Supplemental Figure Legends

Supplemental Figure I. Serum lipid levels of animals on normal diet (ND) or a high cholesterol (HC) diet.

(A) Mice were fed HC diet (n=10) or ND (n=7) for 4 weeks. Animals were sacrificed after 4-h fasting. Total cholesterol (TC) and LDL-c were measured using commercial kits.

(B) Male golden Syrian hamsters were fed HC diet (n=6) or ND (n=6) for 2-weeks. Hamsters were fasted overnight before sacrifices for serum sample collections. Serum TC and triglycerides (TG) were measured using commercial kits. $^{***}p < 0.001$ compared to ND group.

Supplemental Figure II. High cholesterol diet has no effects on HuR mRNA and protein levels in hamster liver.

(A) Male golden Syrian hamsters were fed HC diet (n=6) or ND (n=6) for 2-weeks before sacrifices. Liver HuR mRNA levels in HC group or ND group were assessed by qRT-PCR.

(B) HuR protein levels in individual hamster liver protein extracts were examined by Western blotting.

Supplemental Figure III. Ad-shHNRNPD injection had no effects on body weight, food intake or serum PCSK9 levels of C57BL/6 mice fed HC diet. C57BL/6 mice were fed HC diet (n=10) for two weeks. Ad-shHNRNPD or control (Ad-shGFP) was injected into 5 mice of each diet. Animals were sacrificed after 7 days of infection. Body weight (**A**) and food intake (**B**) were measured during the treatment. In **C**, after 7-days of infection, serum PCSK9 levels in mice infected with Ad-shHNRNPD or control adenovirus (Ad-shGFP) were quantified by a mouse PCSK9 ELISA kit.

Supplemental Figure IV. High cholesterol diet increases HNRNPD mRNA and protein levels and reduces mRNA levels of HNRNPD binding targets in liver of C57BL/6 mice.

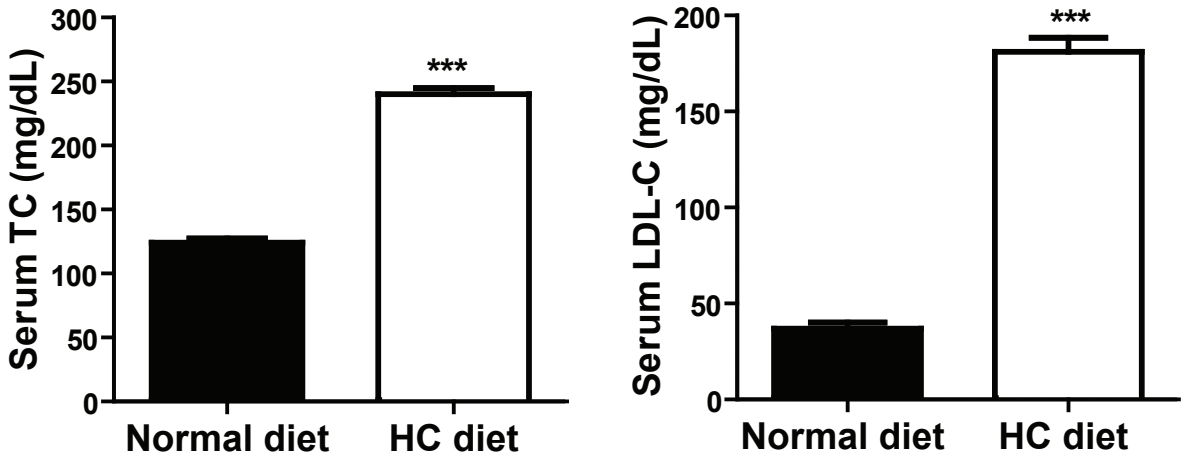
Individual liver tissues of C57BL/6J Mice fed high cholesterol diet (HCD, n=5) or normal diet (ND, n=5) and infected with control virus (Ad-shGFP) were analyzed for HNRNPD and HuR protein expressions by Western blotting (**A**) and mRNA expressions by qRT-PCR (**B**). In **C**, mRNA levels of five known HNRNPD target transcripts were measured by qRT-PCT. * $p < 0.05$ and *** $p < 0.001$ compared to ND group.

