Bialex®

Serum Iron (Fe) Test Kit
(FerroZine Colorimetric)

FE - 71342	R1: 2x48 ml R2: 2x12 ml
Test for in vitro diagnostic of Serum Iron by FerroZine Colorimetric	

Serum Iron (Fe) Test Kit (FerroZine Colorimetric)

PRICIPLE OF THE METHOD

This reagent is intended for the in vitro quantitative determination of Serum Iron (Fe) in human serum. Abnormal FE under the common situation such as iron deficiency diet, malabsorption, chronic blood loss, pregnancy, or an infant growth and development needs higher iron content caused by iron deficiency anemia, chronic infection, liver cirrhosis, uremia, nephrotic syndrome and hemolytic anemia, aplastic anemia, gigantic young cell anaemia, hemoglobin generated barrier anemia.

METHODOLOGY

In acidic condition, Serum iron was released from its combination of transferrin, and ferric iron is reduction for ferrous ions (bivalent iron) at same time. Ferrous ions react with ferrous oxazine generated purple complexes, this product have maximum absorbance at 570 nm, the absorbance is proportional to the serum iron concentration.

STABILITY AND STORAGE

Unopened, avoid light preservation in 2 ~ 8 ℃, valid for 12 months;

Opened, avoid contamination preservation in 2 ~ 8 ℃, valid for 1 month.

Reagent is not allowed frozen.

SPECIMEN COLLECTION AND HANDLING

It is best to fresh Serum, heparin anticoagulant blood plasma.

Hemolysis and oxalate anticoagulant plasma can affect the test results. A small amount of EDTA can also lead to the result on the low side in the sample.

When the lipid emulsion concentration of sample ⩽ 300mg/L, bilirubin concentrations ⩽ 600mg/L, hemoglobin hemoglobin ⩽ 150mg/L, VC ⩽ 500mg/L, Cu^{2+} ⩽ 50 μ mol/L, Zn^{2+} ⩽ 80 μ mol/L was not observed clearly disturbance.

APPLICABLE INSTRUMENT

Fully automatic biochemical analyzer

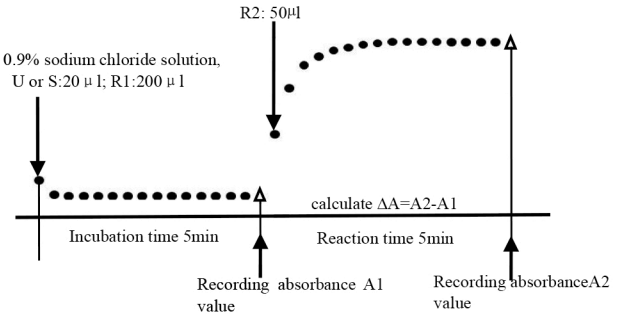
SYSTEM PARAMETERS

The following system parameters are recommended. Individual instrument applications are available upon request from the Technical Support Group.

Temperature	37° C
Cuvette light path	1.0cm
Primary Wavelength	570 nm
Secondary Wavelength	700nm
Assay Type	Two Point End
Direction	Increase
Sample: Reagent 1: Reagent 2 Ratio	2:20: 5
eg : Sample Vol.	20 μL
Reagent1 Vol.	200 μL
Reagent2 Vol.	50 μL
Linearity	0～180 μ mol/L
Testing	Deducting the reagent blank

OPERATION STEPS

R1: Reagent 1 R2: Reagent 2 S: Calibrator U: Sample



CALCULATION

Use The Calibrator

$$\text{Sample FE concentration} = \frac{\text{Sample } \triangle A}{\text{Calibrator } \triangle A} \times \text{Calibrator concentration}$$

Unit conversion: μ g/dL × 0.179 = μ mol/L

REFERENCE RANGE

Male: 10.6~28.3 μ mol/L 59~158 μ g/dL;

Female: 6.6~26.0 μ mol/L 37~145 μ g/dL.

By clinical trials, choose no less than 100 newborn or adults blood specimens, tested by automatic biochemical analyzer, and then processing the testing value with statistical method, calculating out the reference range.

Recommendation: The laboratory set up its own reference range!

THE LIMITATION OF TEST RESULTS

Serum Iron (Fe) testing is just one of the standard that clinicist diagnose the patient. Clinical physicians should according to patients' bodies, history and other diagnostic program, to get comprehensive judgment.

THE INTERPRETATION OF TEST RESULTS

Human error, the processing of specimen, analysis instrument deviation, etc. all can affect the measurement result; When one sample deviates from the expected value too far, need to be tested again.

PERFORMANCE INDEX

1.Reagent blank absorbance ⩽0.1,(570nm,lcm optical path).

2.Precision: repeatability CV⩽10%;batch variations R⩽10%.

3.Accuracy: relative deviation ⩽10%.

4.Linearity range: 0～180 μ mol/L,r⩾0.990.

5. Stability: All package reagent, non corrosive gas and avoid light, preservation in 2~8 ℃, stable 12 months.

ATTENTION

1. Reagent contains sodium azide (toxic) preservatives, avoid contact with skin and mucous membrane. If necessary preventive measures should be taken use of reagents, reagent contact with skin and mucous membrane, please rinse with water, please go to a doctor if necessary.

2. The maximum linearity is 180 μ mol/L. If testing results is upper limit, dilute with 0.9% sodium chloride solution before test, results multiplied by the dilution ratio.

3. Liquid waste disposal: Suggest follow local regulations.

4. This specification is applied to the double reagent.

5. Different batches reagents cannot mix, when replacing reagents batch number, please calibration again.

Biobase Biodustry(Shandong)Co.,Ltd

Add: Biobase Biological Industrial Park, Mingshui Economic Development Zone, Jinan, China, 250200

Tel: 0086-531-81219801/03 Fax: 0086-531-81219804