SANTA CRUZ BIOTECHNOLOGY, INC.

Cylicin-1 siRNA (m): sc-62178

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The Power to Question

BACKGROUND

The cytoskeletal calyx structure surrounds part of the nucleus of the mammalian sperm head and contains two main types of basic proteins: calicin and the multiple band proteins (MBPs). Cylicin-1, a member of the MBP family, contains several lysine dipeptides followed by a third variable amino acid, which, in most cases, is aspartic acid. The central portion of the protein is arranged as a series of repeating units that are predicted to form short individual α-helices which are interrupted by short linker segments. The C-terminal tail of Cylicin-1 contains proline-rich segments. Cylicin-1 is expressed only in the calyx of human and cow spermatozoa, and has a possible architectural role during spermiogenesis.

REFERENCES

1. Longo, F.J., et al. 1987. Basic proteins of the perinuclear theca of mammalian spermatozoa and spermatids: a novel class of cytoskeletal elements. J. Cell Biol. 105: 1105-1120.
2. Hess, H., et al. 1993. Molecular characterization of mammalian cylicin, a basic protein of the sperm head cytoskeleton. J. Cell Biol. 122: 1043-1052.
3. Hess, H., et al. 1995. The protein complexity of the cytoskeleton of bovine and human sperm heads: the identification and characterization of cylicin II. Exp. Cell Res. 218: 174-182.
4. von Bülow, M., et al. 1995. Molecular nature of cytoskeleton. Exp. Cell Res. 219: 407-413.
5. Heid, H., et al. 2002. Novel Actin-related proteins Arp-T1 and Arp-T2 as components of the cytoskeletal calyx of the mammalian sperm head. Exp. Cell Res. 279: 177-187.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603121. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Rousseaux-Prevost, R., et al. 2003. Characterization of boar sperm cytoskeletal cylicin II as protein. Biochem. Biophys. Res. Commun. 303: 182-189.

CHROMOSOMAL LOCATION

Genetic locus: Cylc1 (mouse) mapping to X E1.

PRODUCT

Cylicin-1 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 Cylicin-1 shRNA Plasmid (m): sc-62178-SH and Cylicin-1 shRNA (m) Lentiviral Particles: sc-62178-V as alternate gene silencing products.

For independent verification of Cylicin-1 (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-62178A, sc-62178B and sc-62178C.

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

Cylicin-1 siRNA (m) is recommended for the inhibition of Cylicin-1 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.

GENE EXPRESSION MONITORING

Cylicin-1 (B-8): sc-166400 is recommended as a control antibody for monitoring of Cylicin-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 Cylicin-1 gene expression knockdown using RT-PCR Primer: Cylicin-1 (m)-PR: sc-62178-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.