## Extended Data Fig. 1 MDP can inhibit FLS pyrolysis induced by Co<sup>2+</sup>.

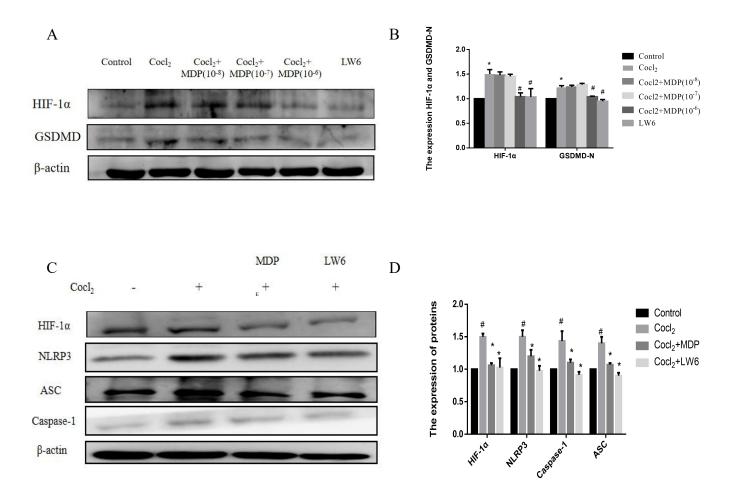
(A, B) FLS were treated with  $Co^{2+}$  for 24h and different doses of MDP for 16h. Immunoblot analysis and quantification of HIF-1 $\alpha$  and GSDMD-N. (C, D) FLS were treated with  $Co^{2+}$  for 24h and MDP (10-6 mol/L) for 16h.

## Extended Data Fig. 2 After 2 hours of hypoxia, the levels of GRK2, HIF-1 $\alpha$ and ROS were significantly increased in FLS.

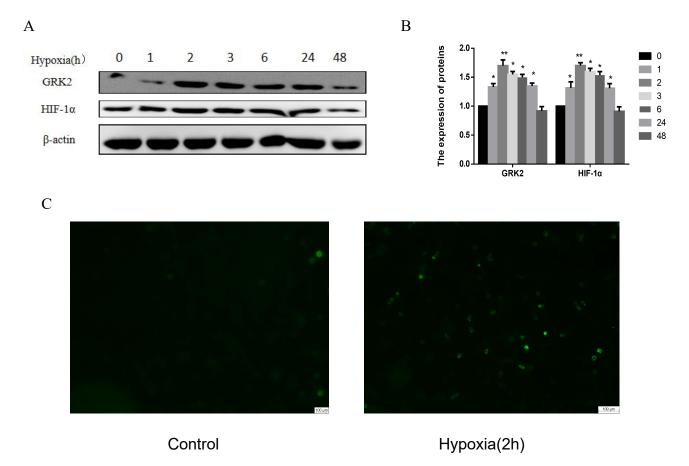
(A, B)Immunoblot analysis and quantification of HIF-1 $\alpha$ , NLRP3, ASC, Caspase-1, and cleaved-Caspase-1. FLS was exposed to hypoxia for 0, 1, 2, 3, 4, 6, 24, 48h. Immunoblot analysis and quantification of GRK2, HIF-1 $\alpha$ . (C) The images of ROS fluorescent.

## Extended Data Fig. 3 MDP could inhibit the expression of GRK2 in FLS of AA rats and induce VHL production

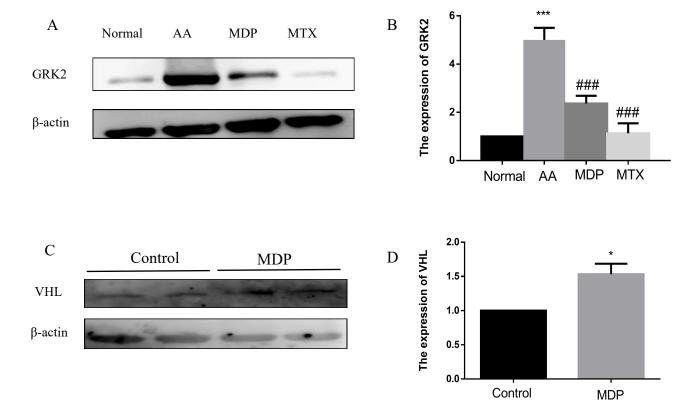
(A, B) Immunoblot analysis and quantification of HIF-1 $\alpha$  and GSDMD-N in the FLS of different groups of rats. Data were presented as mean  $\pm$  SD. n = 3. \*\*\*p < 0.001 compared with control group and \*\*#p < 0.001 compared with AA group. (C, D) The expression level of VHL treated with or without MDP. Data were presented as mean  $\pm$  SD. n = 3. \*p < 0.05 compared with control group.



Extended Data Fig. 1



Extended Data Fig. 2



Extended Data Fig. 3