**Supplementary materials**

**Fig. S1.** **A schematic diagram for the cell viability experiment (Fig. 1C).**



**Fig. S2**



**Fig. S2: GAS decreases the level of intracellular ROS in HUVECs under oxidative stress.** The level of intracellular ROS generation was detected in HUVECs treated above. The data are presented as the mean ± SEM, \*\*P<0.01 relative to the control group. ##P<0.01 relative to the TBHP-stimulated group. n=3.

**Fig. S3**



**Fig. S3: Knocking down Nrf2** **alleviates the protective effects of GAS.** Tunel assay was performed to detect the apoptosis of HUVECs treated above. The data are presented as the mean ± SEM, \*P<0.05 relative to the Con-siRNA group. n=3.

**Fig. S4**



**Fig. S4: GAS decreases the ROS level *in vivo*.** The MDA assay was performed to detect the level of oxidative stress marker MDA in wound tissues at 7 days post-operation. The data are presented as the mean ± SEM, \*\*P<0.01 relative to the control group on the same indicated day. n=6.