

PRODUCT CODE CS029

INTENDED USE

For quantitative determination of Triglycerides in serum or plasma

CLINICAL SIGNIFICANCE

Triglycerides are simple lipids, formed in the liver by glycerol & fatty acids. They are transported by VLDL, LDL & constitute about 95% of fat, stored as source of energy in the tissue & plasma.

Increased levels are found in hyperlipidemias, diabetes, nephrotic syndrome & hypothyroidism. Increased levels are risk factor for arteriosclerotic coronary disease, peripheral vascular disease, acute pancreatitis & hyperlipoproteinaemia. Decreased levels are found in malnutrition & hyperthyroidism.

PRINCIPLE

Lipases catalyze hydrolysis of triglycerides to yield glycerol and free fatty acids. The glycerol concentration is determined enzymatically with the Trinder reaction using glycerol kinase (GK), glycerol-3- phosphate oxidase (GPO) and peroxidase (POD). The end product is a Quinonimine dye, the concentration of which at 546 nm is directly proportional to the concentration of triglyceride in the sample.



REAGENT COMPOSITION Pipes

buffer (pH 7.50)	50 mmol/L
4-Chlorophenol	5 mmol/L
Lipases	≥ 1.3 u/mL
Glycerol Kinase (GK)	≥ 0.4 u/mL
Glycerol-3-phosphate oxidase (GPO)	≥ 1.5 u/mL
Peroxidase (POD)	≥ 1 KU/L
Magnesium Ion	4.50 mmol/L
Adenosine Tri Phosphate (ATP)	2.0 mmol/L
Aminopyrine	0.25 mmol/L

REAGENT PREPARATION

Triglycerides reagent is ready to use.

REAGENT STORAGE AND STABILITY

Stable until the expiry date when stored at 2-8°C. protected from light and contamination is avoided. Do not freeze the reagent.

SPECIMEN

Serum, Plasma: Fresh, clear & non haemolysed, from patients fasting at least 12 hours, Triglycerides in serum are stable for 3 days at 2-8° C, with prolonged storage at room temperature, glyceride-containing compounds hydrolyze to yield free glycerol with an apparent increase in triglyceride levels.

PRECAUTION

To avoid contamination, use clean laboratory wares. Avoid direct exposure of reagent to light.

PRUCEDURE

APPLICATION ON AUTO BIOCHEMISTRY

BR-160 AUTO BIOCHEMISTRY ANALYZER					
TEST NAME	TRI		SAMPLE VOLUME	3	
FULL NAME	TRIGLYCERIDES				
	PRI	SEC	REAGENT VOLUME	R1	R2
WAVE LENGTH	505	NONE		300	NONE
ASSAY POINT	1 POINT END	START	END		
		1	25		
DECIMAL PLACE	2				
UNIT	mg/dl				
LINEARITY RANGE	LOW	HIGH			
	0	1000			

BR-120 AUTO BIOCHEMISTRY ANALYZER					
TEST NAME	TRI	SAMPLE VOLUME		3	
FULL NAME	TRIGLYCERIDES	REAGENT VOLUME		R1	R2
WAVE LENGTH	PRI 505	SEC. NONE	300	NONE	
ASSAY /POINT	1 POINT END	START 6	END 24		
DECIMAL PLACE	2				
UNIT	mg/dl				
LINERITY RANGE	LOW 0	HIGH 1000			

Linearity:

The test is linear up to triglyceride concentration of 1000 mg/dl (11.3mmol/l) Sample with higher values should be diluted 1+5 with physiological saline (0.9 % Nac1), multiply the values by 6.

NORMAL RANGE

36 – 165 mg/dl; 0.4 – 1.86 mmol/l; > 200 mg/dl elevated

It is strongly recommending each laboratory establish its own normal range.

QUALITY CONTROL

All control sera with Triglyceride values estimated by this method may be used.

NOTES

- 1- The reagent contains 0.1% sodium azide so avoid contact with skin.
- 2- It is suggested that 10 mg/dl be subtracted from the triglyceride result to compensate for any free glycerol in the sample. Keep reagents and samples out of direct sunlight.
- 3-

SYMBOL ON LABELS

IVD in vitro diagnostics	 manufacturing date
LOT lot number	 expiry date
REF catalogue number	 manufacturer
 temperature limit	 instruction for use

BIBLIOGRAPHY

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