SANTA CRUZ BIOTECHNOLOGY, INC.

DND1 siRNA (h): sc-91708

BACKGROUND

Primordial germ cells (PGCs) are precursor germ cells that divide rapidly and migrate toward the developing gonads. DND1 (dead end protein homolog 1), also known as RBMS4 (RNA-binding motif, single-stranded-interacting protein 4), is a 353 amino acid protein that contains two RRM (RNA recognition motif) domains and localizes to perinuclear germ granules within PGCs. Expressed specifically in PGCs throughout embryogenesis, DND1 is thought to play a role in PGC development, but is not necessary for PGC migration to gonadal regions. Mutations in the gene encoding DND1 may result in germ cell loss and the subsequent development of testicular germ cell tumors, suggesting that DND1 may play a role in tumorigenesis.

REFERENCES

1. Stevens, L.C. 1973. A new inbred subline of mice (129-terSv) with a high incidence of spontaneous congenital testicular teratomas. J. Natl. Cancer Inst. 50: 235-242.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609385. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Weidinger, G., et al. 2003. Dead end, a novel vertebrate germ plasm component, is required for zebrafish primordial germ cell migration and survival. Curr. Biol. 13: 1429-1434.
4. Youngren, K.K., et al. 2005. The Ter mutation in the dead end gene causes germ cell loss and testicular germ cell tumours. Nature 435: 360-364.
5. Zhu, R., et al. 2007. The role of dead-end in germ-cell tumor development. Ann. N.Y. Acad. Sci. 1120: 181-186.

CHROMOSOMAL LOCATION

Genetic locus: DND1 (human) mapping to 5q31.3.

PRODUCT

DND1 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 DND1 shRNA Plasmid (h): sc-91708-SH and DND1 shRNA (h) Lentiviral Particles: sc-91708-V as alternate gene silencing products.

For independent verification of DND1 (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-91708A and sc-91708B.

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

DND1 siRNA (h) is recommended for the inhibition of DND1 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

DND1 (X22): sc-130493 is recommended as a control antibody for monitoring of DND1 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 DND1 gene expression knockdown using RT-PCR Primer: DND1 (h)-PR: sc-91708-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Cheng, F., et al. 2017. RNA-binding protein DND1 promotes breast cancer apoptosis by stabilizing the Bim mRNA in a miR-221 binding site. Biomed Res. Int. 2017: 9596152.

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.