SANTA CRUZ BIOTECHNOLOGY, INC.

# MCJ siRNA (m): sc-75762

## BACKGROUND

The DnaJ family is one of the largest of all the chaperone families and has evolved with diverse cellular localization and functions. The presence of a J domain defines a protein as a member of the DnaJ family. DnaJ heat shock induced proteins are from the bacterium *Escherichia coli* and are under the control of the htpR regulatory protein. The DnaJ proteins play a critical role in the HSP 70 chaperone machine by interacting with HSP 70 to stimulate ATP hydrolysis. DnaJ proteins are important mediators of proteolysis and are involved in the regulation of protein degradation, exocytosis and endocytosis. MCJ (methylation-controlled J protein), also known as HSD18, DNAJD1 or DNAJC15, is a 150 amino acid ubiquitously expressed single-pass membrane protein containing one J domain. Localizing to the golgi apparatus and only present in vertebrates, MCJ may be associated with increased chemotherapeutic resistance in ovarian cancer by inducing expression of the Mdr drug transporter and preventing intracellular drug accumulation.

## REFERENCES


1. Saito, H. and Uchida, H. 1978. Organization and expression of the dnaJ and dnaK genes of *Escherichia coli* K12. Mol. Gen. Genet. 164: 1-8.
2. Tomoyasu, T., et al. 1998. Levels of DnaK and DnaJ provide tight control of heat shock gene expression and protein repair in *Escherichia coli*. Mol. Microbiol. 30: 567-581.
3. Sin, H.S., et al. 2006. Endogenous retrovirus-related sequences provide an alternative transcript of MCJ genes in human tissues and cancer cells. Genes Genet. Syst. 81: 333-339.
4. Lindsey, J.C., et al. 2006. Epigenetic inactivation of MCJ (DNAJD1) in malignant paediatric brain tumours. Int. J. Cancer 118: 346-352.
5. Mikata, R., et al. 2006. Analysis of genes upregulated by the demethylating agent 5-aza-2'-deoxycytidine in gastric cancer cell lines. Int. J. Cancer 119: 1616-1622.
6. Witham, J., et al. 2008. Transient ectopic expression as a method to detect genes conferring drug resistance. Int. J. Cancer 122: 2641-2645.


## CHROMOSOMAL LOCATION

Genetic locus: Dnajc15 (mouse) mapping to 14 D3.

## PRODUCT

MCJ 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MCJ shRNA Plasmid (m): sc-75762-SH and MCJ shRNA (m) Lentiviral Particles: sc-75762-V as alternate gene silencing products.

For independent verification of MCJ (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-75762A, sc-75762B and sc-75762C.

## 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 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

MCJ siRNA (m) is recommended for the inhibition of MCJ 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MCJ gene expression knockdown using RT-PCR Primer: MCJ (m)-PR: sc-75762-PR (20 µl). 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.