Feline viruses have acquired elaborate strategies to persist within their hosts. These viruses are particularly problematic in catteries and shelters with high social contact among stressed individuals. Specific therapies are unavailable for most feline viral diseases, and existing therapies are costly. Vaccination protocols and quarantine of naive animals are difficult in shelters. If resistance to a broad spectrum of viruses in cats housed in catteries or shelters could be transiently increased, viral spread within these facilities could be reduced.

Oligonucleotides (ODN) containing unmethylated cytosine phosphate guanosine (CpG) motifs stimulate innate mammalian immune responses. ODN 2216, a class A CpG ODN, promotes expression of potent antiviral molecules that increase resistance of feline fibroblastic and epithelial cell lines to 5 common feline viruses (feline calicivirus, FHV, feline coronavirus, feline parvovirus, and FeLV). The extent of biological effects of ODN 2216 was evaluated in 2 cats; 2 cats were controls. The molecule was found to induce expression of the myxovirus resistance (Mx) gene, a marker for the instigation of innate antiviral processes, in blood, oral, conjunctival, and rectal mucosa cells, indicating systemic biological activity with protective potential at viral entry sites. No adverse events to ODN 2216 administration were observed. These results indicate a promising use of ODN 2216 in promoting antiviral defense mechanisms and inducing temporary resistance to viral infections in vivo in domestic cats.

**Source**