

## Supplementary Table 2. Validated fusion junctions in HCC1395 cell line.

Note: Coordinates are based on Genome Reference Consortium Human Build 37 (GRCh37)

5p_gene	3p_gene	5p_strand	3p_strand	5p_chr
EIF3K	CYP39A1	+	-	19
MDH1	RP11-357C3.3	+	-	2
LMF1	FOXK2	-	+	16
GS1-124K5.2	RP11-147C23.1	-	+	7
RNGTT	RPF1	-	+	6
RP11-83A24.2	KCNQ5	-	+	4
PLA2R1	RBMS1	-	-	2
RAB7A	LRCH3	+	+	3
SHISA5	RP11-24C3.2	-	-	3
UNC5C	STPG2	-	-	4
TMEM104	RAB37	+	+	17
MAVS	PANK2	+	+	20
ZNF37BP	CEP164P1	-	-	10
POU2F1	NME7	+	-	1
NRL	DHRS4-AS1	-	-	14
KPNA1	EEFSEC	-	+	3
NOM1	MNX1-AS2	+	+	7
EFTUD2	KIF18B	-	-	17
OSBPL9	RP11-191G24.1	+	+	1
MFSD3	MROH1	+	+	8
WARS	DEGS2	-	-	14
HNRNPUL2	AHNAK	-	-	11
CCDC117	CTA-292E10.6	+	+	22
LDLRAD3	PRR5L	+	+	11
CASD1	GNG11	+	+	7
RP11-85K15.2	BAZ1A	-	-	14
TBC1D16	AC012354.6	-	+	17
FOSL2	BRE	+	+	2
MANBA	UBE2D3	-	-	4
SMDT1	NDUFA6-AS1	+	+	22
RP11-680G10.1	GSE1	+	+	16
CNPY3	GNMT	+	+	6
CNPY3	RP3-475N16.1	+	+	6
GNA12	CARD11	-	-	7
RBM14	C11orf80	+	+	11

FARS2	RP3-380B8.4	+	+	6
FSD1L	SLC44A1	+	+	9
SIK1	CBS	-	-	21
PALLD	TSC22D1	+	-	4
PKD1P5	DOT1L	-	+	16
EIF4A2	PRPF40A	+	-	3
DHX36	MATN1-AS1	-	+	3
POLR2J3	TRO	-	+	7
TRMT10B	ASNS	+	-	9
FBXL8	PCBP1-AS1	+	-	16
NABP1	INTS10	+	+	2
MBNL2	ENAH	+	-	13
FOSL2	TOMM70A	+	-	2
TPT1-AS1	FRYL	+	-	13
HNRNPR	KPNA2	-	+	1
LZIC	RAC1	-	+	1
PCNXL2	ODC1	-	-	1
RP11-193F5.4	HMG2	-	+	14
RPL4	PFDN5	-	+	15
BCL2L2-PABPN1	RPL30	+	-	14
DAP3	CMC4	+	-	1
ANP32B	PTMS	+	+	9
ATP2A2	RBM39	+	-	12
BCL2L11	LCMT1	+	+	2
CLCN6	CRNDE	+	-	1
CPSF6	SKP2	+	+	12
NKTR	MED23	+	-	3
RNGTT	ZC3H13	-	-	6
SOS2	PEX11A	-	-	14
UQCRC2	RPL37	+	-	16
CTSA	TIAL1	+	-	20
DUSP16	ANAPC11	-	+	12
EXOSC2	UBL5	+	+	9
HIST1H2AC	RP11-200A1.1	+	+	6
IARS	TOX4	-	+	9
LEMD1	RPL30	-	-	1
MAPK9	OGFOD3	-	-	5
PCBD2	NOL10	+	-	5
PCMTD1	POM121C	-	-	8
PNISR	KLHDC1	-	+	6
RAB10	MXI1	+	+	2

