

## **Serum triglyceride measurement**

**Triglycerides (TGs):** are essential fats (also called “lipids”) transported in our bloodstream with cholesterol. They are called triglycerides because each molecule contains three fatty acids. TGs are the major source of energy used and stored by our bodies. They come from two sources—what we eat and what our liver makes. High blood TG levels can be genetic, or caused by diabetes, thyroid problems, kidney disease, or some medicines.

Triglycerides (TG) are the main constituent of vegetable oil, animal fat, LDL and VLDL, and play an important role as transporters of fatty acids as well as serving as an energy source. TG are broken down into fatty acids and glycerol, after which both can serve as substrates for energy producing and metabolic pathways. High blood levels of TG are implicated in atherosclerosis, heart disease and stroke as well as in pancreatitis.

**Principle:** The concentration of serum triglyceride was measured by using a special chemical kit based on:





**Procedure of measurement:**

The procedure of this kit is as:

<b>Solution</b>	<b>Blank</b>	<b>Standard</b>	<b>Sample</b>
<b>Reagent</b>	1 ml	1 ml	1ml
<b>Standard</b>	-----	10µl	-----
<b>Serum</b>	-----	-----	10µl

After adding, mix and incubate the test tubes for 5 min. at 20°C or 10 min. at 37°C. Then read the optical density (OD) of standards and samples against blank at 520 nm.

Calculated the serum TG concentration by the following formula:

$$\text{TG concentration} = \frac{A_{\text{sample}}}{A_{\text{standard}}} \times n = \text{mg/dl of blood}$$

**n= 200 mg/dl of blood =concentration of standard**