

Supplementary Table 1. List of IRESes tested in SINEUP-RNAs.

Origin	IRES type	Size (bp)	Ref number (IRESite Id)
Viral	HCV	383	222
	Poliovirus	312	242
	EMCV	576	140
	CrPV	192	40
Cellular	c-myc	41 & 395	35
	Apaf1	231	110
	ELG1	460	492
	DMD	71	

Supplementary Table 2. Circular RNAs with potential IRES activity.

chrom	name	blockCount	orf_len	best_transcript	gene_name
chr1	hsa_circ_0000061	2	14	NM_001172220	SCMH1
chr1	hsa_circ_0000062	8	246	NM_001031694	SCMH1
chr1	hsa_circ_0000063	3	177	NM_001172219	SCMH1
chr1	hsa_circ_0003751	8	238	NM_001031694	SCMH1
chr1	hsa_circ_0005254	2	59	NM_001198801	EIF4G3
chr1	hsa_circ_0007227	4	40	NM_001198803	EIF4G3
chr1	hsa_circ_0007991	3	31	NM_001198801	EIF4G3
chr1	hsa_circ_0009504	9	380	NM_181864	ACOT7
chr1	hsa_circ_0009628	3	67	NM_001201483	ENO1
chr1	hsa_circ_0010456	27	1367	NM_003760	EIF4G3
chr1	hsa_circ_0010457	29	1403	NM_001198801	EIF4G3
chr1	hsa_circ_0010461	19	1093	NM_001198801	EIF4G3
chr1	hsa_circ_0010465	15	854	NM_001198801	EIF4G3
chr1	hsa_circ_0010467	5	299	NM_001198801	EIF4G3
chr1	hsa_circ_0010468	11	646	NM_001198802	EIF4G3
chr1	hsa_circ_0010469	12	701	NM_001198802	EIF4G3
chr1	hsa_circ_0010470	13	701	NM_001198802	EIF4G3
chr1	hsa_circ_0010471	14	701	NM_001198802	EIF4G3
chr1	hsa_circ_0010473	12	515	NM_001198803	EIF4G3
chr1	hsa_circ_0010474	1	102	NM_001198801	EIF4G3
chr1	hsa_circ_0010475	11	509	NM_001198803	EIF4G3
chr1	hsa_circ_0010478	9	229	NM_001198803	EIF4G3
chr1	hsa_circ_0010479	10	229	NM_001198803	EIF4G3
chr1	hsa_circ_0010480	8	193	NM_001198803	EIF4G3
chr1	hsa_circ_0010481	9	193	NM_001198803	EIF4G3
chr1	hsa_circ_0010483	8	152	NM_001198803	EIF4G3
chr1	hsa_circ_0010487	5	119	NM_001198803	EIF4G3
chr1	hsa_circ_0010488	7	119	NM_001198803	EIF4G3
chr1	hsa_circ_0010489	6	81	NM_001198803	EIF4G3
chr1	hsa_circ_0010490	5	40	NM_001198803	EIF4G3
chr1	hsa_circ_0010491	2	31	NM_001198801	EIF4G3
chr1	hsa_circ_0011892	6	1698	NM_012421	RLF
chr1	hsa_circ_0011893	5	1698	NM_012421	RLF
chr1	hsa_circ_0011937	7	307	NM_001031694	SCMH1
chr1	hsa_circ_0011938	4	136	NM_001172218	SCMH1
chr1	hsa_circ_0011939	6	352	NM_001172218	SCMH1
chr1	hsa_circ_0011940	9	425	NM_001031694	SCMH1
chr1	hsa_circ_0011942	5	297	NM_001172218	SCMH1
chr1	hsa_circ_0011943	10	358	NM_001031694	SCMH1
chr1	hsa_circ_0011945	4	177	NM_001172218	SCMH1
chr1	hsa_circ_0011946	5	238	NM_001031694	SCMH1
chr1	hsa_circ_0011947	6	238	NM_001031694	SCMH1
chr1	hsa_circ_0011948	9	177	NM_001172218	SCMH1
chr1	hsa_circ_0012655	16	594	NM_147161	ACOT11
chr1	hsa_circ_0012656	14	509	NM_147161	ACOT11
chr1	hsa_circ_0012657	5	172	NM_147161	ACOT11
chr1	hsa_circ_0012658	8	241	NM_147161	ACOT11
chr1	hsa_circ_0012659	11	423	NM_147161	ACOT11
chr1	hsa_circ_0012660	2	83	NM_147161	ACOT11
chr1	hsa_circ_0012750	1	11	NM_001134673	NFIA
chr1	hsa_circ_0013129	1	54	NR_036634	TGFBR3
chr1	hsa_circ_0013130	3	84	NR_036634	TGFBR3
chr1	hsa_circ_0013131	14	629	NR_036634	TGFBR3

