

Anti-INPPL1 Antibody
Catalog # ABO11059**Specification****Anti-INPPL1 Antibody - Product Information**

Application	WB, IHC
Primary Accession	O15357
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for Phosphatidylinositol 3,4,5-trisphosphate 5-phosphatase 2(INPPL1) detection. Tested with WB, IHC-P in Human;Mouse;Rat.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-INPPL1 Antibody - Additional Information

Gene ID 3636

Other Names

Phosphatidylinositol 3, 4, 5-trisphosphate 5-phosphatase 2, 3.1.3.86, Inositol polyphosphate phosphatase-like protein 1, INPPL-1, Protein 51C, SH2 domain-containing inositol 5'-phosphatase 2, SH2 domain-containing inositol phosphatase 2, SHIP-2, INPPL1, SHIP2

Calculated MW

138599 MW KDa

Application Details

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Mouse, Rat, By Heat
Western blot, 0.1-0.5 µg/ml, Human, Rat, Mouse

Subcellular Localization

Cytoplasm, cytosol. Cytoplasm, cytoskeleton. Membrane; Peripheral membrane protein. Cell projection, filopodium. Cell projection, lamellipodium. Translocates to membrane ruffles when activated, translocation is probably due to different mechanisms depending on the stimulus and cell type. Partly translocated via its SH2 domain which mediates interaction with tyrosine phosphorylated receptors such as the FC-gamma-RIIB receptor (FCGR2B). Tyrosine phosphorylation may also participate in membrane localization. Insulin specifically stimulates its redistribution from the cytosol to the plasma membrane. Recruited to the membrane following M-CSF stimulation. In activated spreading platelets, localizes with actin at filopodia, lamellipodia and the central actin ring.

Tissue Specificity

Widely expressed, most prominently in skeletal muscle, heart and brain. Present in platelets. Expressed in transformed myeloid cells and in primary macrophages, but not in peripheral blood monocytes. .

Protein Name

Phosphatidylinositol 3,4,5-trisphosphate 5-phosphatase 2

ContentsEach vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Thimerosal, 0.05mg NaN₃.**Immunogen**

A synthetic peptide corresponding to a sequence in the middle region of human INPPL1(349-363aa QRDSQEDWTTFTHDR), identical to the related rat and mouse sequences.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage**At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.****Sequence Similarities**

Belongs to the inositol 1,4,5-trisphosphate 5- phosphatase family.

Anti-INPPL1 Antibody - Protein Information**Name** INPPL1 ([HGNC:6080](#))**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: [16824732](http://www.uniprot.org/citations/16824732)). Required for correct mitotic spindle orientation and therefore progression of mitosis (By similarity). Plays a central role in regulation of PI3K-dependent insulin signaling, although the precise molecular mechanisms and signaling pathways remain unclear (PubMed: [9660833](http://www.uniprot.org/citations/9660833)). While overexpression reduces both insulin-stimulated MAP kinase and Akt activation, its absence does not affect insulin signaling or GLUT4 trafficking (By similarity). Confers resistance to dietary obesity (By similarity). May act by regulating AKT2, but not AKT1, phosphorylation at the plasma membrane (By similarity). Part of a signaling pathway that regulates actin cytoskeleton remodeling (PubMed: [11739414](http://www.uniprot.org/citations/11739414), PubMed: [12676785](http://www.uniprot.org/citations/12676785)). Required for the maintenance and dynamic remodeling of actin structures as well as in endocytosis, having a major impact on ligand-induced EGFR internalization and degradation (PubMed: [15668240](http://www.uniprot.org/citations/15668240)). Participates in regulation of cortical and submembraneous actin by hydrolyzing PtdIns(3,4,5)P₃ thereby regulating membrane ruffling (PubMed: [21624956](http://www.uniprot.org/citations/21624956)). Regulates cell adhesion and cell spreading (PubMed: [12235291](http://www.uniprot.org/citations/12235291)). Required for HGF-mediated lamellipodium formation, cell scattering and spreading (PubMed: [15735664](http://www.uniprot.org/citations/15735664)). Acts as a negative regulator of EPHA2 receptor endocytosis by inhibiting via PI3K-dependent Rac1 activation (PubMed: [17135240](http://www.uniprot.org/citations/17135240)). Acts as a