SIRPA	VPRBP	+	-	20
TJAP1	PLOD3	+	-	6
TOP2A	GLRX5	-	+	17
ZFR	ZMYM5	-	-	5
COMMD1	RP11-390P2.4	+	+	2
FNDC3B	RBM39	+	-	3
IQGAP1	RPL30	+	-	15
NAA15	PLK1	+	+	4
NEK7	CMC2	+	-	1
RNF145	PLOD2	-	-	5
TOX2	POLR1D	+	+	20
ZNF521	RAB28	-	-	18
AGPAT5	CTD-2541M15.1	+	-	8
ERO1A	FERMT2	-	-	14
CD109	EEF1A1	+	-	6
SUCO	TBX19	+	+	1
ZC3H8	SUCLG1	-	-	2
ZNF37BP	C10orf25	-	-	10
SLC30A9	OCIAD1	+	+	4
ADK	VCL	+	+	10
AC009403.2	POMZP3	-	-	7
RP11-282O18.3	CDK2AP1	-	-	12
CAV1	TES	+	+	7
CLIP4	FAM179A	+	+	2
MMADHC	EPC2	-	+	2
POM121	VKORC1L1	+	+	7
RP11-123O10.4	GRIP1	-	-	12
RPF1	PRKACB	+	+	1
ST3GAL1	SLA	-	-	8
CCDC122	ENOX1	-	-	13
EIF4H	GPNMB	+	+	7
CTBP2	BUB3	-	+	10
ARSJ	MTHFD2L	-	+	4
ST7	TES	+	+	7
TOP2B	NGLY1	-	-	3
ZNF519	RAB31	-	+	18
BRD1	RP6-109B7.4	-	-	22
SLC39A11	NSF	-	+	17
ZHX1	MRPL13	-	-	8
ANXA2	NARG2	-	-	15
DNTTIP2	GCLM	-	-	1

FAM208A	PSMD6	-	-	3
GGCT	GARS	-	+	7
GNAO1	RP11-463O9.5	+	-	16
NOP56	SNRPB	+	-	20
TBC1D9B	RNF130	-	-	5
AHI1	PSMB1	-	-	6
DLX5	NHLRC3	-	+	7
RGS5	MTHFD1L	-	+	1
KDM2A	ZNF532	+	+	11
DPP9	ENDOG	-	+	19
TRIM52	NUP133	-	-	5
AFG3L2	RNPC3	-	+	18
TNFRSF1A	PTMS	-	+	12
BCL11B	PPP2R5C	-	+	14
GBE1	RYBP	-	-	3
NCOA7	CTA-293F17.1	+	-	6
TRAF2	ITPR1	+	+	9
RTFDC1	RP4-799D16.1	+	-	20
ACTR6	DHDDS	+	+	12
ERBB2IP	KTN1	+	+	5
FBXO32	ANXA13	-	-	8

Ch37).

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89559474	1	84946639
140374839	6	73900296
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128445202	3	197592294
48520586	3	48482272
96199410	4	98162249
72791771	17	72725395
3843060	20	3888573
43046005	10	45561970
167382351	1	169102055
24583931	14	24410367
122168421	3	127965679
156756720	7	156799571
42942298	17	43006392
52179751	1	52026554
145736286	8	145254025
100826891	14	100616047
62484461	11	62201363
29179633	22	29217960
36120011	11	36422547
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35390795	14	35343868
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28616689	2	28460069
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42905945	6	42911536
2883487	7	2998265
66384528	11	66526514

5613553	6	5852296
108234286	9	108200562
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153994536	1	31199090
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97874785	1	225755116
28616689	3	100091566
45944317	4	48517292
23660011	17	66039021
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233398704	2	10580994
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66795396	12	53691634
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21987564	5	40828053
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133574781	19	9939268
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150438641	2	149528361
72361649	7	65413658
67462830	12	66990707
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12351305	1	104097656
6450942	12	6878769
99723808	14	102323023
81810526	3	72428578
126107359	7	20368479
139811067	3	4878458
55052180	1	25370327
100594697	1	26759382
65222634	14	56078737
124525438	8	124724993



junction\_sequence(30bp at each gene)

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CAGCAGCTGAACAACATTCAGATCACCAGGGCTAAAGCGAGCAGTCCTCAGGGTTTTGAT