Expression of WSSV antigen by baculovirus/insect cell expression system

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White Spot Syndrome Virus(WSSV), an enveloped, rod-shaped virus, is one of the most virulent pathogen, causing high mortality in cultured shrimp. The objective of this study was to clone five structural protein genes of WSSV and to express proteins for the development of vaccines against WSSV.

WSSV purification was carried out as described by Xixian *et al.*[1]. The purified virus sample was confirmed using a transmission electron microcope(TEM). The DNA fragments encoding of WSSV structural proteins VP19, P22, VP28, VP281 and VP466 were selected and amplified from the purified virus by polymerase chain reaction(PCR). After PCR, the homology of these genes to database was evaluated. Comparison of nucleotide sequence level with five structure genes were performed with GenBank databases using FASTA. The PCR products have high homology according to public database in GenBank.

The PCR fragments of VP19, P22, VP28, VP281 and VP466 were cloned into pGEM-T-easy vector and finally transfected into insect cells using baculovirus/insect cell expression system for the production of WSSV antigen proteins in high concentration. The expression of the WSSV antigen was confirmed using SDS-PAGE and Western blot with purified WSSV from the expression of the clone.

References

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