Supporting information for:

Exendin-4 improves ER stress-induced lipid accumulation and regulates lipin-1 signaling in HepG2 cells

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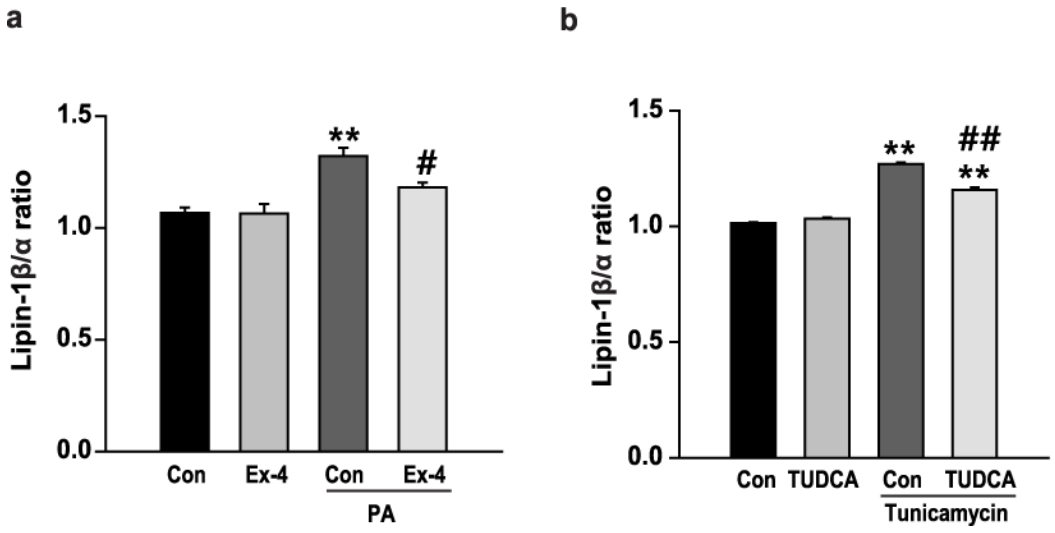
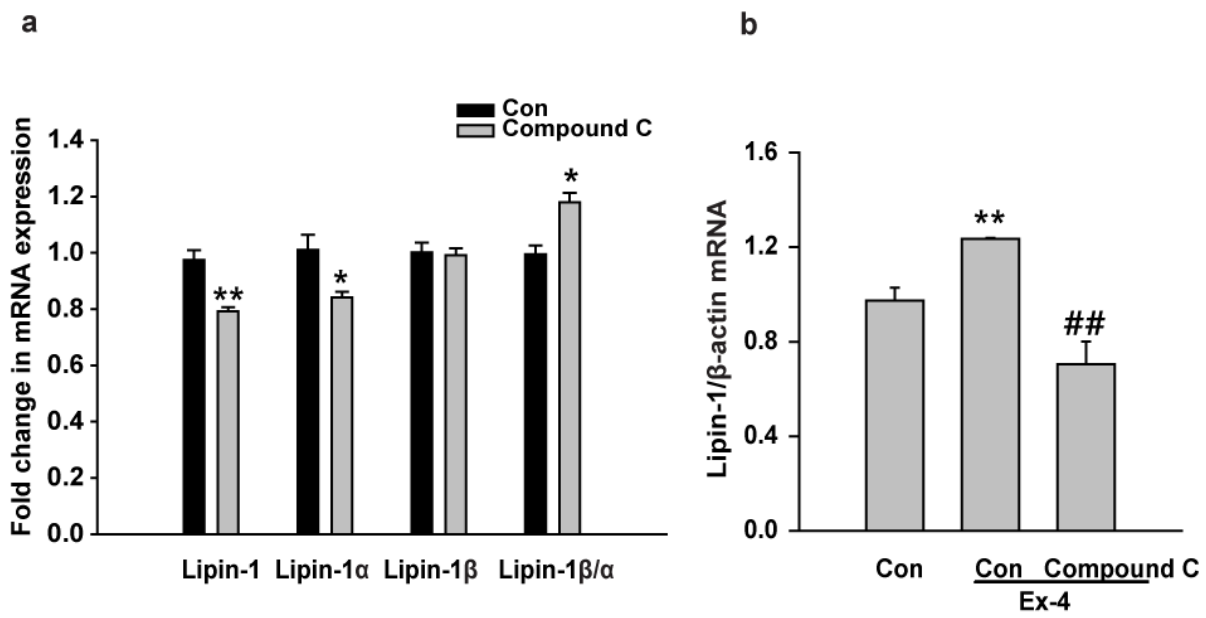
Supplementary Material

Supplementary Table 1 List of human primers used for quantitative RT-PCR.

