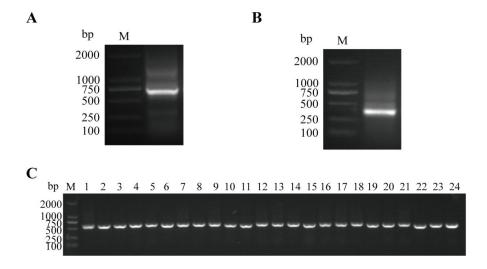
## **Supplementary Information**

**Figure S1.** Library construction (**A**) The fragments ~700 bp containing VHH gene were amplified by first PCR; (**B**) The fragments ~400 bp were amplified by second PCR extension; (**C**) 24 colonies were randomly selected from constructed library to estimate the correct insertion rate by performing PCR.



**Figure S2.** The VHH genes against Cry 1Ac were selected from phage display libray. (**A**) Cry1Ac protein detected by SDS-PAGE; (**B**) After two rounds of panning, Cry1Ac-specific VHHs were enriched 200 folds; (**C**) 95 colonies were randomly selected from two rounds of panning by Periplasmic extract ELISA to detect the positive colonies. The ratio higher than 2 was considered as positive.

