

Mex3c siRNA (m): sc-149397

BACKGROUND

Mex-3 (muscle excess protein-3) is a translational regulator in *Caenorhabditis elegans* that participates in maintaining the germline totipotency and specifies the posterior blastomeres in early embryos. In humans, four evolutionarily conserved Mex-3 homologs exist, namely Mex3a, Mex3b, Mex3c and Mex3d. These proteins comprise a family of RNA binding phosphoproteins, which each contain two tandemly repeated KH (nuclear ribonucleoprotein K homology) domains and one C-terminal RING finger motif. In addition, the Mex-3 homolog family of proteins shuttle between the nucleus and the cytoplasm through the CRM1-dependent export pathway and may play a role regulating post-transcriptional events. Mex3c, also known as RING finger and KH domain-containing protein 2, is a 659 amino acid RNA-binding protein that is expressed at highest levels in fetal brain and testis. Genetic variations in the gene encoding Mex3c may be associated with an increased risk for essential hypertension type 8.

REFERENCES

1. Kolmerer, B., et al. 1996. Genomic organization of M line titin and its tissue-specific expression in two distinct isoforms. *J. Mol. Biol.* 256: 556-563.
2. Rutherford, S., et al. 2004. Sibpair studies implicate chromosome 18 in essential hypertension. *Am. J. Med. Genet. A* 126A: 241-247.
3. Tenlen, J.R., et al. 2006. Reduced dosage of pos-1 suppresses Mex mutants and reveals complex interactions among CCCH zinc-finger proteins during *Caenorhabditis elegans* embryogenesis. *Genetics* 174: 1933-1945.
4. Guzmán, B., et al. 2006. Implication of chromosome 18 in hypertension by sibling pair and association analyses: putative involvement of the RKHD2 gene. *Hypertension* 48: 883-891.
5. Buchet-Poyau, K., et al. 2007. Identification and characterization of human Mex-3 proteins, a novel family of evolutionarily conserved RNA-binding proteins differentially localized to processing bodies. *Nucleic Acids Res.* 35: 1289-1300.
6. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 611005. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: Mex3c (mouse) mapping to 18 E2.

PRODUCT

Mex3c 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Mex3c shRNA Plasmid (m): sc-149397-SH and Mex3c shRNA (m) Lentiviral Particles: sc-149397-V as alternate gene silencing products.

For independent verification of Mex3c (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-149397A, sc-149397B and sc-149397C.

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

Mex3c siRNA (m) is recommended for the inhibition of Mex3c 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 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

Mex3c (D-10): sc-398440 is recommended as a control antibody for monitoring of Mex3c 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 κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 Mex3c gene expression knockdown using RT-PCR Primer: Mex3c (m)-PR: sc-149397-PR (20 μ l). 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.