

## Blood Zinc Content Assay Kit

**Note:** It is necessary to predict 2-3 large difference samples before the formal determination.

**Operation Equipment:** Spectrophotometer/ Microplate Reader

**Cat Number:** BC2815

**Size:** 100T/96S

### Components:

**Reagent I:** Liquid 15 mL×1. Storage at 2-8°C.

**Reagent II:** Liquid 30 mL×1. Storage at 2-8°C.

**Reagent III:** Powder×3. Storage at 2-8°C. Add 10 mL of Reagent II to one Reagent III before use. Shock to dissolve at least 30 minutes. It can be preserved for one week at 2-8°C.

**Standard Solution:** Liquid 1 mL×1, 10 mmol/L Zn<sup>2+</sup> standard solution. Storage at 2-8°C. Dilute 50 times with distilled water to form a standard solution of 0.2 mmol/L before use. (Add 20μL of standard solution to 980μL of distilled water).

### Product Description:

Zinc is one of the essential trace elements and also plays an important role in insulin and porphyrin metabolism. In the solution of pH 8.5~9.5, the coordination compound formed by Zn<sup>2+</sup> and zinc reagent has the maximum absorption peak at 620nm.

### Reagents and Equipment Required but Not Provided.

Spectrophotometer/microplate reader, centrifuge, pipette, micro glass cuvette/96 well flat-bottom plate, vortex mixer /magnetic stirrer, distilled water.

### Procedure:

#### I. Determination

- Preheat microplate reader or spectrophotometer for 30 minutes, adjust wavelength to 620 nm and set spectrophotometer zero with distilled water.
- Add reagents with the following list:

Reagent (μL)	Blank tube (A <sub>B</sub> )	Test tube (A <sub>T</sub> )	Standard tube (A <sub>S</sub> )
Distilled water	50	-	-
Standard solution (0.2 mmol/L)	-	-	50
Serum(plasma)	-	50	-
Reagent I	100	100	100
Mix thoroughly and centrifuge at 10000 rpm for 10 minutes at room temperature.			
Supernatant	100	100	100

Reagent III	200	200	200
Mix thoroughly and react for 10 minutes at room temperature. Take 200 $\mu$ L of the mixture to micro glass cuvette/96 well flat-bottom plate. Measure absorbance at 620 nm. Recorded as $A_B$ , $A_T$ , $A_S$ . Blank tubes and standard tubes only need to be done 1-2 times.			

## II. Calculation

Blood zinc content (mmol/dL) =  $[C_s \times (A_T - A_B) \div (A_S - A_B)] \times 0.1 = 0.02 \times (A_T - A_B) \div (A_S - A_B)$

$C_s$ : Content of  $Zn^{2+}$  standard solution, 0.2 mmol/L;

0.1: 1 dL=0.1 L.

### Note:

1. Reagent III need shock to dissolve at least 30 minutes. If some little particles remain insoluble, it will not affect the experiment.
2. After the Reagent III is added and mixed, the tube shall be tested within 30 minutes.
3. When the absorbance value is greater than 1.5, it is recommended to dilute the sample with distilled water and measure it. If the measured absorbance value is lower than or close to the blank, it is recommended to increase the sample size for measurement and pay attention to modify the calculation formula at the same time.

### Related Products:

BC0720/BC0725	Blood Calcium Content Assay Kit
BC2770/BC2775	Blood Potassium Content Assay Kit
BC2790/BC2795	Blood Magnesium Content Assay Kit
BC1730/BC1735	Serum Ferri Ion Content Assay Kit

### Technical Specifications:

The detection limit: 0.024 mmol/L

Linear range: 0.025-1.5 mmol/L