

## Apolipoprotein B

**Analyte:** Apolipoprotein B

**Specimen Type:** Serum preferred, EDTA Plasma

**Optimum Volume:** 0.5 mL

**Stability:**

|               |               |               |
|---------------|---------------|---------------|
| 2-8 Degrees C | -20 Degrees C | -70 Degrees C |
| 10 days       | 3 months      | 4.5 years     |

**Reporting Units:** mg/dL

**Method:** Immunoturbidimetric

**Biological or Clinical Significance:**

The enzyme has been identified as the rate controlling enzyme in cholesterol biosynthesis. Human plasma LDL consists of approximately 21% protein by weight, of which approximately 90% is apolipoprotein B100. Apo B plays an essential role in lipid transport and metabolism.

Apo B is found in two forms in the circulation, Apo B48 and Apo B100. The immunoturbidimetric assay described here (see below) measures both Apo B48 and Apo B100 quantitatively. Hence, this assay analyzes the total Apo B in the specimen.

Numerous studies have indicated that measurements of Apo B are useful in assessing coronary artery disease risk. Other studies have suggested that Apo B is important in the genesis of atherosclerosis. Individuals at risk for coronary artery disease consistently have higher blood levels of Apo B than control subjects.

The determination of Apolipoprotein AI and B can help assess the degree of atherosclerotic risk. Apo AI and B show particular strength in the diagnosis of genetic metabolic disorders such as hyperapobetalipoproteinemia, abetalipoproteinemia, and so forth.

**Principle of Test Method:**

The Apo B assay is an automated immunoturbidimetric method.

**References:**

2. Bhatnagar D and Darrington PN. "Measurement and Clinical Significance of Apolipoproteins AI and B." Handbook of Lipoprotein Testing, 2nd Edition. Rafai N, Warnick GR and Dominiczak MH, eds. AACC Press, Washington, 2000, pp. 287-310.
3. Evans K, Mitcheson J and Laker M. Effect of storage at 4 °C and -20 °C on lipid, lipoprotein, and apolipoprotein concentrations. Clin Chem 1995; 41:392-395.
4. Kronenburg F, Lobentanz E-M, König P, Utermann G, Dieplinger H. Effects of sample storage on the measurement of lipoprotein[a], apolipoproteins B, and AIV, total and high density cholesterol and triglycerides. J Lipid Res 1994; 35:1318-1328.