Pacific Biomarkers
The Value of Expertise

Triglycerides, Net (Glycerol-Blanked)

Analyte: Triglycerides Net (Free Glycerol Blank Correction)

Specimen Type: Serum, EDTA Plasma

Optimum Volume: 0.5 mL

Stability:

2-8 Degrees C	-20 Degrees C	-70 Degrees C
5 days	3 months	2 years

Reporting Units: mg/dL

Method: Enzymatic

Biological or Clinical Significance:

Glycerol concentrations in fresh, fasting serum are usually in the 1 mg/dL range (levels may go up in samples that are not promptly processed and analyzed, or if refrigerated for extended periods). Determination of triglyceride (TG) on a mass basis assumes that the molecular weight of triolein, 885 g/mol, represents the average triacylglycerol molecule in the circulation. Therefore, normal levels of glycerol translate into addition of 5 to10 mg of TG per deciliter of serum or plasma. In normolipidemic subjects, this difference is relatively insignificant, but at higher TG levels the effect is more substantial and should be accounted for. The levels of TG (and glycerol) are higher in patients with metabolic syndrome and diabetes, as well as a host of genetic conditions or in carriers of some alleles. In lipid loading studies and other studies investigating triglycerides in postprandial serum or plasma, TG levels are much higher than when fasting. For studies requiring evaluation of non-fasting TG levels, and because abnormal fasting triglyceride levels are the ones of clinical interest, it is best to measure all triglyceride samples using a system that corrects for endogenous glycerol (glycerol blanking). Furthermore, extended processing or storage time does not affect the glycerol-blanked triglyceride level. The NCEP Working Group on Lipoprotein Measurement has endorsed the recommendation that all laboratories offer a glycerol-blanked triglyceride analysis.

Principle of Test Method:

The trigyleride method is an automated method that employs glycerol blanking to effectively eliminate the overestimation of triglyceride concentrations from endogenous or exogenous sources.The method is a two reagent system. In the preliminary reaction free glycerol is eliminated. The second reaction hydrolyzes the triglycerides and quantifies the liberated glycerol by a fully enzymatic colorimetirc reaction.