

Triglycerides GPO-POD Liquid

IVD For in -vitro diagnostic and professional use only

2°C  8°C **Store at 2-8°C**

INTENDED USE

For the quantitative determination of Triglycerides concentration in human serum or plasma.

INTRODUCTION

Triglycerides are fats that provide energy for the cell. Like cholesterol, they are delivered to the body's cells by lipoproteins in the blood. A diet with a lot of saturated fats or carbohydrates will raise triglyceride levels. Increases in serum triglycerides are relatively non-specific. For example liver dysfunction resulting from hepatitis, extra hepatic biliary obstruction or cirrhosis, and diabetes mellitus, is associated with the increase.

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

PRINCIPLE

Sample triglycerides incubated with lipoproteinlipase (LPL), liberate glycerol and free fatty acids. Glycerol is converted to glycerol-3-phosphate (G3P) and adenosine-5-diphosphate (ADP) by glycerol kinase and ATP. Glycerol-3-phosphate (G3P) is then converted by glycerol phosphate dehydrogenase (GPO) to dihydroxyacetone phosphate (DAP) and hydrogen peroxide (H₂O₂).

In the last reaction, hydrogen peroxide (H₂O₂) reacts with 4-aminophenazone (4-AP) and p-chlorophenol in presence of peroxidase (POD) to give a red colored dye:



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

MATERIALS PROVIDED REAGENTS

R	GOOD pH 6.3	50 mmol/L
	p-Chlorophenol	2 mmol/L
	Lipoprotein lipase (LPL)	150000 U/L
	Glycerol kinase (GK)	500 U/L
	Glycerol-3-oxidase(GPO)	3500U/L
	Peroxidase(POD)	440 U/L
	4 – Aminophenazone (4-AP)	0.1 mmol/L
ATP	0.1 mmol/L	
TRIGLYCERIDES STD	Aqueous primary standard	200 mg/dL

EQUIPMENTS NEEDED BUT NOT PROVIDED

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

REPARATION

- Reagent and standard provided are ready to use.

STORAGE AND STABILITY

- All components 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 the expiration date.
- Signs of reagent deterioration:
 - Presence of particles and turbidity.
 - Blank absorbance (A) at 505 nm \geq 0.26.

SAMPLES

Serum or plasma.

Stability of the sample: stable for 5 days at 2-8 °C.

PROCEDURE

1. Assay conditions:
Wavelength:.....505 nm (490-550)
Cuvette light path1 cm
Temperature.....37°C / 15-25°C
2. Adjust the instrument to zero with distilled water.
3. Pipette into a cuvette:

	Blank	Standard	Sample
R (mL)	1.0	1.0	1.0
Standard (μL)	--	10	--
Sample (μL)	--	--	10

4. Mix and incubate for 5 min at 37°C or for 10 min at 15-

25°C.

5. Read the absorbance (A) of samples and standard, against Blank. The color is stable for at least 30 minutes.

CALCULATIONS

$\frac{(A) \text{ Sample} - (A) \text{ Blank}}{(A) \text{ Standard} - (A) \text{ Blank}} \times 200$ (Standard conc.)= mg/dL triglycerides in the sample.

Conversion factor: mg/dL x 0.0113=mmol/L.

QUALITY CONTROL

- If control values are found outside the defined range, check the instrument, reagent and calibration materials.
- Each laboratory should establish its own Quality Control scheme and corrective actions if controls do not meet the acceptable tolerances.

REFERENCE VALUES

Men	40 – 160 mg/dL
Women	35 – 135 mg/dL

NOTE

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

PERFORMANCE CHARACTERISTICS

1. Measuring range:

From detection limit of 0.00 mg/dL to linearity limit of 1200 mg/dL.

If the concentration is greater than linearity limit, dilute to half the sample with NaCl 9 g/L and multiply the result by 2.

2. Precision:

	Intra-assay (n=20)		Inter-assay (n=20)	
Mean (mg/L)	109	224	111	224
SD	0.64	1.01	3.74	7.91
CV (%)	0.59	0.45	3.37	3.53

3. Sensitivity:

1 mg/dL = 0.0013 (A).

4. Accuracy:

Results obtained using ATLAS reagents (y) did not show systematic differences when compared with other commercial reagents (x). The results obtained using 50 samples were as follow:

Correlation coefficient(R)²: 0.99810.

Regression equation: y =0.9178x-0.5426.

The results of the performance characteristics depend on the analyzer used.

INTERFERENCES

No interferences were observed with bilirubin < 170 µmol/L and hemoglobin < 10 g/L.

A list of drugs and other substances interfering with cholesterol determination has been reported.

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.
- Triglycerides calibrator: proceed carefully with this product as, due its nature, it can get contaminated easily.
- LCF (lipid clearing factor) is integrated in the reagent.
- Use clean disposable pipette tips for its dispensation.

















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 **ATLAS MEDICAL**
Ludwig-Erhard Ring 3
15827 Blankenfelde-Mahlow
Germany
Tel: +49 - 33708 – 3550 30
Email: Info@atlas-medical.com

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 REF	Catalogue Number		Temperature limit
 IVD	<i>In Vitro</i> diagnostic medical device		Caution
	Contains sufficient for <n> tests and Relative size		Consult instructions for use (IFU)
 LOT	Batch code		Manufacturer
	Fragile, handle with care		Use-by date
	Manufacturer fax number		Do not use if package is damaged
	Manufacturer telephone number		Date of Manufacture
	Keep away from sunlight		Keep dry