SANTA CRUZ BIOTECHNOLOGY, INC.

Sm B/B' siRNA (h): sc-36503

BACKGROUND

mRNA precursors are processed in the spliceosome, where introns are excised to form continuous coding sequences. The major components of the spliceosome are RNA-protein complexes called snRNPs (small nuclear ribonucleoprotein particles). The core proteins that are common to all snRNPs are called the Sm proteins, and are designated B, B', D1, D2, D3, E, F and G. Antibodies recognizing Sm proteins are frequently generated in autoimmune diseases, including in patients with systemic lupus erythematosus. Sm proteins are characterized by a conserved Sm sequence motif in two parts, Sm1 and Sm2, which are separated by a variable region.

CHROMOSOMAL LOCATION

Genetic locus: SNRPB (human) mapping to 20p13.

PRODUCT

Sm B/B' 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 Sm B/B' shRNA Plasmid (h): sc-36503-SH and Sm B/B' shRNA (h) Lentiviral Particles: sc-36503-V as alternate gene silencing products.

For independent verification of Sm B/B' (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-36503A, sc-36503B and sc-36503C.

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

Sm B/B' siRNA (h) is recommended for the inhibition of Sm B/B' 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

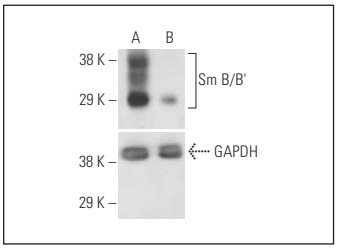
Sm B/B'/N (A-10): sc-271094 is recommended as a control antibody for monitoring of Sm B/B' gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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 Sm B/B' gene expression knockdown using RT-PCR Primer: Sm B/B' (h)-PR: sc-36503-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

DATA



Sm B/B' siRNA (h): sc-36503. Western blot analysis of Sm B/B' expression in non-transfected control (**A**) and Sm B/B' siRNA transfected (**B**) HeLa cells. Blot probed with Sm B/B'/N (FL-240): sc-25372. GAPDH (FL-335): sc-25778 used as specificity and loading control.

SELECT PRODUCT CITATIONS

1. Xu, Y.F., et al. 2019. The origin of exosomal miR-1246 in human cancer cells. RNA Biol. 16: 770-784.
2. Knill, C., et al. 2024. Defects of the spliceosomal gene SNRPB affect osteo- and chondro-differentiation. FEBS J. 291: 272-291.

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.