SANTA CRUZ BIOTECHNOLOGY, INC.

TDRD1 siRNA (h): sc-90747

BACKGROUND

TDRD1 (tudor domain containing 1), also known as CT41.1 (cancer/testis antigen 41.1), is a 1,180 amino acid cytoplasmic protein that prevents mobilization of transposable elements during spermatogenesis, thereby contributing to germline integrity. A member of the TDRD1 family, TDRD1 is expressed specifically in ovary and testis, as well as a number of cancers. TDRD1 contains one MYND-type zinc finger and four tudor domains, and forms a mRNP complex with TDRD6, TDRD7 and VASA. TDRD1 plays an important role in piRNA metabolic processes and contributes to PIWI protein localization to the meiotic nuage. Existing as four alternatively spliced isoforms, TDRD1 is encoded by a gene that maps to human chromosome 10q25.3.

REFERENCES

1. Wang, P.J., et al. 2001. An abundance of X-linked genes expressed in spermatogonia. Nat. Genet. 27: 422-426.
2. Loriot, A., et al. 2003. Five new human cancer-germline genes identified among 12 genes expressed in spermatogonia. Int. J. Cancer 105: 371-376.
3. Grupe, A., et al. 2006. A scan of chromosome 10 identifies a novel locus showing strong association with late-onset Alzheimer disease. Am. J. Hum. Genet. 78: 78-88.
4. Wang, A.G., et al. 2006. Identification of intrahepatic cholangiocarcinoma related genes by comparison with normal liver tissues using expressed sequence tags. Biochem. Biophys. Res. Commun. 345: 1022-1032.
5. Chuma, S., et al. 2006. TDRD1/Mtr-1, a tudor-related gene, is essential for male germ-cell differentiation and nuage/germinal granule formation in mice. Proc. Natl. Acad. Sci. USA 103: 15894-15899.
6. Wu, C., et al. 2007. Systematic identification of SH3 domain-mediated human protein-protein interactions by peptide array target screening. Proteomics 7: 1775-1785.
7. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 605796. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: TDRD1 (human) mapping to 10q25.3.

PRODUCT

TDRD1 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 TDRD1 shRNA Plasmid (h): sc-90747-SH and TDRD1 shRNA (h) Lentiviral Particles: sc-90747-V as alternate gene silencing products.

For independent verification of TDRD1 (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-90747A, sc-90747B and sc-90747C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

TDRD1 siRNA (h) is recommended for the inhibition of TDRD1 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 TDRD1 gene expression knockdown using RT-PCR Primer: TDRD1 (h)-PR: sc-90747-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.