SANTA CRUZ BIOTECHNOLOGY, INC.

NAG siRNA (h): sc-94995

BACKGROUND

NAG (neuroblastoma amplified gene), alternatively known as NBAS (neuroblastoma amplified sequence), is a 2,371 amino acid protein that exists as two alternatively spliced isoforms. While widely expressed, NAG is found at highest levels in adult adrenal gland, pituitary, testis and pancreas, as well as in fetal lung, liver, heart and kidney. NAG expression is up-regulated in certain neuroblastoma cell lines in conjunction with N-Myc. NAG contains two WD repeats and is encoded by a gene located on human chromosome 2, which consists of 237 million bases, encodes over 1,400 genes and makes up approximately 8% of the human genome. A number of genetic diseases are linked to genes on chromosome 2 including Harlequin icthyosis, sitosterolemia and Alström syndrome.

REFERENCES

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2. Shulenin, S., et al. 2001. An ATP-binding cassette gene (ABCG5) from the ABCG (white) gene subfamily maps to human chromosome 2p21 in the region of the sitosterolemia locus. Cytogenet. Cell Genet. 92: 204-208.
3. Hearn, T., et al. 2002. Mutation of ALMS1, a large gene with a tandem repeat encoding 47 amino acids, causes Alström syndrome. Nat. Genet. 31: 79-83.
4. Scott, D.K., et al. 2003. The neuroblastoma amplified gene, NAG: genomic structure and characterisation of the 7.3 kb transcript predominantly expressed in neuroblastoma. Gene 307: 1-11.
5. Kelsell, D.P., et al. 2005. Mutations in ABCA12 underlie the severe congenital skin disease harlequin ichthyosis. Am. J. Hum. Genet. 76: 794-803.
6. Kaneko, S., et al. 2007. Relationship of DDX1 and NAG gene amplification/overexpression to the prognosis of patients with MYCN-amplified neuroblastoma. J. Cancer Res. Clin. Oncol. 133: 185-192.
7. Aoki, T., et al. 2009. Identification of the neuroblastoma-amplified gene product as a component of the syntaxin 18 complex implicated in Golgi-to-endoplasmic reticulum retrograde transport. Mol. Biol. Cell 20: 2639-2649.

CHROMOSOMAL LOCATION

Genetic locus: NAG (human) mapping to 2p24.3.

PRODUCT

NAG 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 NAG shRNA Plasmid (h): sc-94995-SH and NAG shRNA (h) Lentiviral Particles: sc-94995-V as alternate gene silencing products.

For independent verification of NAG (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-94995A, sc-94995B and sc-94995C.

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

NAG siRNA (h) is recommended for the inhibition of NAG 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 NAG gene expression knockdown using RT-PCR Primer: NAG (h)-PR: sc-94995-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.