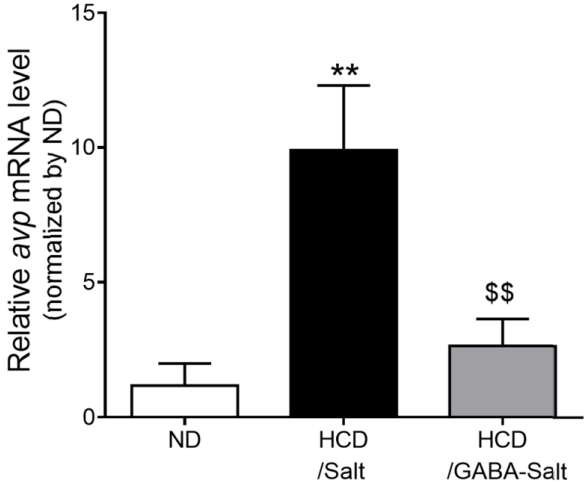
Supplementary Table 1. List of primer for Quantitative polymerase chain reaction (qRT-PCR)

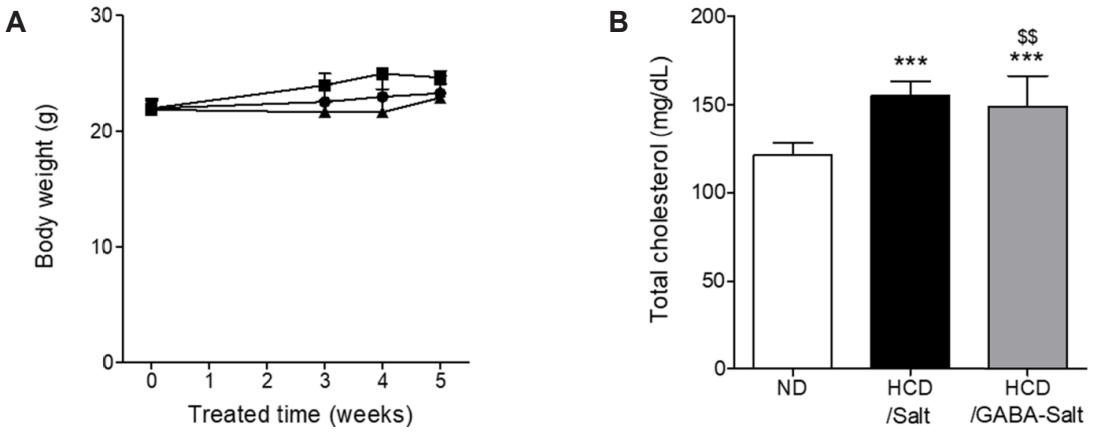
Gene		Primers
β-actin	Forward	5'-ACAAAGCTGTTCAGTGTCTCCA-3′
	Reverse	5'-CTCCGTTTCCAGAATACACACA-3′
$GABA_BR$	Forward	5'-GGCCATTGTGTTCTCTTCCTAC-3′
	Reverse	5'-ATTCACCTCGAGTGATCAACCT-3′
CD86	Forward	5'-AGCAACTAATGCTGAAAGCACA-3′
	Reverse	5'-CTCAGACCTGCCAAAGTTCTCT-3′
CD206	Forward	5'-TGTATTCTTTGCCTTTCCCAGT-3′
	Reverse	5'-GATAAAAGCCAGAAGCAGGAGA-3′
TNF-α	Forward	5'-TTCTGTCTACTGAACTTCGGGGTGATCGGTCC-3′
	Reverse	5'-GTATGAGATAGCAAATCGGCTGACGGTGTGGG-3′
TGF-β	Forward	5'- CTGGCAGTAGCTCCCCTATTTA-3′
	Reverse	5'-GGCTTGTCCCTTGAGTTTTATG-3′
iNOS	Forward	5'- CACAGCAATATAGGCTCATCCA-3′
	Reverse	5'- AGCCTCATGGTAAACACGTTCT-3′
Arg-1	Forward	5'-ACAGAACTAAGCAAACGCCTTC-3′
	Reverse	5'-AGAAAGGAACTGCTGGGATACA-3′
AVP	Forward	5'-GAGCCTTCTTGGACTGCTACC-3′
	Reverse	5'-TACAGCCAGGTTGCCTCCT-3′

Supplementary Table 2. List of antibodies for Immunofluorescence and Immunohistochemistry

