SANTA CRUZ BIOTECHNOLOGY, INC.

Mina53 siRNA (m): sc-75789

BACKGROUND

Mina53, also known as MINA (MYC induced nuclear antigen), MDIG or NO52, is a 465 amino acid protein that contains one JmjC domain and localizes to the nucleus. Expressed in placenta, liver, heart, pancreas and skeletal muscle, Mina53 is thought to be involved in ribosome biogenesis, specifically in the assembly of pre-ribosomal particles. Via its involvement in ribosome biogenesis, Mina53 may play an important role in cell growth and survival, as well as overall cellular proliferation events. Mina53 expression is upregulated in esophageal squamous cell carcinoma (ESCC), colon cancer and lung cancer tissues, suggesting that Mina53 may be involved in tumorigenesis. Multiple isoforms of Mina53 exist due to alternative splicing events.

REFERENCES

1. Tsuneoka, M., et al. 2002. A novel Myc target gene, mina53, that is involved in cell proliferation. J. Biol. Chem. 277: 35450-35459.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 612049. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Teye, K., et al. 2004. Increased expression of a Myc target gene Mina53 in human colon cancer. Am. J. Pathol. 164: 205-216.
4. Tsuneoka, M., et al. 2004. Mina53 as a potential prognostic factor for esophageal squamous cell carcinoma. Clin. Cancer Res. 10: 7347-7356.
5. Eilbracht, J., et al. 2005. Protein NO52—a constitutive nucleolar component sharing high sequence homologies to protein NO66. Eur. J. Cell Biol. 84: 279-294.
6. Zhang, Y., et al. 2005. The Human mineral dust-induced gene, mdig, is a cell growth regulating gene associated with lung cancer. Oncogene 24: 4873-4882.
7. Teye, K., et al. 2007. Expression of Myc target gene mina53 in subtypes of human lymphoma. Oncol. Rep. 18: 841-848.
8. Ishizaki, H., et al. 2007. Overexpression of the myc target gene Mina53 in advanced renal cell carcinoma. Pathol. Int. 57: 672-680.

CHROMOSOMAL LOCATION

Genetic locus: Mina (mouse) mapping to 16 C1.3.

PRODUCT

Mina53 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 Mina53 shRNA Plasmid (m): sc-75789-SH and Mina53 shRNA (m) Lentiviral Particles: sc-75789-V as alternate gene silencing products.

For independent verification of Mina53 (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-75789A, sc-75789B and sc-75789C.

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

Mina53 siRNA (m) is recommended for the inhibition of Mina53 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

Mina53 (H-4): sc-398521 is recommended as a control antibody for monitoring of Mina53 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 Mina53 gene expression knockdown using RT-PCR Primer: Mina53 (m)-PR: sc-75789-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.