

NAT-12 siRNA (h): sc-92337

BACKGROUND

Acetyltransferases and deacetylases are protein groups most often associated with oncogenesis and cell cycle regulation. NAT-12 (N-acetyltransferase 12), also known as NAA30 (N α -acetyltransferase 30, NatC catalytic subunit), N-acetyltransferase MAK3 homolog or NatC catalytic subunit, is a 362 amino acid cytoplasmic protein that belongs to the acetyltransferase family and MAK3 subfamily. Containing one N-acetyltransferase domain, NAT-12 exists as two alternatively spliced isoforms and functions as the catalytic subunit of the N-terminal acetyltransferase C (NatC) complex. The gene encoding NAT-12 maps to human chromosome 14, which houses over 400 genes, such as BRCA2 and RB1, and comprises nearly 4% of the human genome. Trisomy 13, also known as Patau syndrome, is deadly and the few who survive past one year suffer from permanent neurologic defects, difficulty eating and vulnerability to serious respiratory infections.

REFERENCES

1. Deng, H., Le, W.D., Xie, W.J. and Jankovic, J. 2006. Examination of the SLITRK1 gene in Caucasian patients with Tourette syndrome. *Acta Neurol. Scand.* 114: 400-402.
2. Hsu, H.F. and Hou, J.W. 2007. Variable expressivity in Patau syndrome is not all related to trisomy 13 mosaicism. *Am. J. Med. Genet. A* 143A: 1739-1748.
3. Hall, H.E., Chan, E.R., Collins, A., Judis, L., Shirley, S., Surti, U., Hoffner, L., Cockwell, A.E., Jacobs, P.A. and Hassold, T.J. 2007. The origin of trisomy 13. *Am. J. Med. Genet. A* 143A: 2242-2248.
4. Thorslund, T. and West, S.C. 2007. BRCA2: a universal recombinase regulator. *Oncogene* 26: 7720-7730.
5. Polevoda, B., Arnesen, T. and Sherman, F. 2009. A synopsis of eukaryotic N α -terminal acetyltransferases: nomenclature, subunits and substrates. *BMC Proc.* 3: S2.
6. Starheim, K.K., Gromyko, D., Evjenth, R., Ryningen, A., Varhaug, J.E., Lillehaug, J.R. and Arnesen, T. 2009. Knockdown of human N α -terminal acetyltransferase complex C leads to p53-dependent apoptosis and aberrant human Arl8b localization. *Mol. Cell. Biol.* 29: 3569-3581.
7. Kanber, D., Berulava, T., Ammerpohl, O., Mitter, D., Richter, J., Siebert, R., Horsthemke, B., Lohmann, D. and Buiting, K. 2009. The human retinoblastoma gene is imprinted. *PLoS Genet.* 5: e1000790.

CHROMOSOMAL LOCATION

Genetic locus: NAA30 (human) mapping to 14q22.3.

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.

PRODUCT

NAT-12 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-12 shRNA Plasmid (h): sc-92337-SH and NAT-12 shRNA (h) Lentiviral Particles: sc-92337-V as alternate gene silencing products.

For independent verification of NAT-12 (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-92337A, sc-92337B and sc-92337C.

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-12 siRNA (h) is recommended for the inhibition of NAT-12 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-12 gene expression knockdown using RT-PCR Primer: NAT-12 (h)-PR: sc-92337-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.