Recombinant PLD3 protein (His tag)

Catalog Number	540670
Synonyms	(S,S)-bis(monoacylglycero)phosphate synthase PLD3; HindIII K4L homolog; Hu-K4; Phospholipase D3
Species	Human
Expression System	E. coli
Accession	Q8IV08
Molecular Weight	Predictes a molecular mass of 49.67 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 50 kDa band.

Product Information

Sequence Region	60-490
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 60-490 aa (Q8IV08) 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 PLD3 (5'-3' Exonuclease PLD3) Fragment (aa 60-490) is a high-purity protein encompassing the complete PLD phosphodiesterase 1 and 2 domains. This fragment is engineered for studying exonuclease activity, ssDNA/RNA degradation, and (S,S)-bis(monoacylglycero)phosphate synthesis, making it an essential tool for innate immunity, lysosomal biology, and lipid metabolism research. PLD3 is a multifunctional human enzyme with 5'→3' exonuclease activity that hydrolyzes single-stranded DNA and RNA, generating nucleoside 3'-monophosphates and specific nucleotide fragments. It plays a critical role in processing self and pathogenic nucleic acids in endolysosomal compartments, regulating innate immune responses by preventing TLR9 activation through mitochondrial DNA degradation while generating TLR7 ligands via viral RNA cleavage. Additionally, PLD3 functions as a transphosphatidylase, catalyzing the synthesis of (S,S)-bis(monoacylglycero)phosphate (BMP), the main phospholipid component of lysosomal intralumenal vesicles essential for lipid degradation. The protein localizes to multiple membrane compartments including endoplasmic reticulum, endosomes, Golgi apparatus, and lysosomes, where it regulates endolysosomal homeostasis, autophagy, and organelle communication. The soluble lysosomal form arises from proteolytic processing of the membrane-bound protein.