**Supplementary Materials**

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**Fig. S1** Silencing of lnc027912 to assess the TG level. The silencing of lnc027912 ability was analyzed by RT-PCR (**a**). **b** The TG level of cell was measured using TG kit. (n≥3, ns: no significantly, \*\*\*: *P*<0.001).

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**Fig. S2** The lipid metabolism related genes were analyzed by RT-PCR. n≥3, ns: no significantly, \* *P*<0.05, \*\* *P*<0.01, \*\*\* *P*<0.001, \*\*\*\* *P*<0.0001.

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**Fig. S3** The SREBP1C level was detected by immunofluorescence. The images was captured by laser confocal microscopy. Red: Anti-SREBP1C; green: pCDH-GFP vectors; blue: DAPI.

**Table S1** Sequences of primers used for experiments in this manuscript.

|  |  |  |
| --- | --- | --- |
| Genes |  | Primer sequences (5’-3’) |
| GAPDH | Forward | GGGTTCCTATAAATACGGACTGC |
| Lnc027912 | Reverse  Forward | TACGGCCAAATCCGTTCACA  TAACATGTGGTACGTCTCTT |
|  | Reverse | AGACCAGTCTGGTCTTGAAC |
| SREBP-1C | Forward  Reverse | CTTTGGCCTCGCTTTTCGG  TGGGTCCAATTAGAGCCATCTC |
| FAS | Forward | GCGGGTTCGTGAAACTGATAA |
| PPARγ | Reverse  Forward | GCAAAATGGGCCTCCTTGATA  CGGCAGTTTCGCTACCAGG |
|  | Reverse | CACCAGCATCTCCACGATCTG |
| MTTP | Forward  Reverse | ATACAAGCTCACGTACTCCACT  TCTCTGTTGACCCGCATTTTC |
| ApoE | Forward | CTCCCAAGTCACACAAGAACTG |
| ApoC3 | Reverse  Forward | CCAGCTCCTTTTTGTAAGCCTTT  GCGTGCAGGAGTCCGATATAG |
|  | Reverse | CCAGTAGCCTTTCAGGGATCT |

**Table S2** Antibodies used in this study.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Antibody | Company | Cats# | Utilization | Dilution |
| Anti-SREBP-1C | Abcam  Proteintech | ab3259  66875-1 | Western blot  IF | 1:1000  1:200 |
| Anti-FAS | Abcam  Abcam | ab82419  ab216991 | Western blot  IF | 1:1000  1:100 |
| Anti-PPARγ | Abcam | ab178860 | Western blot | 1:1000 |
| Anti-MTTP | Abcam | ab63467 | Western blot | 1:1000 |
| Anti-ApoE | CST | 49285 | Western blot | 1:1000 |
| Anti-ApoC3 | Abcam | ab21032 | Western blot | 1:1000 |
| Anti-mTOR | CST | 2972S | Western blot | 1:1000 |
| Anti-Pser2448-mTOR | CST | 5536S | Western blot | 1:1000 |
| Anti-Akt | CST | 9272S | Western blot | 1:1000 |
| Anti-Pser473-Akt | CST | 4060S | Western blot | 1:1000 |
| Anti-Pthr308-Akt | CST | 13038 | Western blot | 1:1000 |
| Anti-GAPDH | CST | 8884S | Western blot | 1:1000 |