

PLD3 Rabbit pAb

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Catalog # AP54943

Product Information

Application	WB
Primary Accession	Q8IV08
Reactivity	Mouse
Predicted	Rat, Human, Rabbit, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	54705
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human PLD3
Epitope Specificity	201-300/490
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Endoplasmic reticulum membrane.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a member of the phospholipase D (PLD) family of enzymes that catalyze the hydrolysis of membrane phospholipids. The encoded protein is a single-pass type II membrane protein and contains two PLD phosphodiesterase domains. This protein influences processing of amyloid-beta precursor protein. Mutations in this gene are associated with Alzheimer disease risk. Alternatively spliced transcript variants encoding the same protein have been found for this gene. [provided by RefSeq, Apr 2014]

Additional Information

Gene ID	23646
Other Names	5'-3' exonuclease PLD3, 3.1.16.1, (S, S)-bis(monoacylglycero)phosphate synthase PLD3, 3.1.4.-, HindIII K4L homolog, Hu-K4, Phospholipase D3, PLD3 {ECO:0000303 PubMed:26411346, ECO:0000312 HGNC:HGNC:17158}
Dilution	WB=1:500-2000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

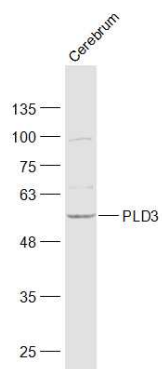
Name	PLD3 {ECO:0000303 PubMed:26411346, ECO:0000312 HGNC:HGNC:17158}
Function	Lysosomal 5'→3' exonuclease that functions in nucleic-acid sensing by immune cells. Hydrolyzes phosphodiester bond in single- stranded RNA and DNA molecules, with a higher efficiency for molecules with 5' uridine and guanosine residues. It can stall at certain sites and does not necessarily proceed to complete exonucleolytic degradation, thereby producing nucleoside 3'-monophosphates but also 5'-end 5'-hydroxy deoxyribonucleotide/ribonucleotide fragments (PubMed:30111894, PubMed:30312375, PubMed:34620855, PubMed:37994783, PubMed:38537643, PubMed:38697119). Through the processing of self and exogenous RNA and DNA molecules, provides molecular signals to toll- like receptors (TLRs) in innate immunity. Partially redundant with PLD4, it cooperates with the RNase T2/RNASET2 to generate 2',3'-cGMP and cytidine-rich RNA fragments that occupy the two TLR7 ligand-binding pockets, to trigger receptor activation and signaling (PubMed:34620855, 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:37225734). Can exert polynucleotide phosphatase activity toward 5'-phosphorylated single-stranded DNA substrates although at a slow rate (PubMed:38537643). 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	Lysosome lumen. Early endosome membrane; Single-pass type II membrane protein. Late endosome membrane; Single-pass type II membrane protein. Endosome membrane; Single-pass type II membrane protein. Endoplasmic reticulum membrane; Single-pass type II membrane protein. Golgi apparatus 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)

Background

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Images

Sample:
 Cerebrum (Mouse) Lysate at 40 ug
 Primary: Anti-LD3 (AP54943) at 1/300 dilution
 Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
 Predicted band size: 55 kD
 Observed band size: 55 kD



Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.