Lp-PLA₂ Activity

CPT Code 83698
Sample Type Serum or EDTA Plasma

Description
Lp-PLA₂, or lipoprotein-associated phospholipase-A₂, measures disease activity within the artery wall below the collagen or calcified cap due to the activation of macrophages. Lp-PLA₂ is not an acute phase reactant. When disease is active in the artery, increased levels of Lp-PLA₂ are produced by macrophages and foam cells within the intima of the artery. Lp-PLA₂ also interacts with oxidized LDL, which increases inflammation and enhances a proatherogenic state, as well as plaque vulnerability. Research suggests that it plays a direct role in the atherosclerotic disease process.

Clinical Use
The Lp-PLA₂ Activity test may be performed on individuals at intermediate or high risk for developing coronary heart disease.

Clinical Significance
- Lp-PLA₂ accumulates within human atherosclerotic plaques and vulnerable lesions.
- Individuals with elevated Lp-PLA₂ Activity are nearly twice as likely to develop CHD at 7 years regardless of non-HDL cholesterol levels.
- Individuals with elevated Lp-PLA₂ Activity are twice as likely to experience a CHD event (MI, coronary revascularization or CHD-related death) at 5 years.

Increased activity of Lp-PLA₂ may lead to increased risk of:
- Coronary heart disease (CHD)
- Myocardial infarction

Lp-PLA₂ Activity can be reduced by:
- Treatment with cholesterol lowering therapies
- Supplementation with niacin or omega-3 fatty acids
- Lifestyle modifications (smoking cessation and weight loss)

Testing Frequency
The frequency of testing is determined by an individual's medical history, but may be performed alongside a standard lipid panel in patients at moderate to high risk for CHD. These patients may have two or more risk factors such as a family history of CVD or hypertension.

Sample Type
The Lp-PLA₂ Activity test should be performed on a serum or EDTA plasma sample.

Commercial Insurance or Medicare Coverage
Coverage guidelines, also known as NCD (National Coverage Determination) or LCD (Local Coverage Determination) have been established or posted by CMS (Medicare & Medicaid). Guidelines should be reviewed for coverage and limitations. Limited information has been provided by the majority of the larger carriers (Aetna, United HealthCare, Cigna, Blues).

Understanding Medical Necessity
The following ICD-10 codes for Lp-PLA₂ Activity are listed as a convenience for the ordering physician. The ordering physician should report the diagnosis code that best describes the reason for performing the test.

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Diagnosis Code</th>
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<tbody>
<tr>
<td>Type 2 Diabetes Mellitus with Hyperglycemia</td>
<td>E11.65</td>
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<tr>
<td>Type 2 Diabetes Mellitus without Complications</td>
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<tr>
<td>Other Specified Diabetes Mellitus without Complications</td>
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<tr>
<td>Pure Hypercholesterolemia, Unspecified</td>
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<td>Hyperuricemia without Signs of Inflammatory Arthritis and Tophaceous Disease</td>
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<td>Essential (primary) Hypertension</td>
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<tr>
<td>Atherosclerotic Heart Disease of Native Coronary Artery without Angina Pectoris</td>
<td>I25.10</td>
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</tbody>
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References


7. Schaefer EJ. Effects of atorvastatin versus other statins on fasting and postprandial C-reactive protein and lipoprotein-associated phospholipase A2 in patients with coronary heart disease versus control subjects. Am J Cardiol. 2005; 95(9):1025-1032.


10. Toyama K et al. Rosuvastatin combined with regular exercise preserves coenzyme Q10 levels associated with a significant increase in high-density lipoprotein cholesterol in patients with coronary artery disease. Atherosclerosis. 2011; 217: 158-164.