

# Recombinant Human phospholipase A2, group IID, His-tagged

**Cat. No.** PLA2G2D-68H    **Lot. No.** (See product label)

## SPECIFICATION

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| <b>Product Overview</b>    | Recombinant Human Secreted Phospholipase A2-IID expressed in <i>E. coli</i> was produced with N-terminal His-Tag. sPLA2-IID His-Tagged Fusion protein is 16.4 kDa containing 125 amino acid residues of the human secreted phospholipase A2-IID and 16 additional amino acid residues – His-Tag.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Species</b>             | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Source</b>              | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Description</b>         | 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 low molecular 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. |
| <b>Amino Acid Sequence</b> | MRGSHHHHHHGMASHMGILNLNKMVKQVTGKMPILSYWPGCHCGLGGRGQPKD<br>ATDWCCQTHDCCYDHLKTQGCGIYKYRYNFSQGNIHCSDKGSWCEQQLCACDK<br>EVAFCLKRNLDTYQKRLRFYWRPHCRGQTPGC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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| <b>Physical Appearance</b> | Sterile Filtered lyophilized (freeze-dried) powder.                                                                                                                                                                                                                                                                                     |
| <b>Purification Method</b> | Ni-NTA affinity chromatography                                                                                                                                                                                                                                                                                                          |
| <b>Purity</b>              | Purity of recombinant the human secreted phospholipase A2-IIA is >95%.                                                                                                                                                                                                                                                                  |
| <b>Formulation</b>         | Sterile filtered and lyophilized from 0.5 mg/ml in 0.05 M Acetate buffer pH-4.                                                                                                                                                                                                                                                          |
| <b>Solubility</b>          | Add 0.2ml 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 10µg/ml. In higher concentrations the solubility of this antigen is limited.                                                    |
| <b>Specificity</b>         | The amino acid sequence of the recombinant human Secreted Phospholipase A2-IIID is 100% homologous to the amino acid sequence of the human Secreted Phospholipase A2-IIID without signal sequence.                                                                                                                                      |
| <b>Applications</b>        | Western blotting.                                                                                                                                                                                                                                                                                                                       |
| <b>Stability</b>           | 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. The lyophilized protein remains stable until the expiry date when stored at -20°C. |

## GENE INFORMATION

|                  |                                                                                                                                                                                                                                |
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| <b>Gene Name</b> | PLA2G2D phospholipase A2, group IID [ Homo sapiens ]                                                                                                                                                                           |
| <b>Synonyms</b>  | SPLASH; sPLA2S; PLA2G2D;phospholipase A2, group IID; secretory phospholipase A2s; Group IID secretory phospholipase A2; GIID sPLA2; EC 3.1.1.4; Phosphatidylcholine 2-acylhydrolase GIID; PLA2IID; sPLA(2)-IID; Secretory-type |

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|                            | PLA, stroma-associated homolog; SPLAS                                                                                                                                                                                                                                                                                                  |
| <b>Gene ID</b>             | 26279                                                                                                                                                                                                                                                                                                                                  |
| <b>mRNA Refseq</b>         | NM_012400                                                                                                                                                                                                                                                                                                                              |
| <b>Protein Refseq</b>      | NP_036532                                                                                                                                                                                                                                                                                                                              |
| <b>MIM</b>                 | 605630                                                                                                                                                                                                                                                                                                                                 |
| <b>UniProt ID</b>          | Q9UNK4                                                                                                                                                                                                                                                                                                                                 |
| <b>Chromosome Location</b> | 1p36.12                                                                                                                                                                                                                                                                                                                                |
| <b>Pathway</b>             | Arachidonic acid metabolism; Ether lipid metabolism; Fc epsilon RI signaling pathway; GnRH signaling pathway; Linoleic acid metabolism; Long-term depression; MAPK signaling pathway; Metabolic pathways; VEGF signaling pathway; Vascular smooth muscle contraction; alpha-Linolenic acid metabolism; Glycerophospholipid metabolism; |
| <b>Function</b>            | calcium ion binding; hydrolase activity; phospholipase A2 activity                                                                                                                                                                                                                                                                     |