

## **Supplementary Figure legends**

### **Supplementary Figure 1 Changes of electrophysiological activity of cardiomyocytes induced by alcohol at different concentrations**

**A.**MEA showed changes in FP of cardiomyocytes treated with 100, 200 and 400mM alcohol.**B.**MEA showed changes in contractility of cardiomyocytes treated with 100, 200 and 400mM alcohol.

### **Supplementary Figure 2 Alcohol induced NOX4 upregulation and AngII/AT1R activation in cardiomyocytes.**

**A.**The expression of AT1R protein was determined by western blot after treatment with 100mM alcohol for 24 h. **B.**The expression of NOX4 protein was determined by western blot after treatment with 100mM alcohol for 24 h. **C.** Enzyme-linked immunosorbent assay (ELISA) showed that the level of AngII increased in hiPSC-CMs culture medium after alcohol treatment in a dose dependent manner. **D.**Western blot showed that phosphorylated P38 increased significantly after treatment with alcohol .

### **Supplementary Figure 3 losartan prevented alcohol-induced apoptosis in hiPSC-CMs.**

**A.**The heatmap showed genes that are significantly regulated with or without losartan after 100mM alcohol treatment of hiPSC-CMs. **B.**The enriched terms GO showed that losartan restored the increase in apoptosis signaling pathways and negative regulation of biological processes induced by 100 mM alcohol . **C.** LDH activity assay (below, n=7) showed that losartan restored the cell damage induced by 100 mM alcohol. **D.** The CCK8 assay (above, n=4) showed that losartan restored the decreased cell viability induced by 100 mM alcohol.

### **Supplementary Figure 4 Unclipped image of western blotting of each figure**

**Supplementary Figure 5 Identification of hiPSC cell lines.** **A.**Mycoplasma testing revealed that the cell line was not infected with mycoplasma.**B.**STR detection in hiPSC cell lines.

## Supplementary Tables

### Supplementary Table 1: Primer sequences used for q-PCR

Gene	Forward primers (5'-3')	Reward primers (5'-3')
NOX2	TCACTTCCTCCACCAAACC	GGGATTGGGCATTCCTTTAT
NOX4	CTTCCGTTGGTTTGCAGATT	TGGGTCCACAACAGAAAACA
AT1R	GAATATTTGGAAACAGCTTGGT	CAAAGTCAGTAAAAAGCATAAG
AngII	GCTAAGGACCCCACTGTTGCTA	TGTAGATGCCATTCGTGGTGTG
GAPDH	CAATGACCCCTTCATTGACC	GACAAGCTTCCCGTTCTCAG

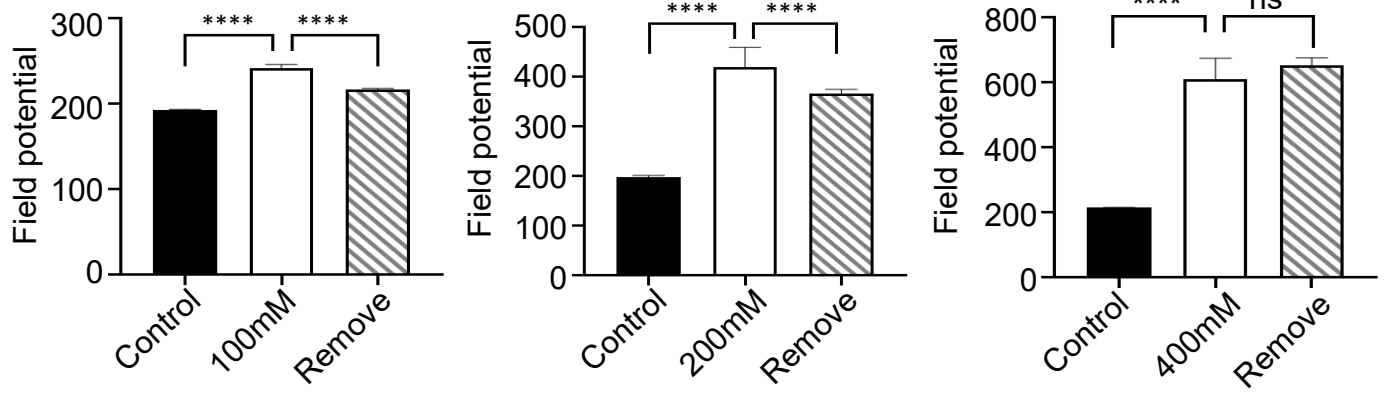
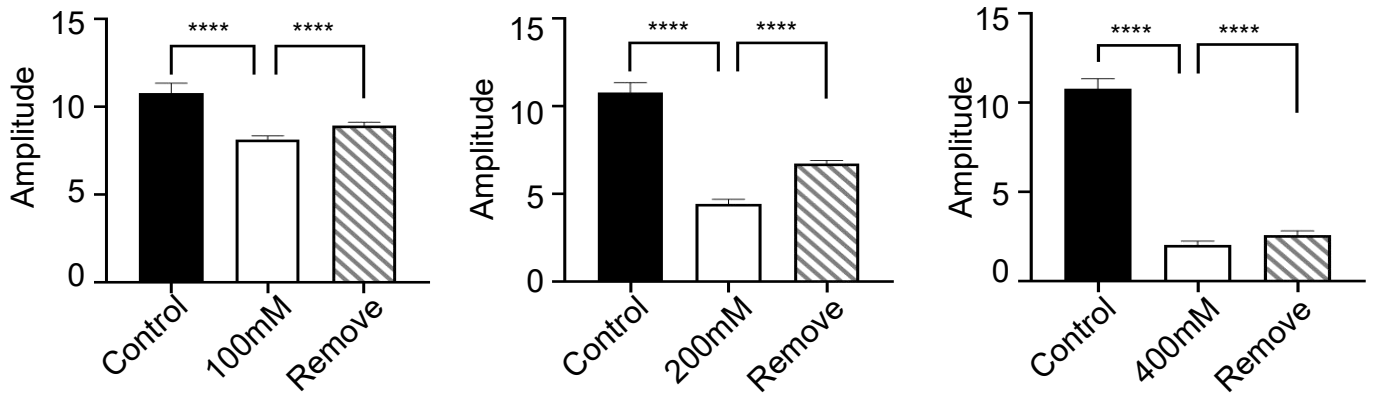
**Supplementary Table 2: Antibodies for immunofluorescence, flow cytometry and western blot in this study**

