

Production of single chain antibody against mycotoxin fumonisin B₁ in recombinant *Escherichia coli*

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Fumonisin B₁ (FB₁) is secondary metabolite produced mostly by *fusarium moniliform*. It is the toxic to human and several animal species as food contaminant. The single chain variable fragment (scFv) genes of monoclonal antibody (mAb) against FB₁ was cloned and expressed in recombinant *Escherichia coli*. Complementary DNA was constructed by reverse transcription-polymerase chain reaction and DNA sequence analysis identified that each variable region was composed of heavy chain variable region (V_H) as a type of IgG₁ and light chain variable region (V_L) as a type of κ . Overlap-extension PCR using linker encoding polypeptide (Gly₄Ser)₃ led to combination of V_H and V_L genes and expression in recombinant *E. coli*. Anti-FB₁ scFv expressed insolubly was purified in use of affinity tag and was refolded *in vitro*.