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PPAPDC2 Antibody

Catalog # ASC11028

Product Information

Application	WB, IF, E
Primary Accession	Q8IY26
Other Accession	NP_982278, 66773040
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	32194
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	PPAPDC2 antibody can be used for detection of PPAPDC2 by Western blot at 1 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	403313
Other Names	Presqualene diphosphate phosphatase, 3.1.3.-, Phosphatidic acid phosphatase type 2 domain-containing protein 2, PPAP2 domain-containing protein 2, PPAPDC2
Target/Specificity	PPAPDC2;
Reconstitution & Storage	PPAPDC2 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	PPAPDC2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PLPP6 (HGNC:23682)
Function	Magnesium-independent polyisoprenoid diphosphatase that catalyzes the sequential dephosphorylation of presqualene, farnesyl, geranyl and geranylgeranyl diphosphates (PubMed:16464866, PubMed:19220020, PubMed:20110354). Functions in the innate immune response through the dephosphorylation of presqualene diphosphate which acts as a potent inhibitor of the signaling pathways contributing to polymorphonuclear neutrophils activation (PubMed:16464866, PubMed:23568778). May regulate the biosynthesis of cholesterol and related sterols by dephosphorylating presqualene and farnesyl diphosphate, two key intermediates in this

	biosynthetic pathway (PubMed:20110354). May also play a role in protein prenylation by acting on farnesyl diphosphate and its derivative geranylgeranyl diphosphate, two precursors for the addition of isoprenoid anchors to membrane proteins (PubMed:20110354). Has a lower activity towards phosphatidic acid (PA), but through phosphatidic acid dephosphorylation may participate in the biosynthesis of phospholipids and triacylglycerols (PubMed:18930839). May also act on ceramide-1-P, lysophosphatidic acid (LPA) and sphing-4-enine 1-phosphate/sphingosine-1-phosphate (PubMed:18930839, PubMed:20110354).
Cellular Location	Endoplasmic reticulum membrane; Multi-pass membrane protein. Nucleus envelope. Nucleus inner membrane
Tissue Location	Widely expressed. Expressed in most organs, in particular gastrointestinal organs, spleen, placenta, kidney, thymus and brain.

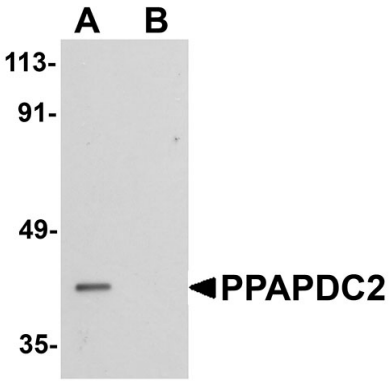
Background

PPAPDC2 Antibody: PPAPDC2 is a phosphatase that dephosphorylates Presqualene diphosphate (PSDP) into presqualene monophosphate (PSMP), suggesting that it may have important role in innate immunity. PSDP is a bioactive lipid that rapidly remodels to PSMP upon cell activation. PPAPDC2 displays diphosphate phosphatase activity with a substrate preference for PSDP > FDP > phosphatidic acid. PPAPDC2 activity is independent of Mg2+ and has been identified in activated human neutrophil (PMN) extracts. It is widely expressed in human tissues. Recent studies shows PPAPDC2 is a functional isoprenoid diphosphate phosphatase.

References

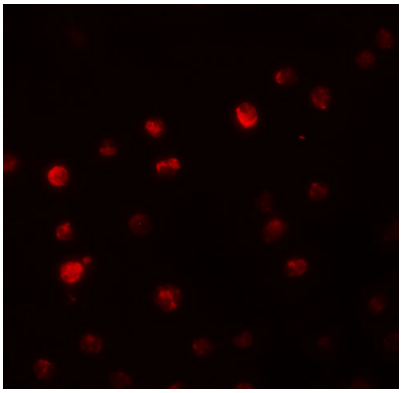
Fukunaga K, Arita M, Takahashi M, et al. Identification and functional characterization of a presqualene diphosphate phosphatase. J. Biol. Chem.2006; 281:9490-7.
Miriyala S, Subramanian T, Panchatcharam M, et al. Functional characterization of the atypical integral membrane lipid phosphatase PDP1/PPAPDC2 identifies a pathway for interconversion of isoprenols and isoprenoid phosphates in mammalian cells. J. Biol. Chem.2010 (epub).

Images



Western blot analysis of PPAPDC2 in Raji cell lysate with PPAPDC2 antibody at 1 µg/mL in (A) the absence and (B) the presence of blocking peptide.

Immunofluorescence of PPAPDC2 in Raji cells with PPAPDC2 antibody at 20 µg/mL.



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