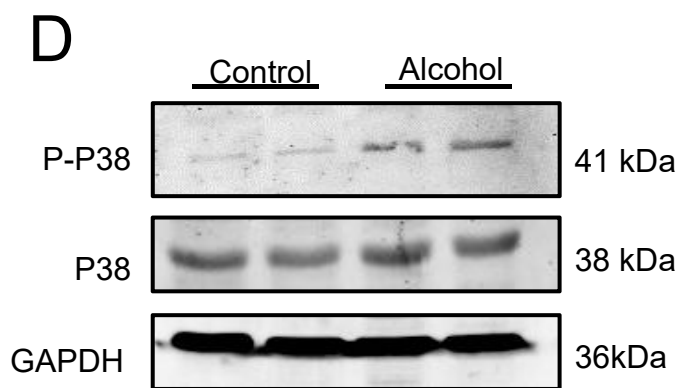
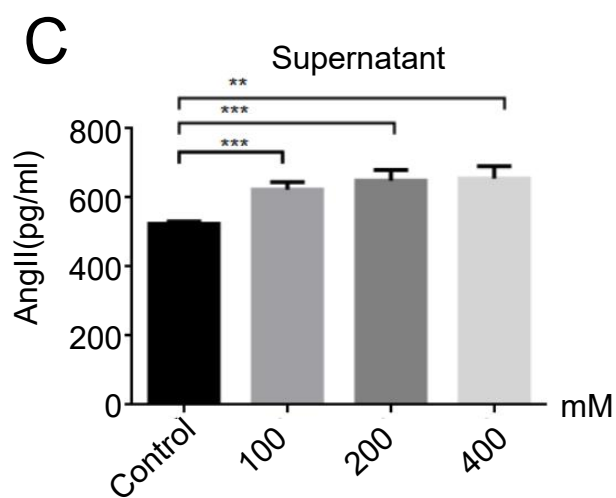
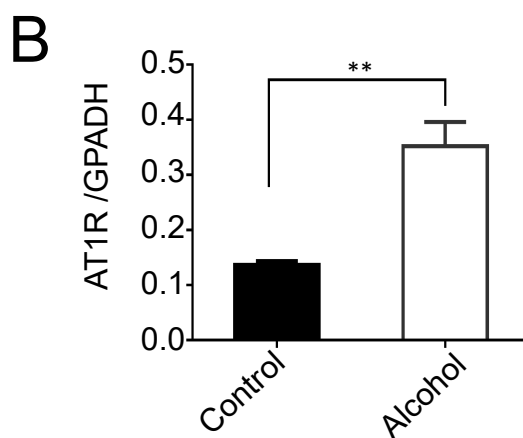
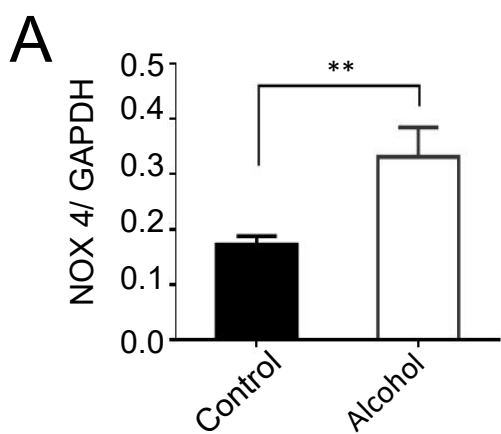
Antibody	Application	Dilution	Manufacturer	Catalog
Anti-OCT4	IF	1:100	Santa Cruz	sc-9081
Anti-SSEA4	IF	1:100	Santa Cruz	sc-21706
Anti-cTnT	IF	1:100	Abcam	ab8295
	FC	1:200		
Anti-AT1R	WB	1:500	Santa Cruz	sc-515884
Anti-NOX4	WB	1:500	Santa Cruz	sc-518092
Anti-GAPDH	WB	1:500	Abcam	ab181602
Goat anti-Mouse IgG Alexa Fluor 594	IF	1:200	Invitrogen	A21145
Goat anti-Rabbit IgG Alexa Fluor 488	IF	1:200	Invitrogen	A32731
Goat anti-Rabbit IgG (H + L) IRDye 800CW	WB	1:20000	LI-COR	926-32211
Goat anti-Mouse IgG (H + L) IRDye 800CW	WB	1:20000	LI-COR	926-32211

