

# FUSIP1 siRNA (m): sc-145275

## BACKGROUND

FUSIP1 (FUS interacting protein (serine/arginine-rich) 1), also known as NSSR, TASR (TLS-associated protein with Ser-Arg repeats), SRp38, TASR1, TASR2, FUSIP2, SFRS13 or SRp40 (40 kDa SR-repressor protein), is a member of the serine/arginine (SR) family of splicing factors. Members of the SR family all contain one or more RNA recognition motifs (RRM) and an SR-rich domain. SR factors are not only essential for constitutive splicing but also regulate splicing in a concentration-dependent manner by influencing the selection of alternative splice sites. Expressed in a variety of tissues with low expression in kidney, liver and heart, FUSIP1 localizes to the cytoplasm and nuclear speckles. In its dephosphorylated form (occurring during M phase of the cell cycle), FUSIP1 functions as a potent general repressor of pre-mRNA splicing and can interact with U1 SnRNP 70. In its phosphorylated form, FUSIP1 interacts with Tra-2 $\beta$  and, together, they may cooperate in the regulation of splicing. Four isoforms exist for FUSIP1. In neurons, FUSIP1 isoforms may act to either positively or negatively regulate alternative splicing.

## REFERENCES

1. Yang, L., et al. 1998. Oncoprotein TLS interacts with serine-arginine proteins involved in RNA splicing. *J. Biol. Chem.* 273: 27761-27764.
2. Komatsu, M., et al. 1999. Cloning and characterization of two neural-salient serine/arginine-rich (NSSR) proteins involved in the regulation of alternative splicing in neurones. *Genes Cells* 4: 593-606.
3. Shin, C., et al. 2002. The SR protein SRp38 represses splicing in M phase cells. *Cell* 111: 407-417.
4. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605221. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Liu, L., et al. 2004. NSSR1 promotes neuronal differentiation of mouse embryonic carcinoma P19 cells. *Neuroreport* 15: 823-828.
6. Fushimi, K., et al. 2005. NSSRs/TASRs/SRp38s function as splicing modulators via binding to pre-mRNAs. *Genes Cells* 10: 531-541.

## CHROMOSOMAL LOCATION

Genetic locus: Srsf10 (mouse) mapping to 4 D3.

## PRODUCT

FUSIP1 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see FUSIP1 shRNA Plasmid (m): sc-145275-SH and FUSIP1 shRNA (m) Lentiviral Particles: sc-145275-V as alternate gene silencing products.

For independent verification of FUSIP1 (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-145275A, sc-145275B and sc-145275C.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

FUSIP1 siRNA (m) is recommended for the inhibition of FUSIP1 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  $\mu$ M in 66  $\mu$ 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

FUSIP1 (T-18): sc-101132 is recommended as a control antibody for monitoring of FUSIP1 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor FUSIP1 gene expression knockdown using RT-PCR Primer: FUSIP1 (m)-PR: sc-145275-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.