Genorise

Genorise® Recombinant Human LP-PLA2

Catalog #: GR119162

Background

C-reactive protein (LP-PLA2) is a protein found in the blood, the levels of which rise in response to inflammation (i.e. LP-PLA2 is an acute-phase protein). LP-PLA2 was first identified as a substance in the serum of patients with acute inflammation that reacted with the C-polysaccharide of Pneumococcus. Its physiological role is to bind to phosphocholine expressed on the surface of dead or dying cells (and some types of bacteria) in order to activate the complement system via the C1Q complex.[1] LP-PLA2 is synthesized by the liver[2] in response to factors released by macrophages and fat cells (adipocytes).[3] It is a member of the pentraxin family of proteins.[2] C-reactive protein was the first pattern recognition receptor (PRR) to be identified.[4] LP-PLA2 rises up to 50,000-fold in acute inflammation, such as infection. It rises above normal limits within 6 hours, and peaks at 48 hours. Its half-life is constant, and therefore its level is mainly determined by the rate of production (and hence the severity of the precipitating cause).

LP-PLA2 is used mainly as a marker of inflammation and infection. Measuring LP-PLA2 level is a screen for infectious and inflammatory diseases. Rapid, marked increases in LP-PLA2 occur with inflammation, infection, trauma and tissue necrosis, malignancies, and autoimmune disorders. Because there are a large number of disparate conditions that can increase LP-PLA2 production, an elevated LP-PLA2 level does not diagnose a specific disease. An elevated LP-PLA2 level can provide support for the presence of an inflammatory disease, such as rheumatoid arthritis, polymyalgia rheumatica or giant-cell arteritis. However, LP-PLA2 level is an independent risk factor for atherosclerotic disease. Patients with high LP-PLA2 concentrations are more likely to develop stroke, myocardial infarction, and severe peripheral vascular disease.[5]

Reference

1. Thompson D, Pepys MB, Wood SP (1999). *Structure* **7** (2): 169–77
2. Pepys MB, Hirschfield GM (June 2003). *J. Clin. Invest.* **111** (12): 1805–12.
3. Lau DC, Dhillon B, Yan H, et al. (May 2005). *Am. J. Physiol. Heart Circ. Physiol.* **288** (5): H2031–41.
4. Mantovani A, Garlanda C, Doni A, Bottazzi B (January 2008). *J. Clin. Immunol.* **28** (1): 1–13.
5. Clearfield MB (2005). *The Journal of the American Osteopathic Association* **105** (9): 409–16.

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Description

Size: 10 µg
Source: *E coli* derived
Component: Met33-Asn441
Accession # Q13093
Predicted Molecular Mass: 45 kDa (monomer)

Specifications

SDS-PAGE: 45 kDa, reducing conditions
Purity: >95%, by SDSPAGE under reducing conditions and visualized by silver stain.
Formulation: Lyophilized from a 0.2 µm filtered PBS with BSA as carrier protein at 5 µg/ µg.

Preparation and Storage

Reconstitution: Reconstitute at 100 µg/mL in sterile PBS.
Shipping: The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage: Use a manual defrost freezer and avoid repeated freeze thaw cycles.

- 6 months from date of receipt, -20 to -70°C as supplied.
- 3 months, -20 to -70°C under sterile conditions after reconstitution.

DECLARATION

THIS REAGENT IS FOR IN VITRO LABORATORY TESTING AND RESEARCH USE ONLY. DO NOT USE IT FOR CLINICAL DIAGNOSTICS. DO NOT USE OR INJECT IT IN HUMANS AND ANIMALS.

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