Recombinant PLPL9 protein (His tag)

Catalog Number	541827
Synonyms	CaI-PLA2; 2-lysophosphatidylcholine acylhydrolase; Group VI phospholipase A2; GVI PLA2; Intracellular membrane-associated calcium-independent phospholipase A2 beta; iPLA2-beta; Palmitoyl-CoA hydrolase; Patatin-like phospholipase domain-containing protein 9; PNPLA9
Species	Human
Expression System	E. coli
Accession	O60733
Molecular Weight	Predictes a molecular mass of 47.52 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 48 kDa band.

Product Information

Sequence Region	1-413
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>85%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 1-413 aa (O60733) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human 85/88 kDa Calcium-Independent Phospholipase A2 (CaI-PLA2) Fragment (residues 1-413) is a high-purity protein designed for structural and biochemical studies. This fragment, derived from the PLA2G6 gene, retains key functional characteristics and offers excellent stability and solubility, making it ideal for investigating phospholipid remodeling, membrane homeostasis, and mitochondrial integrity. The full-length 85/88 kDa Calcium-Independent Phospholipase A2 (CaI-PLA2), encoded by the PLA2G6 gene in Homo sapiens, is a multifunctional enzyme critical for cellular membrane dynamics and signaling. It exhibits calcium-independent phospholipase A1 and A2 activities, hydrolyzing fatty acyl chains from phospholipids at both sn-1 and sn-2 positions to produce lysophospholipids, which participate in deacylation-reacylation cycles. This enzyme preferentially targets oxidized polyunsaturated fatty acyl chains in mitochondrial phospholipids, such as cardiolipins and glycerophosphoethanolamines, aiding in repair mechanisms under oxidative stress. Additionally, it functions as a thioesterase, cleaving fatty-acyl CoA to support fatty acid transport and beta-oxidation. CaI-PLA2 regulates membrane homeostasis by hydrolyzing plasmalogen phospholipids in lipid rafts and myelin, and it modulates F-actin polymerization in pseudopods, facilitating monocyte chemotaxis. It also generates signaling lipids like lysophosphatidate and inactivates pro-inflammatory platelet-activating factor. Subcellularly, it localizes to the cytoplasm, cell membrane, mitochondria, and pseudopodia, with recruitment to membrane-enriched pseudopods upon chemokine stimulation. Isoforms lacking the catalytic domain may act as negative regulators. The recombinant fragment (residues 1-413) provides a stable and soluble unit for exploring these diverse roles in cellular physiology.