SANTA CRUZ BIOTECHNOLOGY, INC.

SRm300 siRNA (h): sc-38337

BACKGROUND

The SRm160/300 splicing coactivator, which consists of the serine/arginine (SR)-related nuclear matrix protein and a nuclear matrix antigen, functions in splicing by promoting critical interactions between splicing factors bound to pre-mRNA. This splicing pathway involves five core small nuclear ribonucleoprotein particles (snRNPs) and the SR family proteins, which coordinately bind to pre-mRNA slicing enhancer elements, are required for accurate splice site recognition, and regulate alterative splicing patterns. The recognized splicing enhancer elements, known also as exonic enhancer splicing sequences, are short RNA sequences that are capable of activating weak splice sites in adjacent introns and contain specific binding sites for the serine/arginine (SR)-rich splicing factors. SRm160 and 300 antigens contain domains rich in SR motifs, but are distinctly different from the SR factors as they lack an RNA recognition motif and cannot directly induce RNA splicing. These proteins rather function as coactivators that stabilize the splicing complex and mediate the U1 snRNP-splicing pathway.

REFERENCES

1. Fu, X.D. 1993. Specific commitment of different pre-mRNAs to splicing by single SR proteins. Nature 365: 82-85.
2. Badolato, J., Gardiner, E., Morrison, N. and Eisman, J. 1995. Identification and characterization of a novel human RNA-binding protein. Gene 166: 323-327.
3. Blencowe, B.J., Issner, R., Nickerson, J.A. and Sharp, P.A. 1998. A coactivator of pre-mRNA splicing. Genes Dev. 12: 996-1009.
4. Eldridge, A.G., Li, Y., Sharp, P.A. and Blencowe, B.J. 1999. The SRm160/300 splicing coactivator is required for exon-enhancer function. Proc. Natl. Acad. Sci. USA 96: 6125-6130.
4. Schaal, T.D. and Maniatis, T. 1999. Selection and characterization of pre-mRNA splicing enhancers: identification of novel SR protein-specific enhancer sequences. Mol. Cell. Biol. 19: 1705-1719.
5. Blencowe, B.J., Bauren, G., Eldridge, A.G., Issner, R., Nickerson, J.A., Rosonina, E. and Sharp, P.A. 2000. The SRm160/300 splicing coactivator subunits. RNA 6: 111-120.

CHROMOSOMAL LOCATION

Genetic locus: SRRM2 (human) mapping to 16p13.3.

PRODUCT

SRm300 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SRm300 shRNA Plasmid (h): sc-38337-SH and SRm300 shRNA (h) Lentiviral Particles: sc-38337-V as alternate gene silencing products.

For independent verification of SRm300 (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-38337A, sc-38337B and sc-38337C.

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

SRm300 siRNA (h) is recommended for the inhibition of SRm300 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 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

SRm300 (C-9): sc-390315 is recommended as a control antibody for monitoring of SRm300 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 SRm300 gene expression knockdown using RT-PCR Primer: SRm300 (h)-PR: sc-38337-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.