chr1	hsa_circ_0013132	12	590	NR_036634	TGFBR3
chr1	hsa_circ_0013133	10	540	NR_036634	TGFBR3
chr1	hsa_circ_0013134	11	540	NR_036634	TGFBR3
chr1	hsa_circ_0013135	6	413	NR_036634	TGFBR3
chr1	hsa_circ_0013136	11	527	NR_036634	TGFBR3
chr1	hsa_circ_0013138	8	429	NR_036634	TGFBR3
chr1	hsa_circ_0013143	2	86	NR_036634	TGFBR3
chr1	hsa_circ_0013618	10	793	NM_198268	HIPK1
chr1	hsa_circ_0013619	11	549	NM_198268	HIPK1
chr1	hsa_circ_0013620	10	457	NM_198268	HIPK1
chr1	hsa_circ_0013621	8	466	NM_198268	HIPK1
chr1	hsa_circ_0013651	17	670	NM_001242891	CSDE1
chr1	hsa_circ_0015035	9	358	NM_007348	ATF6
chr1	hsa_circ_0015971	5	155	NM_001114309	ELF3
chr2	hsa_circ_0052600	12	461	NM_002539	ODC1
chr2	hsa_circ_0052609	4	92	NM_002539	ODC1
chr2	hsa_circ_0054559	11	548	NM_003128	SPTBN1
chr2	hsa_circ_0054560	11	535	NM_178313	SPTBN1
chr2	hsa_circ_0054562	11	782	NM_003128	SPTBN1
chr2	hsa_circ_0054563	13	1071	NM_003128	SPTBN1
chr2	hsa_circ_0054564	28	1984	NM_178313	SPTBN1
chr2	hsa_circ_0054565	18	1386	NM_003128	SPTBN1
chr2	hsa_circ_0054566	12	1056	NM_003128	SPTBN1
chr2	hsa_circ_0054567	23	1796	NM_178313	SPTBN1
chr2	hsa_circ_0054568	22	1736	NM_178313	SPTBN1
chr2	hsa_circ_0054569	13	1140	NM_003128	SPTBN1
chr2	hsa_circ_0054570	19	1553	NM_178313	SPTBN1
chr2	hsa_circ_0054571	17	1177	NM_178313	SPTBN1
chr2	hsa_circ_0054572	15	900	NM_178313	SPTBN1
chr2	hsa_circ_0054573	12	787	NM_003128	SPTBN1
chr2	hsa_circ_0054574	15	925	NM_003128	SPTBN1
chr2	hsa_circ_0054575	11	695	NM_003128	SPTBN1
chr2	hsa_circ_0054578	9	539	NM_178313	SPTBN1
chr2	hsa_circ_0054579	13	735	NM_003128	SPTBN1
chr2	hsa_circ_0054581	7	434	NM_178313	SPTBN1
chr2	hsa_circ_0054582	11	630	NM_003128	SPTBN1
chr2	hsa_circ_0054583	5	219	NM_178313	SPTBN1
chr2	hsa_circ_0054584	4	167	NM_178313	SPTBN1
chr2	hsa_circ_0054586	3	70	NM_178313	SPTBN1
chr2	hsa_circ_0055801	4	373	NM_144706	C2orf15
chr2	hsa_circ_0055803	3	373	NM_144706	C2orf15
chr2	hsa_circ_0055804	3	373	NM_144706	C2orf15
chr2	hsa_circ_0057119	5	257	NM_133646	ZAK
chr2	hsa_circ_0057121	2	139	NM_133646	ZAK
chr2	hsa_circ_0057122	1	118	NM_133646	ZAK
chr2	hsa_circ_0057169	3	118	NM_001145412	NFE2L2
chr2	hsa_circ_0057828	4	112	NM_018256	WDR12
chr2	hsa_circ_0058016	10	362	NM_001875	CPS1
chr2	hsa_circ_0058018	22	956	NM_001875	CPS1
chr2	hsa_circ_0058020	17	748	NM_001875	CPS1
chr2	hsa_circ_0058022	12	586	NM_001875	CPS1
chr2	hsa_circ_0058023	11	519	NM_001875	CPS1
chr2	hsa_circ_0058026	13	473	NM_001875	CPS1
chr2	hsa_circ_0058027	6	236	NM_001875	CPS1
chr2	hsa_circ_0058029	5	151	NM_001875	CPS1
chr2	hsa_circ_0058030	2	67	NM_001875	CPS1
chr2	hsa_circ_0058080	34	1529	NM_212482	FN1
chr2	hsa_circ_0058081	36	1975	NM_212482	FN1
chr2	hsa_circ_0058082	19	1008	NM_212482	FN1

