**sPLA2-IIE Human E. coli**

**Product Data Sheet**

**Type:** Recombinant  
**Source:** E. coli  
**Species:** Human  
**Other names:** EC=3.1.1.4, Phosphatidylcholine 2-acylhydrolase 1B, Group IB phospholipase A2, PLA2G1B, PLA2, PLA2A, PPLA2

**Cat. No.:** RD172064100 (0.1 mg)

**Description**

Total 139 AA. MW: 15.8 kDa (calculated). N-Terminal His-tag, 16 extra AA (highlighted).

**Introduction to the Molecule**

Phospholipase A2 (PLA2) catalyzes the hydrolysis of the sn-2 position of membrane glycerophospho-lipids to liberate arachidonic acid (AA), a precursor of eicosanoids including prostaglandins and leukotrienes. The same reaction also produces lysophospholipids, which represent another class of lipid mediators.

The secretory PLA2 (sPLA2) family, in which 10 isozymes have been identified, consists of low-molecular weight, Ca$^{2+}$-requiring secretory enzymes that have been implicated in a number of biological processes, such as modification of eicosanoid generation, inflammation, and host defense.

This enzyme has been proposed to hydrolyze phosphatidylcholine (PC) in lipoproteins to liberate lyso-PC and free fatty acids in the arterial wall, thereby facilitating the accumulation of bioactive lipids and modified lipoproteins in atherosclerotic foci.

In mice, sPLA2 expression significantly influences HDL particle size and composition and demonstrate that an induction of sPLA2 is required for the decrease in plasma HDL cholesterol in response to inflammatory stimuli. Instillation of bacteria into the bronchi was associated with surfactant degradation and a decrease in large:small ratio of surfactant aggregates in rats.

**Research topic**

Secreted phospholipases A2

**Amino Acid Sequence**

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MRGSHHHHHH GMASHMLVQ FGVMIEKMTG KSALQYNDYG CYCGIGGSHW PVDQTDWCCH AHDCCYGRLE KLGCEPKLEK
YLFSVSERGV FCAGRTTCQR LTCECDKRAY LCFRRNLGTY NKRKYAHYPNK LCTGPTPPC
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**Source**

E. coli

**Purity**

>95%
12% SDS-PAGE separation of Human sPLA2-IIE
1. M.W. marker - 14, 21, 31, 45, 66, 97 kDa
2. reduced and heated sample, 5µg/lane
3. non-reduced and non-heated sample, 5µg/lane

Endotoxin
<1.0 EU/ug

Formulation
Filtered (0.4 µm) and lyophilized in 0.5 mg/mL in 0.05M Acetate buffer pH4

Reconstitution
Add 0.1M Acetate buffer pH4 to prepare a working stock solution of approximately 0.5 mg/mL and let the lyophilized pellet dissolve completely. For conversion into higher pH value, we recommend intensive dilution by relevant buffer to a concentration of 10µg/mL. In higher concentrations the solubility of this antigen is limited. Product is not sterile! Please filter the product by an appropriate sterile filter before using it in the cell culture.

Storage, Stability/Shelf Life
Store lyophilized protein at -20°C. Lyophilized protein remains stable until the expiry date when stored at -20°C. Aliquot reconstituted protein to avoid repeated freezing/thawing cycles and store at -80°C for long term storage. Reconstituted protein can be stored at 4°C for a limited period of time; it does not show any change after two weeks at 4°C.

Quality Control Test
BCA to determine quantity of the protein.
SDS PAGE to determine purity of the protein.
LAL to determine quantity of endotoxin.

Applications
Western blotting

Note
This product is intended for research use only.

References


