SANTA CRUZ BIOTECHNOLOGY, INC.

Septin 6 siRNA (m): sc-40939

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The Power to Question

BACKGROUND

Septin 6, also known as SEPT6, is a 434 amino acid protein that belongs to the septin family. The highly conserved septin family of GTP-binding cytoskeletal proteins is implicated in membrane transport, apoptosis, cell polarity, cell cycle regulation, cytokinesis and other cellular functions. Septins polymerize into heterooligomeric protein complexes that form filaments, and can associate with cellular membranes, actin filaments and microtubules. Filaments are assembled from asymmetrical heterotrimers, composed of Septin 2, Septin 6 and Septin 7 that associate head-to-head to form a hexameric unit, however interaction with Septin 12 alters filament structure. Septin 6 shares 40% identity with CDC10 and contains an ATP/GTP-binding site motif. The Septin 6 protein demonstrates nearly ubiquitous expression, with highest level in thymus. The Septin 6 protein is phosphorylated upon DNA damage, probably by Atm or ATR. Existing as four alternatively spliced isoforms, the Septin 6 gene is conserved in canine, bovine, mouse, rat, chicken, zebrafish and fruit fly, and maps to human chromosome Xq24.

REFERENCES

1. Kinoshita, A., et al. 1998. Identification of septins in neurofibrillary tangles in Alzheimer's disease. Am. J. Pathol. 153: 1551-1560.
2. Xue, J., et al. 2000. Phosphorylation of a new brain-specific septin, G-Septin, by cGMP-dependent protein kinase. J. Biol. Chem. 275: 10047-10056.
3. Larisch, S., et al. 2000. A novel mitochondrial Septin-like protein, ARTS, mediates apoptosis dependent on its P-loop motif. Nat. Cell Biol. 2: 915-921.
4. Toda, S., et al. 2000. Reciprocal expression of infant- and adult-preferring transcripts of CDCREL-1 septin gene in the rat neocortex. Biochem. Biophys. Res. Commun. 273: 723-728.
5. Jackisch, B.O., et al. 2000. Alternative exon usage of rat septins. Biochem. Biophys. Res. Commun. 275: 180-188.
6. Borkhardt, A., et al. 2001. An ins(X;11)(q24;q23) fuses the MLL and the Septin 6/KIAA0128 gene in an infant with AML-M2. Genes Chromosomes Cancer 32: 82-88.

CHROMOSOMAL LOCATION

Genetic locus: Sept6 (mouse) mapping to X A3.3.

PRODUCT

Septin 6 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 Septin 6 shRNA Plasmid (m): sc-40939-SH and Septin 6 shRNA (m) Lentiviral Particles: sc-40939-V as alternate gene silencing products.

For independent verification of Septin 6 (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-40939A, sc-40939B and sc-40939C.

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

Septin 6 siRNA (m) is recommended for the inhibition of Septin 6 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

Septin 6 (B-8): sc-514781 is recommended as a control antibody for monitoring of Septin 6 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 Septin 6 gene expression knockdown using RT-PCR Primer: Septin 6 (m)-PR: sc-40939-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.