SANTA CRUZ BIOTECHNOLOGY, INC.

# claudin-17 siRNA (h): sc-72917

## 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 (JAMs). Claudins, which consist of four transmembrane domains and two extracellular loops make up tight junction strands. Emerging evidence suggests that the Claudin family of proteins regulates transport through tight junctions via differential discrimination for solute size and charge. Mammalian claudin-17 and claudin-8 may be the result of a gene duplication. Claudin-17 is expressed in stratum granulosum of the epidermis and infundibulum and predominantly localizes to the plasma membrane.

## REFERENCES


1. Kiuchi-Saishin, Y., et al. 2002. Differential expression patterns of claudins, tight junction membrane proteins, in mouse nephron segments. J. Am. Soc. Nephrol. 13: 875-886.
2. Katoh, M. and Katoh, M. 2003. CLDN23 gene, frequently downregulated in intestinal-type gastric cancer, is a novel member of claudin gene family. Int. J. Mol. Med. 11: 683-689.
3. Brandner, J.M., et al. 2003. Expression and localization of tight junction-associated proteins in human hair follicles. Arch. Dermatol. Res. 295: 211-221.
4. Uemura, Y., et al. 2003. Systematic analysis of the combinatorial nature of epitopes recognized by TCR leads to identification of mimicry epitopes for glutamic acid decarboxylase 65-specific TCRs. J. Immunol. 170: 947-960.
5. Guillemot, L., et al. 2004. Disruption of the Cingulin gene does not prevent tight junction formation but alters gene expression. J. Cell Sci. 117: 5245-5256.
6. Loh, Y.H., et al. 2004. Extensive expansion of the claudin gene family in the teleost fish, *Fugu rubripes.* Genome Res. 14: 1248-1257.


## CHROMOSOMAL LOCATION

Genetic locus: CLDN17 (human) mapping to 21q22.11.

## PRODUCT

claudin-17 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see claudin-17 shRNA Plasmid (h): sc-72917-SH and claudin-17 shRNA (h) Lentiviral Particles: sc-72917-V as alternate gene silencing products.

For independent verification of claudin-17 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-72917A, sc-72917B and sc-72917C.

## STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

claudin-17 siRNA (h) is recommended for the inhibition of claudin-17 expression in human cells.

## SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor claudin-17 gene expression knockdown using RT-PCR Primer: claudin-17 (h)-PR: sc-72917-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## RESEARCH USE

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

## PROTOCOLS

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