abcam

ab181856

Anti-SH3PX1/SNX9 antibody [EPR14399]

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR14399
Purification technique	Affinity purification

Reactivity data

IP

Tested

Species	Human
Dilution info	1/50
Notes	-

Expected

Species	Mouse

Dilution info	1/50
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

Expected

Species	Mouse
Dilution info	1/1000 - 1/10000
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Expected

Species	Mouse
Dilution info	1/100
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/10
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse
Dilution info	1/10
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	-

Expected

Species	Mouse
Dilution info	1/100 - 1/250
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information SNX9

Function	Involved in endocytosis and intracellular vesicle trafficking, both during interphase and at the end of mitosis. Required for efficient progress through mitosis and cytokinesis. Required for normal formation of the cleavage furrow at the end of mitosis. Plays a role in endocytosis via clathrin-coated pits, but also clathrin-independent, actin-dependent fluid-phase endocytosis. Plays a role in macropinocytosis. Promotes internalization of TNFR. Promotes degradation of EGFR after EGF signaling. Stimulates the GTPase activity of DNM1. Promotes DNM1 oligomerization. Promotes activation of the Arp2/3 complex by WASL, and thereby plays a role in the reorganization of the F-actin cytoskeleton. Binds to membranes enriched in phosphatidylinositol 4,5-bisphosphate and promotes membrane tubulation. Has lower affinity for membranes enriched in phosphatidylinositol 3-phosphate.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks

Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

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	SH3PX1 also known as SNX9 is a protein with a mass of approximately 69 kDa. This protein contains an SH3 domain which enables it to bind to other proteins and participate in intracellular signaling pathways. SNX9 is widely expressed in various tissues including the brain and liver indicating a broad functional role in cellular processes. The expression of SNX9 in different cell types suggests its involvement in multiple cellular processes including membrane trafficking and cytoskeletal dynamics.
Biological function summary	Functions of SNX9 extend to cellular endocytosis and membrane remodeling. It is part of the retromer complex which plays a role in sorting endosomal proteins back to the trans-Golgi network or plasma membrane. SNX9 facilitates the curvature of cellular membranes aiding the process of clathrin-mediated endocytosis. This protein's ability to bind with both phospholipids and cytoskeletal components highlights its importance in maintaining cellular architecture and facilitating signal transduction.
Pathways	SNX9 integrates into the endocytic and signaling pathways. Its involvement in clathrin-mediated endocytosis and interactions with proteins like dynamin and WASP indicate its key role in vesicle formation and intracellular transport. SNX9 also participates within the Wnt signaling pathway functioning alongside proteins

	like LRP6 and GSK3 to mediate signal transduction processes that regulate cell fate determination. These pathways underline SNX9's significance in processes controlling cellular growth and differentiation.
Associated diseases and disorders	Alterations in SNX9 expression or function have associations with neurological disorders and cancer. SNX9 interactions with proteins like Cdc42 and cortactin highlight its relevance in brain development and its implications in schizophrenia. Abnormalities in SNX9-mediated endocytosis can disrupt cellular signaling leading to oncogenic transformation and contributing to the progression of cancers such as breast cancer. Understanding SNX9's role in these conditions may offer insights into potential therapeutic targets.

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

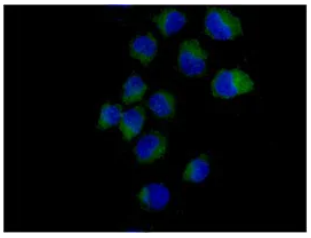
We do not recommend this combination. It is not covered by our product promise.

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.

Full details and terms and conditions can be found here:
Terms & Conditions.

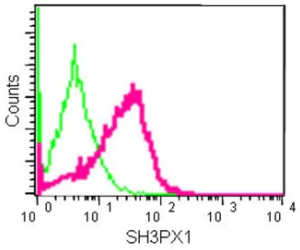
9 product images



Immunocytochemistry/ Immunofluorescence - Anti-SH3PX1/SNX9 antibody [EPR14399] (ab181856)

SH3PX1/SNX9 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SH3PX1/SNX9 antibody

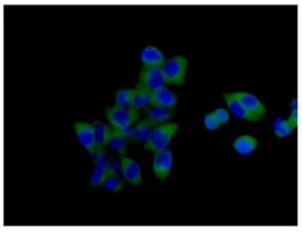
Immunofluorescent analysis of acetone-fixed HeLa cells labeling SH3PX1/SNX9 with ab181856 at 1/100 dilution followed by Goat anti rabbit IgG (Alexa Fluor®488) secondary antibody at 1/200 dilution. Counter stained with Dapi.



