PATHOZYME DIAGNOSTICS

LIQVIPATH CHOLESTEROL

(CHOD – PAP METHOD)

CAT NO.: CHL

Reagent for quantitative estimation of Cholesterol in Serum or Plasma.

DIAGNOSTIC SIGNIFICANCE:

Cholesterol is the main lipid found in blood, bile, and brain tissues. It is the main lipid associated with arteriosclerotic vascular diseases. It is required for the formation of steroids and cellular membranes. The liver metabolizes the cholesterol and it is transported in the blood stream by lipoproteins. Increased levels are found in hypercholesterolemia, hyperlipidemia, nephritic syndrome, uncontrolled diabetes, and cirrhosis. Decrease levels are found in malabsorption, malnutrition, hyperthyroidism, anemia and liver diseases.

PRINCIPLE:

The Cholesterol Esters are hydrolysed to free Cholesterol by Cholesterol Esterase (CE). The free Cholesterol is then oxidised by Cholesterol Oxidase (CO) to cholesten 4-en-3-one with the simultaneous production of hydrogen peroxide. The hydrogen peroxide reacts with 4AAP and phenolic compound in the presence of Peroxidase to yield a coloured complex which is read at 505 nm.

$$\text{Cholesterol Esters} \xrightarrow{CE} \text{Cholesterol} + \text{fatty acids}$$

$$\text{Cholesterol} + O_2 \xrightarrow{CO} \text{Cholesterol-4-en-3-One} + H_2O_2$$

$$2H_2O_2 + 4AAP + \text{Phenolic compd.} \xrightarrow{POD} \text{Quinoneimine dye} + 4H_2O$$

The intensity of colour produced is directly proportional to the concentration of total Cholesterol in the sample.

SPECIMEN COLLECTION:

Fresh, clear serum with no hemolysis under fasting condition is specimen of choice. Heparin or EDTA as anticoagulant Plasma can also be used.

KIT PRESENTATION:

Pack Size	2 X 25 ml	3 X 50 ml	5 X 100 ml
Cholesterol Reagent	2 X 25 ml	3 X 50 ml	5 X 100 ml
Cholesterol Standard	1 X 01 ml	1 X 01 ml	1 X 02 ml

PREPARATION OF WORKING REAGENT:

CHOLESTEROL-L is Ready-to-use.

REAGENT STORAGE & STABILITY:

Cholesterol Reagent and Standard are stable at 2-8^{0}C until the expiry date indicated on the label.

PRECAUTION:

Reagent Protected from light. Keep caped when do not use.
Anticoagulants Fluorides & Oxalates results in false low values.

NOTE:

A special surfactant, Lipid Clearing Factor (L.C.F.) is added to the Reagent to solubilise the lipemic sera (causing turbidity or opalescence) which adds to the accuracy of results.

ASSAY PARAMETERS:

Reaction	**: End point**	**Sample Volume**	**: 10 µl**
Wavelength	**: 505 nm (500-520)**	**Reagent Volume**	**: 1000 µl**
Zero Setting	**: Reagent Blank**	**Standard Conc.**	**: 200 mg/dl**
Incub. Temp.	**: 37 ^{0}C**	**Linearity**	**: 1000 mg/dl**
Incub. Time	**: 5 minutes**	**Unit**	**: mg/dl**

PROCEDURE:

Pipette into TT	Blank	Standard	Test
Cholesterol Reagent	1000 µl	1000 µl	1000 µl
Cholesterol Standard	--	10 µl	--
Sample (Test)	--	--	10 µl

Mix & incubate at 37^{0}C for 5 minutes. Read absorbance of Standard (**S**) and Test (**T**) after 5 minutes against reagent blank at 505 nm (500-520 nm or Green filter).

CALCULATION:

Cholesterol (mg/dl) = Abs T ÷ Abs S X 200

NORMAL VALUES:

Cholesterol : 140 to 240 mg/dl
Desirable : ≤ 200 mg/dl
Borderline High : 200 – 240 mg/dl
High : ≥ 240 mg/dl
Each laboratory should establish its own normal range.

LINEARITY:

This procedure is linear up to 1000 mg/dl. For sample values higher than 1000 mg/dl, dilute the sample suitably with 0.9 % saline and repeat the assay. Apply dilution factor to obtain test results.

REFERENCES:

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Expiry Date | IVD In-Vitro Diagnostics Use | Storage | Mfg. Date | LOT Batch Number | REF Catalogue Number | See Package Insert

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