

## Supplementary materials

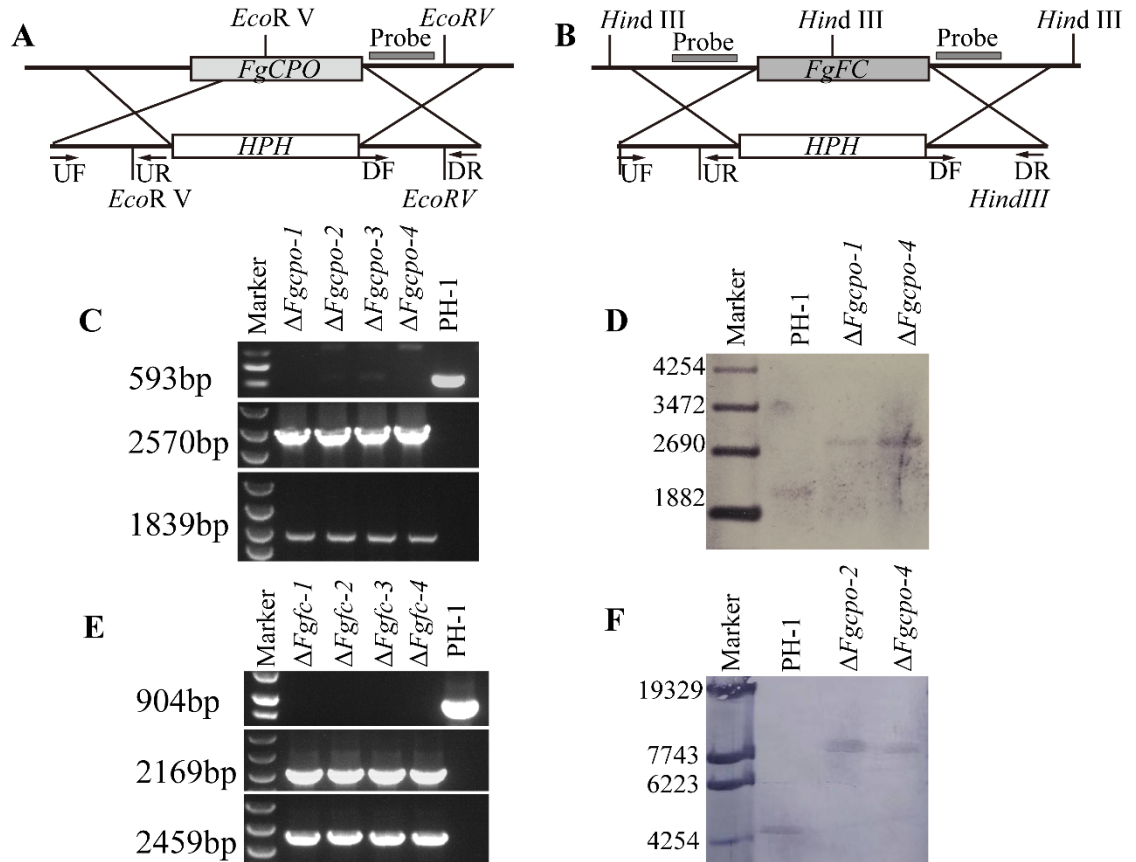


Figure S1. Vector construction strategy and verification of mutants. The knockout vector was constructed based on the principle of homologous double exchange. Primers used for amplifying the homology fragment were indicated in the figure. (A) Schematic representation of  $\Delta Fgcpo$  vector construction. (B) Schematic representation of  $\Delta Fgfc$  vector construction. (C) PCR verification of  $\Delta Fgcpo$ . The target gene fragment, upstream and downstream were identified separately. (D) Southern blot verification of  $\Delta Fgcpo$ . Genomic DNA was digested with *EcoRV* and separated by TAE gel electrophoresis. The probe was binding to the downstream of *FgCPO* (E) PCR verification of  $\Delta Fgfc$ . The target gene fragment, upstream and downstream were identified separately. (F) Southern blot verification of  $\Delta Fgfc$ . Genomic DNA was digested with *HindIII* and separated by TAE gel electrophoresis. The probe was binding to the upstream of *FgFC*.