abcam

ab247922

Anti-EHD1 antibody [EPR4955] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR4955
Purification technique	Affinity purification Protein A
Specificity	The immunogen used for this product shares 66% homology with EHD3. Cross-reactivity with this protein has not been confirmed experimentally.

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information EHD1

Function	ATP- and membrane-binding protein that controls membrane reorganization/tubulation upon ATP hydrolysis. In vitro causes vesiculation of endocytic membranes (PubMed:24019528). Acts in early endocytic membrane fusion and membrane trafficking of recycling endosomes (PubMed:15020713, PubMed:17233914, PubMed:20801876). Recruited to endosomal membranes upon nerve growth factor stimulation, indirectly regulates neurite outgrowth (By similarity). Plays a role in myoblast fusion (By similarity). Involved in the unidirectional retrograde dendritic transport of endocytosed BACE1 and in efficient sorting of BACE1 to axons implicating a function in neuronal APP processing (By similarity). Plays a role in the formation of the ciliary vesicle (CV), an early step in cilium biogenesis (PubMed:31615969). Proposed to be required for the fusion of distal appendage vesicles (DAVs) to form the CV by recruiting SNARE complex component SNAP29. Is required for recruitment of transition zone proteins CEP290, RPGRIP1L, TMEM67 and B9D2, and of IFT20 following DAV reorganization before Rab8-dependent ciliary membrane extension. Required for the loss of CCP110 form the mother centriole essential for the maturation of the basal body during ciliogenesis (PubMed:25686250).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab247922 is the carrier-free version of ab109747.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	EHD1 also known as Eps15 homology domain-containing protein 1 or EH domain-containing protein 1 is an important component in the process of endocytic recycling. EHD1 belongs to the C-terminal EHD protein family and it has a molecular mass of approximately 61 kDa. Expression of EHD1 occurs in various tissues with significant levels in the brain heart and skeletal muscle. As a member of this family EHD1 plays an authoritative role in membrane trafficking specifically in the cycling of endosomes back to the plasma membrane.
Biological function summary	In cellular transport and organization EHD1 regulates the recycling and sorting of endocytic vesicles. It functions in concert with other partners including Rab proteins and syndapin forming a complex that promotes the tubulation and fission of recycling carriers. This involvement is fundamental for maintaining cell surface receptor levels and proper cell signaling. EHD1's role is necessary to ensure cellular homeostasis and receptor-mediated processes.
Pathways	EHD1 plays an influential role in intracellular trafficking pathways particularly the endocytic recycling pathway and the trafficking of GLUT4 in adipocytes and muscle cells. In collaboration with proteins such as Rab11 and SNX5 it supports the movement of recycled membrane proteins and receptors back to the cell surface. In the GLUT4 pathway EHD1 assists in glucose uptake by facilitating the correct localization of glucose transporters on the plasma membrane which is critical for maintaining glucose homeostasis.
Associated diseases and disorders	EHD1's dysfunction has been linked to neurodegenerative diseases and cancer. Abnormal EHD1 activity can impact neuronal signaling pathways contributing to conditions such as Alzheimer's disease. The alteration of its function can also

promote disrupted recycling of growth factor receptors therefore potentially contributing to oncogenic processes. EHD1's interactions with proteins like Rab11 and SNX5 in these contexts highlight its involvement in maintaining cellular integrity and normal function.

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

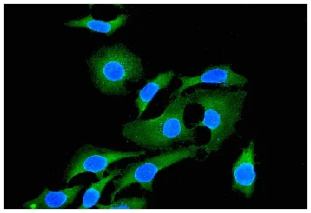
We do not recommend this combination. It is not covered by our product promise.

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.

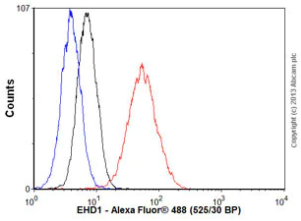
3 product images



Immunocytochemistry/ Immunofluorescence - Anti-EHD1 antibody [EPR4955] - BSA and Azide free (ab247922)

EHD1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-EHD1 antibody

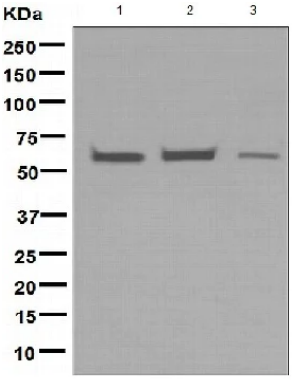
This data was developed using ab109747, the same antibody clone in a different buffer formulation.ab109747, at 1/100 dilution, staining EHD1 in HeLa cells by Immunofluorescence.



Flow Cytometry (Intracellular) - Anti-EHD1 antibody [EPR4955] - BSA and Azide free (ab247922)

EHD1 Flow Cytometry (Intracellular) staining using rabbit Anti-EHD1 antibody

This data was developed using ab109747, the same antibody clone in a different buffer formulation.
Overlay histogram showing HeLa cells stained with ab109747 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab109747, 1/10000 dilution) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-rabbit IgG (H&L) (ab150077) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (0.1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.



Western blot - Anti-EHD1 antibody [EPR4955] - BSA and Azide free (ab247922)

This data was developed using ab109747, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-EHD1 antibody [EPR4955] (ab109747) at 1/10000 dilution

Lane 1:
HepG2 cell lysate at 10 µg

Lane 2:
HeLa cell lysate at 10 µg

Lane 3:
JAR cell lysate at 10 µg

Predicted band size: 61 kDa

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