abcam

## Product datasheet

# Anti-INPPL1/SHIP-2 antibody ab70267

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### Overview

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|---|---|
| **Product name** | Anti-INPPL1/SHIP-2 antibody |
| **Description** | Rabbit polyclonal to INPPL1/SHIP-2 |
| **Host species** | Rabbit |
| **Tested applications** | **Suitable for:** IHC-P, WB, IP |
| **Species reactivity** | **Reacts with:** Mouse, Human<br>**Predicted to work with:** Rat, Rabbit, Chimpanzee, Rhesus monkey, Gorilla, Chinese hamster |
| **Immunogen** | Synthetic peptide corresponding to Human INPPL1/SHIP-2 aa 100-150.<br>Database link: **NP_001558.2** |
| **Positive control** | WB: HeLa, HEK293T, NIH/3T3; IP: HeLa; IHC: human colon carcinoma tissue |
| **General notes** | The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.<br>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As |

### Properties

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| **Form** | Liquid |
| **Storage instructions** | Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles. |
| **Storage buffer** | pH: 7<br>Preservative: 0.09% Sodium azide<br>Constituents: 1.815% Tris, 1.764% Sodium citrate, 0.021% PBS |
| **Purity** | Immunogen affinity purified |
| **Clonality** | Polyclonal |
| **Isotype** | IgG |

### Applications

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**The Abpromise guarantee** Our **Abpromise guarantee** covers the use of ab70267 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

| Application | Abreviews | Notes |
|---|---|---|
| **IHC-P** | | 1/500 - 1/2000. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. |
| **WB** | | 1/2000 - 1/10000. Detects a band of approximately 139 kDa (predicted molecular weight: 139 kDa). |
| **IP** | ★★★★☆ (1) | Use at 2-10 µg/mg of lysate. |

## Target

**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 submembraneous 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.

**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.

**Involvement in disease** Defects in INPPL1 may be a cause of susceptibility to type 2 diabetes mellitus non-insulin dependent (NIDDM) [MIM:125853].
Note=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.

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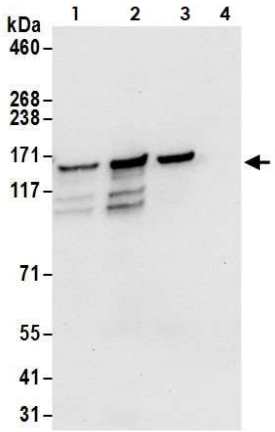
| **Sequence similarities** | Belongs to the inositol 1,4,5-trisphosphate 5-phosphatase family.<br>Contains 1 SAM (sterile alpha motif) domain.<br>Contains 1 SH2 domain. |
| **Domain** | The SH2 domain interacts with tyrosine phosphorylated forms of proteins such as SHC1 or FCGR2A. It also mediates the interaction with p130Cas/BCAR1.<br>The NPXY sequence motif found in many tyrosine-phosphorylated proteins is required for the specific binding of the PID domain. |
| **Post-translational modifications** | 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. |
| **Cellular localization** | Cytoplasm > cytosol. Cytoplasm > cytoskeleton > actin patch. Membrane. 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. |

## Images




Immunoprecipitation - Anti-INPPL1/SHIP-2 antibody (ab70267)

INPPL1/ SHIP-2 was immunoprecipitated from HeLa whole cell lysate (1 mg per IP reaction, 20% loaded) with ab70267 at 6 µg per reaction. Western blot was performed on the immunoprecipitate using ab70267 at 0.4 µg/mL.

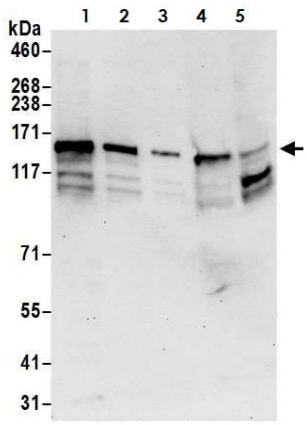
Lane 1: ab70267 IP in HeLa whole cell lysate.

Lane 2: ab70267 IP in HeLa whole cell lysate.

Lane 3: rabbit anti-IPPL2/SHIP2 antibody IP in HeLa whole cell lysate.

Lane 4: Control IgG in HeLa whole cell lysate.

Detection: Chemiluminescence with an exposure time of 10 seconds

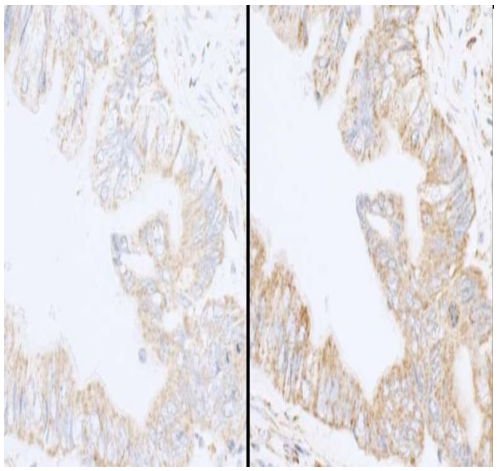



Western blot - Anti-INPPL1/SHIP-2 antibody (ab70267)

**All lanes :** Anti-INPPL1/SHIP-2 antibody (ab70267) at 0.1 µg/ml

**Lane 1 :** HeLa whole cell lysate at 50 µg
**Lane 2 :** HeLa whole cell lysate at 15 µg
**Lane 3 :** HeLa whole cell lysate at 5 µg
**Lane 4 :** HEK293T whole cell lysate at 50 µg
**Lane 5 :** NIH/3T3 whole cell lysate at 50 µg

**Predicted band size:** 139 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-INPPL1/SHIP-2 antibody (ab70267)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human colon carcinoma tissue
labelling INPPL1 / SHIP-2 with ab70267 at 1/1000 dilution. Different lots on left and right panel



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