TURBICHEM APOLIPOPROTEIN - A1 APO-A1

(Turbidimetry Method)

KIT NAME	KIT SIZE	CAT. NO
Turbichem - APO - A1	1 x 40 ml	TAPA00040D

GENUINE BIOSYSTEM

INTRODUCTION

Apolipoprotein A1 (Apo A1) is intended for Invitro quantitative determination of Apo A1 in human serum. Apolipoprotein A1 (APO A1) is the major protein component of high density lipoprotein (HDL). It activates Lecithin cholesterol acyltransferace (LCAT) and removes free cholesterol from extra hepatic tissues. Several studies have shown APO A1 to have an inverse relationship to coronary artery disease and a direct relationship with APO B. APO A1 and APO B levels are useful in assessment of cardiovascular risk in addition to HDL and LDL cholesterol levels.

METHOD PRINCIPLE

The Kit utilizes latex-enhanced immunoturbidimetry to measure the Apo-A1 level in human serum or plasma. During the test, APO A1 in the sample binds with the specific anti-APO A1 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 APO A1 in the sample. The actual concentration is obtained by comparing with a calibration curve with known concentrations.

KIT CONTENTS

R1 - Apo - A1 Buffer	1 x 30 ml
R2 - Apo - A1 antibody	1 x 10 ml
R3 - Apo - A1 Calibrator	1 vial

R3 Apo-A1 calibrator is in lyopholized form, which we can be reconstituted as per the instruction mentioned in the vial label.

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-Apo-A1 and R2-Apo-A1reagents of 3 parts of R1-Apo-A1 with 1 part of R2-Apo-A1. Avoid foaming.

CONCENTRATIONS IN THE TEST

R1 - Glycine buffer solution. Sodium azide < 0.1%

R2 - Anti-APO A1 antibodies, glycine 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 340 nm
- Thermostat at 37ºC
- 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 6 months. Avoid repeated freezing and thawing.

PLOTTING OF MULTIPOINT CURVE

The Turbichem Apo-A1 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 Dillution	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	1 cm

Pipette into the cuvette:

Reagent	Calibrator (C)	Test (T)
R1 Apo - A1 Buffer	750 µl	750 µl
Calibrator	10 µl	
Sample	-	10 µl
Mix well and incubator for 5 mins. at 37° C		
R2 - Apo - A1 Anitbody	250 µl	250 µl

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

CALCULATION

$$\text{Apo-A1 concentration} = \frac{\text{Abs.Test}}{\text{Abs.Calibrator}} \times \text{Calibrator Concentration}$$

REFERENCE VALUES

100 to 160 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 : 30 to 240 mg/dl
- Precision : within Run CV $\leq$ 4 %
- Specificity / Interferences

No interference detected for bilirubin upto 60 mg/dL and hemoglobin 10 g/L, triglycerides 1000 mg/dL

WASTE MANAGEMENT

Please refer to local legal requirements.

LITERATURE

1. Arvovina SM, Albere JJ, Dati F., et al, International federation of clinical chemistry standardization project for measurements of apolipoprotein A1, Clin Chem, 1991,37:1676.
2. Kottke BA, et al. Mayo Clin. Proc. 1986; 61: 313.
3. Ritchie, RF (ed). Serum Proteins in Clinical Medicine, Volume 1 Laboratory Section. Scarborough, ME: Foundation for Blood Research; 12.01-5; 1996.
4. Snidermann AD. Can. J. Cardiol. 1988; 4 Suppl.: 24 A.
5. Sandkamp M. Diagnose & Labor 1990; 40: 37.

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	0.01 ml (10 ul)
Reagent Volume	1.0 ml (1000 ul)
Standard Concentration	Refer Callibrator vial
Units	mg / dl
Factor	----
Reaction Slope	Increasing
Linearity	240 mg/dl

IVD CE

Genuine Biosystem Private Limited
Plot No.97 & 98, kattabomman street,
Parvathy Nagar Extension,
Old Perungalathur, Chennai - 600063, India.
Ph: +91-44-48681845
Email: genuinebiosystem@gmail.com
website: www.genuinebiosystem.com