TURBICHEM RETINOL BINDING PROTEIN (RBP)

(Turbidimetry Method)

KIT NAME	KIT SIZE	CAT. NO
Turbichem - RBP	1 x 40 ml	TRBP00040M

GENUINE BIOSYSTEM

INTRODUCTION

Vitamin A deficiency has become a serious problem among women and children in developing countries around the world. A reliable detection method for vitamin A supplementation is needed. Serum retinal concentration is a good indicator of vitamin A status but it is very unstable while exposing to heat or light, and the techniques are also expensive and complicated. An alternative way is to measure the concentration of retinol binding protein, the 1 to 1 carrier of retinol in the blood. Retinol-binding protein is a 21-kDa protein synthesized by the liver and easy to be quantified by routine immunoassay.

METHOD PRINCIPLE

The Kit utilizes latex-enhanced immunoturbidimetry to measure the Retinol Binding Protein level in human serum. During the test, RBP in the sample binds with the specific anti RBP 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 RBP in the sample. The actual concentration is obtained by comparing with a calibration curve with known concentrations.

KIT CONTENTS

Reagent Name	TRBP00040M
R1 - RBP Buffer	1 x 30 ml
R2 - RBP 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 5 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-RBP and R2-RBP reagents with 3 parts of R1-RBP with 1 part of R2-RBP. Avoid foaming.

CONCENTRATIONS IN THE TEST

R1 - Phosphate buffer, Polyethylene glycol, Sodium azide < 0.1%
R2 - Anti-RBP 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 expiration 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 630 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 RBP 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 630 nm
Temperature 37°C
Cuvette 1 cm

Pipette into the cuvettes:

Reagent	Standard (S)	Test (T)
R1 RBP Buffer	750 µl	750 µl
Calibrator	10 µl	-
Sample	-	10 µl
Mix well and incubate for 5 mins at 37° C		
R2 RBP Antibody	250 µl	250 µl

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

CALCULATION

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

REFERENCE VALUES

2.7 to 7.0 mg/dl

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: 0 to 14 mg/dl

WASTE MANAGEMENT

Please refer to local legal requirements.

LITERATURE

1. Blaner W. S. et al., EndocrRev 26:1241-1251 (1989)
2. Naylor H. M. et al., Biochemistry 38:2647- (2653 1999)
3. Blaner W. S. et al., EndocrRev 10:308 (1980) .

SYSTEM PARAMETERS - END POINT

Method	End Point
Wavelength	630 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	0.01 ml (10 ul)
Reagent Volume	1.0 ml (1000 ul)
Standard Concentration	Refer Calibrator vial
Units	mg/dl
Factor	-----
Reaction Slope	Increasing
Linearity	14 mg/dl

IVD CE

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