chr2	hsa_circ_0058083	25	1456	NM_212482	FN1
chr2	hsa_circ_0058084	35	1939	NM_212482	FN1
chr2	hsa_circ_0058088	31	1638	NM_002026	FN1
chr2	hsa_circ_0058089	32	1638	NM_002026	FN1
chr2	hsa_circ_0058090	36	1917	NM_002026	FN1
chr2	hsa_circ_0058094	32	1640	NM_212482	FN1
chr2	hsa_circ_0058097	29	1550	NM_212482	FN1
chr2	hsa_circ_0058098	36	1874	NM_212482	FN1
chr2	hsa_circ_0058101	18	1037	NM_212482	FN1
chr2	hsa_circ_0058102	21	1037	NM_212482	FN1
chr2	hsa_circ_0058105	30	1648	NM_212482	FN1
chr2	hsa_circ_0058108	22	1207	NM_212482	FN1
chr2	hsa_circ_0058109	13	651	NM_212482	FN1
chr2	hsa_circ_0058111	22	1218	NM_212482	FN1
chr2	hsa_circ_0058112	28	1537	NM_212482	FN1
chr2	hsa_circ_0058114	16	878	NM_212482	FN1
chr2	hsa_circ_0058115	9	431	NM_212482	FN1
chr2	hsa_circ_0058116	5	44	NM_212482	FN1
chr2	hsa_circ_0058117	12	276	NM_212482	FN1
chr2	hsa_circ_0058118	6	247	NM_212482	FN1
chr2	hsa_circ_0058119	15	730	NM_212482	FN1
chr2	hsa_circ_0058120	13	674	NM_212482	FN1
chr2	hsa_circ_0058121	3	159	NM_212482	FN1
chr2	hsa_circ_0058122	10	545	NM_212482	FN1
chr2	hsa_circ_0058123	20	1084	NM_212482	FN1
chr2	hsa_circ_0058129	15	741	NM_212482	FN1
chr2	hsa_circ_0058130	16	809	NM_212482	FN1
chr2	hsa_circ_0058137	9	388	NM_212482	FN1
chr2	hsa_circ_0058138	10	499	NM_212482	FN1
chr2	hsa_circ_0058139	12	589	NM_212482	FN1
chr2	hsa_circ_0058140	13	589	NM_212482	FN1
chr2	hsa_circ_0058141	14	707	NM_212482	FN1
chr2	hsa_circ_0058145	8	338	NM_054034	FN1
chr2	hsa_circ_0058150	7	350	NM_212482	FN1
chr2	hsa_circ_0058152	4	145	NM_212482	FN1
chr2	hsa_circ_0058153	5	256	NM_212482	FN1
chr2	hsa_circ_0058154	8	346	NM_212482	FN1
chr2	hsa_circ_0058155	6	287	NM_212482	FN1
chr2	hsa_circ_0058156	6	227	NM_212482	FN1
chr3	hsa_circ_0065974	4	159	NM_000992	RPL29
chr3	hsa_circ_0068341	27	1366	NM_001194946	EIF4G1
chr3	hsa_circ_0068342	17	988	NM_182917	EIF4G1
chr3	hsa_circ_0068343	16	945	NM_182917	EIF4G1
chr3	hsa_circ_0068344	22	974	NM_182917	EIF4G1
chr3	hsa_circ_0068345	11	517	NM_182917	EIF4G1
chr3	hsa_circ_0068348	11	234	NM_182917	EIF4G1
chr4	hsa_circ_0069974	4	114	NM_002994	CXCL5
chr4	hsa_circ_0070910	9	379	NM_014278	HSPA4L
chr5	hsa_circ_0074537	5	151	NM_001025071	RPS14
chr5	hsa_circ_0074539	3	103	NM_001025071	RPS14
chr5	hsa_circ_0074661	2	31	NM_005754	G3BP1
chr5	hsa_circ_0074662	10	361	NM_005754	G3BP1
chr5	hsa_circ_0075062	1	142	NM_003714	STC2
chr5	hsa_circ_0075063	2	172	NM_003714	STC2
chr5	hsa_circ_0075064	4	302	NM_003714	STC2
chr6	hsa_circ_0002016	6	323	NM_000876	IGF2R
chr6	hsa_circ_0076042	5	118	NM_145905	HMGA1
chr6	hsa_circ_0076213	6	313	NM_001243186	PIM1
chr6	hsa_circ_0076214	4	226	NM_002648	PIM1
chr6	hsa_circ_0076215	3	226	NM_002648	PIM1

