Claudin 2 Monoclonal Antibody (12H12)

Product Details	
Size	100 µg
Species Reactivity	Dog, Human, Mouse, Rat
Published Species	Dog, Rat, Pig, Non-human primate, Cat, Mouse, Human, Rhesus monkey
Host/Isotype	Mouse / IgG2b
Class	Monoclonal
Type	Antibody
Clone	12H12
Conjugate	Unconjugated
Immunogen	Synthetic peptide corresponding to a 26 amino acid sequence at the C-terminus of mouse Claudin-2
Form	Liquid
Concentration	0.5 mg/mL
Purification	Protein A
Storage buffer	PBS, pH 7.4
Contains	0.1% sodium azide
Storage conditions	-20°C
RRID	AB_2533085

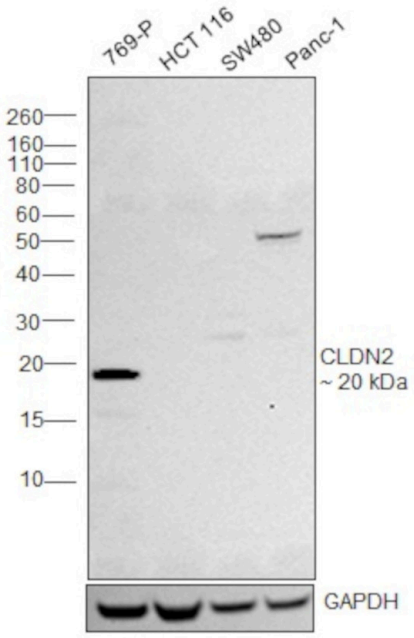
Applications	Tested Dilution	Publications
Western Blot (WB)	1-3 µg/mL	37 Publications
Immunohistochemistry (IHC)	-	17 Publications
Immunohistochemistry (Paraffin) (IHC (P))	1:10-1:100	9 Publications
Immunocytochemistry (ICC/IF)	-	23 Publications
Flow Cytometry (Flow)	-	1 Publication
ELISA (ELISA)	-	1 Publication
Immunoprecipitation (IP)	Assay-dependent	-
Miscellaneous PubMed (Misc)	-	9 Publications

Product Specific Information

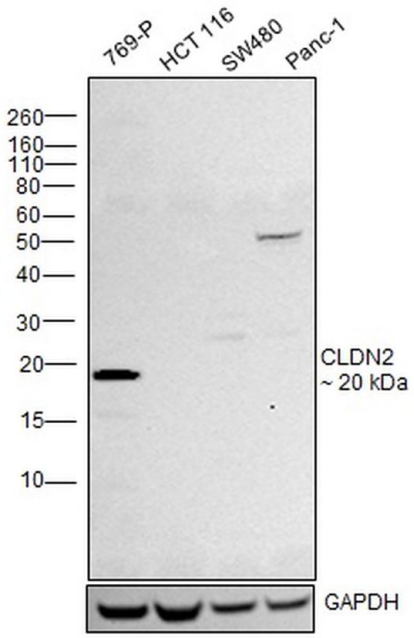
This antibody reacts specifically with the ~22-23 kDa Claudin-2 protein. Reactivity has been confirmed with human, mouse, rat, and dog liver and kidney homogenates, as well MDCK and Caco-2 cell lysates, by western blotting and immunfluorescence. Reactivity has also been confirmed with formalin-fixed, paraffin-embedded (FFPE) human normal colon, spleen, and thyroid, and colon and breast cancer tissues by immunohistochemistry.

For best results in immunohistochemistry (1-2 µg/mL) with formalin-fixed, paraffin-embedded (FFPE) tissues, heat induced epitope retrieval (HIER) with EDTA buffer, pH 8.0, is required prior to staining. In western blotting a non-specific band at 27 kDa is observed in some lysates. In Caco-2 cells this band appears stronger than the correct band at 22 kDa. An alternative product, rabbit anti-Claudin-2 (Cat. No. 516100) may be used for western blotting of these lysates.

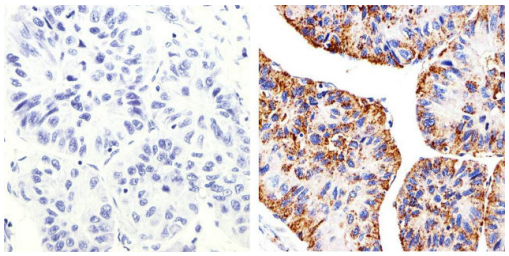
Product Images For Claudin 2 Monoclonal Antibody (12H12)



