

Supplementary data

Table S1 Primers used for analysis of relative gene expression.

RT-PCR of IncHR1	Forward: 5'-GAATAGCTTTCTTCCTGGA ACT-3'
	Reverse: 5'-CATGCCACAGTTTTTACTTCTTC-3'
shRNA-1 sequences of knockdown IncHR1	Forward: 5'-GATCCCCAACCTGGA ACTGACTGGACTTTTCAA GAGAAAGTCCAGTCAGTTCAGGTTTTTTTTTC-3'
	Reverse: 5'-TCGAGAAAAAACCTGGA ACTGACTGGACTTTCT CTTGAAAAGTCCAGTCAGTTCAGGTTGGG-3'
shRNA-2 sequences of knockdown IncHR1	Forward: 5'-GATCCCCAAGAATAGCTTTCTTCCTGGATTCAA GAGATCCAGGA AGAAAGCTATTCTTTTTTTC-3'
	Reverse: 5'-TCGAGAAAAAAGAATAGCTTTCTTCCGGTATCT CTTGAATCCAGGAAGAAAGCTATTCTTGGG-3'
shRNA-3 sequences of knockdown IncHR1	Forward: 5'-GATCCCCAAGCCAATAATTAAAGAGTGATTCA AGAGATCACTCTTTAATTATTGGCTTTTTTTC-3'
	Reverse: 5'-TCGAGAAAAAAGCCAATAATTAAAGAGTGATC TCTTGAATCACTCTTTAATTATTGGCTTGGG -3'
shRNA-4 sequences of knockdown IncHR1	Forward: 5'-GATCCCCAAGCTGCAACTGACTGGTGTTTTCA AGAGA AACACCAGTCAGTTGCAGCTTTTTTTC -3'

	Reverse: 5'-TCGAGAAAAAAGCTGCAACTGACTGGTGTTC TCTTGAAAACACCAGTCAGTTGC AGCTTGGG -3'
qRT-PCR of β -actin	Forward:5'-CCAACCGCGAGAAGATGA-3'
	Reverse:5'-CCAGAGGCGTACAGGGATAG-3'
qRT-PCR of SREBP-1c	Forward:5'-ACTTCTGGAGGCATCGCAAGCA-3'
	Reverse:5'-AGTTCCAGAGGAGGCTACAAG-3'
qRT-PCR of FAS	Forward:5'-TTCTACGGCTCCACGCTCTTCC-3'
	Reverse:5'-GAAGAGTCTTCGTCAGCCAGGA-3'
qRT-PCR of IncHR1	Forward:5'-TTCCTGGAAGTACTGACTGGACTTCA-3'
	Reverse:5'-GCCTGAGCAAATCAATGGATGT-3'
Sequences for checking	Forward:5'-GAGTGAGAATGAGCGGCAAT-3'
F0 transgenic mice	Reverse:5'-AGGAGGCCTTCCATCTGTTGCT-3'
Probe for IncHR1-FISH	TTGAGAACAACCTTACCTAAAAACCATGGGAATTTGG CAGGGAGGGATGTGATGGGGCATATGTTGAGTTCT TTCAAGGAATTTAACTTTTCATTTCTGAAGAAGTAAAA ACTGTGGCATGGT

Table S2 Differential expression of lncRNAs (fold change > 2).

Database_ID[®]	Fold change[®]	up or down	Length	Chr.[®]
XLOC_007451	70.84808	up	1294	9
uc001ggy.1	27.94886	up	2128	1
ENST00000413865	19.089632	up	531	19
ENST00000436804	12.996548	up	878	
ENST00000517154	12.575647	up	245	21
RNZ33636	10.547697	up	201	9
NR_028288	9.421359	up	3308	14
ENST00000540745	8.231339	up	802	12
uc003gme.1	8.15656	up	2036	4
ENST00000450706	8.100246	up	2118	1
XLOC_008538	7.577117	up	2042	10
uc001hak.2	7.105995	up	1604	1
XLOC_009811	7.0729933	up	303	12
EvoFold_42145	6.993222	up	246	17
NR_033877	6.9775314	up	2552	13
NR_027902	6.796304	up	1515	1
XLOC_008079	6.761337	up	3251	X
RNZ29810	6.7339406	up	233	6
XLOC_006440	6.5296707	up	361	7
uc010oed.1	6.50267	up	954	
ENST00000449472	6.1817203	up	478	14
RNZ32849	6.1043415	up	237	8
RNZ5598	5.950093	up	241	11
uc003lpp.1	5.9469414	up	5295	5
ENST00000512007	5.8690977	up	246	5