chr6	hsa_circ_0078573	32	1523	NM_000876	IGF2R
chr6	hsa_circ_0078575	38	1596	NM_000876	IGF2R
chr6	hsa_circ_0078576	44	1905	NM_000876	IGF2R
chr6	hsa_circ_0078578	31	1296	NM_000876	IGF2R
chr6	hsa_circ_0078579	44	2065	NM_000876	IGF2R
chr6	hsa_circ_0078582	39	1905	NM_000876	IGF2R
chr6	hsa_circ_0078583	19	816	NM_000876	IGF2R
chr6	hsa_circ_0078584	21	946	NM_000876	IGF2R
chr6	hsa_circ_0078585	27	1319	NM_000876	IGF2R
chr6	hsa_circ_0078587	16	714	NM_000876	IGF2R
chr6	hsa_circ_0078588	18	820	NM_000876	IGF2R
chr6	hsa_circ_0078590	16	778	NM_000876	IGF2R
chr6	hsa_circ_0078591	20	1019	NM_000876	IGF2R
chr6	hsa_circ_0078592	30	1535	NM_000876	IGF2R
chr6	hsa_circ_0078593	13	558	NM_000876	IGF2R
chr6	hsa_circ_0078598	3	173	NM_000876	IGF2R
chr6	hsa_circ_0078599	10	557	NM_000876	IGF2R
chr6	hsa_circ_0078601	6	358	NM_000876	IGF2R
chr6_d bb_hap 3	hsa_circ_0078867	1	138	None	None
chr6_q bl_hap 6	hsa_circ_0078969	1	72	None	None
chr7	hsa_circ_0006372	8	571	NR_040582	STAG3L3
chr7	hsa_circ_0008576	20	1483	NM_032408	BAZ1B
chr7	hsa_circ_0079132	2	122	NM_032302	PSMG3
chr7	hsa_circ_0079367	6	354	NM_139179	DAGLB
chr7	hsa_circ_0079369	1	37	NM_006854	KDELR2
chr7	hsa_circ_0079370	2	76	NM_006854	KDELR2
chr7	hsa_circ_0079371	3	76	NM_006854	KDELR2
chr7	hsa_circ_0079372	4	150	NM_006854	KDELR2
chr7	hsa_circ_0079968	3	94	NM_001253823	BLVRA
chr7	hsa_circ_0080019	3	155	NM_001127218	POLD2
chr7	hsa_circ_0080199	5	107	NM_003364	UPP1
chr7	hsa_circ_0082173	2	101	NM_013332	HILPDA
chr7	hsa_circ_0082174	1	101	NM_013332	HILPDA
chr7	hsa_circ_0082302	5	202	NM_001040110	NRF1
chr7	hsa_circ_0082303	10	449	NM_001040110	NRF1
chr8	hsa_circ_0084882	2	65	NM_004349	RUNX1 T1
chr8	hsa_circ_0084924	4	105	NM_015496	KIAA14 29
chr8	hsa_circ_0085379	11	746	NM_000127	EXT1
chr8	hsa_circ_0085382	7	544	NM_000127	EXT1
chr8	hsa_circ_0085533	1	0	NM_002467	MYC
chr8	hsa_circ_0085534	3	439	NM_002467	MYC
chr9	hsa_circ_0088564	6	507	NM_005347	HSPA5
chr10	hsa_circ_0018962	17	673	NM_020338	ZMIZ1
chr10	hsa_circ_0018964	17	708	NM_020338	ZMIZ1
chr10	hsa_circ_0018969	2	182	NM_020338	ZMIZ1
chr10	hsa_circ_0020057	3	126	NM_001003408	ABLIM1
chr10	hsa_circ_0020058	5	126	NM_001003408	ABLIM1
chr10	hsa_circ_0020059	6	156	NM_001003408	ABLIM1
chr10	hsa_circ_0020060	8	197	NM_001003408	ABLIM1
chr10	hsa_circ_0020061	11	333	NM_001003408	ABLIM1
chr10	hsa_circ_0020062	12	333	NM_001003408	ABLIM1
chr10	hsa_circ_0020063	15	333	NM_001003408	ABLIM1
chr10	hsa_circ_0020064	20	594	NM_001003408	ABLIM1
chr10	hsa_circ_0020065	21	654	NM_001003408	ABLIM1

