Pacific Biomarkers
The Value of Expertise

Pre β1-HDL

Analyte: Pre ß1 High-Density Lipoprotein

Specimen Type: EDTA Plasma with stabilizer recommended; please contact PBI for collection information

Optimum Volume: 2.0 mL

Stability:

2-8 Degrees C	-20 Degrees C	-70 Degrees C
5 days	N.A.	1 year

Reporting Units: ug/mL

Method: ELISA

Biological or Clinical Significance:

Pre β1-HDL is a discoid-shaped HDL particle of approximately 67 kDa that migrates with pre-β electrophoretic mobility on agarose gels. It contains apolipoprotein A-I (Apo AI), phospholipids and unesterified cholesterol. Pre β1-HDL removes cholesterol from peripheral tissues through the reverse cholesterol transport (RCT). Depletion of Pre β1-HDL results in reduced in vitro cholesterol efflux from fibroblasts.

The concentration of Pre β1-HDL in plasma is a reflection of the rate of its formation (result of cholesterol efflux and lipolysis of triglyceride-rich lipoproteins) and remodeling (through the action of LCAT). Thus, the level of Pre β1-HDL could reflect the sum of both of these steps.

Principle of Test Method:

The Pre β1-HDL assay is a sandwich ELISA.

References:

1. Sethi AA, Sampson M, Warnick R, Muniz N, Valsman B, Nordestgaard BG, Tybjaerg-HansenA, Remaley AT. High Pre β1-HDL Concentrations and Low Lecithin: Cholesterol Acyltransferase Activities are Strong Positive Risk Markers for Ischemic Heart Disease and Independent of HDL-Cholesterol. Clinical Chemistry, In Press

2. Rader DJ. Molecular regulation of HDL metabolism and function: implications for novel therapies. J Clin Invest 2006; 116:3090-100.

3. Miida T, Nakamura Y, Inano K, Matsuto T, Yamaguchi T, Tsuda T, Okada M. Pre beta 1-high-density lipoprotein increases in coronary artery disease. Clin Chem 1996;42:1992-5.

4. Mi yazaki O, Kobayashi J, Fukamachi I, Miida T, Bujo H, Saito Y. A new sandwich enzyme immunoassay for measurement of plasma pre-beta 1-HDL levels. J Lipid Res 2000;41:2083-8.