

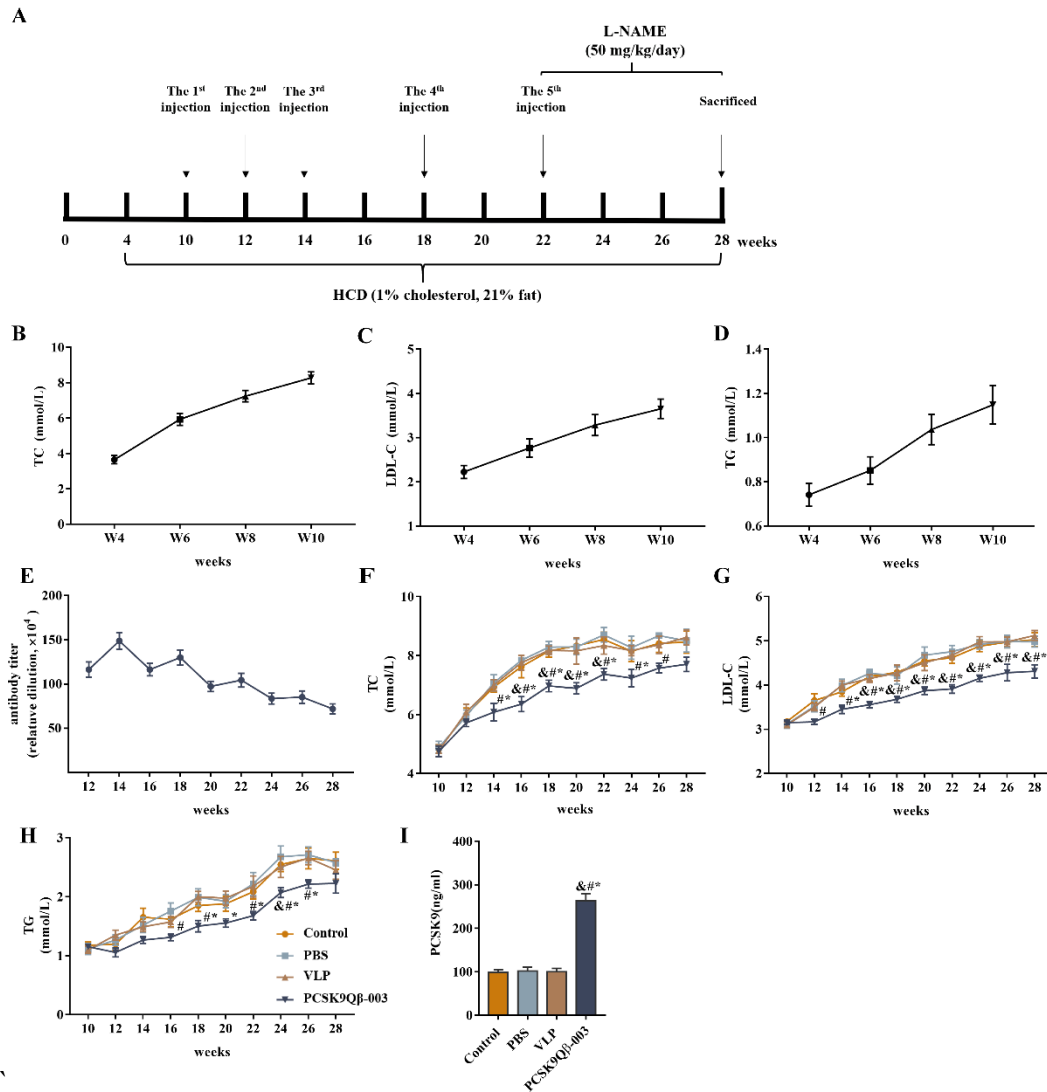
SUPPLEMENTAL MATERIAL

Table S1. Detail information of primers.

Gene		Sequence
LDLR	Forward	5'-CCTCAAGTACCTTGGTATGACGC-3'
	Reverse	5'-GAGGCTGTCCGGTCAGGATG-3'
VLDLR	Forward	5'-GAGTCTGACTTCGTGTGCAAA-3'
	Reverse	5'-GAACCGTCTTCGCAATCAGGA-3'
SREBP1	Forward	5'-CAAGGCCATCGACTACATCCG-3'
	Reverse	5'-CACCACTTCGGGTTTCATGC-3'
SREBP2	Forward	5'-GCAGCAACGGGACCATTCT-3'
	Reverse	5'-CCCCATGACTAAGTCCTTCAACT-3'
APOB	Forward	5'-TTGGCAAACCTGCATAGCATCC-3'
	Reverse	5'-TCAAATTGGGACTCTCCTTTAGC-3'
PPARα	Forward	5'-AGAGCCCCATCTGTCCTCTC-3'
	Reverse	5'-ACTGGTAGTCTGCAAAACCAAA-3'
PPARγ	Forward	5'-GGAAGACCACTCGCATTTCCTT-3'
	Reverse	5'-GTAATCAGCAACCATTGGGTCA-3'
PGC1	Forward	5'-TATGGAGTGACATAGAGTGTGCT-3'
	Reverse	5'-CCACTTCAATCCACCCAGAAAG-3'
Acox1	Forward	5'-TAACTTCCTCACTCGAAGCCA-3'
	Reverse	5'-AGTTCCATGACCCATCTCTGTC-3'
Acox2	Forward	5'-CATCCAACGTGACCCAGTGT-3'
	Reverse	5'-AAATGCGTTCAGGACCGTCTT-3'