XLOC_004078	5.8262696	up	841	4
XLOC_014371	5.5293784	up	1056	22
	5.5044847	up		
NONE	5.4099584	up	351	17
	5.4052057	up		
XLOC_010013	5.402009	up	984	12
HIT000323277.12	5.2348537	up	389	
XLOC_011289	5.233048	up	809	15
XLOC_012248	5.2213135	up	651	17
HIT000332098.4	5.206392	up	364	
ENST00000455253	5.1512704	up	744	21
XLOC_001643	4.9161606	up	238	2
XLOC_010577	4.8299313	up	2709	13
ENST00000549532	4.809066	up	420	12
HIT000326314.9	4.7557216	up	211	7
ASO2149	4.75139	up	1424	2
uc003dwh.1	4.6456604	up	2514	3
XLOC_014063	4.636624	up	354	21
NR_024606	4.6105714	up	2450	2
RNZ12461	4.6078553	up	320	15
XLOC_001265	4.605868	up	8062	1
RNZ28178	4.586049	up	236	5
ASO1735	4.5827746	up	2022	1
ENST00000435526	4.561472	up	410	10
XLOC_010263	4.4777875	up	6208	12
XLOC_001704	4.446267	up	589	2
RNZ29607	4.4031034	up	276	6

XLOC_003916	4.4013357	up	601	4
NR_024066	4.3837137	up	2046	3
XLOC_001164	4.3745313	up	2085	1
XLOC_002117	4.374283	up	1937	2
XLOC_004342	4.373025	up	547	5
uc001jbl.2	4.3607626	up	1800	10
AK022431	4.3276176	up	2134	9
RNZ36123	4.3248324	up	209	X
	4.307071	up		
NR_024119	4.2783937	up	612	7
ENST00000367207	4.241157	up	1892	1
HIT000282466.8	4.196703	up	533	4
RNZ20632	4.132702	up	272	2
XLOC_013909	4.127366	up	315	21
RNZ28510	4.1035523	up	320	5
RNZ9314	4.102275	up	223	12
NONE	4.0880494	up	1161	7
HIT000327149.8	4.0718513	up	466	
ENST00000441759	4.0713277	up	978	21
XLOC_002380	4.063572	up	318	2
ENST00000428865	4.041005	up	342	6
XLOC_006839	4.0361853	up	2571	8
RNZ6851	4.035709	up	223	11
ENST00000456327	4.0168123	up	1435	2
XLOC_002542	4.000637	up	648	2
uc010sjh.1	3.973542	up	557	12
ENST00000446766	3.9297752	up	495	1

RNZ5655	3.902934	up	201	11
ENST00000441942	3.892117	up	475	19
NR_027756	3.8919394	up	1079	16
uc003ewf.1	3.8770707	up	2569	3
ENST00000556163	3.829527	up	822	14
RNZ26783	3.8256924	up	240	5
uc001cij.1	3.811345	up	2363	1
XLOC_008848	3.7551827	up	310	10
RNZ29386	3.748521	up	279	6
uc003kke.2	3.7215683	up	3094	5
RNZ21722	3.7212942	up	241	21
ENST00000451946	3.7130747	up	623	10
ENST00000415575	3.7055337	up	747	6
XLOC_007598	3.7011676	up	1044	9
XLOC_007437	3.6995115	up	233	9
uc010pqq.1	3.6923494	up	1891	1
XLOC_001430	3.6905768	up	1211	2
XLOC_013437	3.687448	up	1950	20
uc002lbg.3	3.6854765	up	3936	18
NR_024278	3.6500244	up	5785	7
uc011btt.1	3.644955	up	983	3
RNZ32519	3.6306157	up	201	8
ENST00000420210	3.6288617	up	509	13
ENST00000514291	3.6273916	up	686	5
uc011gxa.1	3.610117	up	909	
RNZ33262	3.605353	up	358	8
RNZ32508	3.5817587	up	241	8

