



WINN FELINE FOUNDATION

For the Health and Well-being of All Cats

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W12-042 - “Development and in vitro optimization of hydrogels for the delivery of FHV specific siRNAs encapsulated in chitosan nanoparticles”

In this study, development of a delivery system for small pieces of antiviral material (siRNA) in the eye was attempted. The first attempt utilized a polyacrylamide gel, but the delivered antiviral particles did not function to inhibit the virus. Thermogels which are liquid at cooler temperatures and gel-like at body temperature were tried. This material had been shown to release the target drug in a sustained manner. Initial studies were encouraging using a dye instead of the antiviral. When the antiviral was tried in this delivery system, reduced antiviral activity as well as some toxic effects was seen on feline cells in culture. This led to evaluation of a virus vector for delivery of the antiviral siRNAs. The early studies have been encouraging, with reduction of virus replication occurring in cell culture. It is believed that a combination of these latter two systems may offer the optimal treatment regimen, and this is currently under investigation.

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