

## **CDIA™ Malachite Green Immunofluorescence Test Strip (Fish and Shrimp)**

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*Cat. No.: DTSJYJ054*

*Pkg. Size: 25T*

### **Intended use**

The CDIA™ Malachite Green Immunofluorescence Test Strip (Fish and Shrimp) is designed for qualitative determination of malachite green in fish, shrimp and other aquatic products.

### **General Description**

Malachite green is an organic compound that is used as a dyestuff and controversially as an antimicrobial in aquaculture. Malachite green is traditionally used as a dye for materials such as silk, leather, and paper. MG is active against the oomycete *Saprolegnia*, which infects fish eggs in commercial aquaculture, MG has been used to treat *Saprolegnia* and is used as an antibacterial. It is a very popular treatment against *Ichthyophthirius multifiliis* in freshwater aquaria. The principal metabolite, LMG, is found in fish treated with malachite green, and this finding is the basis of controversy and government regulation. This kit is intended used in quantitative detection of malachite green in Aquatic products.

### **Principle of the Test**

The CDIA™ Malachite Green Immunofluorescence Test Strip (Fish and Shrimp) is a competitive binding immunoassay in which malachite green in a sample compete with immobilized malachite green conjugate for limited labeled antibody binding sites. When a sufficient amount of specimen is applied to the sample pad of the test device, the specimen migrates through the test device by capillary action. The malachite green in the sample combines with the antibody labeled with the fluorescent microspheres, and inhibits the binding of the antibody and malachite green-BSA on the NC membrane test line (T line) , thus resulting in changes in the fluorescence intensity of the test line. Using the fluorescence reader, We can get the final test result.

### **Reagents and Materials Provides**

- |  |                                 |
|--|---------------------------------|
| 1. Test strips, 25T                              | 7. malachite green extractant 2 |
| 2. 25 microporous reagents in one reagent bucket | 8. malachite green oxidizer     |
| 3. 15ml centrifuge tube                          | 9. Reagent A                    |
| 4. 10ml centrifuge tube                          | 10. N-hexane                    |
| 5. sample solution                               | 11. One instruction.            |
| 6. malachite green extractant 1                  |                                 |

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## Sample preparation

1. Homogenize the sample with a homogenizer.
2. Weigh  $2.0\pm 0.05$  g homogenate to a 15 mL centrifuge tube, add 2 mL of reagent A, and vortex for 2min. Add 150  $\mu$ L of malachite green extract 1, 6 mL of malachite green extract 2 and 3mL of N-hexane, and vortex for 2min. Centrifuge it at 3000 rpm for 5min at room temperature (20-25°C).
3. Take 2mL to 10mL of the middle liquid to a new polystyrene centrifuge tube. Add 50  $\mu$ L of malachite green oxidizer, and vortex for 15s. Dry it with nitrogen or air flow at the 50~60°C water bath.
4. Add 1mL of sample solution and vortex for 3min to dissolve it (A 250  $\mu$ L pipette tip is added in this procedure).

## Assay operation

Bring tests and specimens to room temperature before use.

1. Remove the test from its sealed pouch and use it within one hour.
2. Put the ID card into the card slot on the left front of the reader.
3. Take 100  $\mu$ L of sample into the sample hole by a pipette.
4. The result should be read at 5 minutes. Put the test card into the fluorescence reader.
5. Read the result by the reader within 1 min ( If it is more than 1 min, we recommend to do it again).

## Results

Read the result based on the reader. If line C is abnormal, which indicates the strips are invalid. In this case, please read the instructions again, and redo the assay with a new strip.

## Limitation

1. The CDIA™ Malachite Green Immunofluorescence Test Strip (Fish and Shrimp) provides only a qualitative, preliminary analytical result. A secondary analytical method must be used to obtain a confirmed result.
2. It is possible that technical or procedural errors, as well as other interfering substances in the specimen may cause erroneous results.

## Detection Limit (LOD)

Dominant malachite green: 0.5 ng/mL (ppb)

Recessive malachite green: 0.5 ng/mL (ppb)

Crystal violet: 0.5 ng/mL (ppb)

recessive crystal violet: 0.5ng/mL (ppb)

## **Specificity**

The results are negative when the concentration of tetracycline, chloramphenicol and furans is 100 mg/L.

## **Storage**

Store the test device at 2 to 8°C in cool dark place. The kit will be valid in 12 months.

## **Notice for Operations**

1. Please do the assay following the instruction, don not touch the membrane of the strip.
2. This cassette device is used for only once; please do not use it repeatedly.