TURBICHEM FERRITIN

(Turbidimetry Method)

KIT NAME	KIT SIZE	CAT. NO
Turbichem - Ferritin	1 x 40 ml	TFER01040M

GENUINE BIOSYSTEM

INTRODUCTION

Ferritin is a spherical, hollow iron storage protein that stores about 450,000 iron atoms. Ferritin is mainly distributed in liver and spleen, and participates in detoxification and storage. The content of ferritin in serum is very small, but the dynamic change of its value reflects the storage of iron in the body. The determination of serum FER concentration is very useful for the diagnosis, treatment and prognosis of iron metabolism abnormalities such as anemia and iron excess, liver diseases, etc.

METHOD PRINCIPLE

The Kit utilizes latex-enhanced immunoturbidimetry to measure the Ferritin level in human serum or plasma. During the test, Ferritin in the sample binds with the specific anti Ferritin antibody to cause agglutination. The turbidity caused by agglutination is detected optically by chemistry analyzer. The change in absorbance is proportional to the level of Ferritin in the sample. The actual concentration is obtained by comparing with a calibration curve with known concentration.

KIT CONTENTS

Reagent Name	TFER01040M
R1 - Ferritin Buffer	1 x 30 ml
R2 - Ferritin Antibody	1 x 10 ml
R3 Calibrator	1 vial

The reagents when stored at 2-8°C are stable up to expiry date printed on the package. The reagents are stable for 7-10 days on board the analyser at 2-10°C. Protect from light and avoid contamination.

WORKING REAGENT PREPARATION AND STABILITY

Assay can be performed with use of separate R1-FER and R2-FER reagents. 3 parts of R1-FER with 1 part of R2-FER. Avoid foaming

CONCENTRATIONS IN THE TEST

R1 - Phosphate buffer, Polyethylene glycol, Sodium azide < 0.1%
R2 - anti-Ferritin antibodies, Tris buffer, sodium azide < 0.1%

WARNINGS AND NOTES

1. The Kit is for in vitro diagnostic use only. Not for use in humans or animals.
2. The instructions must be followed to obtain accurate results.
3. Do not use the reagents beyond the expiry date.
4. Treat all specimens as infectious. Proper handling and disposal procedures of specimens and test materials should be strictly followed

ADDITIONAL EQUIPMENT

- Automatic analyzer or photometer able to read at 570 nm
- Thermostat at 37°C
- General laboratory equipment

SPECIMEN

Follow standard laboratory procedures to collect serum samples. It is recommended to perform test immediately after sample collection. If the test cannot be done immediately, store sample at 2- 4° C for up to 3 days or at -20° C for up to 1 months. Avoid repeated freezing and thawing.

PLOTTING OF MULTIPOINT CURVE

The Turbichem Ferritin is based on Non-Linear Reactions, hence it is strongly recommended to run Multi-standard mode to plot the Multi-point curve to have better accuracy and precise result.

Serial Dilution Step

	1st	2nd	3rd	4th	5th
Calibrator	100 µl	50 µl from 1st tube	50 µl from 2nd tube	50 µl from 3rd tube	50 µl from 4th tube
Normal Saline	0	50 µl	50 µl	50 µl	50 µl
Ratio of dilution	Neat	1/2	1/4	1/8	1/16

PROCEDURE

These reagents may be used both for manual assay and in several automatic analyzers. Applications for them are available on request.

Wavelength	570 nm
Temperature	37°C
Cuvette	1 cm

Pipette into the cuvettes:

R1 Ferritin Buffer	750 µl	750 µl
Calibrator	40 µl	-
Sample	-	40 µl
Mix well and incubate for 5 mins at 37° C		
R2 Ferritin antibody	250 µl	250 µl

Mix well & incubate for 5 min. at 37°C. Measure the absorbance of calibrator & sample.

CALCULATION

$$\text{Ferritin concentration} = \frac{\text{Abs.Test}}{\text{Abs.Calibrator}} \times \text{Calibrator Concentration}$$

REFERENCE VALUES

20 to 250 ng/mL

It is recommended for each laboratory to establish its own reference ranges for local population.

QUALITY CONTROL

To ensure adequate quality control, each run should include assayed normal and abnormal controls. If commercial controls are not available it is recommended that known value samples be aliquoted, frozen and used as controls.

PERFORMANCE CHARACTERISTICS

Linearity : 20 to 1000 ng/mL

WASTE MANAGEMENT

Please refer to local legal requirements.

LITERATURE

1. Cook, J.D., Lipschitz,D.A., Laughton, M.B.B., Miles, E.M. & Finch, C.A: Serum ferritin as a measure of iron stores in normal subjects. Am.J.clin.Nutr. 27: 680, 1974.

2. Walters,G.O.,Miller, F.M & Wormwood, M.: Serum ferritin concentration on and iron stores in normal subjects. J.Clin.Pathol. 26: 770-, 1973

SYSTEM PARAMETERS

Method	End Point
Wavelength	570 nm
Zero Setting	Reagent blank
Temperature Setting	37° C
Incubation Temperature	37° C
Incubation Time	5 mins + 5 mins
Delay Time	-----
Read Time	-----
No. of Reading	2
Interval Time	-----
Sample Volume	0.04 ml (40 µl)
Reagent Volume	1.0 ml (1000 µl)
Standard Concentration	Refer Calibrator vial
Units	ng/ml
Factor	-----
Reaction Slope	Increasing
Linearity	1000 ng/ml

IVD CE

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