Supplemental Figure V. Western blot analysis of LDLR, HNRNPD isoforms in liver samples of Ad-GFP infected control mice fed ND or HCD and Ad-shHNRNPD-infected mice fed ND or HCD. Individual liver tissues of C57BL/6J Mice infected with Ad-shGFP fed ND (n=4), HCD (n=4) and Mice infected with Ad-shHNRNPD fed ND (n=4) or HCD (n=4) were analyzed for LDLR and HNRNPD protein expressions by Western blotting. Membranes were reprobed with anti-β-actin antibody. The protein abundance of LDLR and HNRNP D p37/p45 were quantified using the Alpha View Software with normalization by signals of β-actin. Values are mean ± SEM of 4 samples per group. $^{**}p<0.01$, and $^{***}p<0.001$ compared to the ND fed Ad-shGFP group.

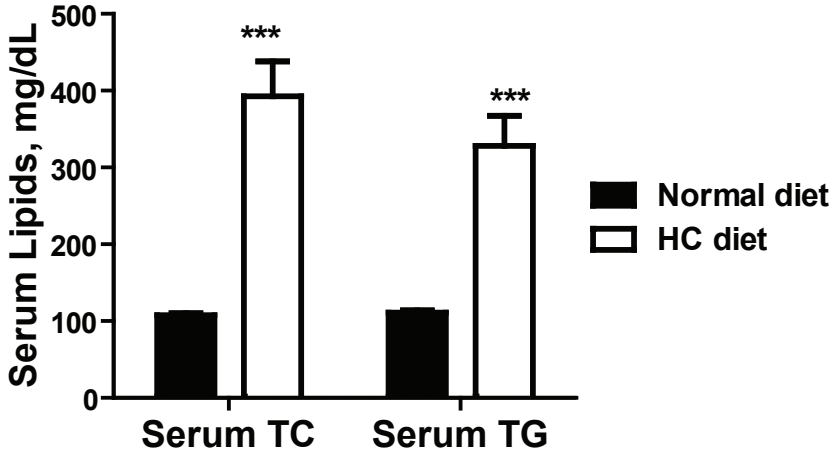
Supplemental Figure VI. AML12 cells cultured overnight in 10% LPDS medium were treated with RSV, 24-OHC, 24,25-EC or CHO at indicated concentrations for 24 h. Gene expression analysis was conducted. Duplicate wells were used for each treatment condition.