chr10	hsa_circ_0020066	22	654	NM_001003408	ABLIM1
chr10	hsa_circ_0020074	2	72	NM_001003408	ABLIM1
chr10	hsa_circ_0020075	3	72	NM_001003408	ABLIM1
chr11	hsa_circ_0000353	6	311	NM_182962	BIRC3
chr11	hsa_circ_0004881	1	21	NM_001130145	YAP1
chr11	hsa_circ_0020792	1	123	NR_003512	INS-IGF2
chr11	hsa_circ_0020793	3	280	NR_003512	INS-IGF2
chr11	hsa_circ_0021245	2	61	NM_001172705	EIF4G2
chr11	hsa_circ_0021246	3	92	NM_001172705	EIF4G2
chr11	hsa_circ_0021247	5	207	NM_001172705	EIF4G2
chr11	hsa_circ_0021248	6	337	NM_001172705	EIF4G2
chr11	hsa_circ_0021249	10	510	NM_001172705	EIF4G2
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chr11	hsa_circ_0021251	20	701	NM_001172705	EIF4G2
chr11	hsa_circ_0021252	22	701	NM_001418	EIF4G2
chr11	hsa_circ_0021253	7	405	NM_001172705	EIF4G2
chr11	hsa_circ_0021254	10	460	NM_001172705	EIF4G2
chr11	hsa_circ_0021255	8	347	NM_001172705	EIF4G2
chr11	hsa_circ_0021257	15	342	NM_001172705	EIF4G2
chr11	hsa_circ_0021261	12	227	NM_001172705	EIF4G2
chr11	hsa_circ_0021591	2	47	NM_001033506	CSTF3
chr11	hsa_circ_0022172	4	124	NR_037646	TMX2-CTNND1
chr11	hsa_circ_0022179	20	968	NM_001085458	CTNND1
chr11	hsa_circ_0022572	3	99	NM_002394	SLC3A2
chr11	hsa_circ_0022573	5	301	NM_001012662	SLC3A2
chr11	hsa_circ_0022577	4	199	NM_001012662	SLC3A2
chr11	hsa_circ_0022578	10	409	NM_001012662	SLC3A2
chr11	hsa_circ_0022893	5	282	NM_021975	RELA
chr11	hsa_circ_0023047	7	250	NM_001040716	PC
chr11	hsa_circ_0023081	4	107	NM_021173	POLD4
chr11	hsa_circ_0023305	4	214	NM_053056	CCND1
chr11	hsa_circ_0023529	7	309	NM_003355	UCP2
chr11	hsa_circ_0023530	8	309	NM_003355	UCP2
chr11	hsa_circ_0024093	9	504	NM_001130145	YAP1
chr11	hsa_circ_0024094	8	326	NM_001130145	YAP1
chr12	hsa_circ_0025501	3	198	NM_004064	CDKN1B
chr12	hsa_circ_0025505	4	357	NM_003979	GPRC5A
chr12	hsa_circ_0025507	3	357	NM_003979	GPRC5A
chr12	hsa_circ_0025508	2	92	NM_003979	GPRC5A
chr12	hsa_circ_0026133	4	449	NM_032704	TUBA1C
chr12	hsa_circ_0026134	4	449	NM_032704	TUBA1C
chr12	hsa_circ_0026426	9	564	NM_005554	KRT6A
chr12	hsa_circ_0026434	5	359	NM_005554	KRT6A
chr12	hsa_circ_0026436	3	272	NM_005554	KRT6A
chr12	hsa_circ_0027079	8	429	NM_001686	ATP5B
chr12	hsa_circ_0027081	7	358	NM_001686	ATP5B
chr12	hsa_circ_0027087	5	264	NM_001686	ATP5B
chr12	hsa_circ_0027248	7	304	NM_005269	GLI1
chr12	hsa_circ_0027253	8	129	NM_004990	MARS
chr12	hsa_circ_0027254	9	197	NM_004990	MARS
chr12	hsa_circ_0027256	11	311	NM_004990	MARS
chr12	hsa_circ_0027257	5	129	NM_004990	MARS
chr12	hsa_circ_0027258	6	197	NM_004990	MARS
chr12	hsa_circ_0027259	5	197	NM_004990	MARS
chr12	hsa_circ_0027260	4	197	NM_004990	MARS
chr12	hsa_circ_0027271	11	344	NM_004990	MARS
chr12	hsa_circ_0027272	11	349	NM_004990	MARS
chr12	hsa_circ_0027829	27	1248	NM_181861	APAF1

