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## **Supplemental information**

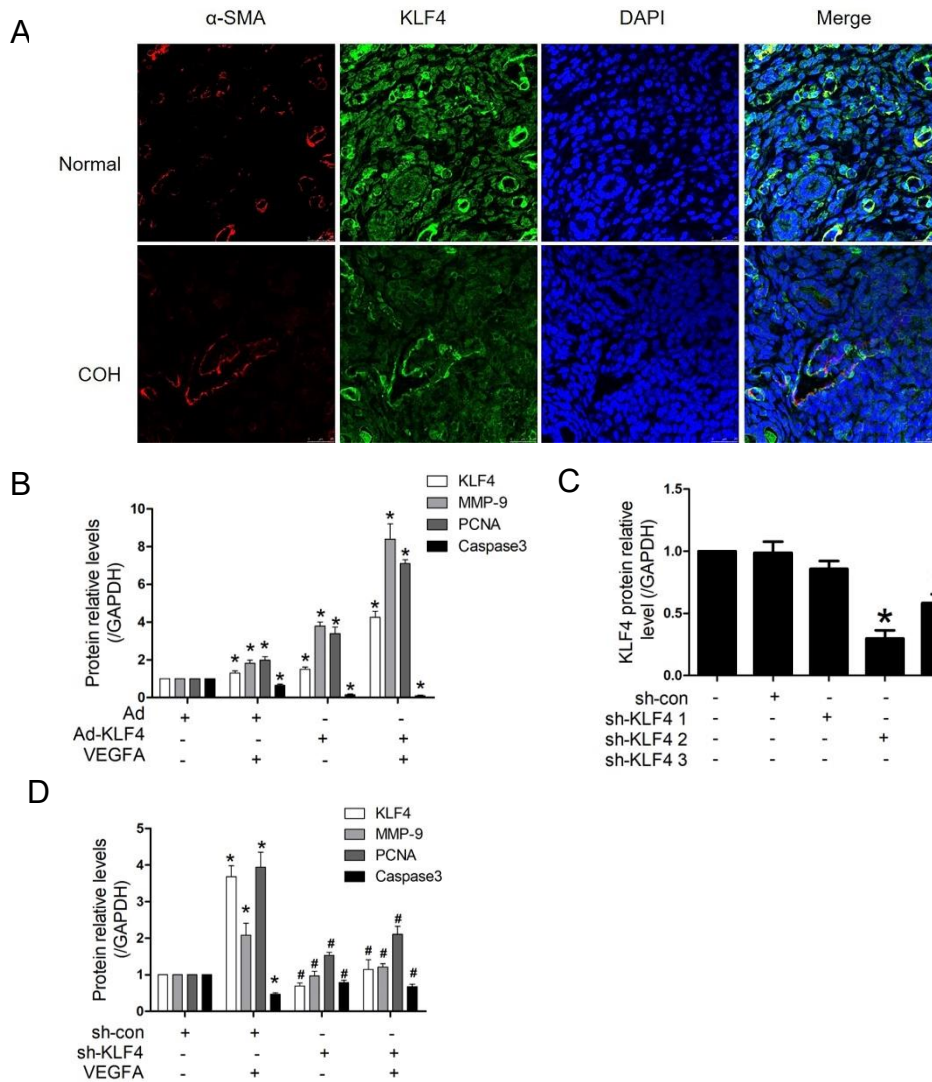
### **GCN5 participates in KLF4-VEGFA feedback to promote endometrial angiogenesis**

**Can Cao, Yuling Zhou, Yu Zhang, Yucong Ma, Shujin Du, Lijie Fan, Ruobing Niu, Yingmei Zhang, and Ming He**

## Supplemental information

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endometrial angiogenesis

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Ruobing Niu<sup>1</sup>, Yingmei Zhang<sup>1</sup>, Ming He<sup>1,3</sup> \*



