abcam

**ab205534**

# Anti-FXYD3 antibody [EPR17160]

Recombinant | RabMAb

## Key facts

| | |
|---|---|
| **Isotype** | IgG |
| **Host species** | Rabbit |
| **Storage buffer** | pH: 7.2 - 7.4 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** | EPR17160 |
| **Purification technique** | Affinity purification Protein A |
| **Concentration** | 0.312 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

### WB

#### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/1000 |
| **Notes** | - |

### ICC/IF

**Tested**

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/100 |
| **Notes** | - |

## Flow Cyt (Intra)

**Tested**

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/60 |
| **Notes** | - |

## IHC-P

**Tested**

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/2000 |
| **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** | 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** | 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**

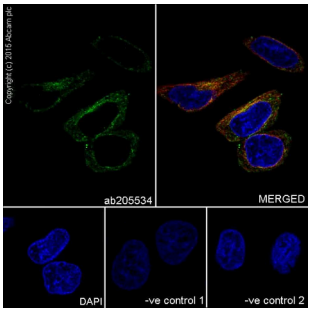
We do not recommend this combination. It is not covered by our product promise.

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

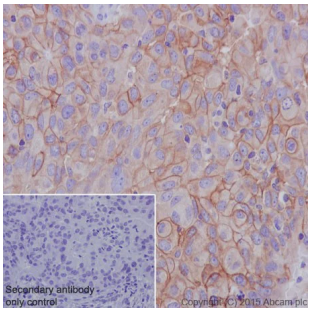



## Immunocytochemistry/ Immunofluorescence - Anti-FXYD3 antibody [EPR17160] (ab205534)

FXYD3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-FXYD3 antibody

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.

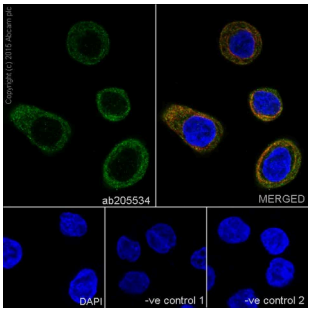



## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-FXYD3 antibody [EPR17160] (ab205534)

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

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.

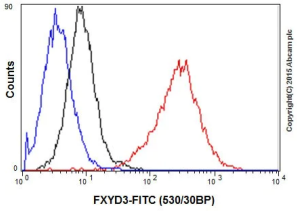



## Immunocytochemistry/ Immunofluorescence - Anti-FXYD3 antibody [EPR17160] (ab205534)

FXYD3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-FXYD3 antibody

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).

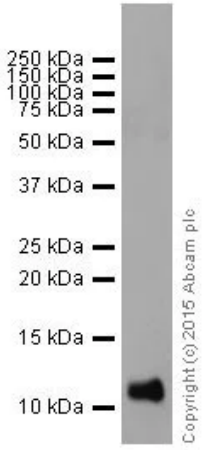
The negative controls are as follows:
-ve control 1: ab205534 at 1/100 dilution followed by Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) (ab150120) secondary antibody at 1/1000 dilution.
-ve control 2: Anti-alpha Tubulin mouse MAb (ab7291) at 1/1000 dilution followed by Goat Anti-Rabbit IgG H&L (Alexa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




## Flow Cytometry (Intracellular) - Anti-FXYD3 antibody [EPR17160] (ab205534)

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

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] (ab205534)

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

Blocking/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

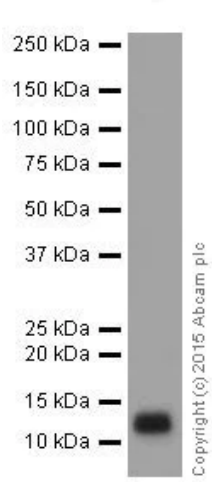
Secondary

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] (ab205534)

Blocking/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

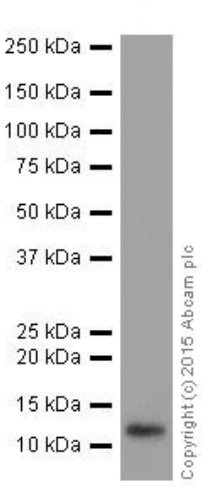
Secondary

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] (ab205534)

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

Blocking/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'.