chr12	hsa_circ_0027961	6	210	NM_003330	TXNRD1
chr12	hsa_circ_0028284	12	544	NM_001136538	ACAD10
chr14	hsa_circ_0003200	5	210	NM_001242924	ZNF410
chr14	hsa_circ_0003448	8	351	NM_001242924	ZNF410
chr14	hsa_circ_0032482	2	44	NM_015604	DCAF4
chr14	hsa_circ_0032483	7	169	NM_015604	DCAF4
chr14	hsa_circ_0032524	8	327	NM_152444	PTGR2
chr14	hsa_circ_0032525	8	327	NM_152444	PTGR2
chr14	hsa_circ_0032528	14	516	NM_001242924	ZNF410
chr14	hsa_circ_0032685	1	75	NM_006827	TMED10
chr15	hsa_circ_0036177	1	125	NM_001206796	PKM2
chr15	hsa_circ_0036178	2	125	NM_001206796	PKM2
chr15	hsa_circ_0036179	3	125	NM_001206798	PKM2
chr15	hsa_circ_0036180	4	202	NM_001206796	PKM2
chr15	hsa_circ_0036181	5	241	NM_001206796	PKM2
chr15	hsa_circ_0036182	6	293	NM_001206796	PKM2
chr15	hsa_circ_0036183	7	383	NM_001206797	PKM2
chr15	hsa_circ_0036184	7	383	NM_001206796	PKM2
chr15	hsa_circ_0036185	8	383	NM_001206796	PKM2
chr15	hsa_circ_0036186	9	468	NM_001206796	PKM2
chr15	hsa_circ_0036187	10	531	NM_001206796	PKM2
chr15	hsa_circ_0036188	11	531	NM_001206796	PKM2
chr15	hsa_circ_0036189	12	605	NM_001206796	PKM2
chr15	hsa_circ_0036955	3	105	NR_037601	LOC100507217
chr15	hsa_circ_0036956	15	603	NM_001271	CHD2
chr15	hsa_circ_0036957	35	1530	NM_001271	CHD2
chr15	hsa_circ_0036958	31	1379	NM_001271	CHD2
chr15	hsa_circ_0036965	18	761	NM_001271	CHD2
chr15	hsa_circ_0036966	29	1238	NM_001271	CHD2
chr15	hsa_circ_0036967	32	1373	NM_001271	CHD2
chr15	hsa_circ_0036969	18	811	NM_001271	CHD2
chr15	hsa_circ_0036972	15	612	NM_001271	CHD2
chr15	hsa_circ_0036973	22	904	NM_001271	CHD2
chr15	hsa_circ_0036977	17	775	NM_001271	CHD2
chr15	hsa_circ_0036978	23	919	NM_001271	CHD2
chr15	hsa_circ_0036981	19	826	NM_001271	CHD2
chr15	hsa_circ_0036982	25	1125	NM_001271	CHD2
chr15	hsa_circ_0036985	15	688	NM_001271	CHD2
chr15	hsa_circ_0036986	6	196	NM_001271	CHD2
chr15	hsa_circ_0036987	3	104	NM_001271	CHD2
chr16	hsa_circ_0037781	9	336	NM_024109	METTLL22
chr16	hsa_circ_0038399	3	53	NM_001128301	LYRM1
chr16	hsa_circ_0038400	3	113	NM_001128301	LYRM1
chr16	hsa_circ_0039459	3	61	NM_005953	MT2A
chr16	hsa_circ_0039799	6	173	NM_014187	TMEM208
chr17	hsa_circ_0043601	6	400	NM_002276	KRT19
chr17	hsa_circ_0043602	6	400	NM_002276	KRT19
chr17	hsa_circ_0043603	6	400	NM_002276	KRT19
chr17	hsa_circ_0043604	6	400	NM_002276	KRT19
chr17	hsa_circ_0043605	5	321	NM_002276	KRT19
chr17	hsa_circ_0043614	8	472	NM_000526	KRT14
chr17	hsa_circ_0043615	7	440	NM_000526	KRT14
chr17	hsa_circ_0043617	6	424	NM_000526	KRT14
chr17	hsa_circ_0043620	4	309	NM_000526	KRT14
chr17	hsa_circ_0043623	2	202	NM_000526	KRT14
chr17	hsa_circ_0043624	1	175	NM_000526	KRT14
chr17	hsa_circ_0046091	2	43	NM_006340	BAIAP2
chr18	hsa_circ_0047664	4	72	NM_000985	RPL17
chr18	hsa_circ_0047788	12	234	NM_001144971	NEDD4L

