



Appropriate Samples for Detecting the Presence of Canine Influenza Virus

As with most viral diseases, there are several ways to determine the role of a virus in a clinical event. While there is a tendency to want a single sample type that will work in all cases, the reality is that this is not possible. The list of possible tests is:

- 1. Canine Influenza Virus HI test (\$22.00 per sample)** At present, the most reliable way to diagnose canine influenza virus infections is by serological tests. The direct link between canine influenza virus and a clinical event is through the collection of acute and convalescent serum samples. The first sample is collected at the first presentation of the patient and then 2-3 weeks later. Serum can be separated from the clot and held in the refrigerator until collection of the second sample. Samples can be shipped overnight without cold packs or 2-day delivery with cold packs. For animals that have recovered from a case of "kennel cough", a single serum sample can determine whether the animal has been infected with canine influenza virus at some point in the past. As this is a relatively new pathogen of dogs, we do not expect to find a high seroprevalence in unaffected dogs.
- 2. PCR test for Canine Influenza (\$36.75 per sample)** At present, the most reliable way to directly detect the virus is through a PCR test on either swabs (nasal swabs preferred) or respiratory tissue. A generic PCR test that detects the highly conserved matrix gene is the test of choice. While we are currently looking for the H3N8 virus, a test unique to this virus would miss a potential influenza infection caused by another flu strain such as H5N1. Broad screening tests are to be used whenever possible in surveillance programs.
- 3. Isolation of canine influenza virus is a relatively unreliable way to confirm the infection.** The reason for this is not clear, but the timing of the sample collection may be the main culprit. Experimental infections have shown that nasal swabs are nearly twice as successful in isolating the virus as nasopharyngeal swabs taken at the same time on the same animal. We continue to encourage the submission of samples for virus isolation because it is essential to track the genetic changes that are occurring in the virus as it makes its way through the dog population. Samples that are submitted for PCR detection of the virus that are test positive will be automatically set for Virus Isolation at no additional cost.

NOTE: All dogs that cough are not infected with canine influenza virus. The standard respiratory pathogens of dogs have not gone away. One should always consider a complete diagnostic work-up that would include cultures for bacteria and mycoplasma. Check our Test & Fee Manual for sample submission information and fees.

Submission forms for the Animal Health Diagnostic Center (AHDC) can be found on the Laboratory's web site. Go to diagcenter.vet.cornell.edu and click on "Testing Services" in the box on the left, then on "Sample Submission Requirements."