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INPP5D Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2845c

Product Information

Application	WB, E
Primary Accession	Q92835
Other Accession	P97573, Q9ES52
Reactivity	Human
Predicted	Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB17405
Calculated MW	133292
Antigen Region	770-796

Additional Information

Gene ID	3635
Other Names	Phosphatidylinositol 3, 5-trisphosphate 5-phosphatase 1, Inositol polyphosphate-5-phosphatase of 145 kDa, SIP-145, SH2 domain-containing inositol 5'-phosphatase 1, SH2 domain-containing inositol phosphatase 1, SHIP-1, p150Ship, hp51CN, INPP5D, SHIP, SHIP1
Target/Specificity	This INPP5D antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 770-796 amino acids from the Central region of human INPP5D.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
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	INPP5D Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	INPP5D

Synonyms	SHIP {ECO:0000303|PubMed:10764818}, SHIP
Function	Phosphatidylinositol (PtdIns) phosphatase that specifically hydrolyzes the 5-phosphate of phosphatidylinositol-3,4,5-trisphosphate (PtdIns(3,4,5)P3) to produce PtdIns(3,4)P2, thereby negatively regulating the PI3K (phosphoinositide 3-kinase) pathways (PubMed:10764818, PubMed:8723348, PubMed:8769125). Able also to hydrolyzes the 5-phosphate of phosphatidylinositol-4,5-bisphosphate (PtdIns(4,5)P3) and inositol 1,3,4,5-tetrakisphosphate (PubMed:10764818, PubMed:8769125, PubMed:9108392). Acts as a negative regulator of B-cell antigen receptor signaling. Mediates signaling from the FC-gamma-RIIB receptor (FCGR2B), playing a central role in terminating signal transduction from activating immune/hematopoietic cell receptor systems. Acts as a negative regulator of myeloid cell proliferation/survival and chemotaxis, mast cell degranulation, immune cells homeostasis, integrin alpha-IIb/beta-3 signaling in platelets and JNK signaling in B-cells. Regulates proliferation of osteoclast precursors, macrophage programming, phagocytosis and activation and is required for endotoxin tolerance. Involved in the control of cell-cell junctions, CD32a signaling in neutrophils and modulation of EGF-induced phospholipase C activity (PubMed:16682172). Key regulator of neutrophil migration, by governing the formation of the leading edge and polarization required for chemotaxis. Modulates FCGR3/CD16-mediated cytotoxicity in NK cells. Mediates the activin/TGF-beta-induced apoptosis through its Smad-dependent expression.
Cellular Location	Cytoplasm. Cell membrane {ECO:0000250|UniProtKB:Q9ES52}; Peripheral membrane protein {ECO:0000250|UniProtKB:Q9ES52}. Membrane raft {ECO:0000250|UniProtKB:Q9ES52}. Cytoplasm, cytoskeleton {ECO:0000250|UniProtKB:Q9ES52}. Membrane; Peripheral membrane protein Note=Translocates to the plasma membrane when activated, translocation is probably due to different mechanisms depending on the stimulus and cell type. Translocates from the cytoplasm to membrane ruffles in a FCGR3/CD16-dependent manner. Colocalizes with FC-gamma-RIIB receptor (FCGR2B) or FCGR3/CD16 at membrane ruffles. Tyrosine phosphorylation may also participate in membrane localization {ECO:0000250|UniProtKB:Q9ES52}
Tissue Location	Specifically expressed in immune and hematopoietic cells. Expressed in bone marrow and blood cells. Levels vary considerably within this compartment. Present in at least 74% of immature CD34+ cells, whereas within the more mature population of CD33+ cells, it is present in only 10% of cells. Present in the majority of T-cells, while it is present in a minority of B-cells (at protein level).

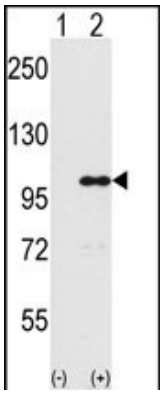
Background

INPP5D is a member of the inositol polyphosphate-5-phosphatase (INPP5) family and it is a protein with an N-terminal SH2 domain, an inositol phosphatase domain, and two C-terminal protein interaction domains. Expression of this protein is restricted to hematopoietic cells where its movement from the cytosol to the plasma membrane is mediated by tyrosine phosphorylation. At the plasma membrane, the protein hydrolyzes the 5' phosphate from phosphatidylinositol (3,4,5)-trisphosphate and inositol-1,3,4,5-tetrakisphosphate, thereby affecting multiple signaling pathways. Overall, the protein functions as a negative regulator of myeliod cell proliferation and survival.

References

Gilby,D.C., Leukemia 21 (11), 2390-2393 (2007)
Gloire,G., Biochem. Soc. Trans. 35 (PT 2), 277-280 (2007)
Vaillancourt,M., Cell. Signal. 18 (11), 2022-2032 (2006)

Images



Western blot analysis of INPP5D (arrow) using rabbit polyclonal INPP5D Antibody (Center) (Cat.#AP2845c). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the INPP5D gene (Lane 2) (Origene Technologies).

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