SUMMARY

Characterization and serological studies of the virus isolate indicate that it is a strain of pseudorabies virus. The virus isolate can multiply and cause disease in nursing pigs, rabbits, and swiss albino mice. It can also induce cytopathic effect in PK-15 cells. The characteristic of CPE is appeared as rounded cells with occasional giant cells. It can produce plaques in PK-15 cell monolayer under gum tragacanth and also produces pocks on chorioallantoic membrane of chicken embryo. In serology, the virus isolate is neutralized by its homologous antibody as well as reference antibody prepared to pseudorabies virus, whereas it is not neutralized by reference antibodies prepared to foot-and-mouth disease and hog cholera viruses. The virus antigen made from the virus isolate gives a specific reaction against its homologous antibody and known antibody prepared to pseudorabies virus but not react with known antibodies prepared to foot-and-mouth disease and hog cholera viruses when tested by gel-diffusion test. The virus isolate gives specific reaction against pseudorabies virus antiserum in fluorescent antibody test.

The PK-15 cell cultures and suckling mice are shown to be susceptible host for studying the virus isolate. The virus isolate induces cytopathic changes in PK-15 cells in 8 hours. The virus production is higher in a shorter incubation period

following inoculation with a high m.o.i. than that inoculated with a low m.o.i. The virus titer detected by suckling mice inoculation is about the same level as that detected by PK-15 cell inoculation, whereas the virus titers detected by weanling mice and adult mice inoculation are about 100 and 1000 folds lower than that detected in PK-15 cells.

Pigs and nursing pigs are susceptible to the virus isolate. The virus isolate induces severe disease in nursing pigs which death is usually followed. Pigs usually develop a mild disease and viruses are shedding through their nasal passages following inoculation of the virus isolate. All surviving pigs develop both humoral and cell-mediated immunity which can be detected by MIDT, neutralization and delayed-type hypersensitivity skin reaction test respectively.

In vaccine preparation, the virus is completely inactivated by binaryethyleneimine which is not toxic to suckling mice, rabbits and pigs. The vaccines produced are evaluated in comparison with commercial one in pigs. The evaluation of the vaccine is included different types of adjuvant. Oil emulsion seems to be the best adjuvant of the inactivated pseudorabies vaccine which yields better immune reaponses.

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