SANTA CRUZ BIOTECHNOLOGY, INC.

DnaJC1 siRNA (m): sc-143098

BACKGROUND

The DnaJ family comprises a group of chaperone proteins that contain a J domain and have diverse cellular localization and functions. DnaJ proteins play a critical role in the HSP 70 chaperone machine by interacting with HSP 70 to stimulate ATP hydrolysis and are also important mediators of proteolysis and protein degradation. DnaJC1 (DnaJ homolog subfamily C member 1), also designated MTJ1, HTJ1, ERdj1 or DNAJL1, is a 554 amino acid single-pass type I membrane protein found in the membrane of the endoplasmic reticulum, nucleus and microsome. DnaJC1 contains one J domain and two SANT domains, through which it interacts with GRP 78 and AACT, respectively. Via its cytosolic domain, DnaJC1 interacts with ribosomes and likely modulates protein synthesis. The gene encoding DnaJC1 maps to human chromosome 10p12.31 and mouse chromosome 2 A3.

REFERENCES

1. Chevalier, M., et al. 2000. Interaction of murine BiP/GRP 78 with the DnaJ homologue MTJ1. J. Biol. Chem. 275: 19620-19627.
2. Lehner, B., et al. 2004. Analysis of a high-throughput yeast two-hybrid system and its use to predict the function of intracellular proteins encoded within the human MHC class III region. Genomics 83: 153-167.
3. Kroczynska, B., et al. 2004. The SANT2 domain of the murine tumor cell DnaJ-like protein 1 human homologue interacts with α1-antichymotrypsin and kinetically interferes with its serpin inhibitory activity. J. Biol. Chem. 279: 11432-11443.
4. Kroczynska, B., et al. 2005. BIP co-chaperone MTJ1/ERDJ1 interacts with inter-α-trypsin inhibitor heavy chain 4. Biochem. Biophys. Res. Commun. 338: 1467-1477.
5. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611207. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: Dnajc1 (mouse) mapping to 2 A3.

PRODUCT

DnaJC1 siRNA (m) is a target-specific 19-25 nt siRNA 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 DnaJC1 shRNA Plasmid (m): sc-143098-SH and DnaJC1 shRNA (m) Lentiviral Particles: sc-143098-V as alternate gene silencing products.

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.

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

DnaJC1 siRNA (m) is recommended for the inhibition of DnaJC1 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 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

DnaJC1 (D-10): sc-514244 is recommended as a control antibody for monitoring of DnaJC1 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 DnaJC1 gene expression knockdown using RT-PCR Primer: DnaJC1 (m)-PR: sc-143098-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.