

# Recombinant Human Phospholipase A2, Group XIIA, His-tagged

**Cat. No.** PLA2G12A-72H    **Lot. No.** (See product label)

## SPECIFICATION

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| <b>Product Overview</b>    | Recombinant Human Secreted Phospholipase A2-XII expressed in <i>E. coli</i> was produced with N-terminal His-Tag. sPLA2-XII His-Tagged Fusion Protein is 20.6 kDa containing 167 amino acid residues of the human secreted phospholipase A2-XII 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). The same reaction also produces lysophospholipids. 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. |
| <b>Amino Acid Sequence</b> | MRGSHHHHHHGMASHMQ EQAQTDDWRATLKTIRNGVHKIDTYLNAALDLLGGE D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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GLCQYKCS DGSKPFPRYGYKPSPPNGCGSPLFGVHLNIGIPSLTKCCNQHDRCYET  
CGKSKNDCDEEFQYCLSKICRDVQKTLGLTQHVQACETTVELLFDSVIHLGCKPYLD  
SQRAACRCHYEETDL.

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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>              | Greater than 95% as determined by SDS PAGE.                                                                                                                                                                                                                                                                                             |
| <b>Formulation</b>         | Sterile filtered and lyophilized from 0.5 mg/ml in 0.01M Tris buffer pH 8.6.                                                                                                                                                                                                                                                            |
| <b>Solubility</b>          | Add 0.2 ml of deionized water and let the lyophilized pellet dissolve completely.                                                                                                                                                                                                                                                       |
| <b>Specificity</b>         | The amino acid sequence of the recombinant human Secreted Phospholipase A2-XII is 100% homologous to the amino acid sequence of the human Secreted Phospholipase A2-XII without signal sequence.                                                                                                                                        |
| <b>Applications</b>        | Western blotting.                                                                                                                                                                                                                                                                                                                       |
| <b>Storage</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

|                  |                                                                                                                                                             |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b> | PLA2G12A phospholipase A2, group XIIA [ Homo sapiens ]                                                                                                      |
| <b>Synonyms</b>  | GXII; ROSSY; PLA2G12; PLA2G12A; Group XIIA secretory phospholipase A2; GXII sPLA2; EC3.1.1.4; Phosphatidylcholine 2-acylhydrolase GXII; sPLA2-XII; PLA2G12; |

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|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            | FKSG38 ; UNQ2519/PRO6012; FKSG38; phospholipase A2, group XIIA; group XII secreted phospholipase A2; group XIIA secreted phospholipase A2; EC 3.1.1.4                                                                                                                                                                                 |
| <b>Gene ID</b>             | 81579                                                                                                                                                                                                                                                                                                                                 |
| <b>mRNA Refseq</b>         | NM_030821                                                                                                                                                                                                                                                                                                                             |
| <b>Protein Refseq</b>      | NP_110448                                                                                                                                                                                                                                                                                                                             |
| <b>MIM</b>                 | 611652                                                                                                                                                                                                                                                                                                                                |
| <b>UniProt ID</b>          | Q9BZM1                                                                                                                                                                                                                                                                                                                                |
| <b>Chromosome Location</b> | 4q25                                                                                                                                                                                                                                                                                                                                  |
| <b>Pathway</b>             | Arachidonic acid metabolism; Ether lipid metabolism; Fc epsilon RI signaling pathway; Glycerophospholipid metabolism; 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 |
| <b>Function</b>            | calcium ion binding; calcium-dependent phospholipase A2 activity; hydrolase activity                                                                                                                                                                                                                                                  |