Recombinant DDHD1 protein (His tag)

Catalog Number	540792
Synonyms	DDHD domain-containing protein 1; Phosphatidic acid-preferring phospholipase A1 homolog; PA-PLA1; Phospholipid sn-1 acylhydrolase
Species	Human
Expression System	E. coli
Accession	Q8NEL9
Molecular Weight	Predictes a molecular mass of 53.89 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 57 kDa band.

Product Information

Sequence Region	253-703
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>89%, 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 253-703 aa (Q8NEL9) 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 Phospholipase DDHD1 Fragment (residues 253-703) is a high-quality protein product designed for structural and biochemical studies. This 451-amino acid fragment represents a stable, soluble unit of the enzyme, preserving its phospholipase A1 activity while offering enhanced experimental utility for researchers investigating lipid metabolism and cellular signaling pathways. DDHD1 is a phospholipase A1 enzyme that specifically hydrolyzes ester bonds at the sn-1 position of glycerophospholipids, generating free fatty acids and lysophospholipids. The enzyme demonstrates substrate preference for phosphatidate (PA) but efficiently processes various glycerophospholipids including phosphatidylinositol (PI), phosphatidylcholine (PC), phosphatidylethanolamine (PE), phosphatidylserine (PS), and phosphatidylglycerol (PG). Functionally, DDHD1 plays crucial roles in regulating polyunsaturated phosphatidylinositol and phosphatidylserine lipid content in the nervous system, potentially influencing downstream metabolites like PI phosphates (PIP and PIP2) that are fundamental to cellular processes. The enzyme also contributes to mitochondrial morphology regulation, possibly through PA hydrolysis at mitochondrial surfaces, and may have regulatory functions in spermatogenesis or sperm function. DDHD1 is primarily localized in the cytoplasm, where it executes its phospholipase activities.