SANTA CRUZ BIOTECHNOLOGY, INC.

SAP 62 siRNA (m): sc-76446

BACKGROUND

SAP 62, also known as SF3A2 (splicing factor 3A subunit 2), PRP11, PRPF11 or SF3a66, is a 464 amino acid protein that contains one matrin-type zinc finger and belongs to the SF3A2 family. Localized to the nucleus, SAP 62 is a subunit of the SF3A splicing factor, a heterotrimeric complex comprised of three subunits that act in tandem to mediate the binding of U2 snRNP to the branchpoint sequence (BPS) in pre-mRNA. The SF3A complex is necessary for the conversion of 15S U2 snRNP into the active 17S protein that performs directly in pre-mRNA splicing events. Functioning as the second subunit of the complex, SAP 62 interacts with subunit 1 (SAP 114) via its N-terminus while simultaneously binding to 15S U2 snRNP via its zinc finger domain. In addition to its role in RNA splicing, SAP 62 is thought to act independently as a microtubule-binding protein.

REFERENCES

1. Bennett, M. and Reed, R. 1993. Correspondence between a mammalian spliceosome component and an essential yeast splicing factor. Science 262: 105-108.
2. Dresser, D.W., et al. 1995. The genes for a spliceosome protein (SAP 62) and the anti-Müllerian hormone (AMH) are contiguous. Hum. Mol. Genet. 4: 1613-1618.
3. Das, R., et al. 2000. Functional association of U2 snRNP with the ATP-independent spliceosomal complex E. Mol. Cell 5: 779-787.
4. Dresser, D.W., et al. 2001. An expressed GNRP-like gene shares a bi-directional promoter with SF3A2 (SAP 62) immediately upstream of AMH. Gene 277: 163-173.
5. Jurica, M.S., et al. 2002. Purification and characterization of native spliceosomes suitable for three-dimensional structural analysis. RNA 8: 426-439.
6. Takenaka, K., et al. 2004. The pre-mRNA-splicing factor SF3a66 functions as a microtubule-binding and -bundling protein. Biochem. J. 382: 223-230.
7. Tanackovic, G. and Krämer, A. 2005. Human splicing factor SF3A, but not SF1, is essential for pre-mRNA splicing *in vivo.* Mol. Biol. Cell 16: 1366-1377.

CHROMOSOMAL LOCATION

Genetic locus: Sf3a2 (mouse) mapping to 10 C1.

PRODUCT

SAP 62 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 SAP 62 shRNA Plasmid (m): sc-76446-SH and SAP 62 shRNA (m) Lentiviral Particles: sc-76446-V as alternate gene silencing products.

For independent verification of SAP 62 (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-76446A, sc-76446B and sc-76446C.

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

SAP 62 siRNA (m) is recommended for the inhibition of SAP 62 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

SAP 62 (A-3): sc-390444 is recommended as a control antibody for monitoring of SAP 62 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 SAP 62 gene expression knockdown using RT-PCR Primer: SAP 62 (m)-PR: sc-76446-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.