SANTA CRUZ BIOTECHNOLOGY, INC.

Nanos3 siRNA (h): sc-75868

BACKGROUND

Nanos3, also known as Nos3 or NANOS1L, is a 173 amino acid protein that contains one nanos-type zinc finger, a structure composed of two C2HC domains that bind zinc and are required for Nanos3 function. Via its zinc finger, Nanos3 is involved in the maintenance of proximal germ cells, specifically by controlling germ cell proliferation and regulating the translation of specific mRNAs. The gene encoding Nanos3 maps to human chromosome 19p13.13, which consists of over 63 million bases, houses approximately 1,400 genes and is recognized for having the greatest gene density of the human chromosomes. It is the genetic home for a number of immunoglobulin (Ig) superfamily members, including the killer cell and leukocyte Ig-like receptors, a number of ICAMs, the CEACAM and PSG family and Fc receptors (FcRs).

REFERENCES

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3. Labbe, J.C., et al. 2006. A genomewide screen for suppressors of par-2 uncovers potential regulators of PAR protein-dependent cell polarity in *Caenorhabditis elegans.* Genetics 174: 285-295.
4. Suzuki, A., et al. 2007. Functional redundancy among Nanos proteins and a distinct role of Nanos2 during male germ cell development. Development 134: 77-83.
5. Qin, Y., et al. 2007. Mutation analysis of Nanos3 in 80 Chinese and 88 Caucasian women with premature ovarian failure. Fertil. Steril. 88: 1465-1467.
6. Saga, Y. 2008. Mouse germ cell development during embryogenesis. Curr. Opin. Genet. Dev. 18: 337-341.
7. Lolicato, F., et al. 2008. Potential role of Nanos3 in maintaining the undifferentiated spermatogonia population. Dev. Biol. 313: 725-738.
8. Suzuki, H., et al. 2008. Nanos3 maintains the germ cell lineage in the mouse by suppressing both Bax-dependent and -independent apoptotic pathways. Dev. Biol. 318: 133-142.

CHROMOSOMAL LOCATION

Genetic locus: NANOS3 (human) mapping to 19p13.13.

PRODUCT

Nanos3 siRNA (h) is a pool of 2 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 Nanos3 shRNA Plasmid (h): sc-75868-SH and Nanos3 shRNA (h) Lentiviral Particles: sc-75868-V as alternate gene silencing products.

For independent verification of Nanos3 (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-75868A and sc-75868B.

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

Nanos3 siRNA (h) is recommended for the inhibition of Nanos3 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 Nanos3 gene expression knockdown using RT-PCR Primer: Nanos3 (h)-PR: sc-75868-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.