SANTA CRUZ BIOTECHNOLOGY, INC.

MSP58 siRNA (m): sc-75839

BACKGROUND

MSP58, also known as MCRS1 (microspherule protein 1), P78 or INO80Q, is a 462 amino acid protein that localizes to the nucleus and contains one FHA domain. Expressed at high levels during the S phase of the cell cycle and present in testis, prostate, thymus, spleen and colon, MSP58 functions to modulate the transcriptional activity of Daxx (a transcriptional repressor) by recruiting Daxx to the nucleolus. Additionally, MSP58 may play a role in the inhibition of TERT telomerase activity, further implicating MSP58 as an important protein in transcriptional regulation. The gene encoding MSP58 maps to human chromosome 12 and is expressed as multiple alternatively spliced isoforms. Encoding over 1,100 genes within 132 million bases, chromosome 12 makes up about 4.5% of the human genome and is associated wirh hypochondrogenesis, achondrogenesis and Kniest dysplasia.

REFERENCES

1. Ren, Y., et al. 1998. The 58 kDa microspherule protein (MSP58), a nucleolar protein, interacts with nucleolar protein p120. Eur. J. Biochem. 253: 734-742.
2. Lin, D.Y. and Shih, H.M. 2002. Essential role of the 58 kDa microspherule protein in the modulation of Daxx-dependent transcriptional repression as revealed by nucleolar sequestration. J. Biol. Chem. 277: 25446-25456.
3. Song, H., et al. 2004. Human MCRS2, a cell-cycle-dependent protein, associates with LPTS/PinX1 and reduces the telomere length. Biochem. Biophys. Res. Commun. 316: 1116-1123.
4. Shimono, K., et al. 2005. Microspherule protein 1, Mi-2β, and RET finger protein associate in the nucleolus and upregulate ribosomal gene transcription. J. Biol. Chem. 280: 39436-39447.
5. Du, X., et al. 2006. DIPA, which can localize to the centrosome, associates with p78/MCRS1/MSP58 and acts as a repressor of gene transcription. Exp. Mol. Pathol. 81: 184-190.

CHROMOSOMAL LOCATION

Genetic locus: Mcrs1 (mouse) mapping to 15 F1.

PRODUCT

MSP58 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 MSP58 shRNA Plasmid (m): sc-75839-SH and MSP58 shRNA (m) Lentiviral Particles: sc-75839-V as alternate gene silencing products.

For independent verification of MSP58 (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-75839A, sc-75839B and sc-75839C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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

MSP58 siRNA (m) is recommended for the inhibition of MSP58 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

MSP58 (B-5): sc-376569 is recommended as a control antibody for monitoring of MSP58 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 MSP58 gene expression knockdown using RT-PCR Primer: MSP58 (m)-PR: sc-75839-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.