Biomaghreb

6, Rue Ibn Ennafis - Z.I. Lac 3 Tunisie
Tél. : 71 182 500 - Fax : 71 182 250
www.biomaghreb.com

CE

TRIGLYCERIDES

Enzymatic colorimetric Method (GPO-PAP)

Reagent for the quantitative determination
of Triglycerides in human plasma or serum

IN VITRO DIAGNOSTIC USE

IVD

REF	**29010**	**2 x 120 ml** (240 T)	**R1:** 2 x 120 ml	**R2:** 2 lyophilisates	**R3:**1 x 4 ml
REF	**29027**	**4 x 30 ml** (120 T)	**R1:** 4 x 30 ml	**R2:**4 lyophilisates	**R3:**1 x 3 ml
REF	**29034**	**2 x 30 ml** (60 T)	**R1:** 2 x 30 ml	**R2:**2 lyophilisates	**R3:**1 x 2 ml
REF	**29041**	**5 x 120 ml** (600 T)	**R1:** 5 x 120 ml	**R2:**5 lyophilisates	**R3:** 2 x 5 ml
REF	**29058**	**2 x 200 ml** (400 T)	**R1:** 2 x 200 ml	**R2:** 2 lyophilisates	**R3:**1 x 7 ml

CLINICAL SIGNIFICANCE

Triglycerides are lipids that serve as an energy reserve synthesized by the liver or from food. High blood triglyceride levels are a major cardiovascular risk factor. The determination of total triglycerides is performed as part of a lipid balance, at the same time as the determination of cholesterol (total, HDL and LDL), to detect dyslipidemia. Hypertriglyceridemia is often promoted by a genetic predisposition, a metabolic syndrome (obesity, high blood pressure, diabetes, etc.), a hypercaloric diet, by taking certain drugs (corticosteroids, antipsychotics, beta-blockers, etc…).

PRINCIPLE

Triglycerides are determined according to the following reactions:

Lipoprotein lipase
Triglycerides ⟶ Glycerol +Fatty acids
Glycerokinase, Mg ++
Glycerol + ATP ⟶ Glycerol -3-P + ADP
Glycerol-3- Phosphate oxidase
Glycerol-3-Phosphate + O_2 ⟶ H_2O_2+ Dihydroxyacetone-P
H_2O_2+ Amino-4-Antipyrine + chloro-4-phenol
Peroxidase
Quinoneimine + H_2O

REAGENT COMPOSITION

Reagent 1 Buffer solution	Pipes buffer pH 7,2 Chloro-4-phenol	50 mmol/l 2 mmol/l
Reagent 2 Enzymes	Lipoprotein lipase Glycerokinase Glycerol 3-P-Oxidase Peroxidase Amino-4-antipyrine ATP	150000 U/l 800 U/l 4000 U/l 440 U/l 0,7 mmol/l 0,3 mmol/l
Reagent 3 Standard	Standard glycerol (trioleine)	200 mg/dl 2 g/l 2,28 mmol/l

SAFETY CAUTIONS

Biomaghreb reagents are intended for use by qualified personnel for in vitro use (do not pipette by mouth).

- Refer to the current SDS available on request or at www.biomaghreb.com;
- Verify the integrity of the reagents before use; and
- Disposal of waste: comply with the legislation in force.

For safety reasons, treat any specimen or reagent of biological origin as potentially infectious. Respect the legislation in force.

REAGENT PREPARATION

Working solution: Dissolve lyophilisate R2 with one vial of buffer R1.

SAMPLE PREPARATION

Serum, plasma collected on heparin.

PRESERVATION AND STABILITY

- Before opening: The reagents are ready to use, stable up to the expiry date indicated on the label of the box at 20-25°C;
- After opening (Working Solution) :
  1 week at 20 - 25°C ;
  4 weeks at 2-8°C.

ADDITIONAL EQUIPMENT

- Basic equipment of the medical analysis laboratory ;
- Spectrophotometer or Clinical Biochemistry Analyzer.

QUALITY CONTROL

External quality control program.
It is recommended to control in the following cases:

- At least one test per series.
- Change of reagent bottle.
- After maintenance work on the analyzer.

If a control value is outside the confidence limits, repeat the procedure using the same control. Use normal and pathological control sera.

CALIBRATION

The standard of the kit (Reagent 3) or any calibrator connected to a method or reference material. The frequency of calibration depends on analyzer performance and reagent storage conditions. Recalibration is recommended in the following cases:

1. Changing the reagent lot;
2. After maintenance work on the analyzer; and
3. Control values are outside the confidence limits.

LINEARITY

The method is linear up to 10 g/l (1000 mg/dl -11, 4 mmol/l). If the concentration is higher, dilute the sample 1:10 with a 9 g/l NaCl solution and repeat the determination. Multiply the result by 10.

PROCEDURE

Wavelength: 505 nm (490nm-550nm);
Temperature: 37°C;
Tank: 1 cm thick;
Adjust the spectrophotometer zero on the reagent blank.

	Blank	Standard	Sample
Standard	- -	10 µl	- -
Sample	- -	- -	10 µl
Working solution	1 ml	1 ml	1 ml
Mix, read absorbances after incubation for 5 minutes at 37°C or 10 minutes at 20-25°C. Staining is stable 30 minutes.			

Notes:
Triglycerides are stable in serum for 3 days at 2 - 8°C.

CALCUL

$$\text{Triglycerides} = \frac{\Delta \text{ OD. Sample}}{\Delta \text{ OD. Standard}} \times n$$

n = Standard value

n = 2 g/l;
n = 200 mg/dl;
n = 2, 28 mmol/l

REFERENCE VALUES

Serum or plasma	Women	40 - 140 mg/dl 0,4 – 1,40 g/l 0,46 – 1,60 mmol/l
	Men	60 - 165 mg/dl 0,60 – 1,65 g/l 0,68 – 1,88 mmol/l

REFERENCES

Fossati P., Prencipe l., Clin. Chem. 28, 2077 (1982);
Young D., Pestaner L., Clin. Chem., 21,5 (1975).

Manufacturer | Use by | In Vitro Diagnostic | Temperature Limitation | Catalogue number | See insert | Store away from light | Sufficient for < n > essais | Batch number