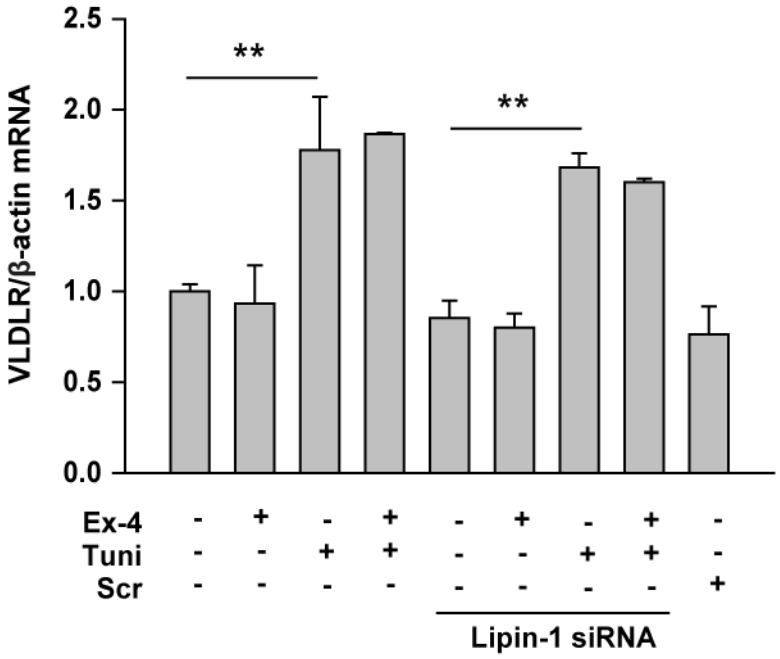
Gene	Forward sequence (5′→3′)	Reverse sequence (5′→3′)	Size (bp)
PLIN 1	GATCATGAGGACCAGACAGA	CTGCTACCTCACTGAACTTG	92
PLIN 2	ACAGACCATTTCTCAGCTCCAT	TATCCAATGCTCCTTTTCCACT	141
PLIN 3	GAACAGAGCTACTTCGTACG	CAGTTTCCATCAGGCTTAGG	151
CIDEC	AGTGTTCATGGTCCTCCAGA	TTCAGGCAGCCAATGAAGTC	165
ATGL	AGGCTGGTGCCAAGTTCATT	CATGCTCATGGCTATCAGCA	138
HSL	AGGAGCCAGCATTGAGACAAA	CGCAGGTGTTGATTCAGCTTC	95
MGL	AGAGGATGGTAGTGTCTGAC	AGGGTAGTCTTTCTGCATGG	80
MTP	ACAAGCTCACGTACTCCACTG	TCCTCCATAGTAAGGCCACATC	111
APOB	AAGTGCCACCAGGATCAACT	TGCAGCAAACTCCTCAGAGT	160
SFRS10	GTAGCAGGTCTTACAGTCGA	TGCGAGTAGACATGGGAGAA	70
Lipin 1	TGCTGGAGAGCAGCAGAACTC	TAGGGTATGAGGCTGACTGAG	111
Lipin 1α	TGCTGGAGAGCAGCAGAACTC	GAACCGGAAGGACTGGGAGTG	147
Lipin 1β	TGCTGGAGAGCAGCAGAACTC	CCTTTTGCAATCTACCAGGC	164
SIRT1	ACATAGACACGCTGGAACAG	AGGACATCGAGGAACTACCT	152
AMPK	ACAGGCATATGGTGGTCCATAGAGA	TTGGGTGAGCCACAACTTGTTC	142
VLDLR	CTGGGTATGCGACGATGATG	CTTGGTGTGTATGACTGGCTG	88
XBP-1s	GAGATCGAAAGAAGGCTCGA	CCTGGTTCTCAACTACAAGG	132
β-actin	TCATGAAGATCCTCACCGAG	CATCTCTTGCTCGAAGTCCA	116



Supplementary Fig. 1 Exendin-4 and TUDCA decrease lipin-1β/α ratio in cells treated with PA and tunicamycin, respectively. (a) HepG2 cells were pretreated with 400 μM palmitic acid, followed by treatment with or without exendin-4 (Ex-4; 100 nM) for 24 hours. *$p < 0.05$ and **$p < 0.01$ compared with control cells; #$p < 0.05$ and ##$p < 0.01$ compared with palmitic acid-treated cells. (b) HepG2 cells were pretreated with 3 μg/ml tunicamycin (Tuni), followed by treatment with or without TUDCA (400 μM) for 24 hours. **$p < 0.01$ compared with control cells; #$p < 0.05$ and ##$p < 0.01$ compared with tunicamycin-treated cells.



Supplementary Fig. 2 AMPK inhibitor compound C disrupts lipin-1 signaling in HepG2 cells. (a) HepG2 cells were pretreated with 10 μM compound C for 24 hours. *$p < 0.05$ and **$p < 0.01$ compared with control cells. (b) HepG2 cells were treated with 100 nM exendin-4 (Ex-4) or exendin-4 + compound C (10 μM) for 24 hours.*$p < 0.05$ and **$p < 0.01$ compared with control cells; ##$p < 0.01$ compared with exendin-4-treated cells.



Supplementary Fig. 3 Exendin-4 does not alter VLDLR expression in tunicamycin-treated cells. HepG2 cells were transfected with 10 nM lipin-1 siRNA or control siRNA for 24 hours and were pretreated with 3 μg/ml tunicamycin, followed by treatment with or without exendin-4 (Ex-4; 100 nM) for 24 hours. VLDLR mRNA expression level was analyzed by performing quantitative RT-PCR.