Supplemental Figure I

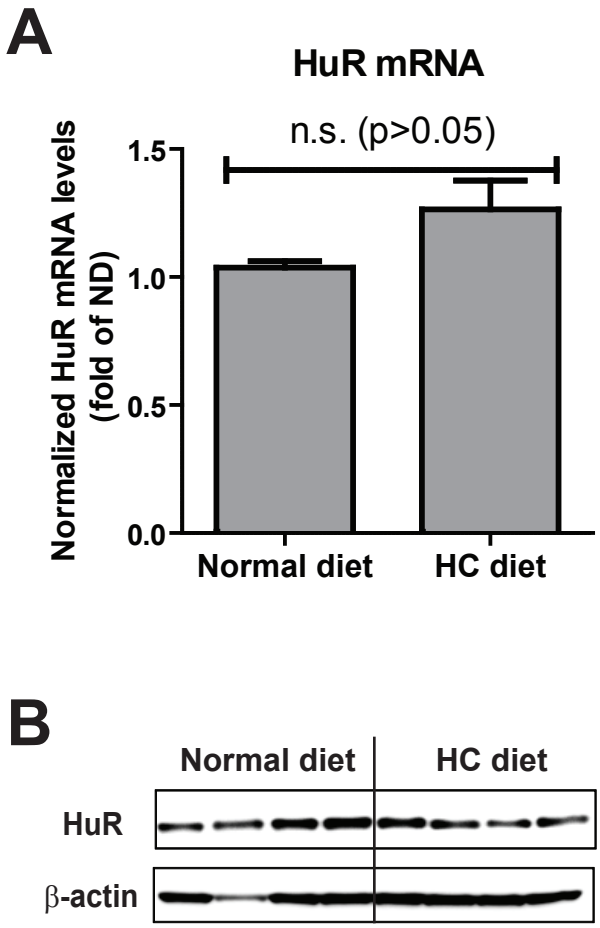
A: Mouse serum



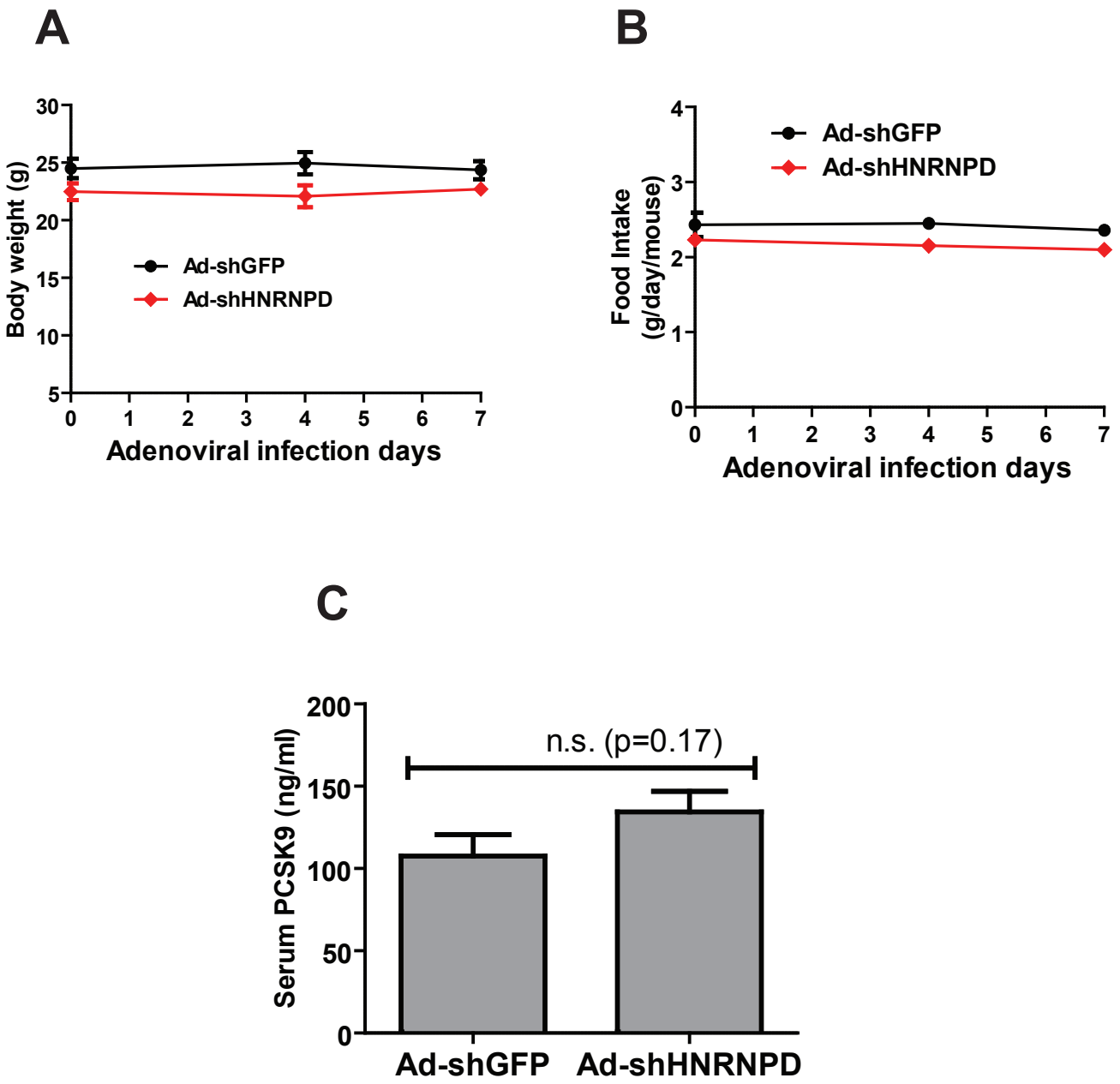
B: Hamster serum



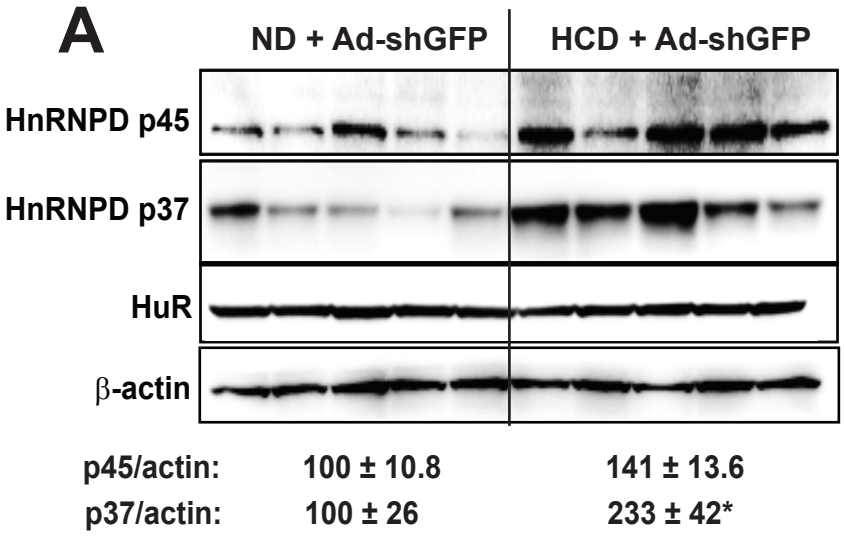
Supplemental Figure II

