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cadherin-22 siRNA (m): sc-141973

BACKGROUND

The cadherins are a family of Ca^{2+} -dependent adhesion molecules that function to mediate cell-cell binding critical to the maintenance of structure and morphogenesis. Cadherins each contain a large extracellular domain at the N-terminus, which is characterized by a series of five homologous repeats, the most distal of which is thought to be responsible for binding specificity. Cadherin-22, also known as CDH22 or PB-cadherin (pituitary and brain cadherin), is an 828 amino acid single-pass type I membrane protein that, characteristic of cadherin proteins, contains five cadherin domains. Expressed predominately in brain, cadherin-22 functions as a Ca^{2+} -dependent cell adhesion protein that is thought to play an important role in tissue formation and morphogenesis, specifically in neural cells during the development and maintenance of brain tissue.

REFERENCES

1. Sugimoto, K., et al. 1996. Molecular cloning and characterization of a newly identified member of the cadherin family, PB-cadherin. *J. Biol. Chem.* 271: 11548-11556.
2. Kremmidiotis, G., et al. 1998. Localization of human cadherin genes to chromosome regions exhibiting cancer-related loss of heterozygosity. *Genomics* 49: 467-471.
3. Kitajima, K., et al. 1999. Expression of a novel type of classic cadherin, PB-cadherin in developing brain and limb buds. *Dev. Dyn.* 215: 206-214.
4. Wu, J., et al. 2003. Expression of a novel factor, short-type PB-cadherin, in Sertoli cells and spermatogenic stem cells of the neonatal rat testis. *J. Endocrinol.* 176: 381-391.
5. Wu, J., et al. 2005. Short-type PB-cadherin promotes survival of gonocytes and activates JAK-STAT signalling. *Dev. Biol.* 284: 437-450.
6. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 609920. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Bento, J.L., et al. 2008. Heterogeneity in gene loci associated with type 2 diabetes on human chromosome 20q13.1. *Genomics* 92: 226-234.

CHROMOSOMAL LOCATION

Genetic locus: Cdh22 (mouse) mapping to 2 H3.

PRODUCT

cadherin-22 siRNA (m) is a target-specific 19-25 nt siRNA 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 cadherin-22 shRNA Plasmid (m): sc-141973-SH and cadherin-22 shRNA (m) Lentiviral Particles: sc-141973-V as alternate gene silencing products.

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

cadherin-22 siRNA (m) is recommended for the inhibition of cadherin-22 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 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 cadherin-22 gene expression knockdown using RT-PCR Primer: cadherin-22 (m)-PR: sc-141973-PR (20 μl). Annealing temperature for the primers should be $55-60^{\circ}\text{C}$ and the extension temperature should be $68-72^{\circ}\text{C}$.

RESEARCH USE

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