SANTA CRUZ BIOTECHNOLOGY, INC.

# claudin-7 (C-15): sc-17670

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 (JAM). 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. mRNA studies indicate that claudin-7 is specifically expressed in mouse lung and kidney, but not in heart, brain, spleen, liver, skeletal muscle or testis. The gene encoding human claudin-7 maps to chromosome 17p13.1.

## CHROMOSOMAL LOCATION

Genetic locus: CLDN7 (human) mapping to 17p13.1; Cldn7 (mouse) mapping to 11 B3.

## SOURCE

claudin-7 (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of claudin-7 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-17670 P, (100 µg 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-7 (C-15) is recommended for detection of claudin-7 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-7 (C-15) is also recommended for detection of claudin-7 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for claudin-7 siRNA (h): sc-43048, claudin-7 siRNA (m): sc-43049, claudin-7 shRNA Plasmid (h): sc-43048-SH, claudin-7 shRNA Plasmid (m): sc-43049-SH, claudin-7 shRNA (h) Lentiviral Particles: sc-43048-V and claudin-7 shRNA (m) Lentiviral Particles: sc-43049-V.

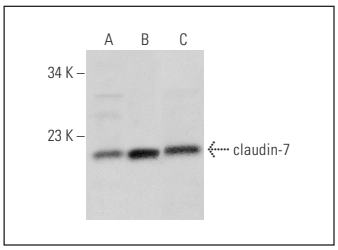
Molecular Weight of claudin-7: 24 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, T-47D cell lysate: sc-2293 or HCT-116 whole cell lysate: sc-364175.

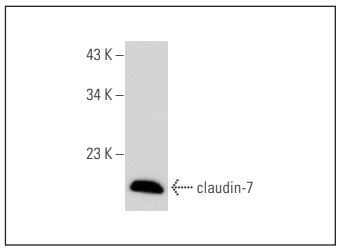
## RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA




claudin-7 (C-15): sc-17670. Western blot analysis of claudin-7 expression in HEK293 (**A**), T-47D (**B**) and HT-29 (**C**) whole cell lysates.




claudin-7 (C-15): sc-17670. Western blot analysis of claudin-7 expression in HCT-116 whole cell lysate.

## SELECT PRODUCT CITATIONS


1. Johnson, A., et al. 2005. Expression of tight-junction protein claudin-7 is an early event in gastric tumorigenesis. Am. J. Pathol. 167: 577-584.
2. Michlig, S., et al. 2007. Claudin-based permeability barriers in taste buds. J. Comp. Neurol. 502: 1003-1011.
3. Erin, N., et al. 2009. Altered gene expression in breast cancer liver metastases. Int. J. Cancer 124: 1503-1516.
4. Poon, C.E., et al. 2012. Claudin 7 is reduced in uterine epithelial cells during early pregnancy in the rat. Histochem. Cell Biol. 139: 583-593.
5. Qu, D., et al. 2015. Ablation of doublecortin-like kinase 1 in the colonic epithelium exacerbates dextran sulfate sodium-induced colitis. PLoS ONE 10: e0134212.


## 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.