IF: Immunofluorescence

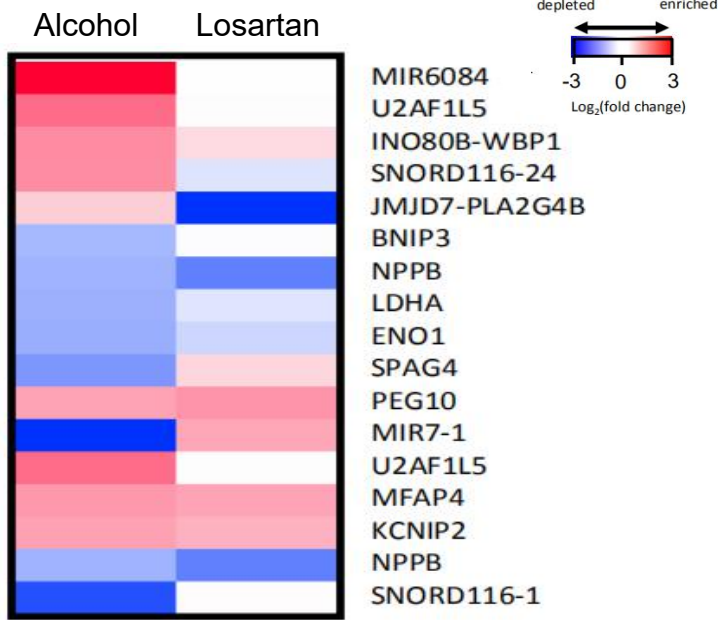
FC: Flow cytometry

WB: Western Blot

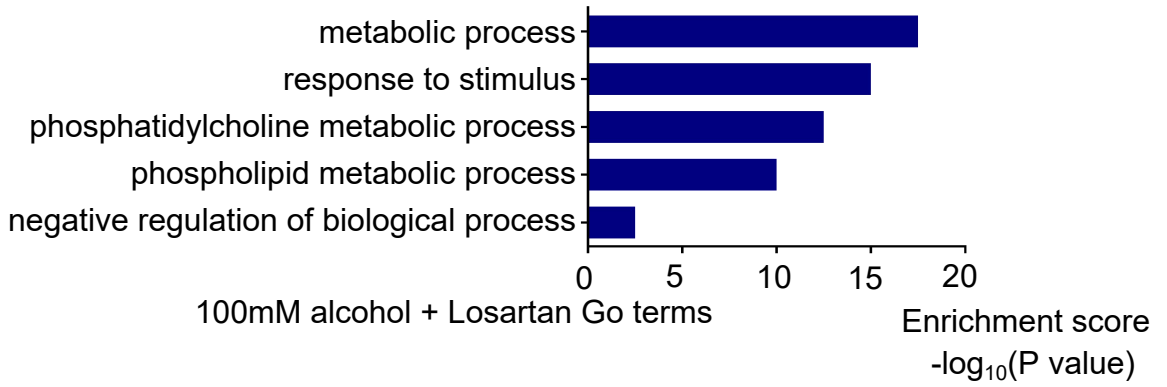
**A****B**



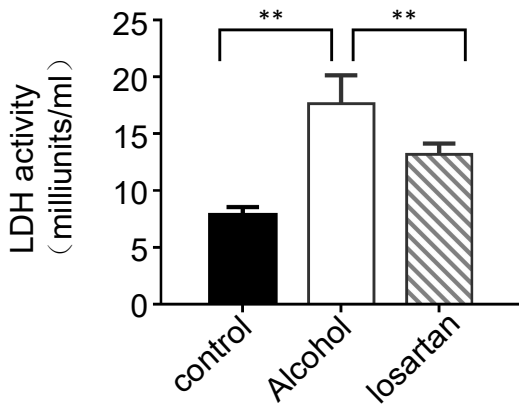
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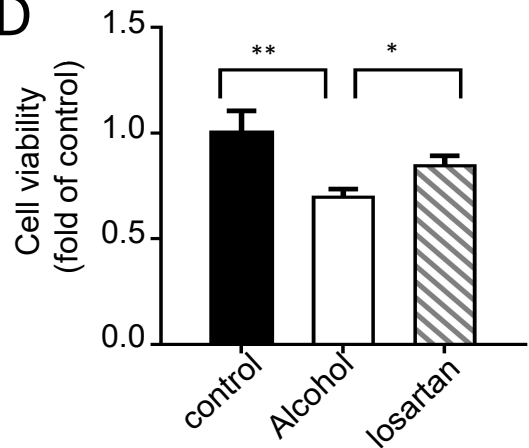
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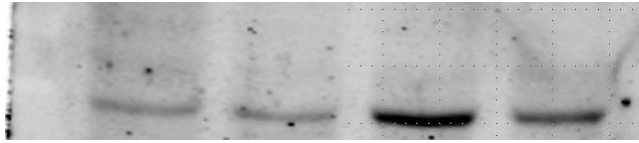
