Pacific Biomarkers
The Value of Expertise

Apolipoprotein A-I

Analyte: Apolipoprotein AI

Specimen Type: Serum (preferred), EDTA Plasma

Optimum Volume: 0.5 mL

Stability:

2-8 Degrees C	-20 Degrees C	-70 Degrees C
6 days	3 months	3 year

Reporting Units: mg/dL

Method: Immunoturbidimetric

Biological or Clinical Significance:

Apolipoproteins are components of plasma lipoproteins. They play a role in the structure, function, and metabolism of lipoproteins.

Apo A-I, the predominant protein, constitutes approximately 60% of the protein in HDL. Apo A-I is the active component of HDL which is responsible for removal of cholesterol from the aortic smooth muscle cells through its activation of the enzyme, lecithin-cholesterol acyltransferase (LCAT) which catalyzes the esterification of cholesterol. Measurements of Apo A-I in combination with measurements of Apo B (the principal protein of low density lipoprotein) have been useful in identifying individuals which are at risk for developing coronary artery disease (CAD) and in the diagnosis of patients at risk for premature CAD (familial Apo A-I deficiency and Tangier disease).

Levels of Apo A-I are elevated on a genetic basis. Exercise, diet, and various drugs such as niacin and thyroid hormones may also increase levels. Individuals with Tangier disease have an abnormal Apo A-I which is rapidly catabolized along with A-II and HDL.

The determination of Apolipoprotein A-I and B can help to assess the degree of atherosclerotic risk. Even in borderline cases, which are not usually detected during routine determination of cholesterol, triglycerides, and HDL cholesterol, the Apo A-I/B ratio can serve as an important predictor. Apo A-I and B show their particular strength in the diagnosis of genetic metabolic disorders such as hyperapobetalipoproteinemia, abetalipoproteinemia, etc.

Principle of Test Method:

The Apo A-I assay is an automated immunoturbidimetric method.

References:

1.□ Bhatnagar, D and Darrington PN “Measurement and Clinical Significance of Apolipoproteins A-I and B. Handbook of Lipoprotein Testing, 2nd Edition. Rafai N, Warnick GR, and Dominiczak, MH, eds. AACC Press, Washington, 2000, pp. 287-310.

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