regulator of neuritogenesis by regulating PtdIns(3,4,5)P3 level and is required to form an initial protrusive pattern, and later, maintain proper neurite outgrowth (By similarity). Acts as a negative regulator of the FC-gamma-RIIA receptor (FCGR2A) (PubMed:12690104). Mediates signaling from the FC-gamma-RIIB receptor (FCGR2B), playing a central role in terminating signal transduction from activating immune/hematopoietic cell receptor systems (PubMed:11016922). Involved in EGF signaling pathway (PubMed:11349134). Upon stimulation by EGF, it is recruited by EGFR and dephosphorylates PtdIns(3,4,5)P3 (PubMed:11349134). Plays a negative role in regulating the PI3K-PKB pathway, possibly by inhibiting PKB activity (PubMed:11349134). Down-regulates Fc-gamma-R-mediated phagocytosis in macrophages independently of INPP5D/SHIP1 (By similarity). In macrophages, down-regulates NF-kappa-B-dependent gene transcription by regulating macrophage colony-stimulating factor (M-CSF)-induced signaling (By similarity). Plays a role in the localization of AURKA and NEDD9/HEF1 to the basolateral membrane at interphase in polarized cysts, thereby mediates cell cycle homeostasis, cell polarization and cilia assembly (By similarity). Additionally promotion of cilia growth is also facilitated by hydrolysis of (PtdIns(3,4,5)P3) to PtdIns(3,4)P2 (By similarity). Promotes formation of apical membrane-initiation sites during the initial stages of lumen formation via Rho family-induced actin filament organization and CTNNB1 localization to cell-cell contacts (By similarity). May also hydrolyze PtdIns(1,3,4,5)P4, and could thus affect the levels of the higher inositol polyphosphates like InsP6. Involved in endochondral ossification (PubMed:23273569).

Cellular Location

Cytoplasm, cytosol. Cytoplasm, cytoskeleton. Membrane; Peripheral membrane protein. Cell projection, filopodium. Cell projection, lamellipodium. Basal cell membrane {ECO:0000250|UniProtKB:F1PNY0}. Nucleus {ECO:0000250|UniProtKB:D7PF45} Nucleus speckle {ECO:0000250|UniProtKB:D7PF45}. Cytoplasm, cytoskeleton, spindle pole {ECO:0000250|UniProtKB:F1PNY0} Note=Translocates to membrane ruffles when activated, translocation is probably due to different mechanisms depending on the stimulus and cell type (PubMed:11739414). Partly translocated via its SH2 domain which mediates interaction with tyrosine phosphorylated receptors such as the FC-gamma-RIIB receptor (FCGR2B). Tyrosine phosphorylation may also participate in membrane localization. Insulin specifically stimulates its redistribution from the cytosol to the plasma membrane. Recruited to the membrane following M-CSF stimulation. In activated spreading platelets, localizes with actin at filopodia, lamellipodia and the central actin ring.

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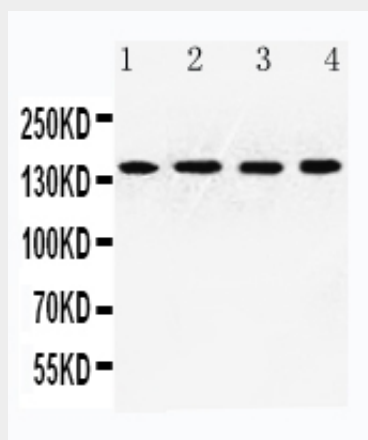
Anti-INPPL1 Antibody - Protocols

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

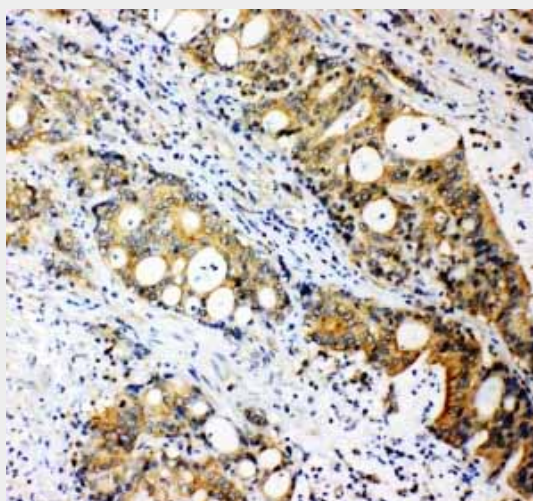
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)

• [Cell Culture](#)

Anti-INPPL1 Antibody - Images



Anti-INPPL1 antibody, ABO11059, Western blotting Lane 1: Rat Heart Tissue Lysate Lane 2: U87 Cell Lysate Lane 3: HT1080 Cell Lysate Lane 4: MCF-7 Cell Lysate



Anti-INPPL1 antibody, ABO11059, IHC(P) IHC(P): Human Intestinal Cancer Tissue

Anti-INPPL1 Antibody - Background

INPPL1 (Inositol polyphosphate phosphatase-like 1), also called SHIP2, encodes inositol polyphosphate-5 phosphatase-like 1, a protein that in addition to the phosphatase domain contains an SH2 (src-homology domain 2) motif. INPPL1 is a member of the family of inositol triphosphate phosphatases. The INPPL1 gene is mapped on 11q13.4. Immunoblot analysis revealed that SHIP2 was widely expressed in fibroblast and nonhematopoietic tumor cell lines, unlike the SHIP protein, which was found only in cell lines of hematopoietic origin. Using human epithelial cell lines and primary human corneal and epidermal keratinocytes, Yu et al. (2008) showed that microRNA-184 (MIR184) interfered with the ability of MIR205 to downregulate expression of SHIP2. SHIP2 may play a significant role in regulation of phosphatidylinositol 3-prime-kinase signaling by growth factors and insulin. By targeting the translation-initiating ATG codon and deleting the first 18 exons encoding Inpp1l, Sleeman et al. (2005) generated Inpp1l^{-/-} mice that were null for Inpp1l mRNA and protein.