Product Name: SHIP-2 Rabbit Polyclonal Antibody
Catalog #: APRab17865

Summary

Production Name	SHIP-2 Rabbit Polyclonal Antibody
Description	Rabbit Polyclonal Antibody
Host	Rabbit
Application	WB,IHC,ELISA
Reactivity	Human,Mouse,Rat

Performance

Conjugation	Unconjugated
Modification	Unmodified
Isotype	IgG
Clonality	Polyclonal
Form	Liquid
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.
Buffer	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% New type preservative N.
Purification	Affinity purification

Immunogen

Gene Name	INPPL1
Alternative Names	INPPL1; SHIP2; Phosphatidylinositol 3,4,5-trisphosphate 5-phosphatase 2; 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
Gene ID	3636.0
SwissProt ID	O15357.The antiserum was produced against synthesized peptide derived from the Internal region of human INPPL1. AA range:351-400

Application

Dilution Ratio	WB 1:500 - 1:2000. IHC-p: 1:100-300 ELISA: 1:20000..
Molecular Weight	130kD

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Background

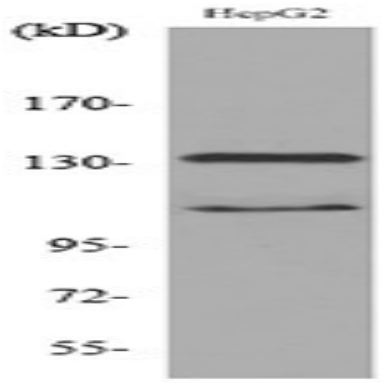
The protein encoded by this gene is an SH2-containing 5'-inositol phosphatase that is involved in the regulation of insulin function. The encoded protein also plays a role in the regulation of epidermal growth factor receptor turnover and actin remodelling. Additionally, this gene supports metastatic growth in breast cancer and is a valuable biomarker for breast cancer. [provided by RefSeq, Jan 2009],catalytic activity:Phosphatidylinositol 3,4,5-trisphosphate + H(2)O = phosphatidylinositol 3,4-bisphosphate + phosphate.,disease:Defects in INPPL1 may be a cause of susceptibility to type 2 diabetes mellitus non-insulin dependent (NIDDM) [MIM:125853].,disease:Genetic variations in INPPL1 may be a cause of susceptibility to metabolic syndrome. Metabolic syndrome is characterized by diabetes, insulin resistance, hypertension, and hypertriglyceridemia is absent.,domain:The NPXY sequence motif found in many tyrosine-phosphorylated proteins is required for the specific binding of the PID domain.,domain:The SH2 domain interacts with tyrosine phosphorylated forms of proteins such as SHC1 or FCGR2A. It also mediates the interaction with p130Cas/BCAR1.,enzyme regulation:Activated upon translocation to the sites of synthesis of PtdIns(3,4,5)P3 in the membrane. Enzymatic activity is enhanced in the presence of phosphatidylserine.,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. Plays a central role in regulation of PI3K-dependent insulin signaling, although the precise molecular mechanisms and signaling pathways remain unclear. While overexpression reduces both insulin-stimulated MAP kinase and Akt activation, its absence does not affect insulin signaling or GLUT4 trafficking. Confers resistance to dietary obesity. May act by regulating AKT2, but not AKT1, phosphorylation at the plasma membrane. Part of a signaling pathway that regulates actin cytoskeleton remodeling. 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. Participates in regulation of cortical and submenbraneous actin by hydrolyzing PtdIns(3,4,5)P3 thereby regulating membrane ruffling. Regulates cell adhesion and cell spreading. Required for HGF-mediated lamellipodium formation, cell scattering and spreading. Acts as a negative regulator of EPHA2 receptor endocytosis by inhibiting via PI3K-dependent Rac1 activation. 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. Acts as a negative regulator of the FC-gamma-RIIA receptor (FCGR2A). Mediates signaling from the FC-gamma-RIIB receptor (FCGR2B), playing a central role in terminating signal transduction from activating immune/hematopoietic cell receptor systems. Involved in EGF signaling pathway. Upon stimulation by EGF, it is recruited by EGFR and dephosphorylates PtdIns(3,4,5)P3. Plays a negative role in regulating the PI3K-PKB pathway, possibly by inhibiting PKB activity. Down-regulates Fc-gamma-R-mediated phagocytosis in macrophages independently of INPP5D/SHIP1. In macrophages, down-regulates NF-kappa-B-dependent gene transcription by regulating macrophage colony-stimulating factor (M-CSF)-induced signaling. May also hydrolyze PtdIns(1,3,4,5)P4, and could thus affect the levels of the higher inositol polyphosphates like InsP6.,induction:By treatment with bacterial lipopolysaccharide.,miscellaneous:Its ability to confers resistance to dietary

