

claudin-1 (C-18): sc-17658

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-1 is a multi-pass membrane protein that is expressed at high levels in kidney and liver and at lower levels in spleen, heart, brain, lung and testis. Defects in the gene encoding claudin-1 are the cause of ichthyosis-sclerosing cholangitis neonatal syndrome (NISCH), an autosomal recessive syndrome characterized by vulgar type ichthyosis, scalp hypotrichosis, scarring alopecia and sclerosing cholangitis.

CHROMOSOMAL LOCATION

Genetic locus: CLDN1 (human) mapping to 3q28; Cldn1 (mouse) mapping to 16 B2.

SOURCE

claudin-1 (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of claudin-1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-17658 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

claudin-1 (C-18) is recommended for detection of claudin-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

claudin-1 (C-18) is also recommended for detection of claudin-1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for claudin-1 siRNA (h): sc-43040, claudin-1 siRNA (m): sc-43041, claudin-1 shRNA Plasmid (h): sc-43040-SH, claudin-1 shRNA Plasmid (m): sc-43041-SH, claudin-1 shRNA (h) Lentiviral Particles: sc-43040-V and claudin-1 shRNA (m) Lentiviral Particles: sc-43041-V.

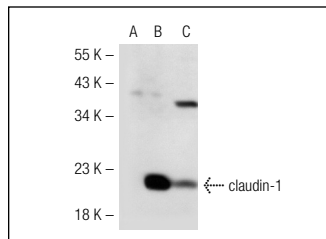
Molecular Weight of claudin-1: 22 kDa.

Positive Controls: claudin-1 (h): 293T Lysate: sc-113827, SCC-4 whole cell lysate: sc-364363 or Hep G2 cell lysate: sc-2227.

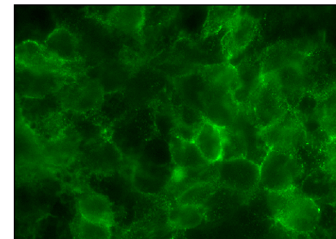
STORAGE

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

DATA



claudin-1 (C-18): sc-17658. Western blot analysis of claudin-1 expression in non-transfected 293T: sc-117752 (A), human claudin-1 transfected 293T: sc-113827 (B) and SCC-4 (C) whole cell lysates.



claudin-1 (C-18): sc-17658. Immunofluorescence staining of formalin-fixed Hep G2 cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Michlig, S., et al. 2007. Claudin-based permeability barriers in taste buds. *J. Comp. Neurol.* 502: 1003-1011.
2. Aono, S., et al. 2008. Phosphorylation of claudin-4 is required for tight junction formation in a human keratinocyte cell line. *Exp. Cell Res.* 314: 3326-3339.
3. González-Reyes, S., et al. 2009. Role of annexin A2 in cellular entry of rabbit vesivirus. *J. Gen. Virol.* 90: 2724-2730.
4. Escudero-Esparza, A., et al. 2011. Claudin-5 participates in the regulation of endothelial cell motility. *Mol. Cell. Biochem.* 362: 71-85.
5. Zhao, H., et al. 2011. Effects of hyperbaric oxygen on the expression of claudins after cerebral ischemia-reperfusion in rats. *Exp. Brain Res.* 212: 109-117.
6. Yahagi, S., et al. 2011. Lysophospholipids improve skin moisturization by modulating of calcium-dependent cell differentiation pathway. *Int. J. Cosmet. Sci.* 33: 251-256.

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.



Try **claudin-1 (A-9): sc-166338** or **claudin-1 (D-4): sc-137121**, our highly recommended monoclonal alternatives to claudin-1 (C-18). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **claudin-1 (A-9): sc-166338**.