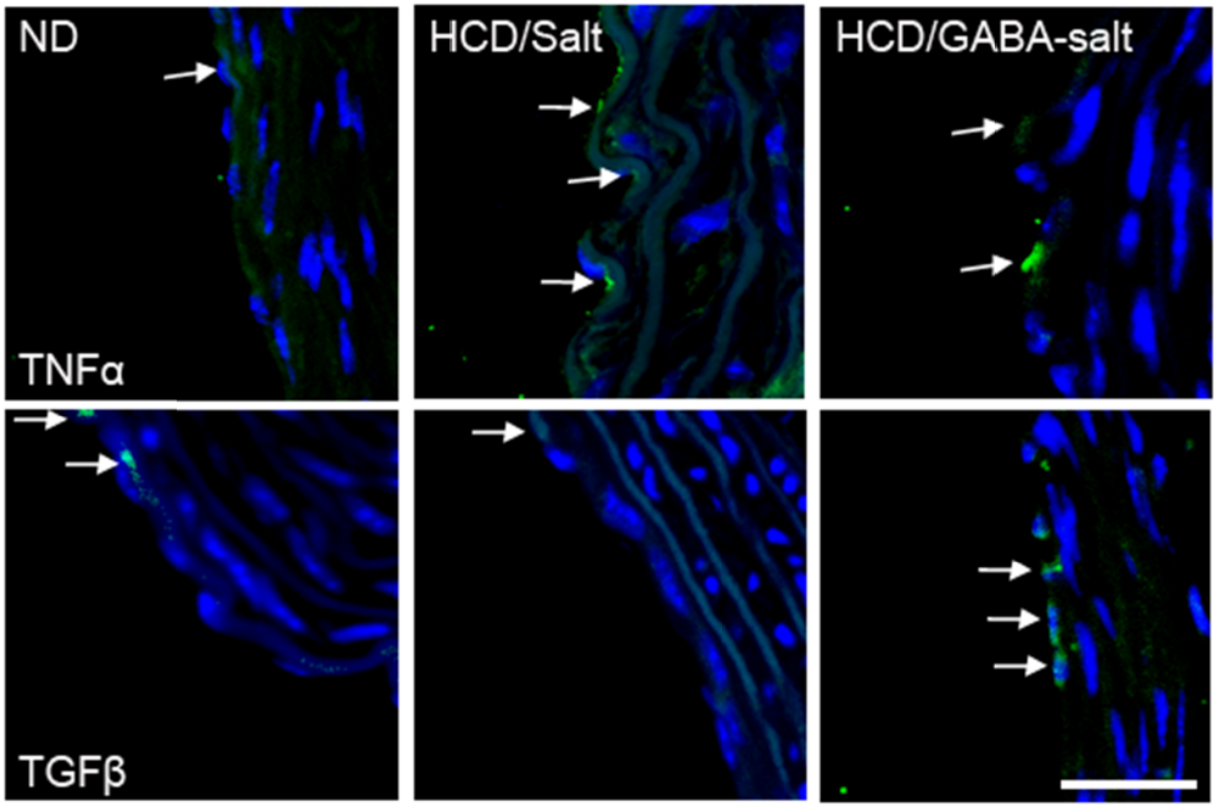
Antibody	Company	Cat. no.	Immunofluorescence	Immunohistochemistry
ICAM-1	Invitrogen	MA5407	1:250	
VCAM-1	Abcam	Ab134047	1:250	
E-selectin	Santa cruz	Sc-7884	1:50	
vWF	DAKO	A0082	1:250	
CD86	Santa cruz	Sc-19617	1:50	
CD206	NOVUS	NBP1-90020	1:100	
TNF-α	Abcam	9739	1:100	
TGF-β	Abcam	64715	1:100	
Endothelin-1	NOVUS	NB300-526	1:250	
eNOS	Thermo Fisher	PA3-031A	1:200	
Phospho-eNOS	Cell signaling	#9571	1:100	
PCNA	Abcam	Ab2426		1:250
eNOS	Thermo Fisher	PA3-031A		1:100
Phospho-eNOS	Cell signaling	#9571		1:100



