

claudin-10 (G-12): sc-373946

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 specific regions of different tissues and may have an important role in transcellular transport through tight junctions. Claudin-10 is a 228 amino acid multi-pass membrane protein that belongs to the claudin family and plays an important role in cell-adhesion activity and tight junction-specific events.

REFERENCES

- Fanning, A.S., et al. 1999. Transmembrane proteins in the tight junction barrier. *J. Am. Soc. Nephrol.* 10: 1337-1345.
- 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.
- Heiskala, M., et al. 2001. The roles of claudin superfamily proteins in paracellular transport. *Traffic* 2: 93-98.
- Nishiyama, R., et al. 2001. IL-2 receptor β subunit dependent and independent regulation of intestinal epithelial tight junctions. *J. Biol. Chem.* 276: 35571-35580
- Anderson, J.M. 2001. Molecular structure of tight junctions and their role in epithelial transport. *News Physiol. Sci.* 16: 126-130.
- Rahner, C., et al. 2001. Heterogeneity in expression and subcellular localization of claudins 2, 3, 4, and 5 in the rat liver, pancreas, and gut. *Gastroenterology* 120: 411-422.

CHROMOSOMAL LOCATION

Genetic locus: CLDN10 (human) mapping to 13q32.1; Cldn10 (mouse) mapping to 14 E4.

SOURCE

claudin-10 (G-12) is a mouse monoclonal antibody raised against amino acids 171-228 mapping at the C-terminus of claudin-10 of human origin.

PRODUCT

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

STORAGE

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

RESEARCH USE

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

APPLICATIONS

claudin-10 (G-12) is recommended for detection of claudin-10 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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-10 siRNA (h): sc-43052, claudin-10 siRNA (m): sc-43053, claudin-10 shRNA Plasmid (h): sc-43052-SH, claudin-10 shRNA Plasmid (m): sc-43053-SH, claudin-10 shRNA (h) Lentiviral Particles: sc-43052-V and claudin-10 shRNA (m) Lentiviral Particles: sc-43053-V.

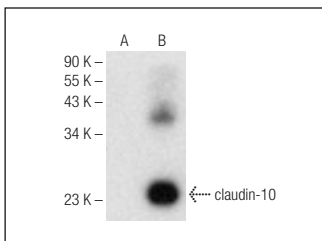
Molecular Weight of claudin-10 isoforms: 23/19 kDa.

Positive Controls: claudin-10 (m): 293T Lysate: sc-119283.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



claudin-10 (G-12): sc-373946. Western blot analysis of claudin-10 expression in non-transfected: sc-117752 (A) and mouse claudin-10 transfected: sc-119283 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Xia, X., et al. 2019. EspF is crucial for *Citrobacter rodentium*-induced tight junction disruption and lethality in immunocompromised animals. *PLoS Pathog.* 15: e1007898.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.