SANTA CRUZ BIOTECHNOLOGY, INC.

U2 snRNP A siRNA (h): sc-89928

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. U2 snRNP A, also known as SNRPA1 or U2A, is a component of the U2 snRNP that forms a complex with U2 snRNP B (U2B). Together, U2 snRNP A and U2 snRNP B form a complex that binds to the U2 snRNA hairpin IV. The configuration of this U2 snRNP A/U2 snRNP B dimer and the subtle variations of a few key residues regulate the snRNP-RNA-binding specificity. U2 snRNP A is a 255 amino acid protein, and two isoforms exist as a result of alternative splicing events.

REFERENCES

1. Sillekens, P.T., et al. 1989. Molecular cloning of the cDNA for the human U2 snRNA-specific A' protein. Nucleic Acids Res. 17: 1893-1906.
2. Crispino, J.D., et al. 1994. Complementation by SR proteins of pre-mRNA splicing reactions depleted of U1 snRNP. Science 265: 1866-1869.
3. Blencowe, B.J., et al. 1998. A coactivator of pre-mRNA splicing. Genes Dev. 12: 996-1009.
4. Price, S.R., et al. 1998. Crystal structure of the spliceosomal U2B"-U2A' protein complex bound to a fragment of U2 small nuclear RNA. Nature 394: 645-650.
5. Eldridge, A.G., et al. 1999. The SRm160/300 splicing coactivator is required for exon-enhancer function. Proc. Natl. Acad. Sci. USA 96: 6125-6130.
6. Lundin, M., et al. 2000. Gene structure of the U2 snRNP-specific A' protein gene from *Salmo salar:* alternative transcripts observed. Mar. Biotechnol. 2: 204-211.

CHROMOSOMAL LOCATION

Genetic locus: SNRPA1 (human) mapping to 15q26.3.

PRODUCT

U2 snRNP A 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 U2 snRNP A shRNA Plasmid (h): sc-89928-SH and U2 snRNP A shRNA (h) Lentiviral Particles: sc-89928-V as alternate gene silencing products.

For independent verification of U2 snRNP A (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-89928A, sc-89928B and sc-89928C.

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

U2 snRNP A siRNA (h) is recommended for the inhibition of U2 snRNP A 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

U2 SnRNP A (B-3): sc-393804 is recommended as a control antibody for monitoring of U2 snRNP A 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 U2 snRNP A gene expression knockdown using RT-PCR Primer: U2 snRNP A (h)-PR: sc-89928-PR (20 µl, 556 bp). 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.