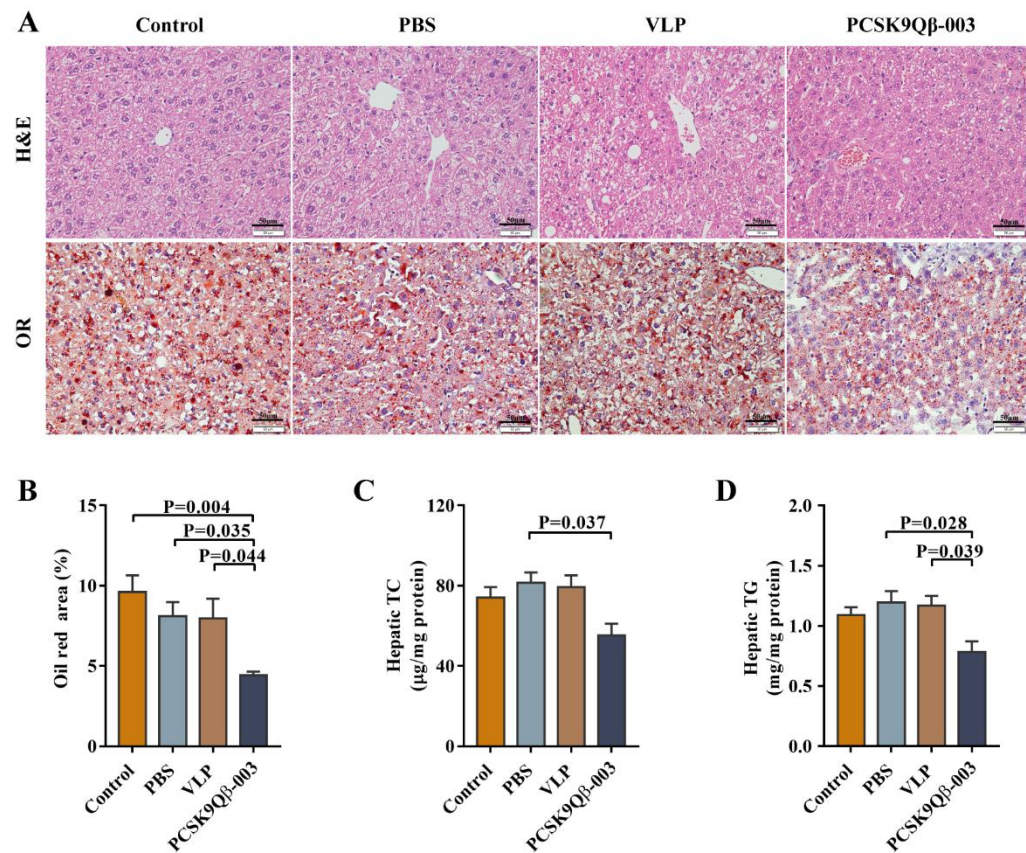
Cpt1a	Forward	5'-TGGCATCATCACTGGTGTGTT-3'
	Reverse	5'-GTCTAGGGTCCGATTGATCTTTG-3'
Cpt2	Forward	5'-CCTGCTCGCTCAGGATAAACA-3'
	Reverse	5'-GTGTCTTCAGAAACCGCACTG-3'
CD36	Forward	5'-ATGGGCTGTGATCGGAACTG-3'
	Reverse	5'-GTCTTCCCAATAAGCATGTCTCC-3'
LPL	Forward	5'-GGGAGTTTGGCTCCAGAGTTT-3'
	Reverse	5'-TGTGTCTTCAGGGGTCCTTAG-3'
ABCA1	Forward	5'-CAGATGAAGCAGTTTTTCAGTCCT-3'
	Reverse	5'-CACATTCCGGCTCTTTAGAAGG-3'
ABCG1	Forward	5'-CTTTCCTACTCTGTACCCGAGG-3'
	Reverse	5'-CGGGGCATTCCATTGATAAGG-3'
ACAT1	Forward	5'-CAGGAAGTAAGATGCCTGGAAC-3'
	Reverse	5'-TTCACCCCCTTGGATGACATT-3'
TGF-β	Forward	5'-CCACCTGCAAGACCATCGAC-3'
	Reverse	5'-CTGGCGAGCCTTAGTTTGGAC-3'
Smad3	Forward	5'-CACGCAGAACGTGAACACC-3'
	Reverse	5'-GGCAGTAGATAACGTGAGGGA-3'
Col-I	Forward	5'-TAAGGGTCCCAATGGTGAGA-3'
	Reverse	5'-GGGTCCCTCGACTCCTACAT-3'
Col-III	Forward	5'-CTGTAACATGGAAACTGGGGAAA-3'
	Reverse	5'-CCATAGCTGAACTGAAAACCACC-3'

Figure S1. PCSK9Q β -003 vaccine decreased plasma TC in mice intervened by L-NAME.



(A) Process of animal experiments in the LDLR^{+/-} mice + L-NAME. (B-D) LDLR^{+/-} mice fed with HCD presented changes of steadily increased blood lipid level. (E) The anti- PCSK9Q β -003 titers were measured by ELISA. (F-H) The TC, LDL-C and TG was decreased in the PCSK9Q β -003 vaccine group compared with the other groups. (I) The total PCSK9 level was significantly elevated in the PCSK9Q β -003 vaccine group compared to the other groups. n = 6 per group. Data were expressed as means \pm SEM. &P<0.05 versus the Control group; #P<0.05 versus the PBS group; *P<0.05 versus the Q β virus-like particles group.

Figure S2. PCSK9Q β -003 vaccine decreased hepatic steatosis in mice induced by L-NAME.



(A) Histology of the livers stained with H&E and Oil-red O (Bar 50= μ m). (B) Representative Oil Red O stained liver sections showed that the PCSK9Q β -003 vaccine markedly prevented the formation of fatty liver. (C, D) Hepatic TC and TG contents. n = 6 per group. Data were expressed as means \pm SEM.