

Serum Ferri Ion Content Assay Kit

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

Operation Equipment: Spectrophotometer

Cat Number: BC1730

Size: 50T/48S

Components:

Reagent I: Powder×2, storage at 2-8°C. Once the reagent turns black, it cannot be used. Add 10 mL distilled water before use. The unused reagent can be stored at 2-8°C for 1 week.

Reagent II: Powder×2, storage at 2-8°C. Add 313 μL glacial acetic acid and 10 mL distilled water before use. The unused reagent can be stored at 2-8°C for 1 week.

Standard Solution: Liquid 3 mL×1, 1000 μmol/L Fe³⁺ standard solution, storage at 2-8°C. Add distilled water dilute 8 times to form a standard solution of 125 μmol/L before use.

Product Description:

Serum iron is the iron bound with transferrin in blood, which is often used to distinguish non-iron deficiency anemia and iron-deficiency anemia.

Fe³⁺ is reduced by sodium sulfite to Fe²⁺, which reacts with 2,2-dipyridine-bipyridine, have an absorption peak at 520 nm. According measure absorbance at 520 nm can reflect serum iron concentration.

Reagents and Equipment Required but Not Provided.

Spectrophotometer, Centrifuge, Glacial Acetic Acid, Adjusted Transferpettor, 1 mL Glass Cuvette, Chloroform and Distilled Water.

Procedure:

1. Preheat the spectrophotometer for 30 min, adjust wavelength to 520 nm, set zero with distilled water.
2. Dilute standard solution to 125 μmol/L with distilled water.
3. Add reagents with the following list:

| Reagent Name (μL) | Blank tube (A _B) | Test tube (A _T) | Standard tube (A _S) |
|--|------------------------------|-----------------------------|---------------------------------|
| Distilled water | 400 | - | - |
| Standard solution (125 μmol/L) | - | - | 400 |
| Serum(plasma) | - | 400 | - |
| Reagent I | 400 | 400 | 400 |
| Reagent II | 400 | 400 | 400 |
| Mix thoroughly, incubate in boiling water bath for 5 min, cooling liquid | | | |

| | | | |
|--|-----|-----|-----|
| chloroform (required but not provided) | 200 | 200 | 200 |
| <p>Mix thoroughly, room temperature, 10000 rpm centrifuge for 10 min. Take 800 μL supernatant to 1 mL glass cuvette. Measure absorbance at 520 nm. Recorded as A_B, A_T, A_S. The standard tube and blank tube only need to be measured 1-2 times.</p> | | | |

Calculations

$$\text{Serum iron } (\mu\text{mol/L}) = [C_S \times (A_T - A_B) \div (A_S - A_B)] = 125 \times (A_T - A_B) \div (A_S - A_B)$$

C_S: Fe³⁺ standard solution, 125 μmol/L.

Note:

1. There is less iron in the serum, so the vessels (EP tubes) should be noted to avoid iron contamination.
2. When A_T > 0.5, please dilute the Serum to appropriate concentration with distilled water.

Technical Specifications:

Minimum Detection Limit: 3.212 μmol/mL

Linear Range: 3.9-250 μmol/mL

Related products:

BC2860/BC2865 Serum Total Iron Binding Capacity(TIBC) Assay Kit

BC0720/BC0725 Blood Calcium Content Assay Kit