SANTA CRUZ BIOTECHNOLOGY, INC.

SAP 155 siRNA (h): sc-94471

BACKGROUND

SAP 155 (spliceosome-associated protein 155), also known as SF3B1, SF3B155 (splicing factor 3b, subunit 1, 155 kDa), PRP10 or PRPF10, is a 1,304 amino acid member of the SF3B1 family and contains eleven HEAT repeats. Localized to nuclear speckles and also to the cytoplasm during mitosis, SAP 155 is a subunit of the SF3B splicing factor. The SF3B splicing factor is a U2 snRNP-associated protein complex essential for spliceosome assembly. SF3B contains the spliceosomal proteins SAP 49, SAP 130, SAP 145 and SAP 155. Concomitant with splicing catalysis, SAP 155 is phosphorylated at its N-terminal Thr-Pro dipeptide motifs by Dyrk1A and cyclin E/Cdk2. This modification of SAP 155 is vital for a functional spliceosome as it is an essential event in the basic splicing reaction. Due to alternative splicing events, various SAP 155 isoforms are produced.

REFERENCES

1. Wang, C., et al. 1998. Phosphorylation of spliceosomal protein SAP 155 coupled with splicing catalysis. Genes Dev. 12: 1409-1414.
2. Isono, K., et al. 2001. Molecular cloning, genetic mapping, and expression of the mouse Sf3b1 (SAP 155) gene for the U2 snRNP component of spliceosome. Mamm. Genome 12: 192-198.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605590. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Golas, M.M., et al. 2003. Molecular architecture of the multiprotein splicing factor SF3B. Science 300: 980-984.
5. Isono, K., et al. 2005. Mammalian polycomb-mediated repression of Hox genes requires the essential spliceosomal protein SF3B1. Genes Dev. 19: 536-541.
6. Cass, D.M. and Berglund, J.A. 2006. The SF3B155 N-terminal domain is a scaffold important for splicing. Biochemistry 45: 10092-10101.
7. Massiello, A., et al. 2006. SAP 155 binds to ceramide-responsive RNA *cis*-element 1 and regulates the alternative 5' splice site selection of Bcl-x pre-mRNA. FASEB J. 20: 1680-1682.

CHROMOSOMAL LOCATION

Genetic locus: SF3B1 (human) mapping to 2q33.1.

PRODUCT

SAP 155 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 SAP 155 shRNA Plasmid (h): sc-94471-SH and SAP 155 shRNA (h) Lentiviral Particles: sc-94471-V as alternate gene silencing products.

For independent verification of SAP 155 (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-94471A, sc-94471B and sc-94471C.

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 155 siRNA (h) is recommended for the inhibition of SAP 155 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

SAP 155 (B-3): sc-514655 is recommended as a control antibody for monitoring of SAP 155 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 155 gene expression knockdown using RT-PCR Primer: SAP 155 (h)-PR: sc-94471-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.