



Ver.251102

# Triglyceride Quantification colorimetric assay kit

BC9907-02 (125Tests)

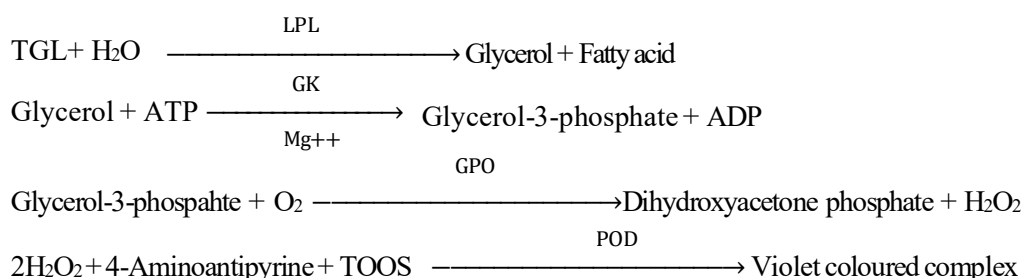
**FOR RESEARCH USE ONLY, DO NOT USE IT IN CLINICAL DIAGNOSIS**

## Product Description

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.

Enzymatic determination of triglyceride is based on following reactions.



GPO = Glycerol-3-phosphate Oxidase.

LPL = Lipoprotein Lipase

GK = Glycerol Kinase

Wavelength of absorbance is 630nm

## Kit components

Reagent	Volume	Storage
Extraction Reagent	1 × 100mL	2-8°C
Triglycerides	5 × 25mL	2-8°C
Triglycerides Standard	1 × 4mL	2-8°C

## Open Vial Stability

Once opened, the reagent is stable up to 4 weeks at 2-8°C, if contamination is avoided

## Reagents and Equipment Required but Not Provided

Constant temperature water bath, cooling centrifuge, spectrophotometer/microplate reader, micro glass cuvette/96 well flat bottom plate and distilled water.

## Reagent Deterioration

Turbidity or precipitation on in any kit component indicates deterioration and the component must be discarded. Values outside the recommended acceptable range for the Qualicheck Norm & Path control may also be an indication of reagent instability and associated results are invalid. Sample should be retested using a fresh vial of reagent.

## Reagent Preparation

Triglycerides Reagent & Standard are ready to use.

## Precaution

- To avoid contamination, use clean laboratory wares. Use clean, dry disposable pipette tips for dispensing. Close reagent bottles immediately after use.
- Avoid direct exposure of reagent to light. Do not blow into the reagent bottles.

## Operation Procedures

### Sample Preparation

#### 1. Bacteria or cells

Harvest the cells and wash twice with PBS. Ideal to use 5 million cells for the assay. Add 1mL Extraction Reagent to 5 million cells and ultrasonicate (200W, work time 3 second / interval 10 second repeat for 30 times) for complete lysis. Perform ultrasonication while keeping the cells in ice bath. Centrifuge at 8000 rpm, 4°C for 10 minutes and collect the supernatant. The supernatant should be kept on ice.

Note: Ideal proportion of Cells/Bacteria to Extraction Reagent is 1:5-10.

#### 2. Tissue

Prepare 10% tissue homogenate by adding 1mL Extraction Reagent to 0.1g tissue. Grind completely to make a homogenate. Centrifuge at 8000 rpm, 4°C for 10 minutes and collect the supernatant.

#### 3. Serum or Plasma

Directly use for the assay.

### Unit Conversion

Traditional Unit	SI Unit	Conversion from Traditional to SI
mg/dL	mmol/L	$\times 0.0114$

### Procedure Notes

	Blank	Standard	Sample
Reagent	1000 $\mu$ L	1000 $\mu$ L	1000 $\mu$ L
Standard	-	10 $\mu$ L	-
Sample	-	-	10 $\mu$ L
Mix and incubate for 5 minutes at 37°C. Measure the change in absorbance of standard and sample against reagent blank.			

### Calculation

$$\text{Triglycerides Con. (mg/dL)} = \frac{\text{Absorbance of Sample}}{\text{Absorbance of Standard}} \times 200$$

### Performance

#### Linearity

This reagent is linear up to 1000 mg/dL.

If the concentration is greater than linearity (1000 mg/dL), dilute the sample with normal saline and repeat the assay. Multiply the result with dilution factor.

#### Sensitivity

Lower detection Limit is 2 mg/dL.