abcam

ab251433

Anti-FXYD3 antibody [EPR17160] - 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	EPR17160
Purification technique	Affinity purification Protein A
Concentration	1.008 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	-

Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information FXYD3

Function	Associates with and regulates the activity of the sodium/potassium-transporting ATPase (NKA) which transports Na(+) out of the cell and K(+) into the cell (PubMed:17077088). Reduces glutathionylation of the NKA beta-1 subunit ATP1B1, thus reversing glutathionylation-mediated inhibition of ATP1B1 (PubMed:21454534). Induces a hyperpolarization-activated chloride current when expressed in Xenopus oocytes (PubMed:7836447). Isoform 1. Decreases the apparent K+ and Na+ affinity of the sodium/potassium-transporting ATPase over a large range of membrane potentials. Isoform 2. Decreases the apparent K+ affinity of the sodium/potassium-transporting ATPase only at slightly negative and positive membrane potentials and increases the apparent Na+ affinity over a large range of membrane potentials.

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

ab251433 is the carrier-free version of ab205534.

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	FXYD3 also known as Mat-8 plays a role as a regulatory subunit associated with the Na+/K+-ATPase pump modulating its ion transport activity. The protein has a molecular weight of approximately 10 kDa. FXYD3 is expressed in various tissues

	but it shows higher levels in epithelial tissues particularly in gastrointestinal and mammary tissues. The protein consists of a single transmembrane domain which suggests its function in modulating ion exchange across membranes.
Biological function summary	FXYD3 modulates ion transport processes important for maintaining cellular homeostasis. It forms part of the larger Na+/K+-ATPase complex interacting with other subunits to influence the pump's activity. This association affects the electrochemical gradients across the cell membrane impacting various cellular processes including volume regulation pH balance and nutrient uptake. Therefore FXYD3 is involved in key physiological roles in tissues where electrolyte balance is essential.
Pathways	FXYD3 integrates into ion transport and signaling pathways including the sodium ion transmembrane transport pathway. It interacts closely with proteins like the α and β subunits of the Na+/K+-ATPase in this context regulating their pump activity. This integration with the sodium ion transmembrane transport and signal transduction pathways exemplifies FXYD3's role in cellular ion homeostasis and how it may influence specific physiological responses.
Associated diseases and disorders	FXYD3 shows links to cancer particularly breast cancer. Altered expression of FXYD3 has been observed in malignant tissues suggesting a contribution to tumor development and progression. The relationship between FXYD3 and proteins like E-cadherin in this context may indicate its role in cellular adhesion and migration alterations seen in cancer. Another disorder linked to FXYD3 is cystic fibrosis where its modulation of ion channels could affect disease severity or progression especially regarding electrolyte transport abnormalities.

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

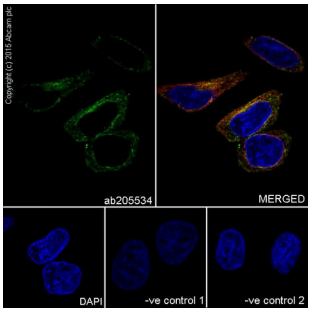
We do not recommend this combination. It is not covered by our product promise.

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.

7 product images



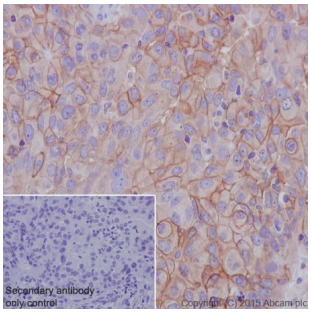
Immunocytochemistry/ Immunofluorescence - Anti-FXYD3 antibody [EPR17160] - BSA and Azide free (ab251433)

FXYD3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-FXYD3 antibody

This data was developed using ab205534, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HeLa (Human epithelial cells from cervix adenocarcinoma) cells labeling FXYD3 with ab205534 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic staining on HeLa cell line.

The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin mouse MAb (ab7291) at 1/1000 dilution followed by Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) (ab150120) secondary antibody at 1/1000 dilution (red).

The negative controls are as follows:
-ve control 1: ab205534 at 1/100 dilution, followed by Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) (ab150120) secondary antibody at 1/1000 dilution.
-ve control 2: Anti-alpha Tubulin mouse MAb (ab7291) at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.