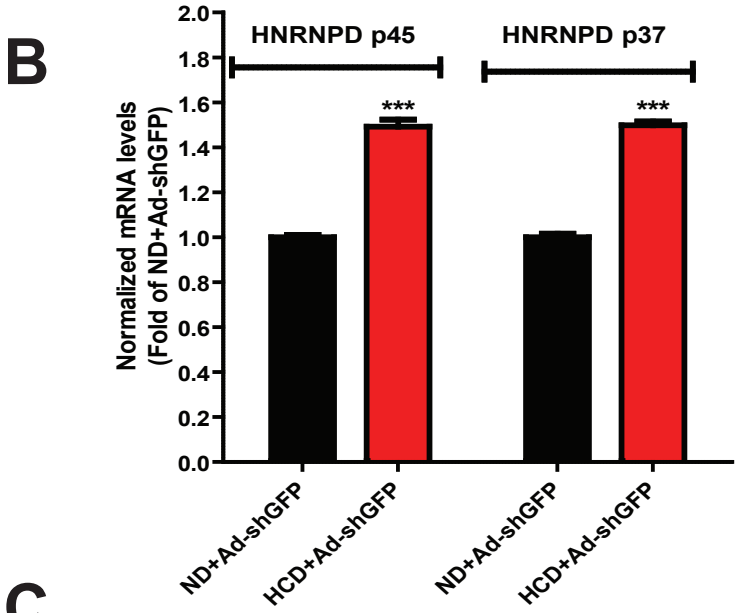


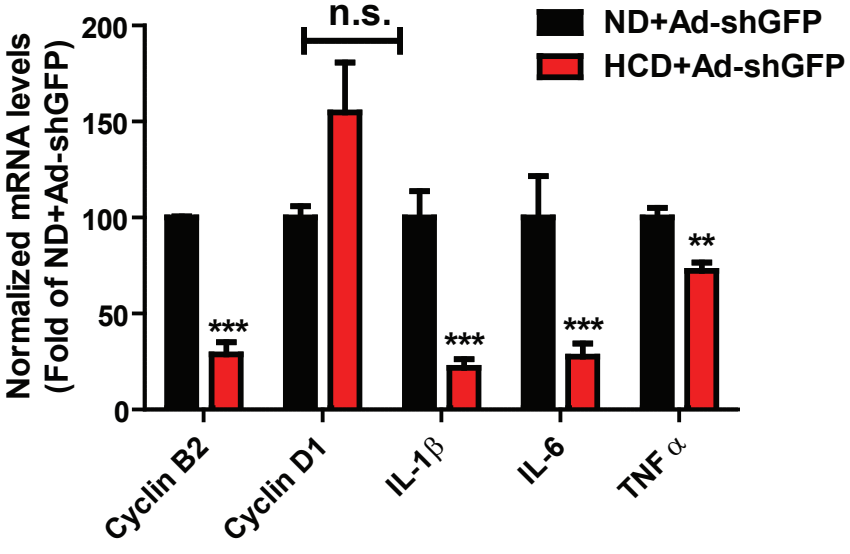
Supplemental Figure III



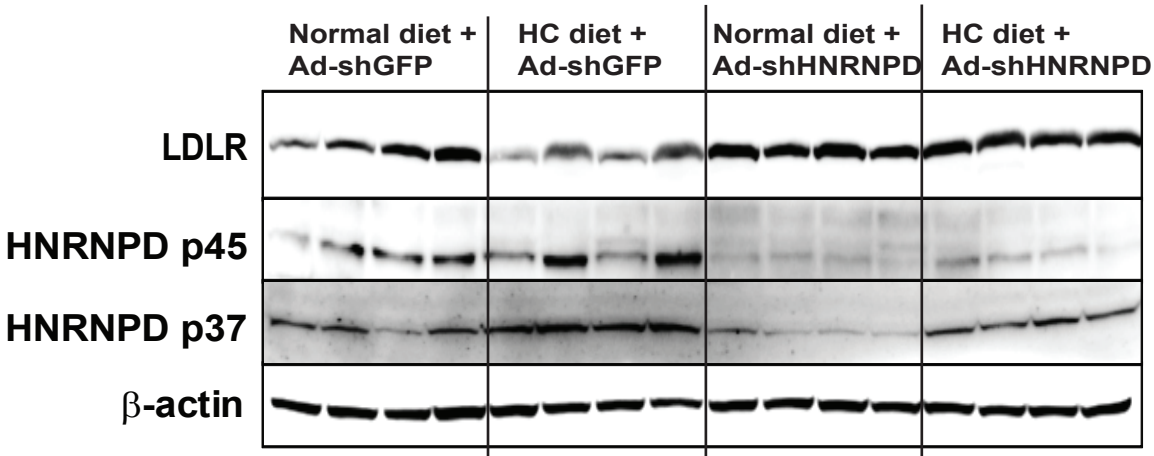
Supplemental Figure IV





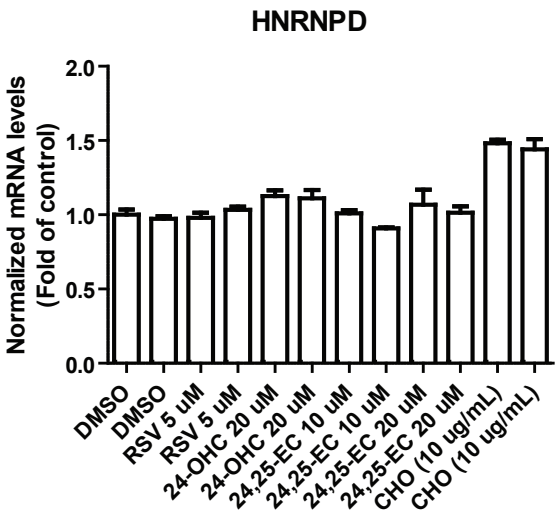