ENST00000426963	3.5737178	up	460	20
ENST00000527209	3.5341458	up	1526	19
uc001ozo.1	3.5324757	up	1398	11
RNZ3618	3.5018897	up	228	1
uc003mwz.1	3.4939008	up	504	6
uc001eek.2	3.4878929	up	2117	1
uc002itt.1	3.4537466	up	2646	17
uc.235+	3.4519823	up	228	8
RNZ7188	3.4493363	up	326	11
XLOC_001937	3.4074578	up	384	2
uc003lpx.1	3.3634434	up	3092	5
ASO3448	3.3207514	up	1430	3
uc003uhs.1	3.2169538	up	2652	7
ENST00000435810	3.214949	up	1123	6
HIT000257804.9	3.2135477	up	469	13
ENST00000530896	3.1981921	up	531	11
XLOC_000677	3.1761892	up	613	1
uc011litt.1	3.1576488	up	4938	9
LIT3578	3.1238544	up	1309	13
ENST00000423706	3.1147406	up	526	2
ENST00000443373	3.11076	up	295	16
XLOC_008407	3.1031723	up	312	10
ENST00000439891	3.0805552	up	528	6
EvoFold_29070	3.0246594	up	436	10
HIT000327625.12	3.0113418	up	379	
AK024909	3.0066545	up	2098	4
uc001dil.1	2.9549372	up	1994	1

uc010yos.1	2.9160008	up	1598	2
HIT000324578.9	2.9148667	up	296	
XLOC_002236	2.8985775	up	690	2
uc001qax.3	2.8786294	up	1847	11
uc003lzs.1	2.7630174	up	2182	5
uc003zqt.2	2.756164	up	6876	9
XLOC_008445	2.753722	up	1213	10
XLOC_009561	2.6930637	up	662	11
ENST00000433433	2.6724799	up	3104	2
ENST00000416438	2.660173	up	2001	9
XLOC_010933	2.5555973	up	447	14
XLOC_011744	2.5418663	up	436	16
ENST00000427343	2.5369973	up	579	2
ENST00000439406	2.4663365	up	1203	
ENST00000547607	2.4188704	up	675	12
RNZ16181	2.3810751	up	317	17
RNZ13654	2.3412936	up	232	16
ENST00000416343	2.3310034	up	375	1
uc010fcy.1	2.2013648	up	1114	2
uc001qaw.3	2.173272	up	1879	11
XLOC_010985	-2.069309	down	546	14
RNZ27218	-2.0922723	down	236	5
AK022061	-2.1670854	down	1428	9
uc.460+	-2.1910427	down	276	X
XLOC_002721	-2.3101015	down	693	3
ENST00000498944	-2.3155994	down	2193	19
ENST00000452716	-2.7348475	down	1075	2

XLOC_006159	-2.876001	down	4277	7
EvoFold_28940	-2.9042757	down	209	10
NONE	-2.9167912	down	201	7
EvoFold_15857	-2.9361565	down	225	5
ENST00000440762	-2.9578395	down	3872	1
ENST00000425587	-3.0255802	down	341	9
XLOC_006828	-3.5391464	down	1868	8
RNZ31373	-4.088967	down	281	7
uc011mvq.1	-4.3261604	down	2270	X
ENST00000508718	-4.402057	down	484	5
ENST00000422178	-4.7672825	down	509	2
XLOC_002900	-5.2111483	down	3140	3
uc003teb.1	-6.3273215	down	711	7
NR_033897	-6.762953	down	5017	7

P.S:

- ① Database_ID of lncRNA source
- ② The fold change of HCV infection comparing to negative control.
- ③ The location of lncRNAs at chromosome.

