

claudin-6 (A-4): sc-393671

BACKGROUND

The claudin superfamily consists of many structurally related proteins in humans. These proteins are important structural and functional components of tight junctions in paracellular transport. Claudins are located in both epithelial and endothelial cells in all tight junction-bearing tissues. Three classes of proteins are known to localize to tight junctions, including the claudins, Occludin and junction adhesion molecule. Claudins, which consist of four transmembrane domains and two extracellular loops make up tight junction strands. Emerging evidence suggests that the claudin family of proteins regulates transport through tight junctions via differential discrimination for solute size and charge. Claudin expression is often highly restricted to specific regions of different tissues and may have an important role in transcellular transport through tight junctions.

REFERENCES

1. Morita, K., et al. 1999. Endothelial claudin: claudin-5/TMVCF constitutes tight junction strands in endothelial cells. *J. Cell Biol.* 147: 185-194.
2. Fanning, A.S., et al. 1999. Transmembrane proteins in the tight junction barrier. *J. Am. Soc. Nephrol.* 10: 1337-1345.

CHROMOSOMAL LOCATION

Genetic locus: CLDN6 (human) mapping to 16p13.3; Cldn6 (mouse) mapping to 17 A3.3.

SOURCE

claudin-6 (A-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 191-220 at the C-terminus of claudin-6 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

claudin-6 (A-4) is available conjugated to agarose (sc-393671 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393671 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393671 PE), fluorescein (sc-393671 FITC), Alexa Fluor® 488 (sc-393671 AF488), Alexa Fluor® 546 (sc-393671 AF546), Alexa Fluor® 594 (sc-393671 AF594) or Alexa Fluor® 647 (sc-393671 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393671 AF680) or Alexa Fluor® 790 (sc-393671 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393671 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

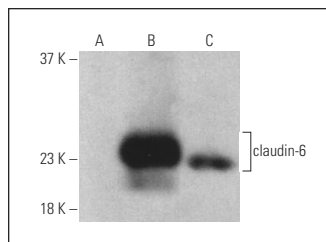
claudin-6 (A-4) is recommended for detection of claudin-6 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for claudin-6 siRNA (h): sc-43046, claudin-6 siRNA (m): sc-43047, claudin-6 shRNA Plasmid (h): sc-43046-SH, claudin-6 shRNA Plasmid (m): sc-43047-SH, claudin-6 shRNA (h) Lentiviral Particles: sc-43046-V and claudin-6 shRNA (m) Lentiviral Particles: sc-43047-V.

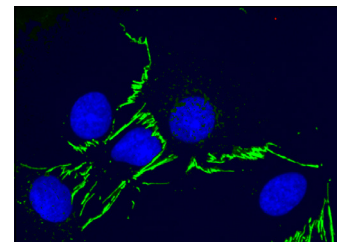
Molecular Weight of claudin-6: 23 kDa.

Positive Controls: claudin-6 (m): 293T Lysate: sc-119291 or Hep G2 cell lysate: sc-2227.

DATA



claudin-6 (A-4) HRP: sc-393671 HRP. Direct western blot analysis of claudin-6 expression in non-transfected 293T: sc-117752 (A), mouse claudin-6 transfected 293T: sc-119291 (B) and Hep G2 (C) whole cell lysates.



claudin-6 (A-4): sc-393671. Immunofluorescence staining of formalin-fixed Hep G2 cells showing tight junction localization.

SELECT PRODUCT CITATIONS

1. Hopcraft, S.E. and Evans, M.J. 2015. Selection of a hepatitis C virus with altered entry factor requirements reveals a genetic interaction between the E1 glycoprotein and claudins. *Hepatology* 62: 1059-1069.
2. Raghu, D., et al. 2019. GALNT3 maintains the epithelial state in trophoblast stem cells. *Cell Rep.* 26: 3684-3697.e7.
3. Xia, X., et al. 2019. EspF is crucial for *Citrobacter rodentium*-induced tight junction disruption and lethality in immunocompromised animals. *PLoS Pathog.* 15: e1007898.
4. Liu, Q., et al. 2021. Repressing Ago2 mRNA translation by Trim71 maintains pluripotency through inhibiting let-7 microRNAs. *Elife* 10: e66288.
5. Romero-Estrada, J.H., et al. 2023. Binding of YY1/CREB to an enhancer region triggers claudin 6 expression in *H. pylori* LPS-stimulated AGS cells. *Int. J. Mol. Sci.* 24: 13974.
6. Kraemer, M., et al. 2024. Fetal gut cell-like differentiation in esophageal adenocarcinoma defines a rare tumor subtype with therapeutically relevant claudin-6 positivity and SWI/SNF gene alteration. *Sci. Rep.* 14: 13474.

RESEARCH USE

For research use only, not for use in diagnostic procedures.