SANTA CRUZ BIOTECHNOLOGY, INC.

NSD2 siRNA (m): sc-61234

BACKGROUND

The WHSC1 gene encodes the NSD2 protein, which contains four domains present in other developmental proteins: a PWWP domain, an HMG box, a SET domain, and a PHD-type zinc finger. Wolf-Hirschhorn syndrome (WHS) is a malformation syndrome associated with a hemizygous deletion of the distal short arm of chromosome 4. The WHSC1 gene maps to the WHS critical region, therefore implying that the gene may be responsible for several of the phenotypic features of WHS, such as mental retardation, microcephaly, seizures, hypotonia, cleft lip and/or palate, strabismus, hypertelorism, down-turned "fishlike" mouth, short upper lip and philtrum, small chin, ear tags or pits, and cranial asymmetry. NSD2 is expressed ubiquitously in rapidly growing embryonic tissues, a pattern which corresponds to affected organs in WHS patients. Alternative splicing of the WHSC1 gene results in multiple transcript variants encoding different isoforms of NSD2.

REFERENCES

1. Rauch, A., et al. 2001. First known microdeletion within the Wolf-Hirschhorn syndrome critical region refines genotype-phenotype correlation. Am. J. Med. Genet. 99: 338-342.
2. Gutmajster, E., et al. 2002. Genetic determination of Wolf-Hirschhorn syndrome. Wiad. Lek. 55: 706-710.
3. Santra, M., et al. 2003. A subset of multiple myeloma harboring the t(4;14)(p16;q32) translocation lacks FGFR3 expression but maintains an IGH/MMSET fusion transcript. Blood 101: 2374-2376.
4. Bergemann, A.D., et al. 2005. The etiology of Wolf-Hirschhorn syndrome. Trends Genet. 21: 188-195.
5. Douglas, J., et al. 2005. Evaluation of NSD2 and NSD3 in overgrowth syndromes. Eur. J. Hum. Genet. 13: 150-153.
6. Hudlebusch, H.R., et al. 2005. Identification of ID-1 as a potential target gene of MMSET in multiple myeloma. Br. J. Haematol. 130: 700-708.

CHROMOSOMAL LOCATION

Genetic locus: Whsc1 (mouse) mapping to 5 B2.

PRODUCT

NSD2 siRNA (m) 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 NSD2 shRNA Plasmid (m): sc-61234-SH and NSD2 shRNA (m) Lentiviral Particles: sc-61234-V as alternate gene silencing products.

For independent verification of NSD2 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-61234A, sc-61234B and sc-61234C.

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

NSD2 siRNA (m) is recommended for the inhibition of NSD2 expression in mouse 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 NSD2 gene expression knockdown using RT-PCR Primer: NSD2 (m)-PR: sc-61234-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.