

Op18 siRNA (m): sc-36128

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. Via phosphorylation activity, Op18 serves as a transducing protein for a variety of cell signaling pathways and is 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.

REFERENCES

1. Beretta, L., et al. 1989. Identification of two distinct isoforms of stathmin and characterization of their respective phosphorylated forms. *J. Biol. Chem.* 264: 9932-9938.
2. Sobel, A. 1991. Stathmin: a relay phosphoprotein for multiple signal transduction? *Trends Biochem. Sci.* 16: 301-315.
3. Roos, G., et al. 1993. Expression of oncoprotein 18 in human leukemias and lymphomas. *Leukemia* 7: 1538-1546.
4. Belmont, L.D., et al. 1996. Identification of a protein that interacts with Tubulin dimers and increases the catastrophe rate of microtubules. *Cell* 84: 623-631.
5. Jourdain, L., et al. 1997. Stathmin: a Tubulin-sequestering protein which forms a ternary T2S complex with two Tubulin molecules. *Biochemistry* 36: 10817-10821.
6. Bieche, I., et al. 1998. Overexpression of the stathmin gene in a subset of human breast cancer. *Br. J. Cancer* 78: 701-709.
7. Ahn, J., et al. 1999. Downregulation of the stathmin/Op18 and FKBP25 genes following p53 induction. *Oncogene* 18: 5954-5958.

CHROMOSOMAL LOCATION

Genetic locus: Stmn1 (mouse) mapping to 4 D3.

PRODUCT

Op18 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Op18 shRNA Plasmid (m): sc-36128-SH and Op18 shRNA (m) Lentiviral Particles: sc-36128-V as alternate gene silencing products.

For independent verification of Op18 (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-36128A, sc-36128B and sc-36128C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Op18 siRNA (m) is recommended for the inhibition of Op18 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 μ M in 66 μ l. 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 Op18 gene expression knockdown using RT-PCR Primer: Op18 (m)-PR: sc-36128-PR (20 μ l, 410 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Lin, Y.H., et al. 2021. The essential role of stathmin in myoblast C2C12 for vertical vibration-induced myotube formation. *Biomolecules* 11: 1583.

RESEARCH USE

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