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Construction and characterization of transformed insect cells expressing baculovirus very late factor (vlf-1) in an infection-independent manner

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Transformed Sf9 cells expressing baculovirus very late factor (vlf-1) were constructed by using *Autographa californica* nuclear polyhedrosis virus (AcNPV) immediate early gene (*ie1*). Neomycin-resistant gene as a selection marker was introduced under the control of AcNPV *ie1* promoter, and *vlf-1* gene was introduced under the control of the heat shock protein promoter to yield dual expression plasmid with two independent transcription units. It was transfected into Sf9 cells and cell clones expressing vlf-1 were selected by G418 treatment. Genomic DNA from transformed cells was isolated and integration of AcNPV *ie1* harboring *vlf-1* was confirmed by PCR using AcNPV *ie1*-specific primers. The transformed cells expressing vlf-1 in an infection-independent manner were expressed foreign gene products of recombinant baculovirus in the early stage compared with control Sf9 cells. It should also be possible to develop highly efficient transformed insect cells for baculovirus expression vector system.