

Product Data Sheet

□ Cat # RP-377

Recombinant Human Secreted Phospholipase A2-IIA

Size: □ 10 ug

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, Ca<sup>2+</sup>-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. 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. The amino acid sequence of the sPLA2-IIA is 100% homologous to the amino acid sequence of the human Secreted Phospholipase A2-IIA.

**Source:** *Escherichia Coli*. Secreted Phospholipase A2-IIA Human Recombinant is manufactured with N-terminal fusion of HisTag. sPLA2-IIA 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 Lyophilized from 0.5 mg/ml in 0.05M Acetate buffer pH-4.

**Applications and Suggested Dilutions:** Greater than 95% as determined by SDS-PAGE. Purification Method: Three-step procedure using affinity Ni-NTA chromatography and size exclusion chromatography before and after refolding. Western blotting Users must optimize the appropriate concentration and conditions for each assay.

**Storage and Stability:** Add 0.2 ml of 0.1M Acetate buffer pH-4 and let the lyophilized pellet dissolve completely. For conversion into higher pH value, we recommend intensive dilution by relevant buffer to a concentration of 10 µg/ml. In higher concentrations the solubility of this antigen is limited. If supplied in powder then reconstitute it in 100 ul water for 1 mg/ml stock and store in liquid at 4oC for ~1 week or aliquots in suitable size and store at -20oC for long term storage.

**Usage:** This item is for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

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