

MADP-1 siRNA (m): sc-149213

BACKGROUND

Small nuclear ribonucleoproteins, also known as snRNPs, combine with other proteins to form spliceosomes, a complex that catalyzes pre-mRNA splicing. There are two types of spliceosomes: U2 and U12. The U2-type spliceosome is found in all eukaryotes and excises U2-type introns, which account for the majority of pre-mRNA introns. The U12-type spliceosome removes U12-type introns, which comprise less than 1% of all human introns. The U12-type spliceosome is comprised of the U11 and U12 snRNPs as well as the U4/U6.U5 tri-snRNP. U11 and U12 bind as a U11/U12 di-snRNP complex, which recognizes the 5' splice site of the pre-mRNA during the first steps of U12-type spliceosome formation. A component of the U11/U12 di-snRNP complex, MADP-1, which is also known as ZCRB1 (zinc finger CCHC-type and RNA binding motif 1), U11/U12 small nuclear ribonucleoprotein 31 kDa, RBM36 or ZCCHC19, is a 217 amino acid nuclear protein that contains one CCHC-type zinc finger and an RRM (RNA recognition motif) domain.

REFERENCES

1. Sillescu, P.T., Beijer, R.P., Habets, W.J. and van Verooij, W.J. 1989. Molecular cloning of the cDNA for the human U2 snRNA-specific A' protein. *Nucleic Acids Res.* 17: 1893-1906.
2. Crispino, J.D., Blencowe, B.J. and Sharp, P.A. 1994. Complementation by SR proteins of pre-mRNA splicing reactions depleted of U1 snRNP. *Science* 265: 1866-1869.
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. Lundin, M., Mikkelsen, B., Gudim, M. and Syed, M. 2000. Gene structure of the U2 snRNP-specific A' protein gene from *Salmo salar*: alternative transcripts observed. *Mar. Biotechnol.* 2: 204-211.
5. Jurica, M.S., Licklider, L.J., Gygi, S.R., Grigorieff, N. and Moore, M.J. 2002. Purification and characterization of native spliceosomes suitable for three-dimensional structural analysis. *RNA* 8: 426-439.
6. Will, C.L., Schneider, C., Hossbach, M., Urlaub, H., Rauhut, R., Elbashir, S., Tuschl, T. and Lührmann, R. 2004. The human 18S U11/U12 snRNP contains a set of novel proteins not found in the U2-dependent spliceosome. *RNA* 10: 929-941.
7. Wang, H., Gao, M.X., Li, L., Wang, B., Hori, N. and Sato, K. 2007. Isolation, expression, and characterization of the human ZCRB1 gene mapped to 12q12. *Genomics* 89: 59-69.
8. Online Mendelian Inheritance in Man, OMIM[™]. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 610750. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: Zcrb1 (mouse) mapping to 15 E3.

PROTOCOLS

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

PRODUCT

MADP-1 siRNA (m) is a target-specific 19-25 nt siRNA 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 MADP-1 shRNA Plasmid (m): sc-149213-SH and MADP-1 shRNA (m) Lentiviral Particles: sc-149213-V as alternate gene silencing 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 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

MADP-1 siRNA (m) is recommended for the inhibition of MADP-1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MADP-1 gene expression knockdown using RT-PCR Primer: MADP-1 (m)-PR: sc-149213-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.