chr18	hsa_circ_0047791	21	611	NM_001144971	NEDD4L
chr19	hsa_circ_0048058	6	205	NM_198591	BSG
chr19	hsa_circ_0048059	5	411	NM_001728	BSG
chr19	hsa_circ_0048060	6	176	NM_001728	BSG
chr19	hsa_circ_0048792	14	286	NM_007322	RANBP3
chr19	hsa_circ_0048802	5	135	NM_007322	RANBP3
chr19	hsa_circ_0049366	28	1153	NM_001128849	SMARCA4
chr19	hsa_circ_0049373	22	931	NM_001128849	SMARCA4
chr19	hsa_circ_0049674	37	1436	NM_023035	CACNA1A
chr19	hsa_circ_0049675	28	1263	NM_023035	CACNA1A
chr19	hsa_circ_0050727	6	244	NM_001281	TBCB
chr19	hsa_circ_0050729	5	193	NM_001281	TBCB
chr19	hsa_circ_0050730	4	65	NM_001281	TBCB
chr19	hsa_circ_0050732	2	40	NM_001281	TBCB
chr19	hsa_circ_0050733	1	40	NM_001281	TBCB
chr19	hsa_circ_0050961	2	138	NM_021107	MRPS12
chr19	hsa_circ_0051483	1	93	NM_001983	ERCC1
chr19	hsa_circ_0051484	2	93	NM_001983	ERCC1
chr19	hsa_circ_0051485	3	93	NM_001983	ERCC1
chr19	hsa_circ_0051486	4	93	NM_001983	ERCC1
chr19	hsa_circ_0051487	5	110	NM_001983	ERCC1
chr19	hsa_circ_0051491	9	281	NM_001983	ERCC1
chr19	hsa_circ_0051620	3	182	NM_005628	SLC1A5
chr19	hsa_circ_0051621	5	313	NM_005628	SLC1A5
chr19	hsa_circ_0051622	6	313	NM_005628	SLC1A5
chr19	hsa_circ_0051623	7	313	NM_005628	SLC1A5
chr19	hsa_circ_0051624	7	339	NM_001145145	SLC1A5
chr19	hsa_circ_0051625	8	541	NM_005628	SLC1A5
chr19	hsa_circ_0051627	2	103	NM_005628	SLC1A5
chr19	hsa_circ_0051628	3	181	NM_005628	SLC1A5
chr19	hsa_circ_0051629	4	234	NM_005628	SLC1A5
chr19	hsa_circ_0051630	5	234	NM_005628	SLC1A5
chr19	hsa_circ_0051631	6	234	NM_005628	SLC1A5
chr19	hsa_circ_0051632	6	260	NM_001145145	SLC1A5
chr19	hsa_circ_0052143	2	156	NM_024298	MBOAT7
chr19	hsa_circ_0052144	3	239	NM_024298	MBOAT7
chr19	hsa_circ_0052145	6	343	NM_024298	MBOAT7
chr19	hsa_circ_0052258	2	210	NM_016535	ZNF581
chr20	hsa_circ_0059159	13	391	NM_177559	CSNK2A1
chr20	hsa_circ_0059160	14	391	NM_177559	CSNK2A1
chr20	hsa_circ_0059172	2	33	NM_177559	CSNK2A1
chr20	hsa_circ_0060070	35	2442	NM_007186	CEP250
chr20	hsa_circ_0060071	34	2442	NM_007186	CEP250
chr20	hsa_circ_0060073	31	2319	NM_007186	CEP250
chr20	hsa_circ_0060074	22	1136	NM_007186	CEP250
chr20	hsa_circ_0060075	28	2249	NM_007186	CEP250
chr20	hsa_circ_0060079	7	1151	NM_007186	CEP250
chr21	hsa_circ_0061583	1	134	NM_001001890	RUNX1
chr21	hsa_circ_0061584	4	245	NM_001001890	RUNX1
chr21	hsa_circ_0061585	5	348	NM_001001890	RUNX1
chr22	hsa_circ_0004706	1	72	NM_005036	PPARA
chr22	hsa_circ_0063028	11	471	NM_006739	MCM5
chr22	hsa_circ_0063029	13	567	NM_006739	MCM5
chr22	hsa_circ_0063030	4	198	NM_006739	MCM5
chr22	hsa_circ_0063031	14	658	NM_006739	MCM5
chr22	hsa_circ_0063032	11	494	NM_006739	MCM5
chr22	hsa_circ_0063033	13	585	NM_006739	MCM5
chr22	hsa_circ_0063034	14	628	NM_006739	MCM5
chr22	hsa_circ_0063040	9	393	NM_006739	MCM5
chr22	hsa_circ_0063041	6	219	NM_006739	MCM5

chr22	hsa_circ_0063042	10	386	NM_006739	MCM5
chr22	hsa_circ_0063044	7	283	NM_006739	MCM5
chr22	hsa_circ_0063045	2	61	NM_006739	MCM5
chr22	hsa_circ_0063046	6	228	NM_006739	MCM5
chr22	hsa_circ_0063047	6	228	NM_006739	MCM5
chrX	hsa_circ_0090372	3	163	NR_024234	NDUFB11
chrX	hsa_circ_0091456	4	123	NM_001167	XIAP
chrX	hsa_circ_0091505	8	250	NM_006649	UTP14A

Supplementary Table 3. Sequence of primers used in the miniSINEUP-DJ, miniSINEUP-IRES-DJ1, miniSINEUP-(HCV IRES)-GFP and pRUF-SINEB2 (direct and inverted) clones.

