

One Step Canine Distemper-Adenovirus Detection in Conjunctiva and Nasal Samples

Rapide - Distemper-Adenovirus Ag Test Kit

Principles

The **Rapide - Distemper-Adenovirus Ag Test Kit** is a chromatographic immunoassay for the qualitative detection of canine distemper virus (CDV) antigen and adenovirus (CAV) antigens in canine conjunctiva and nasal cavity epithelial cells.

The **Rapide - Distemper-Adenovirus Ag Test Kit** has the letters "T" and "C" as the Test line and Control line on the surface of the device. Both the test line and control line in the result window are not visible before applying any samples. The control line is used for procedural control, and should always appear if the test procedure is performed properly and the test reagents of the control line are working. A purple test line will be visible in the result window if canine distemper virus antigen and/or canine adenovirus antigen is/are present in the specimen.

The specially selected canine distemper virus antibodies and canine adenovirus antibodies are used in the test bands as both capture and detector materials. These enable the **Rapide - Distemper-Adenovirus Ag Test Kit** to identify canine distemper virus antigen and canine adenovirus antigen in canine conjunctiva and nasal cavity epithelial cells with a high degree of accuracy.

Materials provided (10 tests/kit)

- 1) Ten(10) **Rapide - Distemper-Adenovirus Ag Test Device**
- 2) Ten(10) Specimen tubes containing assay diluent buffer
- 3) Ten(10) Sample collection swabs
- 4) Ten(10) Disposable droppers
- 5) One(1) Instructions for use

Precautions

- 1) For veterinary diagnostic use only.
- 2) For best results, strict adherence to the instructions is required.
- 3) All specimens should be handled as being potentially infectious.
- 4) Do not open or remove test kits from their individually sealed pouches until immediately before their use.
- 5) Do not use the test kit if the pouch is damaged or the seal is broken.
- 6) Do not reuse test kits.
- 7) All reagents must be at room temperature (15 ~ 25°C) before running the assay.
- 8) Do not use reagents beyond the stated expiration date marked on the label.
- 9) The components in this kit have been quality control tested as a standard batch unit. Do not mix components from different lot numbers.

Storage and Stability

The kit can be stored at room temperature or refrigerated (2~30°C). The test kit is stable through the expiration date marked on the package label. **DO NOT FREEZE**. Do not store the test kit in direct sunlight.

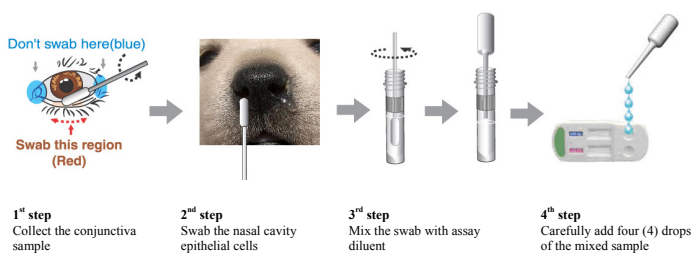
Specimen Collection and Preparation

- 1) The test should be performed using one swab from the conjunctiva (3rd eyelid) and nasal cavities (epithelial cells) of the dog.
- 2) After collecting the specimen using the swab, the specimen should be immediately extracted with the assay diluent and tested.
- 3) If specimens are not immediately tested, they should be refrigerated at 2~8°C. If the specimen is not tested within 48 hours, store the specimen at -20°C or below.

Procedure of the test

- 1) First step: Collect the sample from the conjunctiva with the swab pre-wetted with saline solution. Second step: Swab the nasal cavity epithelial cells with the same swab.
- 2) After collecting the sample, insert the swab into the specimen tube containing the assay diluent.
- 3) Vigorously mix the swab with the assay diluent to extract the virus from the samples.
- 4) Remove the test device from the foil pouch, and place it on a flat and dry surface.
- 5) **Carefully add four (4) drops of the mixed sample into each sample hole using the dropper; slowly apply one drop at a time.**
- 6) As the test begins to work, you will see a purple color move across the result window in the center of the test device. If the migration has not appeared after 1 minute, add one more drop of the mixed sample to the sample well.
- 7) Interpret test results at 5-10 minutes.

[Figure for test procedures]



1st step
Collect the conjunctiva sample

2nd step
Swab the nasal cavity epithelial cells

3rd step
Mix the swab with assay diluent

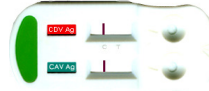
4th step
Carefully add four (4) drops of the mixed sample

Interpretation of the test

A colored band will appear in the left section of the result window ("C" band) to show that the test is working properly. This band is the control band. The right section of the result window indicates the test results.

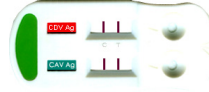
1) Negative result

The presence of only one band within the result window on both of the CDV Ag and CAV Ag test areas indicates a negative result.



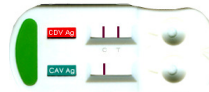
2) Simultaneous CDV and CAV Positive result

The presence of two colored bands ("T" and "C") within the result window on both of the CDV Ag and CAV Ag test areas respectively, no matter which band appears first, indicates a positive result of canine distemper virus and canine adenovirus simultaneously.



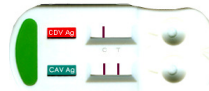
3) CDV Positive result

The presence of two colored bands ("T" and "C") within the result window on the CDV Ag test area, and the presence of only one band ("C") within the result window on the CAV Ag test area, no matter which band appears first, indicates a positive result of canine distemper virus.



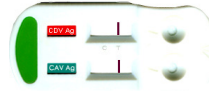
4) CAV Positive result

The presence of two colored bands ("T" and "C") within the result window on the CAV Ag test area, and the presence of only one band ("C") within the result window on the CDV Ag test area, no matter which band appears first, indicates a positive result of canine adenovirus.



3) Invalid Result

If the purple colored band "C" is not visible within the result window after performing the test, the result is considered invalid. The directions may not have been followed correctly or the test may have deteriorated. It is recommended that the specimen be re-tested.



Performance

Several studies were conducted to confirm the sensitivity and specificity:

Study 1: **Rapide - Distemper-Adenovirus Ag Test Kit** was compared to the Peroxidase Linked Assay (PLA), a reference standard technique used by diagnostic labs, for detection of CDV. The sensitivity was 98.5%.

Study 2: **Rapide - Distemper-Adenovirus Ag Test Kit** was compared to RT-PCR, a reference standard technique used by diagnostic labs, for detection of CDV antigens and CAV antigens; the sensitivity was 100% and the specificity was 97.7% for CDV antigen detection; the sensitivity was 94% and the specificity was 97% for CAV antigen detection.

Study 3: **Rapide - Distemper-Adenovirus Ag Test Kit** was compared to a competitive leading brand, for detection of CDV antigens; both the sensitivity and specificity were 100%.

Limitations of the test

Although the **Rapide - Distemper-Adenovirus Ag Test Kit** is very accurate in detecting canine distemper virus and canine adenovirus antigens, a low incidence of false results can occur. Other clinically available tests are required if questionable results are obtained. As with all diagnostic tests, a definitive clinical diagnosis should not be based on the results of a single test, but should only be made by the veterinarian after all clinical and laboratory findings have been evaluated.

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