SANTA CRUZ BIOTECHNOLOGY, INC.

claudin-4 (C-18): sc-17664

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 molecule. Claudins, which consist of four transmembrane domains and two extracellular loops, make up tight junction strands. Claudin expression is highly restricted to specfic regions of different tissues and may have an important role in transcellular transport through tight junctions. Claudin-4 is not expressed in rat liver, whereas in pancreas, claudin-4 is localized to junctions of the duct epithelia and junctions of acinar cells. In the rat gut, claudin-4 displays highly restricted expression to colonic surface cells. The human claudin-4 gene maps to chromosome 7q11.23.

CHROMOSOMAL LOCATION

Genetic locus: CLDN4 (human) mapping to 7q11.23; Cldn4 (mouse) mapping to 5 G2.

SOURCE

claudin-4 (C-18) is available as either goat (sc-17664) or rabbit (sc-17664-R) polyclonal affinity purified antibody raised against a peptide mapping at the C-terminus of claudin-4 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-17664 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

claudin-4 (C-18) is recommended for detection of claudin-4 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), 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).

claudin-4 (C-18) is also recommended for detection of claudin-4 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for claudin-4 siRNA (h): sc-35070, claudin-4 siRNA (m): sc-35071, claudin-4 shRNA Plasmid (h): sc-35070-SH, claudin-4 shRNA Plasmid (m): sc-35071-SH, claudin-4 shRNA (h) Lentiviral Particles: sc-35070-V and claudin-4 shRNA (m) Lentiviral Particles: sc-35071-V.

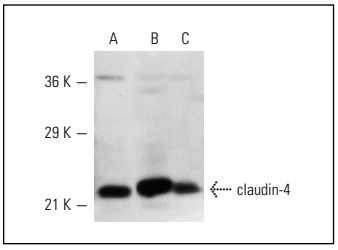
Molecular Weight of claudin-4: 25 kDa.

Positive Controls: SW480 cell lysate: sc-2219, or LS1034 whole cell lysate, MIA PaCa-2 cell lysate: sc-2285.

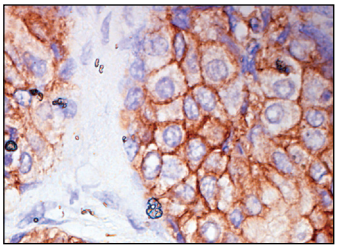
STORAGE

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

DATA



claudin-4 (C-18): sc-17664. Western blot analysis of claudin-4 expression in SW480 (**A**), LS1034 (**B**) and MIA PaCa-2 (**C**) whole cell lysates.



claudin-4 (C-18): sc-17664. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human prostate showing membrane staining.

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. Bock, J., et al. 2007. Exogenous sphingomyelinase causes impaired intestinal epithelial barrier function. World J. Gastroenterol. 13: 5217-5225.
3. 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.
4. Nishino, R., et al. 2008. Identification of novel candidate tumour marker genes for intrahepatic cholangiocarcinoma. J. Hepatol. 49: 207-216.
5. Serafini, P.C., et al. 2009. Endometrial claudin-4 and leukemia inhibitory factor are associated with assisted reproduction outcome. Reprod. Biol. Endocrinol. 7: 30.
6. Erin, N., et al. 2009. Altered gene expression in breast cancer liver metastases. Int. J. Cancer 124: 1503-1516.
7. Serafini, P., et al. 2011. Laboratory methods in the study of endometrial Claudin-4. Methods Mol. Biol. 762: 281-290.
8. Athale, J., et al. 2012. Nrf2 promotes alveolar mitochondrial biogenesis and resolution of lung injury in *Staphylococcus aureus* pneumonia in mice. Free Radic. Biol. Med. 53: 1584-1594.

RESEARCH USE

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