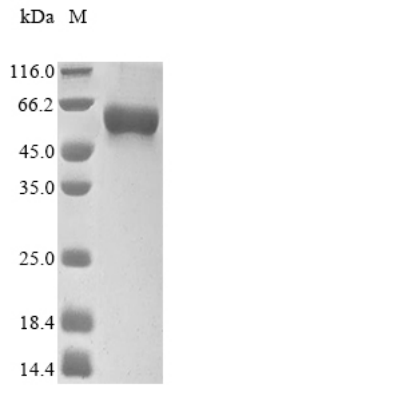
Recombinant Dog Phospholipase A2 group XV (PLA2G15)

Product Code	CSB-MP747694DO
Abbreviation	Recombinant Dog PLA2G15 protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	Q6XPZ3
Form	Liquid or Lyophilized powder
Storage Buffer	If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol.If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose.
Product Type	Recombinant Proteins
Immunogen Species	Canis lupus familiaris (Dog) (Canis familiaris)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	RRPPVVLVPGDLGNQLEAKLDKPTVVHYLCSKRTESYFTLWLNLELLLPVIIDC WIDNIRLVYNRTSRATQFPDGVDVRVPGFGKTFSLEFLDPSKSSVGSYFHTMV ESLVDWGYIRGEDVRGAPYDWRRAPNENGPYFLALREMIEEMYQLYGGPVVL VAHSMGNMYTLYFLQRQPQAWKNKYIQAFVALGAPWGGVAKTLRVLASGDN NRIPVIRPLKIREQQRSAVSTSWLLPYNYTWSPEKIFVHTPTANYTLRDYHQFF QDIGFKDGWLMRQDTEGLVEAMVPPGVPLHCLYGTGVPTPDSFYYESFPDRD PKICFGDGDGTVNLQSALQCQAWRGHQEHQVSLQALPGSEHIEMLANATTLA YLKRVLLGP
Research Area	Epigenetics and Nuclear Signaling
Source	Mammalian cell
Target Names	PLA2G15
Protein Names	Recommended name: Group XV phospholipase A2 EC= 2.3.1.-Alternative name(s): 1-O-acylceramide synthase Short name= ACS LCAT-like lysophospholipase Short name= LLPL Lysophospholipase 3 Lysosomal phospholipase A2 Short nam
Expression Region	32-408aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-tagged and C-terminal Myc-tagged
Mol. Weight	47.9 kDa
Protein Length	Full Length of Mature Protein

Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

In mammalian cells, the generation of recombinant dog phospholipase A2 group XV (PLA2G15) involves cloning a DNA fragment encoding the dog PLA2G15 protein (32-408aa) into a plasmid vector along with the N-terminal 10xHis-tag and C-terminal Myc-tag gene, which is then transferred into the mammalian cells. Positive cells are selected, cultured, and induced to express the PLA2G15 protein. Lysis of the cells allows for the harvest of the recombinant dog PLA2G15 protein. The collected recombinant dog PLA2G15 protein is subjected to affinity purification and is identified using SDS-PAGE and subsequent staining of the gel with Coomassie Brilliant Blue. Its purity is greater than 90%.

PLA2G15 is a lysosomal enzyme with unique subcellular localization to the lysosome and late endosome [1]. PLA2G15 has multiple functions, including the regulation of adipocyte differentiation [2], synthesis of 1- O -acylceramide [3], hydrolysis of lysophosphatidylcholine to glycerophosphorylcholine and a free fatty acid [4], and catalyzing the hydrolysis and degradation of cellular phospholipids [5]. Furthermore, PLA2G15 regulates lysophospholipids and is present in exosomes [6].

Studies have also linked PLA2G15 to specific conditions and diseases. For instance, it has been identified as part of an eight-gene expression signature for predicting high Fuhrman-grade renal cell carcinoma [7]. Furthermore, a novel intergenically spliced chimera, NFATC3-PLA2G15, has been associated with aggressive T-cell acute lymphoblastic leukemia biology [8]. Moreover, PLA2G15 is upregulated in the acute phase of COVID-19, indicating its involvement in the innate immune host response during the early stages of the disease [9].

Furthermore, PLA2G15 has been implicated in lipid metabolism, as evidenced by its association with the metabolism of steroid hormones and glycerol phosphate [10]. PLA2G15 has also been shown to regulate BMP lipids in hepatocytes [11]. Additionally, PLA2G15 has been identified as part of proteins involved in bile acid metabolism and lipid metabolism processes.

References:
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Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

Shelf Life

The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself.
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