SANTA CRUZ BIOTECHNOLOGY, INC.

# claudin-5 (A-12): sc-374221

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-5 is expressed in the endothelial junctions of the rat liver and in junctions of acinar cells of the pancreas. Human claudin-5 is abundantly expressed in adult lung, heart and skeletal muscle and is deleted in patients with velocardiofacial syndrone, which is characterized by cleft palate, facial dysmorphology and conotruncal heart defects.

## CHROMOSOMAL LOCATION

Genetic locus: CLDN5 (human) mapping to 22q11.21.

## SOURCE

claudin-5 (A-12) is a mouse monoclonal antibody raised against amino acids 167-218 mapping at the C-terminus of claudin-5 of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

claudin-5 (A-12) is available conjugated to agarose (sc-374221 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374221 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374221 PE), fluorescein (sc-374221 FITC), Alexa Fluor® 488 (sc-374221 AF488), Alexa Fluor® 546 (sc-374221 AF546), Alexa Fluor® 594 (sc-374221 AF594) or Alexa Fluor® 647 (sc-374221 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374221 AF680) or Alexa Fluor® 790 (sc-374221 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

claudin-5 (A-12) is recommended for detection of claudin-5 of human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for claudin-5 siRNA (h): sc-43044, claudin-5 shRNA Plasmid (h): sc-43044-SH and claudin-5 shRNA (h) Lentiviral Particles: sc-43044-V.

Molecular Weight of phosphorylated claudin-5: 23 kDa.

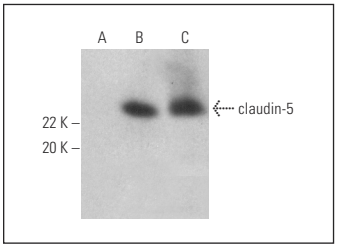
Molecular Weight of glycosylated claudin-5: 31-35 kDa.

Positive Controls: claudin-5 (h): 293T Lysate: sc-114920 or human lung extract: sc-363767.

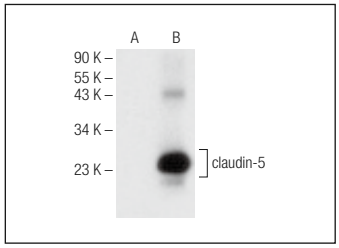
## STORAGE

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

## DATA




claudin-5 (A-12) HRP: sc-374221 HRP. Direct western blot analysis of claudin-5 expression in non-transfected: sc-117752 (**A**) and human claudin-5 transfected: sc-128324 (**B**) 293T whole cell lysates and human lung tissue extract (**C**).




claudin-5 (A-12): sc-374221. Western blot analysis of claudin-5 expression in non-transfected: sc-117752 (**A**) and human claudin-5 transfected: sc-114920 (**B**) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS


1. Herwig, N., et al. 2016. Extracellular S100A4 affects endothelial cell integrity and stimulates transmigration of A375 melanoma cells. Biochem. Biophys. Res. Commun. 477: 963-969.
2. Fang, M., et al. 2017. Metformin treatment after the hypoxia-ischemia attenuates brain injury in newborn rats. Oncotarget 8: 75308-75325.
3. Wang, Z., et al. 2018. Cannabinoid receptor 2 agonist attenuates blood-brain barrier damage in a rat model of intracerebral hemorrhage by activating the Rac1 pathway. Int. J. Mol. Med. 42: 2914-2922.
4. Vila, E., et al. 2019. Uric acid treatment after stroke modulates the Krüppel-like factor 2-VEGF-A axis to protect brain endothelial cell functions: impact of hypertension. Biochem. Pharmacol. 164: 115-128.
5. Lu, Y., et al. 2020. Exosomes derived from brain metastatic breast cancer cells destroy the blood-brain barrier by carrying incRNA GS1-600G8.5. Biomed Res. Int. 2020: 7461727.
6. Moshe, A., et al. 2020. Inter-tumor heterogeneity-melanomas respond differently to GM-CSF-mediated activation. Cells 9: 1683.
7. Wang, D., et al. 2020. Valproic acid-labeled chitosan nanoparticles promote recovery of neuronal injury after spinal cord injury. Aging 12: 8953-8967.
8. Zolotoff, C., et al. 2020. Intermittent hypoxia and its impact on Nrf2/HIF-1α expression and ABC transporters: an *in vitro* human blood-brain barrier model study. Cell. Physiol. Biochem. 54: 1231-1248.
9. Maeda, H., et al. 2021. Towards the development of a human *in vitro* model of the blood-brain barrier for virus-associated acute encephalopathy: assessment of the time- and concentration-dependent effects of TNF-α on paracellular tightness. Exp. Brain Res. 239: 451-461.


## RESEARCH USE

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