SANTA CRUZ BIOTECHNOLOGY, INC.

NSD3 siRNA (h): sc-61235

BACKGROUND

The deduced 1,437 amino acid NSD3 protein contains two PWWP domains involved in protein-protein interactions, five PHD-type zinc finger motifs found in chromatin-associated proteins, a SAC (SET-associated cys-rich) domain, a SET domain and a C-terminal C5HCH domain. Two NSD3 variants have been identified. The short variant comprised of 645 amino acids, arises from alternative polyadenylation and exon splicing and contains a single PWWP domain. A longer NSD3 variant, which is only expressed in HeLa cells, is comprised of 1,388 amino acid residues. The human WHSC1L1 gene, which encodes the NSD3 protein, shares 68% and 55% identity with mouse Nsd1 and human WHSC1, respectively. Highest expression of NSD3 is observed in brain, heart and skeletal muscle tissues; lower levels of NSD3 expression are observed in the liver and lungs.

REFERENCES

1. Angrand, P.O., et al. 2001. NSD3, a new SET domain-containing gene, maps to 8p12 and is amplified in human breast cancer cell lines. Genomics 74: 79-88.
2. Stec, I., et al. 2001. WHSC1L1, on human chromosome 8p11.2, closely resembles WHSC1 and maps to a duplicated region shared with 4p16.3. Genomics 76: 5-8.
3. Rosati, R., et al. 2002. NUP98 is fused to the NSD3 gene in acute myeloid leukemia associated with t(8;11)(p11.2;p15). Blood 99: 3857-3860.
4. Douglas, J., et al. 2005. Evaluation of NSD2 and NSD3 in overgrowth syndromes. Eur. J. Hum. Genet. 13: 150-153.
5. Tonon, G., et al. 2005. High-resolution genomic profiles of human lung cancer. Proc. Natl. Acad. Sci. USA 102: 9625-9630.

CHROMOSOMAL LOCATION

Genetic locus: WHSC1L1 (human) mapping to 8p11.23.

PRODUCT

NSD3 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 NSD3 shRNA Plasmid (h): sc-61235-SH and NSD3 shRNA (h) Lentiviral Particles: sc-61235-V as alternate gene silencing products.

For independent verification of NSD3 (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-61235A, sc-61235B and sc-61235C.

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.

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

NSD3 siRNA (h) is recommended for the inhibition of NSD3 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

NSD3 (E-3): sc-398186 is recommended as a control antibody for monitoring of NSD3 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 NSD3 gene expression knockdown using RT-PCR Primer: NSD3 (h)-PR: sc-61235-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.