

Table S1: RNA-seq datasets

GEO data sets		
GSE77108	Healthy (GSM2044419, GSM2044420, GSM2044421)	Diabetic patients (GSM2044434, GSM2044435, GSM2044436)
GSE267930	HUVEC control (GSM8281734, GSM8281735, GSM8281736)	HUVEC induced dysfunction (GSM8281740, GSM8281741, GSM8281742)

Table S2. Sequence of primers were used in this study to investigate gene expression changes via the qPCR.

Gene	Transcript	Primer Name	Primer Sequence (5'→3')	Amplicon length(bp)
<i>ACKR3</i>	NM_020311.3	Forward	ATTGCCGACCTGTGGGTTGT	325
		Reverse	AGTAGGTCTCATTGTTGGACGC	
<i>ACTB</i>	NM_001101.5	Forward	ACCCAGCACAATGAAGATCAAGA	175
		Reverse	ATAGTCCGCCTAGAAGCATTTG	
<i>ICAM2</i>	NM_001099789.2	Forward	AACTGCAGCACCACCTGTAA	266
		Reverse	CTGCACTCAATGGTGAAGGA	
<i>VCAM1</i>	NM_001078.4	Forward	GGGAACGAACACTCTTACCT	240
		Reverse	ATCCTCCAGAAATTCCTGACT	
<i>IL6</i>	NM_000600.5	Forward	CCAATCTGGATTCAATGAGGAG	200
		Reverse	GGTCAGGGGTGGTTATTGCATC	
<i>BAX</i>	NM_138761.4	Forward	GGAGCTGCAGAGGATGATTGCC	316
		Reverse	TCCCGCCACAAAGATGGTCACG	
<i>BCL2</i>	NM_000633.3	Forward	GATACTGAGTAAATCCATGCAC	356
		Reverse	AGTGTTGCAGAATATCAGCCAC	
<i>Ackr3</i>	NM_053352.2	Forward	TCCATCACCTACTTCACCAGCA	297
		Reverse	ACCGGATGCTGACATGGCTCTG	
<i>Actb</i>	NM_031144.3	Forward	CCTCTATGCCAACACAGTG	275

Reverse	ACGCAGCTCAGTAACAGTCC
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Table S3. List of used antibodies for Western blot (WB) analysis

Antigen	Supplier	Clone /Cat. no.	Concentration
NF- κ B (p65)	Cell Signaling Technology		1:1000
β -actin	Santa Cruz Biotechnology	2418	1:4000
ACKR3	Abcam		1:500
ICAM	Santa Cruz Biotechnology	sc-8439	1:1000
VCAM	Abcam	EPR5047	1:1000
Goat anti-rabbit IgG (HRP)	Cell Signaling Technology	7074	1:2000

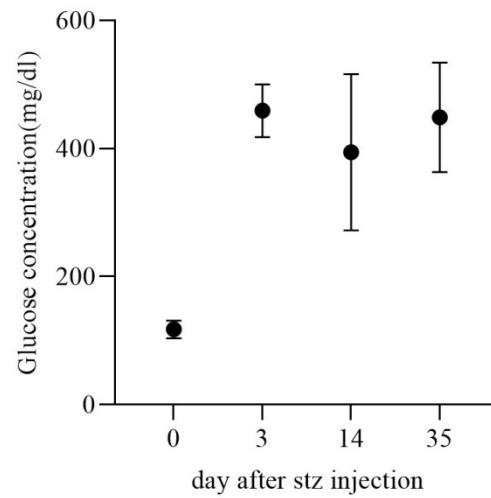


Figure S1: The blood glucose levels of the STZ diabetic rats were determined during the experiment, none of them showed the return of blood glucose levels.

