SANTA CRUZ BIOTECHNOLOGY, INC.

Septin 9 siRNA (h): sc-61532

BACKGROUND

Septins are members of a conserved family of cytoskeletal GTPases, specifically belonging to the large superclass of P-loop GTPases. Septin proteins form homo- and hetero-oligomeric polymers that accumulate into higher-order filaments which may function as dynamic protein scaffolds. Septins play an important role in vesicle trafficking, apoptosis, cytoskeleton remodeling, infection, neurodegeneration, neoplasia and cytokinesis. Septin 9 is expressed in lymphoid tissues and has an elaborate genomic structure. There are 15 different isoforms of Septin 9, made possible by intermixing 5 alternate amino termini and 3 alternate carboxy termini. Changes in the levels of Septin 9 by overexpression of these individual isoforms can disturb cellular behavior and may be implicated in neoplasia. Septin 9 is commonly upregulated in ovarian tumors and may be linked to hereditary neuralgic amyotrophy (HNA). HNA is an autosomal dominant, recurrent neuropathy affecting the brachial plexus.

REFERENCES

1. Burrows, J.F., et al. 2003. Altered expression of the septin gene, SEPT9, in ovarian neoplasia. J. Pathol. 201: 581-588.
2. Kim, D.S., et al. 2004. Analysis of mammalian septin expression in human malignant brain tumors. Neoplasia 6: 168-178.
3. Nagata, K., et al. 2004. Biochemical and cell biological analyses of a mammalian septin complex, Septin 7/9b/11. J. Biol. Chem. 279: 55895-55904.
4. Robertson, C., et al. 2004. Properties of Septin 9 isoforms and the requirement for GTP binding. J. Pathol. 203: 519-527.
5. Hall, P.A., et al. 2005. Expression profiling the human septin gene family. J. Pathol. 206: 269-278.
6. Chacko, A.D., et al. 2005. SEPT9_v4 expression induces morphological change, increased motility and disturbed polarity. J. Pathol. 206: 458-465.
7. Kuhlenbäumer, G., et al. 2005. Mutations in SEPT9 cause hereditary neuralgic amyotrophy. Nat. Genet. 37: 1044-1046.
8. Scott, M., et al. 2005. Multimodality expression profiling shows SEPT9 to be overexpressed in a wide range of human tumours. Oncogene 24: 4688-4700.

CHROMOSOMAL LOCATION

Genetic locus: SEPT9 (human) mapping to 17q25.2.

PRODUCT

Septin 9 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 Septin 9 shRNA Plasmid (h): sc-61532-SH and Septin 9 shRNA (h) Lentiviral Particles: sc-61532-V as alternate gene silencing products.

For independent verification of Septin 9 (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-61532A, sc-61532B and sc-61532C.

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 9 siRNA (h) is recommended for the inhibition of Septin 9 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

Septin 9 (2C6): sc-293291 is recommended as a control antibody for monitoring of Septin 9 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 9 gene expression knockdown using RT-PCR Primer: Septin 9 (h)-PR: sc-61532-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.