Table S1: Description of real RNA-seq data sets.

sample	cell type	read length	accession number
1	HepG2	50×2	ENCFF084JYA
2	HepG2	50×2	ENCFF790CFB
3	HepG2	100×2	ENCFF916YZY, ENCFF800YJR
4	HepG2	100×2	ENCFF179TFY, ENCFF782TAX
5	HepG2	76×2	ENCFF168NGI
6	HepG2	76×2	ENCFF711DJN
sample	cell type	read length	accession number
1	human ESC	76×2	GSE90225
2	human ESC	76×2	GSE33480
3	human ESC	101×2	GSE47626
sample	cell type	read length	accession number
1	mouse BMDM	100×2	ENCSR614DLJ
2	mouse BMDM	100×2	ENCSR822FMG
3	mouse BMDM	100×2	ENCSR614KOV

Table S2: Experimental validation of identified transcripts.

	Transcript	GENCODE	AIDE	cufflinks	Isoform was validated by Sanger
	MTHFD2-203	+	-	+	No
	NPC2-205	+	-	+	No
Category 1	RBM7-208	+	-	+	No
	CD164-210	+	-	+	No
	XBP1-205	+	-	+	Yes
	SYNGR2-new	-	-	+	Yes
	FGFR1-238	+	+	-	Yes
	ZFAND5-208	+	+	-	Yes
Category 2	BRCA2-207	+	+	-	No
	PDCD5-201	+	+	-	No

+, Isoform was predicted; -, isoform was NOT predicted

Table S3: Primers designed for PCR validation of identified transcripts.

Primer name	sequence	Predicted size(bp)	PCR product size(bp)
MTHFD2-203-F	TTCTGGAAGGAAACTGGCCC	366	750
MTHFD2-203-R	ACCAACTTGGGTTTGGCAGT		
NPC2-205-F	AGTGAATGTGAGCCCATGCC	318	491
NPC2-205-R	TCTGCTACAGAGCACCTCCT		
RBM7-208-F	GAAGCGGATCGCACTCTCTT	234	479
RBM7-208-R	TGATCCAGAGGTGAAGAACCA		
CD164-210-F	ATCTCCAACGTAACCTCGGC	340	1032
CD164-210-R	TGTAGTTCCTTGTGTGGCATCT		
XBP1-205-F	CGACGGGACCCCTAAAGTTC	389	389
XBP1-205-R	AGGGGCTGAAACAACTTGGG		
SYNGR2-new-F	CTTCCCACCCGAAGTTGAGG	653	653
SYNGR2-new-R	GAAGGCTCCAGAGGTGCTG		
FGFR1-238-F	ACTGCAGAACTGGGATGTGG	468	468
FGFR1-238-R	CTACGGGCATACGGTTTGGT		
ZFAND5-208-F	TCGGGGAAGGGTCGGATTAT	486	486
ZFAND5-208-R	CGGGGTCTGGTTAGTCTCCT		
BRCA2-207-F	ACAAAGGCAACGCGTCTTTC	427	419
BRCA2-207-R	AGGCACATTCCATAGCTGCC		
PDCD5-201-F	ACGAGGAGCTTGAGGCGCTGA	408	413
PDCD5-201-R	TAGACTTGTTCCGTTAAGTTC		
FGFR1-238-E18-F	CAGAAACTGAAACCCAGACATGTG	533	533
FGFR1-238-E18-R	AATAGTCGCCAACACTGCAGCT		
FGFR1-C1-F	AAGAGAGAGAAGGGGTTAGG	528	528
FGFR1-C1-R	TTCTTAAGTGAAGCACCTCC		
FGFR1-205-F	TCTAACTGCAGAACTGGGATGTGG	510	510
FGFR1-205-R	AGTGGGCAGCAGTTTCTGAAGC		

Table S4: Specific siRNAs designed for isoforms *FGFR1-238*, *FGFR1-C1*, and *FGFR1-205*.

FGFR1-238 siRNA	sense	antisense
1	GCGCAGGUUCCUUGUAACCUCUUCU	AGAAGAGGUUACAAGGAACCUGCGC
2	CCAUGGAUGGUUUCCUCCAAGGAAA	UUUCCUUGGAGGAAACCAUCCAUGG
3	CAAAUGAUGAAGGUCUGCAGAAACU	AGUUUCUGCAGACCUUCAUCAUUUG
4	UCUGCAGAAACUGAAACCCAGACAU	AUGUCUGGGUUUCAGUUUCUGCAGA
5	GCAAUGUUGUGUGAAGGGAUGAAGA	UCUUCAUCCCUUCACACAACAUUGC
FGFR1-C1 siRNA	GCUUCAGAAACUGCUGCCCACUAAC	GUUAGUGGGCAGCAGUUUCUGAAGC
FGFR1-205 siRNA	GGUCUCAUGUCCUGUGCUU	AAGCACAGGACAUGAGACC