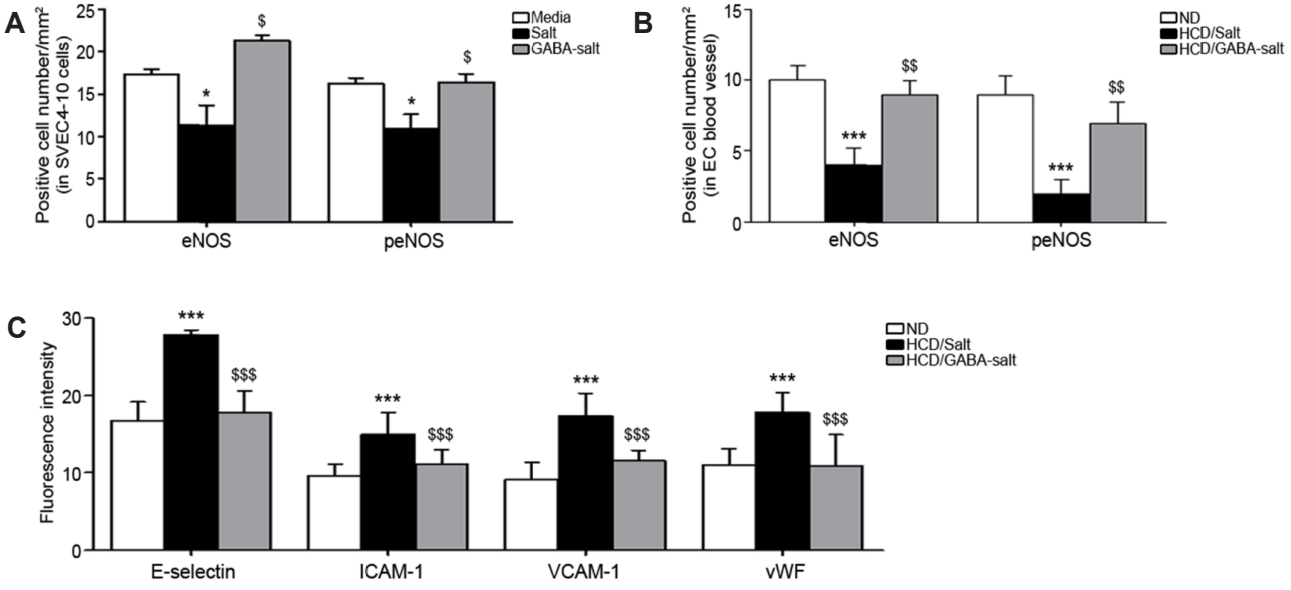
Supplementary Fig. 1. Mouse brain AVP mRNA level of ND, salt with HCD or gamma-aminobutyric acid (GABA)-salt with HCD administrated mice. Mouse hypothalamus APV mRNA level of ND, HCD/salt and HCD/GABA-salt group mice were measured by qRT-PCR. AVP, arginine vasopressin; ND, normal diet; HCD/salt, high cholesterol diet and normal saline; HCD/GABA-salt, high cholesterol and GABA-salt. **$p < 0.01$ *vs.* ND; and $^{\$\$}p < 0.01$ *vs.* HCD/Salt.



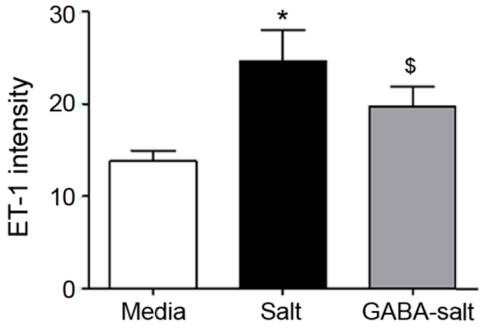
Supplementary Fig. 2. General characteristics of ND, salt with HCD or gamma-aminobutyric acid (GABA)-salt with HCD administrated mice. (A) Body weight of ND, HCD/salt and HCD/GABA-salt group mice before sacrifice. (B) Blood total cholesterol level of the ND, HCD/salt and HCD/GABA-salt group mice. ND, normal diet; HCD/salt, high cholesterol diet and normal saline; HCD/GABA-salt, high cholesterol and GABA-salt. ***$p < 0.001$ *vs.* ND; and $^{\$\$}p < 0.01$ *vs.* HCD/Salt.



Supplementary Fig. 3. Inhibitory effect of gamma-aminobutyric acid (GABA)-salt on expressions of macrophage type 1 (M1) associated cytokines *in vivo*. White arrows in fluorescence microscopy images showing expression of M1 (TNF-α, *green*, nuclei; *blue*) and M2 macrophage cytokines (TGF-β, *green*, nuclei; *blue*). Scale bar = 100 μm. ND, normal diet; HCD/salt, high cholesterol diet and normal saline; HCD/GABA-salt, high cholesterol and GABA-salt.



Supplementary Fig. 4. Modulation of gamma-aminobutyric acid (GABA)-salt on expressions of eNOS, phosphorylated eNOS and adhesion molecules *in vivo* and *in vitro*. (A, B) Quantified graphs showing eNOS and phosphorylated eNOS expression from representative images of Salt or GABA-salt treated SVEC 4–10 cells and HCD mice. (C) Fluorescence intensities of adhesion molecules were measured from representative images of HCD mice. eNOS, endothelial nitric oxide synthase; peNOS, phosphorylated eNOS; ICAM-1, Intercellular Adhesion Molecule-1; VCAM-1, vascular cell adhesion molecule-1; vWF, von Willebrand Factor; SVEC 4–10, mouse endothelial cells; ND, normal diet; HCD/salt, high cholesterol diet and normal saline; HCD/GABA-salt, high cholesterol and GABA-salt. *$p < 0.05$, and ***$p < 0.001$ *vs.* ND; and $^{\$}p < 0.05$, $^{\$\$}p < 0.01$, and $^{\$\$\$}p < 0.001$ *vs.* HCD/Salt.



Supplementary Fig. 5. Fluorescence intensity of ET-1 on gamma-aminobutyric acid (GABA)-salt treated MOVAS cells. Fluorescence intensity of ET-1 was measured from representative images of Salt or GABA-salt treated MOVAS. ET-1, Endothelin-1; MOVAS, mouse vascular smooth muscle cell. *$p < 0.05$ *vs.* culture media; and $^{\$}p < 0.05$ *vs.* salt.