



Msi2 siRNA (h): sc-75834

BACKGROUND

Msi2 (musashi homolog 2), also known as MSI2H, is a 328 amino acid protein that localizes to the cytoplasm and contains two RRM (RNA recognition motif) domains. Expressed ubiquitously at low levels, Msi2 functions as an RNA binding protein that, by regulating the expression of target mRNAs, is thought to play a role in the proliferation and maintenance of stem cells within the central nervous system. Msi2 is subject to post-translational phosphorylation and is upregulated in response to brain injury, suggesting a role in healing and brain tissue regeneration. Chromosomal aberrations involving the Msi2 gene are associated with the progression of chronic myeloid leukemia. Multiple isoforms of Msi2 exist due to alternative splicing events.

REFERENCES

1. Sakakibara, S., et al. 2001. RNA-binding protein musashi 2: developmentally regulated expression in neural precursor cells and subpopulations of neurons in mammalian CNS. *J. Neurosci.* 21: 8091-8107.
2. Sakakibara, S., et al. 2002. RNA-binding protein musashi family: roles for CNS stem cells and a subpopulation of ependymal cells revealed by targeted disruption and antisense ablation. *Proc. Natl. Acad. Sci. USA* 99: 15194-15199.
3. Barbouti, A., et al. 2003. A novel gene, MSI2, encoding a putative RNA-binding protein is recurrently rearranged at disease progression of chronic myeloid leukemia and forms a fusion gene with HOXA9 as a result of the cryptic t(7;17)(p15;q23). *Cancer Res.* 63: 1202-1206.
4. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 607897. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: MSI2 (human) mapping to 17q22.

PRODUCT

Msi2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Msi2 shRNA Plasmid (h): sc-75834-SH and Msi2 shRNA (h) Lentiviral Particles: sc-75834-V as alternate gene silencing products.

For independent verification of Msi2 (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-75834A, sc-75834B and sc-75834C.

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

Msi2 siRNA (h) is recommended for the inhibition of Msi2 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 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

Msi2 (2C11G4): sc-517212 is recommended as a control antibody for monitoring of Msi2 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Msi2 gene expression knockdown using RT-PCR Primer: Msi2 (h)-PR: sc-75834-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Dong, P., et al. 2017. Musashi-2, a novel oncoprotein promoting cervical cancer cell growth and invasion, is negatively regulated by p53-induced miR-143 and miR-107 activation. *J. Exp. Clin. Cancer Res.* 36: 150.
2. Sun, K., et al. 2024. A novel interaction between the 5' untranslated region of the Chikungunya virus genome and Musashi RNA binding protein is essential for efficient virus genome replication. *Nucleic Acids Res.* 52: 10654-10667.

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.