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SANTA CRUZ BIOTECHNOLOGY, INC.

claudin-20 siRNA (m): sc-142365

BACKGROUND

The claudin superfamily consists of structurally related proteins that are important structural and functional components of tight junctions. 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. Claudin-20, also known as CLDN20, is a 219 amino acid multi-pass membrane protein that localizes to tight junctions and belongs to the claudin family. Claudin-20 is involved in obliteration of intracellular space at the tight junction via calcium-independent cell-adhesion. The gene encoding claudin-20 maps to human chromosome 6q25.3.

REFERENCES

1. Kniesel, U., et al. 2000. Tight junctions of the blood-brain barrier. Cell. Mol. Neurobiol. 20: 57-76.
2. Tsukita, S., et al. 2001. Multifunctional strands in tight junctions. Nat. Rev. Mol. Cell Biol. 2: 285-293.
3. Heiskala, M., et al. 2001. The roles of claudin superfamily proteins in paracellular transport. Traffic 2: 93-98.
4. González-Mariscal, L., et al. 2003. Tight junction proteins. Prog. Biophys. Mol. Biol. 81: 1-44.
5. Hewitt, K.J., et al. 2006. The claudin gene family: expression in normal and neoplastic tissues. BMC Cancer 6: 186.
6. Angelow, S., et al. 2008. Biology of claudins. Am. J. Physiol. Renal Physiol. 295: F867-F876.

CHROMOSOMAL LOCATION

Genetic locus: Cldn20 (mouse) mapping to 17 A1.

PRODUCT

claudin-20 siRNA (m) is a pool of 2 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-20 shRNA Plasmid (m): sc-142365-SH and claudin-20 shRNA (m) Lentiviral Particles: sc-142365-V as alternate gene silencing products.

For independent verification of claudin-20 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-142365A and sc-142365B.

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.

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-20 siRNA (m) is recommended for the inhibition of claudin-20 expression in mouse 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 60 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-20 gene expression knockdown using RT-PCR Primer: claudin-20 (m)-PR: sc-142365-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.