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Susceptibility of neuroblastoma cells to rabies virus may be affected by passage number

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Highlights Cell susceptibility to rabies virus remained consistent among intermediate and high passage neuroblastoma cells but extremely high passaged cells were less susceptible to rabies virus.

- Rabies virus antigen load, morphology, and dissemination were consistent between intermediate and high passage neuroblastoma cells. Antigen morphology in EHP was similar to IP and HP cells
- Viral growth between intermediate and high passaged cells was similar but there was a notable difference when using extremely high passaged cells.

Abstract

Maintaining a healthy, continuous immortalized cell line is essential for rabies laboratories that perform virus isolation assays and test for the presence of viral neutralizing antibodies. Individuals who routinely work with rabies virus, such as rabies laboratory employees, or those who may have a high potential for exposure to rabies virus, including veterinarians, should be tested for the presence of anti-rabies viral neutralizing antibodies (VNA) every 6 to 24 months, depending on potential exposure level. The gold standard for serum neutralization assays require the use of live rabies virus and cells that are sensitive to rabies virus infection. Additionally, virus isolation assays are routinely performed in rabies laboratories as a back-up for the direct fluorescent antibody test (dFAT). Currently there are no guidelines or publications recommending the use of low, intermediate, or high passage cell lines in rabies assays. In this study, we compared the sensitivity of intermediate, high, and extremely high passaged

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