



Mercuric Ions (Hg+2) Rapid Test Strips (Water) (DTS805L)

This product is for research use only and is not intended for diagnostic use.

PRODUCT INFORMATION

Size 50T

Intended Use

This kit is intended for rapid test of heavy metal mercuric ion (Hg+2) in water.

General Description

Mercury is a silvery room-temperature heavy metal and a chemical element. Mercury is found in natural ores deposits and manufactured devices such as barometers, thermometers, dry-cell batteries, switches, fluorescent light bulbs, and other various electronics. Mercury can seep into water supplies from improperly discarded devices containing it, as runoff from landfills & farm land, dumped by factories, or from natural deposits. Mercury is extremely toxic and precautions must be taken when handling or disposing of it, as mercury can be absorbed through the skin and inhaled. Mercury poisoning deteriorates the nervous system, can impair hearing, speech, vision and gait, involuntary muscle movements, corrodes skin and mucous membranes, and causes chewing and swallowing to become difficult. The current EPA regulated maximum containment level for mercuric ions is 0.002 mg/L.

Principles of Testing

According to the colloidal gold principle of competition method, Anti-Hg+2-ITCBE monoclonal antibody was conjugated to colloidal gold and Hg+2-ITCBE-BSA antigen was coated to develop a test strip for detecting mercuric ions in water.

Reagents And Materials Provided

1. 0.1 M HEPES, 1 vial
2. 10 mM ITCBE, 1 vial
3. Mercuric ions test strips, 50 strips/bottle

Materials Required But Not Supplied

1. Pipette (20-200 µL, 100-1000 µL, 1-10 mL)
2. Consumables: gun tip, disposable gloves, centrifuge tube

Storage

The test strips and microwells should be stored in a cool and dry place at 2-8 °C, avoiding freezing.

Specimen Collection And Preparation

Take 100 μ L tap water sample into a new centrifuge tube, add 10 μ L 0.6 mM ITCBE and mix well (Pipette repeatedly ten times).

Reagent Preparation

0.6 mM ITCBE, dilute 10 mM ITCBE to 0.6 mM with 0.1 M HEPES.

Notice: Prepare the solution fresh.

Assay Procedure

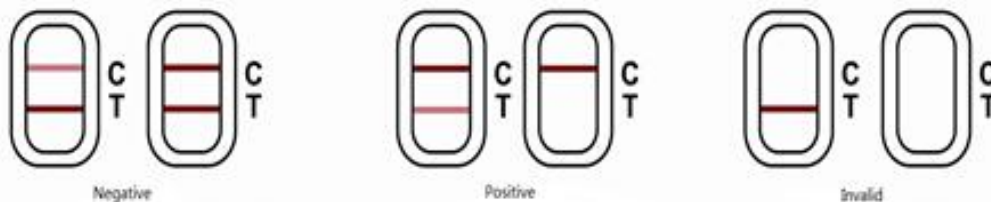
1. Take the test card from the original package, and use within 1 hour.
2. Vertically drop 100 μ L of prepared sample solution into the sample well.
3. Start the timer as the added solution flows, react for 10 min, and determine the result according to "Interpretation of Results".

Interpretation Of Results

Negative (-): Color of Test Line(Line T) is deeper than Control Line(Line C) or the same color, indicating that the content of mercuric ion in sample is lower than the LOD of the kit.

Positive (+): No color shows in Test line(Line T) or Color of Test Line(Line T) is lighter than Control Line(Line C) indicating that the mercuric ion in sample is higher than the LOD of the kit.

Invalid: No color shows in Control Line(Line C), indicating the operation is incorrect or the test kit is out of date. In this case, please read the instruction again carefully, and repeat the assay with a new test strip.



Detection Limit

The minimum detection limit of test strips for mercuric ions is 10 ppb.

Specificity

This product shows negative at the level of 100 μ g/L(ppb) of Pb²⁺, Cr²⁺, Cu²⁺, As³⁺, Cd²⁺, Mg²⁺.

Precautions

1. Please use the test strip within the validity period, and restore the test strip and samples to room temperature before use.
2. Rice and brown rice samples can share the same curve, that is, brown rice samples can also be tested with rice curves.
3. Shake all solutions before use. Reagent C will precipitate, but the results will not be affected.
4. Reagent A has weak volatility. It is recommended to wear a mask or operate in a ventilated kitchen.
5. When the sample is shaken, when removing 1.8ml of supernatant, occasionally particles may block the pipette tip, which can be blown out and re-absorbed.
6. Occasionally, the sample is emulsified due to excessively fine particles, etc., resulting in insufficient liquid extraction of the supernatant. In the "Method 2", after the first step is shaken for 5 minutes, it can be left to stand for 10 minutes and then centrifuged, or the centrifuge time can be increased to 8 -10min.
7. Do not touch the white film surface in the center of the test strip during the test. Discard it if you accidentally touch it.

8. Do not mix consumables such as pipette tips and centrifuge tubes to avoid cross-contamination.
 9. The sample should be thoroughly mixed with the reagents in the microwells to avoid foaming.
 10. After the second incubation, be sure to remove the sample pad at the lower end of the test strip and read the result within 1min, because the color depth of the test strip will change after drying, affecting the final result.
 11. The results must be read using the accompanying reader and sample card slot.
 12. Immediately close the reagent container cap after the reagent is removed from the reagent container. If you can't use 8 microwells at a time, you can cover the remaining microwells with a microwell cap, and immediately put it back in a reagent bucket containing a desiccant and keep it sealed. Carefully open the microwell cover to ensure that all reagents remain in the microwell.
 13. If a positive result is found, the test result needs to be confirmed by legal confirmation method.
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