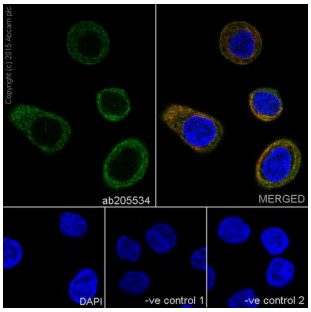
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-FXYD3 antibody [EPR17160] - BSA and Azide free (ab251433)

FXYD3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-FXYD3 antibody

This data was developed using ab205534, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue labeling FXYD3 with ab205534 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution. Membrane and cytoplasmic staining on human breast carcinoma is observed. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



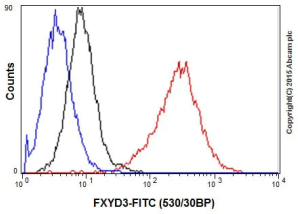
Immunocytochemistry/ Immunofluorescence - Anti-FXYD3 antibody [EPR17160] - BSA and Azide free (ab251433)

FXYD3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-FXYD3 antibody

This data was developed using ab205534, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HT-29 (Human colorectal adenocarcinoma cell line) cells labeling FXYD3 with ab205534 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic staining on HT-29 cell line.

The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin mouse MAb (ab7291) at 1/1000 dilution followed by Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) (ab150120) secondary antibody at 1/1000 dilution (red).

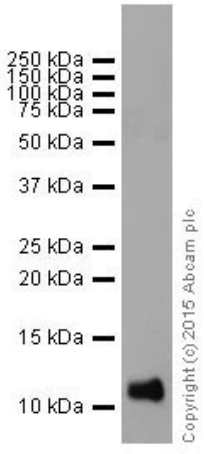
The negative controls are as follows:
-ve control 1: ab205534 at 1/100 dilution, followed by Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) (ab150120) secondary antibody at 1/1000 dilution.
-ve control 2: Anti-alpha Tubulin mouse MAb (ab7291) at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.



Flow Cytometry (Intracellular) - Anti-FXYD3 antibody [EPR17160] - BSA and Azide free (ab251433)

FXYD3 Flow Cytometry (Intracellular) staining using rabbit Anti-FXYD3 antibody

This data was developed using ab205534, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed MCF7 (Human breast adenocarcinoma cell line) cells labeling FXYD3 with ab205534 at 1/60 dilution (red) compared with a rabbit monoclonal IgG isotype control (ab172730; black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (FITC) at 1/500 dilution was used as the secondary antibody.



Western blot - Anti-FXYD3 antibody [EPR17160] - BSA and Azide free (ab251433)

FXYD3 Western blot staining of Human stomach lysate using rabbit Anti-FXYD3 antibody

This data was developed using ab205534, the same antibody clone in a different buffer formulation.
Blocking and dilution buffer: 5% NFDM/TBST.

All lanes:
Western blot - Anti-FXYD3 antibody [EPR17160] (ab205534) at 1/1000 dilution

All lanes:
Human stomach lysate at 20 µg

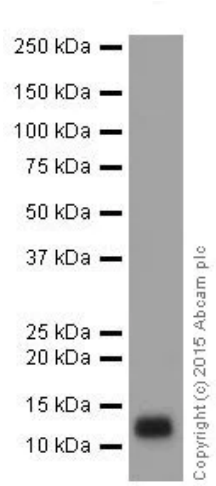
Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 9 kDa

Observed band size: 12 kDa

Exposure time: 3min



Western blot - Anti-FXYD3 antibody [EPR17160] - BSA and Azide free (ab251433)

This data was developed using ab205534, the same antibody clone in a different buffer formulation.
Blocking and dilution buffer: 5% NFDM/TBST.

All lanes:
Western blot - Anti-FXYD3 antibody [EPR17160] (ab205534) at 1/5000 dilution

All lanes:
MCF7 (Human breast adenocarcinoma cell line) whole cell lysate at 10 µg

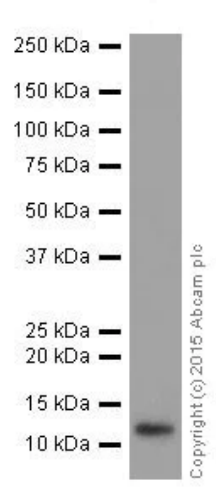
Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 9 kDa

Observed band size: 12 kDa

Exposure time: 30s



Western blot - Anti-FXYD3 antibody [EPR17160] - BSA and Azide free (ab251433)

FXYD3 Western blot staining of Human colon cancer lysate using rabbit Anti-FXYD3 antibody

This data was developed using ab205534, the same antibody clone in a different buffer formulation.
Blocking and dilution buffer: 5% NFDM/TBST.

All lanes:
Western blot - Anti-FXYD3 antibody [EPR17160] (ab205534) at 1/1000 dilution

All lanes:
Human colon cancer lysate at 10 µg

Secondary

All lanes:
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/10000 dilution

Predicted band size: 9 kDa

Observed band size: 12 kDa

Exposure time: 3min

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