abcam

ab278715

PE Anti-INPPL1/SHIP-2 (phospho Y1135) antibody [Ship2Y1135-1D2]

Recombinant

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	PE
Excitation/Emission	Ex: 480;565nm, Em: 578nm
Storage buffer	Preservative: 0.09% Sodium azide Constituents: PBS, 0.2% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Human INPPL1 pY1135. The exact immunogen used to generate this antibody is proprietary information. Database link O15357
Clone number	Ship2Y1135-1D2
Purification technique	Affinity purification Protein A/G
Light chain type	kappa

Reactivity data

Flow Cyt

Tested

Species	Human

Dilution info	5 µL for 10^6 Cells
Notes	-

Target data

See full target information INPPL1 pY1135

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). 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). 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, PubMed: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). Participates in regulation of cortical and submembraneous actin by hydrolyzing PtdIns(3,4,5)P3 thereby regulating membrane ruffling (PubMed:21624956). Regulates cell adhesion and cell spreading (PubMed:12235291). Required for HGF-mediated lamellipodium formation, cell scattering and spreading (PubMed:15735664). Acts as a negative regulator of EPHA2 receptor endocytosis by inhibiting via PI3K-dependent Rac1 activation (PubMed: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).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Store in the dark

Notes

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	INPPL1 also known as SHIP-2 (Src homology 2 domain containing inositol 5-phosphatase 2) participates in the regulation of intracellular signaling pathways by dephosphorylating phosphatidylinositol 345-trisphosphate (PIP3). It acts as a phosphatase with a molecular mass of approximately 145 kDa. SHIP-2 is expressed in various tissues including heart brain skeletal muscle and lung. SHIP-2 influences cell growth survival and motility through its enzymatic activity that constrains the levels of PIP3.
Biological function summary	SHIP-2 plays a role in modulating cellular processes like insulin signaling and endocytosis. It acts as a negative regulator counteracting PIP3 accumulation which affects downstream signaling pathways such as Akt. SHIP-2 also integrates into larger protein complexes that contribute to its regulatory functions. These complexes facilitate interactions with multiple cell surface receptors and adaptors emphasizing its role in fine-tuning cell responses.
Pathways	SHIP-2 is an essential component in the insulin signaling and phosphoinositide pathways. It interacts closely with other proteins such as PI3K (phosphoinositide 3-kinase) and PTEN (phosphatase and tensin homolog). In the insulin signaling pathway SHIP-2 modulates the availability of PIP3 impacting the activity of Akt and

	by extension influence metabolic processes. In the phosphoinositide pathway it harmonizes with PTEN to maintain cellular homeostasis and signaling balance.
Associated diseases and disorders	SHIP-2 is linked to metabolic diseases like Type 2 Diabetes and obesity. Its regulatory function in insulin signaling positions it as an important player in insulin resistance. Aberrations in SHIP-2 activity can lead to disrupted glucose homeostasis and contribute to the development of these conditions. In the case of insulin signaling disorders SHIP-2's interaction with proteins like IRS-1 (insulin receptor substrate 1) highlights its importance in managing cellular sensitivity to insulin emphasizing its therapeutic potential in metabolic diseases.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

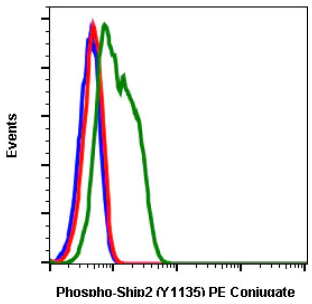
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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1 product image



Flow Cytometry - PE Anti-INPPL1/SHIP-2 (phospho Y1135) antibody [Ship2Y1135-1D2] (ab278715)

INPPL1/SHIP-2 (phospho Y1135) Flow Cytometry staining using rabbit Anti-INPPL1/SHIP-2 (phospho Y1135) antibody

Flow cytometric analysis of U937 cells unstained untreated U937 cells as negative control (blue) or stained untreated (red) or treated U937 cells with IFNa IL-4 and pervanadate (green) using ab278715.

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