<i>Construct</i>	Forward primer (5'→3')	Reverse Primer (5'→3')
<i>miniSINEUP-DJ-1</i>	ATATACTCGAGCCATTTT ATGTTATATG	GCGCAAGCTTGGAGCTAAAG AGATGGCTCAG
<i>miniSINEUP(HCV IRES)-DJ-1</i>	ATATACTCGAGCCATTTT AT GTTATATG	GCGCAAGCTTGTACGTTTGG TTTTCTTTGAGG
<i>miniSINEUP(Polio IRES)-DJ-1</i>	ATATACTCGAGCCATTTT AT GTTATATG	GCGCAAGCTTGGCCAA TCCA ATTCGCTTTATG
<i>miniSINEUP(c-myc IRES)-DJ-1</i>	ATATACTCGAGCCATTTT AT GTTATATG	GCGCAAGCTTAGAGTCGCGT CCTTGCTCGG
<i>SINEUP-ΔED</i>	1:AGTCTCTTAAAAAACA ACA AACG 2:ATATACTCGAGCCATTT TAT GTTATATGTTTACAAGCCC CA CACCAGGCTGAAAAGTCTC TT AAAAAACAAACAAACG	GCGCTCTAGAAAGCTTGGTAC CGAG
<i>pRUF-invSINEB2</i>	ATATAGAATTTCGAGTCTC AC TCGCCGAAG	GCGCCTCGAGCCTTGCTGTT GTTGTTT
<i>pRUF-dirSINEB2</i>	ATATAGAATTCCCTTGCTG TTCGTTTCGTTT	GCGCCTCGAGGCAGTCTCACT CGCCGAAG
<i>pZKSCAN_gib</i>	TATGGCGTTAACCACCATG GC	CGTTAACGACTCGGAACGGTT AC
<i>cMYC IRES_gib</i>	ACCGTTCCGAGTCGTTAAC GTAATTCCAGCGAGAG	CCATGGTGGTTAACGCCATAC GTCGCGGGAGGCTG
<i>invSINEB2_gib</i>	ACCGTTCCGAGTCGTTAAC GCAGTGCTAGAGGAGG	CCATGGTGGTTAACGCCATAG GAGCTAAAGAGATG
<i>directSINEB2_gib</i>	ACCGTTCCGAGTCGTTAAC GGGAGCTAAAGAGATG	CCATGGTGGTTAACGCCATAC AGTGCTAGAGGAGG
<i>SV40_rem (to remove SV40 promoter)</i>	AAGCTTGATTCTTCTGACA CAACAG	AAGGTACCTAACCAAGTTCCT CTT

Supplementary Table 4. List of primers used for qRT-PCR Real-time analysis.

<i>Amplification target</i>	Forward primer (5'→3')	Reverse Primer (5'→3')
<i>GFP</i>	Carrieri et al. 2012	
<i>DJ-1</i>	Foti, 2010	
<i>invSINEB2</i>	Zucchelli, 2015	
<i>circMyc BSJ</i>	GCTGCTTAGACGCTGGATTT	AGAAGCCCTGCCCTTCTC
<i>PXK</i>	AGTGGGAGGTGGTGGAAACCTT	GAGGATTCATTAGCTGTGGCAAAGG
<i>PXK-FLAG</i>	GACTACAAAGACGATGACGA	GCTGTCTGATGGGGTAGAA
<i>mAS 3' Uchl1</i>	CTGGTGTGTATTATCTCTTATGC	CTCCCGAGTCTCTGTAGC
<i>Rluc_pRUF</i>	TTGAATCATGGGATGAATGG	GGACGACGAACTTCACCTTT
<i>Fluc_pRUF</i>	TCTGAGGAGCCTTCAGGATT	AGATGGAACCTCTTGGCAAC
<i>Cmyc IRES</i>	ACGAAACTTTGCCCATAGCAG	CAAATGGGCAGAATAGCCT
<i>circGFP</i>	ATGACCGACAAGGCCAAGAA	CAGGTAGTGGTTATCGGGCA
<i>Linear GFP</i>	AGCGTTCTGATAGTGCCTCG	GTAGTGGTTATCGGGCAGCA

Supplementary Table 5. List of antibodies.

<i>Antibody</i>	<i>Source</i>	<i>Identifier</i>
<i>anti-DJ-1</i>	Enzo Life Technology	ADI-KAM-SA100-E
<i>anti-β-Actin</i>	Sigma	A2066
<i>anti-PXK</i>	Sigma	HPA024068-100UL
<i>anti-MFN2</i>	Cell Signaling	9482S
<i>anti-CHK1</i>	Proteintech	25887-1-AP
<i>anti-GUCY1B1</i>	Abcam	ab154841
<i>anti-FLAG</i>	Sigma	F3165