SANTA CRUZ BIOTECHNOLOGY, INC.

claudin-19 (C-5): sc-365967

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 molecules. Claudins, which consist of four transmembrane domains and two extracellular loops, make up tight junction strands. Claudin expression is often highly restricted to specfic regions of different tissues and may have an important role in transcellular transport through tight junctions. claudin-19 is a 224 amino acid multi-pass membrane protein that belongs to the claudin family and is expressed as two isoforms due to alternative splicing events. Defects in the gene encoding claudin-19 are the cause of hypomagnesemia renal with ocular involvement (HOMGO), a renal disease characterized by hypomagnesemia, hypercalciuria and nephrocalcinosis.

REFERENCES

1. Fanning, A.S., et al. 1999. Transmembrane proteins in the tight junction barrier. J. Am. Soc. Nephrol. 10: 1337-1345.
2. Fujita, K., et al. 2000. Clostridium perfringens enterotoxin binds to the second extracellular loop of claudin-3, a tight junction integral membrane protein. FEBS Lett. 476: 258-261.
3. Heiskala, M., et al. 2001. The roles of claudin superfamily proteins in paracellular transport. Traffic 2: 93-98.

CHROMOSOMAL LOCATION

Genetic locus: CLDN19 (human) mapping to 1p34.2; Cldn19 (mouse) mapping to 4 D2.1.

SOURCE

claudin-19 (C-5) is a mouse monoclonal antibody raised against amino acids 160-224 mapping at the C-terminus of claudin-19 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

claudin-19 (C-5) is available conjugated to agarose (sc-365967 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365967 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365967 PE), fluorescein (sc-365967 FITC), Alexa Fluor® 488 (sc-365967 AF488), Alexa Fluor® 546 (sc-365967 AF546), Alexa Fluor® 594 (sc-365967 AF594) or Alexa Fluor® 647 (sc-365967 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365967 AF680) or Alexa Fluor® 790 (sc-365967 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

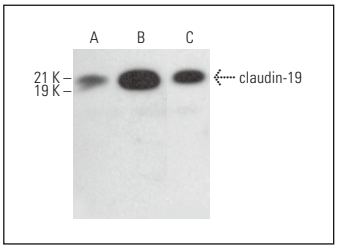
claudin-19 (C-5) is recommended for detection of claudin-19 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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-19 siRNA (h): sc-88300, claudin-19 siRNA (m): sc-142364, claudin-19 shRNA Plasmid (h): sc-88300-SH, claudin-19 shRNA Plasmid (m): sc-142364-SH, claudin-19 shRNA (h) Lentiviral Particles: sc-88300-V and claudin-19 shRNA (m) Lentiviral Particles: sc-142364-V.

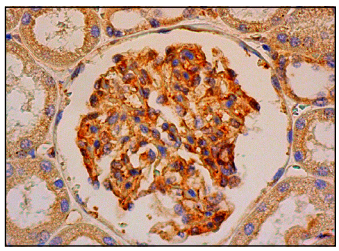
Molecular Weight of claudin-19: 22 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HEK293 whole cell lysate: sc-45136 or PC-12 cell lysate: sc-2250.

DATA



claudin-19 (C-5): sc-365967. Western blot analysis of claudin-19 expression in Hep G2 (**A**), HEK293 (**B**) and PC-12 (**C**) whole cell lysates.



claudin-19 (C-5): sc-365967. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing membrane and cytoplasmic staining of cells in glomeruli and cytoplasmic staining of cells in tubules.

SELECT PRODUCT CITATIONS

1. Wang, X., et al. 2018. Peripheral nerve injury induces dynamic changes of tight junction components. Front. Physiol. 9: 1519.
2. Matsumoto, E., et al. 2019. Fabricating retinal pigment epithelial cell sheets derived from human induced pluripotent stem cells in an automated closed culture system for regenerative medicine. PLoS ONE 14: e0212369.
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. Monzon, C.M. and Garvin, J.L. 2019. Claudin-19 mediates the effects of NO on the paracellular pathway in thick ascending limbs. Am. J. Physiol. Renal Physiol. 317: F411-F418.
5. Chen, B.J., et al. 2021. The transcriptome characteristics of vestibular organs from delayed endolymphatic hydrops patients (Meniere's disease). Clin. Otolaryngol. 46: 823-833.

RESEARCH USE

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