

claudin-9 (C-20): sc-17672

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 (JAM). Claudins, which consist of four trans-membrane 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-9 is highly similar to claudin-3 (also designated clostridium perfringens enterotoxin receptor). Claudin-9 is expressed in simian virus (SV) 40-immortalized human corneal epithelial (THCE) cells. The human claudin-9 gene maps to chromosome 16p13.3.

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. Yi, X., et al. 2000. Corneal epithelial tight junctions and their response to lipopolysaccharide challenge. *Invest. Ophthalmol. Vis. Sci.* 41: 4093-4100.
4. Heiskala, M., et al. 2001. The roles of claudin superfamily proteins in paracellular transport. *Traffic* 2: 93-98.
5. 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.
6. 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: CLDN9 (human) mapping to 16p13.3; Cldn9 (mouse) mapping to 17 A3.3.

SOURCE

claudin-9 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of claudin-9 of human origin.

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-17672 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

claudin-9 (C-20) is recommended for detection of claudin-9 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

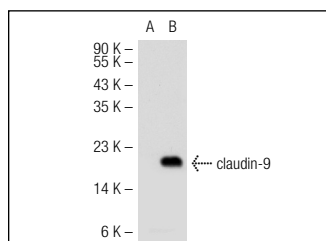
claudin-9 (C-20) is also recommended for detection of claudin-9 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for claudin-9 siRNA (h): sc-43050, claudin-9 siRNA (m): sc-43051, claudin-9 shRNA Plasmid (h): sc-43050-SH, claudin-9 shRNA Plasmid (m): sc-43051-SH, claudin-9 shRNA (h) Lentiviral Particles: sc-43050-V and claudin-9 shRNA (m) Lentiviral Particles: sc-43051-V.

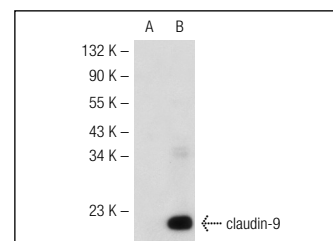
Molecular Weight of claudin-9: 23 kDa.

Positive Controls: claudin-9 (h): 293T Lysate: sc-111384.

DATA



claudin-9 (C-20): sc-17672. Western blot analysis of claudin-9 expression in non-transfected: sc-117752 (A) and human claudin-9 transfected: sc-111384 (B) 293T whole cell lysates.



claudin-9 (C-20): sc-17672. Western blot analysis of claudin-9 expression in non-transfected: sc-117752 (A) and human claudin-9 transfected: sc-111499 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. McLaughlin, J., et al. 2004. Ochratoxin A increases permeability through tight junctions by removal of specific claudin isoforms. *Am. J. Physiol., Cell Physiol.* 287: C1412-C1417.
2. Nakano, Y., et al. 2009. A claudin-9-based ion permeability barrier is essential for hearing. *PLoS Genet.* 5: e1000610.

RESEARCH USE

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

PROTOCOLS

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

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Try **claudin-9 (E-7): sc-398836**, our highly recommended monoclonal alternative to claudin-9 (C-20).