

claudin-11 (K-15): sc-13641

BACKGROUND

The claudin superfamily consists of many structurally related proteins in humans. These proteins, which include claudin-1 through -18, 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 (JAM). 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-11 is an oligodendrocyte-specific protein that is expressed in the tight junctions of Sertoli cells and myelin sheaths in mice. In addition, claudin-11 is expressed in the epithelial tight junctions of the choroid plexus. The human claudin-11 gene maps to chromosome 3q26.2.

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.
4. 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.
5. 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.
6. Wolburg, H., et al. 2001. Claudin-1, claudin-2 and claudin-11 are present in tight junctions of choroid plexus epithelium of the mouse. *Neurosci. Lett.* 307: 77-80.
7. LocusLink Report (LocusID: 5010). <http://www.ncbi.nlm.nih.gov/>

CHROMOSOMAL LOCATION

Genetic locus: CLDN11 (human) mapping to 3q26.2; Cldn11 (mouse) mapping to 3 A3.

SOURCE

claudin-11 (K-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of claudin-11 of human origin.

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.

PRODUCT

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

Blocking peptide available for competition studies, sc-13641 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

claudin-11 (K-15) is recommended for detection of claudin-11 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

claudin-11 (K-15) is also recommended for detection of claudin-11 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for claudin-11 siRNA (h): sc-43054, claudin-11 siRNA (m): sc-43055, claudin-11 shRNA Plasmid (h): sc-43054-SH, claudin-11 shRNA Plasmid (m): sc-43055-SH, claudin-11 shRNA (h) Lentiviral Particles: sc-43054-V and claudin-11 shRNA (m) Lentiviral Particles: sc-43055-V.

Molecular Weight of claudin-11: 20 kDa.

Positive Controls: mouse brain extract: sc-2253.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Xia, W., et al. 2005. Disruption of Sertoli-germ cell adhesion function in the seminiferous epithelium of the rat testis can be limited to adherens junctions without affecting the blood-testis barrier integrity: an *in vivo* study using an androgen suppression model. *J. Cell. Physiol.* 205: 141-157.

PROTOCOLS

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

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Try **claudin-11 (D-8): sc-271232**, our highly recommended monoclonal alternative to claudin-11 (K-15).