SANTA CRUZ BIOTECHNOLOGY, INC.

Fibrillarin siRNA (h): sc-37883

BACKGROUND

Fibrillarin is a widely occurring, basic, nonhistone protein that is localized exclusively in the fibrillar region of the nucleolus, including both the dense fibrillar and the fibrillar center regions. Fibrillarin is also expressed in HeLa cells, 3T3 cells, and human peripheral blood lymphocytes. In metaphase and anaphase, fibrillarin is found on putative chromosomal nucleolar regions (NORs). During telophase, fibrillarin is an early marker for the site of the newly forming nucleolus. The structure of fibrillarin includes an RNA-binding domain and an RNP consensus sequence, which is consistent with the association of fibrillarin with the U3 small nucleolar RNA. Fibrillarin is involved in processing rRNA transcripts in the nucleolus.

REFERENCES

1. Ochs, R.L., et al. 1985. Fibrillarin: a new protein of the nucleolus identified by autoimmune sera. Biol. Cell 54: 123-133.
2. Aris, J.P., et al. 1991. cDNA cloning and sequencing of human Fibrillarin, a conserved nucleolar protein recognized by autoimmune anti-sera. Proc. Natl. Acad. Sci. USA 88: 931-935.
3. Jansen, R.P., et al. 1991. Evolutionary conservation of the human nucleolar protein Fibrillarin and its functional expression in yeast. J. Cell Biol. 113: 715-729.
4. Scheer, U., et al. 1999. Structure and function of the nucleolus. Curr. Opin. Cell Biol. 11: 385-390.
5. Olson, M.O.J., et al. 2000. The nucleolus: an old factory with unexpected capabilities. Trends Cell Biol. 10: 189-196.
6. Phair, R.D., et al. 2000. High mobility of proteins in the mammalian cell nucleus. Nature 404: 604-609.
7. Newton, K., et al. 2003. Fibrillarin is essential for early development and required for accumulation of an intron-encoded small nucleolar RNA in the mouse. Mol. Cell. Biol. 23: 8519-8527.
8. Deng, L., et al. 2004. Structure determination of Fibrillarin from the hyperthermophilic archaeon *Pyrococcus furiosus*. Biochem. Biophys. Res. Commun. 315: 726-732.

CHROMOSOMAL LOCATION

Genetic locus: FBL (human) mapping to 19q13.2.

PRODUCT

Fibrillarin 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 Fibrillarin shRNA Plasmid (h): sc-37883-SH and Fibrillarin shRNA (h) Lentiviral Particles: sc-37883-V as alternate gene silencing products.

For independent verification of Fibrillarin (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-37883A, sc-37883B and sc-37883C.

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

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

Fibrillarin (G-8): sc-374022 is recommended as a control antibody for monitoring of Fibrillarin 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 Fibrillarin gene expression knockdown using RT-PCR Primer: Fibrillarin (h)-PR: sc-37883-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.