SHIP2 (Phospho Tyr986/987) Rabbit pAb

CatalogNo: YP1491

Key Features

Host Species
- Rabbit

Reactivity
- Human,Mouse,Rat

Applications
- WB,ELISA,IHC

MW
- 130kD (Observed)

Isotype
- IgG

Storage

Storage*	-15°C to -25°C/1 year(Do not lower than -25°C)
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.

Recommended Dilution Ratios

WB 1:500-2000
IHC 1:50-300
ELISA 1:2000-20000

Basic Information

Clonality	Polyclonal

Immunogen Information

Immunogen	Synthesized phosho peptide around human SHIP2 (Tyr986 and 987)
Specificity	This antibody detects endogenous levels of SHIP2 only when phosphorylated at Tyr986 or Tyr987,and dually phosphorylated at two sites.The name of modified sites may be influenced by many factors, such as species (the modified site was not originally found in human samples) and the change of protein sequence (the previous protein sequence is incomplete, and the protein sequence may be prolonged with the development of protein sequencing technology). When naming, we will use the "numbers" in historical reference to keep the sites consistent with the reports. The antibody binds to the following modification sequence (lowercase letters are modification sites):PAyYV

Target Information

Gene name INPPL1 SHIP2

Protein Name SHIP2 (Tyr986/987)

Organism	Gene ID	UniProt ID
Human	3636;	O15357;
Mouse	16332;	Q6P549;
Rat	65038;	Q9WVR3;

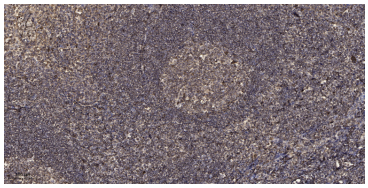
Cellular Localization Cytoplasm, cytosol . Cytoplasm, cytoskeleton. Membrane ; Peripheral membrane protein. Cell projection, filopodium . Cell projection, lamellipodium . Nucleus . Nucleus speckle . Translocates to membrane ruffles when activated, translocation is probably due to different mechanisms 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.

Function

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.,

Validation Data



Immunohistochemical analysis of paraffin-embedded human tonsil. 1, Antibody was diluted at 1:200(4° overnight). 2, Tris-EDTA,pH9.0 was used for antigen retrieval. 3,Secondary antibody was diluted at 1:200(room temperature, 45min).

Contact information

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