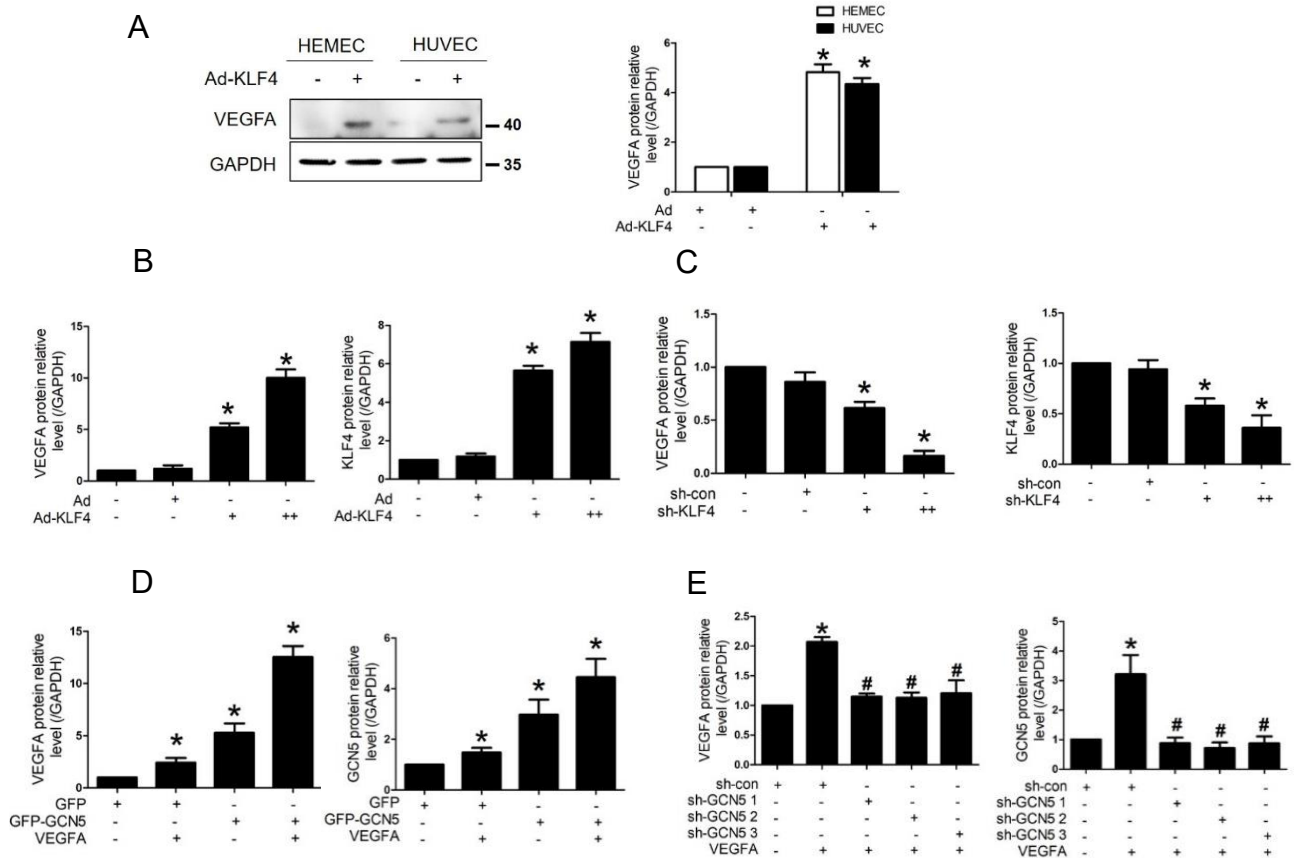
Supplementary Figure 1. KLF4 promotes endometrial angiogenesis, Related to Figure 1 and Figure 3.

(A) The difference of  $\alpha$ -SMA and KLF4 expression in the uterus of mice in normal and COH group were detected by immunofluorescence staining. The red staining represents  $\alpha$ -SMA, the green staining represents KLF4, and the blue staining represents cell nucleus. Magnification,  $\times 630$ , Scale bar=25 $\mu$ m.

(B) Densitometric analyses for Western blots in Fig. 3A. Data are represented as mean  $\pm$  SD,  $n=3$ ,  $*P < 0.05$  vs Ad, one-way ANOVA.

(C) Densitometric analyses for Western blots in Fig. 3B. Data are represented as mean  $\pm$  SD,  $n=3$ ,  $*P < 0.05$  vs sh-con, one-way ANOVA.

(D) Densitometric analyses for Western blots in Fig. 3C. Data are represented as mean  $\pm$  SD,  $n=3$ ,  $*P < 0.05$  vs sh-con,  $\#P < 0.05$  vs. VEGFA, one-way ANOVA.