Claudin 2 Antibody (32-5600)
Antibody specificity was demonstrated by detection of differential basal expression of the target across cell lines owing to their inherent genetic constitution. Relative expression was observed in cell lines 769-P (Positive) against HCT 116, SW480 and Panc-1 (Negative) using Anti-Claudin 2 Monoclonal Antibody (12H12) (Product # 32-5600) in Western Blot. {RE}



Claudin 2 Antibody (32-5600) in WB
Western blot was performed using Anti-Claudin 2 Monoclonal Antibody (12H12) (Product # 32-5600) and a 20 kDa band corresponding to Claudin-2 was observed across positive cell line 769-P. Membrane enriched extracts (30 µg lysate) of 769-P (Lane 1), HCT 116 (Lane 2), SW480 (Lane 3) and PANC-1 (Lane 4) were electrophoresed using NuPAGE™ 10% Bis-Tris Protein Gel (Product # NP0301BOX). Resolved proteins were then transferred onto a nitrocellulose membrane (Product # IB23001) by iBlot® 2 Dry Blotting System (Product # IB21001). The blot was probed with the primary antibody (2.5 µg/mL) and detected by chemiluminescence with Goat anti-Mouse IgG (H+L) Superclonal™ Recombinant Secondary Antibody, HRP (Product # A28177,1: 20000 dilution) using the iBright™ FL1500 Imaging System (Product # A44115). Chemiluminescent detection was performed using SuperSignal™ West Pico PLUS Chemiluminescent Substrate (Product # 34580).



Claudin 2 Antibody (32-5600) in IHC (P)
Immunohistochemistry analysis of Claudin 2 showing staining in the cytoplasm and membrane of paraffin-embedded human hepatocarcinoma (right) compared to a negative control without primary antibody (left). To expose target proteins, antigen retrieval was performed using 10mM sodium citrate (pH 6.0), microwaved for 8-15 min. Following antigen retrieval, tissues were blocked in 3% H2O2-methanol for 15 min at room temperature, washed with ddH2O and PBS, and then probed with a Claudin 2 monoclonal antibody (Product # 32-5600) diluted in 3% BSA-PBS at a dilution of 1:20 overnight at 4°C in a humidified chamber. Tissues were washed extensively in PBST and detection was performed using an HRP-conjugated secondary antibody followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting.

View more figures on thermofisher.com

97 References

Western Blot (37)

Cells

ZO-1 Guides Tight Junction Assembly and Epithelial Morphogenesis via Cytoskeletal Tension-Dependent and -Independent Functions.

"32-5600 was used in Western Blotting to reveal that reciprocal regulation between ZO-1 and cell mechanics controls tight junction assembly and epithelial morphogenesis, and that, in a second, tension-independent step, ZO-1 is required to assemble morphologically and structurally fully assembled and functionally normal tight junctions."

Authors: Haas AJ,Zihni C,Krug SM,Maraspini R,Otani T,Furuse M,Honigmann A,Balda MS,Matter K

Year 2022

Species Dog

Cells

MarvelD3 Is Upregulated in Ulcerative Colitis and Has Attenuating Effects during Colitis Indirectly Stabilizing the Intestinal Barrier.

"32-5600 was used in Western Blotting to conclude that the protective effects are hardly targeting the intestinal barrier directly but are based on regulatory processes supporting stabilization of the intestinal barrier."

Authors: Weiß F,Czichos C,Knobe L,Voges L,Bojarski C,Michel G,Fromm M,Krug SM

Year 2022

Species Human

Dilution 1:1000

View more WB references on thermofisher.com

Immunohistochemistry (17)

International journal of molecular sciences

The Local Activation of Toll-like Receptor 7 (TLR7) Modulates Colonic Epithelial Barrier Function in Rats.

"32-5600 was used in Immunohistochemistry-immunofluorescence to show that TLR7 stimulation leads to the modulation of the colonic EBF, having beneficial or detrimental effects depending upon the state of the epithelium."

Authors: Estévez J,Martínez V

Year 2023

Species Rat

Dilution 1:2000

PloS one

Disruption of the pro-inflammatory, anti-inflammatory cytokines and tight junction proteins expression, associated with changes of the composition of the gut microbiota in patients with irritable bowel syndrome.

"32-5600 was used in Immunohistochemistry to assess the changes of gut microbiome composition, tight junction proteins, and cytokines expression of intestinal mucosa from the duodenum to the distal part of the colon in irritable bowel syndrome patients and healthy volunteers."

Authors: Ivashkin V,Poluektov Y,Kogan E,Shifrin O,Sheptulin A,Kovaleva A,Kurbatova A,Krasnov G,Poluektova E

Year 2021

Species Human

Dilution 1:100

View more IHC references on thermofisher.com

More applications with references on thermofisher.com

IHC (P) (9) ICC/IF (23) Flow (1) ELISA (1) Misc (9)

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