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Serum Ferri Ion Content Assay Kit

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

Operation Equipment: Spectrophotometer/microplate reader

Cat Number: AK0414

Size: 100T/96S

Components:

Reagent I: Powder×2, storage at 4℃. Add 7.5 mL distilled water before use.

Reagent Ⅱ: Powder ×2, storage at 4℃. Add 235 μL glacial acetic acid and 7.5 mL distilled water before use.

Standard Solution: Liquid 2 mL×1, 1000 μmol/L Fe^{3+} standard solution, storage at 4℃. 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

Fe^{3+} is reduced by sodium sulfite to Fe^{2+}, 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/ microplate reader, centrifuge, micro glass cuvette/96 well flat-bottom plate, glacial acetic acid, adjusted transferpettor, chloroform and distilled water.

Procedure:

1. Preheat the spectrophotometer or microplate reader 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	125	-	-
Standard solution (125 μmol/L)	-	-	125
Serum (plasma)	-	125	-
Reagent I	125	125	125
Reagent Ⅱ	125	125	125
Mix thoroughly, incubate in boiling water bath for 5 min, cooling liquid. Add 62 μL chloroform (required but not provided). Mix thoroughly, room temperature, 10000 rpm centrifuge for 10 min. Take 210 μL supernatant to micro glass cuvette/96 well flat-bottom plate. Measure absorbance at 520 nm. Recorded as A_B, A_T, A_S.			

Calculations

Serum iron(μmol/L) =[Cs×(A_T-A_B)÷(As-A_B)]= 125×(A_T-A_B)÷(As-A_B)

Cs: Fe^{3+} 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. Reagent I and Reagent Ⅱ are unstable. It needs to be prepared when the solution will be used, and the newly prepared reagent can only be used on the same day.

Technical Specifications：

Minimum Detection Limit：0.99 μmol/mL

Linear Range ： 3.9-250 μmol/mL

Recent Product citations：

[1] Shanshan Rao,Yin Hu,Pingli Xie,et al. Omentin- 1 prevents inflammation-induced osteoporosis by downregulating the pro-inflammatory cytokines. Bone Research. March 2018.

Related products：

AK0374/AK0373 Serum Total Iron Binding Capacity(TIBC) Assay Kit

AK0518/AK0517 Blood Calcium Content Assay Kit