

## Lp-PLA2 Activity (Lipoprotein-associated Phospholipase A2)

**Analyte:** Lipoprotein Associated Phospholipase A2

**Specimen Type:** EDTA Plasma; Inquire for additional option(s)

**Optimum Volume:** 0.3 mL

**Stability:**

2-8 Degrees C	-20 Degrees C	-70 Degrees C
1 week	3 months	2.5 years

**Reporting Units:** nmol/min/mL

**Method:** Enzymic

**Biological or Clinical Significance:**

Lipoprotein-associated phospholipase A2 (Lp-PLA2) is a calcium-independent serine lipase that is associated with low-density lipoprotein (LDL) in human plasma and serum and is distinct from other phospholipases such as the various secretory and cytosolic types of PLA2. Lp-PLA2 is produced by macrophages and is expressed in greater concentrations in atherosclerotic lesions. Several lines of evidence suggest that oxidation of LDL plays a critical step in the development and progression of atherosclerosis. Lp-PLA2 participates in the oxidative modification of LDL by hydrolyzing oxidized phosphatidylcholines, generating lysophosphatidylcholine and oxidized free fatty acids, both of which are potent proinflammatory products, which potentially contribute to the formation of atherosclerotic plaques.

Recently, Lp-PLA2 has been firmly implicated in release of lysophospholipid and oxidized fatty acids in lipoprotein(a) (Lp(a)) particles (see reference 1). This finding may help to explain the increased risk for CHD in subjects with elevated levels of serum Lp(a).

**Principle of Test Method:**

The Lp-PLA2 activity assay is an automated enzymic assay.

**References:**

1. □ Tsimikas S, Tsironis LD, Tselepis AD. New insights into the role of lipoprotein(a)-associated lipoprotein-associated phospholipase A2 in atherosclerosis and cardiovascular disease. *Arterioscler Thromb Vasc Biol.* 2007; 27:2094-2099.