Supplementary Figures

Figure S1. Verification of microarray by qRT-PCR.

HCV-induced lncRNAs (n=5) were chosen from microarray and lncRNA expression were confirmed by qRT-PCR. Data are means \pm SD. * $p < 0.05$, ** $p < 0.01$

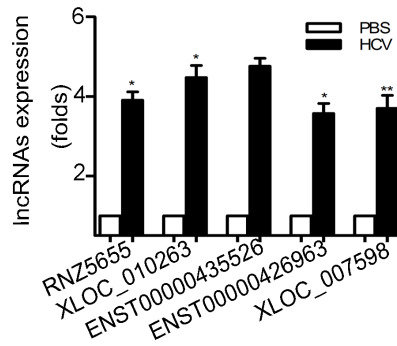


Figure S2. shRNAs for knockdown HR1.

Four short hairpin RNAs (1-4) showed the efficiency of knockdown lncHR1.

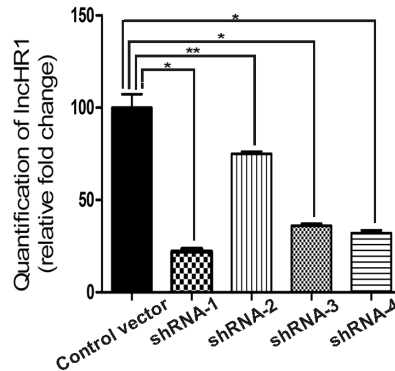


Figure S3. Protein coding potential of lncHR1.

The coding potential of lncHR1 was predicted using ORF Finder (NCBI).

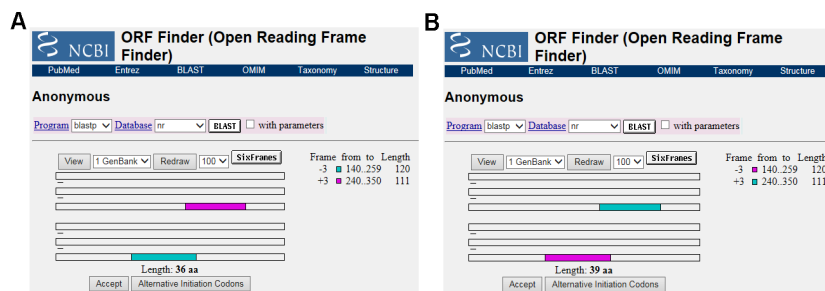


Figure S4. lncHR1 regulated FAS mRNA expression in Huh7 cells.

LncHR1 overexpression (A) or knockdown (B) plasmid was transfected into Huh7 cells. Then, endogenous FAS mRNA was quantified by qRT-PCR. An empty vector was a negative control. Data are means \pm SD. * $p < 0.05$

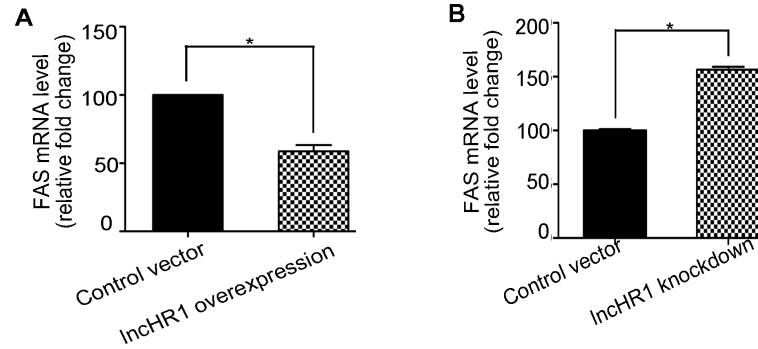


Figure S5. The result of HFD induction in LncHR1 transgenic mice.

The result of weight gain in wild-type mice and transgenic mice group comparing with before a high-fat diet feeding (n=6/group). Data are means \pm SD. *** $p < 0.001$

