

sPLA2 Activity (Secretory Phospholipase Type A2)

Analyte: Secretory Phospholipase Type A2 Activity

Specimen Type: EDTA Plasma, Serum

Optimum Volume: 0.5 mL

Stability:

| 2-8 Degrees C | -20 Degrees C | -70 Degrees C |
|---------------|---------------|---------------|
| 3 days | 16 days | 6 years |

Reporting Units: ng/mL

Method: ELISA

Biological or Clinical Significance:

The phospholipase A2 family of enzymes catalyse the hydrolysis of cellular phospholipids at the sn-2 position to release lysophospholipids and free fatty acids.

Secretory type-IIa phospholipase (sPLA2) has also been reported to be an acute-phase reactant, so higher levels may follow the course of inflammatory diseases, like RA, for example.

The involvement of type-IIa secretory PLA2 (sPLA2) in RA and other arthritides is well documented. High levels of sPLA2 activity have been found in the synovial fluid of RA and osteoarthritis (OA) patients and sPLA2 activity in the synovial fluid correlated with sPLA2 concentration. In RA, serum and synovial fluid sPLA2 levels are increased in patients with active disease. It has been reported that enzyme activity correlates with the severity of disease.

Elevated levels of sPLA2 are also associated with an increased risk of CAD. The magnitude of the association has been reported to be similar to that observed between CRP and CAD risk, and both associations were independent.

Principle of Test Method:

The SPLA2 assay is a solid-phase ELISA that employs the quantitative sandwich enzyme immunoassay principle.

References:

1. Masuda S, Murakami M, Komiyama K, Ishihara M, Ishikawa Y, Ishii T, Kudo I. Various secretory phospholipase A2 enzymes are expressed in rheumatoid arthritis and augment prostaglandin production in cultured synovial cells. *FEBS J.* 2005; 272:655-672.
2. Boekholdt SM, Keller TT, Wareham NJ, Luben R, Bingham SA, Day NE, Sandhu MS, Jukema JW, Kastelein JJP, Hack CE and Khaw KT. Serum levels of type II secretory phospholipase A2 and the risk of future coronary artery disease in apparently healthy men and women: The EPIC-Norfolk Prospective Population Study. *Arterioscler Thromb Vasc Biol.* 2005; 25:839-846.
3. Kovanen PT, Pentikäinen MO. Secretory Group II phospholipase A2: A newly recognized acute-phase reactant with a role in atherogenesis. *Circ Res.* 2000; 86:610-612.