

# Propagation of *Bombyx mori* Nucleopolyhedrovirus in Various Nonpermissive Insect Cell Lines

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The susceptibility of cells from *Spodoptera frugiperda* (Sf9 and Sf21), *Trichoplusia ni* (BTI-Tn-5B1-4, Hi5) and *S. exigua* (Se301) to *Bombyx mori* nucleopolyhedrovirus (BmNPV) was examined. Even though these cells were usually considered nonpermissive to BmNPV, we could observe cytopathic effects, increase in virus yield and viral DNA synthesis by BmNPV in Sf9, Sf21 and Hi5 cells. The very late gene expression of BmNPV in these cell lines was also detected through the expression of  $\beta$ -galactosidase using the polyhedrin promoter. Sf9 cells were most susceptible to BmNPV in all aspects, followed by Sf21 and Hi5 cells in decreasing order, while Se301 cells failed to show a distinct virus replication. Although Sf9, Sf21, Hi5 and Se301 cells are highly susceptible to AcMNPV, it was interesting that only Se301 cells were not susceptible to BmNPV. This suggests that AcMNPV and BmNPV share the factor(s) of host specificity basically, but more factor(s) are needed depending on cell line. This particular difference of virus susceptibility in each cell line may be utilized in future studies for understanding the mechanism of host specificity of NPVs.