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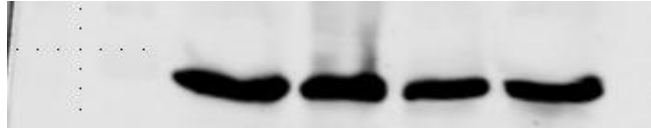
D



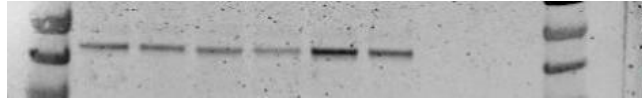
NOX4  
(Fig.4D)



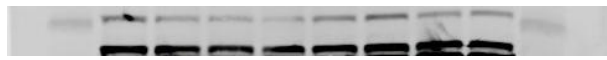
GAPDH  
(Fig.4D)



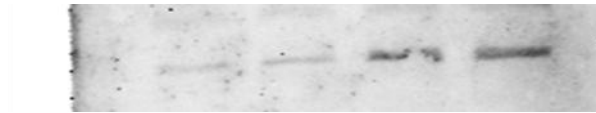
NOX4  
(Fig.5D)



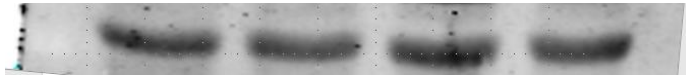
GAPDH  
(Fig.5D)



P-P38  
(Figure.S2D)



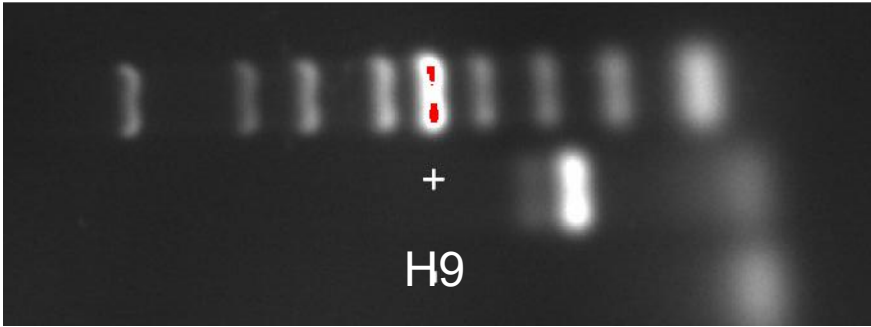
P38  
(Figure.S2D)



GAPDH  
(Figure.S2D)



A



H9 STR

B