**Supplementary Figure 2. KLF4 and GCN5 increased the expression of VEGFA in HEMECs, Related to Figure 4.**

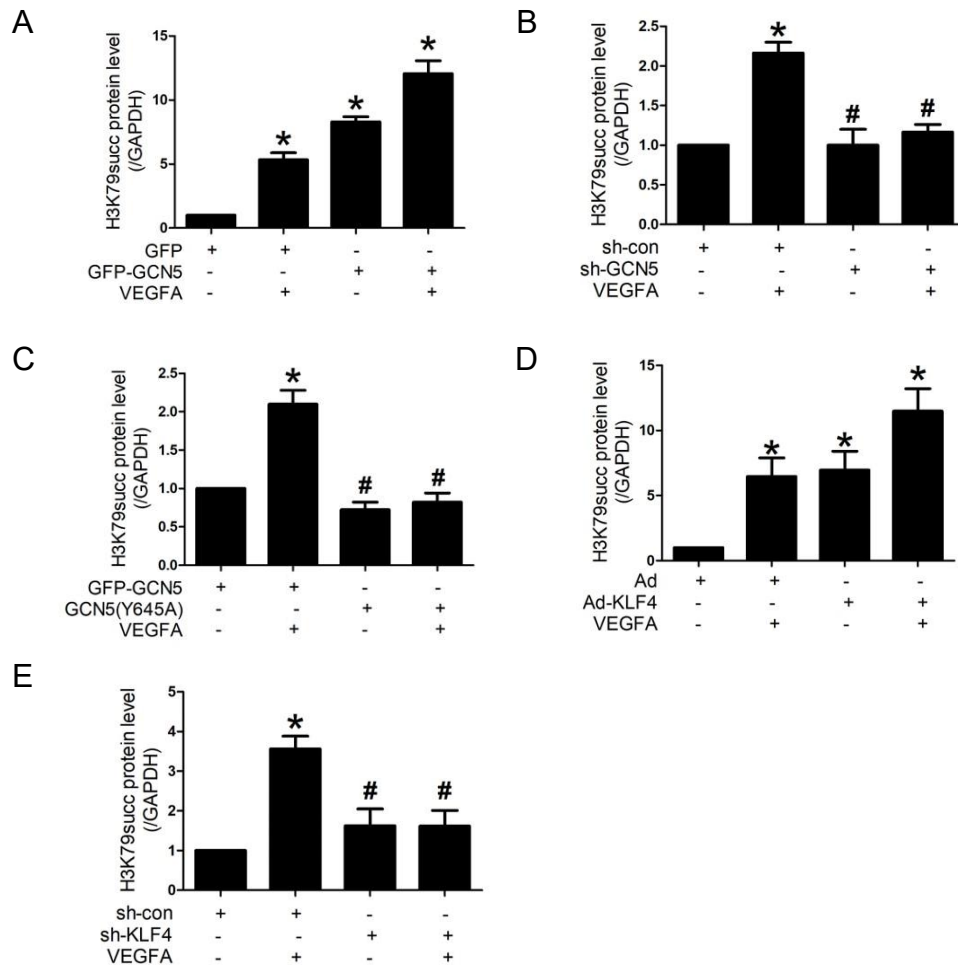
(A) HEMECs and HUVECs were infected with Ad or Ad-KLF4 for 36 h. VEGFA protein levels were detected by Western blotting. VEGFA was quantitated by densitometry and values were normalized to total GAPDH. Data are represented as mean  $\pm$  SD,  $n=3$ ,  $*P < 0.05$  vs Ad, Student's t-test.

(B) Densitometric analyses for Western blots in Fig. 4A. Data are represented as mean  $\pm$  SD,  $n=3$ ,  $*P < 0.05$  vs Ad, one-way ANOVA.

(C) Densitometric analyses for Western blots in Fig. 4B. Data are represented as mean  $\pm$  SD,  $n=3$ ,  $*P < 0.05$  vs sh-con, one-way ANOVA.

(D) Densitometric analyses for Western blots in Fig. 4G. Data are represented as mean  $\pm$  SD,  $n=3$ ,  $*P < 0.05$  vs GFP, one-way ANOVA.

(E) Densitometric analyses for Western blots in Fig. 4H. Data are represented as mean  $\pm$  SD,  $n=3$ ,  $*P < 0.05$  vs sh-con,  $\#P < 0.05$  vs. VEGFA, one-way ANOVA.



