

Lead is a chemical element with the symbol Pb (Plumbum), it is a heavy metal that is denser than most common materials. Lead is neurotoxin that accumulates in soft tissues and bones, it damages the nervous system and interferes with the function of biological enzymes, causing neurological disorders, such as brain damage and behavioral problems. Thus it is of great importance to monitor the residue of lead in foods, especially in daily consumptions, such as milk and many other dairy products.

This product utilizes the high affinity of monoclonal antibody against lead, which can easily identify its contamination in milk without any instrument. The detection limit of the kit can meet both European and USA MRLs when use properly.

## 1. Detection Limit (LOD) in raw milk

**10 ppb**

## 2. Kit components

- Test Strip, 96 pcs in 12 plastic bottles, 8 pcs / bottle.
- Diluent buffer: reagent A 25ml\*1; reagent B 25ml\*1 (NOT Provided)
- Kit insert
- NB Reader (optional)
- Incubator (optional)

Reagent A: Add 28 ml concentrated sulfuric acid into 1 L of pure water.

Reagent B:

- 1) Mix 0.24M NaOH with Tris-HCl (50mM, pH=8) in the ratio of 1:1, the mixture act as B1 solution;
- 2) Mix 1000ml of B1 solution with 15ul 10mg/ml of ITCBE, the mixture act as Reagent B.

Note: The Mw of ITCBE is 439.44g/mol, so its final concentration is 0.34uM/L

## 3. Sample pretreatment

- Whole fat milk powder

Weigh 1g (accurate to 0.01 g) milk powder, pour into the centrifuge tube and add 8 mL of purified water to mix and use as sample for testing.

- Fresh milk

Directly used as the sample to be tested, following the operation steps.

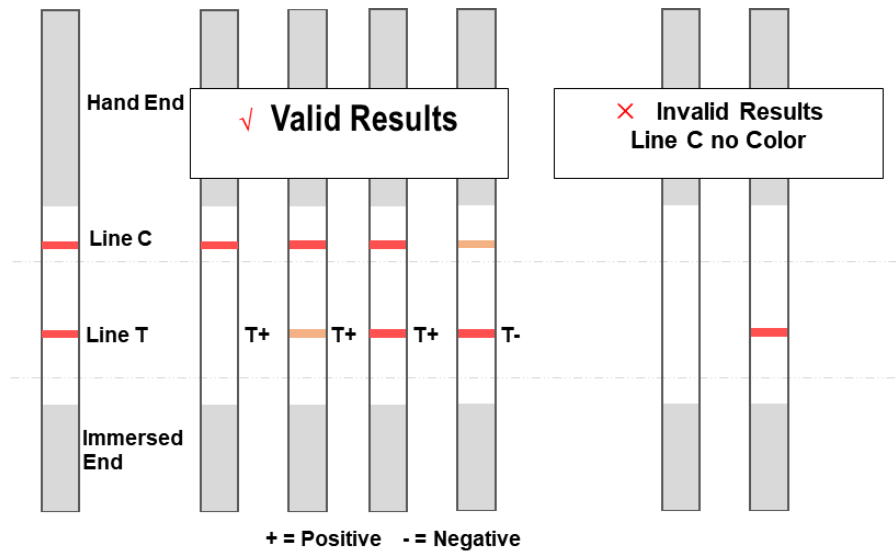
**Note:** The sample to be tested must be a homogeneous liquid, without agglomeration, acidification and precipitation.

## 4. Operations

- a) Read the instructions before experiment. Bring the test kit and samples to room temperature. Milk samples should be fully liquid without any agglomeration and deposition.
- b) Take bottles needed from the kit package, take out required wells and strips, and make proper marks. Please use the test strips within 1h. Seal the cap of the bottles and store the unneeded kit.
- c) Take **600ul** of the **milk sample** into a centrifuge tube, then add **200ul** of **reagent A**, vortex for 3 minutes, then centrifuge for **5 minutes at 10000 rpm**, and then take **100ul** of the **medium liquid** into a new centrifuge tube, add **200ul** of **reagent B**, mix thoroughly,
- d) Then take **200ul** of the mixture into the microwell, mix the sample with the reagent in the wells completely. Then start the timer.

**Note:** Do not absorb any fat when take the medium liquid, fat can affect the result significantly.

- e) Incubate for **3min at 40 °C**, and then insert the test strip into the well with the "**Immersed**" end fully dipped in to the mixed reagent and sample.
- f) Incubate for **5min at 40 °C** again. Take out the strip; determine the result according to **Part 4**.



## 5. Result Determination

**Positive (+)** Line C is red, line T has no color, OR color of Line T is lighter than OR equal to Line C;

**Negative (-)** Line T and Line C are both red, and color of Line T is deeper than Line C.

**Invalid (x)** Line C has no color. In this case, please reread the instructions and repeat assay with new strip.

**Notice:** If the result of the strip needs to be recorded, please cut the "Immersed" end, and dry the strip, then keep it as file or paste in your recording book.

## 6. Specificity

The results are all negative when test cuprum, chromium, cadmium and mercury at the concentration of 500 ug/kg.

## 7. Storage

2-8°C in cool dark place, do not freeze. The kit is valid for 12 months. Lot No. and expired date are printed on the package.

## 8. Notice and Precautions for a successful experiment.

- Perform the assay following the instruction; do not touch the membrane of the strip.
- Seal the bottle after taking out required strips.
- This strip is used **for only once**; please do not use it repeatedly.
- This kit is only for screening test, positive result should be further confirmed with other method.

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