
Product Data Sheet

Product Name: PLA2G2A Human
 Cat. No.: GP22097
 Batch No.: 1

Product Data

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped at Room temp.
Synonyms	MOM1; PLA2; PLA2B; PLA2L; PLA2S; PLAS1; sPLA2; Phospholipase A2 membrane associated; EC 3.1.1.4; Phosphatidylcholine 2-acylhydrolase; Group IIA phospholipase A2; GIIC sPLA2; Non-pancreatic secretory phospholipase A2; NPS-PLA2; sPLA2-IIA; PLA2G2A.		
Amino Acid Sequence	MRGSHHHHHH GMASHMNLVN FHRMIKLTG KEAALSYGFY GCHCGVGGRG SPKDATDRCC VTHDCCYKRL EKRGCGTKFL SYKFSNSGSR ITCAKQDSCR SQLCECDKAA ATCFARNKTT YNKKYQYYSN KHCRGSTPRC.		
Solubility	It is recommended to add 0.1M Acetate buffer pH-4 to prepare a working stock solution of approximately 0.5mg/ml and let the lyophilized pellet dissolve completely. For conversion into higher pH value, an intensive dilution by relevant buffer to a concentration of 10µg/ml is recommended. In higher concentrations the solubility of the PLA2G2A antigen is limited. Product is not sterile! Please filter the product by an appropriate sterile filter before using it in the cell culture.		
Formulation	Lyophilized from 0.5 mg/ml in 0.05M Acetate buffer pH-4.		

Introduction

Phospholipase A2 (PLA2) catalyzes the hydrolysis of the sn-2 position of membrane glycerophospholipids 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 lowmolecular weight, Ca²⁺-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

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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. sPLA2-IIA can exert beneficial action in the context of infectious diseases since recent studies have shown that this enzyme exhibits potent bactericidal effects. Induction of the synthesis of sPLA2-IIA is generally initiated by endotoxin and a limited number of cytokines via paracrine and/or autocrine processes.

Stability

Store lyophilized protein at -20°C . Aliquot the product after reconstitution to avoid repeated freezing/thawing cycles. 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 .

Background

Secreted Phospholipase A2-IIA Human Recombinant is manufactured with N-terminal fusion of HisTag. PLA2G2A His-Tagged Fusion Protein is 15.8 kDa containing 124 amino acid residues of the human secreted phospholipase A2-IIA and 16 additional amino acid residues - HisTag.

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