# SANTA CRUZ BIOTECHNOLOGY, INC.

# DnaJC1 siRNA (h): sc-90566



# 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

- Chevalier, M., Rhee, H., Elguindi, E.C. and Blond, S.Y. 2000. Interaction of murine BiP/GRP 78 with the DnaJ homologue MTJ1. J. Biol. Chem. 275: 19620-19627.
- Lehner, B., Semple, J.I., Brown, S.E., Counsell, D., Campbell, R.D. and Sanderson, C.M. 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.
- Kroczynska, B., Evangelista, C.M., Samant, S.S., Elguindi, E.C. and Blond, S.Y. 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., King-Simmons, L., Alloza, L., Alava, M.A., Elguindi, E.C. and Blond, S.Y. 2005. BIP co-chaperone MTJ1/ERDJ1 interacts with inter- $\alpha$ -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 (human) mapping to 10p12.31.

## PRODUCT

DnaJC1 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see DnaJC1 shRNA Plasmid (h): sc-90566-SH and DnaJC1 shRNA (h) Lentiviral Particles: sc-90566-V as alternate gene silencing products.

For independent verification of DnaJC1 (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-90566A, sc-90566B and sc-90566C.

### **RESEARCH USE**

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

#### STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at  $-20^{\circ}$  C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at  $-20^{\circ}$  C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330  $\mu$ l of the RNAse-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNAse-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## **APPLICATIONS**

 $\mathsf{DnaJC1}$  siRNA (h) is recommended for the inhibition of  $\mathsf{DnaJC1}$  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  $\mu$ M in 66  $\mu$ 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

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-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>TM</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> 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 (h)-PR: sc-90566-PR (20  $\mu$ I). 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.