Flow Cytometry (Intracellular) - Anti-SH3PX1/SNX9 antibody [EPR14399] (ab181856)

SH3PX1/SNX9 Flow Cytometry (Intracellular) staining using rabbit Anti-SH3PX1/SNX9 antibody

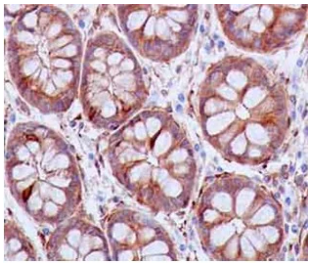
Intracellular flow cytometric analysis of 2%paraformaldehyde-fixedHeLa cells labeling SH3PX1/SNX9 with ab181856 at 1/10 dilution (red) compared to a Rabbit IgG monoclonal isotype control (green), followed by Goat anti rabbit IgG (FITC) secondary antibodyat 1/150 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-SH3PX1/SNX9 antibody [EPR14399] (ab181856)

SH3PX1/SNX9 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SH3PX1/SNX9 antibody

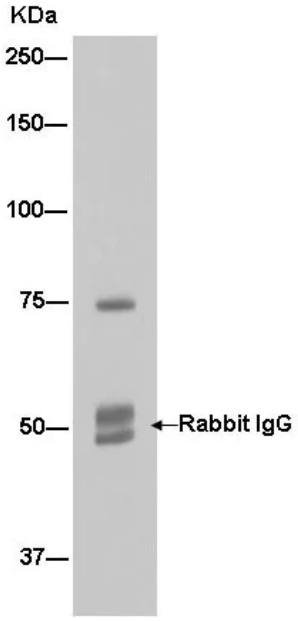
Immunofluorescent analysis of 4% paraformaldehyde-fixed HCT-116 cells labeling SH3PX1/SNX9 with ab181856 at 1/100 dilution followed by Goat anti rabbit IgG (Alexa Fluor®488) secondary antibody at 1/200 dilution. Counter stained with Dapi.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SH3PX1/SNX9 antibody [EPR14399] (ab181856)

SH3PX1/SNX9 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-SH3PX1/SNX9 antibody

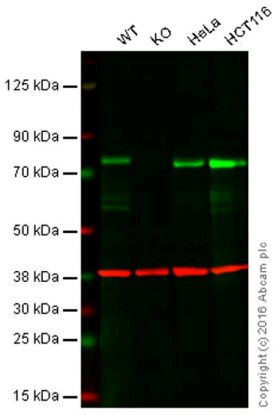
Immunohistochemical analysis of paraffin-embedded Human colon tissue labeling SH3PX1/SNX9 with ab181856 at 1/250 dilution followed by prediluted HRP Polymer for Rabbit IgG. Counter stained with Hematoxylin.
Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.



Immunoprecipitation - Anti-SH3PX1/SNX9 antibody [EPR14399] (ab181856)

Western blot analysis of HepG2 cell lysate immunoprecipitated using ab181856 at 1/50 dilution. Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugate secondary antibody was used at 1/1000 dilution.
All lanes:
Immunoprecipitation - Anti-SH3PX1/SNX9 antibody [EPR14399] (ab181856)

Predicted band size: 67 kDa



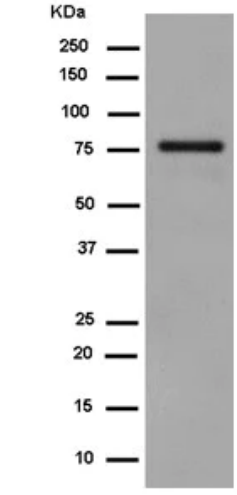
Western blot - Anti-SH3PX1/SNX9 antibody [EPR14399] (ab181856)

SH3PX1/SNX9 Western blot staining using rabbit Anti-SH3PX1/SNX9 antibody

Lane 1: Wild-type HAP1 cell lysate (20 µg)
Lane 2: SH3PX1/SNX9 knockout HAP1 cell lysate (20 µg)
Lane 3: HeLa cell lysate (20 µg)
Lane 4: HCT116 cell lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green). Green - ab181856 observed at 75 kDa. Red - loading control, ab8245, observed at 37 kDa.

