SANTA CRUZ BIOTECHNOLOGY, INC.

NAT-5 siRNA (h): sc-62662

BACKGROUND

Acetyltransferases and deacetylases are protein groups most often associated with oncogenesis and cell cycle regulation. NAT-5 (N-acetyltransferase 5), also known as NAA20 or N-α-acetyltransferase 20, is a 178 amino acid protein that contains 1 N-acetyltransferase domain. NAT-5 is a component of the N-terminal acetyltransferase B (NatB) complex along with NAA25, and is required for maintaining the structure and function of actomyosin fibers and for proper cellular migration. Human NatB performs cotranslational N-α-terminal acetylation of methionine residues when they are followed by asparagine. The NAT-5 gene is conserved in chimpanzee, canine, bovine, mouse, rat, chicken, zebrafish, *Drosophila, C. elegans, S. cerevisiae* and more. The human NAT-5 gene maps to chromosome 20p11.23.

REFERENCES

1. Deloukas, P., et al. 2001. The DNA sequence and comparative analysis of human chromosome 20. Nature 414: 865-871.
2. Fluge, O., et al. 2002. NATH, a novel gene overexpressed in papillary thyroid carcinomas. Oncogene 21: 5056-5068.
3. Gautschi, M., et al. 2003. The yeast Nα-acetyltransferase NatA is quantitatively anchored to the ribosome and interacts with nascent polypeptides. Mol. Cell. Biol. 23: 7403-7414.
4. Arnesen, T., et al. 2006. Cloning and characterization of hNAT5/hSAN: an evolutionarily conserved component of the NatA protein N-α-acetyltransferase complex. Gene 371: 291-295.
5. Starheim, K.K., et al. 2008. Identification of the human Nα-acetyltransferase complex B (hNatB): a complex important for cell-cycle progression. Biochem. J. 415: 325-331.
6. Polevoda, B., et al. 2009. A synopsis of eukaryotic Nα-terminal acetyltransferases: nomenclature, subunits and substrates. BMC Proc. 3: S2.
7. Van Damme, P., et al. 2012. N-terminal acetylome analyses and functional insights of the N-terminal acetyltransferase NatB. Proc. Natl. Acad. Sci. USA 109: 12449-12454.

CHROMOSOMAL LOCATION

Genetic locus: NAT5 (human) mapping to 20p11.23.

PRODUCT

NAT-5 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 NAT-5 shRNA Plasmid (h): sc-62662-SH and NAT-5 shRNA (h) Lentiviral Particles: sc-62662-V as alternate gene silencing products.

For independent verification of NAT-5 (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-62662A, sc-62662B and sc-62662C.

RESEARCH USE

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

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

NAT-5 siRNA (h) is recommended for the inhibition of NAT-5 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.

GENE EXPRESSION MONITORING

NAT-5 (36-8): sc-100645 is recommended as a control antibody for monitoring of NAT-5 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor NAT-5 gene expression knockdown using RT-PCR Primer: NAT-5 (h)-PR: sc-62662-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.