Pacific Biomarkers
The Value of Expertise

Cholesterol, Total

Analyte: Cholesterol, Total

Specimen Type: Serum, , Inquire for additional option(s)

Optimum Volume: 0.5 mL

Stability:

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

Reporting Units: mg/dL

Method: Enzymic

Biological or Clinical Significance:

Measurement of cholesterol is primarily used in assessing risk of heart disease and to aid in the diagnosis of the lipoprotein disorders.

Principle of Test Method:

This procedure involves a Trinder reaction in which the amount of cholesterol present in the specimen is quantified following enzymic hydrolysis of cholesterol esters. This method may be used to assay total cholesterol in serum, plasma or in lipoprotein fractions obtained by preparative ultracentrifugation (e.g. cholesterol in the VLDL fraction obtained in the beta quantification procedure).

References:

1. Cooper GR, Duncan PH, Hazlehurst JS, et al. Cholesterol, enzymic method. In: Faulkner WR, Meites S, eds. Selected Methods for the Small Clinical Laboratory, Washington DC: AACC, 1982;9:165-74.

2. Warnick GR, Benderson J, Albers JJ. Dextran Sulfate Mg2+ Precipitation Procedure for Quantification of High Density Lipoprotein Cholesterol. In: Cooper GR, ed. Selected Methods of Clinical Chemistry, Washington DC: AACC, 1983;10:91-9.

3. Third report of the NationalCholesterol Education Program (NCEP) Expert Panel on Detection, and Treatment of High Blood Cholesterol in Adults (Adult Tereatment Panel) final report. Circulation 2002; 106:3143-3421.

4. U.S. Department of Health and Human Services. The Lipid Research Clinics Population Studies Data Book. Volume I, The Prevalence Study. July 1980.

5. Kronenburg F, Lobentanz E-M, König P, Utermann G, Dieplinger H. Effect of sample storage on the measurement of lipoprotein[a], apolipoproteins B, and A-IV, total and high density lipoprotein cholesterol and triglycerides. J Lipid Res 1994; 35:1318-1328.

6. Comstock GW, Burke AE, Norkus EP, Gordon GB, Hoffman SC, Helzlsouer KJ. Effects of repeated freeze-thaw cycles on concentrations of chlolesterol, mocronutrients, and hormones in human plasma and serum. Clin. Chem. 2001; 47:139 – 142.

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