Newcastle Disease Virus Antibody (NDV Ab) Rapid Test Kit

Technical Manual

(GICA)

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Product Information

Intended Use

Newcastle disease, also known as pseudo-poultry plague, is an acute, highly contagious infection in poultry caused by the Newcastle Disease Virus (NDV). It is characterized by respiratory distress, diarrhea, neurological dysfunction, and mucosal hemorrhage.

This kit is used to detect antibodies against NDV in poultry serum and can be used for immunological efficacy evaluation, auxiliary diagnosis, and more.

Principle

This kit is developed based on the principle of competitive colloidal gold immunochromatography assay (GICA). After adding the sample to the sample hole, it will move along the nitrocellulose membrane together with NDV antigens and the gold markers. If there are anti-NDV antibodies in the sample, they will compete with the gold markers for binding to the NDV antigens, causing the Test("T") line not to display color. If there are no NDV antibodies in the sample, it will make the test ("T") line colored.

Content

Package specification	20T/Kit	40T/Kit
Test device (with disposable dropper)	20	40
Assay buffer	2.5mL×1	5mL×1
Instruction	1	1

Storage Conditions

The kit shall be stored at 2°C to 30°C (35.6°F to 86°F) in dry environment. Avoid freezing.

Shelf life: 24 months. The date of manufacture is presented in the label of the box.

Preparation of Sample

Serum: Collect 2-3mL of blood using a collection tube without anticoagulant, let it stand for 30 minutes, and then centrifuge at 4000 rpm for 10 minutes. (Alternatively, the blood can be left undisturbed at 25-40°C for about 2 hours, allowing the serum to naturally separate.) Collect the supernatant as the processed sample. Short-term storage can be done at 2-8°C, while long-term storage requires -20°C. Serum should be clear and bright, free from hemolysis and contamination.

Please note that sample should be return to room temperature (15-30°C) before use.

Test Methods

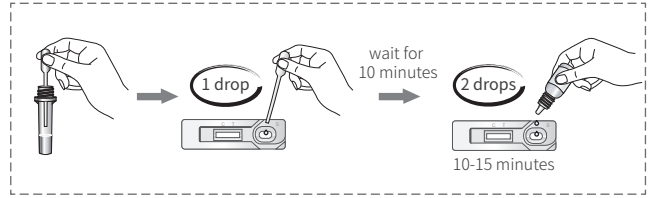
1) Open the foil bag, take out the test card and put it on a flat and clean work surface.

2) Pipette the processed sample with the provided dropper, then add 1 drop (approximately 25μL) vertically and slowly into the sample hole("S").

3) Wait for 10 minutes, then add 2 drops (approximately 60μL) of Assay buffer into the sample hole("S").

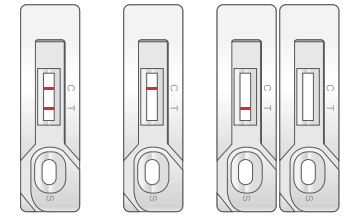
4) Read the result at room temperature in 10 to 15 minutes after adding the tested fluid. Results are invalid after more than 30 minutes.

Caution: Excessive addition of samples or assay buffer may lead to inaccurate results.



Results Judgement

Negative: Both test("T") line and control("C") line appear in the result window. This means that the antibody level is below an HI titer of 1:16.



Positive: Only control ("C") line appears in the result window. This means that the antibody level is equal to or higher than an HI titer of 1:32.

Invalid: If the control("C") line does not appear, the result might be considered invalid.

The detection threshold of this kit is an HI titer of 1:32. Therefore, by performing serial dilutions on the tested serum and identifying the highest dilution at which it still shows a positive result, the antibody titer can be determined.

For example, the serum sample is diluted with normal saline at ratios of 1:2 (1-part serum and 1-part saline, and so on), 1:4, and 1:8. Then, 3 samples with different

dilution factors (e.g., 1:2, 1:4, 1:8) are tested. If samples diluted at ratios of 1:2 and 1:4 both show positive results, while the sample diluted at a ratio of 1:8 shows a negative result, the maximum dilution factor at which it still shows a positive result is 1:4. Therefore, the final HI titer for this sample is calculated as 2^5 (1:32) multiplied by 2^2 (1:4), equal to 2^7 (1:128).

Results Interpretation

For immunized poultry, the level of antibodies reflects the strength of the immune response. In non-immunized poultry, a positive result suggests a potential Newcastle Disease Virus (NDV) infection, and further analysis is required in conjunction with clinical and other methods.

Limitation of the Test Method

This test is intended solely for the detection of Newcastle Disease Virus (NDV) antibodies.

Although Newcastle Disease Virus Antibody Rapid Test Kit is highly accurate in detecting antibodies against NDV, there is still a possibility of occasional false results. If uncertain or questionable results are obtained, additional clinical or laboratory tests may be necessary. As with other diagnostic tests, a definitive clinical diagnosis should not rely solely on the outcome of a single test. Instead, it should be made by the veterinarian after evaluating all clinical and laboratory findings. By considering a comprehensive assessment, veterinarians can ensure a more reliable and accurate diagnosis and provide appropriate care and treatment for the animal.

Notice

1. Please read the instructions carefully before testing. And a variety of reagents are only used for this experiment.

2. The kit should be allowed to return to room temperature after being removed from the refrigerator before opening. Once opened, it should be used as quickly as possible to avoid becoming ineffective due to moisture.

3. Avoid using expired or damaged products.

4. Avoid using samples that are contaminated, turbid, severely hemolytic, and have a large amount of blood lipids.

5. Avoid touching the white nitrocellulose membrane in the middle of the detection card.

6. The waste shall be regarded as pollutants. Please dispose of them properly in accordance with the relevant local regulations.