ab181856 was shown to specifically react with SH3PX1/SNX9 when SH3PX1/SNX9 knockout samples were used. Wild-type and SH3PX1/SNX9 knockout samples were subjected to SDS-PAGE. ab181856 and ab8245 (loading control to GAPDH) were diluted 1/1000 and 1/10000 respectively and incubated overnight at 4°C. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773)
and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1/10000 dilution for 1 hour at room temperature before imaging.
All lanes:
Western blot - Anti-SH3PX1/SNX9 antibody [EPR14399] (ab181856)

Predicted band size: 67 kDa



Western blot - Anti-SH3PX1/SNX9 antibody [EPR14399] (ab181856)

All lanes:
Western blot - Anti-SH3PX1/SNX9 antibody [EPR14399] (ab181856) at 1/50000 dilution

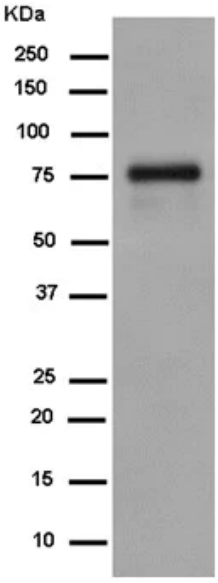
All lanes:
HeLa cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugate at 1/1000 dilution

Predicted band size: 67 kDa

Observed band size: 78 kDa



Western blot - Anti-SH3PX1/SNX9 antibody [EPR14399] (ab181856)

All lanes:
Western blot - Anti-SH3PX1/SNX9 antibody [EPR14399] (ab181856) at 1/10000 dilution

All lanes:
HCT-116 cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugate at 1/1000 dilution

Predicted band size: 67 kDa

Observed band size: 78 kDa

B

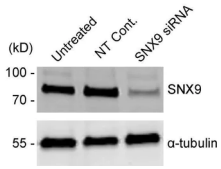


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Western blot - Anti-SH3PX1/SNX9 antibody [EPR14399] (ab181856)

SH3PX1/SNX9 Western blot staining using rabbit Anti-SH3PX1/SNX9 antibody

SH3PX1/SNX9 western blot using anti-SH3PX1/SNX9 antibody [EPR14399] ab181856. Publication image and figure legend from Jarsch, I. K., Gadsby, J. R., et al., 2020, J Cell Biol, PubMed 32328641.

ab181856 was used in this publication in western blot. This may not be the same as the application(s) guaranteed by Abcam. For a full list of applications guaranteed by Abcam for ab181856 please see the product overview.

SNX9 in cells.(A) Single frame from a TIRFM time-lapse of Xenopus chordamesoderm cells expressing mNeonGreen-SNX9 (green) and GAP-RFP membrane marker (magenta) showing SNX9 at the tip of filopodia. Scale bar, 10 µm. (B) Western blots against SNX9 or the loading control DM1α (tubulin) of untreated RPE-1 cells and cells treated with either non-targeting control (Non-targ.) or anti SNX9 siRNA showing knockdown with the SNX9 siRNA sequence. (C) Quantification of the number of filopodia present per cell in untreated RPE-1 cells and cells treated with either nontargeting control or anti SNX9 siRNA, illustrating no change in the average number of filopodia per cell on SNX9 knockdown. Each data point represents an individual cell; n = 18, 13, and 23 cells for the untreated (unt.), non-targeting control (NT Cont.), and SNX9 siRNA–treated conditions, respectively. Lines indicate mean ± SD. Statistical significance was assessed by Kruskal-Wallis ANOVA with Dunn's multiple comparisons test. Overall ANOVA P = 0.1206 (n.s.), multiple comparisons: untreated vs. nontargeting control P = 0.1481 (n.s.), untreated vs. SNX9 siRNA P > 0.9999 (n.s.), nontargeting control vs. SNX9 siRNA P = 0.2800 (n.s.). (D and E) Example images of fluorescence confocal images of HeLa cells either (D) uninfected or (E) infected with C. trachomatis (yellow) and immunolabeled using mouse anti-human SNX9 (purple) and phalloidin (green), illustrating SNX9 presence in filopodia and how C. trachomatis stick to preexisting filopodia that contain SNX9 in either the tip or shaft of the filopodia. Scale bars, 2 µm. (F) Quantification of SNX9 presence in filopodia in both uninfected HeLa cells and in cells infected with C. trachomatis. SNX9 immunolabeling stains ~95% of filopodia in untreated RPE-1 with no difference on C. trachomatis infection. Each data point represents an individual imaging region; n = 20 regions per condition. Lines indicate mean ± SD. Infected: 2,080 filopodia from 97 cells; uninfected: 1,648 filopodia from 126 cells. Statistical significance was assessed by unpaired t test, P = 0.3239 (n.s.).

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