



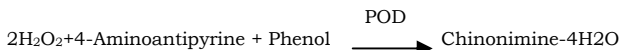
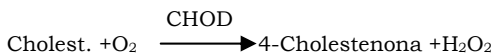
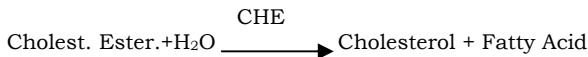
LIQUID CHOLESTEROL CHOD- POD

Enzymatic Colorimetric Test

For *in-vitro* diagnostic use only.
Store at 2-8°C.

PRINCIPLE:

The cholesterol present in the sample originates a colored complex according to the following reaction:



The intensity of the color is proportional to the cholesterol concentration in the sample.

CLINICAL SIGNIFICANCE

Cholesterol is a fat-like substance called a lipid that is found in all body cells. The liver makes all of the cholesterol the body needs to form cell membranes and to make certain hormones.

The determination of serum cholesterol is one of the important tools in the diagnosis and classification of lipemia.

High blood cholesterol is one of the major risk factors for heart disease^{5,s}.

Clinical diagnosis should not be made on a single test result; it should integrate clinical and other laboratory data.

R	PIPES Ph 6.9	90mmol/L
	Phenol	26mmol/L
	Cholesterol esterase (CHE)	1000 U/L
	Cholesterol oxidase (CHOD)	300 U/L
	Peroxidase (POD)	650 U/L
Standard	4- Aminophenazone (4-AP)	0.4mmol/L
	Cholesterol aqueous primary standard	200 mg/dL

PREPERATION

All the reagents are ready to use.

STORAGE AND STABILITY

All the component of the kit are stable until the expiration date on the label when stored tightly closed at 2-8 °C ,protected from light and contaminations prevented during their use.

Do not use reagents over expiration date.

Signs of deterioration:

- Presence of particles and turbidity.
- Blank absorbance (A) at 505 \geq 0.26.

ADDITIONAL EQUIPMENT

- Spectrophotometer or colorimeter measuring at 505 nm .
- Matched cuvettes 1.0 cm light path.
- General laboratory equipment.

SAMPLES

Serum or plasma .Stability of the sample 7 days at 2-8 °C or freezing at -20 °C will keep samples stable for 3 months.

PROCEDURE

1. Assay conditions:

- Wavelength.....505 nm (500-550)
- Cuvette.....1 cm light path
- Temperature.....37 °C/15-25 °C

- Adjust the instrument to zero with distilled water.
- Pipette into a cuvette:

	Blank	Standard	Sample
Reagent (mL)	1.0	1.0	1.0
Standard (μL)		10	
Sample (μL)			10

- Mix and incubate for 5 min at 37 °C or 10 min at 15-25 °C.
- Read the absorbance (A) of the samples and calibrator, against the blank. The color is stable for at least 60 minutes.

CALCULATION

$\frac{(A) \text{ Sample}}{(A) \text{ STD}} \times 200 = \text{mg/dL cholesterol in the}$

Sample

Conversion factor: mg/dL x 0.0258=mmol/L

QUALITY CONTROL

Control sera are recommended to monitor the performance of assay procedure.

If control values are found outside the defined range, check the instrument reagent and calibration for problems.

Each laboratory should establish its own Quality Control scheme and corrective actions if controls do not meet the acceptable tolerances.

REFERENCE VALUES

Risk evaluation:

- Less than 200 mg/dl Normal
- 200-239 mg/dl Bordline
- 240 mg/dl High

These values are for orientation purpose; each laboratory should establish its own reference range.

PERFORMACE CHARACTERISTICS

Measuring range: From detection limit 0.46 to linearity limit 600 mg/dl.

If the concentration is grater than linearity limit dilute the sample 1/2 with NaCl 9 g/L and multiply the result by 2.

Precision:

	Intra-assay (n=20)		Inter-assay (n=20)	
Mean (mg/L)	93.95	200	92.2	195
SD	0.76	1.22	1.88	5.97
CV (%)	0.80	0.61	2.04	3.05

Sensitivity: 1 mg/ dl = 0.0017(A)

Accuracy: Results obtained using ATLAS reagents did not show systematic differences when compared with other commercial reagent.

INTERFERANCES

No interferences were observed to hemoglobin up to 5g/L and bilirubin up to 10 mg/L

A list of drugs and other interfering substances with cholesterol determination has been reported by Young et.al.

NOTES

- Calibration with the aqueous standard may cause a systematic error in automatic procedures. In these cases, it is recommended to use a serum Calibrator.
- Use clean disposable pipette tips for its dispensation.

REFERENCES

- Allian Clin: Chem. 20.470 (1974).
- Trinder P.: J. Clin. Path. 158 (1969).

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