Cloning and Expression of Rock Bream Iridovirus (RBIV) ORFs for Viral Antigen Screening

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Iridoviruses are well known as causative agents of serious systemic diseases in many fish species and the iridoviral diseases with high mortalities have been reported in worldwide. Recently, complete genomic DNA sequence of RBIV(Rock Bream Iridovirus) was reported(1), however, the antigenic genes of the virus were not clarified.

In this study, 8 ORFs of RBIV related with viral attachment or infection were cloned. The ORFs of RBIV were cloned by PCR amplification with specific primers. The PCR products were cloned into pGEX 4T-1 vector containing GST gene or pET28a vector containing His-tag gene for expression and purification of recombinant proteins (2, 3).

After transformation of the recombinant plasmids into *E. coli* BL21(DE3), the cells were cultured at 37℃ with IPTG induction. At 4h after IPTG induction, the expressed proteins could be detected by SDS-PAGE. The viral genes were expressed in the soluble or insoluble fraction of cell lysates. After purification with affinity chromatography, the proteins will be evaluated whether they can be used as a protein vaccine for the control of RBIV.

References

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