

Blood Zinc Content Assay Kit

Note: Take two or three different samples for prediction before test.

Operation Equipment: Spectrophotometer

Cat Number: BC2810

Size: 50T/48S

Components:

Reagent I: Liquid 30 mL×1. Storage at 4°C.

Reagent II: Liquid 60 mL×1. Storage at 4°C.

Reagent III: Powder×3. Storage at 4°C. Add 20 mL of Reagent II to one bottle of Reagent III before use.

Shock to dissolve at least 30 minutes. It can be preserved for one week at 4°C.

Standard Solution: Liquid 1 mL×1, 10 mmol/L Zn²⁺ standard solution. Storage at 4°C. Dilute 50 times with distilled water to form a standard solution of 0.2 mmol/L before use.

Product Description:

Zinc is one of the essential trace elements, which also plays an important role in insulin and porphyrin metabolism. In the solution of pH 8.5~9.5, the complex produced by Zn²⁺ and zinc reagent has a maximum absorption peak at 620 nm.

Reagents and Equipment Required but Not Provided.

Spectrophotometer, centrifuge, pipette, 1 mL glass cuvette, vortex mixer/magnetic stirrer, distilled water.

Procedure:

I. Determination

1. Preheat the spectrophotometer for 30 minutes, adjust wavelength to 620 nm, set zero with distilled water.

2. Add reagents with the following list:

Reagent Name (μL)	Blank tube (A _B)	Test tube (A _T)	Standard tube (A _S)
Distilled water	250	-	-
Standard solution (0.2 mmol/L)	-	-	250
Serum(plasma)	-	250	-
Reagent I	500	500	500
Mix thoroughly and centrifuge at 10000 rpm for 10 minutes at room temperature.			
Supernatant	500	500	500
Reagent III	1000	1000	1000
Mix thoroughly and react for 10 minutes at room temperature. Take 1 mL of the mixture to 1 mL glass cuvette. Measure absorbance at 620 nm. Recorded as A _B , A _T , A _S .			

II. Calculation

$$\text{Blood zinc (mmol/dL)} = [C_s \times (A_T - A_B) \div (A_s - A_B)] \times 0.1 = 0.02 \times (A_T - A_B) \div (A_s - A_B)$$

Cs: Zn²⁺ 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 is greater than 1.5, please dilute the serum to appropriate concentration with distilled water.

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: 0.00948 mmol/L

Linear range: 0.0125-1 mmol/L