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**Supplementary figure captions** 

SF.1 Effects of GABA on secretion of pro-inflammatory cytokines and cell cycle in ETEC-infected IPEC-J2 cells. (A) Levels of IL-6, (B) IL-8, (C) IL-1 $\beta$  and (D) TNF- $\alpha$  (n=4). (E) Respresentative images of flow cytometry analysis for cell cycle (n=4). (F) Statistical analysis of cell count (%) (n=4). (G) Relative mRNA expression of Cyclin A1, (H) Cyclin B1, and (I) Cyclin D1 (n=4). Data are expressed as mean  $\pm$  SD or SEM. Asterisks indicate statistically significantly differences as analyzed by one-way ANOVA (\* P<0.05, \*\* P<0.01, \*\*\* P<0.001, \*\*\*\* P<0.0001).

SF.2 Effects of GABA on growth performance and levels of serum proinflammatory cytokines in ETEC-infected piglets. (A) ADG (n=6-8). (B) Feed:Gain ratio (n=6-8). (C) Levels of serum IL-6, (D) IL-8, (E) IL-1 $\beta$  and (F) TNF- $\alpha$  (n=6). Data are expressed as mean  $\pm$  SD. Asterisks indicate statistically significantly differences as analyzed by one-way ANOVA (\* P<0.05, \*\* P<0.01, \*\*\* P<0.001).

SF.3 A diagram for potential mechnaism connecting to the autophagy pathway affected by GABA/ETEC treatment in this study. Red: increase; Green: decrease; Grey: undetected; : promote; : inhibit.