SANTA CRUZ BIOTECHNOLOGY, INC.

SCLIP siRNA (h): sc-76459

BACKGROUND

SCLIP (Stathmin-3), also known as SCG10-like protein, is a 180 amino acid neuronal specific protein which belongs to the Stathmin protein family. Stathmin family members are phosphoproteins expressed in the cytoplasm which function to regulate microtubule dynamics. Stathmin complexes with tubulin dimers to sequester tubulin and promote microtubule disassembly. Phosphorylation of stathmin proteins weakens stathmin-tubulin complexes and promotes microtubule assembly. Mitotic spindle assembly during cell division requires phosphorylation of stathmin proteins. The cell cycle is arrested when stathmin-tubulin complexes are present. Non-functional stathmin family members are oncoproteins that are responsible for uncontrolled cell proliferation. SCLIP is encoded by a gene, STMN3, that maps to human chromosome 20q13.33.

REFERENCES

1. Jourdain, L., et al. 1997. Stathmin: a tubulin-sequestering protein which forms a ternary T2S complex with two tubulin molecules. Biochemistry 36: 10817-10821.
2. Ozon, S., et al. 1997. The stathmin family—molecular and biological characterization of novel mammalian proteins expressed in the nervous system. Eur. J. Biochem. 248: 794-806.
3. Ozon, S., et al. 1998. SCLIP: a novel SCG10-like protein of the stathmin family expressed in the nervous system. J. Neurochem. 70: 2386-2396.
4. Curmi, P.A., et al. 1999. Stathmin and its phosphoprotein family: general properties, biochemical and functional interaction with tubulin. Cell Struct. Funct. 24: 345-357.
5. Cassimeris, L. 2002. The oncoprotein 18/stathmin family of microtubule destabilizers. Curr. Opin. Cell Biol. 14: 18-24.
6. Clément, M.J., et al. 2005. N-terminal stathmin-like peptides bind tubulin and impede microtubule assembly. Biochemistry 44: 14616-14625.

CHROMOSOMAL LOCATION

Genetic locus: STMN3 (human) mapping to 20q13.33.

PRODUCT

SCLIP 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 SCLIP shRNA Plasmid (h): sc-76459-SH and SCLIP shRNA (h) Lentiviral Particles: sc-76459-V as alternate gene silencing products.

For independent verification of SCLIP (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-76459A, sc-76459B and sc-76459C.

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

SCLIP siRNA (h) is recommended for the inhibition of SCLIP 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SCLIP gene expression knockdown using RT-PCR Primer: SCLIP (h)-PR: sc-76459-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Nair, S., et al. 2014. Nicotine-mediated invasion and migration of non-small cell lung carcinoma cells by modulating STMN3 and GSPT1 genes in an Id1-dependent manner. Mol. Cancer 13: 173.

RESEARCH USE

For research use only, not for use in diagnostic procedures.