**Supplementary Figure 3. VEGFA promotes H3K79 succinylation by upregulating KLF4 and GCN5, Related to Figure 6.**

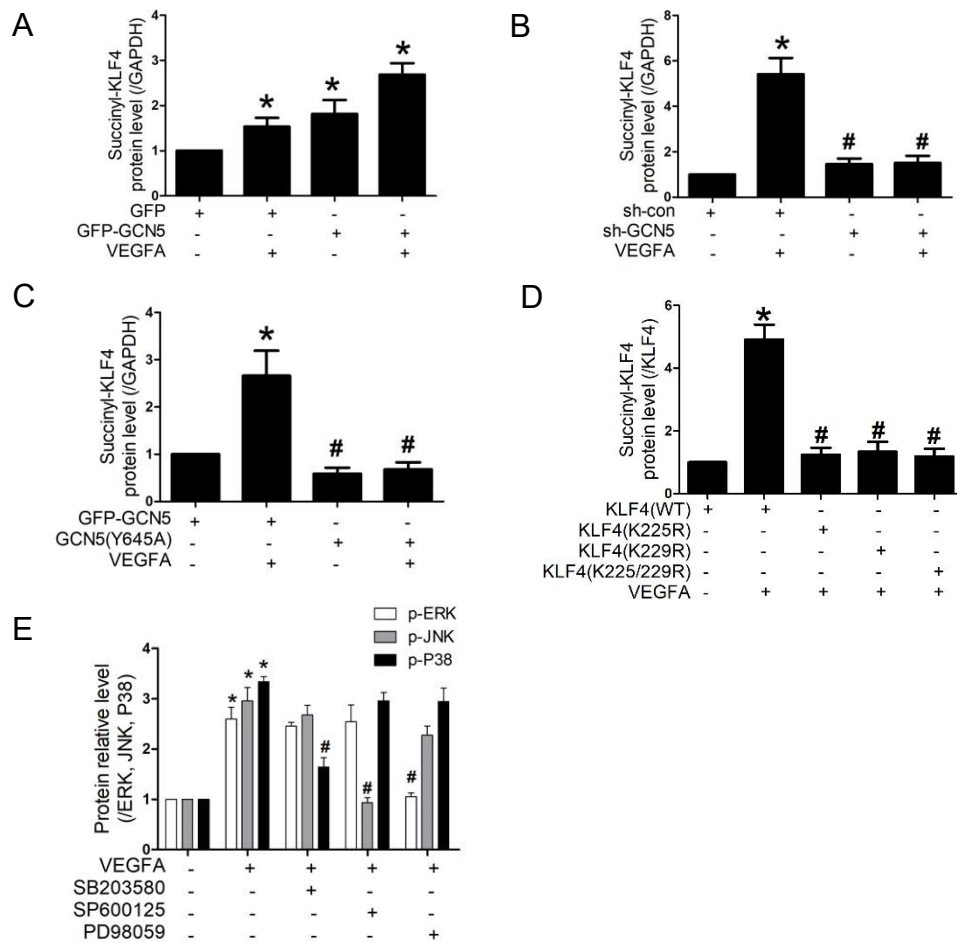
(A) Densitometric analyses for Western blots in Fig. 6B. Data are represented as mean  $\pm$  SD, n=3, \* $P$  < 0.05 vs GFP, one-way ANOVA.

(B) Densitometric analyses for Western blots in Fig. 6C. Data are represented as mean  $\pm$  SD, n=3, \* $P$  < 0.05 vs sh-con, # $P$  < 0.05 vs. VEGFA, one-way ANOVA.

(C) Densitometric analyses for Western blots in Fig. 6D. Data are represented as mean  $\pm$  SD, n=3, \* $P$  < 0.05 vs GFP-GCN5, # $P$  < 0.05 vs. GFP-GCN5+VEGFA, one-way ANOVA.

(D) Densitometric analyses for Western blots in Fig. 6E. Data are represented as mean  $\pm$  SD, n=3, \* $P$  < 0.05 vs Ad, one-way ANOVA.

(E) Densitometric analyses for Western blots in Fig. 6F. Data are represented as mean  $\pm$  SD, n=3, \* $P$  < 0.05 vs sh-con, # $P$  < 0.05 vs. VEGFA, one-way ANOVA.



**Supplementary Figure 4. VEGFA promoted KLF4 succinylation regulated by GCN5 in HEMECs, Related to Figure 7 and Figure 8.**

(A) Densitometric analyses for Western blots in Fig. 7C. Data are represented as mean  $\pm$  SD, n=3, \* $P$  < 0.05 vs GFP, one-way ANOVA.

(B) Densitometric analyses for Western blots in Fig. 7D. Data are represented as mean  $\pm$  SD, n=3, \* $P$  < 0.05 vs sh-con, # $P$  < 0.05 vs. VEGFA, one-way ANOVA.

(C) Densitometric analyses for Western blots in Fig. 7E. Data are represented as mean  $\pm$  SD, n=3, \* $P$  < 0.05 vs GFP-GCN5, # $P$  < 0.05 vs. GFP-GCN5+VEGFA, one-way ANOVA.

(D) Densitometric analyses for Western blots in Fig. 7F. Data are represented as mean  $\pm$  SD, n=3, \* $P$  < 0.05 vs KLF4(WT), # $P$  < 0.05 vs. KLF4(WT)+VEGFA, one-way ANOVA.

(E) Densitometric analyses for Western blots in Fig. 8C. Data are represented as mean  $\pm$  SD, n=3, \* $P$  < 0.05 vs untreated group, # $P$  < 0.05 vs. VEGFA, one-way ANOVA.