abcam

ab214487

Anti-Claudin 3 antibody [EPR19971]

Anti-Claudin 3 antibody [EPR19971] (ab214487) is a rabbit monoclonal antibody detecting Claudin 3 in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, ICC/IF**. Suitable for **Human**.

- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb | 20ul selling size

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	EPR19971
Purification technique	Affinity purification Protein A
Concentration	0.597 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/30

Notes	-

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	1/50
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

IHC-P

Tested

Species	Human
Dilution info	1/250
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Target data

See full target information CLDN3

Function	Barrier-forming claudin. Plays a major role in tight junction-specific obliteration of the intercellular space, through calcium-independent cell-adhesion activity.

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

What is this antibody validated in?
Anti-Claudin 3 antibody [EPR19971] (ab214487) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human samples.

What is the molecular weight of Claudin 3?
Anti-Claudin 3 [EPR19971] (ab214487) specifically detects a band for Claudin 3 (UniProt: O15551) at a molecular weight of 23kDa.

Other related products
We have a range of other formats of antibody clone [EPR19971] also available for your convenience: ab214487, Carrier free - ab222485, PE - ab306179, APC - ab306180, HRP - ab306181, Alkaline Phosphatase - ab308764, Alexa Fluor® 488 - ab309713, Alexa Fluor® 647 - ab310079, Alexa Fluor® 594 - ab310479, Alexa Fluor® 555 - ab312009, Alexa Fluor® 568 - ab312485, Alexa Fluor® 750 - ab321378

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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Supplementary info

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

Activity summary	The protein 'Claudin 3' also known simply as Claudin-3 or CLDN3 is an important component of tight junctions in epithelial and endothelial cells. Claudin 3 has a molecular weight of approximately 22 kDa. It is expressed in a variety of tissues including the liver lungs and kidneys. By forming channels within tight junctions Claudin 3 regulates paracellular transport and maintains the barrier properties of cell layers thereby playing a significant role in preserving cellular environments.
Biological function summary	Claudin 3 contributes to the establishment and function of tight junctions that create a selective barrier in epithelial cell layers. This protein works as part of a larger complex consisting of other claudin family members which together ensure the integrity and permeability of the barrier. Through these complexes Claudin 3 helps facilitate cell polarity and tissue homeostasis which are essential for normal cellular function and organization.
Pathways	Claudin 3 participates in signaling pathways such as the Wnt/beta-catenin pathway and the epidermal growth factor receptor (EGFR) pathway. Claudin 3 modulates these pathways alongside other claudin proteins and partners like zonula occludens proteins. These interactions are central to processes like tissue morphogenesis and wound healing where precise control of cellular communication and migration is required.
Associated diseases and disorders	Claudin 3 is linked to various cancers including ovarian and prostate cancer. Its expression is often altered in tumor cells where its dysregulation can lead to the disruption of tight junctions and contribute to cancer progression. In ovarian cancer Claudin 3 interacts with matrix metalloproteinases (MMPs) influencing the metastatic potential of cancer cells. Understanding Claudin 3's role can provide insights into new therapeutic targets for managing epithelial barrier dysfunction in cancer.

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.

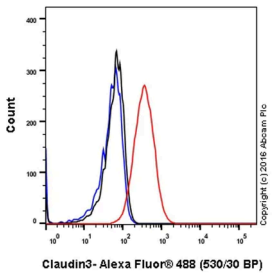
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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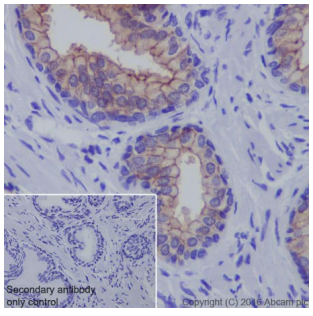
8 product images



Flow Cytometry (Intracellular) - Anti-Claudin 3 antibody [EPR19971] (ab214487)

Claudin 3 Flow Cytometry (Intracellular) staining using rabbit Anti-Claudin 3 antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed MCF7 (Human breast adenocarcinoma cell line) cells labeling Claudin 3with ab214487 at 1/50 dilution (red) compared withRabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730; black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat Anti-Rabbit IgG (Alexa Fluor® 488) at 1/2000 dilution was used as the secondary antibody.

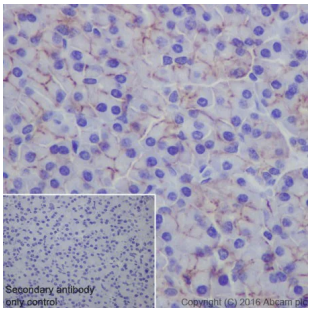


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Claudin 3 antibody [EPR19971] (ab214487)

Claudin 3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Claudin 3 antibody

Immunohistochemical analysis of paraffin-embedded human prostate tissue labeling Claudin 3 with ab214487 at 1/250 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution. Membrane staining on the epithelium of human benign prostatic hyperplasia 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.