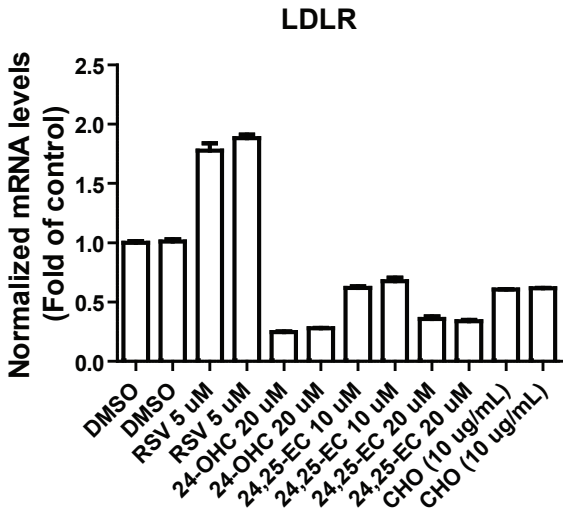
Supplemental Figure V

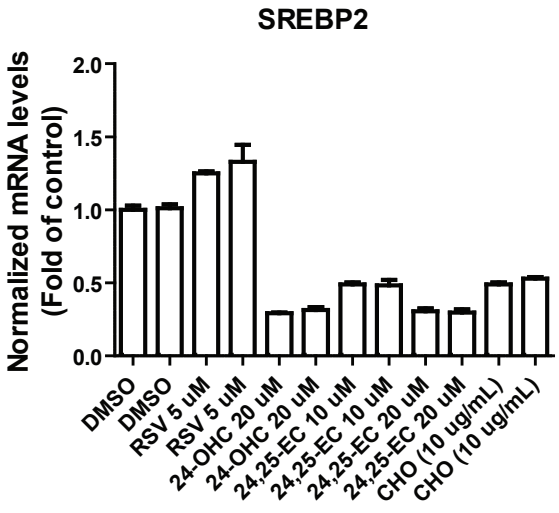


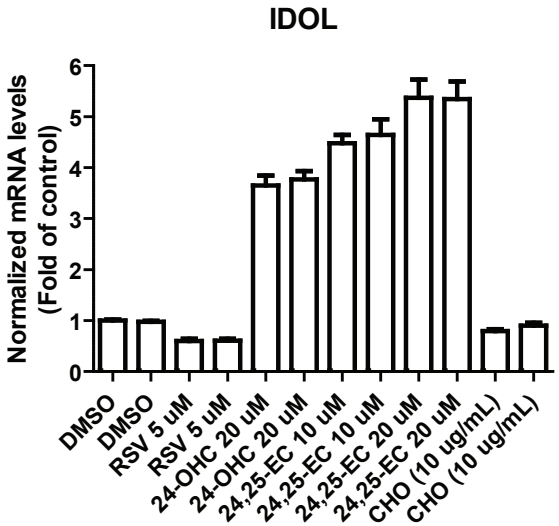
	Normal diet + Ad-shGFP	HC diet + Ad-shGFP	Normal diet + Ad-shHNRNPD	HC diet + Ad-shHNRNPD
LDLR/actin:	1 ± 0.02	0.75 ± 0.04***	1.36 ± 0.03***	1.19 ± 0.03**
p45/actin:	1 ± 0.08	1.54 ± 0.20	0.52 ± 0.03**	0.43 ± 0.03**
p37/actin:	1 ± 0.08	1.43 ± 0.03**	0.62 ± 0.02***	0.60 ± 0.02***

