SANTA CRUZ BIOTECHNOLOGY, INC.

Tektin 1 siRNA (h): sc-94243

BACKGROUND

The tektin proteins comprise a family of insoluble, α-helical, filament-forming peptides that interact with tubulins and, via this interaction, form flagellar and ciliary microtubules. Tektin 1, also known as TEKT1, is a 418 amino acid protein that is expressed in testis and contains 4 evolutionary conserved cysteines and one tektin-specific peptide sequence. Similar to other members of the tektin family, Tektin 1 functions as a structural component of microtubules, specifically forming polymers in the walls of microtubules and stabilizing overall microtubule structure. Additionally, Tektin 1 may play a role in spermatogenesis.

REFERENCES

1. Stephens, R.E. and Lemieux, N.A. 1998. Tektins as structural determinants in basal bodies. Cell Motil. Cytoskeleton 40: 379-392.
2. Larsson, M., et al. 2000. The spatial and temporal expression of Tekt1, a mouse tektin C homologue, during spermatogenesis suggest that it is involved in the development of the sperm tail basal body and axoneme. Eur. J. Cell Biol. 79: 718-725.
3. Xu, M., et al. 2001. Cloning and characterization of a novel human Tektin 1 gene. Int. J. Biochem. Cell Biol. 33: 1172-1182.
4. Iguchi, N., et al. 2002. Cloning and characterization of the human tektin-t gene. Mol. Hum. Reprod. 8: 525-530.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609002. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Clark, A.T., et al. 2004. Spontaneous differentiation of germ cells from human embryonic stem cells *in vitro*. Hum. Mol. Genet. 13: 727-739.
7. Tanaka, H., et al. 2004. Mice deficient in the axonemal protein tektin-t exhibit male infertility and immotile-cilium syndrome due to impaired inner arm dynein function. Mol. Cell. Biol. 24: 7958-7964.

CHROMOSOMAL LOCATION

Genetic locus: TEKT1 (human) mapping to 17p13.1.

PRODUCT

Tektin 1 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 Tektin 1 shRNA Plasmid (h): sc-94243-SH and Tektin 1 shRNA (h) Lentiviral Particles: sc-94243-V as alternate gene silencing products.

For independent verification of Tektin 1 (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-94243A, sc-94243B and sc-94243C.

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

Tektin 1 siRNA (h) is recommended for the inhibition of Tektin 1 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

Tektin 1 (E-5): sc-398507 is recommended as a control antibody for monitoring of Tektin 1 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 Tektin 1 gene expression knockdown using RT-PCR Primer: Tektin 1 (h)-PR: sc-94243-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.