Asritha
Quality First
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TRIGLYCERIDES KIT

(GPO-PAP Method)
For the determination of Triglycerides in serum or plasma
(For In vitro Diagnostic Use Only)

CLINICAL SIGNIFICANCE

Triglycerides are a form of fatty acid esters. They are produced in the liver by binding glycerol and other fatty acids. They are transported by VLDL and LDL and act as a storage source for energy.

INCREASES

Increased levels are found in hyperlipidemias, diabetes, nephrotic syndrome, hypothyroidism. Increased levels are risk factor for arteriosclerotic coronary disease and peripheral vascular disease.

DECREASES

Decreased levels are found in malnutrition and hyperthyroidism.

METHODOLOGY : GPO - PAP method

PRINCIPLE

Triglycerides $\xrightarrow{\text{Lipoprotein Lipase}}$ Glycerol + Free fatty acids

Glycerol + ATP $\xrightarrow{\text{Glycerol Kinase}}$ Glycerol 3 Phosphate + ADP

Glycerol 3 Phosphate + O_2 $\xrightarrow{\text{Glycerol 3 PO}}$ Dihydroxyacetone phosphate + H_2O_2

H_2O_2 + 4 Aminoantipyrine + Phenol $\xrightarrow{\text{Peroxidase}}$ Red Quinoneimine dye + H_2O

Intensity of the colour formed is directly proportional to the amount of triglycerides present in the sample.

REAGENT COMPOSITION

1.	Lipase	4 KU/L
2.	Glycerol kinase	40 U/L
3.	Glycerol Phosphate oxidase	5 KU/L
4.	Peroxidase	820 U/L
5.	ATP	1 mmol/L
6.	4AAP	8.0 mmol/L
7.	Buffer	20 mmol/L, P^H – 7.0
8.	Surfactants & Stabilizers	

STANDARD CONCENTRATION : 200 mg/dl

STORAGE AND STABILITY

Contents are stable at 2-8^{0}C till the expiry mentioned on the labels.

REAGENT PREPARATION

Reagents are ready to use.

SAMPLE MATERIAL

Serum, plasma. Triglycerides are reported to be stable in sample for 5 days when stored at 2-8^{0}C.

ASSAY PARAMETERS

Reaction	End point	**Interval**	-
Wavelength	505 nm	**Sample Vol.**	0.01 ml
Zero Settings	Reagent blank	**Reagent Vol.**	1.00 ml
Incub. Temp	37^{0}C / R.T	**Standard**	200 mg / dl
Incub Time	10 min / 15 min	**Factor**	-
Delay Time	-	**React. Slope**	Increasing
Read Time	-	**Linearity**	1000 mg/dl
No. of read.	-	**Units**	mg/dl

ASSAY PROCEDURE

Wavelength/filter : 505nm (Hg 546 nm)/Green
Temperature : 37^{0}C / R.T.
Light path : 1 cm

Pipette into clean dry test tubes labelled as blank (B), Standard (S), and Test (T) :

Addition Sequence	B (ml)	S (ml)	T (ml)
T.G Mono reagent (A_1)	1.0	1.0	1.0
Triglycerides Standard (S)	-	0.01	-
Sample	-	-	0.01

Mix well and incubate at 37^{0}C for 10 min. or at R.T. (25^{0}C) for 15 Min. Measure the absorbance of the Standard (Abs.S), and Test sample (Abs.T) against Blank, at 505 nm (Hg 546 nm) within 60 min.

CALCULATIONS

$$\text{Triglycerides in mg/dl} = \frac{\text{Abs of T}}{\text{Abs of S}} \times 200$$

LINEARITY

This procedure is linear upto 1000 mg/dl. If values exceed this limit, dilute the serum with normal saline (NaCl 0.9%) and repeat the assay.

NOTES :

Fasting samples of 12 to 14 hrs. are preferred. Fatty meals and alcohol may cause elevated results. Patients should not drink alcohol for 24 hrs. before the test.

QUALITY CONTROL

To ensure adequate quality control each run should include assayed normal & abnormal controls.

NORMAL REFERENCE VALUES

Serum/ Plasma (Suspicious) : 150 mg/dl and above
(Elevated) : 200 mg/dl and above

It is recommended that each laboratory establish its own normal range representing its patient population.

References

1. Trinder,P., (1969) Ann. Clin. Biochem. 6 : 24
2. Bucolo, G., David, H., (1973) Clin. Chem. 19: 476
3. Fossati, P., Prencipe, L., (1982) Clin. Chem. 28 : 277

PRESENTATION

PRODUCT CODE	PACK SIZE	T.G Mono REAGENT (R_1)	STANDARD (S)
ATM 0628	1 x 60 ml	1 x 60 ml	1 x 2.0 ml
ATM 0629	2 x 60 ml	2 x 60 ml	1 x 2.0 ml

PRODUCT FEATURES AT A GLANCE :

1. **Liquid stable 'Mono Reagent' (Ready to use).**
2. **Specially stabilized with proprietary stabilizers.**
3. **Suitable for all semi and fully automated analyzers.**
4. **Low blank formulation.**
5. **Ideal for Tropical environment.**
6. **Highest linearity 1000 mg/dL.**
7. **Convenient pack size – 1 x 60 ml & 2 x 60 ml.**
8. **Store at 2-8^{0}C.**

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ASRITHA DIATECH INDIA PVT. LTD.

IN VITRO DIAGNOSTIC REAGENTS

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