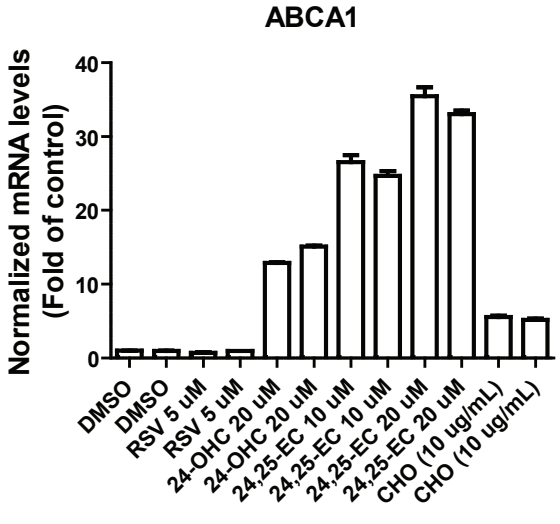
Supplemental Figure VI











Supplemental Table I: Mouse and hamster quantitative real-time PCR primer sequences

Gene name	Forward	Reverse
Mouse LDLR	CGCGGATCTGATGCGTCGCT	CGGCCCTGGCAGTTCTGTGG
Mouse PCSK9	TTGCAGCAGCTGGGAACTT	CCGACTGTGATGACCTCTGGA
Mouse HMGCR	CTTTCAGAAACGAACTGTAGCTCAC	CTAGTGGAAGATGAATGGACATGAT
Mouse SREBP2	CCAAAGAAGGAGAGAGGCGG	CGCCAGACTTGTGCATCTTG
Luciferase	CGCACATATCGAGGTGGACA	GCAAGCTATTCTCGCTGCAC
Mouse HNRNPI	AGCCAATGGAAACGATAGCAA	GCGCCACCGATGTATAGTAGT
Mouse KSRP	ACTGGAGCACCTGAGTCTGT	CGTTGTCGTGAAACTGTCCT
Mouse HNRNPD p37	AGTCGGAGAGTGTAGATAAGGTC	GGCCCTTTTAGGATCAATGACTT
Mouse HNRNPD p45	CAAACTCCTCCCCACGACAC	CTTTCTTTGTGGTGTCCCAGC
Mouse GAPDH	AACTTTGGCATTGTGGAAGG	GGATGCAGGGATGATGTTCT
Mouse HuR	GTTTGGGCGAATCATCAACT	CTGGGGGTTTATGACCATTG
Hamster GAPDH	AACTTTGGCATTGTGGAAGG	GGATGCAGGGATGATGTTCT
Hamster LDLR	TTGGGTTGATTCCAAACTCC	GATTGGCACTGAAAATGGCT
Hamster HNRNPD p37	AGTCGGAGAGTGTAGATAAGGTC	GGCCCTTTTAGGATCAATGACTT
Hamster HuR	TTCTGGTGTCAATGTCCCCG	CAAAGGGGCCAAACATCTGC
Mouse IL-1β	TGCCACCTTTTGACAGTGATG	TGATGTGCTGCTGCGAGATT
Mouse IL-6	CACTTCACAAGTCGGAGGCT	CTGCAAGTGCATCATCGTTGT
Mouse TNFα	ACTGAACTTCGGGGTGATCG	CTTGGTGGTTTGCTACGACG
Mouse Cyclin B2	GACCCTCCCAACGGTGTC	CTAAAACTGCCCGCCGGATA
Mouse Idol	AGGAGATCAACTCCACCTTCTG	ATCTGCAGACCGGACAGG
Mouse Cyclin D1	TCATCAAGTGTGACCCGGACT	ATGTCCACATCTCGCACGTC
Mouse ABCA1	AACAGTTTGTGGCCCTTTTG	AGTTCCAGGCTGGCGTACTT