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**Chicken Marek's Disease Virus Antibodies ELISA Kit**

Catalog No: E-AD-E075

96T/96T\*2/96T\*5

This manual must be read attentively and completely before using this product.

If you have any problems, please contact our Technical Service Center for help.

Toll-free: 1-888-852-8623 Tel: 1-832-243-6086 Fax: 1-832-243-6017

Email: [techsupport@elabscience.com](mailto:techsupport@elabscience.com)

Website: [www.vetassay-elab.com](http://www.vetassay-elab.com)

Please kindly provide us the lot number (on the outside of the box) of the kit for more efficient service.

## Test principle

This kit is comprised by HRP conjugate, other reagents and ELISA Microtiter plate pre-coated with recombinant Chicken Marek's Disease virus (MDV) antigen. Apply the principle of enzyme-linked immunoassay (ELISA) to detect MDV-Ab in serum of chicken. During the experiment, add control and samples into the ELISA Microtiter plate, MDV-Ab will be bound with the antigen on the ELISA Microtiter plate. Then wash the plate to remove unbound components, horseradish peroxidase (HRP) conjugate is added to each ELISA Microtiter plate well. The unbound HRP Conjugate will be removed by washing and substrate reagent is added for color development. At last, end the reaction by adding Stop Solution to produce a yellow product. There is a positive correlation between the OD value of samples and the concentration of MDV-Ab. Measure the absorbance value of each well by using a microplate reader with 450 nm (630 nm) wavelength, then we can judge whether MDV antibody exist in the sample.

## Kit components

Item	Specifications
ELISA Microtiter plate	96 wells
Dilution plate	96 wells
HRP Conjugate	12 mL
Sample Diluent	50 mL
10×Concentrated Wash Buffer	50 mL
Substrate Reagent A	6 mL
Substrate Reagent B	6 mL
Stop Solution	6 mL
Positive Control	0.8 mL
Negative Control	0.8 mL
Plate Sealer	3 pieces
Sealed Bag	1 piece
Manual	1 copy

Note: All reagent bottle caps must be tightened to prevent evaporation and microbial pollution.

## Other materials required but not supplied

Microplate Reader with 450nm wavelength filter or dual-wavelength (450/630nm)

High-precision transferpettor, EP tubes and disposable pipette tips

37°C incubator or water bath

Deionized or distilled water

Absorbent paper

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**Notes**

1. Wear gloves and work clothes during experiment, and the disinfection and isolation system should be strictly performed. All the waste should be handled as contaminant.
2. The stop solution is corrosive, it should be avoided to contact with skin and clothing. Wash immediately with plenty of water if contacted carelessly.
3. FOR RESEARCH USE ONLY. ELISA Microtiter plate should be covered by plate sealer. Avoid the kit to strong light.
4. Concentrated wash buffer at low temperature condition is easy to crystallize, it should be adjusted to room temperature in order to dissolve completely before use.
5. Each well must be filled with liquid when washing in order to prevent residual free enzyme.
6. The tested sample should keep fresh.
7. The results shall depend on the readings of the microplate reader.
8. **Each reagent is optimized for use in the E-AD-E075. Do not substitute reagents from any other manufacturer into the test kit. Do not combine reagents from other E-AD-E075 with different lot numbers.**
9. If the samples are not indicated in the manual, a preliminary experiment to determine the validity of the kit is necessary.

**Storage and expiry date**

Store at 2-8°C. Avoid freeze.

Please store the opened plate at 2-8°C, the shelf life of the opened kit is up to 1 month.

**Expiry date:** expiration date is on the packing box.

## Sample preparation

1. **Serum:** Use the conventional method to prepare serum, the serum must be clear, no hemolysis and no pollution. Samples can be conserved at 2-8°C in 1 week, and it should be stored at -20°C for a long term storage. Avoid freeze-thaw cycles. Freezing samples should be mixed fully before test.
2. **Diluted serum:** Dilute the sample with the **Sample Diluent** at 1:100 (2 µL sample and 200 µL of sample diluent, mix fully). The positive/negative control do not need to be diluted.
3. **Wash Buffer:** The **10×Concentrated Wash Buffer** should be adjusted to room temperature before use, then dilute it with distilled or deionized water at 1:9.

## Assay procedure

Restore all reagents and samples to room temperature (25°C) before use. All the reagents should be mixed thoroughly by gently swirling before pipetting. Avoid foaming. The unused ELISA Microtiter plate should be sealed as soon as possible and stored at 2-8°C.

1. **Number:** number the sample and control in order (multiple well), and keep a record of control wells and sample wells. Set 1 well for blank control and 1 well for negative/positive control respectively. **Samples need test in duplicate** (Blank well is not necessary for dual-wavelength detection).
2. **Add sample:** add 100 µL of **Sample Diluent** to the blank control well, add 100 µL of **positive/negative control** to positive/negative control well, and add 100 µL of **diluted serum** to the sample wells.
3. **Incubate:** cover the plate sealer and mix thoroughly, incubate at 37°C for 30 min in shading light.
4. **Wash:** remove the liquid in each well. Immediately add 300 µL of **Wash Buffer** to each well and wash. Repeat wash procedure for 3 times, 1 min intervals/time. Invert the plate and pat it against thick clean absorbent paper (If bubbles exist in the wells, clean tips can be used to prick them).
5. **HRP conjugate:** add 100 µL of **HRP Conjugate** into each well (except the blank control well), cover the plate sealer and incubate at 37°C for 30 min in shading light.
6. **Wash:** repeat step 4 for washing.
7. **Color Development:** add 50 µL of **Substrate Reagent A** and add 50 µL of **Substrate Reagent B** into each well and mix thoroughly. Cover the plate sealer and mix thoroughly, incubate at 37°C for 10 min in shading light.
8. **Stop reaction:** add 50 µL of **Stop Solution** into each well, mix thoroughly.
9. **OD Measurement:** adjusted zero with the blank control, measure the absorbance value (A-value) of each well by using a Microplate Reader with 450 nm (it is recommended to set the dual wavelength at 450 nm/630 nm) wavelength. Blank well is not needed when using dual wavelength 450 nm/630 nm for detection. **Note: Read the results within 10 min.**

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**Reference value**

Normally, Average the OD of negative control  $< 0.15$  and Average the OD of positive control  $\geq 0.6$ .

**Analysis of results**

1. Cut Off (C.O) =  $0.2 + \text{average of negative ODs}$  (when average of negative ODs  $< 0.05$ , calculate at  $0.05$ ; while average of negative ODs  $\geq 0.05$ , calculate at the actual value.)
2. Positive result :  $\text{OD}_{\text{Average Sample}} > \text{Cut Off}$
3. Negative result:  $\text{OD}_{\text{Average Sample}} < \text{Cut Off}$
4. Negative result indicates no MDV-Ab detected in samples, while positive result means the opposite.

**Limitations of this test method**

1. This test is only used as the qualitative detection of MDV antibodies in serum of chicken.
2. The detection results of this kit are only for reference. For confirmation of the result, please combine the symptoms and other methods of detection, this detection cannot be used as the only criteria for result.