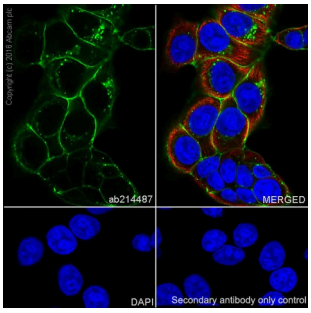


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Claudin 3 antibody [EPR19971] (ab214487)

Claudin 3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Claudin 3 antibody

Immunohistochemical analysis of paraffin-embedded human pancreas tissue labeling Claudin 3 with ab214487 at 1/250 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution. Membrane staining on the pancreatic acinar cells of human pancreas 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.

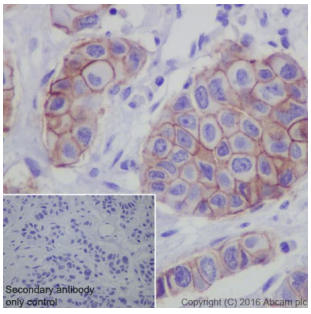
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-Claudin 3 antibody [EPR19971] (ab214487)

Claudin 3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Claudin 3 antibody

Immunofluorescent analysis of 100% methanol-fixed MCF7 (Human breast adenocarcinoma cell line) cells labeling Claudin 3 with ab214487 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 membrane staining on MCF7 cell line. The nuclear counterstain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) ab195889) at 1/200 dilution (red).
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) at 1/1000 dilution.

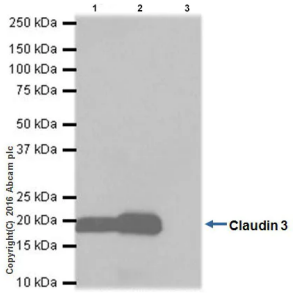


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Claudin 3 antibody [EPR19971] (ab214487)

Claudin 3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Claudin 3 antibody

Immunohistochemical analysis of paraffin-embedded human breast cancer tissue labeling Claudin 3 with ab214487 at 1/250 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution. Membrane staining on the tumor cells of human breast cancer 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.



Immunoprecipitation - Anti-Claudin 3 antibody [EPR19971] (ab214487)

Claudin 3 was immunoprecipitated from 0.35 mg of MCF7 (Human breast adenocarcinoma cell line) whole cell lysate with ab214487 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab214487 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/10,000 dilution
Lane 1: MCF7 whole cell lysate 10µg (Input).

Lane 2: ab214487 IP in MCF7 whole cell lysate.

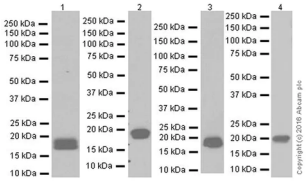
Lane 3:Rabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730) instead of ab214487 in MCF7 whole cell lysate.

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 3 seconds.

All lanes:
Immunoprecipitation - Anti-Claudin 3 antibody [EPR19971] (ab214487)

Predicted band size: 23 kDa



Western blot - Anti-Claudin 3 antibody [EPR19971] (ab214487)

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure time: Lane 1/2: 1 minute; Lane 3: 3 seconds; Lane 4: 3 minutes.

Doublet bands observed correspond to full length and processed forms of the claudin-3 protein. This is consistent with what has been described in the literature (PMID: 26170992).

All lanes:
Western blot - Anti-Claudin 3 antibody [EPR19971] (ab214487) at 1/1000 dilution

Lane 1:
Human breast cancer lysate at 10 µg

Lane 2:
Human pancreas lysate at 10 µg

Lane 3:
Human ovary cancer lysate at 10 µg

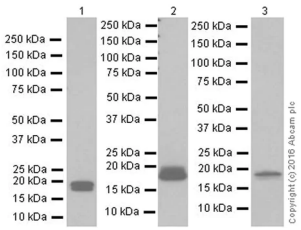
Lane 4:
Human fetal kidney lysate at 10 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG Peroxidase Conjugate, specific to the non-reduced form of IgG at 1/5000 dilution

Predicted band size: 23 kDa

Observed band size: 20 kDa



Western blot - Anti-Claudin 3 antibody [EPR19971] (ab214487)

Blocking/Dilution buffer: 5% NFDM/TBST.
Doublet bands observed correspond to full length and processed forms of the claudin-3 protein. This is consistent with what has been described in the literature (PMID: 26170992).

All lanes:
Western blot - Anti-Claudin 3 antibody [EPR19971] (ab214487) at 1/1000 dilution

Lane 1:
SW480 (Human colorectal adenocarcinoma cell line) whole cell lysate at 10 µg

Lane 2:
MCF7 (Human breast adenocarcinoma cell line) whole cell lysate at 10 µg

Lane 3:
Caco-2 (Human colorectal 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: 23 kDa

Observed band size: 20 kDa

Exposure time: 1s

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