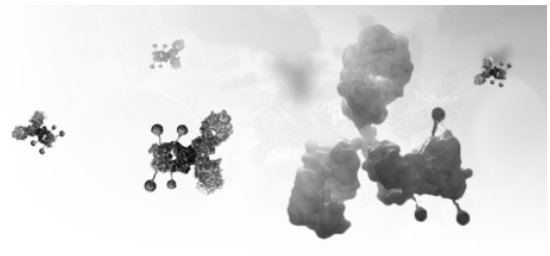


Copper Ions (Cu+2) Rapid Test Strips (Water) (DTS804L)

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 copper ions (Cu+2) in water.

General Description

Copper is one of the most widely used metals in the world. Modern industries, the use of pesticides and fertilizers, and the high copper animal additives are accompanied by increasingly serious environmental pollution. Copper is widely distributed in nature and plays an important role in animals, plants and human life. However, high concentrations of copper have negative effects on aquatic organisms and ecosystems, such as inhibiting the self-purification ability of rivers, and destroying the ecological balance system of water bodies. When the copper content in the water reaches 0.01 mg/L, it has a significant inhibitory effect on the self-purification of the water; more than 3 mg/L will produce an odor; if it exceeds 15 mg/L, it will not be drinkable, and aquatic organisms cannot survive. If excessive copper is enriched in the body, poisoning phenomena such as nausea, vomiting, abdominal pain, acute hemolysis, and renal tubular deformation may occur. In severe cases, it may also cause acute kidney failure and other hazards. WHO has established a guideline of 2.0 mg/L of copper ions for maximum contaminant levle. And USEPA has set the action level of 1.3 mg/L for maximum contaminant levle in water.

Principles of Testing

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

Reagents And Materials Provided

1. 0.1 M HEPES, 1 vial
2. 10 mM ITCBE, 1 vial
3. Copper 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 μL tap water sample into a new centrifuge tube, add 10 μL 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

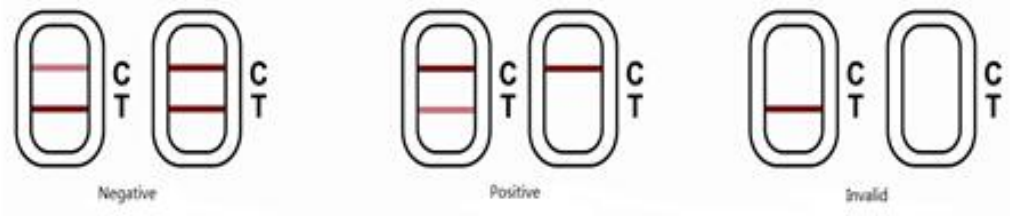
1. Insert a test strip into the centrifuge tube of well-mixed sample.
2. Let the test strip stand for 15 minutes and observe the result.

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 copper ion in sample is lower than the LOD (10 ppb) 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 copper ion in sample is higher than the LOD (10 ppb) 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 copper ions is 10 ppb.

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.