obesity suggest that it may serve as a possible therapeutic target in cases of type 2 diabetes and obesity.,PTM:Tyrosine phosphorylated by the members of the SRC family after exposure to a diverse array of extracellular stimuli such as insulin, growth factors such as EGF or PDGF, chemokines, integrin ligands and hypertonic and oxidative stress. May be phosphorylated upon IgG receptor FCGR2B-binding. Phosphorylated at Tyr-986 following cell attachment and spreading. Phosphorylated at Tyr-1162 following EGF signaling pathway stimulation. Phosphorylated at Thr-958 in response to PDGF.,similarity:Belongs to the inositol-1,4,5-trisphosphate 5-phosphatase family.,similarity:Contains 1 SAM (sterile alpha motif) domain.,similarity:Contains 1 SH2 domain.,subcellular location: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 to membrane localization. Insulin specifically stimulates its redistribution from the cytosol to the plasma membrane. Recruited to the membrane following M-CSF stimulation.,subunit:Interacts with tyrosine phosphorylated form of SHC1, Interacts with EGFR. Upon stimulation by the EGF signaling pathway, it forms a complex with SHC1 and EGFR. Interacts with cytoskeletal protein SORBS3/vinexin, promoting its localization to the periphery of cells. Forms a complex with filamin (FLNA or FLNB), actin, GPIb (GP1BA or GP1BB) that regulates cortical and submenbraneous actin. Interacts with c-Met/MET, when c-Met/MET is phosphorylated on 'Tyr-1356'. Interacts with p130Cas/BCAR1. Interacts with CENTD3/ARAP3 via its SAM domain. Interacts with c-Cbl/CBL and CAP/SORBS1. Interacts with activated EPHA2 receptor. Interacts with receptors FCGR2A and FCGR2B. Interacts with tyrosine kinases ABL1 and TEC. Interacts with CSF1R.,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.,

Research Area

Inositol phosphate metabolism;Phosphatidylinositol signaling system;

Image Data



Western blot analysis of lysate from HepG2 cells, using INPPL1 Antibody.

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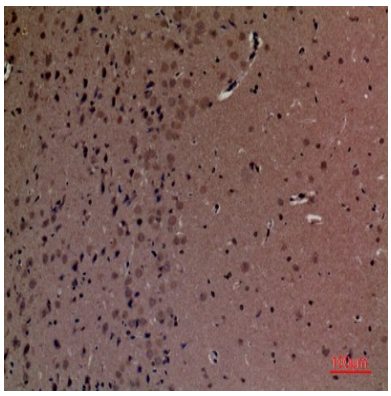
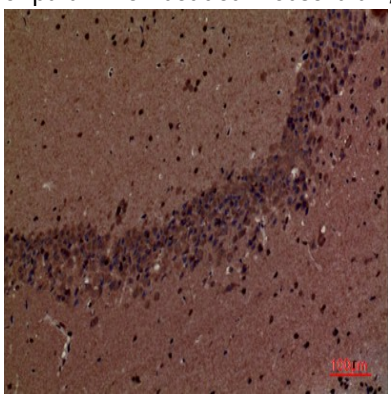


Immunohistochemical analysis of paraffin-embedded mouse-brain, antibody was diluted at 1:100



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Note

For research use only.