SANTA CRUZ BIOTECHNOLOGY, INC.

Zuotin-1 siRNA (h): sc-77019

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

1. Hughes, R., et al. 1995. Cloning and chromosomal localization of a mouse cDNA with homology to the *Saccharomyces cerevisiae* gene zuotin. Genomics 29: 546-550.
2. Yan, W., et al. 1998. Zuotin, a ribosome-associated DnaJ molecular chaperone. EMBO J. 17: 4809-4817.
3. Craig, E.A., et al. 2003. Ribosome-tethered molecular chaperones: the first line of defense against protein misfolding? Curr. Opin. Microbiol. 6: 157-162.
4. Otto, H., et al. 2005. The chaperones MPP11 and Hsp70L1 form the mammalian ribosome-associated complex. Proc. Natl. Acad. Sci. USA 102: 10064-10069.

CHROMOSOMAL LOCATION

Genetic locus: DNAJC2 (human) mapping to 7q22.1.

PRODUCT

Zuotin-1 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 Zuotin-1 shRNA Plasmid (h): sc-77019-SH and Zuotin-1 shRNA (h) Lentiviral Particles: sc-77019-V as alternate gene silencing products.

For independent verification of Zuotin-1 (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-77019A, sc-77019B and sc-77019C.

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

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

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-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 Zuotin-1 gene expression knockdown using RT-PCR Primer: Zuotin-1 (h)-PR: sc-77019-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. Rath, S.K., et al. 2016. Silencing of ZRF1 impedes survival of estrogen receptor positive MCF-7 cells and potentiates the effect of curcumin. Tumour Biol. 37: 12535-12546.

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.