

NAT-14 siRNA (h): sc-97915

BACKGROUND

Acetyltransferases and deacetylases are protein groups most often associated with oncogenesis and cell cycle regulation. NAT-14 (N-acetyltransferase 14), also known as KLP1 (K562 cell-derived leucine-zipper-like protein 1), is a 206 amino acid single-pass membrane protein that contains one N-acetyltransferase domain and belongs to the camello family. Thought to function as an acetyltransferase, NAT-14 binds a specific region of the coproporphyrinogen oxidase promoter (5'-GGACTACAG-3') and is expressed in brain, HeLa cells and K-562 cells. The gene encoding NAT-14 maps to human chromosome 19q13.42, which 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

- Olsen, A., Teglund, S., Nelson, D., Gordon, L., Copeland, A., Georgescu, A., Carrano, A. and Hammarström, S. 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.
- Teglund, S., Olsen, A., Khan, W.N., Frängsmyr, L. and Hammarström, S. 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.
- Wang, L., Lin, S.H., Wu, W.G., Kemp, B.L., Walsh, G.L., Hong, W.K. and Mao, L. 2000. C-CAM1, a candidate tumor suppressor gene, is abnormally expressed in primary lung cancers. *Clin. Cancer Res.* 6: 2988-2993.
- Takahashi, S., Harigae, H., Yokoyama, H., Kaku, M. and Sasaki, T. 2001. Genomic structure and regulation of a novel human gene, Klp1. *Biochim. Biophys. Acta* 1522: 207-211.
- Trowsdale, J., Barten, R., Haude, A., Stewart, C.A., Beck, S. and Wilson, M.J. 2001. The genomic context of natural killer receptor extended gene families. *Immunol. Rev.* 181: 20-38.
- Le Meur, N., Martin, C., Saugier-Verber, P., Joly, G., Lemoine, F., Moirrot, H., Rossi, A., Bachy, B., Cabot, A., Joly, P. and Frebourg, T. 2004. Complete germline deletion of the STK11 gene in a family with Peutz-Jeghers syndrome. *Eur. J. Hum. Genet.* 12: 415-418.
- 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.
- Barrow, A.D. and Trowsdale, J. 2008. The extended human leukocyte receptor complex: diverse ways of modulating immune responses. *Immunol. Rev.* 224: 98-123.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: NAT14 (human) mapping to 19q13.42.

PRODUCT

NAT-14 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NAT-14 shRNA Plasmid (h): sc-97915-SH and NAT-14 shRNA (h) Lentiviral Particles: sc-97915-V as alternate gene silencing products.

For independent verification of NAT-14 (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-97915A, sc-97915B and sc-97915C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

NAT-14 siRNA (h) is recommended for the inhibition of NAT-14 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 μ M in 66 μ l. 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 NAT-14 gene expression knockdown using RT-PCR Primer: NAT-14 (h)-PR: sc-97915-PR (20 μ l). 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.