

Blood Zinc Content Assay Kit

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

Operation Equipment: Spectrophotometer/ Microplate Reader

Cat Number: NA0424

Size: 100T/96S

Components:

Reagent I: Liquid 15 mL×1. Storage at 4°C.

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

Reagent III: Powder×3. Storage at 4°C. Add 10 mL of Reagent II to one bottle of Reagent III before use. Shock to dissolve at least 30 minutes.

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:

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

Procedure:

I. Determination

1. Preheat microplate reader or 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	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 μL 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 .

II. Calculation

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

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

Related Products:

- NA0811/NA0569 Blood Calcium Content Assay Kit
- NA0669/NA0428 Blood Potassium Content Assay Kit
- NA0668/NA0427 Blood Magnesium Content Assay Kit
- NA0736/NA0494 Serum Ferri Ion Content Assay Kit

Technical Specifications:

The detection limit: 0.024 mmol/L

Linear range: 0.025-1.5 mmol/L