SANTA CRUZ BIOTECHNOLOGY, INC.

NTT5 siRNA (h): sc-97829

BACKGROUND

NTT5, also known as SLC6A16 (solute carrier family 6 member 16), is a 736 amino acid multi-pass membrane protein that belongs to the sodium:neurotransmitter symporter (SNF) family and the SLC6A16 subfamily. NTT5 is highly expressed in peripheral tissues, particularly in testis, pancreas and prostate. Showing structural characteristics of a Na^+- and Cl^-- dependent neurotransmitter transporter, NTT5 consists of twelve transmembrane domains, intracellular N and C termini and large extracellular loops containing multiple N-glycosylation sites. The gene that encodes NTT5 consists of approximately 35,586 bases and maps to human chromosome 19q13. Chromosome 19 consists of over 63 million bases, houses approximately 1,400 genes and is recognized for having the greatest gene density of the human chromosomes. It is the genetic home for a number of immunoglobulin (Ig) superfamily members, including the killer cell and leukocyte Ig-like receptors, a number of ICAMs, the CEACAM and PSG families and Fc receptors (FcRs).

REFERENCES

1. Olsen, A., et al. 1994. Gene organization of the pregnancy-specific glycoprotein region on human chromosome 19: assembly and analysis of a 700-kb cosmid contig spanning the region. Genomics 23: 659-668.
2. Teglund, S., et al. 1994. The pregnancy-specific glycoprotein (PSG) gene cluster on human chromosome 19: fine structure of the 11 PSG genes and identification of 6 new genes forming a third subgroup within the carcinoembryonic antigen (CEA) family. Genomics 23: 669-684.
3. Wang, L., et al. 2000. C-CAM1, a candidate tumor suppressor gene, is abnormally expressed in primary lung cancers. Clin. Cancer Res. 6: 2988-2993.
4. Farmer, M.K., et al. 2000. Cloning and characterization of human NTT5 and v7-3: two orphan transporters of the Na^+/Cl^- -dependent neurotransmitter transporter gene family. Genomics 70: 241-252.
5. Trowsdale, J., et al. 2001. The genomic context of natural killer receptor extended gene families. Immunol. Rev. 181: 20-38.
6. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 607972. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Le Meur, N., et al. 2004. Complete germline deletion of the STK11 gene in a family with Peutz-Jeghers syndrome. Eur. J. Hum. Genet. 12: 415-418.
8. Leeb, T. and Müller, M. 2004. Comparative human-mouse-rat sequence analysis of the ICAM gene cluster on HSA 19p13.2 and a 185-kb porcine region from SSC 2q. Gene 343: 239-244.
9. Barrow, A.D. and Trowsdale, J. 2008. The extended human leukocyte receptor complex: diverse ways of modulating immune responses. Immunol. Rev. 224: 98-123.

CHROMOSOMAL LOCATION

Genetic locus: SLC6A16 (human) mapping to 19q13.33.

RESEARCH USE

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

PRODUCT

NTT5 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 NTT5 shRNA Plasmid (h): sc-97829-SH and NTT5 shRNA (h) Lentiviral Particles: sc-97829-V as alternate gene silencing products.

For independent verification of NTT5 (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-97829A, sc-97829B and sc-97829C.

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

NTT5 siRNA (h) is recommended for the inhibition of NTT5 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 NTT5 gene expression knockdown using RT-PCR Primer: NTT5 (h)-PR: sc-97829-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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