SANTA CRUZ BIOTECHNOLOGY, INC.

Op18 siRNA (h): sc-36127

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The Power to Question

BACKGROUND

Op18 (for oncoprotein 18, also designated stathmin, prosolin or metablastin) is a conserved, Tubulin-associated, intracellular phosphoprotein. Many different phosphorylated forms of Op18 are observed, and it is expressed as two different isoforms. Op18 is considered a critical regulator of microtubulin dynamics and is downregulated by p53. It serves as a transducing protein, via phophorylation, for a variety of cell signaling pathways and involved in both mitosis and differentiation. Op18 is present in many cancers, including breast carcinomas, and is highly expressed in acute leukemias of different subtypes.

CHROMOSOMAL LOCATION

Genetic locus: STMN1 (human) mapping to 1p36.11.

PRODUCT

Op18 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 Op18 shRNA Plasmid (h): sc-36127-SH and Op18 shRNA (h) Lentiviral Particles: sc-36127-V as alternate gene silencing products.

For independent verification of Op18 (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-36127A, sc-36127B and sc-36127C.

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

Op18 siRNA (h) is recommended for the inhibition of Op18 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

Op18 (A-4): sc-48362 is recommended as a control antibody for monitoring of Op18 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Op18 gene expression knockdown using RT-PCR Primer: Op18 (h)-PR: sc-36127-PR (20 µl, 479 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Tamura, K., et al. 2006. Expression of stathmin in human uterus and decidualizing endometrial stromal cells. Reproduction 132: 625-636.
2. Yoshie, M., et al. 2009. Stathmin, a microtubule regulatory protein, is associated with hypoxia-inducible factor-1α levels in human endometrial and endothelial cells. Endocrinology 150: 2413-2418.
3. Wang, R., et al. 2011. LRRC4 inhibits the proliferation of human glioma cells by modulating the expression of STMN1 and microtubule polymerization. J. Cell. Biochem. 112: 3621-3629.
4. McCartney, E.M., et al. 2013. Signal transducer and activator of transcription 3 is a proviral host factor for hepatitis C virus. Hepatology 58: 1558-1568.
5. Machado-Neto, J.A., et al. 2014. Stathmin 1 is involved in the highly proliferative phenotype of high-risk myelodysplastic syndromes and acute leukemia cells. Leuk. Res. 38: 251-257.
6. Machado-Neto, J.A., et al. 2015. ANKHD1 silencing inhibits stathmin 1 activity, cell proliferation and migration of leukemia cells. Biochim. Biophys. Acta 1853: 583-593.
7. Machado-Neto, J.A., et al. 2015. Stathmin 1 inhibition amplifies ruxolitinib-induced apoptosis in JAK2V617F cells. Oncotarget 6: 29573-29584.
8. Costa, A.C., et al. 2018. Stathmin recruits Tubulin to *Listeria monocytogenes*-induced Actin comets and promotes bacterial dissemination. Cell. Mol. Life Sci. 76: 961-975.
9. Ke, B., et al. 2019. Clinical significance of stathmin 1 expression and epithelial-mesenchymal transition in curatively resected gastric cancer. Mol. Clin. Oncol. 10: 214-222.

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.