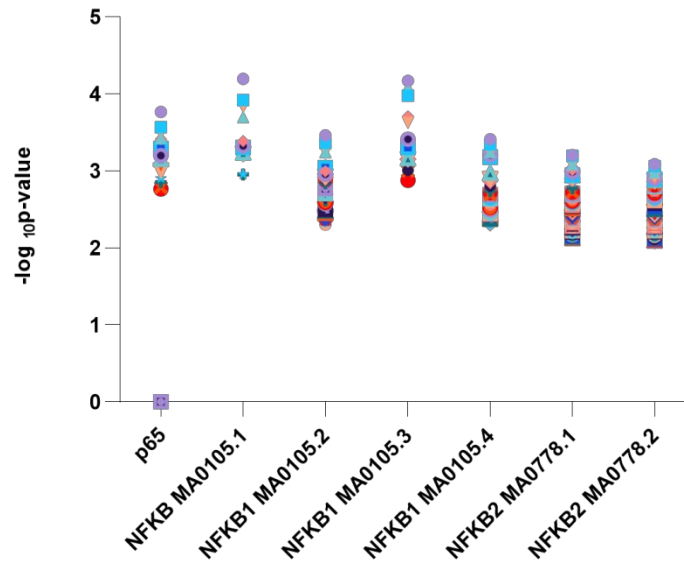


Figure S2: JASPAR web showed that the ACKR3 promoter has a binding site for NFKB subtype

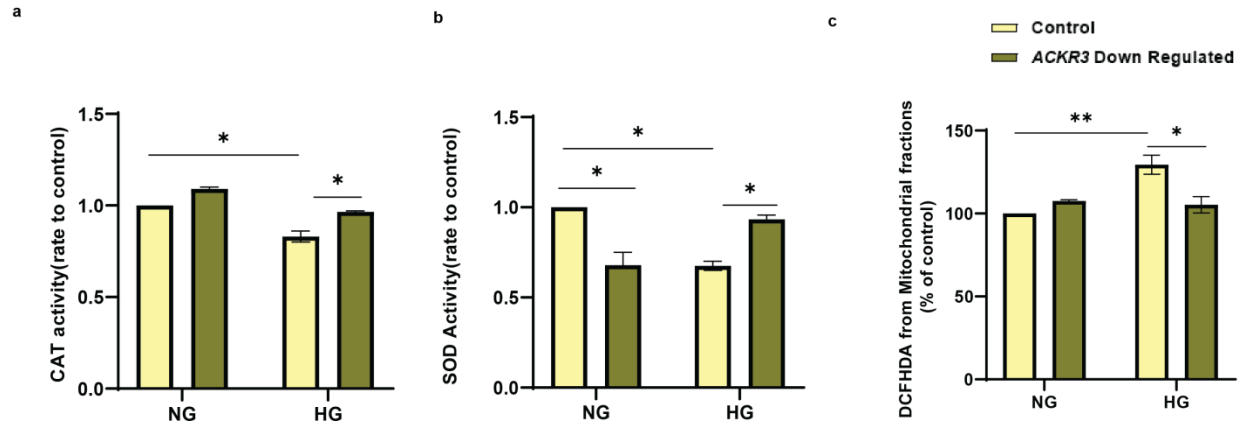


Figure S3: ACKR3 downregulation decreased mitochondrial ROS, which may be due to the recovery of antioxidant enzyme activity. a: CAT activity, Data are mean $\pm$ SEM (n=3) with One-way ANOVA, $\omega^2 = 0.972$ [95% CI: 0.395 -0.897]. Hyperglycemia decreased CAT activity with p-value: 0.01, and ACKR3 downregulation increased CAT activity with p-value: 0.014. b: SOD activity, Hyperglycemia decreased SOD activity with p-value: 0.014, and ACKR3 downregulation increased SOD activity with p-value: 0.031, data are mean $\pm$ SEM (n=3) with One-way ANOVA, $\omega^2 = 0.990$ [95% CI: 0.988 -0.898]. c: DCFHDA Measurement in Mitochondrial Fractions represents the rate of ROS production in Mitochondria. Data are mean $\pm$ SEM (n=3) with One-way ANOVA, $\omega^2 = 0.795$ [95% CI: 0.395 -0.898]. Increased mitochondrial ROS by hyperglycemia, with p-value: 0.003, and ACKR3 downregulation decreased this level with p-value: 0.019.