C>T	c.1418C>T	p.Ser473Phe
CHC123T	ENSG00000189079	ARID2	12	g.46243449G>A	c.1802G>A	p.Arg601Gln
CHC024T	ENSG00000189080	ARID2	12	g.46244230T>A	c.2324T>A	p.Leu775X
CHC1044T	ENSG00000189080	ARID2	12	g.46231153C>G	c.1073C>G,	p.Thr358Ser
CHC1584T	ENSG00000189080	ARID2	12	g.46231164_46231190del	c.1084_1110del	p.Cys362_Leu370del
CHC126T	ENSG00000189080	ARID2	12	g.46240646_46240647dup	c.1506_1507dup	p.Ala503GlufsX4
CHC429T	ENSG00000189080	ARID2	12	g.46243361A>G	c.1716-2A>G	Splicing mutation
CHC429T	ENSG00000189080	ARID2	12	g.46244040G>T	c.2134G>T	p.Glu712X
CHC614T	ENSG00000189080	ARID2	12	g.46287229C>G	c.5174C>G	p.Ser1725X
CHC1199T	ENSG00000189080	ARID2	12	Homozygous deletion	Deletion	Deletion
CHC1986T	ENSG00000121879	PIK3CA	3	g.178936091G>A	c.1633G>A	p.Glu545Lys
CHC1604T	ENSG00000121879	PIK3CA	3	g.178952085A>G	c.3140A>G	p.His1047Arg
CHC235T	ENSG00000121879	PIK3CA	3	g.178952085A>G	c.3140A>G	p.His1047Arg
CHC438T	ENSG00000121879	PIK3CA	3	g.178952085A>T	c.3140A>T	p.His1047Leu
CHC1154T	ENSG00000177189	RPS6KA3	X	g.20185727C>A	c.1582G>T	p.Glu528X
CHC034T	ENSG00000177189	RPS6KA3	X	g.20185706C>T	c.1602+1G>A	p.?
CHC018T	ENSG00000177189	RPS6KA3	X	g.20183143_20183145delinsC	c.1636_1638delinsG	p.Leu546ValfsX4
CHC1999T	ENSG00000177189	RPS6KA3	X	g.20181092T>C	c.1831A>G	p.Met611Val
CHC226T	ENSG00000177189	RPS6KA3	X	g.20206644A>G	c.602T>C	p.Leu201Pro
CHC037T	ENSG00000177189	RPS6KA3	X	g.20183078A>T	c.1703T>A	p.Leu568Gln
CHC1053T	ENSG00000177189	RPS6KA3	X	g.20181154A>C	c.1769T>G	p.Leu590X
CHC429T	ENSG00000177189	RPS6KA3	X	g.20222175T>C	c.290A>G	p.Tyr97Cys
CHC115T	ENSG00000177189	RPS6KA3	X	g.20206653C>G	c.594-1G>C	p.?
CHC1044T	ENSG00000177189	RPS6KA3	X	g.20284689C>A	c.62G>T	p.Ser21Ile
CHC434T	ENSG00000177189	RPS6KA3	X	g.20206044A>T	c.676T>A	p.Tyr226Asn
CHC1053T	ENSG00000177189	RPS6KA3	X	g.20205972C>T	c.748G>A	p.Asp250Asn
CHC1044T	ENSG00000177189	RPS6KA3	X	g.20205954C>T	c.766G>A	p.Val256Met
CHC258T	ENSG00000177189	RPS6KA3	X	g.20194611C>A	c.940G>T	p.Gly314X
CHC1041T	ENSG00000116044	NFE2L2	2	g.178098807T>G	c.238A>C	p.Thr80Pro
CHC059T	ENSG00000116044	NFE2L2	2	g.178098797_178098805del	c.240_248del	p.Gly81_Phe83del
CHC1069T	ENSG00000116044	NFE2L2	2	g.178098803C>A	c.242G>T	p.Gly81Val
CHC614T	ENSG00000116044	NFE2L2	2	g.178098800T>C	c.245A>G	p.Glu82Gly
CHC1040T	ENSG00000116044	NFE2L2	2	g.178098799T>G	c.246A>C	p.Glu82Asp
CHC614T	ENSG00000116044	NFE2L2	2	g.178098789T>A	c.256A>T	p.Ile86Phe
CHC1190T	ENSG00000116044	NFE2L2	2	g.178098960C>G	c.85G>C	p.Asp29His
CHC205T	ENSG00000116044	NFE2L2	2	g.178098959T>C	c.86A>G	p.Asp29Gly