

PLD3 Antibody(N-term)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP19786a

Specification

PLD3 Antibody(N-term) - Product Information

Application	WB,E
Primary Accession	O8IV08
Other Accession	O5FVH2 , O35405 , O4R583 , O2KJJ8 , NP_036400.2
Reactivity	Mouse
Predicted	Bovine, Monkey, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	54705
Antigen Region	9-37

PLD3 Antibody(N-term) - Additional Information

Gene ID 23646

Other Names

Phospholipase D3, PLD 3, Choline phosphatase 3, HindIII K4L homolog, Hu-K4,
Phosphatidylcholine-hydrolyzing phospholipase D3, PLD3

Target/Specificity

This PLD3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 9-37 amino acids from the N-terminal region of human PLD3.

Dilution

WB~~1:1000

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

PLD3 Antibody(N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

PLD3 Antibody(N-term) - Protein Information

Name PLD3 {ECO:0000303|PubMed:26411346, ECO:0000312|HGNC:HGNC:17158}

Function 5'->3' exonuclease that hydrolyzes the phosphodiester bond of single-stranded DNA (ssDNA) and RNA molecules to form nucleoside 3'- monophosphates and 5'-end 5'-hydroxy deoxyribonucleotide/ribonucleotide fragments (PubMed:[30111894](#), PubMed:[30312375](#), PubMed:[34620855](#), PubMed:[37225734](#), PubMed:[37994783](#), PubMed:[38537643](#), PubMed:[38697119](#)). Partially redundant with PLD4, can cleave all four nucleotides displaying higher efficiency for ssDNA and RNA fragments initiated with uridine and guanosine residues and lower efficiency for cytidine- initiated substrates (PubMed:[30111894](#), PubMed:[30312375](#), PubMed:[34620855](#), PubMed:[37225734](#), PubMed:[37994783](#), PubMed:[38537643](#), PubMed:[38697119](#)). As a result, it does not always degrade polynucleotides to the single nucleotide level, it can stall at specific sites sparing certain fragments from exonucleolytic degradation (PubMed:[30111894](#), PubMed:[30312375](#), PubMed:[34620855](#), PubMed:[37225734](#), PubMed:[37994783](#), PubMed:[38537643](#), PubMed:[38697119](#)). Processes self and pathogenic ssDNA and RNA molecules that reach the endolysosomal compartment via phagocytosis or autophagy and may serve as 'danger' signals for recognition by innate immune receptors such as toll-like receptors (TLRs) (PubMed:[34620855](#), PubMed:[37225734](#), PubMed:[38697119](#)). Degrades mitochondrial CpG-rich ssDNA fragments to prevent TLR9 activation and autoinflammatory response, but it can cleave viral RNA to generate ligands for TLR7 activation and initiate antiviral immune responses (PubMed:[34620855](#), PubMed:[37225734](#), PubMed:[38697119](#)). In plasmacytoid dendritic cells, it cooperates with endonuclease RNASET2 to release 2',3'-cyclic guanosine monophosphate (2',3'-cGMP), a potent stimulatory ligand for TLR7 (PubMed:[34620855](#), PubMed:[37225734](#), PubMed:[38697119](#)). Produces 2',3'-cGMPs and cytidine- rich RNA fragments that occupy TLR7 ligand-binding pockets and trigger a signaling-competent state (PubMed:[34620855](#), PubMed:[37225734](#), PubMed:[38697119](#)). Can exert polynucleotide phosphatase activity toward 5'-phosphorylated ssDNA substrates although at a slow rate (PubMed:[38537643](#)). Transphosphatidylase that catalyzes the exchange with R to S stereo-inversion of the glycerol moiety between (S,R)- lysophosphatidylglycerol (LPG) and monoacylglycerol (MAG) substrates to yield (S,S)-bis(monoacylglycero)phosphate (BMP) (PubMed:[39423811](#)). Can synthesize a variety of (S,S)-BMPs representing the main phospholipid constituent of lysosomal intraluminal vesicle (ILV) membranes that bind acid hydrolases for lipid degradation (PubMed:[39423811](#)). Regulates the homeostasis and interorganellar communication of the endolysosomal system with an overall impact on cellular removal of dysfunctional organelles via autophagy as well as proper protein and lipid turnover (PubMed:[28128235](#), PubMed:[29368044](#), PubMed:[37225734](#)). May play a role in myotube formation in response to ER stress (PubMed:[22428023](#)).

Cellular Location

Endoplasmic reticulum membrane; Single-pass type II membrane protein. Lysosome lumen. Early endosome membrane; Single-pass type II membrane protein. Late endosome membrane; Single-pass type II membrane protein. Golgi apparatus membrane; Single-pass type II membrane protein. Endosome membrane; Single-pass type II membrane protein. Note=Localizes to ER-associated vesicles in differentiating myotubes (PubMed:[22428023](#)). Sorted into intraluminal vesicles (ILVs) in lysosomes. The soluble form in lysosome arises by proteolytic processing of the membrane-bound form (PubMed:[29386126](#)) Colocalizes with APP in endosomes (PubMed:[29368044](#))

Tissue Location

Widely expressed. In the brain, high levels of expression are detected in the frontal, temporal and occipital cortices and hippocampus. Expressed at low level in corpus callosum. Expressed in plasmacytoid dendritic cells and monocytes (at protein level)

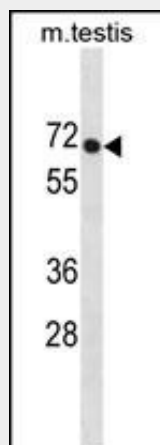
PLD3 Antibody(N-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)

- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

PLD3 Antibody(N-term) - Images



PLD3 Antibody (N-term) (Cat. #AP19786a) western blot analysis in mouse testis tissue lysates (35ug/lane). This demonstrates the PLD3 antibody detected the PLD3 protein (arrow).

PLD3 Antibody(N-term) - Background

The function of this protein is unknown.

PLD3 Antibody(N-term) - References

- Idkowiak-Baldys, J., et al. J. Biol. Chem. 284(33):22322-22331(2009)
Walker, L.C., et al. Breast Cancer Res. Treat. 112(2):229-236(2008)
Russo, P., et al. Am. J. Hypertens. 19(4):331-338(2006)
Cheng, J., et al. Science 308(5725):1149-1154(2005)
Munck, A., et al. FEBS J. 272(7):1718-1726(2005)