TURBICHEM PRE-ALBUMIN

(Turbidimetry Method)

KIT NAME	KIT SIZE	CAT. NO
Turbichem - Pre - Albumin	1 x 40 ml	TPAL01040M

GENUINE BIOSYSTEM

INTRODUCTION

Prealbumin (transthyretin) transports the thyroid hormones thyroxin and triiodothyronine, and also vitamin A through an association with retinol-binding protein. PALB is a negative acute phase reactant with decreased levels found in inflammation, malignancy, cirrhosis of liver, and protein-wasting diseases of the gut or kidneys. Increased levels of PALB have been reported in Hodgkinson's disease. PALB can be used as an indicator of nutritional status due to its fast response to protein deficiency, its short half-life and the abundance of tryptophan and a high essential to non-essential amino acid ratio.

METHOD PRINCIPLE

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

KIT CONTENTS

Reagent Name	TPAL01040M
R1 P - ALB Buffer	1 x 30 ml
R2 P - ALB 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-PALB and R2-PALB reagents with 3 parts of R1-PALB with 1 part of R2-PALB. Avoid foaming

CONCENTRATIONS IN THE TEST

R1 - Phosphate buffer, Polyethylene glycol, Sodium azide < 0.1%
R2 - Anti-Prealbumin 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 340 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 P-ALB 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 340 nm
Temperature 37°C
Cuvette 1cm

Pipette into the cuvettes:

Reagent	Standard (S)	Test (T)
R1 P-ALB buffer	750 µl	750 µl
Calibrator	20 µl	-
Sample	-	20 µl
Mix well and incubate for 5 mins at 37° C, than add		
R2 P-ALB antibody	250 µl	250 µl

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

CALCULATION

$$\text{P-ALB concentration} = \frac{\text{Abs.Test}}{\text{Abs.Calibrator}} \times \text{Calibrator Concentration}$$

REFERENCE VALUES

15 to 35 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: 2 to 60 mg/dl

WASTE MANAGEMENT

Please refer to local legal requirements.

LITERATURE

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3 Oppenheimer, J.H., .Role of Plasma Proteins in the Binding, Distribution and Metabolism of the Thyroid Hormones,. N. Engl. J.Med., 278:1153, (1968).
4. Peterson, P.A., .Studies on Interaction Between Prealbumin, Retinol- binding Protein and Vitamin A,. J. Biol. Chem., 246:44, (1971).
5. Prealbumin in Nutritional Care Consensus Group. Measurement of visceral protein status in assessing protein and energy malnutrition: standard of care. Nutrition. 1995; 11:169–71.

SYSTEM PARAMETERS

Method	End Point
Wavelength	340 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	0.02 ml (20 ul)
Reagent Volume	1.0 ml (1000 ul)
Standard Concentration	Refer Calibrator vial
Units	mg/dl
Factor	-----
Reaction Slope	Increasing
Linearity	60 mg/dl

IVD CE

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