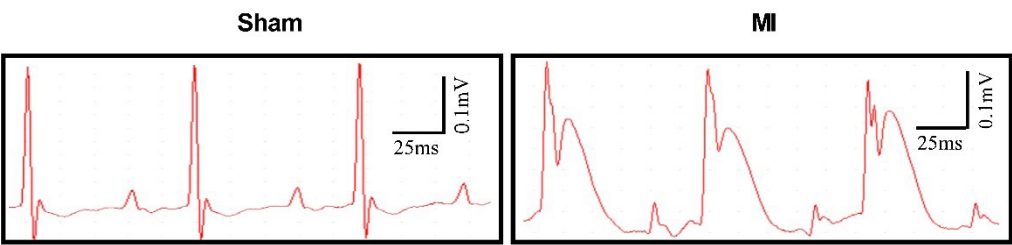


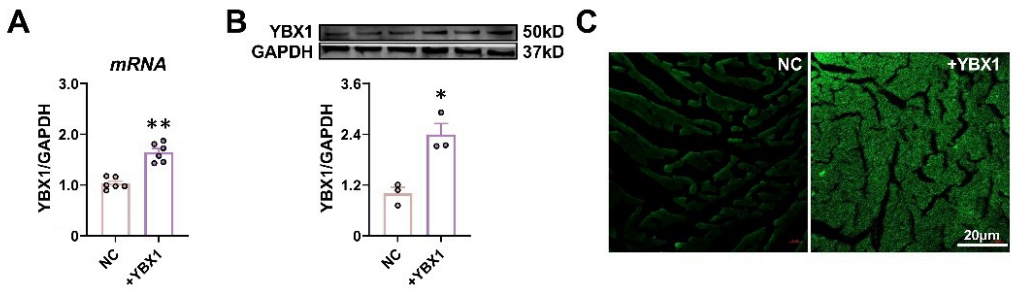
# SUPPLEMENTAL MATERIALS

## 1 Electrocardiogram

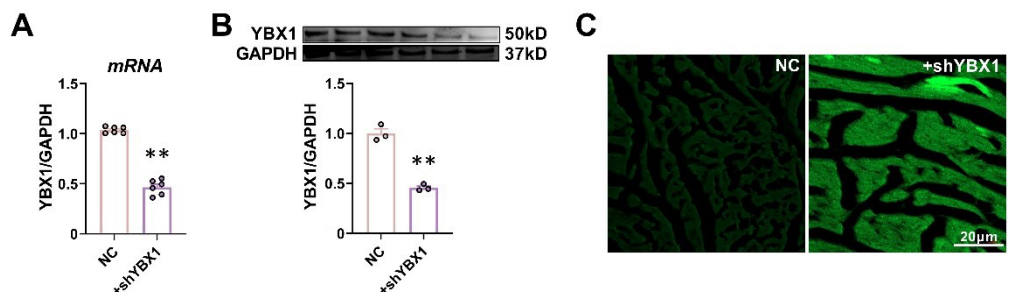
In short, rats are anesthetized, electrodes are inserted into the surfaces of limbs, and then an electrocardiograph is connected. The signal was recorded for 2 minutes under each frequency response applied between 0.05 and 500 Hz, and digital analysis was carried out in BL-420S system. The surface standard lead II electrocardiogram (ECG) of each group of mice was recorded with bipolar limb leads on the biological signal acquisition and analysis system (BL-420S, Chengdu Taimeng, China).



**Fig. S1** The recording of surface standard lead II ECG in mice was performed on the biometric signal acquisition and analysis system. Representative ECG recorded from two group mice.

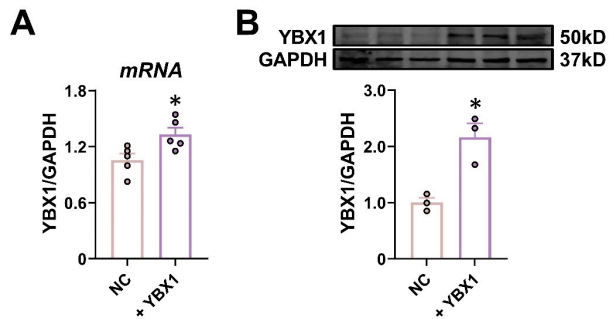


**Fig. S2** Verification of the overexpression efficiency of AAV9-carrying for YBX1 (AAV9-YBX1) in the hearts of mice. (A) YBX1 mRNA level in MI mouse myocardial tissues after AAV9-YBX1 administration ( $N = 3$  mice/group, Data are presented as mean  $\pm$  SEM,  $^{**}P < 0.01$  vs. AAV9-NC); (B) YBX1 protein level in MI mouse myocardial tissues after AAV9-YBX1 administration ( $N = 3$  mice/group, Data are presented as mean  $\pm$  SEM,  $^{*}P < 0.05$  vs. AAV9-SiNC); (C) Verification of successful transfection of AAV9 virus carrying GFP. AAV9-YBX1 represents mice received the AAV9 virus injection that showed green fluorescence (scale bar, 20  $\mu$ m).

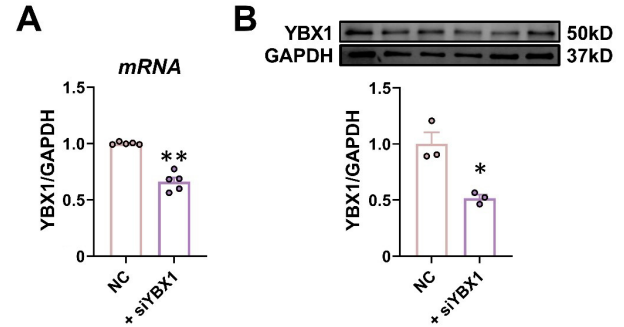


**Fig. S3** Verification of the knocking down efficiency of AAV9-carrying the siRNA for YBX1 (AAV9-siYBX1) in the hearts of mice. (A) YBX1 mRNA level in MI mouse myocardial tissues after AAV9-siYBX1 administration ( $N = 3$  mice/group, Data are presented as mean  $\pm$  SEM,  $^{**}P < 0.01$  vs. AAV9-siNC); (B) YBX1 protein level in MI mouse myocardial tissues after AAV9-siYBX1 administration ( $N = 3$  mice/group, Data are presented as mean  $\pm$  SEM,  $^{**}P < 0.01$  vs. AAV9-SiNC); (C) Verification of successful transfection of AAV9 virus carrying GFP. AAV9-siYBX1 represents mice received the AAV9 virus injection that showed green fluorescence (scale bar, 20  $\mu$ m).

## SUPPLEMENTAL MATERIALS



**Fig. S4** Verification of transfection efficiency of overexpressed YBX1. (A) YBX1 mRNA level in NMCs ( $N = 3$ ,  $^*P < 0.05$  vs. NC); (B) YBX1 protein level in NMCs ( $N = 3$ ,  $^*P < 0.05$  vs. NC).



**Fig. S5** Verification of transfection efficiency of knock-down YBX1. (A) YBX1 protein level in NMCs ( $N = 3$ ,  $^{**}P < 0.01$  vs. NC); (B) YBX1 mRNA level in NMCs ( $N = 3$ ,  $^*P < 0.05$  vs. NC).