

Zuotin-1 siRNA (m): sc-77020

BACKGROUND

Zuotin-1 (DnaJ homolog subfamily C member 2, M-phase phosphoprotein 11) is a ribosome-associated DnaJ molecular chaperone that contains one J domain and two SANT domains. Zuotin-1 is of the DnaJ family, which is one of the largest of all the chaperone families and has evolved with diverse cellular localization and functions. DnaJ heat-shock induced proteins are under the control of the htpR regulatory protein. DnaJ proteins play a critical role in the HSP 70 chaperone machine by interacting with HSP 70 to stimulate ATP hydrolysis. Members of this family contain cysteine-rich regions that are composed of zinc fingers that form a peptide-binding domain responsible for the chaperone function. Such DnaJ ribosome-associated molecular chaperones are believed to be the first line of defense against protein aggregation as translating polypeptides emerge from the ribosome.

REFERENCES

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- Craig, E.A., et al. 2003. Ribosome-tethered molecular chaperones: the first line of defense against protein misfolding? *Curr. Opin. Microbiol.* 6: 157-162.
- Otto, H., et al. 2005. The chaperones MPP11 and Hsp70L1 form the mammalian ribosome-associated complex. *Proc. Natl. Acad. Sci. USA* 102: 10064-10069.
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- Raychaudhuri, S., et al. 2006. Zuotin, a DnaJ molecular chaperone, stimulates cap-independent translation in yeast. *Biochem. Biophys. Res. Commun.* 350: 788-795.
- Qiu, X.B., et al. 2006. The diversity of the DnaJ/Hsp40 family, the crucial partners for Hsp70 chaperones. *Cell. Mol. Life Sci.* 63: 2560-2570.

CHROMOSOMAL LOCATION

Genetic locus: Dnajc2 (mouse) mapping to 5 A3.

PRODUCT

Zuotin-1 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 Zuotin-1 shRNA Plasmid (m): sc-77020-SH and Zuotin-1 shRNA (m) Lentiviral Particles: sc-77020-V as alternate gene silencing products.

For independent verification of Zuotin-1 (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-77020A, sc-77020B and sc-77020C.

RESEARCH USE

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

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

Zuotin-1 siRNA (m) is recommended for the inhibition of Zuotin-1 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

Zuotin-1 (A-12): sc-393426 is recommended as a control antibody for monitoring of Zuotin-1 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 Zuotin-1 gene expression knockdown using RT-PCR Primer: Zuotin-1 (m)-PR: sc-77020-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.