SANTA CRUZ BIOTECHNOLOGY, INC.

cadherin-22 siRNA (h): sc-72775

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 5 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 main-tenance 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 (human) mapping to 20q13.12.

PRODUCT

cadherin-22 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 cadherin-22 shRNA Plasmid (h): sc-72775-SH and cadherin-22 shRNA (h) Lentiviral Particles: sc-72775-V as alternate gene silencing products.

For independent verification of cadherin-22 (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-72775A, sc-72775B and sc-72775C.

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 (h) is recommended for the inhibition of cadherin-22 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 cadherin-22 gene expression knockdown using RT-PCR Primer: cadherin-22 (h)-PR: sc-72775-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.